

**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: 5-12-16 **ONSITE SEWAGE DISPOSAL SYSTEM** P 558713-1

APPROVAL DATE: 10/7/16 **PERMIT: CONSTRUCTION** A \_\_\_\_\_

PROPERTY ADDRESS: 7311 Browns Bridge Road

SUBDIVISION: Van Noy Property LOT: Par B TAX ID: \_\_\_\_\_

CONTRACTOR: Fogle's Septic Clean Inc. South Carroll Backhoe EMAIL: kurt@foglesinc.com

CONTRACTOR ADDRESS: 580 Obrecht Road, Sykesville, MD 21784 4410 Salem Bottom Rd PHONE: 410-795-5670

CONTRACTOR CERTIFIED FOR BAT INSTALLATION:  MDE  MANUFACTURER: 410-596-3618

PROPERTY OWNER: Carrigan Homes EMAIL: \_\_\_\_\_

OWNER ADDRESS: 9812 Caitilins Court, Ellicott City, MD 21042 PHONE: 410-977-8927

BAT UNIT MODEL: Hoot ~~600-BNR~~ 1000 PUMP SIZE: EP05 PUMP TANK CAPACITY: \_\_\_\_\_

OPERATION & MAINTENANCE AGREEMENT DATE SIGNED: 5/12/16 DATE RECORDED: 5/12/16

DISTRIBUTION SYSTEM:  GRAVITY  PRESSURE DOSED BEDROOMS: 7 APPLICATION RATE: 0.8

TRENCHES:	LINEAR FEET REQUIRED: <u>222 255'</u>	INLET DEPTH: <u>4 3'</u>
	TRENCH WIDTH: <u>3</u> ✓	MAXIMUM BOTTOM DEPTH: <u>8 7'</u>
	MINIMUM SPACE BETWEEN TRENCHES: <u>10</u>	EFFECTIVE AREA BEGINNING DEPTH: <u>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: \* Area w/ high water table in vicinity of approved SRA. Initial system to be placed outside approved SRA closer to NW boundary line.

ISSUED BY: Robert Freemon (Kruw) ISSUE DATE: 5-12-16 EXPIRATION DATE: 5-12-17

- 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 Separate  
Sheet for As-Built

ROAD NAME

**TRENCH/DRAINFIELD DATA**

WIDTH INLET BOTTOM

3' 3' 7'

NUMBER OF TRENCHES 3

TOTAL LENGTH 253'

ABSORPTION AREA 759' + SIDEWALL

DISTRIBUTION BOX LEVEL YES

DISTRIBUTION BOX BAFFLE ELBOW

DISTRIBUTION BOX PORT YES

**SEPTIC TANK DATA**

SEPTIC TANK I LEVEL YES

MANUFACTURER MAYER BROS.

CAPACITY 1000 GAL

SEAM LOC TOP

TANK LID DEPTH 2'

BAFFLES YES

BAFFLE FILTER NO

MANHOLE LOC REAR

6" PORT LOC FRONT

WATERTIGHT TEST NO

SLOTTED NO

DATE ON LID

<sup>3</sup> <sup>2</sup> PUMP/SEPTIC TANK LEVEL YES

MANUFACTURER MAYER BROS./HOOT

CAPACITY <sup>1000/2000</sup> GAL

SEAM LOC TOP

TANK LID DEPTH <sup>2-2.5</sup> / <sup>2.5</sup>

BAFFLES NO

BAFFLE FILTER NO

MANHOLE LOC REAR

6" PORT LOC NONE

WATERTIGHT TEST NO

SLOTTED NO

DATE ON LID

**PRE-CONSTRUCTION:**

7/11/16 Missing Well Check. Upper corner SRA stake missing. Pulled measurements, etc. to correct stake location. Perc results for holes 501 and 505 inconsistent. Trench spec adjusted to fit 1050 gpd design. possible repair area upper part of lot in front of house. Area subject to high water tables. Hoot 1000 BAR to be installed.

**INSTALLATION:**

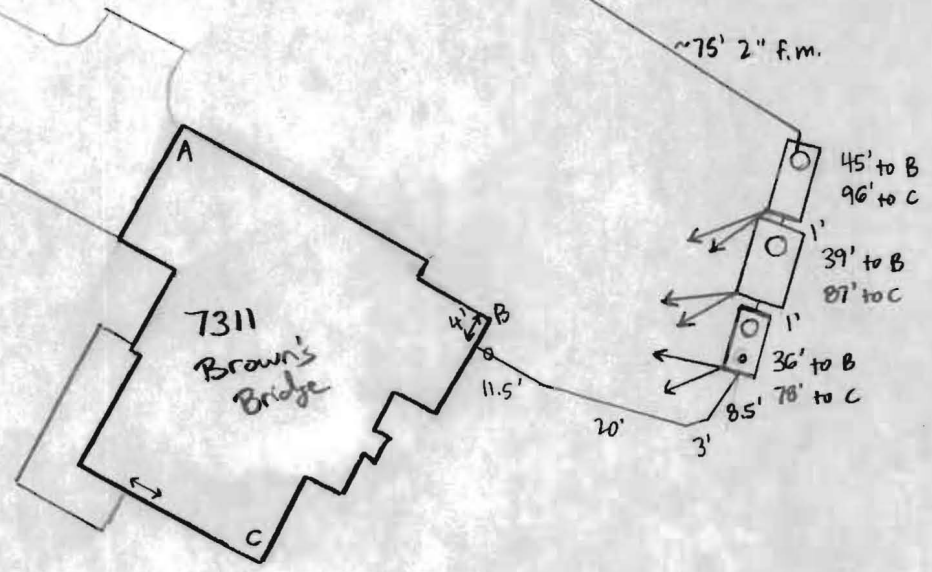
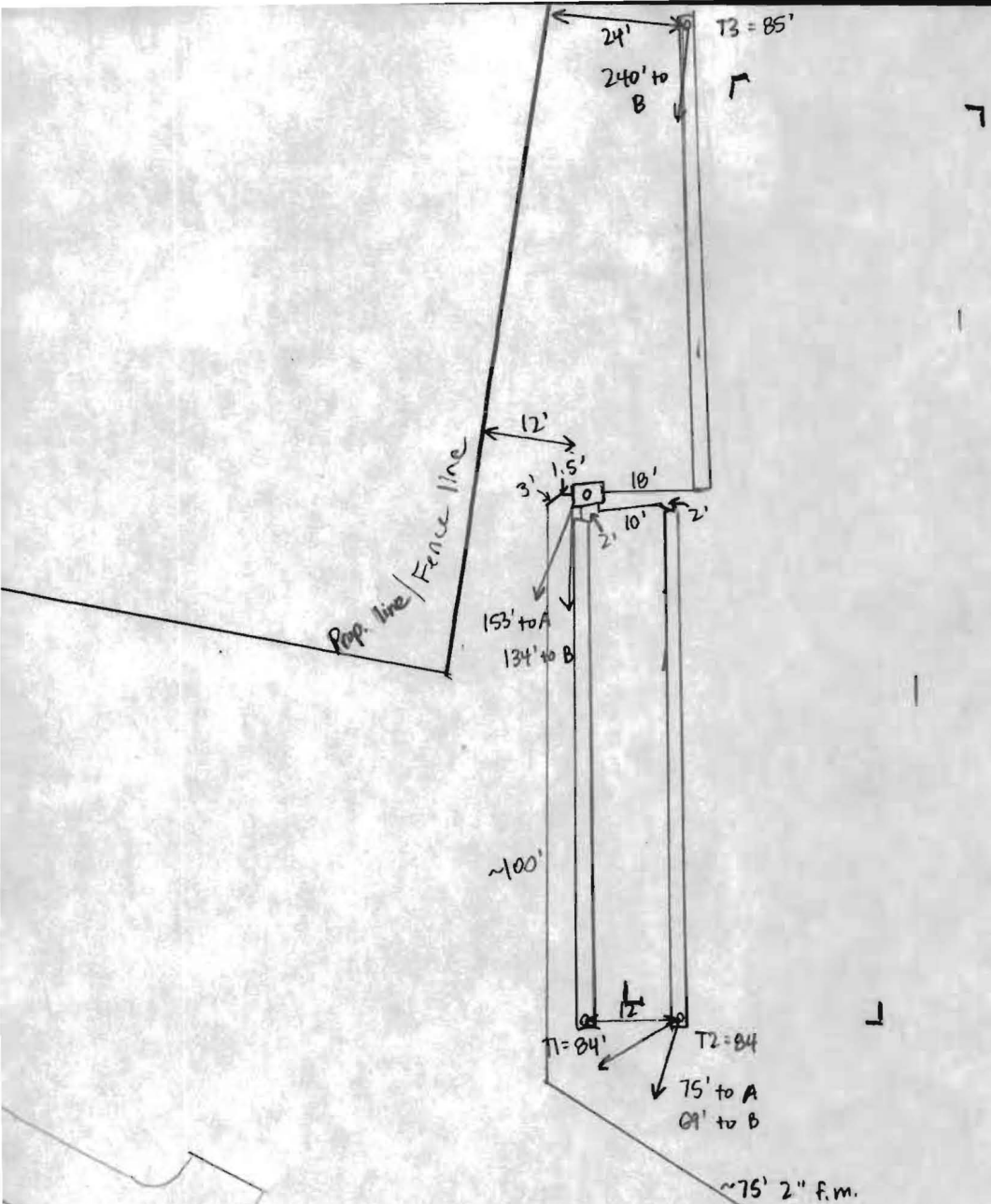
7/12/16 T2 + T3 complete + left open 2.5-3' to stone. S. Carroll digging T1 during site visit, using laser to check both bottom + stone depth. 7' bottom. 7/13/16 House connection made. Trash tank and Hoot set, pump tank set during site visit. Ground water at bottom of Hoot tank hole, 9' deep. Mottling at 3.5' in same hole. 7/14/16 D-box installed. 2" force main connected from pump tank. Need Hoot startup certification. 10/5/16 Hoot startup with Mike Sample. Pump pumps effluent to D-box. Alarm sounds. 10/7/16 BAT startup certification received.

FINAL INSPECTOR

Sarah Collins

DATE OF APPROVAL

10/7/16



219' to B  
 228' to C  
 HO-95-2426

## Freemon, Robert

---

**From:** John Hoolachan <johnh@fcc-eng.com>  
**Sent:** Thursday, March 10, 2016 10:17 AM  
**To:** Freemon, Robert  
**Cc:** Carrigan Homes; 'John Korslund'; Frank Manalansan II  
**Subject:** RE: 7311 Browns Bridge Rd., B16000712  
**Attachments:** 08054 Van Noy BAT Plan Parcel B.pdf; John Hoolachan.vcf

Good Morning Robert,

Per our conversation, it is my understanding that our client can use the 7 bedroom BAT plan approved in 9/11/15 (attached) to obtain his building permit.

If you need additional information, please do not hesitate to contact our office.

Thank you for your assistance.

John



right click this card to add me to your contacts

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**From:** Freemon, Robert [<mailto:rfreemon@howardcountymd.gov>]  
**Sent:** Wednesday, March 09, 2016 3:02 PM  
**To:** [carriganhomes@comcast.net](mailto:carriganhomes@comcast.net); [johnh@fcc-eng.com](mailto:johnh@fcc-eng.com)  
**Subject:** 7311 Browns Bridge Rd., B16000712

Hi Owen,

I received your Floor Plans and have taken a look at them. Based on the definition of a bedroom in the County Code 3.800, Onsite sewage disposal, there are 7 bedrooms in the dwelling. In addition to the 4 bedrooms on the second floor and one in the basement, the library on the first floor and office in the basement are considered bedrooms due to their proximity to a full bathroom. I have attached the definition of a bedroom in Howard County Code 3.800 for you to look at. The new BAT Plan approved in March is designed to serve a 5 bedroom house. If you would like to stick with this Bat Plan (5 bedrooms) you will need to resubmit a Floor Plan to DILP with a copy designated to be delivered to Health showing only 5 bedrooms. Some ways you could alter the floorplan to make some rooms meet the bedroom exemption would be to expand the doorway to 4' without a door or to reduce the full bathroom on the first floor or basement to a half bath with no rough in for a tub/shower.

If you would like to revert back to the old BAT Plan (7 bedrooms) we can do that with the current floorplan and approve the building permit since the old Bat Plan had been approved last September. Let me know which you decide.

For reference, the following is the bedroom definition in Howard County Code Section 3.801(b):

- (1) Except as provided in paragraph (2) of this subsection, a bedroom is any space in the conditioned are of a dwelling unit or accessory structure that:
  - (i) Is 90 square feet or greater in size;
  - (ii) May be used as a private sleeping area; and
  - (iii) Has at least one window and one interior door.
- (2) If a home office, library, or similar room is proposed, it may not be a bedroom if there is no closet; and
  - (i) The room contains permanently built-in bookcases around the perimeter of the room, desks, and other features that encumber the room;
  - (ii) A minimum 4 foot-wide opening, without doors, into another room;
  - (iii) A half wall (4 foot maximum height) between the room and another room; or
  - (iv) The room is a first floor room or basement area that does not have direct access to full bathrooms or "roughed in" plumbing that would provide direct access to future full bathroom facilities.

Thanks,

**Robert Freemon**  
**Howard County Health Department**  
**Well and Septic Program**  
**Phone: 410-313-6357**  
**Email: [rfreemon@howardcountymd.gov](mailto:rfreemon@howardcountymd.gov)**

## Williams, Jeffrey

---

**From:** John Hoolachan <johnh@fcc-eng.com>  
**Sent:** Friday, February 26, 2016 8:48 AM  
**To:** Williams, Jeffrey; Aldo Vitucci  
**Cc:** Freemon, Robert; Terry Fisher  
**Subject:** RE: VanNoy PPB BAT plan

Thank You Jeff,

I would appreciate it, if you could change the plan.

Thank you for your prompt assistance.

John Hoolachan

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**From:** Williams, Jeffrey [<mailto:jewilliams@howardcountymd.gov>]  
**Sent:** Friday, February 26, 2016 8:46 AM  
**To:** Aldo Vitucci; John Hoolachan  
**Cc:** Freemon, Robert  
**Subject:** VanNoy PPB BAT plan

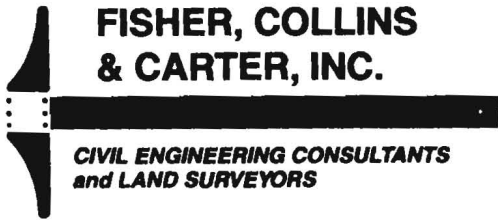
I reviewed the revised BAT plan for Van Noy Pres Parcel B and have one item for correction. The original dose to the d-box was a little high to begin with, but with a 7 bedroom house I let it go. With a smaller design, the dose to the d-box should be smaller. We don't need the dose to be 1/6 design flow when going to gravity trenches. The ideal condition there is to get a smaller dose so as to not overwhelm the box and to allow for more frequent doses. With the Hoot unit, you want to balance that with their ideal timing of 2 minutes per dose. I see on the pump curve that you can easily scale down to the EP04 pump, which would dose at 40 gpm and have a 2 minute dose set to dose 80 gallons per event, which is pretty good.

If you like, I could redline the plan to change the pump and dose or you could choose to resubmit a new plan. Let me know. Thanks

Jeff Williams  
Program Supervisor, Well & Septic Program  
Bureau of Environmental Health  
Howard County Health Dept.  
410-313-4261  
[jewilliams@howardcountymd.gov](mailto:jewilliams@howardcountymd.gov)

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**FISHER, COLLINS  
& CARTER, INC.**

**CIVIL ENGINEERING CONSULTANTS  
and LAND SURVEYORS**

Terrell A. Fisher, P.E., L.S.  
Earl D. Collins, P.E.  
Charles J. Crovo, Sr., P.E., L.S.

Paul W. Kriebel, P.E.  
Mark L. Robel, P.L.S.  
Aldo M. Vitucci, P.E.

# Transmittal

Via:  Fax  Mail  Messenger  E-Mail  To Be Picked Up  
 Fax (original to follow via U.S. Mail)

To: <b>Howard County Health Department</b>	Attn: <b>Mr. Jeff Williams</b>
<b>Bureau of Environmental Health</b>	Fax:
<b>7178 Columbia Gateway Drive</b>	Phone:
<b>Columbia, Maryland 21046-4544</b>	

From: <b>John Hoolachan</b>	CC: <b>John Korslund</b>
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Re: <b>Vannoy Property - BAT Plan Pres. Parcel B</b>	W.O.# <b>08054-6002</b>
Date: <b>February 22, 2016</b>	Pages: <b>Page(s) Including this cover</b>

We are forwarding:	<input checked="" type="checkbox"/> Prints	<input type="checkbox"/> Copy of Letter	<input type="checkbox"/> Specifications	<input type="checkbox"/> Shop drawings	<input checked="" type="checkbox"/> Other
	<input type="checkbox"/> Urgent	<input checked="" type="checkbox"/> For your use	<input type="checkbox"/> As requested	<input checked="" type="checkbox"/> For Review & Comment	

Remarks:

**Jeff,**

**Enclosed, please find 3 sets of the House specific BAT Plan for your review and approval. I have included a copy of the approved Generic BAT plan which was designed for 7 bedrooms. The owner is proposing to build a 4 bedroom house and the BAT system has been designed for 5 bedrooms to allow for a future expansion.**

Sincerely,

### **CONFIDENTIALITY NOTICE**

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1311 Browns Bridge Road  
Fulton MD 20759

Clerk of the Circuit Court for  
Howard County  
Land Records/Licensing

The Thomas Dorsey Building  
9250 Bendix Road  
Columbia, MD 21045  
410-313-5850

---

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LR - Agreement Recording Fee  
1x 20.00 20.00

Grantor/Grantee Name: korslund  
Reference/Control #: 111

LR - Agreement Surcharge  
1x 40.00 40.00

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SubTotal: 60.00  
Total: 60.00

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CRD-Credit 60.00  
Credit Card Confirmation : 4224

10/19/2016 11:43 CC13-LS  
#7136625 /1247/109

~ Thank you for visiting us today ~



Bureau of Environmental Health

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Twitter: HowardCoHealthDep

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

**AGREEMENT FOR APPROVAL OF AN INDIVIDUAL DRINKING WELL WITH AN ON-SITE TREATMENT SYSTEM**

This agreement is entered into by and between the Howard County Health Department ("the Health Department") and John A. Korslund and Patricia A. VanWey Korslund ("the Owner").

WHEREAS, the Owner owns a tract of land at street address 7311 Browns Bridge Road, Fulton MD 20759 and the deed and subdivision plat of the property is recorded among the Land Records of Howard County, Maryland, Tax Map # 40, Block # \_\_\_\_\_, Parcel # 372, Deed Reference # \_\_\_\_\_ and Tax Account # 05-595445 ("the Property").

WHEREAS, the Property lacks an available public drinking water source and is required to have an individual well as the source of drinking water for the residence of the property.

WHEREAS, the Owner has installed a residential drinking well under well permit HO-95-2426 that has been tested by the Health Department (or a private laboratory certified to perform testing) for radionuclide particles. The results of the tests have shown that the gross alpha particle content and/or the gross beta particle content and/or the combined radium 226/228 levels exceeds the standards of 15 picocuries per liter (pCi/L), 4 millirems per year (mrem/yr) and/or 5pCi/L respectively.

WHEREAS, The Maryland Department of the Environment (MDE) has promulgated rules and regulations under which a Certificate of Potability may be issued and has delegated the authority to issue such Certificate to the Health Department.

WHEREAS, MDE regulations permit the Health Department to issue as a special condition, a permanent deviation to the Certificate of Potability for individual wells where treatment has been installed to meet the maximum contaminate levels (MCL's) for radionuclides.

WHEREAS, MDE has determined that radium can be effectively removed from the drinking water by the use of treatment devices (e.g., ion exchange or reverse osmosis).

WHEREAS, the Owner is requesting that the Health Department issue a Certificate of Potability contingent upon installation and maintenance of a water treatment device to reduce radionuclides.

WHEREAS, neither the Owner nor the Health Department has knowledge of an alternative safe source of water for the Property.

NOW THEREFORE, the parties have agreed to the following terms and conditions:

1. The Owner will record this Agreement among the Land Records of Howard County, Maryland and provide confirmation to the Health Dept.
2. The Owner agrees to install and maintain a water treatment device, which effectively reduces the gross alpha, gross beta and radium levels to below their respective MCL. The Health Department

shall verify that the treatment device is operating effectively and the Owner agrees to allow access to the Health Department to collect a follow-up sample(s).

3. The Health Department shall issue a Certificate of Potability for the well once follow-up sampling shows acceptable gross alpha, gross beta (short and long term) and radium 226 / 228 levels.
4. The Owner agrees that there shall be no liability on part of the Health Department for any immediate or long term impacts to health or property, under any circumstance or including, but not limited to, treatment device failure, improper maintenance or installation, or defect. The Health Department does not warranty or guarantee that the device will adequately or properly function and the Owner agrees to implement and pay for any necessary changes or corrections.
5. The Owner acknowledges and agrees that neither the Health Department nor any of its agents or employees, either officially or individually, underwrites the operation of any system or treatment device.
6. This Agreement shall not be construed to limit any authority of the Health Department to protect the public health, safety or enjoyment of property or to issue any other orders to take any other action, which is now or may hereafter be within its authority.
7. This agreement contains the entire agreement and understanding between the Health Department 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 their authorized representatives.
8. The Agreement shall run with the land and binds the Owner, his heirs, successors, and assigns. The owner agrees to provide a copy of this agreement to any purchaser or lessee of the property.
9. The laws of the State of Maryland govern the provisions of all transactions.

The parties have signed and sealed this Agreement on the dates set forth below.

<u>John A. Kowal</u>	<u>10/19/16</u>	<u>N/A</u>	<u>        </u>
Owner	Date	Buyer	Date

<u>[Signature]</u>	<u>10/19/16</u>	<u>N/A</u>	<u>        </u>
Owner	Date	Buyer	Date

<u>[Signature]</u>	<u>10/19/16</u>
Howard County Health Department	Date

7311 Browns Bridge Rd

Clerk of the Circuit Court for  
Howard County  
Land Records/Licensing

The Thomas Dorsey Building  
9250 Bendix Road  
Columbia, MD 21045  
410-313-5850

=====  
LR - Agreement Recording Fee  
1x 20.00 20.00

Grantor/Grantee Name: vanndy  
Reference/Control #: 100

LR - Agreement Surcharge  
1x 40.00 40.00

=====  
SubTotal: 60.00  
Total: 60.00

=====  
REV-Check-BOA 60.00  
Number : 4522

05/12/2016 11:08 CC13-LS  
#6128040 /1247/109

\*\*\*\*\* DUPLICATE #001 \*\*\*\*\*

05/12/2016 11:09 CC13-LS  
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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 12<sup>th</sup> day of MAY 2016 among PATRICIA A. VANNOY & JOHN A. KORSLUND, 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 7311 BROWNS BRIDGE ROAD, FULTON, MD 20759, in the 5<sup>TH</sup> 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 13384 Folio 292.

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 HOOT A-600 BNR.

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.

Bert Nifon 5/12/2016  
Howard County Health Department

PA Vanody 5/12/16  
Owner #1 Signature                      Date

PATRICIA A. VANODY  
Owner #1 Print Name

\_\_\_\_\_  
Buyer #1 Signature                      Date

\_\_\_\_\_  
Buyer #1 Print Name

John A. Korlund 5/10/16  
Owner #2 Signature                      Date

JOHN A. KORSLUND  
Owner #2 Print Name

\_\_\_\_\_  
Buyer #2 Signature                      Date

\_\_\_\_\_  
Buyer #2 Print Name



**MAYER BROS., INC.**  
*Precast Concrete Products*  
6264 Race Rd. Elkridge, MD 21075

## Letter of Satisfaction Hoot System Installation

Address of Property: 7311 Browns Bridge Rd.  
Fulton, MD 20759

Date of Final Inspection: 10/5/16

Installer: South Carroll Backhoe Service

Hoot Technician/Inspector: Mike Sample

I hereby certify that the Hoot system installed at the property listed above has been installed according to proper Hoot installation practices. I have also verified the startup of the system and it is in proper working order.

Sincerely,

H. Michael Day  
Name of Inspector  
Mayer Bros., Inc.

PH: 410-796-1434  
FX: 410-796-1438

**WBE**  
**NPCA Certified Plant**

mayerbro@connext.net  
www.mayerbrosprecast.com

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Bench Barrier, Water Meter Vaults, Sectional Valve Vaults, Top Stabs, Curb Heads, Curb Bumpers, Person Entry Basement Entries,  
Scapewal Window Wells, Custom Precast Products



Terrell A. Fisher, P.E., L.S.  
Earl D. Collins, P.E.  
Charles J. Crovo, Sr., P.E., L.S.

Paul W. Kriebel, P.E.  
Mark L. Robel, P.L.S.  
Aldo M. Vitucci, P.E.

September 2, 2015

Mr. Jeff Williams  
Howard County Health Department  
Bureau of Environmental Health  
7178 Columbia Gateway Drive  
Columbia, Maryland 21046-4544

RE: F-12-078  
VanNoy Property  
BAT Plan Submission -Parcel 'A'

Dear Mr. Williams:

Please find enclosed three (3) copies of the generic BAT plan for above referenced property. Per our previous discussions, we are submitting this plan for your review and approval with the understanding that a revised BAT plan may be required once our client provides a specific house with architectural plans for this parcel. The BAT system as designed will accommodate a seven (7) bedroom house.

Thank you for your consideration of this request.

Very truly yours,  
Fisher, Collins & Carter, Inc.



John Hoolachan

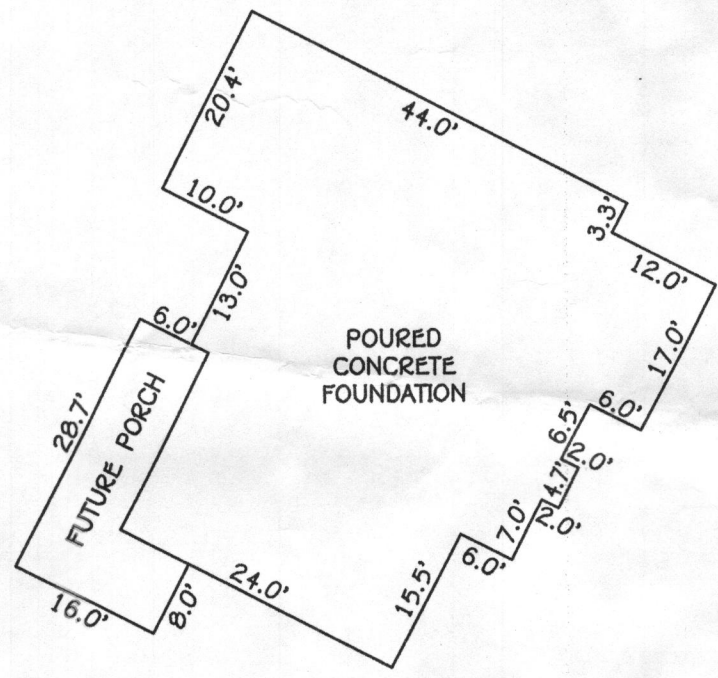
WO #08054-3001  
c.c. Mr. John Korslund

**GENERAL NOTES:**

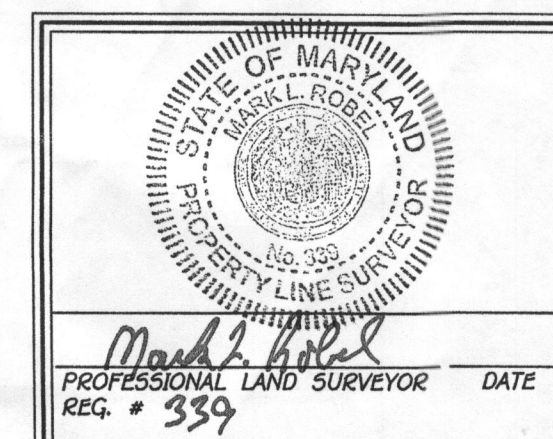
- 1) THIS LOCATION DRAWING IS PREPARED FOR THE BENEFIT OF THE CLIENT SIGNING THE HOUSE LOCATION SURVEY APPROVAL FORM INsofar AS IT IS REQUIRED BY A LENDER OR TITLE INSURANCE COMPANY OR ITS AGENTS IN CONNECTION WITH THE CONTEMPLATED TRANSFER, FINANCING OR REFINANCING OF THE PROPERTY SHOWN HEREON. UNLESS INDICATED AS BEING A BOUNDARY SURVEY, THIS LOCATION DRAWING IS NOT INTENDED FOR USE IN THE ESTABLISHMENT OF PROPERTY LINES AND IS NOT TO BE RELIED UPON FOR THE ESTABLISHMENT OR LOCATIONS OF FENCES, GARAGES, BUILDINGS OR OTHER EXISTING OR FUTURE IMPROVEMENTS. AS A RESULT, THIS LOCATION DRAWING DOES NOT PROVIDE FOR ACCURATE IDENTIFICATION OF PROPERTY LINES, BUT SUCH IDENTIFICATION MAY NOT BE REQUIRED FOR THE TRANSFER OF TITLE OR SECURING FINANCING FOR RE-FINANCING.
- 2) SUBJECT PROPERTY IS SHOWN IN ZONE X<sub>1</sub> ON THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAP OF HOWARD COUNTY, MARYLAND, COMMUNITY PANEL No. 24027C01400, EFFECTIVE NOV. 5, 2013.
- 3) THE OFFSETS FROM BUILDING LINE TO PROPERTY LINE AS SHOWN ON THE PLAT HEREON ARE TO AN ACCURACY OF PLUS OR MINUS 1" (4).
- 4) NO TITLE REPORT FURNISHED. SUBJECT TO ALL EASEMENTS, RIGHTS OF WAY AND CONDITIONS OF RECORD.
- 5) THE EXISTING WELL(S) SHOWN ON THIS PLAN (IDENTIFIED WITH THE ATTACHED WELL TAG NUMBER HO-95-2426 HAS BEEN FIELD LOCATED BY FISHER, COLLINS AND CARTER, INC. PROFESSIONAL LAND SURVEYORS AND IS ACCURATELY SHOWN.
- 6) PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY ME OR UNDER MY RESPONSIBLE CHARGE, AND THAT I AM A DULY LICENSED PROPERTY LINE SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 339, EXPIRATION DATE 10/04/2016.
- 7) BUILDING PERMIT # B-16000712

**Limit Of Wetlands Line Chart**

LINE	BEARING	LENGTH
W1	N 42°01'35" W	11.74'
W2	N 17°19'52" W	15.00'
W3	N 17°41'10" E	20.36'
W4	S 46°46'59" W	31.08'
W5	N 66°01'22" W	22.10'
W6	N 11°05'56" E	19.96'
W7	N 80°46'45" W	32.72'
W8	N 55°30'58" E	24.91'
W9	N 84°29'56" E	22.21'
W10	N 53°44'02" E	25.57'
W11	N 50°47'53" E	32.35'
W12	N 10°05'24" E	35.55'
W13	N 11°30'44" E	23.78'
W14	S 82°15'55" W	22.93'
W15	N 69°31'27" W	22.44'
W16	N 15°46'54" W	24.59'
W17	N 02°10'28" E	22.24'
W18	N 15°31'38" W	21.54'
W19	N 21°40'40" W	28.70'
W20	N 52°00'58" E	14.89'
W21	S 67°50'47" E	19.39'
W22	N 70°00'36" E	18.83'
W23	N 24°37'08" E	42.62'
W24	N 65°05'35" E	41.57'
W25	N 05°12'05" W	32.78'
W26	N 52°18'48" W	37.13'
W27	N 49°33'32" W	15.94'
W28	N 86°14'07" E	31.18'
W29	N 34°53'44" W	21.77'
W30	N 79°15'04" E	55.04'
W31	N 52°38'55" W	33.61'
W32	N 10°25'54" W	12.65'
W33	N 79°28'58" E	43.34'
W34	S 58°49'41" E	52.37'
W35	N 49°14'47" E	33.45'
W36	N 28°11'12" E	37.31'
W37	N 56°46'18" E	61.88'

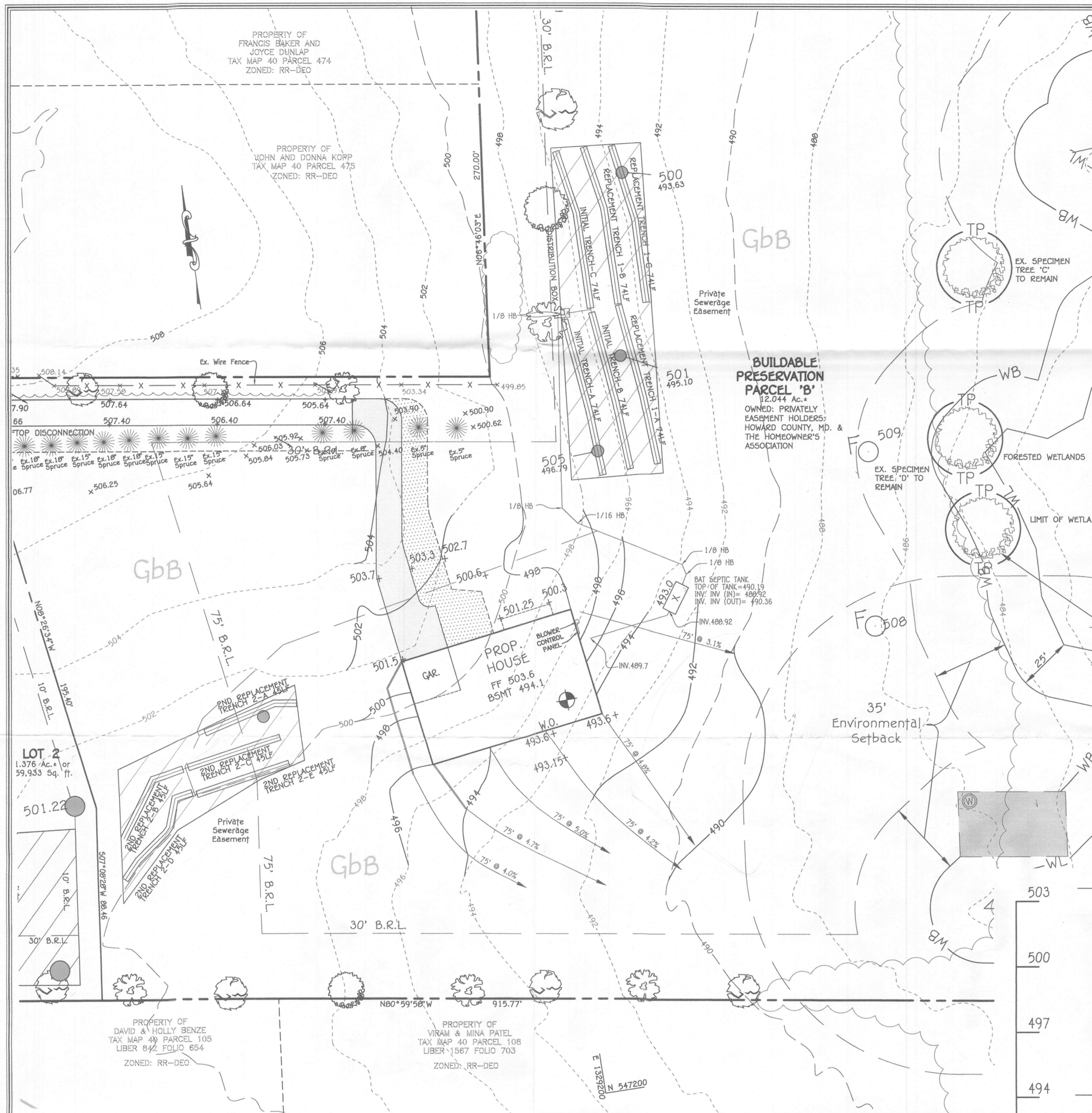


DETAIL: 1"=20'



<b>HOUSE LOCATION DRAWING</b>	
FOUNDATION LOCATION: 4/13/16	FINAL LOCATION: _____
BOUNDARY SURVEY: _____	
SCALE: 1"=50'	DATE: 4/21/16
DRAWN BY: JHP	CHECKED BY: MJC
PROJECT NO. 28224-6001	

7311 Browns Bridge Rd.  
 Bldg Permit # B 16000712



**ITT**

**GOULDS PUMPS**  
Wastewater

**ITT**

**GOULDS PUMPS**  
Wastewater

**APPLICATIONS**

Specifically designed for the following uses:

- Effluent systems
- Homes
- Farms
- Heavy duty sump
- Water transfer
- Dewatering

**SPECIFICATIONS**

- Solids handling capability: 1" maximum.
- Capacities: up to 60 GPM.
- Total heads: up to 31 feet.
- Discharge size: 1 1/2" NPT.
- Mechanical seal: carbon-rotary/ceramic-stationary.
- BUNA-N elastomers.
- Temperature: 104°F (40°C) continuous, 140°F (60°C) intermittent.
- Fasteners: 300 series stainless steel.
- Capable of running dry without damage to components.

**Motor:**

- EP04 Single phase: 0.4 HP 115 or 230 V, 60 Hz, 1550 RPM, built in overload with automatic reset.
- EP05 Single phase: 0.5 HP 115 V or 230V, 60 Hz, 1550 RPM, built in overload with automatic reset.
- Power cord: 10 foot standard length, 163 SFTW with three prong grounding plug. Optional 20 foot length, 163 SFTW with three prong grounding plug (standard on EP05).
- Fully submerged in high grade turbine oil for lubrication and efficient heat transfer.

Available for automatic and manual operation. Automatic models include Mechanical Float Switch assembled and preset at the factory.

**PERFORMANCE RATINGS**

Total Head (ft. of water)	EP04 GPM	EP05 GPM
5	53	53
10	46	46
15	38	38
20	31	31
25	24	24
30	17	17

**COMPONENTS**

Item No.	Description
1	Impeller
2	Base
3	Pump Casing
4	Mechanical Seal
5	Ball Bearings
6	O-Rings
7	Power Cord
8	Oil Filled Motor
9	Motor Housing/ Stator Assembly
10	Motor Cover

**VICINITY MAP**  
Scale: 1" = 2,000'

**BAT NOTES**

- 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 DETAILED SITE PLAN MAY BE REQUIRED.
- THE MAXIMUM COVER OVER THE BAT PER THE MANUFACTURER'S SPECIFICATION IS 3 FEET. IF COVER EXCEEDS 3 FEET, THEN A TRAFFIC BEARING TANK IS REQUIRED.
- THE BAT SYSTEM SHALL BE MAINTAINED AND OPERATED FOR THE LIFE OF THE SYSTEM.
- THE BAT SHALL BE OPERATED BY AND MAINTAINED BY A CERTIFIED SERVICE PROVIDER.
- WITHIN ONE MONTH OF INSTALLATION, A PERSON INSTALLING THE BAT SYSTEM SHALL REPORT TO THE MARYLAND DEPARTMENT OF THE ENVIRONMENT (HDC) IN A MANNER ACCEPTABLE TO HIDE THE ADDRESS AND DATE OF COMPLETION OF THE BAT INSTALLATION AND THE TYPE OF BAT INSTALLED.
- ELECTRICAL WORK FOR THE BAT INSTALLATION MUST BE PERFORMED BY A LICENSED ELECTRICIAN.
- AN AGREEMENT AND CASHEMENT MUST BE COMPLETED AND SIGNED BY ALL APPLICABLE PARTIES, AND RECORDED IN THE LAND RECORDS OF HOWARD COUNTY.
- THE HEALTH DEPARTMENT REQUIRES DOCUMENTATION FOR THE START-UP CERTIFICATION FROM THE MANUFACTURER PRIOR TO FINAL APPROVAL OF THE INSTALLATION.
- SURFACE RUNOFF SHALL BE DIRECTED AROUND THE BAT TANK.
- SEWAGE FLOWS TO THE TANK BY GRAVITY AND WATER EXISTING THE TANK TO THE SEPTIC AREA WILL FLOW BY GRAVITY.
- IF THERE IS EXCESSIVE RESISTANCE TO THE ABATOR MOTOR, AN ALARM WILL BE VISIBLE AND AUDIBLE. SEE MANUFACTURER SPECS FOR ADDITIONAL INFORMATION.
- THE EXISTING WELL, TAG NO. HO-95-2425, HAS BEEN FIELD LOCATED AND IS ACCURATELY SHOWN.

**MODEL INFORMATION**

Order No.	HP	VOL	AMP	Phase	Float Switch Style	Cord Length	Discharge Connection	Minimum Discharge Level	Minimum Off Level	Minimum Basin Diameter	Minimum Solids Size	Shipping Weight (lbs)
EP0411					Flag / No Switch	10'	1 1/2"	Manual	15'	15"		20/9.1
EP0411A	115	12	20		Piggback / Wide-Angle	10'	1 1/2"	Manual	15'	15"		21/9.5
EP0411F					Flag / No Switch	20'	1 1/2"	Manual	15'	15"		20/9.1
EP0411AC					Piggback / Wide-Angle	20'	1 1/2"	Manual	15'	15"		21/9.5
EP0412	230	6	10	1	Flag / No Switch	10'	1 1/2"	Manual	15'	15"	W	20/9.1
EP0412F					Flag / No Switch	20'	1 1/2"	Manual	15'	15"		20/9.1
EP0511F					Flag / No Switch	20'	1 1/2"	Manual	15'	15"		22/10
EP0511AC	115	13	20		Piggback / Wide-Angle	20'	1 1/2"	Manual	15'	15"		23/10.4
EP0512F	230	6.5	10	1	Flag / No Switch	20'	1 1/2"	Manual	15'	15"		22/10

**SEPTIC SYSTEM ELEVATIONS**

A = 493.00  
 B = 490.92 (INV. INTO TANK)  
 C = 487.65  
 D = 483.25  
 E = 483.48  
 F = 484.48  
 G = 486.48  
 H = 2.81' (7" MIN.)  
 I = 490.36 (INV. OUT OF TANK)

FF ELEV. = 503.60  
 BSMT ELEV. = 491.10  
 INV. OUT OF HOUSE = 489.7  
 INV. INTO DISTRIBUTION BOX =

**SEPTIC SYSTEM TRENCH DESIGN**

7 BEDROOM HOUSE  
 LOADING RATE = 1,050 GPD  
 APPLICATION RATE = 0.8  
 EFFECTIVE SIDEWALL BEGINS AT 5.0 FEET  
 TRENCH DEPTH = 8.0 FEET  
 INITIAL SYSTEM  
 TRENCH WIDTH (W) = 3 FEET  
 EFFECTIVE DEPTH (D) = 3.0 FEET  
 SF OF DRAINFIELD = 1,050 GPD / 0.8 = 1,312.5 SF  
 COEFFICIENT OF REDUCTION OF TRENCH LENGTH = (W+2)/(W+1+2D) = 0.50  
 (3+2)/(3+1+(2x3.0)) = 0.50  
 TRENCH LENGTH = 1,312.5 SF x 0.50 / 3  
 TRENCH LENGTH = 218.75 FEET (USE 222 FEET)

**REPLACEMENT TRENCHES**

TRENCH WIDTH (W) = 3 FEET  
 EFFECTIVE DEPTH (D) = 3.0 FEET  
 SF OF DRAINFIELD = 1,312.5 SF x 0.50 / 3  
 TRENCH LENGTH = 218.75 FEET (USE 222-225 FEET)

REPLACEMENT SYSTEM (2) - 3 TRENCHES AT 74 LF EACH  
 REPLACEMENT SYSTEM (3) - 5 TRENCHES AT 45 LF EACH

**SEPTIC SYSTEM PROFILE**

SCALE: HORIZ. 1" = 30'  
 VERT. 1" = 3'

**LEGEND**

SYMBOL	DESCRIPTION
---	EXISTING 2' CONTOURS
---	EXISTING 10' CONTOURS
---	PROPOSED CONTOUR
---	SPOT ELEVATION
---	LIMITS OF DISTURBANCE
---	EXISTING TREELINE
---	SOILS LINES AND TYPE
---	SUPER SILT FENCE
---	LIMIT OF WETLANDS
---	25' WETLANDS BUFFER
---	TREE PROTECTION FENCE

**WELL CERTIFICATION:**  
 THE EXISTING WELL, TAG NO. HO-95-2425, HAS BEEN FIELD LOCATED AND IS ACCURATELY SHOWN.

**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. 20748, EXPIRATION DATE: 2/22/15.

*ALDO M. VIUCCI*  
 ALDO M. VIUCCI  
 DATE: 9/15/15

**SOILS LEGEND**

SOIL	NAME	CLASS
BA	Belle all soil	D
EA	Elk all soil, 0 to 3 percent slopes	B
EB2	Elk all soil, 0 to 3 percent slopes, moderately eroded	B
GA	Glenville all soil, 0 to 3 percent slopes	C
GB2	Glenville all soil, 3 to 8 percent slopes, moderately eroded	C

NOTES:  
 \* Hydric soils and/or contains hydric inclusions  
 \*\* May contain hydric inclusions  
 † Generally only within 100-year floodplain areas

**SEPTIC SYSTEM PROFILE**

SCALE: HORIZ. 1" = 30'  
 VERT. 1" = 3'

**DESIGN DATA & GENERAL NOTES**

- Concrete strength 1750 PSI, 28 days, Density = 144 pcf.
- Current - Posttensioning per ASTM C 1098 & C 1182.
- Additions & alterations per ASTM C 1098 & C 1182.
- Rebar per ASTM A630, Min. 1/2" cover.

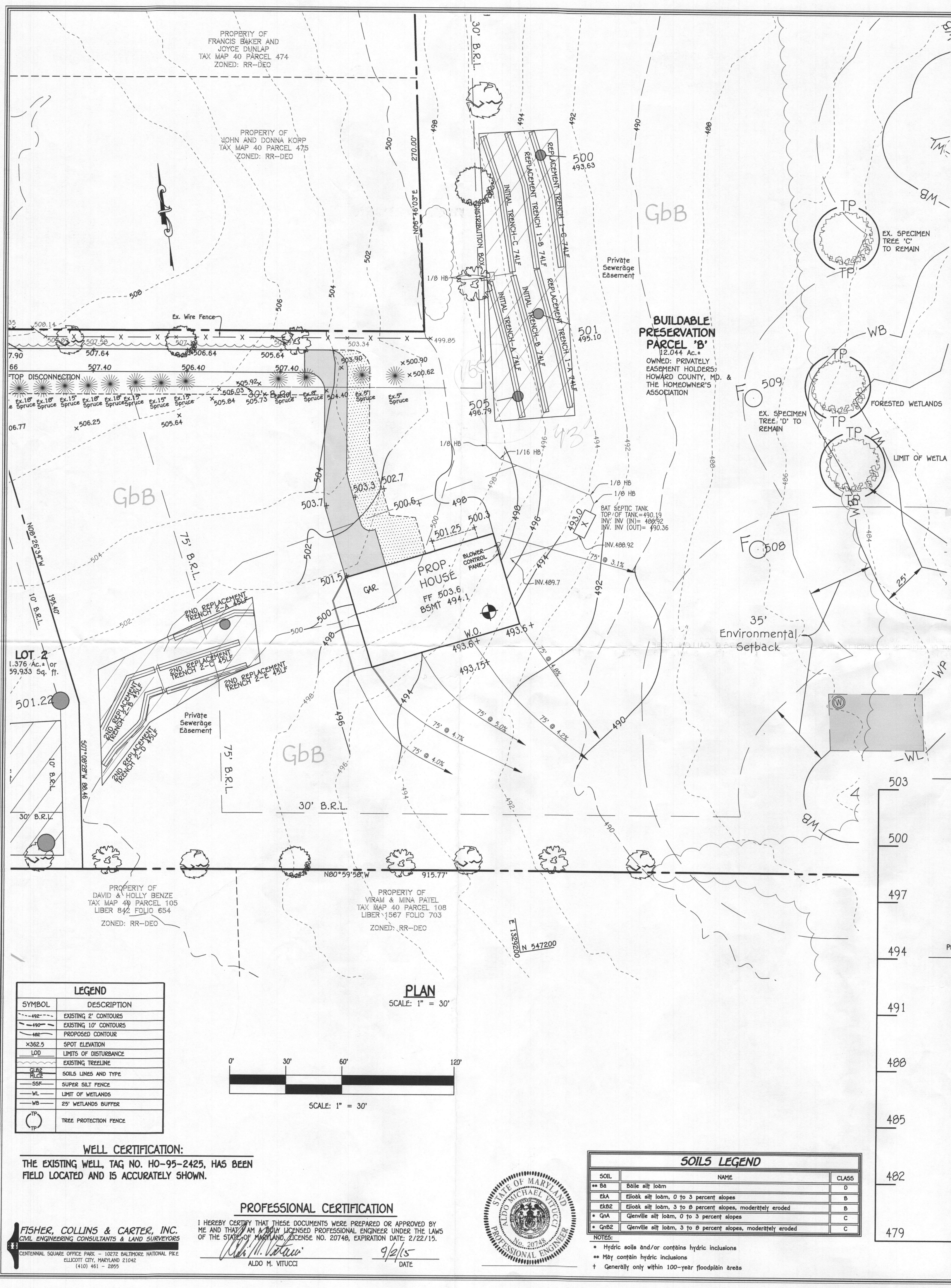
**Mayer Brothers, Inc.**  
 6164 Race Road  
 Ellicott City, MD 21043  
 Tel: 410.796.6244  
 Fax: 410.796.6244  
 www.mayerbrothers.com

**600 GPD BNR SYSTEM**  
**H-600 BNR**  
 WITH 750 GALLON PUMP CHAMBER

Approved Septic System Plan  
 Howard County Health Department  
 Signature: *[Signature]* Date: 9/15/15

**BAT PLAN**  
**VANNOY PROPERTY**  
 PRESERVATION PARCEL 'B', NON-BUILDABLE PRESERVATION PARCEL 'A' & BUILDABLE PRESERVATION PARCEL 'B'

PARCELS: 370 THRU 372, 468 THRU 473  
 ZONED: RR-DEO TAX MAP #40 GRID: 12  
 5TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 SCALE: 1" = 30' DATE: SEPTEMBER, 2015



**ITT**

**GOULDS PUMPS Wastewater**

**GOULDS PUMPS Wastewater**

**GOULDS PUMPS Wastewater**

**APPLICATIONS**

Specifically designed for the following uses:

- Effluent systems
- Homes
- Farms
- Heavy duty sump
- Water transfer
- Dewatering

**SPECIFICATIONS**

- Solids handling capability: 1/2" maximum.
- Capacities: up to 60 GPM.
- Total heads: up to 31 feet.
- Discharge size: 1 1/2" NPT.
- Mechanical seal: carbon-rotary/ceramic-stationary, Buna-N elastomers.
- Temperature: 104°F (40°C) continuous, 140°F (60°C) intermittent.
- Fasteners: 300 series stainless steel.
- Capable of running dry without damage to components.

**Motor:**

- EP04 Single phase: 0.4 HP 115 or 230 V 60 Hz, 1550 RPM, built in overload with automatic reset.
- EP05 Single phase: 0.5 HP 115 V or 230V, 60 Hz, 1550 RPM, built in overload with automatic reset.
- Power cord: 10 foot standard length, 16/3 STW with three prong grounding plug. Optional 20 foot length, 16/3 STW with three prong grounding plug for standard on EP05.
- Fully submerged in high grade turbine oil for lubrication and efficient heat transfer.

**Available for automatic and manual operation.**  
Automatic models include Mechanical Float Switch assembled and preset at the factory.

**PERFORMANCE RATINGS**

Total Head (ft. of water)	Gallons Per Minute	EP04	EP05
5	53	-	-
10	46	62	-
15	36	55	-
20	21	46	-
25	0	33	-
30	-	11	-

**COMPONENTS**

Item No.	Description
1	Impeller
2	Base
3	Pump Casing
4	Mechanical Seal
5	Ball Bearings
6	O-Rings
7	Power Cord
8	Oil Filter Motor
9	Motor Housing/ Stator Assembly
10	Motor Cover

**Vicinity Map**  
Scale: 1" = 2,000'

**BAT NOTES**

- 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.
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- THE BAT SHALL BE OPERATED BY AND MAINTAINED BY A CERTIFIED SERVICE PROVIDER.
- WITHIN ONE MONTH OF INSTALLATION, A PERSON INSTALLING THE BAT SYSTEM SHALL REPORT TO THE MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) IN A MANNER ACCEPTABLE TO MDE. THE ADDRESS AND DATE OF COMPLETION OF THE BAT INSTALLATION AND THE TYPE OF BAT INSTALLED.
- ELECTRICAL WORK FOR THE BAT INSTALLATION MUST BE PERFORMED BY A LICENSED ELECTRICIAN.
- AN AGREEMENT AND EASEMENT MUST BE COMPLETED AND SIGNED BY ALL APPLICABLE PARTIES, AND RECORDED IN THE LAND RECORDS OF HOWARD COUNTY.
- THE HEALTH DEPARTMENT REQUIRES DOCUMENTATION FOR THE START-UP CERTIFICATION FROM THE MANUFACTURER PRIOR TO FINAL APPROVAL OF THE INSTALLATION.
- SURFACE RUNOFF SHALL BE DIRECTED AROUND THE BAT TANK.
- SEWAGE FLOWS TO THE TANK BY GRAVITY AND WATER EXITING THE TANK TO THE SEPTIC AREA WILL FLOW BY GRAVITY.
- IF THERE IS EXCESSIVE RESISTANCE TO THE ABSORBOR MOTOR, AN ALARM WILL BE VISIBLE AND AUDIBLE. SEE MANUFACTURER'S SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- THE EXISTING WELL, TAG NO. HO-95-2425, HAS BEEN FIELD LOCATED AND IS ACCURATELY SHOWN.

**MODEL INFORMATION**

Order No.	HP	Volts	Amperes	Phase	Float Switch Style	Cond Length	Discharge Connection	Minimum On Level	Minimum Off Level	Minimum Inside Diameter	Maximum Outside Size	Shipping Weight (lbs)
EP0411	0.4	115	12	20	Plug/No Switch	10'	1 1/2"	Manual	Manual	1 1/2"	1 1/2"	20/9.1
EP0411A	0.4	115	12	20	Plug/No Switch	10'	1 1/2"	Manual	Manual	1 1/2"	1 1/2"	21/9.5
EP0411F	0.4	115	12	20	Plug/No Switch	20'	1 1/2"	Manual	Manual	1 1/2"	1 1/2"	20/9.1
EP0411AC	0.4	115	12	20	Plug/No Switch	20'	1 1/2"	Manual	Manual	1 1/2"	1 1/2"	21/9.5
EP0412	0.5	230	6	10	Plug/No Switch	10'	1 1/2"	Manual	Manual	1 1/2"	1 1/2"	20/9.1
EP0412F	0.5	230	6	10	Plug/No Switch	20'	1 1/2"	Manual	Manual	1 1/2"	1 1/2"	20/9.1
EP0511F	0.5	115	13	20	Plug/No Switch	20'	1 1/2"	Manual	Manual	1 1/2"	1 1/2"	22/10
EP0511AC	0.5	115	13	20	Plug/No Switch	20'	1 1/2"	Manual	Manual	1 1/2"	1 1/2"	23/10.4
EP0512F	0.5	230	6.5	10	Plug/No Switch	20'	1 1/2"	Manual	Manual	1 1/2"	1 1/2"	22/10

**SEPTIC SYSTEM TRENCH DESIGN**  
7 BEDROOM HOUSE  
LOADING RATE = 1,050 GPD  
APPLICATION RATE = 0.8  
EFFECTIVE SIDEWALL BEGINS AT 5.0 FEET  
TRENCH DEPTH = 8.0 FEET  
INITIAL SYSTEM  
TRENCH WIDTH (W) = 3 FEET  
EFFECTIVE DEPTH (D) = 3.0 FEET  
SF OF DRAINFIELD = 1,050 GPD / 0.8 = 1,312.5 SF  
COEFFICIENT OF REDUCTION OF TRENCH LENGTH = (W+2)/(W+1+2D) = 0.50  
(3+2)/(3+1+(2x3.0)) = 0.50  
TRENCH LENGTH = 1,312.5 SF x 0.50 / 3 = 218.75 FEET (USE 222 FEET)

**REPLACEMENT TRENCHES**  
TRENCH WIDTH (W) = 3 FEET  
EFFECTIVE DEPTH (D) = 3.0 FEET  
COEFFICIENT OF REDUCTION OF TRENCH LENGTH = (W+2)/(W+1+2D) = 0.50  
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**REPLACEMENT SYSTEM (2) - 3 TRENCHES AT 74 LF EACH**  
**REPLACEMENT SYSTEM (3) - 5 TRENCHES AT 45 LF EACH**

**SEPTIC SYSTEM ELEVATIONS**  
A = 493.00  
B = 489.92 (INV. INTO TANK)  
C = 487.65  
D = 483.23  
E = 483.48  
F = 484.48  
G = 486.48  
H = 2.81' (7" MIN.)  
I = 490.36 (INV. OUT OF TANK)  
FF ELEV. = 503.60  
BSMT ELEV. = 491.10  
INV. OUT OF HOUSE = 489.7  
INV. INTO DISTRIBUTION BOX =

**FRICITION LOSS IN 3" PIPE FITTINGS:**  
6 1/8 HB x 6 FEET PER FITTING = 36 EQUIVALENT FEET OF 3" PIPE  
1 UNION x 4 FEET PER FITTING = 4 EQUIVALENT FEET OF 3" PIPE  
1 ELBOWS x 12 FEET PER FITTING = 12 EQUIVALENT FEET OF 3" PIPE  
TOTAL EQUIVALENT FEET OF PIPE = 52 FT

**TOTAL LINEAR FEET OF 3" SCH. 40 PVC = 163 LF + 52 LF = 215 LF**

**DYNAMIC HEAD**  
215 LF x 0.77 FT PER 100 LF OF 3" PIPE = 1.66 FT OF FRICTION HEAD  
VERTICAL FROM PUMP OFF TO DISCHARGE = 6.80 FT OF FRICTION HEAD  
DISCHARGE TO HIGHEST ELEV. OF SYSTEM = 4.64 FT  
TOTAL DYNAMIC HEAD = 13.10 FT (USE 13.2 FT)

**1/6" DESIGN FLOW (1050/6=175)  
USE 175.0 GALLON DOSE  
(RUN TIME = 3 MIN (58.3 GPM x 3 = 175.0 GALLON DOSE)**

**PUMP NEEDS TO HANDLE 58.3 GPM AT 13.2 FT OF HEAD  
USE 0.5 HP (EP05 PUMP)**

**SEPTIC SYSTEM PROFILE**  
SCALE: HORIZ. 1" = 30'  
VERT. 1" = 3'

