

C1 0075

SEQUENCE NO. (MDE USE ONLY)

STATE OF MARYLAND WELL COMPLETION REPORT

THIS REPORT MUST BE SUBMITTED WITHIN 45 DAYS AFTER WELL IS COMPLETED.

(THIS NUMBER IS TO BE PUNCHED IN COLS. 3-6 ON ALL CARDS)

COUNTY NUMBER

ST/CO USE ONLY DATE Received

DATE WELL COMPLETED

Depth of Well

PERMIT NO. FROM "PERMIT TO DRILL WELL"

OWNER: Bates Bruce, STREET OR RFD: Blights Ln., TOWN: Fulton, SUBDIVISION: Beaufort Park, SECTION: , LOT: 53

WELL LOG table with columns for DESCRIPTION, FEET (FROM, TO), and check if water bearing. Includes handwritten note 'Deepened' and 'Gray Shale 600 1,250'.

GROUTING RECORD section with fields for GROUTING MATERIAL (CEMENT, BENTONITE CLAY), NO. OF BAGS, NO. OF POUNDS, GALLONS OF WATER, and DEPTH OF GROUT SEAL.

CASING RECORD section with fields for casing types (STEEL, CONCRETE, PLASTIC, OTHER) and MAIN CASING TYPE.

OTHER CASING (if used) section with fields for diameter and depth.

SCREEN RECORD table with columns for screen type (STEEL, BRASS, BRONZE, PLASTIC, OPEN HOLE, OTHER) and DEPTH (nearest ft.).

DEPTH (nearest ft.) section with a grid for recording depth measurements.

NUMBER OF UNSUCCESSFUL WELLS: 0

WELL HYDROFRACTURED section with YES/NO options.

- CIRCLE APPROPRIATE LETTER: A (Well abandoned and sealed), E (Electric log obtained), P (Test well converted to production well).

I HEREBY CERTIFY THAT THIS WELL HAS BEEN CONSTRUCTED IN ACCORDANCE WITH COMAR 26.04.04 "WELL CONSTRUCTION" AND IN CONFORMANCE WITH ALL CONDITIONS STATED IN THE ABOVE CAPTIONED PERMIT...

DRILLERS LIC. NO.: MSD011, DRILLERS SIGNATURE: John A. Shuff

LIC. NO.: JSD106, SITE SUPERVISOR (sign. of driller or journeyman responsible for sitework if different from permittee): Christopher Shuff

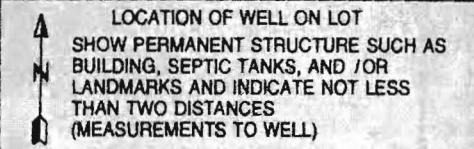
GRAVEL PACK section with fields for diameter and depth of screen.

MDE USE ONLY (NOT TO BE FILLED IN BY DRILLER) section with fields T, W, O.

TELESCOPE CASING section with fields LOG INDICATOR and OTHER DATA.

PUMPING TEST section with fields for HOURS PUMPED, PUMPING RATE, METHOD USED TO MEASURE PUMPING RATE (Bucket), WATER LEVEL, BEFORE PUMPING, WHEN PUMPING, and TYPE OF PUMP USED.

PUMP INSTALLED section with fields for DRILLER INSTALLED PUMP, TYPE OF PUMP INSTALLED, CAPACITY, PUMP HORSE POWER, PUMP COLUMN LENGTH, and CASING HEIGHT.



WS Blounts - 8520 -
Well - 85-0322
8520 Blounts Ln
Serves

C1 5240

SEQUENCE NO. (MDE USE ONLY)

STATE OF MARYLAND WELL COMPLETION REPORT

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(THIS NUMBER IS TO BE PUNCHED IN COLS. 3-6 ON ALL CARDS)

COUNTY NUMBER

ST/CO USE ONLY DATE Received

DATE WELL COMPLETED

Depth of Well

PERMIT NO. FROM "PERMIT TO DRILL WELL"

OWNER: Bates Bruce; STREET OR RFD: Blounts Lane; TOWN: Fulton; SUBDIVISION: Beaufort Park; SECTION: ; LOT: 1

WELL LOG table with columns: DESCRIPTION, FEET (FROM, TO), check if water bearing. Includes entries for Overburden, Gray Rock, Soft Gray Rock, and Gray Rock.

GROUTING RECORD: WELL HAS BEEN GROUTED (Y); TYPE OF GROUTING MATERIAL: CEMENT (CM), BENTONITE CLAY (BC); NO. OF BAGS: 6; NO. OF POUNDS: 450; GALLONS OF WATER: 36; DEPTH OF GROUT SEAL: 20 ft.

CASING RECORD: MAIN CASING TYPE: PL (PLASTIC); Nominal diameter: 6 inch; Total depth: 20 feet.

OTHER CASING (if used) table with columns: diameter inch, depth (feet) from, to.

SCREEN RECORD: screen type or open hole: ST (STEEL); insert appropriate code below.

NUMBER OF UNSUCCESSFUL WELLS: 0

WELL HYDROFRACTURED: YES (Y)

CIRCLE APPROPRIATE LETTER: A (A WELL WAS ABANDONED AND SEALED WHEN THIS WELL WAS COMPLETED)

I HEREBY CERTIFY THAT THIS WELL HAS BEEN CONSTRUCTED IN ACCORDANCE WITH COMAR 26.04.04 "WELL CONSTRUCTION" AND IN CONFORMANCE WITH ALL CONDITIONS STATED IN THE ABOVE CAPTIONED PERMIT...

DRILLERS LIC. NO. 1 MSD 162

DRILLERS SIGNATURE: Marty Dren

SITE SUPERVISOR (sign. of driller or journeyman responsible for sitework if different from permittee)

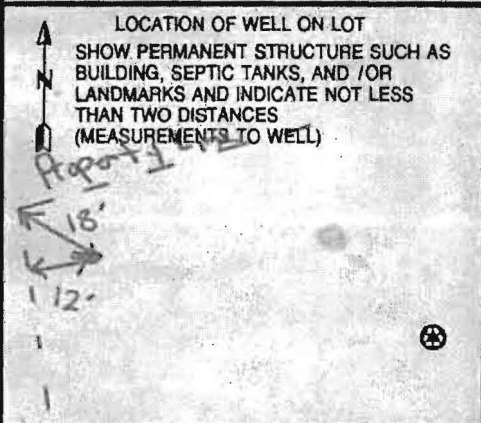
DEPTH (nearest ft.) table with columns: 8, 9, 11, 15, 17, 21, 23, 24, 26, 30, 32, 36, 38, 39, 41, 45, 47, 51. Includes slot size and diameter of screen.

GRAVEL PACK IF WELL DRILLED WAS FLOWING WELL INSERT F IN BOX 68

MDE USE ONLY (NOT TO BE FILLED IN BY DRILLER) (E.R.O.S.) W Q

PUMPING TEST: HOURS PUMPED: 4; PUMPING RATE: 34 gal. per min.; METHOD USED TO MEASURE PUMPING RATE: Submersible; WATER LEVEL: 79 ft. before, 254 ft. when pumping; TYPE OF PUMP USED: S (submersible)

PUMP INSTALLED: DRILLER INSTALLED PUMP: YES (NO); TYPE OF PUMP INSTALLED: S; CAPACITY: 31 gallons per minute; PUMP HORSE POWER: 37; PUMP COLUMN LENGTH: 43 ft.



Bricker, Robert

From: John Boris -MDE- <john.boris@maryland.gov>
Sent: Thursday, May 11, 2017 7:06 AM
To: Bricker, Robert
Cc: Williams, Jeffrey; Collins, Sarah; Cabahug, Joseph; Naomi Howell -MDE-
Subject: Re: Parcel 53_8520/8522 Blounts Lane yield test

Robert,

Thanks for the question. If I read your email correctly you state that one of the properties was already occupied? I thought these were unoccupied houses? Is this a new subdivision and if so, why wasn't the simultaneous yield done then? This presents a new element to this question and one I failed to recognize yesterday when I was discussing this matter with Kevin and Joseph. If you can answer those questions it will go a long way in providing you with guidance.

Although it's possible it's really hard to do a simultaneous yield like this. Not only does this overwork the well owners pump but regulating it requires someone to be in the house and at both well heads to observe the static at the same time while maintaining constant communication. Without transducers giving you real time data in each well you need 3 people at this site if you want to know what's really going on.

Per reg any well that is to be yield tested must be pumped down first to the level of the pump and then recover back up to a static pumping state before the test is started. A yield that goes up coupled with a rise in the static is not as concerning as one that falls during the test. This is true in a conventional yield test but it's even more important when doing a simultaneous yield in a historically low yielding area.

John A. Boris, Jr., LEHS
Geologist Program Consultant
Maryland Dept. of the Environment
Onsite Systems Division
Office: (410) 537-3678
Cell: (443) 992-6195
Fax: (410) 537-3163

On Wed, May 10, 2017 at 12:12 PM, Bricker, Robert <RBricker@howardcountymd.gov> wrote:

John,

I have attached scans of data obtained from two wells located on 'Parcel 53' on May 4. The contractor (Fogle's) was supposed to have conducted a simultaneous yield check as each well is are very low yielding, and each well is drilled to over 1100 feet depth. While the yields they are reporting are at the 1 gallon per minute rate or slightly above, I'm skeptical about the methodology. They did not empty the well, and they did not pump the well for 6 hours after reaching a steady rate of withdrawal.

So I'm sending these data and observations to ask you if you think the methodology utilized is permissible(?), and is the reported yield valid?

Well HO-95-0329 is an offsite well that serves a residence on Beaufort Park- Lot 3. There was not supposed to be any withdrawals from the well during the test period, however an observer (Joseph Cabahug) commented that the persons conducting the yield test had problems adjusting the flow rate as withdrawals from the well were occurring during the test.

Well HO-95-1000 is installed to serve Parcel 53. We are holding up a Building Permit proposal because we do not have adequate yield data for the well. (We have only a 'Yield Test Report' from July 2008 that was submitted to the Health Department as a photo.)

Joseph Cabahug reported that the flow rate for well HO-95-0329 was adjusted at 12:45 and at 1:06 by varying the opening of hose nozzle. He also reports that flow rate for well HO-95-1000 was adjusted by adjusting the rate of the pump at 1:33.

As you can see in the email string below, Sarah Collins reports the following: "Fogle's conducted a simultaneous yield test by dropping a pump in the well not connected to the house (HO-95-0329) and running a hose at the house to withdraw water from the well connected to the house (HO-95-1000). Fogle's instructed the occupants of the house to not use any water in the house during the yield test. Fogle's measured the yield and water level in both wells every 15 minutes."

Your observations and insights are welcome. Let me know if you want more information.

Robert Bricker, REHS/RS, L.E.H.S.

From: Collins, Sarah
Sent: Wednesday, May 10, 2017 8:58 AM
To: Bricker, Robert
Subject: 8520/8522 Blounts Lane yield test

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Sarah Collins, L.E.H.S.

Environmental Health Specialist

Howard County Health Department

Bricker, Robert

From: John Boris -MDE- <john.boris@maryland.gov>
Sent: Thursday, May 11, 2017 7:06 AM
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So I'm sending these data and observations to ask you if you think the methodology utilized is permissible(?), and is the reported yield valid?

Bricker, Robert


To: Bricker, Robert
Subject: RE: 8522 Blounts Lane_Howard County MD

From: Bricker, Robert
Sent: Friday, March 17, 2017 9:04 AM
To: 'pstaley@benninglandplan.com'
Subject: 8522 Blounts Lane_Howard County MD

Good morning Pete.

Please inform your client that the well installed to serve Parcel 53 (8522 Blounts Lane) in the Beaufort Park subdivision is not approvable for use as it has only 0.34 gallon per minute (gpm) yield. The minimum required yield is 1 gpm. Your client will have to consult with a Licensed (MD) Well Driller (licensed by State of Maryland) concerning the options which are either to deepen the well or install a new well and seal the low-yielding one.

Well HO-95-0329 serves Lot 3 (8520 Blounts Lane). It too had a very low yield, though it was deepened and an adequate supply of water was found at over 1100 feet depth.

 Trench specifications may be released when a well properly constructed well is installed that has an approvable yield.

ROBERT BRICKER, REHS/R.S., L.E.H.S.
ENVIRONMENTAL SANITARIAN II
BUREAU OF ENVIRONMENTAL HEALTH, WELL AND SEPTIC PROGRAM
8930 STANFORD BLVD., COLUMBIA, MD 21045

Phone: Desk, 410-313-2691; Program, 410-313-1771; Bureau, 410-313-1774
Fax: 410-313-2648

E-mail: rbricker@howardcountymd.gov

**HOWARD COUNTY HEALTH DEPARTMENT
BUREAU OF ENVIRONMENTAL HEALTH
WELL & SEPTIC PROGRAM
TEL: (410)313-1771 FAX: (410)313-2648**

Information Form for the Installation of the Well Pump, Pitless Adapter, and Supply Piping

NOTE: The installer is responsible for requesting an inspection prior to 9 am on the day of the desired inspection. No work is to be covered until approved by the Health Department. All installations must comply with the National Standard Plumbing Code (NSPC, as amended locally) and COMAR 26.04.04 (MD Well Construction Regulations). Submission of a complete form is required prior to Use and Occupancy approval.

Company Name: Fogge's Well Pump & Water Treatment LLC Telephone #: 410 795 5670
Address: 580 Obrecht Rd
Sykesville, MD 21784

(Must circle one) Licensed Plumber Licensed Well Driller Licensed Well Pump Installer
License # and name of individual responsible for the field installation:
Name (Print): David C Fogge License # MSP226

*A licensed individual must perform the actual installation. Apprentices must be under the supervision of a licensed journeyman or master plumber, pump installer or well driller. Licenses may be subjected to field verification. Unlicensed individuals may be reported to the appropriate licensing agency.

Name of Property Owner: Classic Homes Telephone #: 703-409-7926
Subdivision: _____ Lot #: _____ Well Tag #: HO-95-0324 HO-95-1000
Site Address: 8522 Blants Lane Burton, MD 3/19/2018 (Je)

<u>Submersible Pump Data</u>	<u>Pitless Adapter</u>	<u>Well Cap and Electric Conduit</u>
Make: <u>SUNDRS</u>	Make: <u>COMPAC II</u>	Two piece watertight cap: <u>YES</u>
Model #: <u>78S3042Z</u>	Model #: <u>N/A</u>	Screened, vented well cap: <u>YES</u>
Pump Capacity: <u>7</u> GPM	Depth: <u>36"</u> (36" min)	Cap secured to casing: <u>YES</u>
Well Yield: <u>1</u> GPM	NSF/WSC approved: <u>N/A</u>	Conduit min 1.8" B.G.: <u>YES</u>
Depth of well encountered at time of pump installation: <u>112.5</u> (feet)		Conduit secured to well cap: <u>YES</u>
If pump capacity exceeds well yield, a low water cut off switch is required by NSPC 1990 Section 17.8.4		
Torque anastors, Cable guards, or other acceptable method used— Must circle one		
Safety rope, if used, attached to brass rope adapter or other acceptable method inside of well casing <u>N/A</u>		

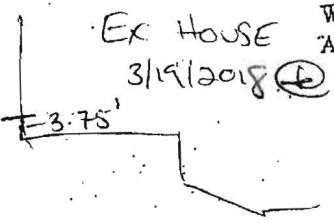
<u>Piping to house</u>	<u>House Connection</u>
Type: <u>1 1/4" POLY PIPE</u>	PVC sleeve to undisturbed soil at wall penetration: <u>YES</u>
PSI: <u>200</u> (160 psi min)	Length of sleeves (minimum from foundation): <u>6'</u>
Depth of supply line: <u>36"</u> (36" min)	Sleeve sealed properly: <u>YES</u>

The water supply line is required to be at least ten feet from the septic tank, pump chamber, sewage piping, distribution box, drainfields, and sewage reserve area. If this cannot be accomplished, contact this office for approval prior to installation.

Signature of company representative responsible for installation: David C Fogge date: 3-16-18

For Health Department Use Only – Not to be completed by Installer

Date Insp. Requested: 3/19/2018 Date Insp. Approved: 3/20/2018 Inspector: (Signature)
Inspection Data: Pitless adapter watertight & water supply line at least 36" below grade 41" 3/19/2018 (Je)
Two piece cap installed and attached to casing securely 3/20/2018 (Je)
Elec. conduit extends at least 1.8" below grade/attached to cap properly 39" 3/19/2018 (Je)
Safety rope not outside of well cap/casing ✓
Correct well tag attached properly and casing 8" above finished grade 10" 3/19/2018 (Je)
Water supply line sleeved adequately at house connection 9' 3/19/2018 (Je)
Adequate grout observed below pitless adapter ✓



3/19/2018 (Je)
Reinspect for cap secure, conduit plug seal
Pitless tightening
3/20/2018 (Je)
cap secure, cond. sealed @ bottom, pitless tightened

FIELD DATE SHEET
HOWARD COUNTY WELL YIELD TEST

Well Permit No. HO-95-1000

Location of Property: 8520 Blounts Lane Fulton, Maryland 20759

Subdivision: Beaufort Park

Lot #: 3

Well Driller Tech: Fogles Andy Houseman

Owner: Bill & Dana Walker

Handwritten: well located on Parcel 53 (8522 Blounts Lane)

Depth of Well: 1250'

Distance of measuring point (M.P.) above ground: 1'

Static water level (S.W.L.) below M.P.: 172'

High rate pumping –reservoir Drawdown

Time pump started: 9:00 Pumping rate: 12 GPM

Total time 150 mins to reach pumping water level 438.7 ft. below M.P.

Recovery pump test data – observations to be recorded every 15 minutes

TIME (in 15 minute intervals)	WATER LEVEL Below M.P.	PUMPING RATE Time to fill 1 gallon bucket	FLOW METER READING (if used)	CALCULATED FLOW (gallons per minute)
9:00	172'	5 Seconds		12 gpm
9:15	256'	6 Seconds		10 gpm
9:30	323'	7 Seconds		8.5 gpm
9:45	368'	8 Seconds		7.5 gpm
10:00	404'	9 Seconds		6.6 gpm
10:15	433'	10 Seconds		6 gpm
10:30	438.7'	21 Seconds		2.8 gpm
10:45	438.7'	21 Seconds		2.8 gpm
11:00	439.1'	21 Seconds		2.8 gpm
11:15	439.5'	30 Seconds		2 gpm
11:30	436.6'	28 Seconds		2.1 gpm
11:45	436.1'	29 Seconds		2.0 gpm
12:00	436.6'	29 Seconds		2.0 gpm
12:15	436.7'	29 Seconds		2.0 gpm
12:30	437.1'	38 Seconds		1.6 gpm
12:45	435.7'	38 Seconds		1.6 gpm
1:00	435'	38 Seconds		1.6 gpm
1:15	435.9	50 Seconds		1.1 gpm
1:30	435.4	50 Seconds		1.1 gpm
1:45	435'	50 Seconds		1.1 gpm
2:00	434'	50 Seconds		1.1 gpm
2:15	433.7'	50 Seconds		1.1 gpm
2:30	433.7'	50 Seconds		1.1 gpm
2:45	433.7'	50 Seconds		1.1 gpm
3:00	433.5'	50 Seconds		1.1 gpm
3:15	433.5'	50 Seconds		1.1 gpm
3:30	433.5'	50 Seconds		1.1 gpm
3:45	433.2'	50 Seconds		1.1 gpm
4:00	433.2'	50 Seconds		1.1 gpm
4:15	433.1'	50 Seconds		1.1 gpm
4:30	433.1'	50 Seconds		1.1 gpm

Handwritten: Prob wrong add

HARR WELL DRILLING

12047 FALLS ROAD
COCKEYSVILLE, MD 21030
410-252-4588

HOWARD COUNTY YIELD TEST REPORT

Date Test Performed: 7-26-06

Address: Blounts Lane

Owner Name: Bruce Bates

Well Depth: 600 Ft

Permit Number:

Subdivision: #1 well

Election District:

Static Water Level: 79 Ft

Time	Water Level	PSI Existing Pump	Pumping Rate Seconds to fill 1 gallon bucket	Calculated Flow-Gallons Per Minute
0830	79 ft		4 sec	15.00
0845	70		4	15.00
0900	243		5	12.00
0915	245		120	0.50
0930	246		90	0.66
0945	246		90	0.66
1000	249		107	0.56
1015	249		107	0.56
1030	250		135	0.44
1045	250		135	0.44
1100	250		135	0.44
1115	251		138	0.43
1130	252		140	0.42
1145	252		144	0.41
1200	253		144	0.41
1215	254		174	0.34

INTERIM CERTIFICATE OF POTABILITY
Expiration Date – FEBRUARY 2, 2019

August 2, 2018

Homeowner
8522 Blounts Lane
Fulton, MD 20759

RE: Beaufort Park, Lot 53
8522 Blounts Lane
Building Permit: B17002751
Well Permit: HO-95-1000

Dear Homeowner:

This is to advise you that the septic system installation and water well construction for the above referenced property have been inspected and approved. Final approval of the septic system was granted on **8/2/2018**. Final approval of the well line connection to the dwelling was granted on **3/20/2018**. The well construction was completed on **5/28/2007**. Water samples were collected on **7/11/2018**.

The water sample results indicate that the water samples submitted for testing were free of coliform and fecal coliform bacteria at the time of sampling and are bacteriologically safe for drinking. This certifies that the initial sampling requirements of COMAR 26.04.04 "Well Regulations" have been met for the water supply system installed under well permit HO-95-1000. Although the submitted sample results are in compliance with COMAR standards, the Health Department does not guarantee water supplies.

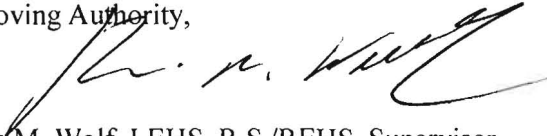
This Interim Certificate of Potability will expire **six months** from the date of issuance. Submission of a second bacteriological test indicating the water is free of coliform and fecal coliform bacteria is required prior to the expiration date, after which time a Final Certificate of Potability will be issued. **Failure to submit an additional sample and obtain a Final Certificate of Potability will result in a Notice of Violation and is punishable as a misdemeanor under the *Annotated Code of Maryland, Environment Article, 9-1311*, subject to a fine of up to \$500 or imprisonment not to exceed three months.**

Please contact (410) 313-1773 to schedule a final water sample appointment or contact a Maryland certified water laboratory to schedule a water sample. A list of laboratories certified by the state of Maryland may be found at the following website:
<http://www.mde.state.md.us/assets/document/WSP-Labs-2010apr16.pdf>

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

In closing, please refer to our "Homeowner Fact Sheet" which illustrates a better understanding for your Onsite Sewage Disposal System. You will also find a link to Maryland Department of the Environment's website which describes in further detail operation and maintenance of your septic system.

Approving Authority,



Kevin M. Wolf, LEHS, R.S./REHS, Supervisor
Groundwater Management Section
Well & Septic Program

cc: Howard County Dept. of Inspections, Licenses, and Permits
Community Hygiene Program
File

FOUNTAIN VALLEY ANALYTICAL LABORATORY, INC.

1413 Old Taneytown Rd. Westminster, MD (410) 848-1014 (410) 876-4554 FAX (410) 848-0298

REPORT OF ANALYSIS

Laboratory ID #: 123259 Account #: 1930
Reference: Fogle's Well Drilling Company: Fogle's Well Drilling
Location: 8522 Blunts Lane Requested By: Theresa Miller
Fulton, MD 20759 Source: Well Water
Date/ Time Collected: 7/11/2018 1440 Site: Pressure Tank
Date/Time Rec'd: 7/11/2018 1610 Treatment: None
Chlorine ppm: Free: ND Total: ND pH: 8.1
Collected By: J. Fogle 1974JF Well #: HO-95-1000

PARAMETERS	RESULTS	UNITS	REFERENCE	METHOD	DATE/TIME/ANALYST
Bacteria, Coliform, Total, MPN	<1.0	MPN/ 100 ml	<1.0	SM20 9223	7/12/2018 / 1030 / RER
Bacteria, E. coli, MPN	<1.0	MPN/ 100 ml	<1.0	SM20 9223	7/12/2018 / 1030 / RER
Nitrate	<1.0	mg/L	10	601	7/12/2018 / 0915 / RER
Turbidity	2.60	NTU	<10	SM20 2130B	7/12/2018 / 0930 / RER
Sand	NS	mg/L	5	Visual/Gravimetric	7/12/2018 / 0930 / RER

OK
8/2/18 SC

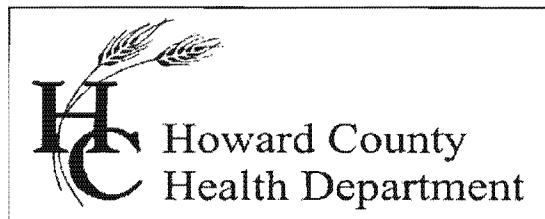
NOTES

- 1 mg/L = milligrams per liter (also, parts per million)
- 2 MPN/ 100 ml = Most Probable Number [of viable bacteria] per 100 ml of sample.
- 3 NS = None Seen (NS indicates less than 5 mg/L)
- 4 NTU = Nephelometric Turbidity Units
- 5 Results less than or within the reference range are considered satisfactory and within potable water limits at the time of sampling.
- 6 Sample collected by client, analyzed as received
- 7 ND = None Detected
- 8 Visual well check: Sealed, vented cap
- 9 pH and Chlorine level tested in lab (pH tested after recommended holding time)

Reason for Test : Use & Occupancy

Building Permit # : 17002751

Date Reported: 7/12/2018



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

Twitter: [HowardCoHealthDep](https://twitter.com/HowardCoHealthDep)

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

DATE: May 11, 2017

TO: Charles Krockner, ADC Consult
(Representing William and Dana Walker, owners)

FROM:  Robert Bricker, REHS/RS, L.E.H.S., Environmental Sanitarian II
Well and Septic Program

RE: Bureau of Environmental Health response to well yield submittal,
Blounts Lane, Parcel 53

The yield tests conducted for the two wells located within the area of (Tax Map 45) Parcel 53 were not completed in a manner that would provide valid results for a simultaneous yield. The purpose for the requirement of a simultaneous yield test for the two wells, HO-95-1000 and HO-95-0329, is to prove that a HO-95-1000 will recharge at a rate that sustains a constant yield of at least 1 gallon per minute for a period of six hours while the recharge rate for well HO-95-0329 is sustained at 1 gallon per minute or more during the same six hour period. Deficiencies in the implemented procedure or results are as follow:

1. The operator did not pump water from either well at a constant rate for a period of six consecutive hours after the water levels in each well stabilized at a constant elevation.
2. The operator did not provide a depth in each well at which the pump was located for the duration of the test.
3. The operator recorded the wrong address on each well yield data form. We believe the addresses are reversed relative to the reported well tag numbers and total depths of the respective wells.

If transducers are not utilized to give real time withdrawal and/or elevation data in each well during the simultaneous yield test, then three persons must be involved in monitoring the withdrawal from the wells. One person to observe that no water is being used at the house served by HO-95-0329, and one person at each well location to monitor the withdrawal rate and elevation of the potentiometric surface in the respective wells.

Should any variation occur in the withdrawal rate or potentiometric surface of either well, the six-hour period for measuring sustained yield begins again at zero, i.e. the six-hour test period begins anew. Similarly, should a water withdrawal occur during the test at the residence served by HO-95-0329, the six-hour period for measuring sustained yield begins again at zero.

The requirement for a simultaneous yield test which results in yields of at least 1 gallon per minute for each of the two wells remains a requirement by the Bureau of Environmental Health for approval of a building permit application to construct a residence on the Parcel 53.

RB

Attachment: 2 sheets, *Field Data Sheet, Howard County Well Yield Test*

COPY: Theresa Miller, Fogle's Well Drilling and Pump Service
Jeffrey Williams, Program Supervisor, Well and Septic Program
file

Williams, Jeffrey

From: Williams, Jeffrey
Sent: Monday, May 22, 2017 2:02 PM
To: 'Bill Walker'
Cc: Bricker, Robert
Subject: RE: Well Yield Discussion - William Walker, Parcel 53 (Howard County)

As we discussed on the phone today, the situation with well HO-95-1000 is as follows:

We will accept the simultaneous yield test performed 5/4/2017 as meeting the requirements of the well construction regulations, COMAR 26.04.04. However, there is strong evidence that the two wells may be sharing a water bearing fracture and the existing test does not fully answer the question of what the static water levels or recovery rate will be for either well once both are in service. In order to have better confidence in both wells being able to supply 1 gpm and adequately serve both houses day to day, we strongly recommend performing the following additional test:

Drop a pump into the well down to near the bottom, at least below the depth of the fracture at 1150' according to the completion report. Draw down the water to near the depth of the pump while measuring and recording the static water level at the well serving the existing house, HO-95-0329. If the water level in that well falls below the pump, stop the draw down. Once the water level is near the pump, run a yield test for at least 1 hour while measuring and recording the water level in the other well. After the test is complete, monitor the recovery rate by recording the water levels in both wells at regular intervals. Record the time it takes for the water levels to reach their resting state.

Depending on the results of this test, it may be necessary to install pumps in both wells near the bottom to allow for maximum storage capacity. Additional pressure storage tanks in the house may also be necessary. If the well yield and recovery is extremely low, a new well may need to be drilled to add in series or to replace well 95-1000.

Please let me know if there are any questions. Thanks Jeff

-----Original Message-----

From: Bill Walker [<mailto:bwalker32@gmail.com>]
Sent: Thursday, May 18, 2017 12:09 PM
To: Williams, Jeffrey
Subject: Re: Well Yield Discussion - William Walker, Parcel 53 (Howard County)

Ok, that is great. Yes, I'd like to include Chuck, and I will advise him of our scheduled meeting tomorrow morning at 10 am.

We will meet at your offices located at 8930 Stanford Boulevard, Columbia, MD 21045.

Many thanks,

Bill

> On May 18, 2017, at 10:01 AM, Williams, Jeffrey <jewilliams@howardcountymd.gov> wrote:

>

> I'm available tomorrow (Friday) in the morning. A 10am meeting would be fine. We could see about a different time that morning if need be. I also got a call yesterday from Chuck Crocker. Do you want to include him in this?

>

> -----Original Message-----

> From: Bill Walker [<mailto:bwalker32@gmail.com>]

> Sent: Wednesday, May 17, 2017 4:25 PM

> To: Williams, Jeffrey

> Subject: Well Yield Discussion - William Walker, Parcel 53 (Howard
> County)

>

> Jeff,

>

> Thank you again for your time on the phone this morning discuss the issues noted with our lot. I just left a voice mail message at your office. I'm planning to be in town over the next couple of days, and I wanted to come meet with you briefly to introduce myself and further discuss my understanding of the background regarding the wells to date.

>

> Can we schedule some time to meet with one another briefly tomorrow (Thursday, 5/18) or Friday (5/19)? I recall you stating today that you were generally available over the next couple of days for a follow-up and I wanted to meet as soon as possible because time is of the essence. I'm also simultaneously coordinating meetings with our site engineer, etc., and I am trying to be most efficient with everyone's time, as we all attempt complete other tasks and I strive to make progress with the construction of our home for my family in Howard County.

>

> Thank you in advance for your consideration, and please note that I do not expect to take more than 30 minutes of your time.

>

> Best regards,

>

> Bill Walker

> Lot Owner - Howard County (Parcel 53)

> 8522 Blounts Lane

> Fulton, MD

FILE INQUIRY NOTES

DATE	RESULTS OF REVIEW FOR FILE																														
4/28/17	Fogle's cannot get pump truck back to well to do yield test, so they ran the water at the house @ 6 gpm. One well is connected to the house and has a pump (HO-95-0329) and the other well does not have a pump (HO-95-1000). Fogle's measured water levels in both wells during pumping + recovery. It appears that the two wells are connected and the recovery of HO-95-1000 is < 1 gpm and of HO-95-0329 is just over 1 gpm. (SC)																														
5/2/17	Spoke with Chuck Crocker, the realtor ^{realtor} via phone. Explained that the most recent pumping results cannot confirm that HO-95-1000 is sufficient to serve as the only well on a lot as it appears to be < 1 gpm. Only a true 6 hr simultaneous yield will give definitive #s. (SC)																														
5/4/17	<div style="display: flex; justify-content: space-between;"> <div style="width: 60%;"> <p>Draws: Set from hose @ 1 gal/min Static: 172</p> <p>← HO-95-0329 Pump depth</p> </div> <div style="width: 35%; border-left: 1px solid black; padding-left: 5px;"> <p>Set 1620 Pump 1475 Static: 174 + 174 HO-95-1000</p> </div> </div>																														
	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">12:45</td> <td style="width: 15%;">432'</td> <td style="width: 15%;">1 gal</td> <td style="width: 15%;">50 sec</td> <td style="width: 15%;">Δ Hose line open</td> <td style="width: 15%;"></td> </tr> <tr> <td>12:52</td> <td>432'</td> <td>1 gal</td> <td>59 sec</td> <td>↓</td> <td>12:56 435.3' 37</td> </tr> <tr> <td>01:06</td> <td>431'</td> <td>1 gal</td> <td>53 sec</td> <td>Δ Hose line</td> <td>1:10 435 38</td> </tr> <tr> <td>01:30</td> <td>434'</td> <td>1 gal</td> <td>1:10 m</td> <td></td> <td>1:30 436 38.5</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Δ set pump 1:33 435- 52 sec</td> </tr> </table>	12:45	432'	1 gal	50 sec	Δ Hose line open		12:52	432'	1 gal	59 sec	↓	12:56 435.3' 37	01:06	431'	1 gal	53 sec	Δ Hose line	1:10 435 38	01:30	434'	1 gal	1:10 m		1:30 436 38.5						Δ set pump 1:33 435- 52 sec
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	<p>Operators speculated about water use at</p>																														

need to redo yield test

1. ~~Did~~ not pump at constant rate for six hours after water level stabilizes
2. Did not provide depth where pump is located, including the existing pump.
3. Need to verify that no water is being used at the ex. house.
4. Tag #s and addresses not correctly noted
apparently addresses have been reversed

no transducers
3 people

any water use at house occurs the 6-hour test must be restarted.

Charles Krocker
703 409 7926

Chuck Krocker
@gmail.com

ADCECONSULT

Williams, Jeffrey

From: Bill Walker <bwalker32@gmail.com>
Sent: Monday, May 22, 2017 2:53 PM
To: Williams, Jeffrey
Cc: Bricker, Robert
Subject: Re: Well Yield Discussion - William Walker, Parcel 53 (Howard County)

Jeff,

Thank you for your message notifying us of the acceptance by Howard County's Bureau of Environmental Health of our simultaneous yield test on 5/4/2017, and hereby supplanting the letter written from Mr. Bricker to Chuck Krocker on 5/11/2017 regarding our property. Your recommendation on what we can do as home owners to acquire better confidence that the wells that sit on our lot will adequately supply in the future is also noted.

We very much appreciate the time and effort of you, Mr. Bricker and your colleagues throughout, and I will be in touch again with any questions. I'll forward your acceptance message below to our home construction team, so that we can take next steps with Howard county regarding the ECP and building permits, etc.

Best regards,

Bill Walker

> On May 22, 2017, at 2:01 PM, Williams, Jeffrey <jewilliams@howardcountymd.gov> wrote:

>
> As we discussed on the phone today, the situation with well HO-95-1000 is as follows:

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> We will accept the simultaneous yield test performed 5/4/2017 as meeting the requirements of the well construction regulations, COMAR 26.04.04. However, there is strong evidence that the two wells may be sharing a water bearing fracture and the existing test does not fully answer the question of what the static water levels or recovery rate will be for either well once both are in service. In order to have better confidence in both wells being able to supply 1 gpm and adequately serve both houses day to day, we strongly recommend performing the following additional test:

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> Depending on the results of this test, it may be necessary to install pumps in both wells near the bottom to allow for maximum storage capacity. Additional pressure storage tanks in the house may also be necessary. If the well yield and recovery is extremely low, a new well may need to be drilled to add in series or to replace well 95-1000.

> Please let me know if there are any questions. Thanks Jeff

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> Sent: Thursday, May 18, 2017 12:09 PM

> To: Williams, Jeffrey
> Subject: Re: Well Yield Discussion - William Walker, Parcel 53 (Howard
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> Ok, that is great. Yes, I'd like to include Chuck, and I will advise him of our scheduled meeting tomorrow morning at 10
am.
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> We will meet at your offices located at 8930 Stanford Boulevard, Columbia, MD 21045.
>
> Many thanks,
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>> From: Bill Walker [<mailto:bwalker32@gmail.com>]
>> Sent: Wednesday, May 17, 2017 4:25 PM
>> To: Williams, Jeffrey
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etc., and I am trying to be most efficient with everyone's time, as we all attempt complete other tasks and I strive to
make progress with the construction of our home for my family in Howard County.
>>
>> Thank you in advance for your consideration, and please note that I do not expect to take more than 30 minutes of
your time.
>>
>> Best regards,
>>
>> Bill Walker
>> Lot Owner - Howard County (Parcel 53)
>> 8522 Blounts Lane
>> Fulton, MD
>

Bricker, Robert

From: John Boris -MDE- <john.boris@maryland.gov>
Sent: Thursday, May 11, 2017 7:06 AM
To: Bricker, Robert
Cc: Williams, Jeffrey; Collins, Sarah; Cabahug, Joseph; Naomi Howell -MDE-
Subject: Re: Parcel 53_8520/8522 Blounts Lane yield test

Robert,

Thanks for the question. If I read your email correctly you state that one of the properties was already occupied? I thought these were unoccupied houses? Is this a new subdivision and if so, why wasn't the simultaneous yield done then? This presents a new element to this question and one I failed to recognize yesterday when I was discussing this matter with Kevin and Joseph. If you can answer those questions it will go a long way in providing you with guidance.

Although it's possible it's really hard to do a simultaneous yield like this. Not only does this overwork the well owners pump but regulating it requires someone to be in the house and at both well heads to observe the static at the same time while maintaining constant communication. Without transducers giving you real time data in each well you need 3 people at this site if you want to know what's really going on.

Per reg any well that is to be yield tested must be pumped down first to the level of the pump and then recover back up to a static pumping state before the test is started. A yield that goes up coupled with a rise in the static is not as concerning as one that falls during the test. This is true in a conventional yield test but it's even more important when doing a simultaneous yield in a historically low yielding area.

John A. Boris, Jr., LEHS
Geologist Program Consultant
Maryland Dept. of the Environment
Onsite Systems Division
Office: (410) 537-3678
Cell: (443) 992-6195
Fax: (410) 537-3163

On Wed, May 10, 2017 at 12:12 PM, Bricker, Robert <RBricker@howardcountymd.gov> wrote:

John,

I have attached scans of data obtained from two wells located on 'Parcel 53' on May 4. The contractor (Fogle's) was supposed to have conducted a simultaneous yield check as each well is are very low yielding, and each well is drilled to over 1100 feet depth. While the yields they are reporting are at the 1 gallon per minute rate or slightly above, I'm skeptical about the methodology. They did not empty the well, and they did not pump the well for 6 hours after reaching a steady rate of withdrawal.

So I'm sending these data and observations to ask you if you think the methodology utilized is permissible(?), and is the reported yield valid?

Well HO-95-0329 is an offsite well that serves a residence on Beaufort Park- Lot 3. There was not supposed to be any withdrawals from the well during the test period, however an observer (Joseph Cabahug) commented that the persons conducting the yield test had problems adjusting the flow rate as withdrawals from the well were occurring during the test.

Well HO-95-1000 is installed to serve Parcel 53. We are holding up a Building Permit proposal because we do not have adequate yield data for the well. (We have only a 'Yield Test Report' from July 2008 that was submitted to the Health Department as a photo.)

Joseph Cabahug reported that the flow rate for well HO-95-0329 was adjusted at 12:45 and at 1:06 by varying the opening of hose nozzle. He also reports that flow rate for well HO-95-1000 was adjusted by adjusting the rate of the pump at 1:33.

As you can see in the email string below, Sarah Collins reports the following: "Fogle's conducted a simultaneous yield test by dropping a pump in the well not connected to the house (HO-95-0329) and running a hose at the house to withdraw water from the well connected to the house (HO-95-1000). Fogle's instructed the occupants of the house to not use any water in the house during the yield test. Fogle's measured the yield and water level in both wells every 15 minutes."

Your observations and insights are welcome. Let me know if you want more information.

Robert Bricker, REHS/RS, L.E.H.S.

From: Collins, Sarah
Sent: Wednesday, May 10, 2017 8:58 AM
To: Bricker, Robert
Subject: 8520/8522 Blounts Lane yield test

Fogle's conducted a simultaneous yield test by dropping a pump in the well not connected to the house (HO-95-0329) and running a hose at the house to withdraw water from the well connected to the house (HO-95-1000). Fogle's instructed the occupants of the house to not use any water in the house during the yield test. Fogle's measured the yield and water level in both wells every 15 minutes.

Sarah Collins, L.E.H.S.

Environmental Health Specialist

Howard County Health Department

Bricker, Robert

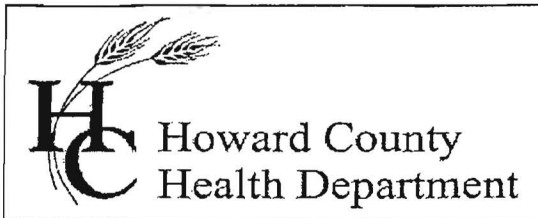
From: Bricker, Robert
Sent: Thursday, May 11, 2017 4:13 PM
To: Chuck Krocker (chuckkrocker@gmail.com)
Cc: Theresa Miller (theresa@foglesinc.com); Williams, Jeffrey
Subject: Parcel 53 wells yields_Bureau of Environmental Health response
Attachments: Parcel 53 yield test_BEH response_5-11-2017.pdf

See attached PDF.

ROBERT BRICKER, REHS/R.S., L.E.H.S.
ENVIRONMENTAL SANITARIAN II
BUREAU OF ENVIRONMENTAL HEALTH, WELL AND SEPTIC PROGRAM
8930 STANFORD BLVD., COLUMBIA, MD 21045

Phone: Desk, 410-313-2691; Program, 410-313-1771; Bureau, 410-313-1774
Fax: 410-313-2648

E-mail: rbricker@howardcountymd.gov



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

Twitter: HowardCoHealthDep

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

DATE: May 11, 2017

TO: Charles Krocker, ADC Consult
(Representing William and Dana Walker, owners)

FROM:  Robert Bricker, REHS/RS, L.E.H.S., Environmental Sanitarian II
Well and Septic Program

RE: Bureau of Environmental Health response to well yield submittal,
Blounts Lane, Parcel 53

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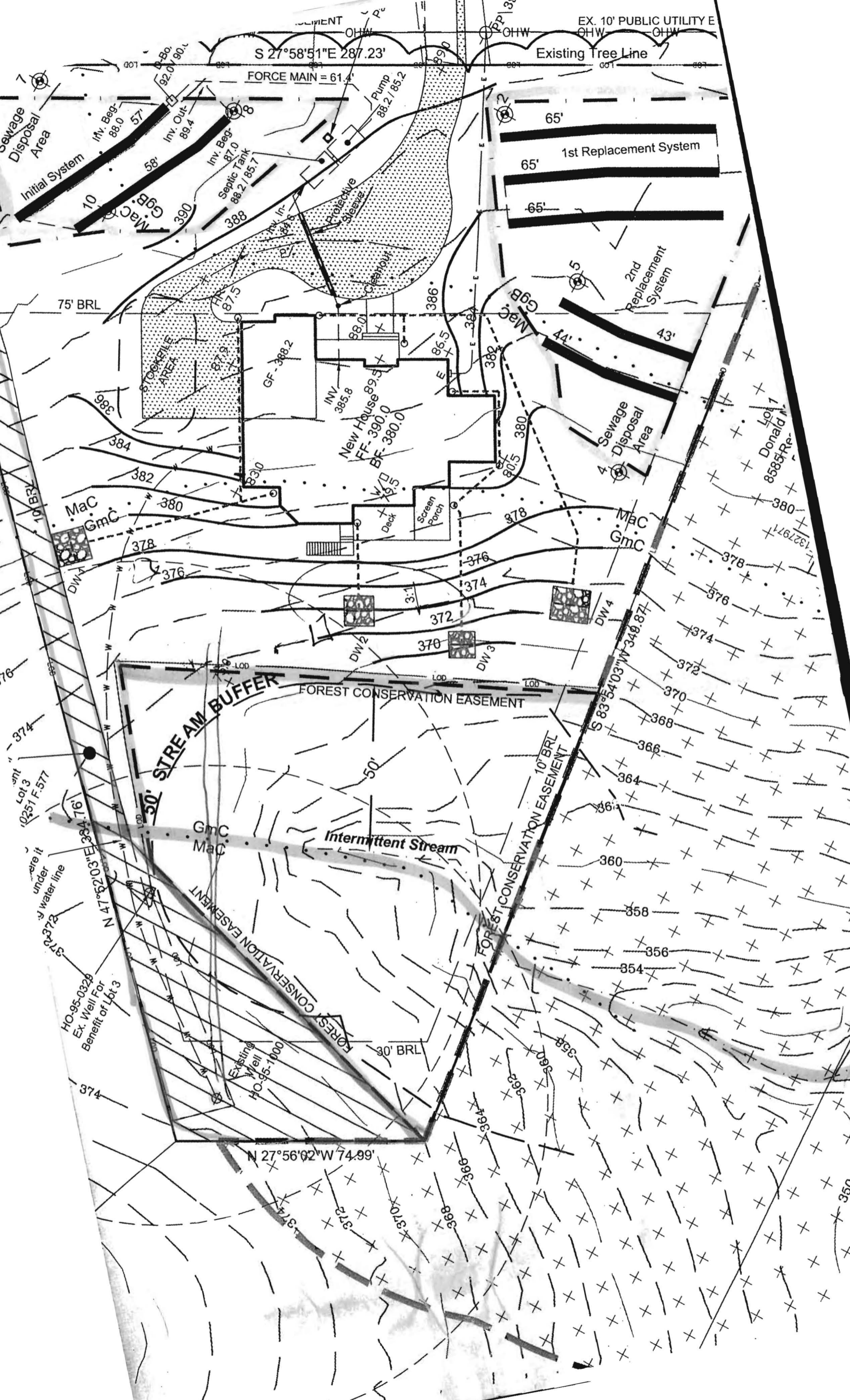
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RB

Attachment: 2 sheets, *Field Data Sheet, Howard County Well Yield Test*

COPY: Theresa Miller, Fogle's Well Drilling and Pump Service
Jeffrey Williams, Program Supervisor, Well and Septic Program
file



S 27°58'51"E 287.23'
FORCE MAIN = 61.4'

EX. 10' PUBLIC UTILITY E
OHW OHW OHW
Existing Tree Line

Initial System
Inv. Beg. 88.0
Inv. Out. 89.4
57
58
10
MaC GmC
390
388

65'
65'
65'
1st Replacement System

2nd Replacement System

75' BRL
STOCKPILE AREA
GF-388.2
INV 385.8
New House FF-390.0 BF-380.0
Deck
Screen Porch
386
382
380
378
376
374
372
370
368
366
364
362
360
358
356
354

44'
43'
Sewage Disposal Area
MaC GmC
4
Donald
8585 Re
380
378
376
374
372
370
368
366
364
362
360
358
356
354

30' STREAM BUFFER

FOREST CONSERVATION EASEMENT

10' BRL
FOREST CONSERVATION EASEMENT

Intermittent Stream

N 27°56'02"W 74.99'

Lot 3
HO-95-0326
Ex. Well For
Benefit of Lot 3
N 47°52'03"E 384.76'
under
water line
372-378

Existing Well
HO-95-1000