

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

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

RECEIPT DATE: 3/15/19 **ONSITE SEWAGE DISPOSAL SYSTEM**

P 504790

APPROVAL DATE: 04/12/2019 **PERMIT: CONSTRUCTION**

A

PROPERTY ADDRESS: 12344 Howard Lodge Drive

SUBDIVISION: Clopein Property LOT: 7-C TAX ID: 03-301303

CONTRACTOR: South Carroll Backhoe EMAIL: scbackhoe@comcast.com

CONTRACTOR ADDRESS: 4410 Salem Bottom Road, Westminster, MD 21157 PHONE: 410-596-3618

PROPERTY OWNER: Charles and Ellen Clopein EMAIL: _____

OWNER ADDRESS: 12354 Howard Lodge Drive, Sykesville, MD 21784 PHONE: 410-379-5956

SEPTIC TANK SIZE (GALLONS): 2000 TANK MANUFACTURER: Babylon

PUMP MODEL: N/A PUMP SIZE N/A PUMP TANK CAPACITY: N/A

DISTRIBUTION SYSTEM: GRAVITY PRESSURE DOSED BEDROOMS: 4 APPLICATION RATE 0.8

TRENCHES:	LINEAR FEET REQUIRED: <u>125</u>	INLET DEPTH: <u>4</u>
	TRENCH WIDTH: <u>3</u>	MAXIMUM BOTTOM DEPTH: <u>8</u>
	MINIMUM SPACE BETWEEN TRENCHES: <u>10</u>	EFFECTIVE AREA BEGINNING DEPTH: <u>5</u>
LOCATION:	PER APPROVED SITE PLAN. SEWAGE DISPOSAL AREA AND TANK LOCATIONS MUST BE STAKED BY LICENSED SURVEYOR PRIOR TO PRE-CONSTRUCTION INSPECTION.	
NOTES:	Install 2 trenches @ 55'	

ISSUED BY: Hank Oswald ISSUE DATE: 3/15/19 EXPIRATION DATE: 3/15/20

- 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 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 N/A
- 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

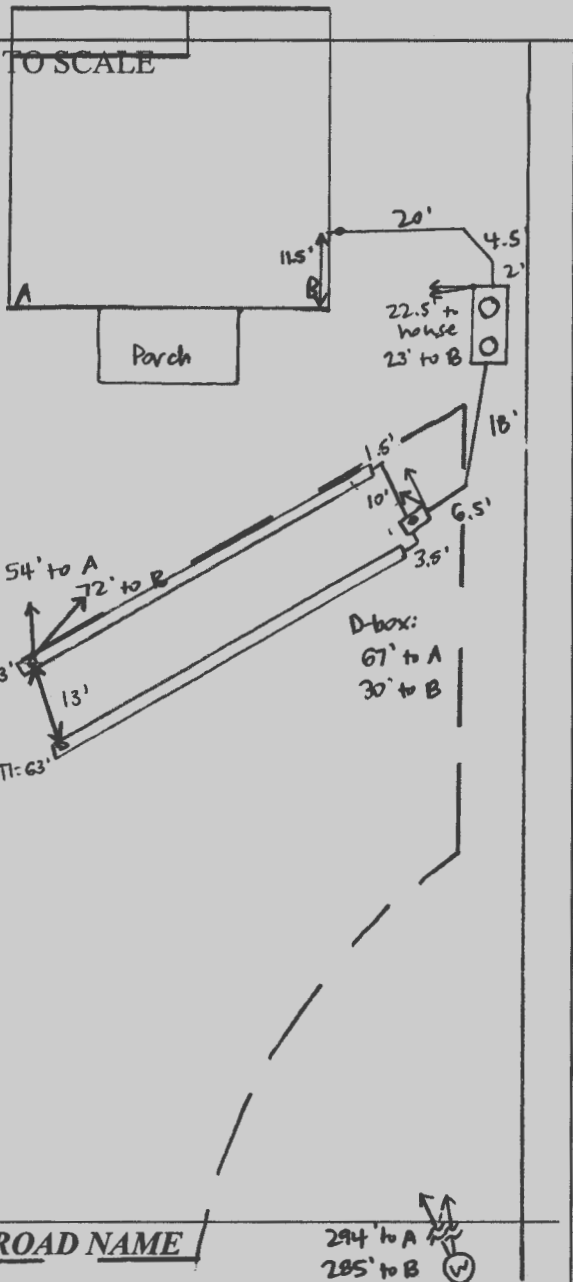
NEITHER THE HOWARD COUNTY COUNCIL NOR THE HEALTH DEPARTMENT IS RESPONSIBLE FOR THE SUCCESSFUL OPERATION OF ANY SYSTEM.

PERMITTEE RESPONSIBLE FOR OBTAINING FINAL APPROVAL ON THIS PERMIT.

CALL 410-313-1771 TO SCHEDULE INSPECTIONS.

NOT TO SCALE

1" x 30'



TRENCH/DRAINFIELD DATA

WIDTH	INLET	BOTTOM
3'	4'	8'
NUMBER OF TRENCHES		2
TOTAL LENGTH		126'
ABSORPTION AREA		378' + SIDEWALL
DISTRIBUTION BOX LEVEL		YES
DISTRIBUTION BOX BAFFLE		YES
DISTRIBUTION BOX PORT		YES

SEPTIC TANK DATA

SEPTIC TANK I LEVEL		YES
MANUFACTURER	BABYLON	
CAPACITY	2000	GAL
SEAM LOC	TOP	
TANK LID DEPTH	1-1.5'	
BAFFLES	YES	
BAFFLE FILTER	NO	
MANHOLE LOC	FRONT + REAR	
6" PORT LOC	NONE	
WATERTIGHT TEST	NO	
SLOTTED	YES	
DATE ON LID	3-4-19	

~~RUMP/SEPTIC TANK LEVEL~~

MANUFACTURER	_____
CAPACITY	_____ GAL
SEAM LOC	_____
TANK LID DEPTH	_____
BAFFLES	_____
BAFFLE FILTER	_____
MANHOLE LOC	_____
6" PORT LOC	_____
WATERTIGHT TEST	_____
SLOTTED	_____
DATE ON LID	_____

PRE-CONSTRUCTION:

4/4/19 Met S. Carroll on site for layout. SDA corners staked. Shot contours + laid out 2 x 63' trenches at bottom of SDA. Sewer line is just below grade, should make 4' inlet. (SC)

140-17-0367

INSTALLATION: 4/9/19 T1 complete - left open at ends for inspection, 3' wide and 3.5' to stone. S. Carroll adding stone to T2, 3' wide, 3.5' to stone, 8' bottom. (SC) 4/10/19 Tank set, pipe laid from house to tank. D-box set + connected, leveled speed levelers in D-box. Need house connection. (SC) 4/12/2019 SHC COMPLETE. OK TO BACKFILL. (J)

FINAL INSPECTOR _____

DATE OF APPROVAL

04/12/2019

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

MEMORANDUM

TO: Fisher, Collins & Carter, Inc.
10272 Baltimore National Pike
Ellicott City, MD 21042

FROM: Hank Oswald, L.E.H.S.
Well & Septic Program

RE: OSDS Plan
12344 Howard Lodge Drive
Sykesville, MD

Date: January 24, 2019

The OSDS Plan for has been reviewed with the following comments:

- 1.) The ground elevation of 562.7 shown above the invert out of the house does not to match up with the given elevations on the plan. In addition, the ground elevation of 562.1 above the septic tank also does not align unless there is grading not being shown on the plan.
- 2.) If you are splitting trenches, then the d-box must be positioned in the middle of the trenches. If this cannot be accommodated, then run 2 – 62.5 ft. trenches and use the rest of the area beyond the ends of these trenches for the 1st replacement system.
- 3.) Add comment to plan to indicate if field conditions don't match the wall check or the septic design plan at time of installation, then a revised septic plan will be required which may include the use of a pump tank.

Oswald, Hank

From: Oswald, Hank
Sent: Thursday, January 24, 2019 2:43 PM
To: 'Tony Fertitta'
Subject: OSDS Plan_12344 Howard Lodge Drive_Lot 7-C
Attachments: OSDS Memo To FCC__2019.pdf

Hi Tony:

Attached, please find comments pertaining to the OSDS Plan for 12344 Howard Lodge Drive.

Thanks,

Hank

Hank Oswald
Licensed Environmental Health Specialist
Howard County Health Department
Bureau of Environmental Health
Well & Septic Program
8930 Stanford Boulevard
Columbia, MD 21045
410.313.1786 (Office)
hoswald@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.
Frank Manalansan II, L.S.
Stephanie Tuite, RLA, P.E., LEED AP BD&C

Transmittal

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

To: Bureau of Environmental Health 8930 Stanford Blvd. Columbia, Maryland 21046-4544	Attn: Hank Oswald Fax: Phone: 410-313-2640
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From: Tony Fertitta	CC:
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Re: 12344 Howard Lodge Drive	W.O.# 18034
Date: Jan. 17, 2019	Pages: 0 Page(s) Including this cover

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

Remarks:

Re: 12344 Howard Lodge Drive

Here are 3 copies the OSDS Plan for Lot 7-C for your review. Please let me know if you have any questions.

Thank You,

Tony.

Fisher, Collins, & Carter, Inc. Ph. 410-461-2855

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& CARTER, INC.**

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Transmittal

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To: Bureau of Environmental Health 8930 Stanford Blvd. Columbia, Maryland 21046-4544	Attn: Hank Oswald Fax: Phone: 410-313-2640
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From: Tony Fertitta	CC:
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Re: 12344 Howard Lodge Drive	W.O.# 18034
Date: Feb 5, 2019	Pages: 0 Page(s) Including this cover

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

Remarks:

Re: 12344 Howard Lodge Drive

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Thank You,

Tony.

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Oswald, Hank

From: Brent Hanauer <bhanauer17@live.com>
Sent: Thursday, November 08, 2018 12:14 PM
To: Williams, Jeffrey; Oswald, Hank
Subject: Re: Lot 7C Howard Lodge Drive

Jeff, thank you kindly for getting back to me! My engineer will of course create the septic plan that will show you everything you have requested for your final approval. Per Dave, based on the house siting gravity from the first floor is achievable. Thanks again for your consideration and your response

From: Williams, Jeffrey <jewilliams@howardcountymd.gov>
Sent: Thursday, November 8, 2018 9:48:40 AM
To: 'Brent Hanauer'; Oswald, Hank
Subject: RE: Lot 7C Howard Lodge Drive

The soils in the lower part of the disposal area are not worse than at the upper part, which would be the first hurdle for this type of request. We would have to see the specific design plan to make any final determination. It looks to me like the whole area is significantly upgrade of the proposed house location. The maximum allowable tank depth is 3 feet and the maximum allowable trench invert depth is 4 feet. I'm not sure how any part of the area can achieve gravity under those conditions on this lot.

Jeff

From: Brent Hanauer [mailto:bhanauer17@live.com]
Sent: Monday, November 05, 2018 1:39 PM
To: Oswald, Hank
Cc: Williams, Jeffrey
Subject: Re: Lot 7C Howard Lodge Drive

Thanks Mr. Oswald, I'm hopeful you guys can accommodate this request. If you need any additional information please let me know

From: Oswald, Hank <hoswald@howardcountymd.gov>
Sent: Monday, November 5, 2018 1:15:03 PM
To: Brent Hanauer
Cc: Williams, Jeffrey
Subject: RE: Lot 7C Howard Lodge Drive

Hello Mr. Hanauer:

Yes, I received it. It's being reviewed by my supervisor. As soon as I know more, I will let you know.

Thanks,

Hank

From: Brent Hanauer [mailto:bhanauer17@live.com]
Sent: Monday, November 05, 2018 9:55 AM
To: Oswald, Hank
Subject: Re: Lot 7C Howard Lodge Drive

Good morning Mr.Oswald, just curious if you received my email last week regarding the question for the future septic design? Also do you have an anticipated date for the perc cert approval? I know Mr. Clopein dropped off 3 copies from his engineer RTF for approval a few weeks ago. Thanks for any insight you can provide.

From: Brent Hanauer

Sent: Wednesday, October 31, 2018 11:41:10 AM

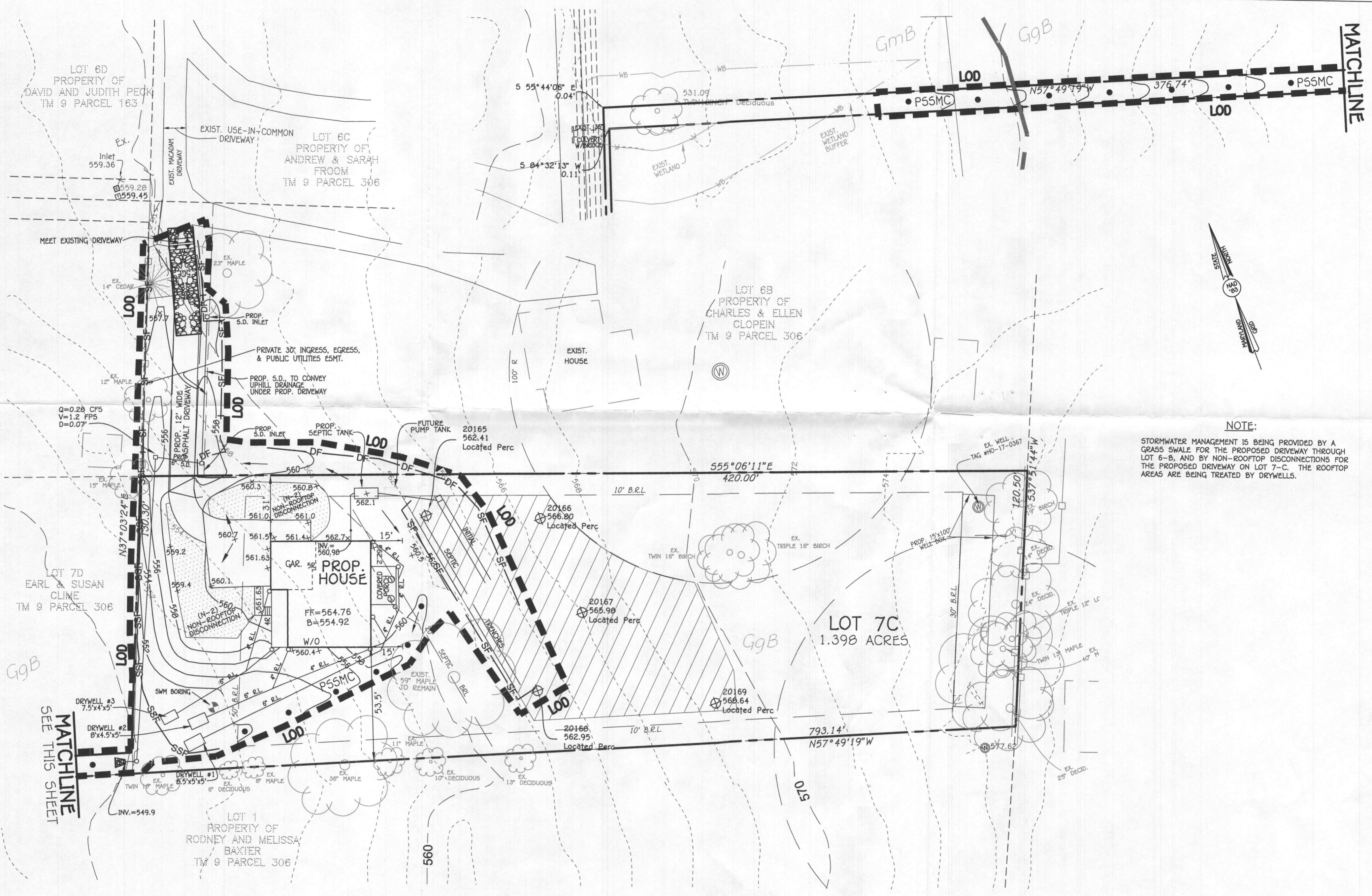
To: hoswald@howardcountymd.gov

Subject: Lot 7C Howard Lodge Drive

Hank -

Good Morning, I've been asked to reach out to you as requested by my engineer, Dave Harward at FCC regarding the upcoming septic design for lot 7C Howard Lodge Drive. I believe you have been in direct contact recently with the owner, Mr Charles Clopein, regarding this lot to have the Perc Plat created by RTF approved. The reason I am reaching to you is that I'm the future owner of this lot and I am currently having FCC design my simplified ECP plan. One of the items that has come up my discussions with Mr. Harward is that due to the current grade elevations of the lot, a pump system would be required if the septic was designed at the current highest elevation of the Perc test. As the future owner of this lot, a pump system in highly un-desirable from both a financial and practicality perspective. Dave has informed me that if the system can be designed at the lowest elevation of the Septic Area (area immediately behind the house) that the system can be designed as a gravity system (first and second floor only). I anticipate requiring an ejector for the basement, but the ultimate goal is to avoid a pump system. The financial impact alone is enough to warrant this request, however a pump system would also impact and increase my LOD which would also be problematic for keeping the ECP under the required 30,000 SF disturbed. Dave has informed me that if you would allow this his design would be able to include a conversion to a FUTURE pump system down the line when the time comes. Hopefully this would mitigate your concerns for future systems. Dave thought it best I reach out to you directly, however if you had additional concerns you could always contact him or I could meet you in person. The Preliminary Plan file is too large for me to send, but I'm hoping you have it nearby for reference as Mr. Clopein submitted it you I believe last week. If you need to meet or discuss please let myself and/or Dave know. Thank you for your time and consideration!

MATCHLINE



NOTE:
 STORMWATER MANAGEMENT IS BEING PROVIDED BY A GRASS SWALE FOR THE PROPOSED DRIVEWAY THROUGH LOT 6-B, AND BY NON-ROOFTOP DISCONNECTIONS FOR THE PROPOSED DRIVEWAY ON LOT 7-C. THE ROOFTOP AREAS ARE BEING TREATED BY DRYWELLS.

PLAN
 SCALE: 1" = 30'

LOT 7-C
12344 HOWARD LODGE DRIVE

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
 ELLICOTT CITY, MARYLAND 21142
 (410) 461-2255

OWNERS
 CHARLES K. CLOPEIN JR. &
 ELLEN V. CLOPEIN
 12354 HOWARD LODGE DRIVE
 SYKESVILLE, MARYLAND 21784

CONTRACT PURCHASER/DEVELOPER
 BRENT M. & JESSICA R. HANAUER
 10718 FOLKESTONE WAY
 WOODSTOCK, MARYLAND 21163
 443-832-9102

NOTE: THE EXISTING WELL SHOWN ON THIS PLAN, HO-17-0367 HAS BEEN FIELD LOCATED BY FISHER, COLLINS & CARTER, INC., PROFESSIONAL LAND SURVEYORS AND IS ACCURATELY SHOWN.

ZONED: RR-DEO
 TAX MAP NO.: 9 PARCEL NO.: 306
 3RD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 SCALE: 1"=30' DATE: JANUARY 15, 2019
 SHEET 1 OF 1

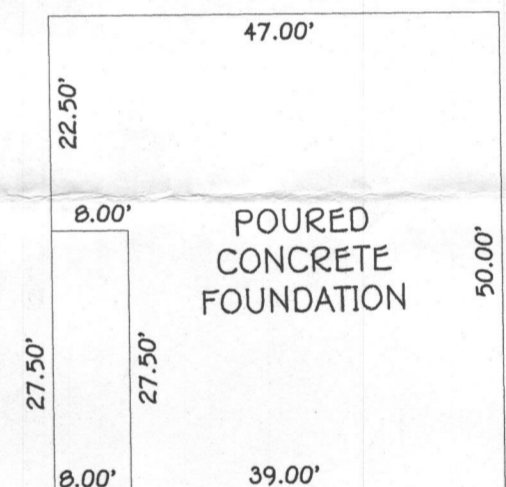
GENERAL NOTES:

- 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 OF 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 ON THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAP OF HOWARD COUNTY, MARYLAND, COMMUNITY PANEL No. 24027C0055D, EFFECTIVE 11/6/2013.
- 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) THE EXISTING WELL SHOWN ON THIS PLAN, HO-17-0367 HAS BEEN FIELD LOCATED BY FISHER, COLLINS & CARTER, INC., PROFESSIONAL LAND SURVEYORS AND IS ACCURATELY SHOWN.
- 5) NO TITLE REPORT FURNISHED. SUBJECT TO ALL EASEMENTS, RIGHTS OF WAY AND CONDITIONS OF RECORD.
- 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 10/04/2020.
- 7) BUILDING PERMIT #B-19000189
- 8) SUBJECT TO AND TOGETHER WITH A 60.00 FOOT WIDE RIGHT OF WAY FOR THE PURPOSE OF INGRESS AND EGRESS FOR THE LOT TO HOWARD LODGE ROAD.
- 9) SUBJECT TO A FIRST AMENDMENT TO EASEMENT RECORDED IN LIBER 18332, FOLIO 204.
- 10) SUBJECT TO DECLARATION OF EASEMENT RECORDED IN LIBER 18480, FOLIO 119.

MATCHLINE
(SEE THIS SHEET)



*Wall
check
OK
DB
3-15-19*



LOT 7-C
12344 HOWARD LODGE DRIVE
 TAX MAP NO.: 9 PARCEL NO.: 306
 3RD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

PLAN
 SCALE: 1" = 30'

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
 ELICOTT CITY, MARYLAND 21042
 (410) 461 - 2855

OWNERS
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 SYKESVILLE, MARYLAND 21784

CONTRACT PURCHASER/DEVELOPER
 BRENT M. & JESSICA R. HANAUER
 10718 FOLKESTONE WAY
 WOODSTOCK, MARYLAND 21163
 443-832-9102

DEED REFERENCE: LIBER 18534, FOLIO 483
 B.R.L. = BUILDING RESTRICTION LINE
 TOP OF FOUNDATION ELEVATION = 563.8'±
 #12344 HOWARD LODGE DRIVE



Mark L. Bolbel 3/12/19
 PROPERTY LINE SURVEYOR DATE
 REG. #339

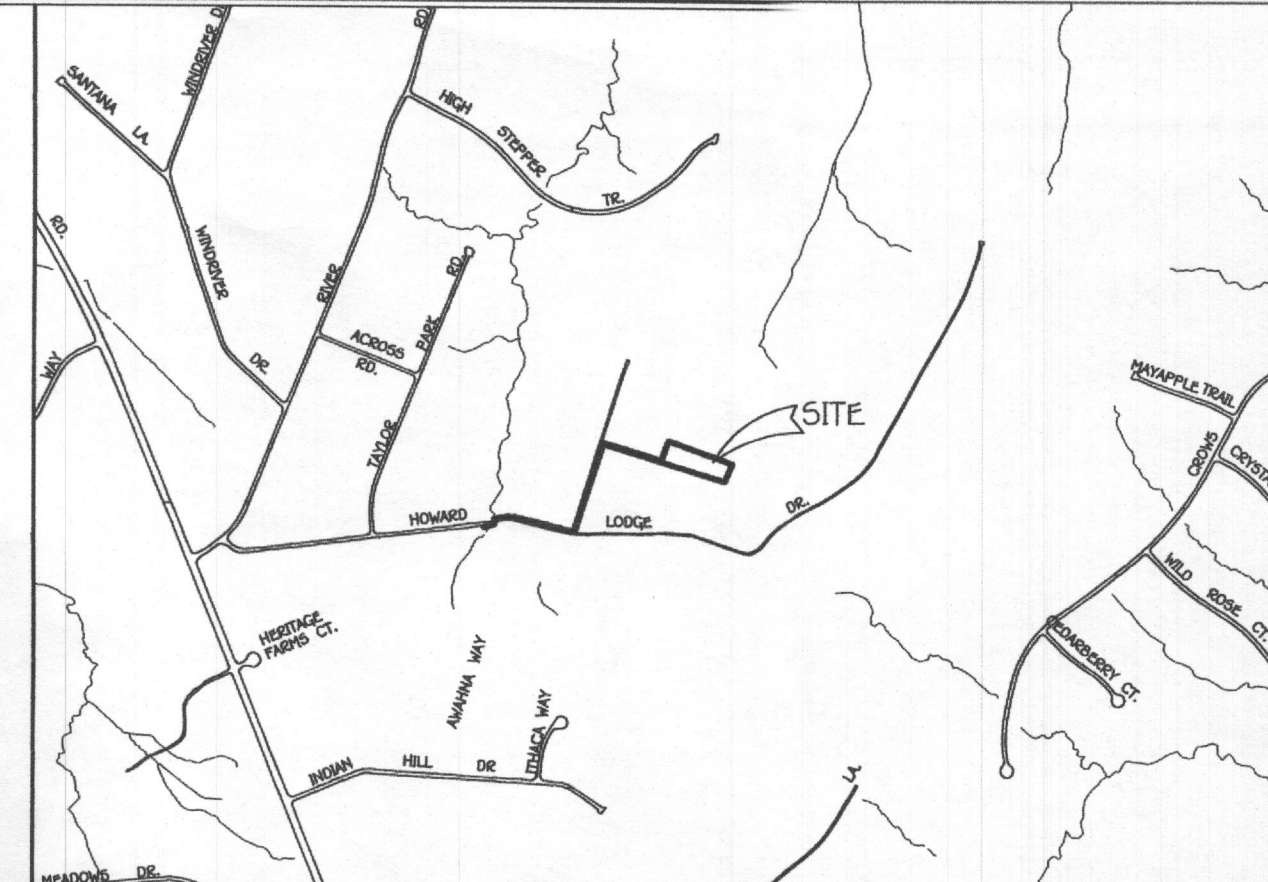
HOUSE LOCATION DRAWING

FOUNDATION LOCATION: 3/25/19
 FINAL LOCATION:
 BOUNDARY SURVEY:

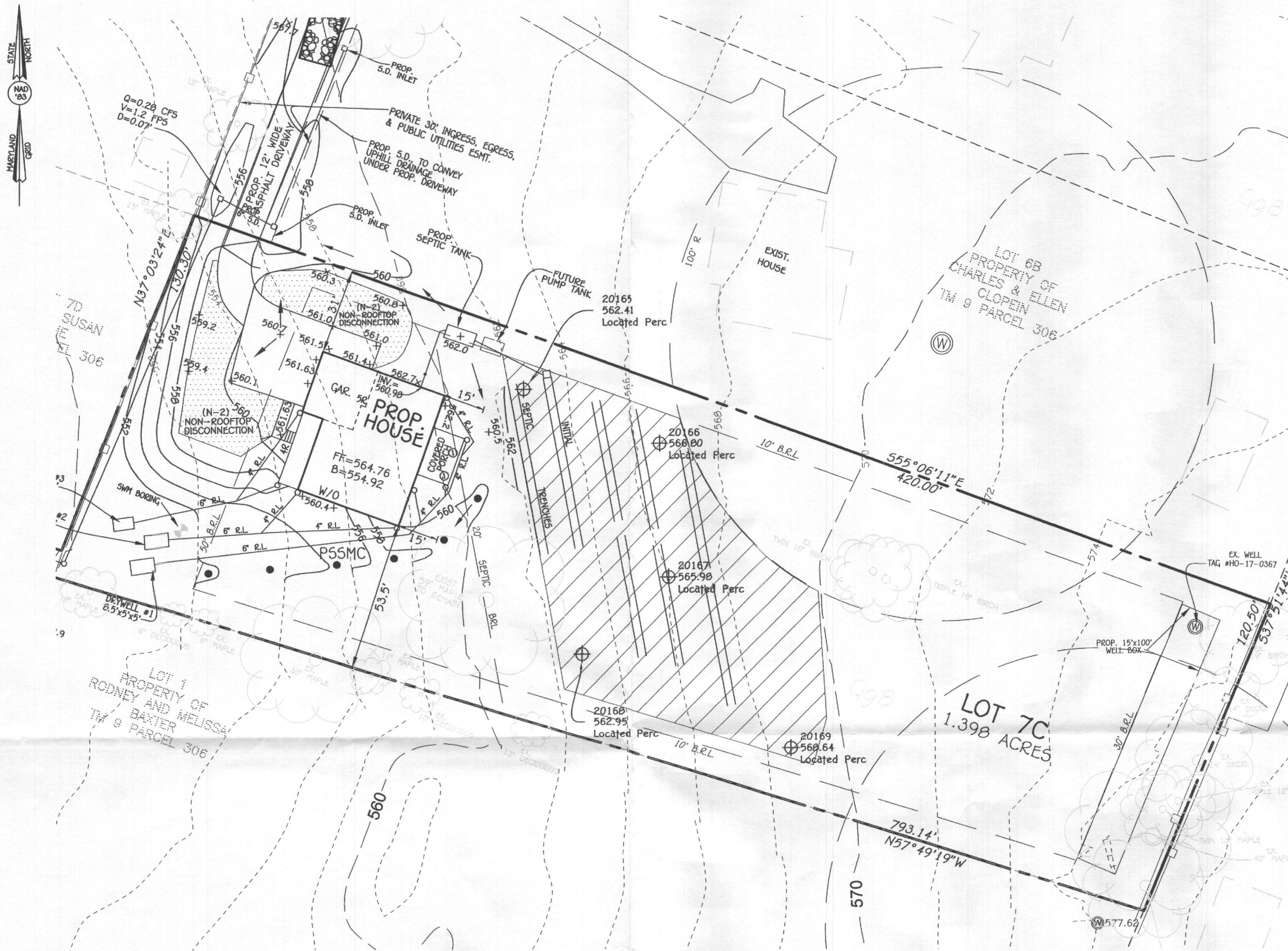
SCALE: 1"=30'
 DATE: 3/12/19
 DRAWN BY: MLR
 CHECKED BY: MLR
 PROJECT No.: 18034-3001

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. THE MAXIMUM EARTH COVER OVER THE TANK IS 3 FEET. GREATER EARTH COVER WILL REQUIRE A HEAVY LOAD BEARING TANK.
3. THE WELL HO-17-0367 HAS BEEN FIELD LOCATED AND IS ACCURATELY SHOWN.
4. ALL WELLS AND SEPTIC SYSTEMS LOCATED WITHIN 100' OF THE PROPERTY BOUNDARIES AND 200' DOWN GRADIENT OF ANY WELLS AND/OR SEPTIC SYSTEMS HAVE BEEN SHOWN.
5. IF FIELD CONDITIONS DON'T MATCH THE WALL CHECK OR THE SEPTIC DESIGN PLAN AT TIME OF INSTALLATION, THEN A REVISED SEPTIC PLAN WILL BE REQUIRED WHICH MAY INCLUDE THE USE OF A PUMP TANK.

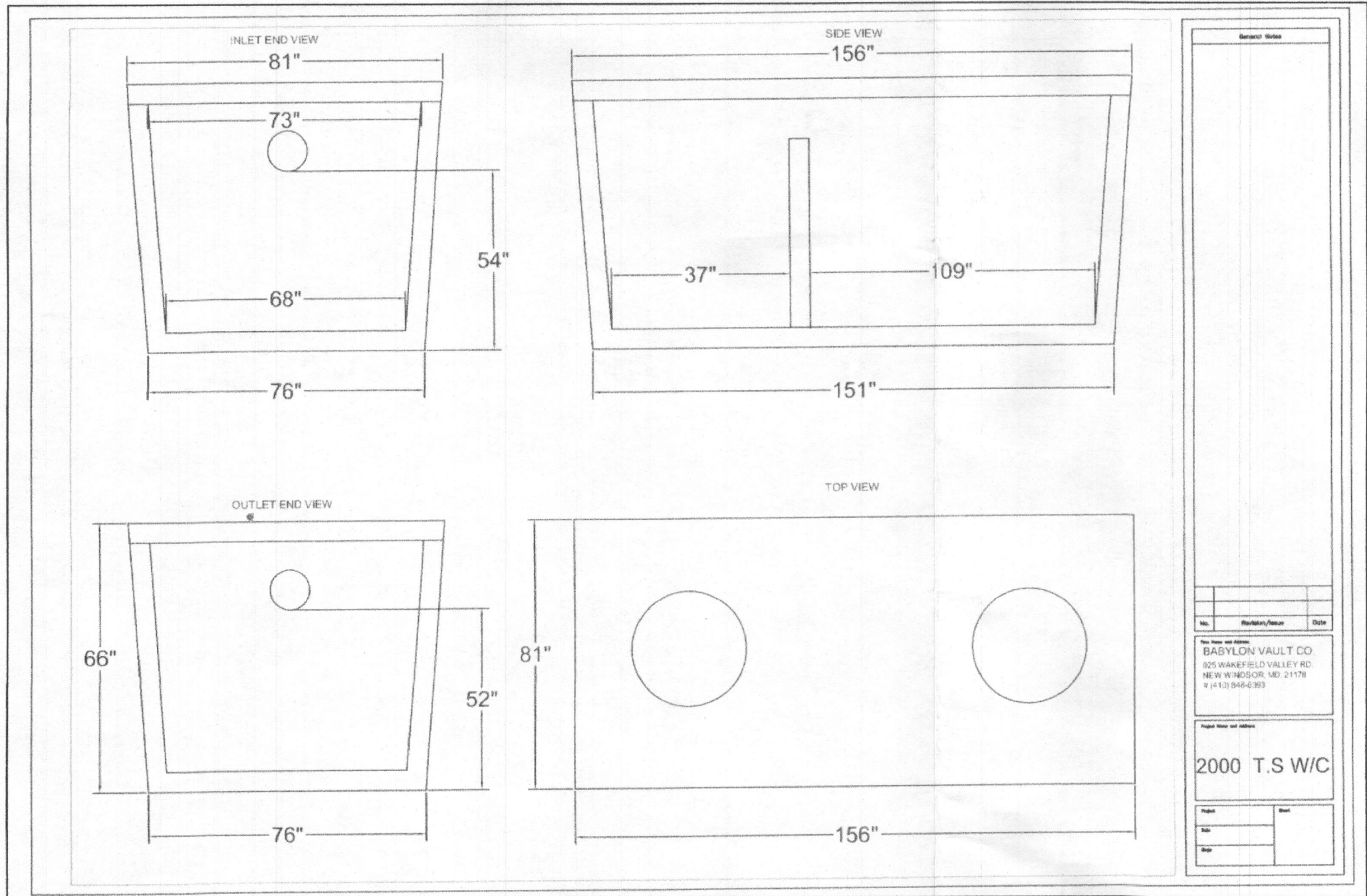
SOILS LEGEND			
SOIL	NAME	CLASS	K. FACTOR
GgB	Glenelg loam, 0 to 15 percent slopes	B	0.20
GmB	Glenville silt loam, 3 to 8 percent slopes	C	0.37



ADC Map Page 12 Grid E-0
VICINITY MAP
SCALE: 1" = 1200'

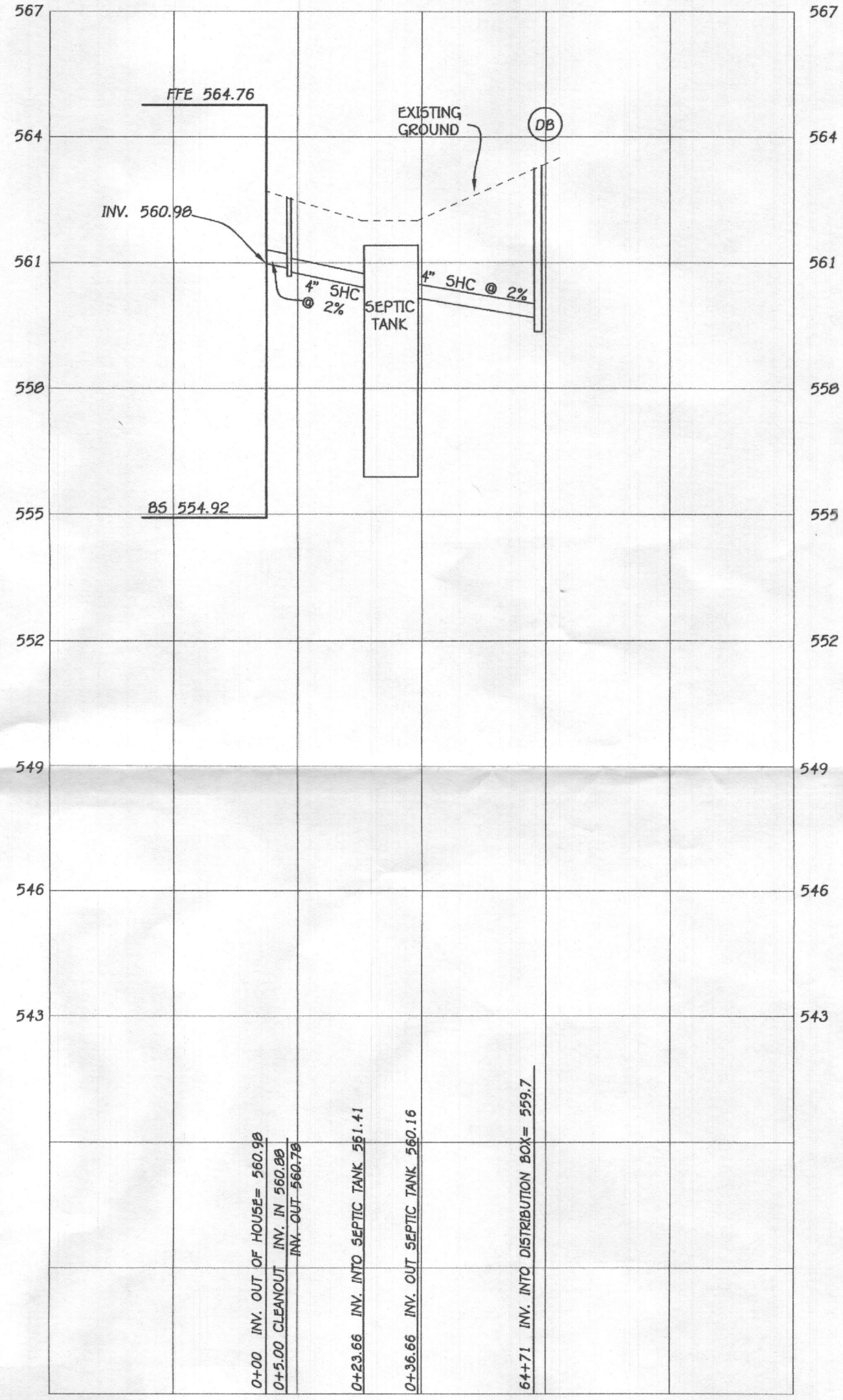


PLAN
SCALE: 1" = 30'



Manufacturer	Model
BASYLEN VAULT CO	2000 T.S W/C
100 WOODBURN DRIVE	
NEW WINDSOR, MD 21119	
(410) 326-8888	

- LEGEND**
- EXISTING 2' CONTOURS
 - EXISTING 10' CONTOURS
 - EXISTING TREE LINE
 - SOIL LINES AND TYPES
 - ⊕ DENOTES PROPOSED WELL
 - ⊙ DENOTES PASSED PERC



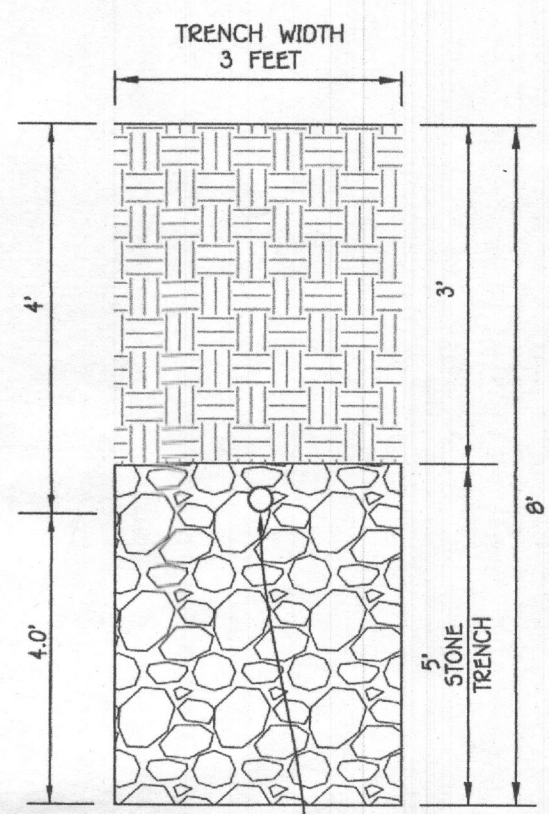
SEPTIC PROFILE
SCALE: 1" = 30'

FFE 564.76
B5 554.92
INV. OUT OF HOUSE = 560.98
PROP. GROUND AT CLEANOUT #1 = 562.6
INV. INTO CLEANOUT = 560.88
INV. OUT OF CLEANOUT = 560.78
EX. GROUND AT SEPTIC TANK = 562.0
PROP. GRADE ABOVE SEPTIC TANK = 562.0
TOP OF SEPTIC TANK = 561.41
INV. INTO SEPTIC TANK = 560.41
INV. OUT OF SEPTIC TANK = 560.16
EX. GROUND AT DISTRIBUTION BOX = 563.6
INV. INTO DISTRIBUTION BOX = 559.7
INV. OUT OF DISTRIBUTION BOX = 559.6

TRENCH DATA:

TRENCH 1:
EX. GROUND ABOVE = 563.6
INV. IN = 559.6
BOTTOM TRENCH = 555.6

TRENCH 2 AND 3:
EX. GROUND ABOVE = 562.0
INV. IN = 558.0
BOTTOM TRENCH = 554.0



INITIAL TRENCH DETAIL
SCALE: 1" = 2'

INITIAL SYSTEM
SEWAGE DISPOSAL SYSTEM DATA, DESIGN FOR 4 BEDROOMS
LOADING RATE = 4 BEDROOMS X 150 GPD/BEDROOM = 600 GPD
APPLICATION RATE = 0.8
EFFECTIVE SIDEWALL BEGINS AT 5 FEET
TRENCH DEPTH = 0 FEET
TRENCH WIDTH (W) = 3 FEET
EFFECTIVE DEPTH (D) = 3 FEET
SF OF DRAINFIELD = 600 GPD / 0.5 = 600 SF
COEFFICIENT OF REDUCTION OF TRENCH LENGTH = (W+2)/(W+1+2D) = (3+2)/(3+1+(2x3)) = 0.50
TRENCH LENGTH = 250.00 SF x 0.50 = 125.0 FEET
(USE 2 TRENCHES AT 62.5 LF.)
TRENCH SPACING = 2D+W = ((2x3) + 3) = 9' USE 10'

1ST REPLACEMENT SYSTEM
SEWAGE DISPOSAL SYSTEM DATA, DESIGN FOR 4 BEDROOMS
LOADING RATE = 4 BEDROOMS X 150 GPD/BEDROOM = 600 GPD
APPLICATION RATE = 0.8
EFFECTIVE SIDEWALL BEGINS AT 5 FEET
TRENCH DEPTH = 0 FEET
TRENCH WIDTH (W) = 3 FEET
EFFECTIVE DEPTH (D) = 3 FEET
SF OF DRAINFIELD = 600 GPD / 0.5 = 600 SF
COEFFICIENT OF REDUCTION OF TRENCH LENGTH = (W+2)/(W+1+2D) = (3+2)/(3+1+(2x3)) = 0.50
TRENCH LENGTH = 250.00 SF x 0.50 = 125.0 FEET
(USE 3 TRENCHES AT 41.67 LF.)
TRENCH SPACING = 2D+W = ((2x3) + 3) = 9' USE 10'

2ND REPLACEMENT SYSTEM
SEWAGE DISPOSAL SYSTEM DATA, DESIGN FOR 4 BEDROOMS
LOADING RATE = 4 BEDROOMS X 150 GPD/BEDROOM = 600 GPD
APPLICATION RATE = 0.8
EFFECTIVE SIDEWALL BEGINS AT 5 FEET
TRENCH DEPTH = 0 FEET
TRENCH WIDTH (W) = 3 FEET
EFFECTIVE DEPTH (D) = 3 FEET
SF OF DRAINFIELD = 600 GPD / 0.5 = 600 SF
COEFFICIENT OF REDUCTION OF TRENCH LENGTH = (W+2)/(W+1+2D) = (3+2)/(3+1+(2x3)) = 0.50
TRENCH LENGTH = 250.00 SF x 0.50 = 125.0 FEET
(USE 3 TRENCHES AT 41.67 LF.)
TRENCH SPACING = 2D+W = ((2x3) + 3) = 9' USE 10'



PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 20748, EXPIRATION DATE: 02/22/2019.

Charles K. Clopein 2/5/19
Signature of Professional Engineer DATE

OWNERS
CHARLES K. CLOPEIN JR. &
ELLEN V. CLOPEIN
12354 HOWARD LODGE DRIVE
SYKEVILLE, MARYLAND 21784

CONTRACT PURCHASER/DEVELOPER
BRENT M. & JESSICA R. HANAUER
10718 FOLKESTONE WAY
WOODSTOCK, MARYLAND 21163
443-832-9102

Approved Septic System Plan
Howard County Health Department
Mark Oswald 2/8/19
Signature Date

SEPTIC SYSTEM
INSTALLATION PLAN
CLOPEIN PROPERTY
LOT 7-C

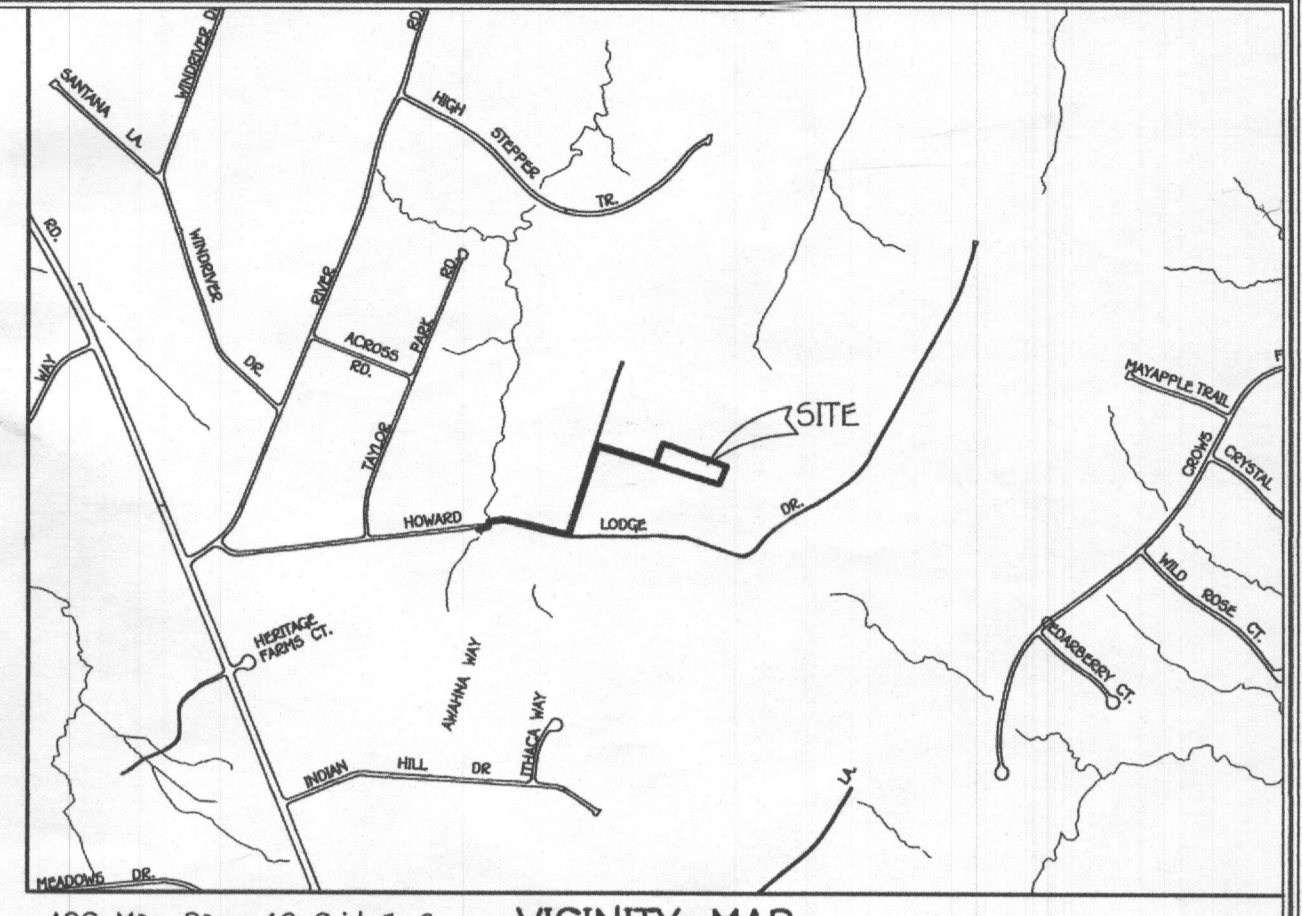
12344 HOWARD LODGE DRIVE

TAX MAP # 9
3RD ELECTION DISTRICT
SCALE: 1" = 40'

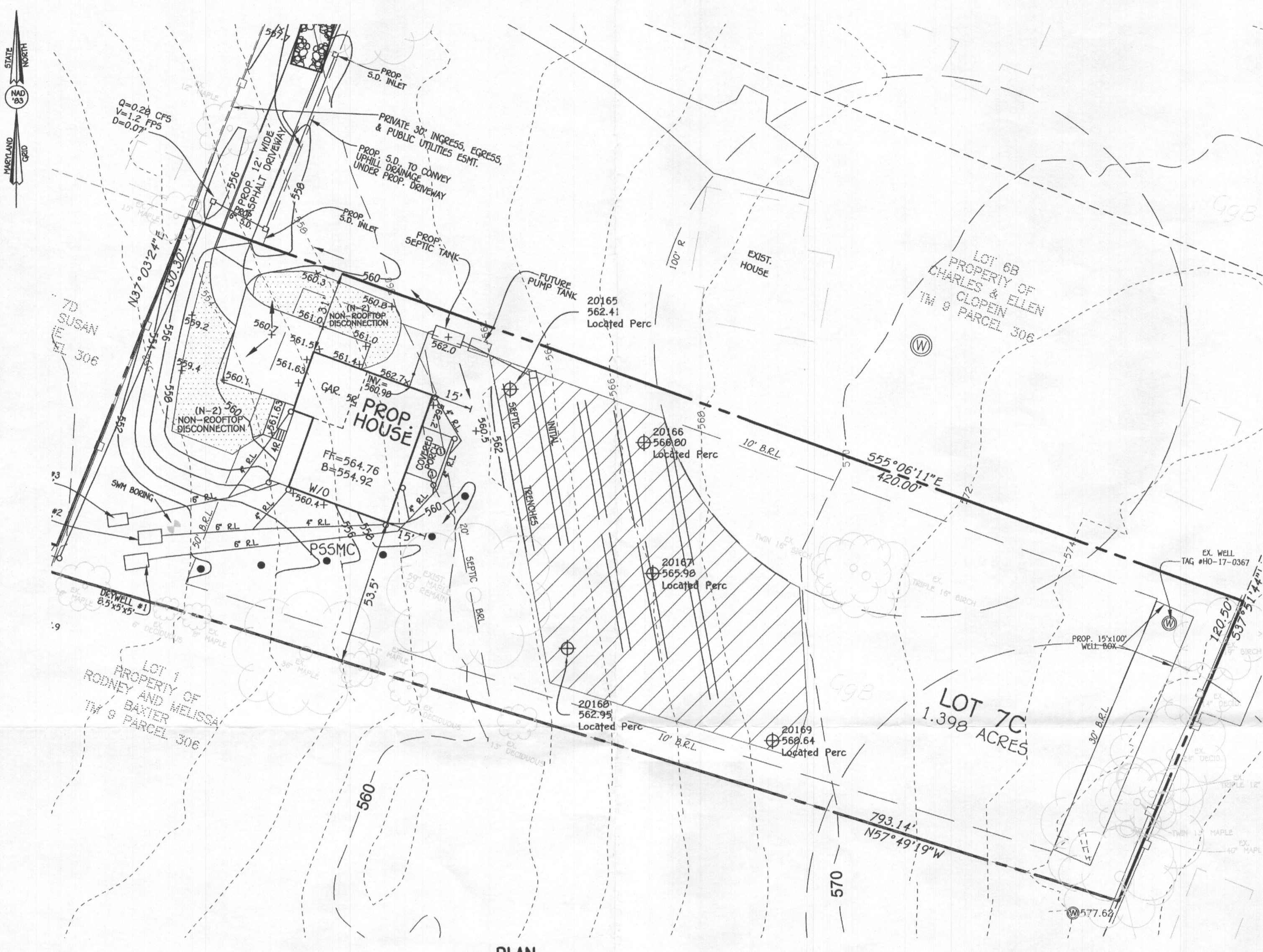
PARCEL: 306
HOWARD COUNTY, MARYLAND
DATE: FEBRUARY 5, 2019

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. THE MAXIMUM EARTH COVER OVER THE TANK IS 3 FEET. GREATER EARTH COVER WILL REQUIRE A HEAVY LOAD BEARING TANK.
3. THE WELL HO-17-0367 HAS BEEN FIELD LOCATED AND IS ACCURATELY SHOWN.
4. ALL WELLS AND SEPTIC SYSTEMS LOCATED WITHIN 100' OF THE PROPERTY BOUNDARIES AND 200' DOWN GRADIENT OF ANY WELLS AND/OR SEPTIC SYSTEMS HAVE BEEN SHOWN.
5. IF FIELD CONDITIONS DON'T MATCH THE WALL CHECK OR THE SEPTIC DESIGN PLAN AT TIME OF INSTALLATION, THEN A REVISED SEPTIC PLAN WILL BE REQUIRED WHICH MAY INCLUDE THE USE OF A PUMP TANK.

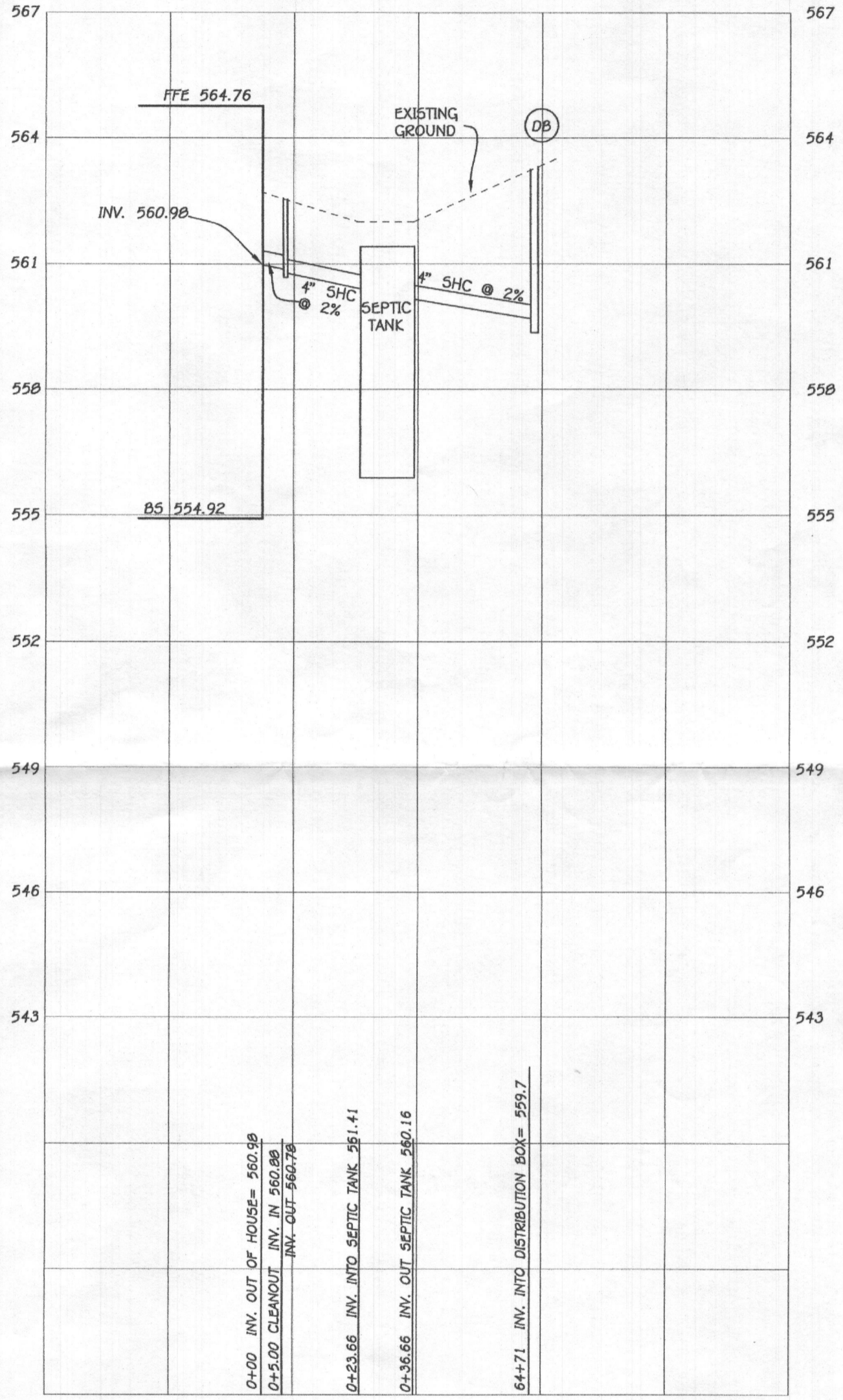
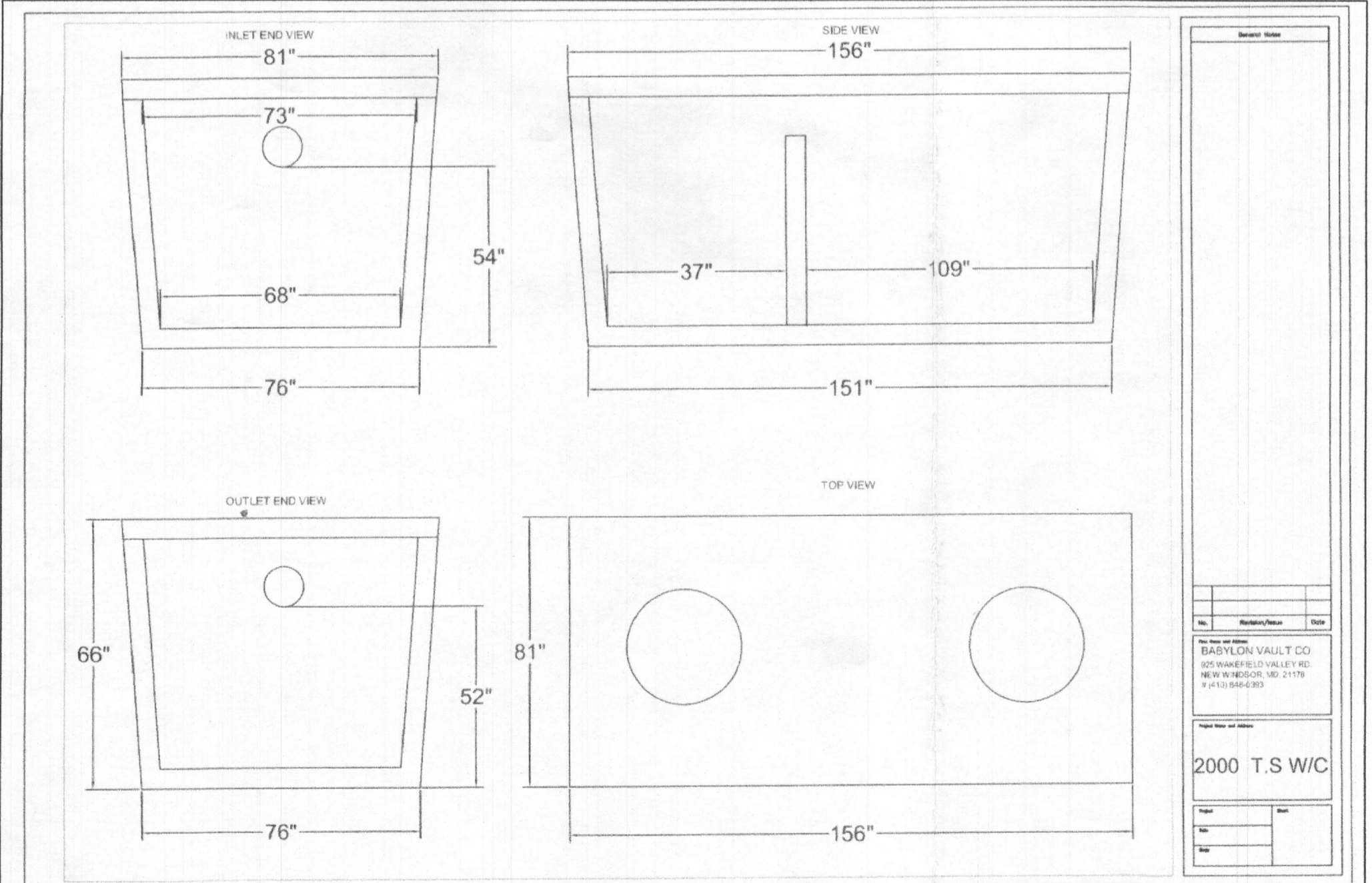
SOILS LEGEND			
SOIL	NAME	CLASS	K. FACTOR
GgB	Glenelg loam, 0 to 15 percent slopes	B	0.20
GmB	Glenelg silt loam, 3 to 8 percent slopes	C	0.37



ADC Map Page 12 Grid E-0
VICINITY MAP
SCALE: 1" = 1200'

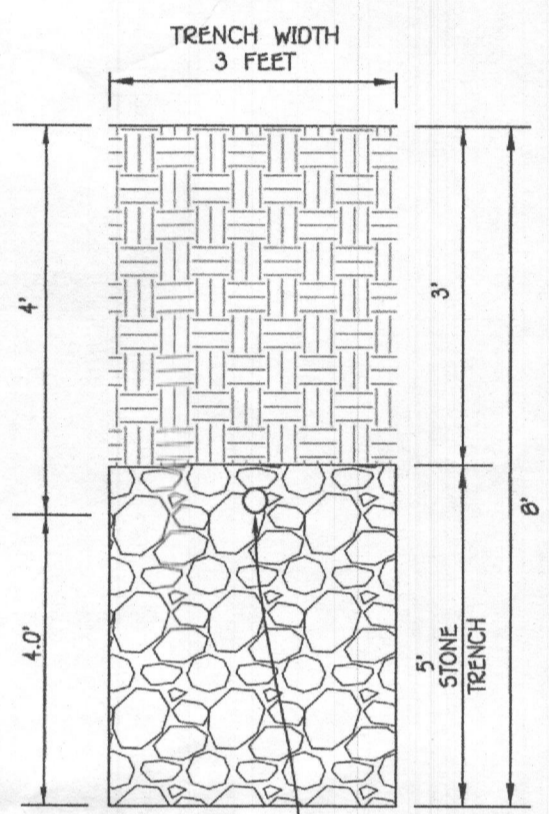


PLAN
SCALE: 1" = 30'



SEPTIC PROFILE
SCALE: 1" = 30'

TRENCH DATA:
TRENCH 1:
EX. GROUND ABOVE = 563.6
INV. IN = 559.6
BOTTOM TRENCH = 555.6
TRENCH 2 AND 3:
EX. GROUND ABOVE = 562.0
INV. IN = 558.0
BOTTOM TRENCH = 554.0



INITIAL SYSTEM
SEWAGE DISPOSAL SYSTEM DATA, DESIGN FOR 4 BEDROOMS
LOADING RATE = 4 BEDROOMS X 150 GPD/BEDROOM = 600 GPD
APPLICATION RATE = 0.8
EFFECTIVE SIDEWALL BEGINS AT 5 FEET
TRENCH DEPTH = 0 FEET
TRENCH WIDTH (W) = 3 FEET
EFFECTIVE DEPTH (D) = 3 FEET
SF OF DRAINFIELD = 600 GPD / 0.5 = 600 SF
COEFFICIENT OF REDUCTION OF TRENCH LENGTH = (W+2)/(W+1+2D) = (3+2)/(3+1+(2x3)) = 0.50
TRENCH LENGTH = 250.00 SF x 0.50 = 125.0 FEET
(USE 2 TRENCHES AT 62.5 L.F.)
TRENCH SPACING = 2D+W = ((2x3) + 3) = 9' USE 10'

INITIAL TRENCH DETAIL
SCALE: 1" = 2'

1ST REPLACEMENT SYSTEM
SEWAGE DISPOSAL SYSTEM DATA, DESIGN FOR 4 BEDROOMS
LOADING RATE = 4 BEDROOMS X 150 GPD/BEDROOM = 600 GPD
APPLICATION RATE = 0.8
EFFECTIVE SIDEWALL BEGINS AT 5 FEET
TRENCH DEPTH = 0 FEET
TRENCH WIDTH (W) = 3 FEET
EFFECTIVE DEPTH (D) = 3 FEET
SF OF DRAINFIELD = 600 GPD / 0.5 = 600 SF
COEFFICIENT OF REDUCTION OF TRENCH LENGTH = (W+2)/(W+1+2D) = (3+2)/(3+1+(2x3)) = 0.50
TRENCH LENGTH = 250.00 SF x 0.50 = 125.0 FEET
(USE 3 TRENCHES AT 41.67 L.F.)
TRENCH SPACING = 2D+W = ((2x3) + 3) = 9' USE 10'

2ND REPLACEMENT SYSTEM
SEWAGE DISPOSAL SYSTEM DATA, DESIGN FOR 4 BEDROOMS
LOADING RATE = 4 BEDROOMS X 150 GPD/BEDROOM = 600 GPD
APPLICATION RATE = 0.8
EFFECTIVE SIDEWALL BEGINS AT 5 FEET
TRENCH DEPTH = 0 FEET
TRENCH WIDTH (W) = 3 FEET
EFFECTIVE DEPTH (D) = 3 FEET
SF OF DRAINFIELD = 600 GPD / 0.5 = 600 SF
COEFFICIENT OF REDUCTION OF TRENCH LENGTH = (W+2)/(W+1+2D) = (3+2)/(3+1+(2x3)) = 0.50
TRENCH LENGTH = 250.00 SF x 0.50 = 125.0 FEET
(USE 3 TRENCHES AT 41.67 L.F.)
TRENCH SPACING = 2D+W = ((2x3) + 3) = 9' USE 10'

FFE 564.76
BSE 554.92
INV. OUT OF HOUSE = 560.98
PROP. GROUND AT CLEANOUT #1 = 562.6
INV. INTO CLEANOUT = 560.88
INV. OUT OF CLEANOUT = 560.78
EX. GROUND AT SEPTIC TANK = 562.0
PROP. GRADE ABOVE SEPTIC TANK = 562.0
TOP OF SEPTIC TANK = 561.41
INV. INTO SEPTIC TANK = 560.41
INV. OUT OF SEPTIC TANK = 560.16
EX. GROUND AT DISTRIBUTION BOX = 563.6
INV. INTO DISTRIBUTION BOX = 559.7
INV. OUT OF DISTRIBUTION BOX = 559.6

- LEGEND**
- EXISTING 2' CONTOURS
 - EXISTING 10' CONTOURS
 - EXISTING TREE LINE
 - SOIL LINES AND TYPES
 - ⊕ DENOTES PROPOSED WELL
 - ⊙ DENOTES PASSED PERC



PROFESSIONAL CERTIFICATION
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Michael J. Vitucci 2/5/19
Signature of Professional Engineer DATE

Approved Septic System Plan
Howard County Health Department
Mark Osaway 2/5/19
Signature Date

Please note: If trench width exceeds 4' then new plan w/ pump tank will be required.
**SEPTIC SYSTEM
INSTALLATION PLAN
CLOPEIN PROPERTY
LOT 7-C**

12344 HOWARD LODGE DRIVE

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3RD ELECTION DISTRICT
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