

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: 9-29-21 **ONSITE SEWAGE DISPOSAL SYSTEM** P 570173

APPROVAL DATE: 11/8/21 **PERMIT: CONSTRUCTION** A _____

PROPERTY ADDRESS: 13604 OLIVIA WAY, HIGHLAND, MD 20777

SUBDIVISION: THE ESTATES AT RIVER HILL LOT: 13 TAX ID: 05-601941

CONTRACTOR: ~~FOGLES~~ Freedom Septic EMAIL: _____

CONTRACTOR ADDRESS: 580 Obrecht Road, Sykesville, MD 21784 PHONE: 410-795-5670

PROPERTY OWNER: ESTATES AT RIVER HILL LLC EMAIL: tkeane@trinityhomes.com

OWNER ADDRESS: 3675 PARK AVE., SUITE 301, ELLICOTT CITY, MD 21043 PHONE: (443)324-9806

SEPTIC TANK SIZE (GALLONS): 1500 TANK MANUFACTURER: MAYER BROS., INC.

PUMP MODEL: n.a. PUMP SIZE n.a. PUMP TANK CAPACITY: n.a.

DISTRIBUTION SYSTEM: GRAVITY PRESSURE DOSED BEDROOMS: 5 APPLICATION RATE: 0.8

TRENCHES:	LINEAR FEET REQUIRED: <u>177</u>	INLET DEPTH: <u>3.5</u> <i>4.0 req 1/25/21</i>
	TRENCH WIDTH: <u>3</u>	MAXIMUM BOTTOM DEPTH: <u>8.0</u>
	MINIMUM SPACE BETWEEN TRENCHES: <u>10</u>	EFFECTIVE AREA BEGINNING DEPTH: <u>5.5</u>

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

NOTES: **Lot 13 has a five (5)-bedroom limitation.**

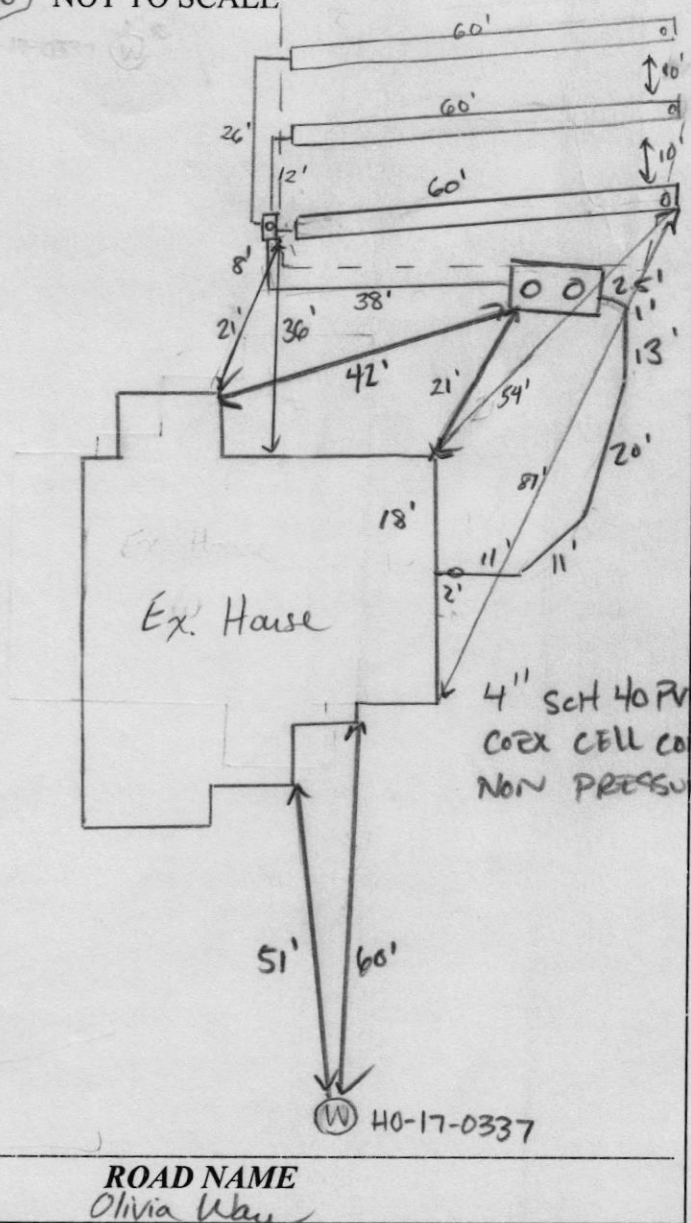
ISSUED BY: R BRICKER ISSUE DATE: 10-1-21 EXPIRATION DATE: 9-29-22

- 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.**

13604 Olivia Way

1" = 30' NOT TO SCALE



TRENCH/DRAINFIELD DATA		
WIDTH	INLET	BOTTOM
3	4	8
NUMBER OF TRENCHES		3
TOTAL LENGTH		180
ABSORPTION AREA		540 sq ft + sidewalk
DISTRIBUTION BOX LEVEL		speedy
DISTRIBUTION BOX BAFFLE		cement
DISTRIBUTION BOX PORT		PVC

SEPTIC TANK DATA	
SEPTIC TANK I LEVEL	YES
MANUFACTURER	BABYLON
CAPACITY	1500 GAL
SEAM LOC	TOP
TANK LID DEPTH	1.5'
BAFFLES	YES
BAFFLE FILTER	-
MANHOLE LOC	FRONT/BACK
6" PORT LOC	-
WATERTIGHT TEST	-
SLOTTED	YES
DATE ON LID	09/27/2021
PUMP/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	-

ROAD NAME
Olivia Way

PRE-CONSTRUCTION:

10/8/21 3x 59' trenches staked out on contour according to plan SL comes out below footer but appears to have plenty of fall to tank location (ST)

INSTALLATION: 11/01/2021 SHC, SL, TANK SET. 11/02/2021 CONSTRUCTED

UPPER + MID TRENCH. D Box SET. 11/8/21 D-box leveled and last trench complete (ST)

FINAL INSPECTOR Drew Thomas DATE OF APPROVAL 11/8/21

Howard County Health Department

Bureau of Environmental Health, Columbia, MD 21045 - 410-313-1771

SEWAGE DISPOSAL PERMIT NO. A- _____ P- 570173

RESIDENTIAL PERMIT

(NUMBER OF BEDROOMS: _____)

COMMERCIAL PERMIT

(DESIGN FLOW: _____ GPD)

PERMITEE:

Foales Septic Clean Inc.

LOCATION:

13604 Olivia Way The Estates @ River Hill Lot 13

****POST THIS CARD WHERE IT CAN BE SEEN FROM ROAD****

STOP ALL CONSTRUCTION ON SEWAGE DISPOSAL SYSTEM AND CONTACT HEALTH DEPARTMENT BEFORE CONTINUING

Inspector _____

Date _____

WORK IS SATISFACTORY, OK TO CONTINUE

Inspector _____

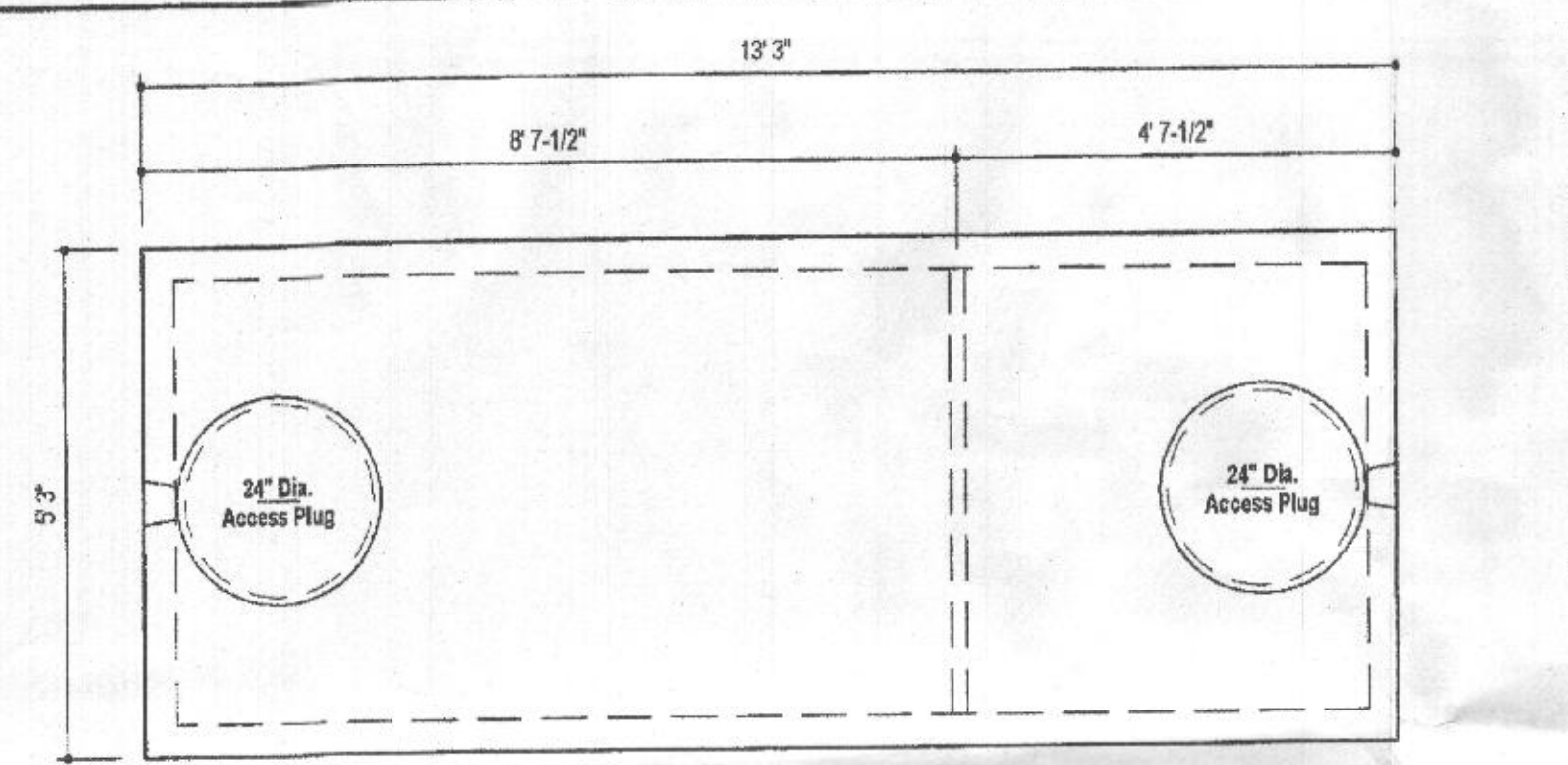
Date _____

COMMENTS:

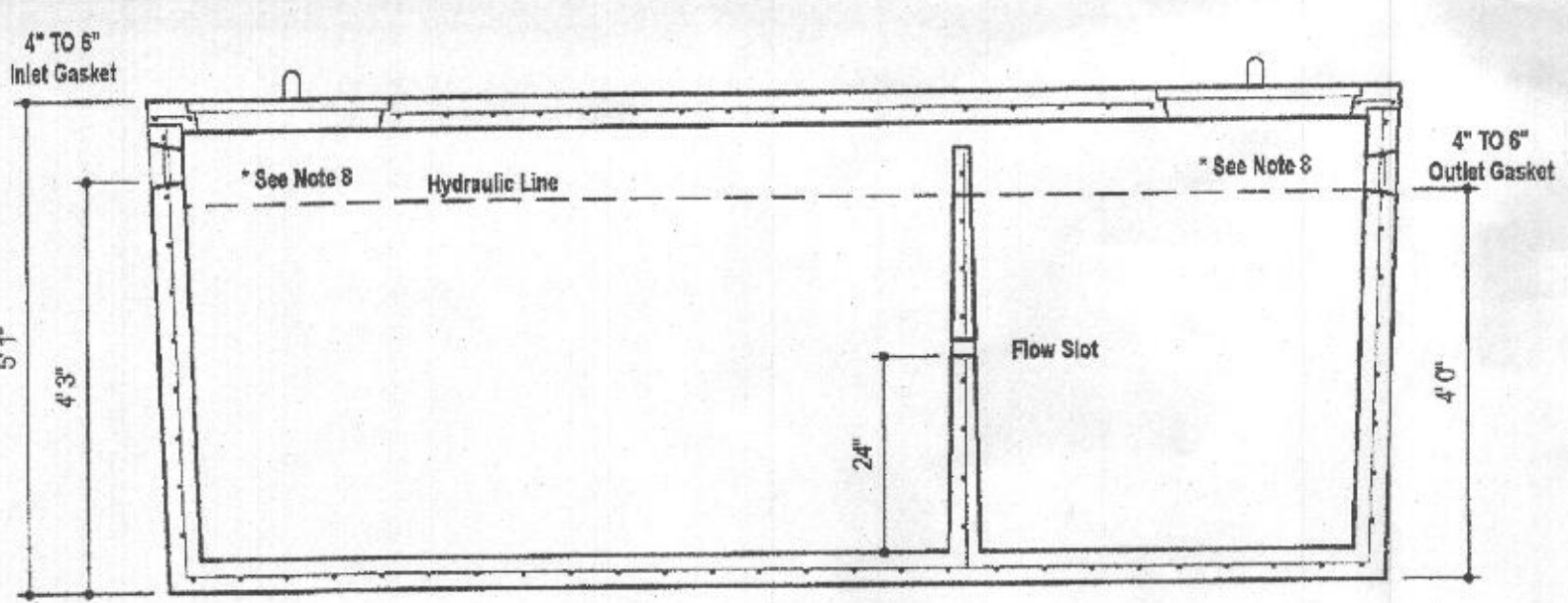
FINAL INSPECTION MADE, OK TO COVER ALL WORK

Inspector _____

Date _____



PLAN VIEW



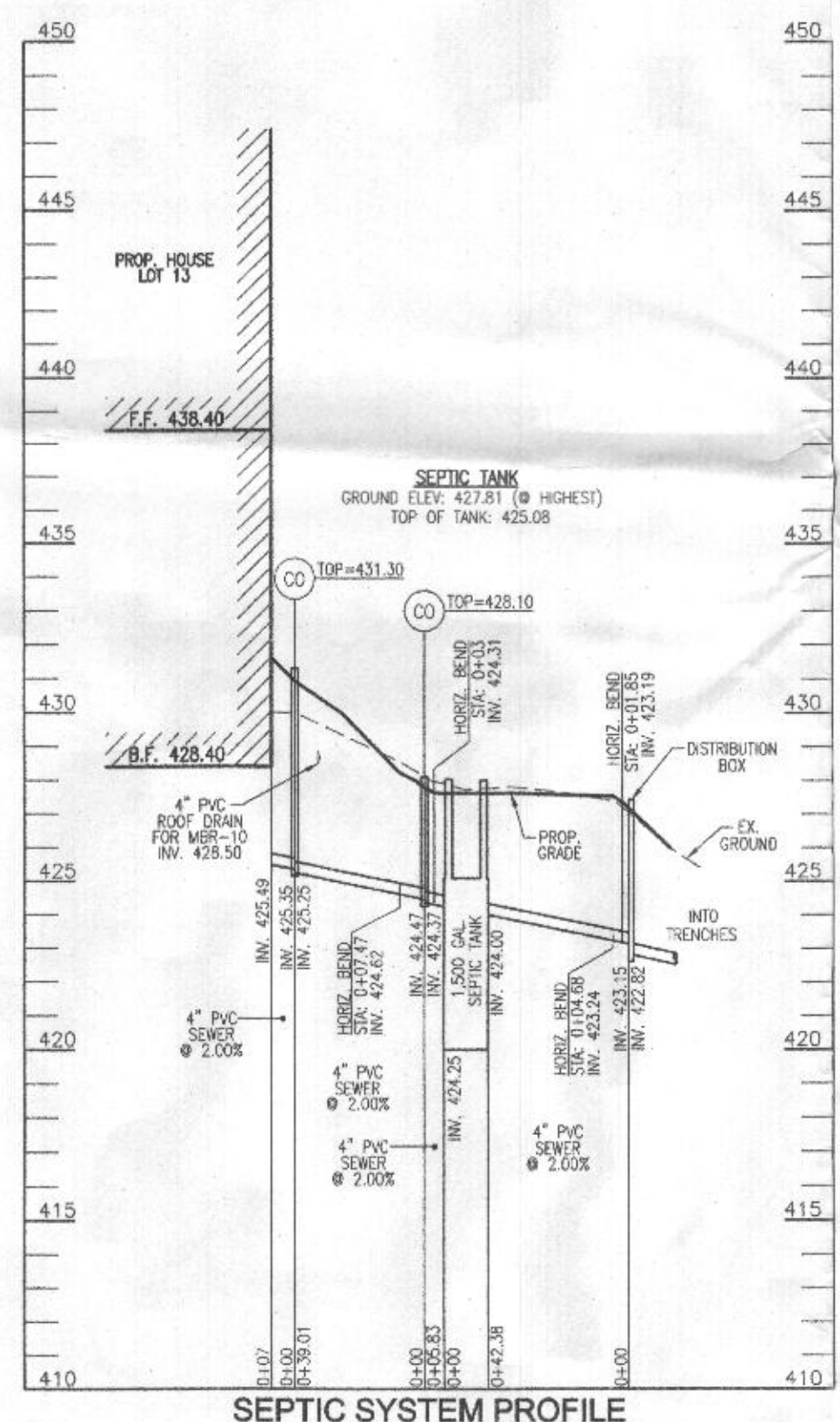
SECTION A-A

- DESIGN DATA & GENERAL NOTES**
- [1] Concrete strength $f_c=4,000$ p.s.i. @ 28 days. Density = 150 pcf.
 - [2] Cement - Portland Type III per ASTM C 150-92.
 - [3] Admixtures & plasticizers per ASTM C 494-92 & C 494-92.
 - [4] Reinforcing per ASTM A 630. Min. 1-1/2" cover.
 - [5] Top slab sealed with butyl rope mastic.
 - [6] 4" wall, base, & top thickness.
 - [7] Max 3-1/2" of cover
 - [8] Depending on use of tank, Inlet & Outlet baffles may be required by code.

WEIGHT = 16,750 lbs.

MBI
Mayer Bros., Inc.
6384 Race Road
Elkridge, Maryland 21075
Tel. 410.786.1434
Fax. 410.786.1438
www.mayerbrosprecast.com

**1,500 GALLON TANK (Non-Traffic)
2-Compartment**
Stock Item
Dwg. No. 1500-2C No Scale Aug. 11, 2008



SEPTIC SYSTEM PROFILE
SCALE: HORIZONTAL - 1"=50'
VERTICAL - 1"=5'

Approved Septic System Plan
Howard County Health Department
1500-gal Septic Tank
to gravity distribution
for 5-Bedroom SFD
R. Baugh 1/25/2021
Signature Date

OWNER
ESTATES AT RIVER HILL, LLC
MICHAEL PFALL, MEMBER
3675 PARK AVE., SUITE 301
ELLCOTT CITY, MD 21043
(410) 480-0023

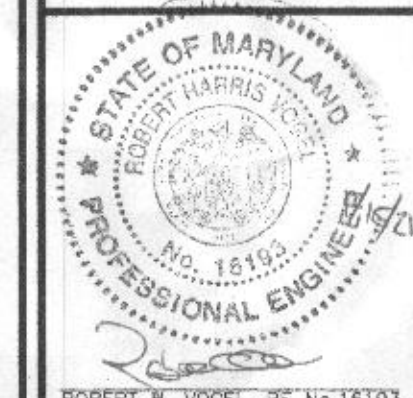
DEVELOPER
TRINITY HOMES MARYLAND, LLC
3675 PARK AVE., SUITE 301
ELLCOTT CITY, MD 21043
(410) 480-0023

ONSITE SEWAGE DISPOSAL SYSTEM DESIGN PLAN

THE ESTATES AT RIVER HILL - LOT 13
13604 OLIVIA WAY
HIGHLAND, MD 20777

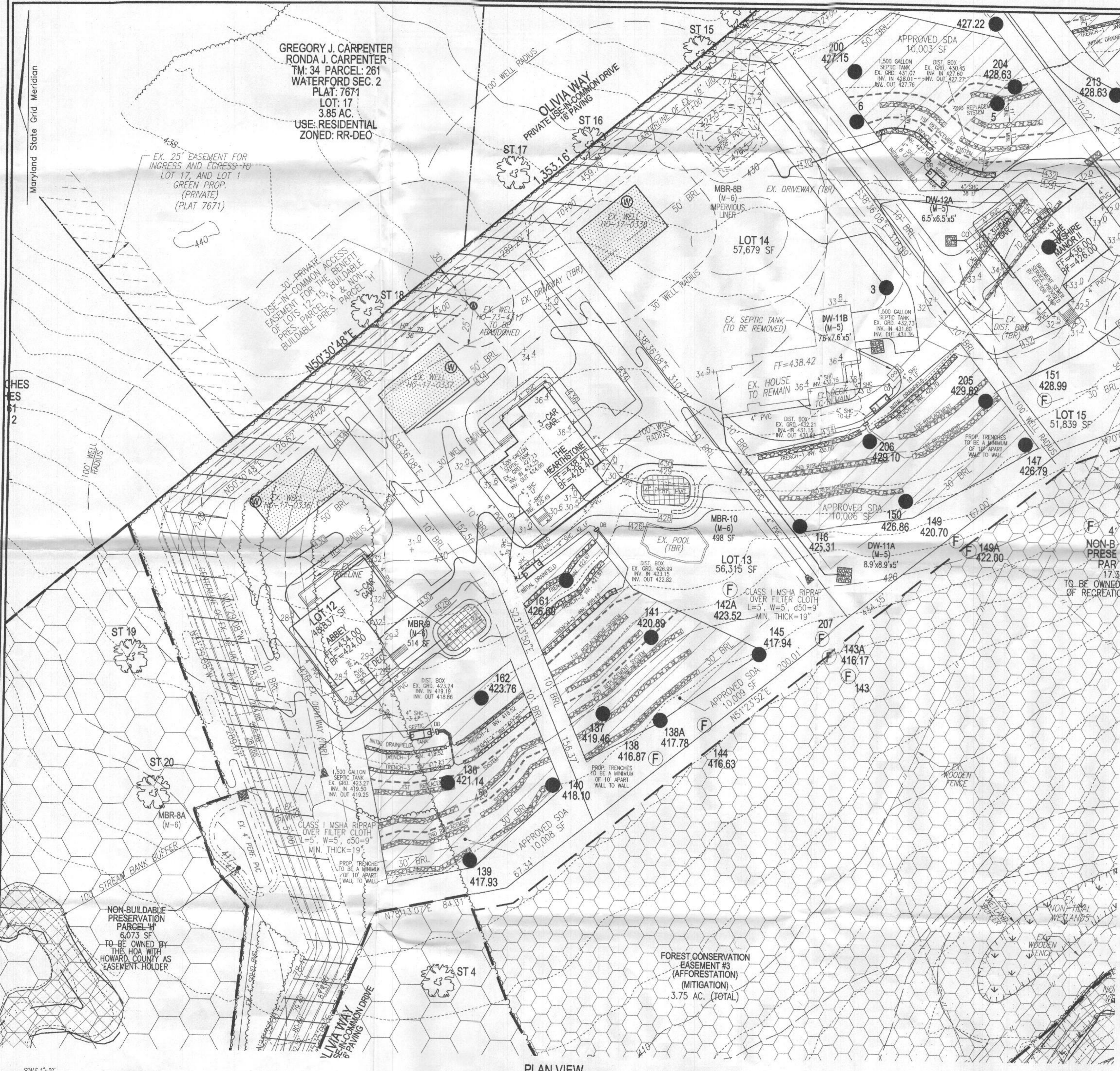
PARCEL: 389 TAX MAP: 34 GRID: 23 5TH ELECTION DISTRICT ZONED: RR-DED L 19487 / F. 282 HOWARD COUNTY, MARYLAND

VOGEL ENGINEERING
TIMMONS GROUP
3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043
P: 410.461.7666 F: 410.461.8961 www.timmons.com



DESIGN BY: RHW
DRAWN BY: JMR
CHECKED BY: RHW
DATE: JANUARY 2021
SCALE: AS SHOWN
W.O. NO.: 15-39

PROFESSIONAL CERTIFICATE
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. 16193, EXPIRATION DATE: 08-27-2022



GREGORY J. CARPENTER
RONDA J. CARPENTER
TM: 34 PARCEL: 261
WATERFORD SEC. 2
PLAT: 7671
LOT: 17
3.85 AC.
USE: RESIDENTIAL
ZONED: RR-DEO

EX. 25' EASEMENT FOR
INGRESS AND EGRESS TO
LOT 17, AND LOT 1
GREEN PROP.
(PRIVATE)
(PLAT 7671)

30' PRIVATE
USE-IN-COMMON ACCESS
EASEMENT FOR THE BENEFIT
OF LOTS PARCEL A & NON-
BUILDABLE PRES. PARCEL H

NON-BUILDABLE
PRESERVATION
PARCEL H
6,073 SF
TO BE OWNED BY
THE HOA WITH
HOWARD COUNTY AS
EASEMENT HOLDER

FOREST CONSERVATION
EASEMENT #3
(AFFORESTATION)
(MITIGATION)
3.75 AC. (TOTAL)

PLAN VIEW
SCALE: 1"=30'

WELL LOCATION CERTIFICATION:
THE EXISTING WELL SHOWN FOR LOT 13 (TAG #H-17-0337)
HAS BEEN FIELD LOCATED AND IS ACCURATELY SHOWN

THIS AREA DESIGNATES A PRIVATE SEWAGE AREA OF AT LEAST
10,000 SQUARE FEET AS REQUIRED BY THE MARYLAND STATE
DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE
DISPOSAL IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE
RESTRICTED UNTIL PUBLIC SEWERAGE IS AVAILABLE. THESE
AREAS SHALL BECOME NULL AND VOID UPON CONNECTION TO
A PUBLIC SEWERAGE SYSTEM. THE COUNTY HEALTH OFFICER
SHALL HAVE THE AUTHORITY TO GRANT ADJUSTMENTS TO THE
PRIVATE SEWAGE AREA. RECREATION OF A MODIFIED SEWAGE
AREA SHALL NOT BE NECESSARY.

INITIAL SYSTEM TRENCH INFO

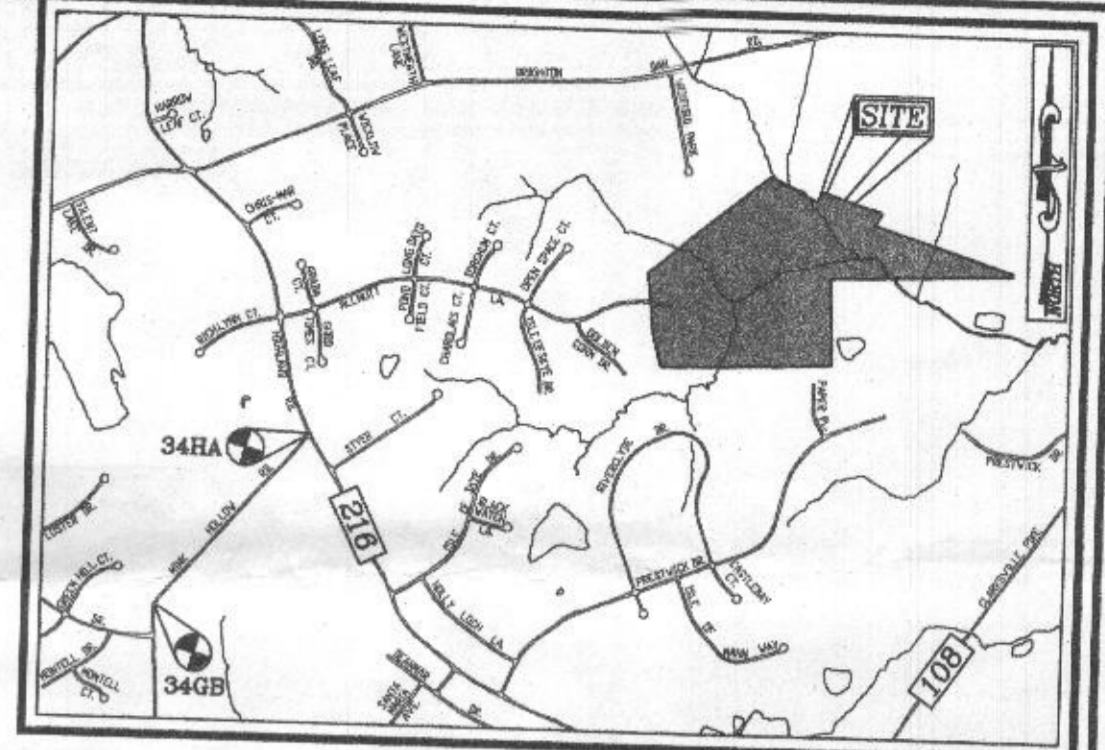
TRENCH	LENGTH	TRENCH WIDTH	DEPTH	BTOM	TOP	OFF EXISTING
1	59'	42.67'	4'	418.67	426.67	426.67
2	59'	42.67'	4'	417.67	425.67	425.67
3	59'	42.67'	4'	418.12	424.12	424.12

SYSTEM CALCULATIONS:

INITIAL SYSTEM:
5 BEDROOMS AT 750gpd / 0.8 ABSORPTION RATE = 938 SQ. FT.
938 SQ. FT. / 3 (TRENCH WIDTH) x .56 (SIDEWALL REDUCTION) = 175 LINEAR FEET
177 TOTAL LINEAR FEET OF TRENCH ARE PROVIDED WITH THE INITIAL SYSTEM.
(3 TRENCHES OF 59 FEET IN LENGTH)

FIRST REPLACEMENT SYSTEM:
5 BEDROOMS AT 750gpd / 1.2 ABSORPTION RATE = 625 SQ. FT.
625 SQ. FT. / 3 (TRENCH WIDTH) x .56 (SIDEWALL REDUCTION) = 117 LINEAR FEET
118 TOTAL LINEAR FEET OF TRENCH ARE PROVIDED WITH THE FIRST REPLACEMENT SYSTEM.
(2 TRENCHES OF 59 FEET IN LENGTH)

SECOND REPLACEMENT SYSTEM:
5 BEDROOMS AT 750gpd / 0.6 ABSORPTION RATE = 1,250 SQ. FT.
1,250 SQ. FT. / 3 (TRENCH WIDTH) x .63 (SIDEWALL REDUCTION) = 262 LINEAR FEET
264 TOTAL LINEAR FEET OF TRENCH ARE PROVIDED WITH THE SECOND REPLACEMENT SYSTEM.
(3 TRENCHES OF 88 FEET IN LENGTH)

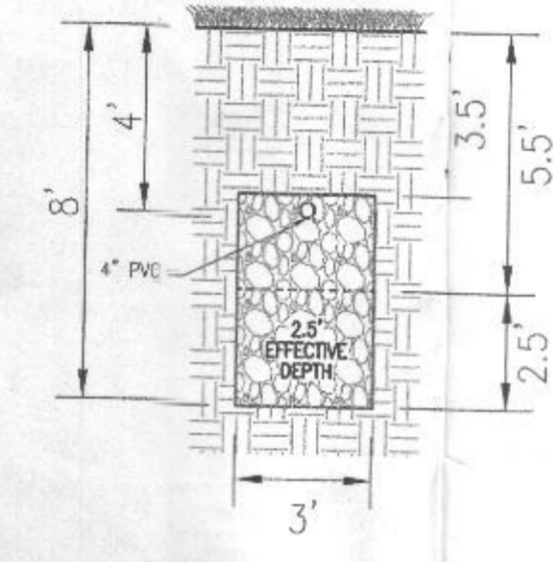


VICINITY MAP
SCALE: 1"=2000'
ADC MAP: PAGE: 31 / GRID: B2, B3, & C2

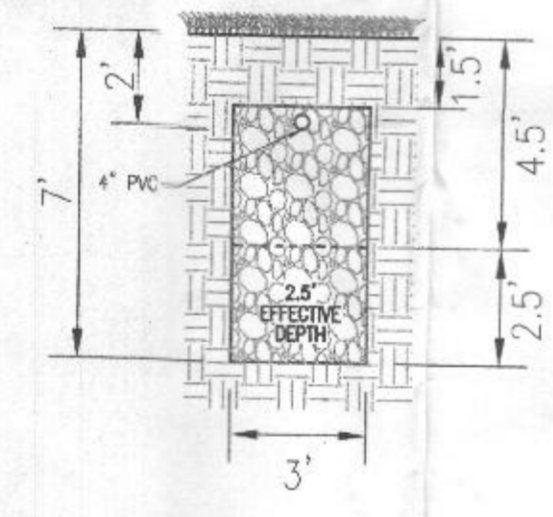
BENCHMARKS
HOWARD COUNTY BENCHMARK 34GB (CONC. MON.)
N 533966.73 E 1317752.53 ELEV. 505.18
LOCATION: MANK HOLLOW RD. 0.45 MI. SW OF
HIGHLAND RD.
HOWARD COUNTY BENCHMARK 34HA (CONC. MON.)
N 555780.15 E 1319355.57 ELEV. 535.23
LOCATION: CORNER OF HIGHLAND RD. & MANK
HOLLOW RD.

LEGEND:

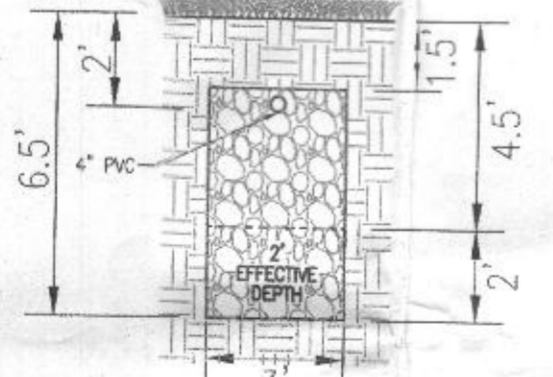
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- ADJACENT PROPERTY LINE
- EXISTING EDGE OF PAVING
- EXISTING STREAM BUFFER
- EXISTING TREE LINE
- PROPOSED TREE LINE
- EXISTING SPECIMEN TREES
- EXISTING WOOD FENCE
- EX. PUBLIC 100-YEAR FLOOD PLAN
- PROP. PRIVATE USE-IN-COMMON ACCESS EASEMENT
- PROP. PRIVATE SWM, DRAINAGE & UTILITY EASEMENT
- EXISTING 10' CONTOUR
- EXISTING 2' CONTOUR
- PROPOSED 10' CONTOUR
- PROPOSED 2' CONTOUR
- APPROVED SEWAGE DISPOSAL AREA (SDA)
- APPROVED WELL AREA
- EXISTING WELL (TO BE ABANDONED)
- EXISTING WELL
- PASSED PERC. TEST
- FAILED PERC. TEST



INITIAL SYSTEM
TRENCH DETAIL
NOT TO SCALE



1ST REPLACEMENT SYSTEM
TRENCH DETAIL
NOT TO SCALE



2ND REPLACEMENT SYSTEM
TRENCH DETAIL
NOT TO SCALE

Approved Septic System Plan
Howard County Health Department
500 gallon septic tank
to a gravity drainfield
for 5 bedroom SFD
H. Buckner 1/25/2021

GENERAL 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 WILL BE REQUIRED. LOAD BEARING TANK.
- THE MAXIMUM EARTH COVER OVER THE TANK IS 3 FEET. GREATER EARTH COVER WILL REQUIRE A HEAVY LOAD BEARING TANK.
- THE EXISTING TOPOGRAPHICAL SURVEYS SHOWN HEREON IS TAKEN FROM HOWARD COUNTY GIS AND SUPPLEMENTED WITH AND MAY OF 2016.
- ANY CHANGES TO A PRIVATE SEWAGE AREA SHALL REQUIRE A REVISED PERCOLATION CERTIFICATION PLAN.
- EXISTING WELLS, SEPTIC SYSTEMS AND SEWAGE DISPOSAL AREAS WITHIN 100' OF THE PROPERTY AND THOSE WELLS WITHIN 200' DOWNGRADIENT OF EXISTING OR PROPOSED SEPTIC SYSTEMS OR SEWAGE DISPOSAL AREAS HAVE BEEN SHOWN USING ALL REASONABLE EFFORTS.
- THE LOT SHOWN HEREON COMPLEES WITH THE MINIMUM OWNERSHIP, WIDTH, AND LOT AREA AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT.
- ABANDON EXISTING SEPTIC TANK, REMOVE EXISTING DISTRIBUTION BOX AND SEAL PIPES LEADING TO TRENCHES THAT ARE TO BE ABANDONED.

OWNER
ESTATES AT RIVER HILL LLC
MICHAEL PFALL, MEMBER
3675 PARK AVE., SUITE 301
ELLCOTT CITY, MD 21043
(410) 480-0023

DEVELOPER
TRINITY HOMES MARYLAND, LLC
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(410) 480-0023

ONSITE SEWAGE DISPOSAL SYSTEM DESIGN PLAN
THE ESTATES AT RIVER HILL - LOT 13
13604 OLIVIA WAY
HIGHLAND, MD 20777

PARCEL: 389
TAX MAP: 34 GRID: 23
5TH ELECTION DISTRICT

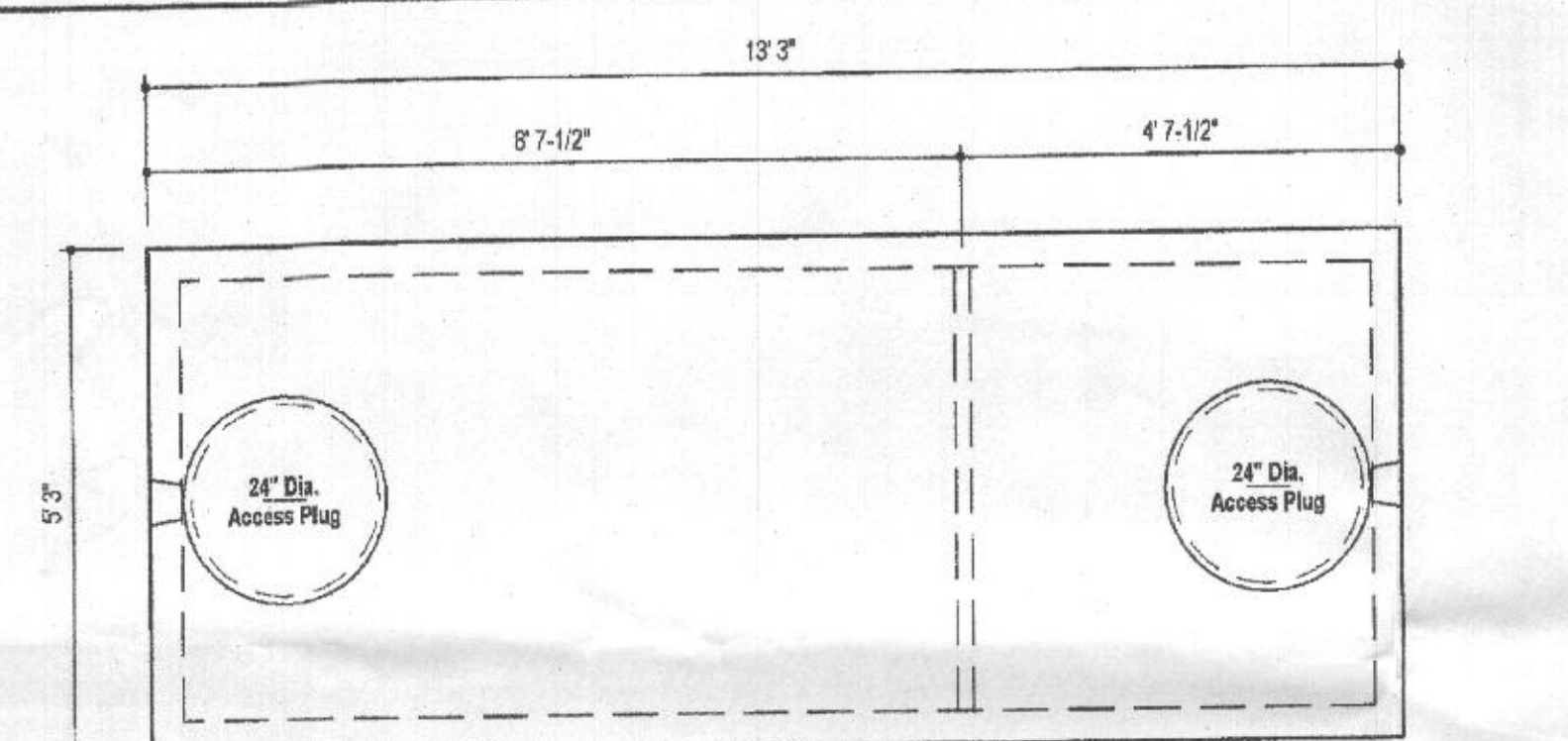
ZONED: RR-DEO
L 184B7 / F 262
HOWARD COUNTY, MARYLAND

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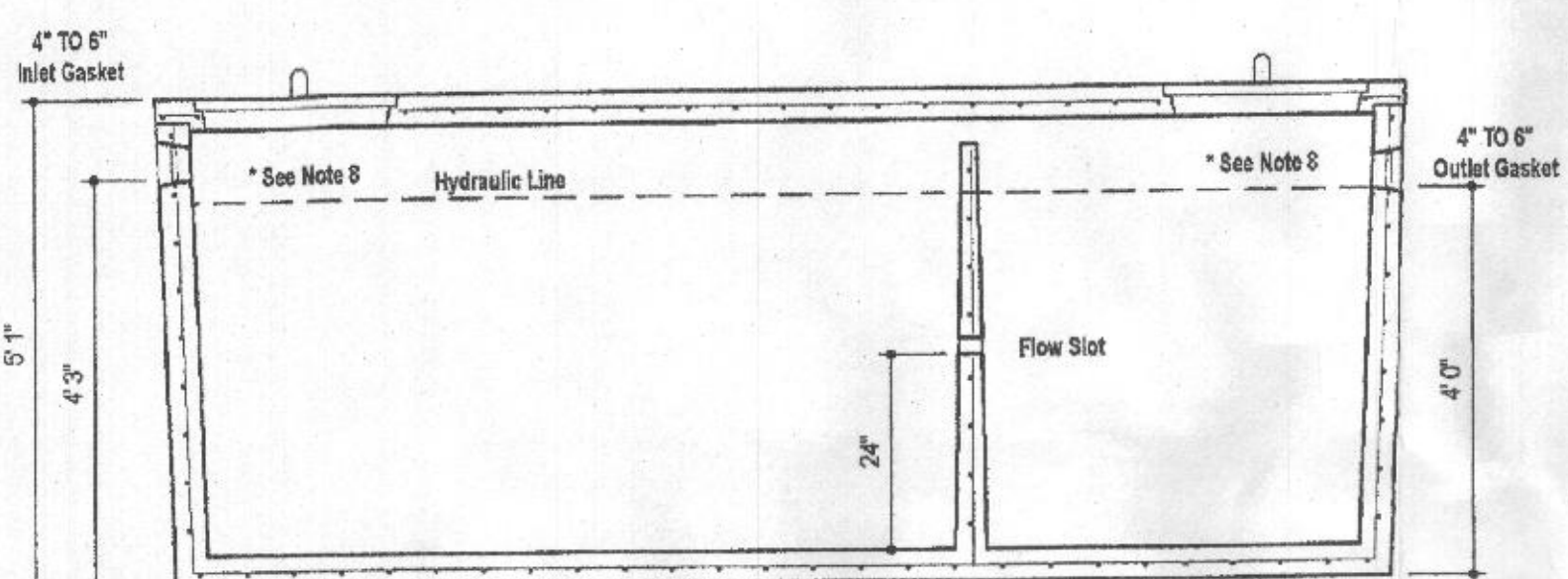


DESIGN BY: RHY
DRAWN BY: JMR
CHECKED BY: RHY
DATE: JANUARY 2021
SCALE: AS SHOWN
W.O. NO.: 15-39

PROFESSIONAL CERTIFICATE
I HEREBY CERTIFY THAT THESE DOCUMENTS
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ENGINEER UNDER THE LAWS OF THE STATE
OF MARYLAND, LICENSE NO. 16193
EXPIRATION DATE: 08-27-2022



PLAN VIEW



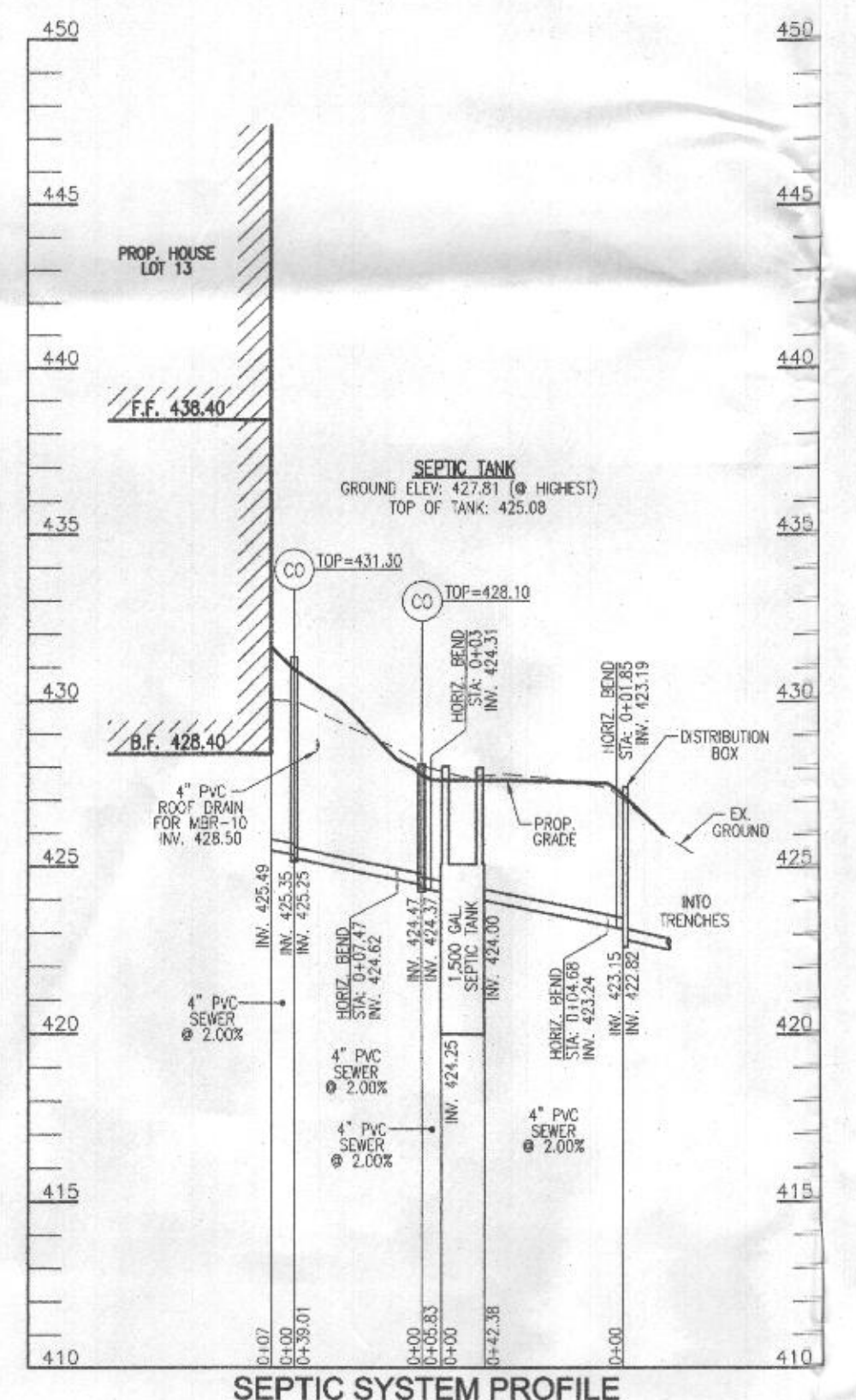
SECTION A-A

- DESIGN DATA & GENERAL NOTES**
- [1] Concrete strength f'c=4,000 p.s.i. @ 28 days. Density = 150 pcf.
 - [2] Cement - Portland Type III per ASTM C 150-92.
 - [3] Admixtures & plasticizers per ASTM C 200-98 & C 494-92.
 - [4] Reinforcing per ASTM A663. Min. 1-1/2" cover.
 - [5] Top slab sealed with butyl rope mastic.
 - [6] 4" wall, base, & top thickness.
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 - [8] Depending on use of tank, Inlet & Outlet baffles may be required by code.

WEIGHT = 16,750 lbs.

MBI
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Elkridge, Maryland 21075
Tel. 410.796.1434
Fax. 410.796.1438
www.mayerbrosprecast.com

**1,500 GALLON TANK (Non-Traffic)
2-Compartment**
Stock Item
Dwg. No. 1500-2C No Scale Aug. 11, 2008



SEPTIC SYSTEM PROFILE
SCALE: HORIZONTAL - 1"=5'
VERTICAL - 1"=5'

Approved Septic System Plan
Howard County Health Department
1500-gallon Septic Tank
to gravity drainfield
for 5-bedroom SFD
R. Quilly 1/25/2021
Signature Date

OWNER
ESTATES AT RIVER HILL, LLC
MICHAEL PRALL, MEMBER
3675 PARK AVE., SUITE 301
ELLCOTT CITY, MD 21043
(410) 480-0023

DEVELOPER
TRINITY HOMES MARY LAND, LLC
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ELLCOTT CITY, MD 21043
(410) 480-0023

ONSITE SEWAGE DISPOSAL SYSTEM DESIGN PLAN

THE ESTATES AT RIVER HILL - LOT 13
13604 OLIVIA WAY
HIGHLAND, MD 20777

PARCEL: 389 ZONED: RR-DE2
TAX MAP: 34 GRID: 23 L 18487 / F. 262
5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

VOGEL ENGINEERING

TIMMONS GROUP

3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043
P: 410.461.7666 F: 410.461.8961 www.timmons.com

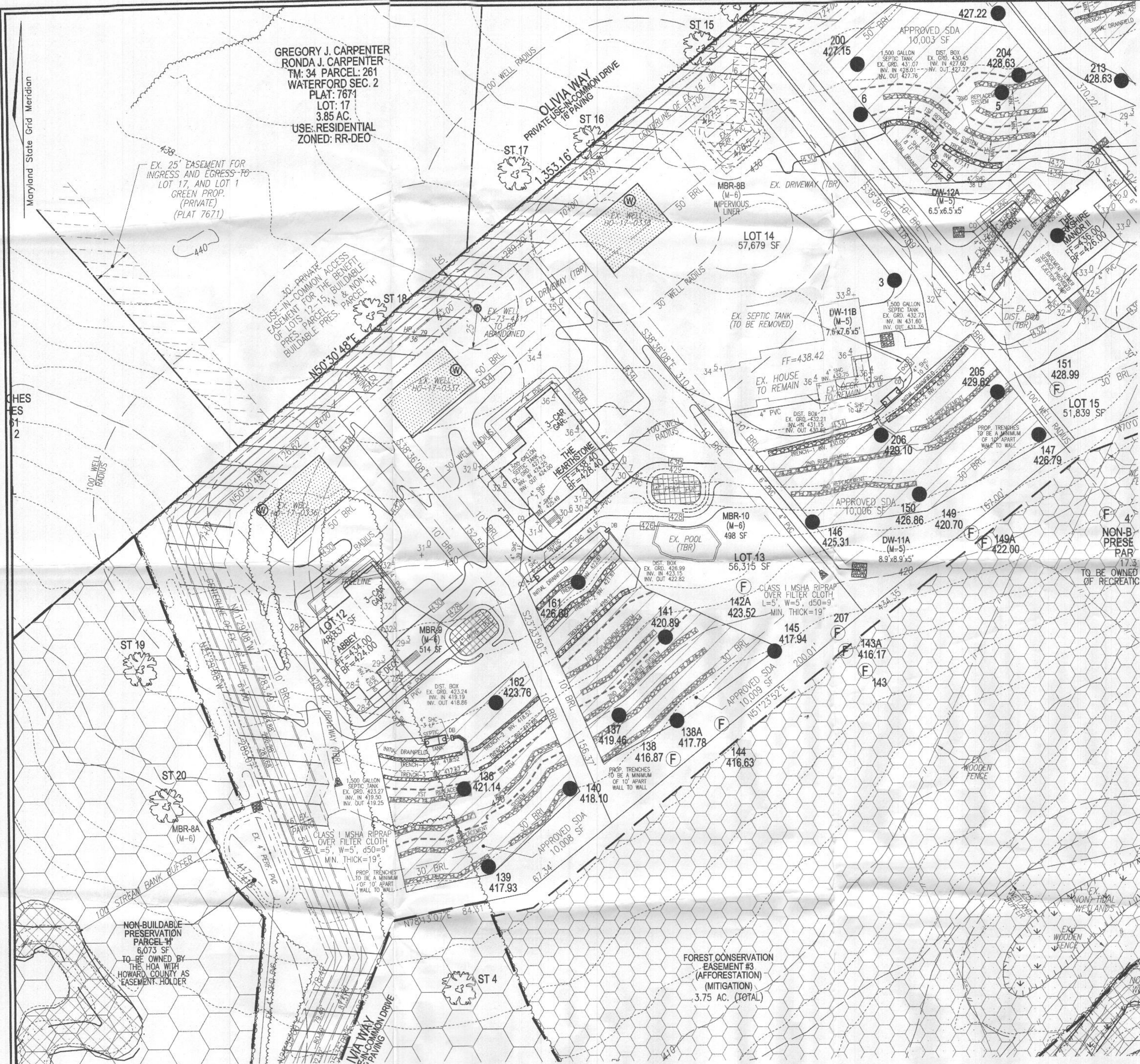


DESIGN BY: RHV
DRAWN BY: JMR
CHECKED BY: RHV
DATE: JANUARY 2021
SCALE: AS SHOWN
W.O. NO.: 15-39

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ENGINEER UNDER THE LAWS OF THE STATE
OF MARYLAND, LICENSE NO. 16193
EXPIRATION DATE: 08-27-2022

2 SHEET OF 2

ROBERT H. VOGEL, PE No. 16193



GREGORY J. CARPENTER
RONDA J. CARPENTER
TM: 34 PARCEL: 261
WATERFORD SEC. 2
PLAT: 7671
LOT: 17
3.85 AC.
USE: RESIDENTIAL
ZONED: RR-DEO

EX. 25' EASEMENT FOR
INGRESS AND EGRESS TO
LOT 17, AND LOT 1
GREEN PROP. (PRIVATE)
(PLAT 7671)

30' PRIVATE ACCESS
EASEMENT FOR THE BENEFIT
OF LOTS 12, 15, & NON-
BUILDABLE PRES. PARCEL #4
& NON-BUILDABLE PRES. PARCEL #4

CHES
ES
61
2

NON-BUILDABLE
PRESERVATION
PARCEL #4
6,073 SF
TO BE OWNED BY
THE HOA WITH
HOWARD COUNTY AS
EASEMENT HOLDER

FOREST CONSERVATION
EASEMENT #3
(AFFORESTATION)
(MITIGATION)
3.75 AC. (TOTAL)

PLAN VIEW
SCALE: 1"=30'

WELL LOCATION CERTIFICATION:
THE EXISTING WELL SHOWN FOR LOT 13 (TAG #HO-17-0337)
HAS BEEN FIELD LOCATED AND IS ACCURATELY SHOWN

THIS AREA DESIGNATES A PRIVATE SEWAGE AREA OF AT LEAST
10,000 SQUARE FEET AS REQUIRED BY THE MARYLAND STATE
DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE
DISPOSAL. IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE
RESTRICTED UNTIL PUBLIC SEWERAGE IS AVAILABLE. THESE
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A PUBLIC SEWERAGE SYSTEM. THE COUNTY HEALTH OFFICER
SHALL HAVE THE AUTHORITY TO GRANT ADJUSTMENTS TO THE
PRIVATE SEWAGE AREA. RECORDED OF A MODIFIED SEWAGE
AREA SHALL NOT BE NECESSARY.

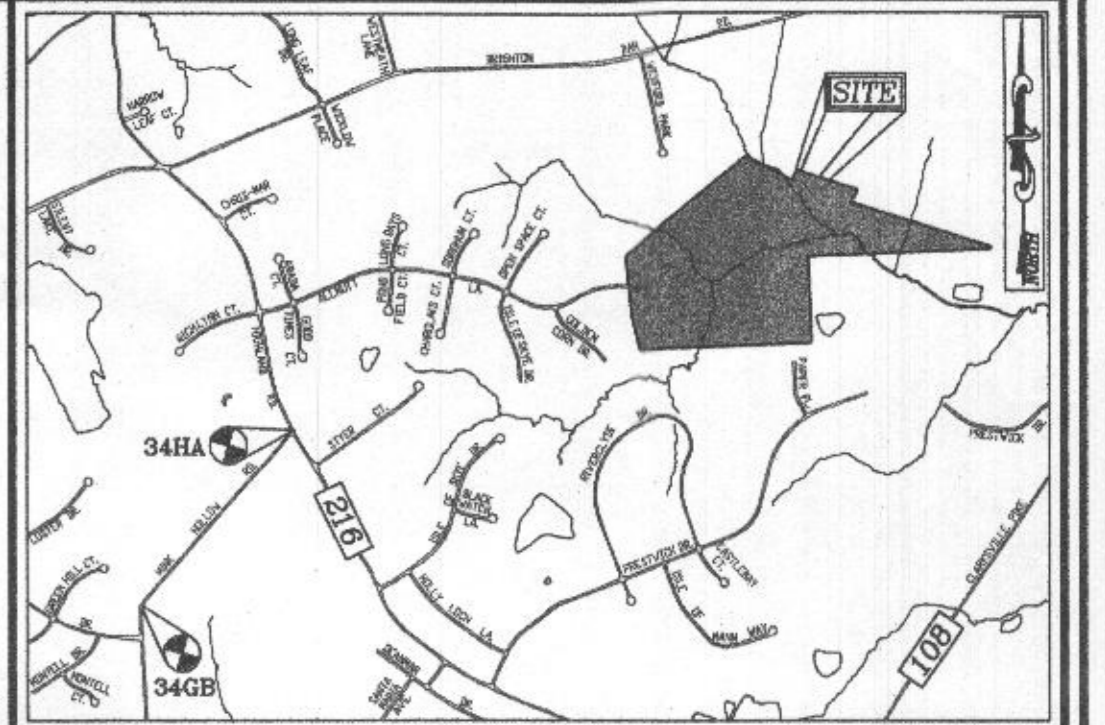
TRENCH	LENGTH	WIDTH	DEPTH	GROUND
1	59'	42.57'	41.67'	425.67'
2	59'	42.57'	41.67'	425.67'
3	59'	42.012'	41.612'	424.12'

SYSTEM CALCULATIONS:

INITIAL SYSTEM:
5 BEDROOMS AT 750gpd / 0.8 ABSORPTION RATE = 938 SQ. FT.
938 SQ. FT. / 3 (TRENCH WIDTH) x .56 (SIGNAL REDUCTION) = 175 LINEAR FEET
177 TOTAL LINEAR FEET OF TRENCH ARE PROVIDED WITH THE INITIAL SYSTEM.
(3 TRENCHES OF 59 FEET IN LENGTH)

FIRST REPLACEMENT SYSTEM:
5 BEDROOMS AT 750gpd / 1.2 ABSORPTION RATE = 635 SQ. FT.
635 SQ. FT. / 3 (TRENCH WIDTH) x .56 (SIGNAL REDUCTION) = 117 LINEAR FEET
118 TOTAL LINEAR FEET OF TRENCH ARE PROVIDED WITH THE FIRST REPLACEMENT SYSTEM.
(2 TRENCHES OF 59 FEET IN LENGTH)

SECOND REPLACEMENT SYSTEM:
5 BEDROOMS AT 750gpd / 0.8 ABSORPTION RATE = 1,250 SQ. FT.
1,250 SQ. FT. / 3 (TRENCH WIDTH) x .63 (SIGNAL REDUCTION) = 262 LINEAR FEET
264 TOTAL LINEAR FEET OF TRENCH ARE PROVIDED WITH THE SECOND REPLACEMENT SYSTEM.
(3 TRENCHES OF 88 FEET IN LENGTH)



VICINITY MAP
SCALE: 1"=2000'
ADC MAP: PAGE: 31 / GRID: B2, B3, & C2

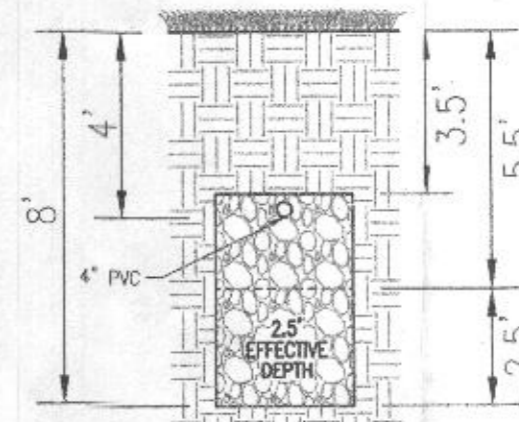
BENCHMARKS

HOWARD COUNTY BENCHMARK 346B (CONC. MON.)
N 553966.73 E 1317752.53 ELEV. 505.11
LOCATION: MINK HOLLOW RD. 0.45 MI. SW OF
HIGHLAND RD.
HOWARD COUNTY BENCHMARK 344A (CONC. MON.)
N 555780.15 E 1319355.57 ELEV. 535.23
LOCATION: CORNER OF HIGHLAND RD. & MINK
HOLLOW RD.

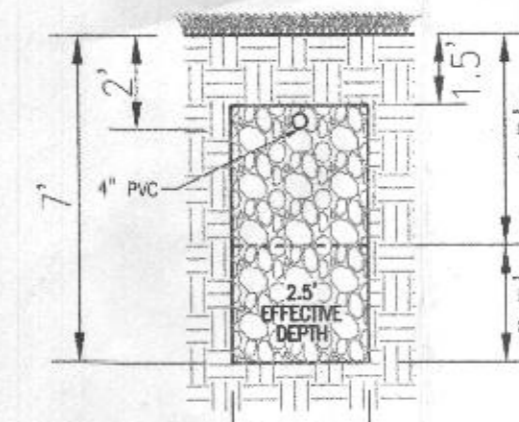
LEGEND:

- PROPERTY LINE
- RIGHT-OF-WAY LINE
- ADJACENT PROPERTY LINE
- EXISTING EDGE OF PAVING
- EXISTING STREAM BUFFER
- EXISTING TREELINE
- PROPOSED TREELINE
- EXISTING SPECIMEN TREES
- EXISTING WOOD FENCE
- EX. PUBLIC 100-YEAR FLOOD PLAIN
- PROP. PRIVATE USE-IN-COMMON ACCESS EASEMENT
- PROP. PRIVATE SWM, DRAINAGE & UTILITY EASEMENT
- EXISTING 10' CONTOUR
- EXISTING 2' CONTOUR
- PROPOSED 10' CONTOUR
- PROPOSED 2' CONTOUR
- APPROVED SEWAGE DISPOSAL AREA (SDA)
- APPROVED WELL AREA
- EXISTING WELL (TO BE ABANDONED)
- EXISTING WELL
- PASSED PERC. TEST
- FAILED PERC. TEST

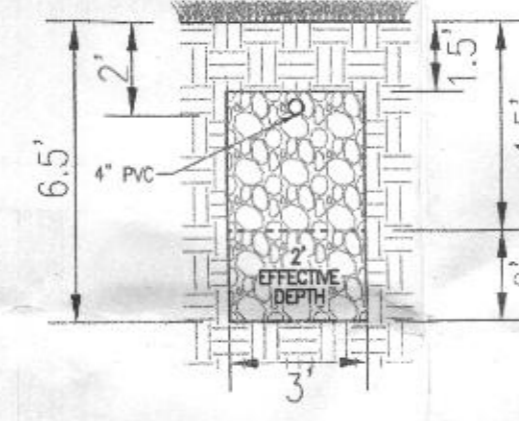
Approved Septic System Plan
Howard County Health Department
1500-gal. Septic Tank
to gravity drainfield
for 5 bedrooms
1/25/2021
Date
Bucher
Signature



INITIAL SYSTEM
TRENCH DETAIL
NOT TO SCALE



1ST REPLACEMENT SYSTEM
TRENCH DETAIL
NOT TO SCALE



2ND REPLACEMENT SYSTEM
TRENCH DETAIL
NOT TO SCALE

- GENERAL 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.
 - THE MAXIMUM EARTH COVER OVER THE TANK IS 3 FEET. GREATER EARTH COVER WILL REQUIRE A HEAVY LOAD BEARING TANK.
 - THE EXISTING TOPOGRAPHY SHOWN HEREON IS TAKEN FROM HOWARD COUNTY GIS AND SUPERIMPOSED WITH FIELD RUN TOPOGRAPHICAL SURVEYS PREPARED BY ROBERT H. VOGEL ENGINEERING, INC., DATED MARCH AND MAY OF 2016.
 - ANY CHANGES TO A PRIVATE SEWAGE AREA SHALL REQUIRE A REVISED PERCOLATION CERTIFICATION PLAN.
 - EXISTING WELLS, SEPTIC SYSTEMS, AND SEWAGE DISPOSAL AREAS WITHIN 100' OF THE PROPERTY AND THOSE WELLS WITHIN 200' DOWNGRADIENT OF EXISTING OR PROPOSED SEPTIC SYSTEMS OR SEWAGE DISPOSAL AREAS HAVE BEEN SHOWN USING ALL REASONABLE EFFORTS.
 - THE LOT SHOWN HEREON COMPLIES WITH THE MINIMUM OWNERSHIP, WIDTH, AND LOT AREA AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT.
 - ABANDON EXISTING SEPTIC TANK, REMOVE EXISTING DISTRIBUTION BOX AND SEAL PIPES LEADING TO TRENCHES THAT ARE TO BE ABANDONED.

OWNER: ESTATES AT RIVER HILL, LLC
MICHAEL PFAU, MEMBER
3675 PARK AVE., SUITE 301
ELLCOTT CITY, MD 21043
(410) 480-0023

DEVELOPER: TRINITY HOMES MARYLAND, LLC
3675 PARK AVE., SUITE 301
ELLCOTT CITY, MD 21043
(410) 480-0023

ONSITE SEWAGE DISPOSAL SYSTEM DESIGN PLAN

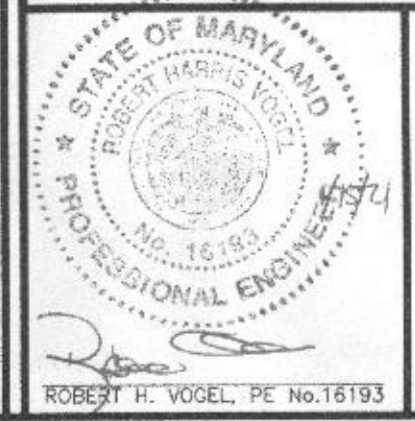
THE ESTATES AT RIVER HILL - LOT 13
13604 OLIVIA WAY
HIGHLAND, MD 20777

PARCEL: 389 TAX MAP: 34 GRID: 23 ZONED: RR-DEO
5TH ELECTION DISTRICT L: 18487 / F: 262
HOWARD COUNTY, MARYLAND

VOGEL ENGINEERING

TIMMONS GROUP

3300 NORTH RIDGE ROAD, SUITE 110, ELLCOTT CITY, MD 21043
P: 410.461.7666 F: 410.461.8961 www.timmons.com



PROFESSIONAL CERTIFICATE

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. 16193
EXPIRATION DATE: 08-27-2022

DESIGN BY: RHV
DRAWN BY: JMR
CHECKED BY: RHV
DATE: JANUARY 2021
SCALE: AS SHOWN
W.D. NO.: 15-39

1 SHEET OF 2

