



**Howard County
Health Department**

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

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

RECEIPT DATE: 5-9-19 **ONSITE SEWAGE DISPOSAL SYSTEM**

P 565484

APPROVAL DATE: 07/30/2019 **PERMIT: CONSTRUCTION**

A _____

PROPERTY ADDRESS: 5529 Jacks Landing Way

SUBDIVISION: Jack's Landing

LOT: 3

TAX ID: _____

CONTRACTOR: Bill Ingram/ Farm and Home Excavating

EMAIL: _____

CONTRACTOR ADDRESS: 901 Driver Road, Marriottsville, MD 21104

PHONE: 410-442-2139

PROPERTY OWNER: Lyonel and Preeti Benjamin

EMAIL: lybenjamin@yahoo.com

OWNER ADDRESS: 2127 Rockwell Avenue, Catonsville, MD 21228

PHONE: _____

SEPTIC TANK SIZE (GALLONS): 1500

TANK MANUFACTURER: Mayer Bros

PUMP MODEL: Gould WE03

PUMP SIZE

1/3

PUMP TANK CAPACITY: 1500

DISTRIBUTION SYSTEM: GRAVITY

PRESSURE DOSED

BEDROOMS: 5

APPLICATION RATE: 1.2

TRENCHES:	LINEAR FEET REQUIRED: <u>138</u>	INLET DEPTH: <u>4</u>
	TRENCH WIDTH: <u>2</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:		

ISSUED BY: Hank Oswald

ISSUE DATE: 5-9-19

EXPIRATION DATE: 5-9-20

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 _____

NOTE: MDE RECOMMENDS SEPTIC TANKS, BAT, AND OTHER PRETREATMENT UNITS BE PUMPED AT A FREQUENCY ADEQUATE TO ENSURE THAT SOLIDS ARE NOT DISCHARGED TO THE DISPOSAL AREA

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

PERMITTEE RESPONSIBLE FOR OBTAINING FINAL APPROVAL ON THIS PERMIT.

CALL 410-313-1771 TO SCHEDULE INSPECTIONS.

NOT TO SCALE

SEE ATTACHED
AS BUILT

ROAD NAME

TRENCH/DRAINFIELD DATA

WIDTH	INLET	BOTTOM
3	4	8
NUMBER OF TRENCHES		3
TOTAL LENGTH		142 F
ABSORPTION AREA		432 SF
DISTRIBUTION BOX LEVEL		N/A
DISTRIBUTION BOX BAFFLE		LPD
DISTRIBUTION BOX PORT		YES

SEPTIC TANK DATA

SEPTIC TANK 1 LEVEL	YES
MANUFACTURER	BABYLON
CAPACITY	1500 GAL
SEAM LOC	TOP
TANK LID DEPTH	< 3'
BAFFLES	YES
BAFFLE FILTER	NO
MANHOLE LOC	FRONT/BACK
6" PORT LOC	
WATERTIGHT TEST	-
SLOTTED	YES
DATE ON LID	
PUMP/SEPTIC TANK LEVEL	YES
MANUFACTURER	BABYLON
CAPACITY	1500 GAL
SEAM LOC	TOP
TANK LID DEPTH	< 3'
BAFFLES	-
BAFFLE FILTER	-
MANHOLE LOC	FRONT/BACK
6" PORT LOC	
WATERTIGHT TEST	-
SLOTTED	-
DATE ON LID	

PRE-CONSTRUCTION:

7/23/2019 LAYOUT OK. TANK, SDA, TRENCHES STAKED. SDA HAS LARGE FILL ON TWO TRENCHES PROXIMAL TO HOUSE. USE LASER LEVEL FROM CENTER OF TRENCHES. (+)

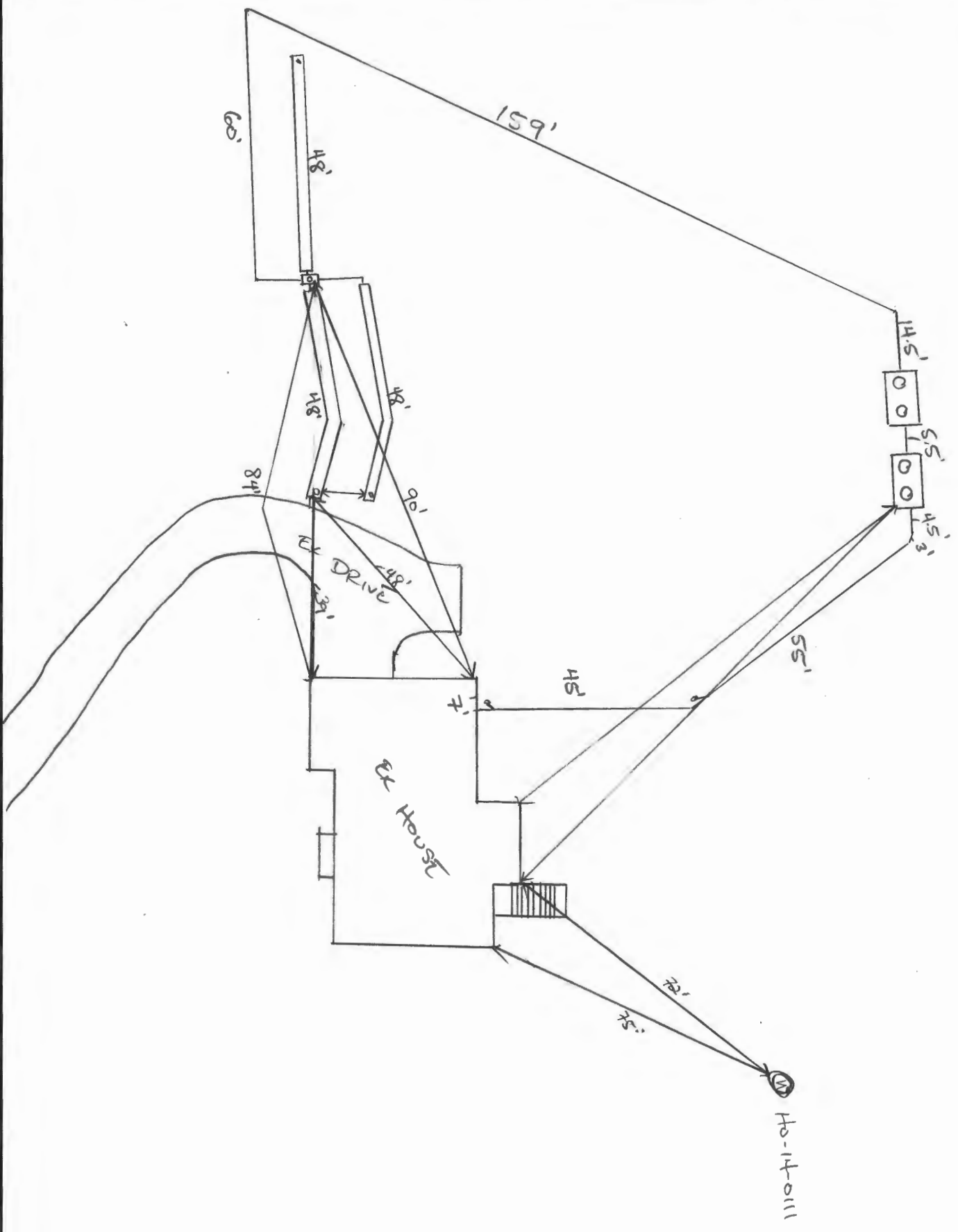
INSTALLATION: 7/23/2019 UPPER DISTAL TRENCH INSTALLED. (+) 7/24/2019 (AM) UPPER PROXIMAL TRENCH OPEN INSPECTION. CONFIRMED BOTTOM DEPTH THROUGH FILL. (+) (PM) TRENCH COMPLETED. (+) 7/26/2019 LOWER TRENCH COMPLETE. OK THROUGH FILL. SHC INSTALLED. TANKS SET. (+) 7/29/2019 FORCE MAIN INSTALLED. REINSF. P/A. (+) 7/30/2019 ALARM FUNCTIONS. PUMP FUNCTIONS. ON SEP. BREAKERS. KNOCK OUT BAFFLE AND GO DOWN INTO BOX. (+)

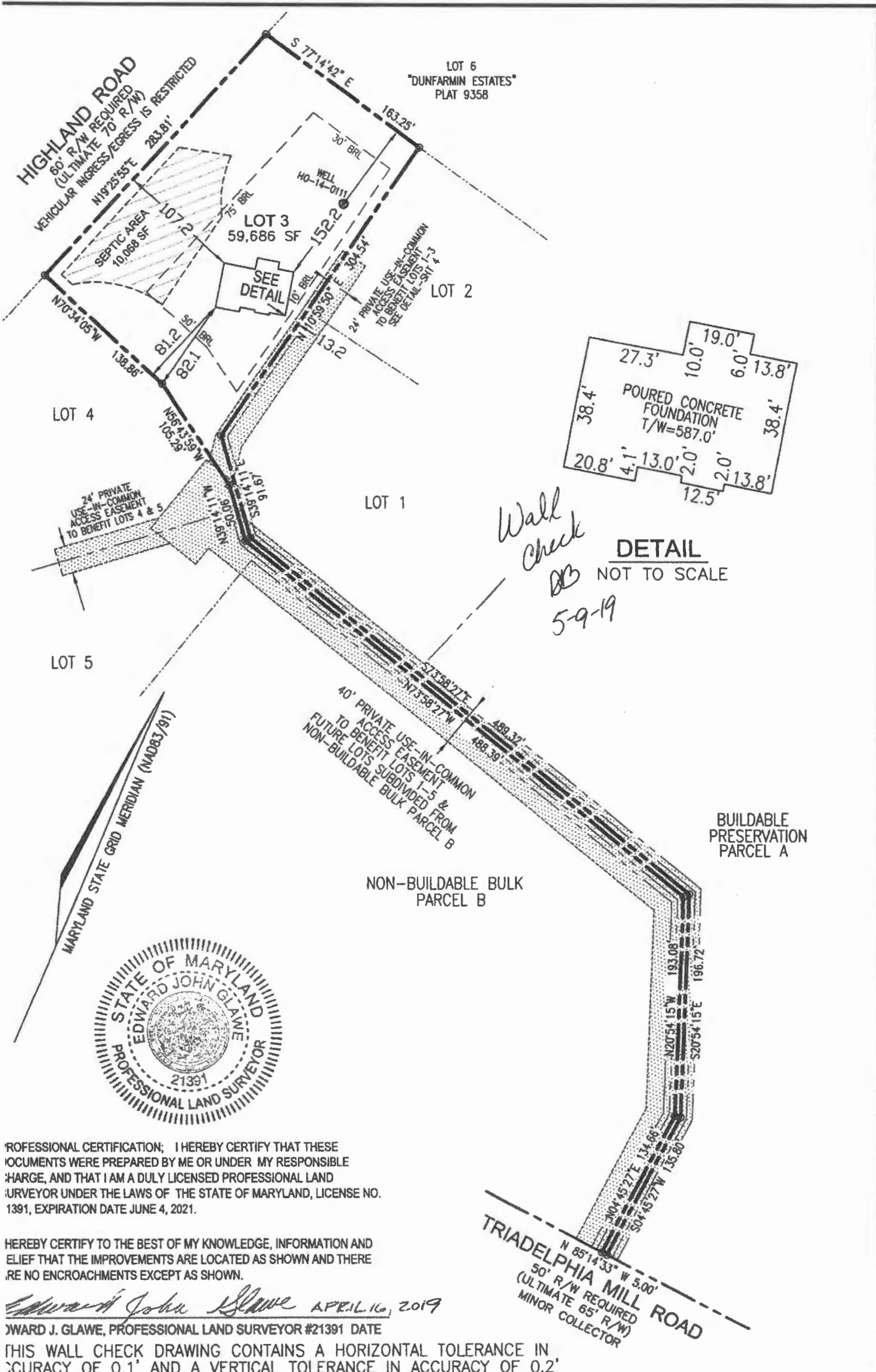
FINAL INSPECTOR

DATE OF APPROVAL

SS29 JACKS LANDING

NOT TO SCALE





PROFESSIONAL CERTIFICATION; I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY ME OR UNDER MY RESPONSIBLE CHARGE, AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21391, EXPIRATION DATE JUNE 4, 2021.

HEREBY CERTIFY TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF THAT THE IMPROVEMENTS ARE LOCATED AS SHOWN AND THERE ARE NO ENCROACHMENTS EXCEPT AS SHOWN.

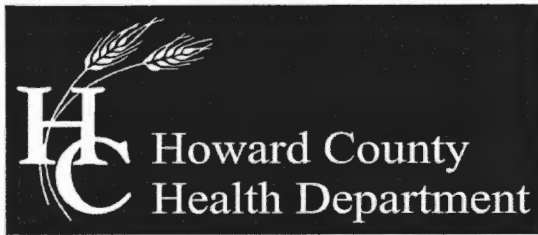
Edward John Glawe APRIL 16, 2019
 EDWARD J. GLAWE, PROFESSIONAL LAND SURVEYOR #21391 DATE

THIS WALL CHECK DRAWING CONTAINS A HORIZONTAL TOLERANCE IN ACCURACY OF 0.1' AND A VERTICAL TOLERANCE IN ACCURACY OF 0.2'

SCALE	DATE
1" = 100'	04/15/19
DRAWN BY	CHECKED BY
E.J.G.	E.J.G.
DRAWING NUMBER	JOB NUMBER

VOGEL ENGINEERING + TIMMONS GROUP
 ENGINEERS - SURVEYORS - PLANNERS
 3300 NORTH RIDGE ROAD
 SUITE 110
 FORT COCKERILL CITY, MARYLAND 21043

WALL CHECK DRAWING
 5529 JACK'S LANDING WAY
 LOT 3
 JACK'S LANDING
 PLAT NUMBER 23953
 FIFTH ELECTION DISTRICT



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 Facebook: www.facebook.com/hocohealth
 Twitter: HowardCoHealthDep

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

SEWAGE DISPOSAL SYSTEM SPECIFICATIONS WORKSHEET

Address: _____

Subdivision: Jacks Landings Lot: 3

Initial system:	Application rate: <u>1.2</u>	Effective area beginning depth: <u>5</u>	Bottom maximum depth: <u>8</u>
1 st Replacement:	Application rate: <u>1.2</u>	Effective area beginning depth: <u>4</u>	Bottom maximum depth: <u>8</u>
2 nd Replacement:	Application rate: <u>1.2</u>	Effective area beginning depth: <u>4</u>	Bottom maximum depth: <u>8</u>

Design Flow = 150 gallons per day per bedroom

Design flow ÷ application rate = square footage of drainfield required

Linear length of trench required = drainfield square footage x sidewall reduction percentage ÷ trench width


Sidewall reduction credit formula:

$$\frac{W + 2}{W + 1 + 2D} \times 100 = \text{Percent of length of standard trench where } W = \text{trench width and } D = \text{depth between effective area beginning depth and trench bottom.}$$

Standard design requirements:

- Trenches must be located to provide room for 3 systems in the disposal area
- All trenches must be equal length unless low pressure dosed
- All trenches must be on contour
- Minimum trench spacing: 10' for all trenches utilizing sidewall reduction credit. Additional spacing may be necessary for any trench using over 3.5' of effective sidewall. In those cases, the spacing formula is 2D + W up to a maximum spacing of 18'.
- Minimum trench spacing for trenches with no sidewall credit (bottom area only) is 6' for a 2' wide trench and 9' for a 3' wide trench (spacing is measured edge to edge)
- Maximum trench length is 100'
- Maximum pipe depth is 4'

Additional requirements:

Approved:  Date: 2/8/18

ERIC A. METZMAN
HELEN L. METZMAN
TM: 28 PARCEL: 308
FENTON ESTATES
PLAT: 4555
L. 1815 / F. 377
LOT: 3
4.67 AC.
USE: RESIDENTIAL
ZONED: RR-DEO

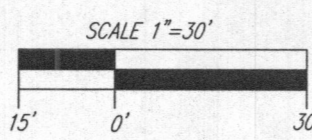
ERIC S. CLAWSON
KIMBERLY P. CLAWSON
TM: 34 PARCEL: 385
FENTON ESTATES
PLAT: 4435
L. 2779 / F. 192
LOT: 1
3.05 AC.
USE: RESIDENTIAL
ZONED: RR-DEO

LON E. BRIGHTBILL
NANCY L. BRIGHTBILL
TM: 34 PARCEL: 292
DUNFARMIN ESTATES
PLAT: 7830
L. 3097 / F. 269
LOT: 6
3.14 AC.
USE: RESIDENTIAL
ZONED: RR-DEO



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. RECONSTRUCTION OF A MODIFIED SEWAGE AREA SHALL NOT BE NECESSARY.

PLAN VIEW
SCALE: 1"=30'



WELL LOCATION CERTIFICATION:
THE EXISTING WELL SHOWN ON THIS PLAN (TAG #10-14-0111) HAS BEEN FIELD LOCATED AND IS ACCURATELY SHOWN

GENERAL NOTES:

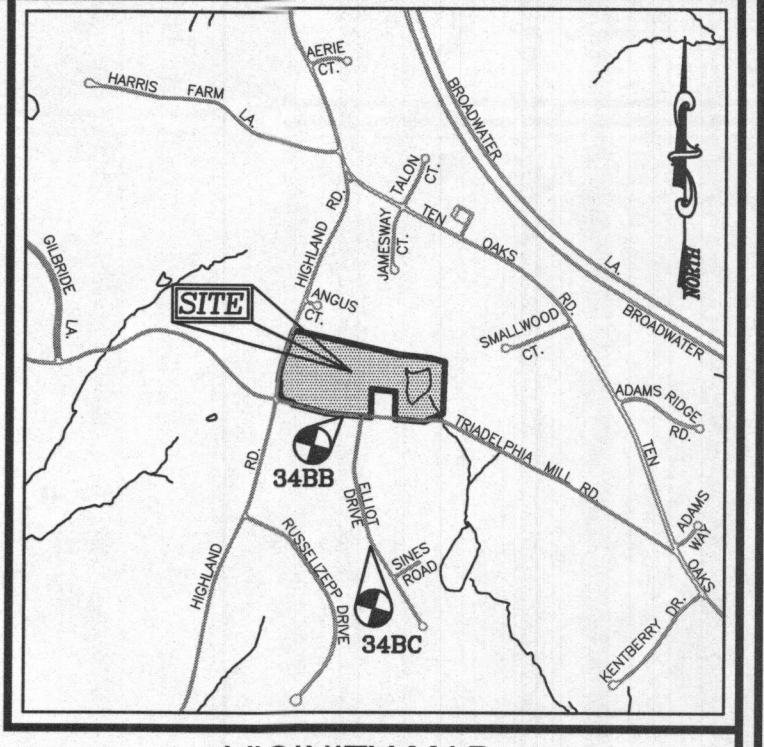
- ANY CHANGE TO THE LOCATIONS OR DEPTHS TO ANY COMPONENTS MUST BE APPROVED BY THE ENGINEER AND THE HOWARD COUNTY HEALTH DEPARTMENT PRIOR TO INSTALLATION. A REVISED SITE PLAN MAY BE REQUIRED.
- THE MAXIMUM EARTH COVER OVER THE TANK IS 3 FEET. GREATER EARTH COVER WILL REQUIRE A HEAVY LOAD BEARING TANK.
- ELECTRICAL WORK FOR THE INSTALLATION MUST BE PERFORMED BY A LICENSED ELECTRICIAN.
- THE PROJECT BOUNDARY SHOWN HEREON IS BASED ON A FIELD RUN BOUNDARY SURVEY PREPARED BY ROBERT H. VOGEL ENGINEERING, INC., DATED NOVEMBER 2013.
- THE EXISTING TOPOGRAPHY SHOWN HEREON IS BASED ON CURRENT HOWARD COUNTY GIS DATA, AND HAS BEEN FIELD VERIFIED TO BE ACCURATE.
- 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.

SYSTEM CALCULATIONS:

INITIAL SYSTEM:
5 BEDROOMS AT 750gpd / 1.2 ABSORPTION RATE = 625 SQ. FT.
625 SQ. FT. / 2 (TRENCH WIDTH) x .44 (SIDEWALL REDUCTION) = 138 LINEAR FEET
138 TOTAL LINEAR FEET OF TRENCH ARE PROVIDED WITH THE INITIAL SYSTEM.
(3 TRENCHES OF 46 FEET IN LENGTH)

FIRST & SECOND REPLACEMENT SYSTEMS:
5 BEDROOMS AT 750gpd / 1.2 ABSORPTION RATE = 625 SQ. FT.
625 SQ. FT. / 2 (TRENCH WIDTH) x .36 (SIDEWALL REDUCTION) = 113 LINEAR FEET
114 TOTAL LINEAR FEET OF TRENCH ARE PROVIDED WITH THE FIRST REPLACEMENT SYSTEM.
(3 TRENCHES OF 38 FEET IN LENGTH)

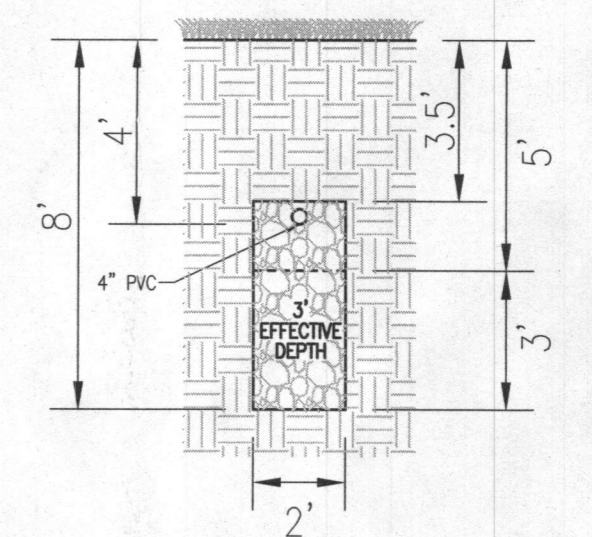
114 TOTAL LINEAR FEET OF TRENCH ARE PROVIDED WITH THE SECOND REPLACEMENT SYSTEM.
(3 TRENCHES OF 38 FEET IN LENGTH)



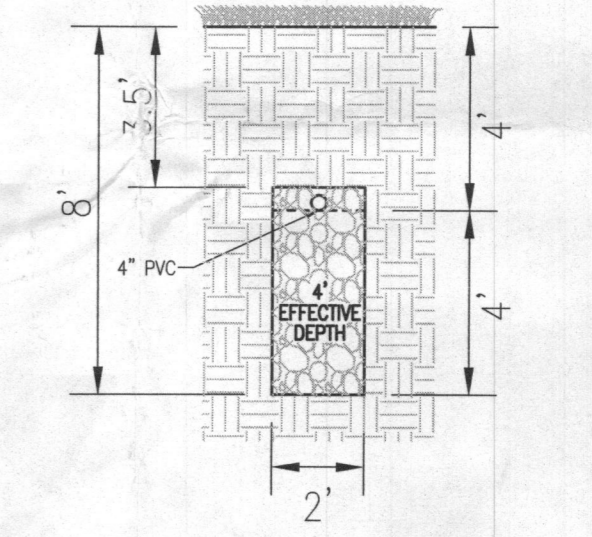
VICINITY MAP
SCALE: 1"=2,000'
ADC MAP COORDINATE: PAGE: 24 GRID: E8

LEGEND:

- PROPERTY LINE
- EXISTING RIGHT-OF-WAY LINE
- PROPOSED RIGHT-OF-WAY LINE
- ADJACENT PROPERTY LINE
- EXISTING CURB AND GUTTER
- EXISTING EDGE OF PAVING
- EXISTING TREE LINE
- EXISTING WOOD FENCE
- EXISTING METAL FENCE
- EXISTING UTILITY POLE
- EXISTING 10' CONTOUR
- EXISTING 2' CONTOUR
- EXISTING USE-IN-COMMON ACCESS EASEMENT
- APPROVED WELL LOCATION (FIELD LOCATED)
- EXISTING PRIVATE SDA
- APPROVED PRIVATE SDA
- APPROVED WELL BOX
- PROPOSED 10' CONTOUR
- PROPOSED 2' CONTOUR
- PROPOSED SPOT ELEVATION
- PASSED PERC. TEST
- FAILED PERC. TEST
- EXISTING SPECIMEN TREE



INITIAL SYSTEM TRENCH DETAIL
NOT TO SCALE



1ST & 2ND REPLACEMENT TRENCH DETAIL
NOT TO SCALE

INITIAL SYSTEM TRENCH INFO

TRENCH	TRENCH LENGTH	TRENCH WIDTH	TRENCH DEPTH	EXISTING GROUND
1	46'	578.89	574.89	582.89
2	46'	578.70	574.70	582.70
3	46'	578.29	574.29	582.29

Approved Septic System Plan
Howard County Health Department
Signature: _____ Date: 12/16/18

OWNER
PREETI BENJAMIN
LYONEL BENJAMIN
2127 ROCKWELL AVE.
CATONSVILLE, MD 21228
(301) 832-4526

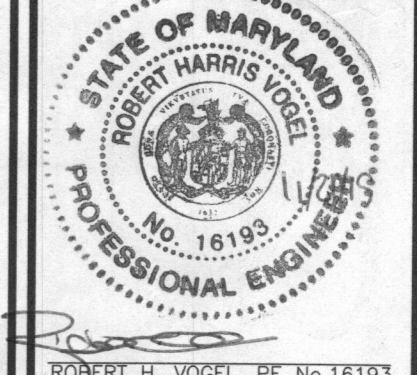
BUILDER
CARUSO HOMES
C/O GARY EVANS
2120 BALDWIN AVE. #200
CROFTON, MD 21114
(301) 832-4526

ONSITE SEWAGE DISPOSAL SYSTEM DESIGN PLAN

JACK'S LANDING - LOT 3
5529 JACKS LANDING WAY
CLARKSVILLE, MD 21029
1.37 AC.
(PLAT: 23952-23955)

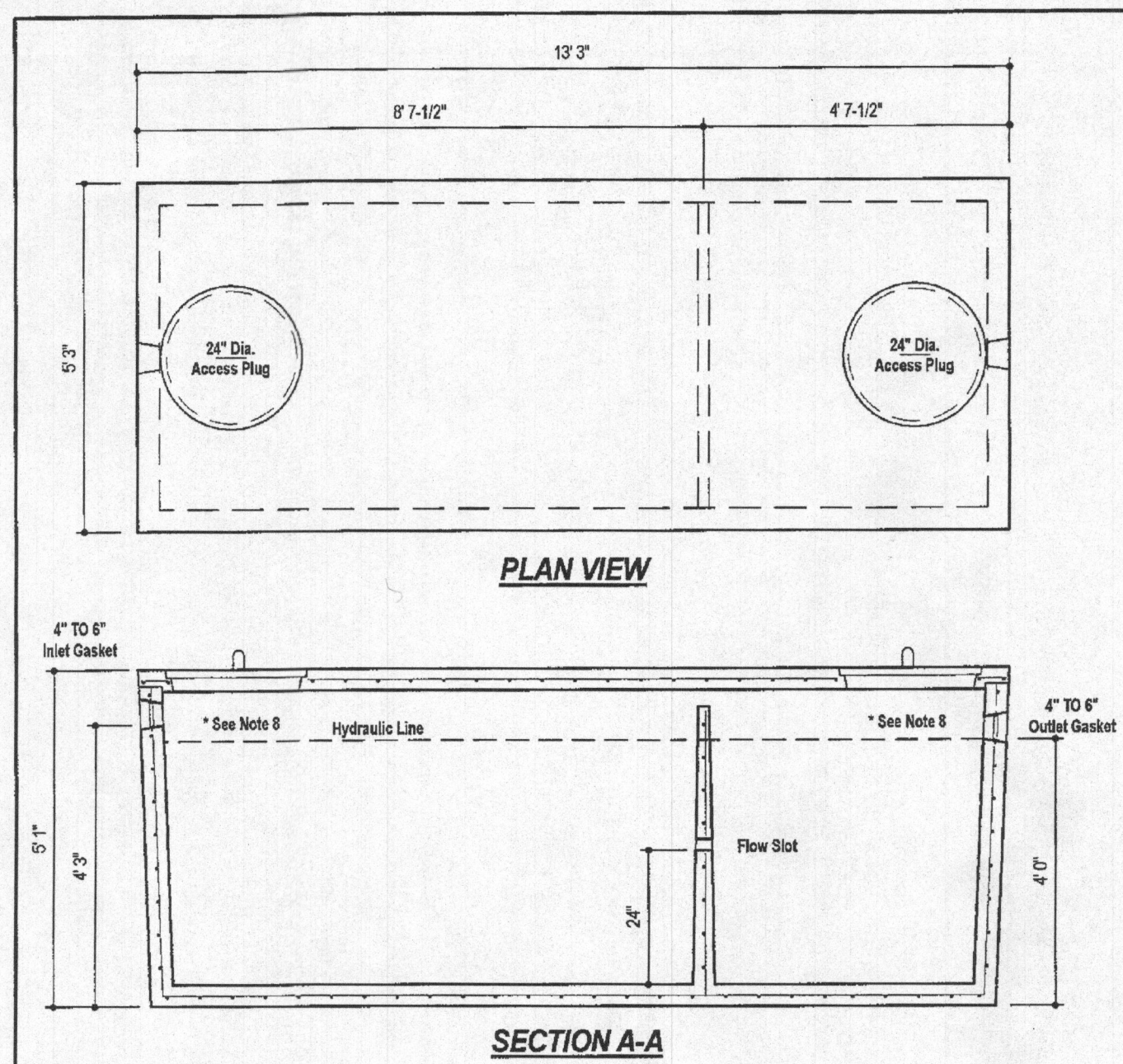
L. 18184 / F. 154
TAX MAP: 34 GRID: 03
5TH ELECTION DISTRICT

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
3300 N. RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21143
TEL: 410.461.7666 FAX: 410.461.8961



DESIGN BY: RHY
DRAWN BY: JMR
CHECKED BY: RHY
DATE: NOVEMBER 2018
SCALE: AS SHOWN
W.O. NO.: 14-33

PROFESSIONAL CERTIFICATE
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. 16193, EXPIRATION DATE: 09-27-2020



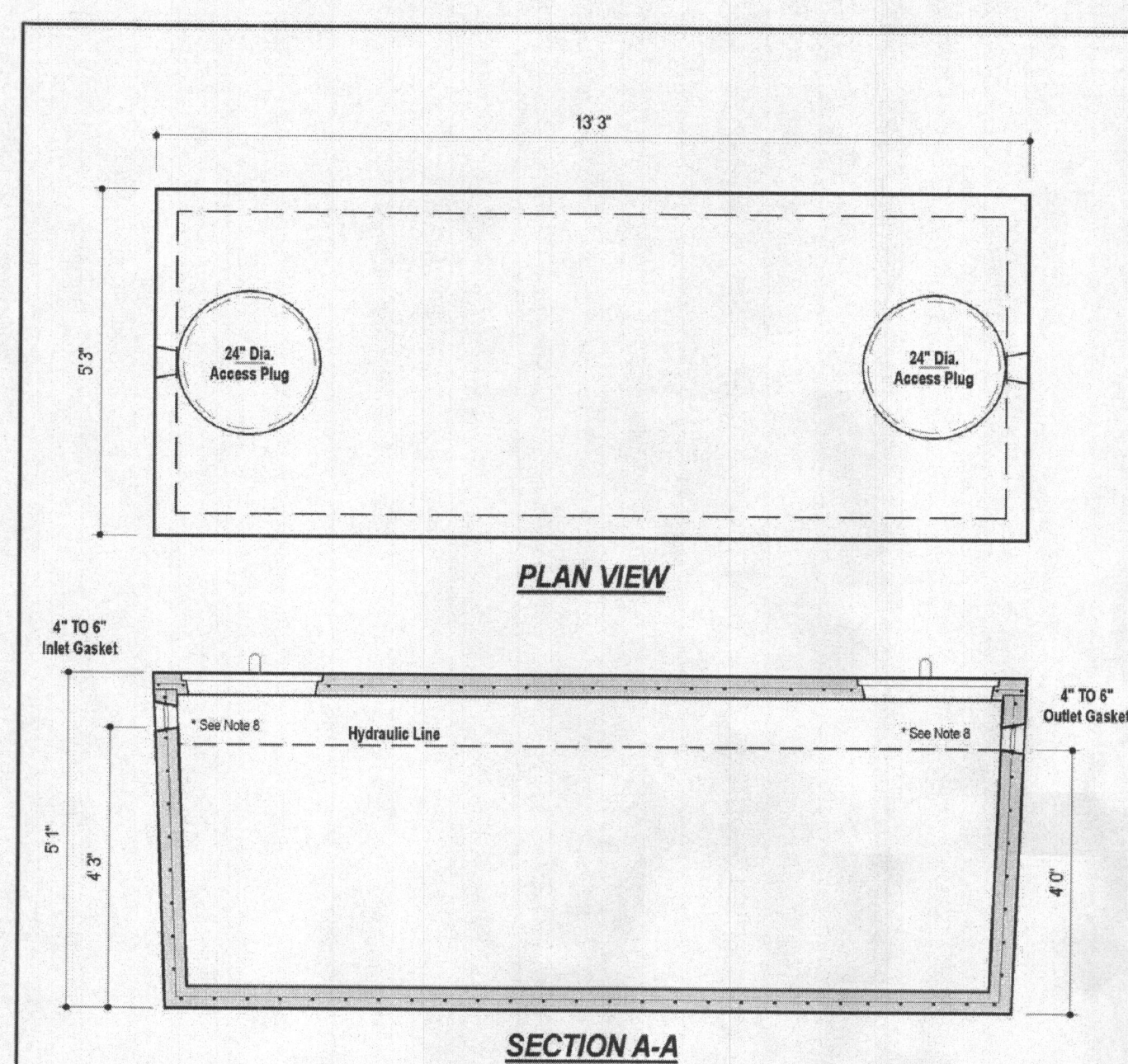
DESIGN DATA & GENERAL NOTES

- Concrete strength $f_c=4,000$ p.s.i. @ 28 days. Density = 150 pcf.
- Cement - Portland Type III per ASTM C 150-82.
- Admixtures & plasticizers per ASTM C 266-86 & C 494-92.
- Reinforcing per ASTM A185. Min. 1-1/2" cover.
- Top slab sealed with butyl rope mastic.
- 4" wall, base, & top thickness.
- Max 1-1/2" of cover.
- Depending on use of tank, inlet & outlet baffles may be required by code.

WEIGHT = 16,750 lbs.

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

Mayer Bros., Inc. 6264 Race Road, Elkridge, Maryland 21075, Tel: 410.796.1434, Fax: 410.796.1438, www.mayerbrosprecast.com



DESIGN DATA & GENERAL NOTES

- Concrete strength $f_c=4,000$ p.s.i. @ 28 days. Density = 150 pcf.
- Cement - Portland Type III per ASTM C 150-82.
- Admixtures & plasticizers per ASTM C 266-86 & C 494-92.
- Reinforcing per ASTM A185. Min. 1-1/2" cover.
- Top slab sealed with butyl rope mastic.
- 4" wall, base, & top thickness.
- Max 3" of cover.
- Depending on use of tank, inlet & outlet baffles may be required by code.

WEIGHT = 16,000 lbs.

1,500 GALLON SEPTIC/PUMP TANK 1-Compartment
NON-TRAFFIC MAX 3 FT. OF COVER
Dwg. No. 1500-1C No Scale Aug. 11, 2008

Mayer Bros., Inc. 6264 Race Road, Elkridge, Maryland 21075, Tel: 410.796.1434, Fax: 410.796.1438, www.mayerbrosprecast.com

Wastewater **Goolds Water Technology**

APPLICATIONS
Specifically designed for the following uses:
• Homes, Farms, Trailer Courts, Motels, Schools, Hospitals, Industry, Effluent Systems

SPECIFICATIONS

Pump

- Solids handling capabilities: 3/4" maximum
- Discharge size: 2" NPT
- Capacities: up to 140 GPM
- Total heads: up to 128 feet TDH
- Temperature: 104°F (40°C) continuous, 140°F (60°C) intermittent.
- See order numbers on reverse side for specific HP, voltage, phase and RPM's available.

MOTORS

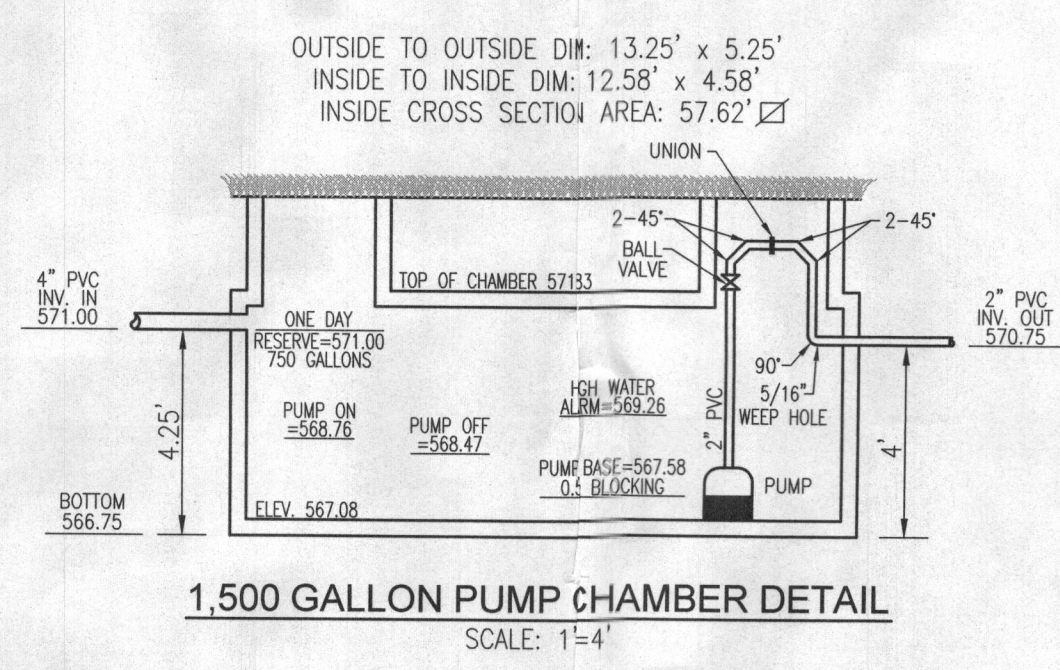
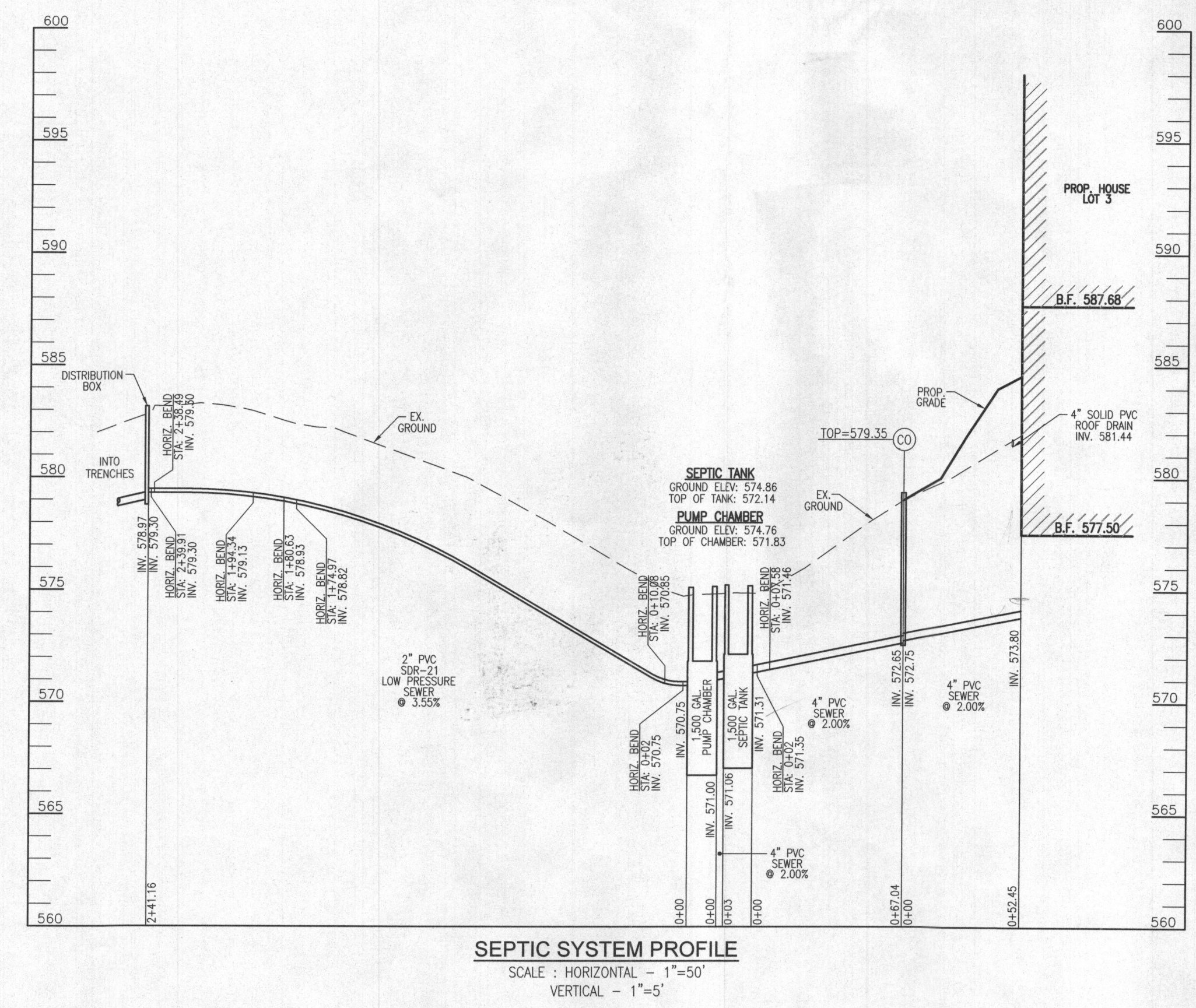
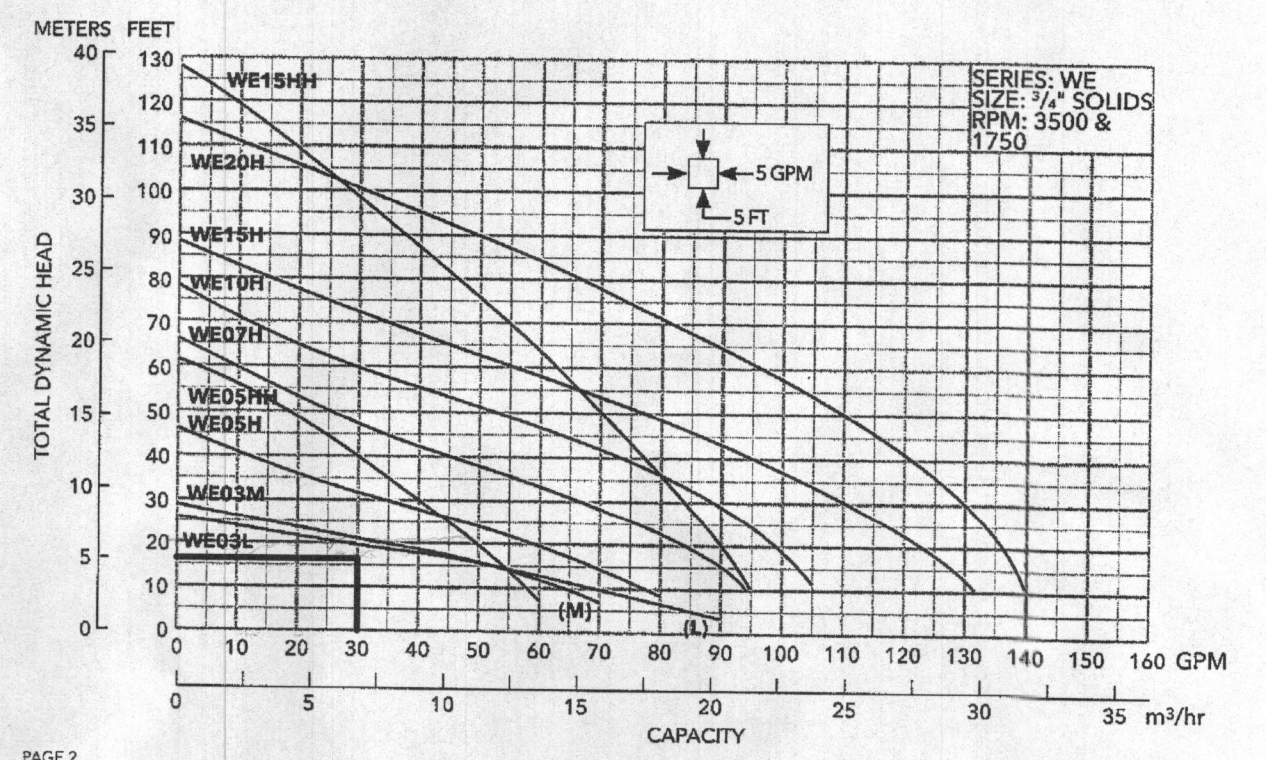
- Fully submerged in high-grade turbine oil for lubrication and efficient heat transfer.
- Class B insulation on 1/2 - 1 1/2 HP models.
- Class F insulation on 2 HP models.

Single phase (60 Hz):

- Capacitor start motors for maximum starting torque.
- Built-in overload with automatic reset.

• SJTOW or STOW severe duty oil and water resistant power cords.
• 1/2 - 1 HP models have NEMA three prong grounding plugs.
• 1 1/2 HP and larger units have bare lead cord ends.
Three phase (60 Hz):
• Class 10 overload protection must be provided in separately ordered starter unit.
• STOW power cords all have bare lead cord ends.
• Designed for Continuous Operation: Pump ratings are within the motor manufacturer's recommended working limits, can be operated continuously without damage when fully submerged.
• Bearings: Upper and lower heavy duty ball bearing construction.
• Power Cable: Severe duty rated, oil and water resistant. Epoxy seal on motor end provides secondary moisture barrier in case of outer jacket damage and to prevent oil wicking. Standard cord is 20'. Optional lengths are available.
• O-ring: Assures positive sealing against contaminants and oil leakage.

AGENCY LISTINGS
Tested to UL 778 and CSA 22.2 100 Standards. By Canadian Standards Association File # 838549



NO. BEDROOMS = 5
DESIGN FLOW = 5(150 GPD) = 750 GPD
DOSE: 1/6 DESIGN FLOW = 125 GPD
125 GALLONS/7.48 FT³/GAL. = 16.71 FT³
16.71 FT³/57.62 SF = 0.29'
ONE DAY RESERVE: 750 GALLONS/7.48 FT³/GAL. = 100.27 FT³
100.27 FT³/57.62 SF = 1.74 FT

TDH (FRICTION + STATIC)
FRICTION FITTINGS: UNION: 2 VALVE: 1.3
45° ELBOW (H+V): 6x11 = 88
90° ELBOW: 7x1 = 7
FITTING EQ. LENGTH: 98.3 LF
PIPE LENGTH: 241.2 LF
TOTAL LENGTH: 339.5 LF

FRICTION LOSS (30 GPM): (1.54)(339.5)/100 = 5.23'
STATIC: 579.30-568.47 (PUMP OFF) = 10.82'
TDH: 10.82+5.23 = 16.05'
USE GOOLDS WE03 (OR EQUIVALENT)

OWNER
PREETI BENJAMIN
LYONEL BENJAMIN
2127 ROCKWELL AVE.
CATONSVILLE, MD 21228
(301) 832-4526

BUILDER
CARUSO HOMES
C/O GARY EVANS
2120 BALDWIN AVE., #200
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DESIGN BY: RHY
DRAWN BY: JMR
CHECKED BY: RHY
DATE: NOVEMBER 2018
SCALE: AS SHOWN
W.O. NO.: 14-33

2 SHEET OF 2