

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: 10/08/2021 ONSITE SEWAGE DISPOSAL SYSTEM

P 570189

APPROVAL DATE: 01/04/2022 PERMIT: CONSTRUCTION

A

PROPERTY ADDRESS: 18403 Hidden Creek Way, Mt. Airy 21771

SUBDIVISION: Windsor Forest Knolls LOT: 15 TAX ID: 04-373316

CONTRACTOR: FARM AND HOME EMAIL:

CONTRACTOR ADDRESS: 907 DRIVER ROAD MARIOTTVILLE MD PHONE:

PROPERTY OWNER: Keystone Custom Homes, INC EMAIL:

OWNER ADDRESS: 2274 Granite Run Dr. PHONE: 717-464-9060

SEPTIC TANK SIZE (GALLONS): 2000 TANK MANUFACTURER: Mayer Bros

PUMP MODEL: Zoeller Pump 371 PUMP SIZE 1/3hp PUMP TANK CAPACITY: 2000

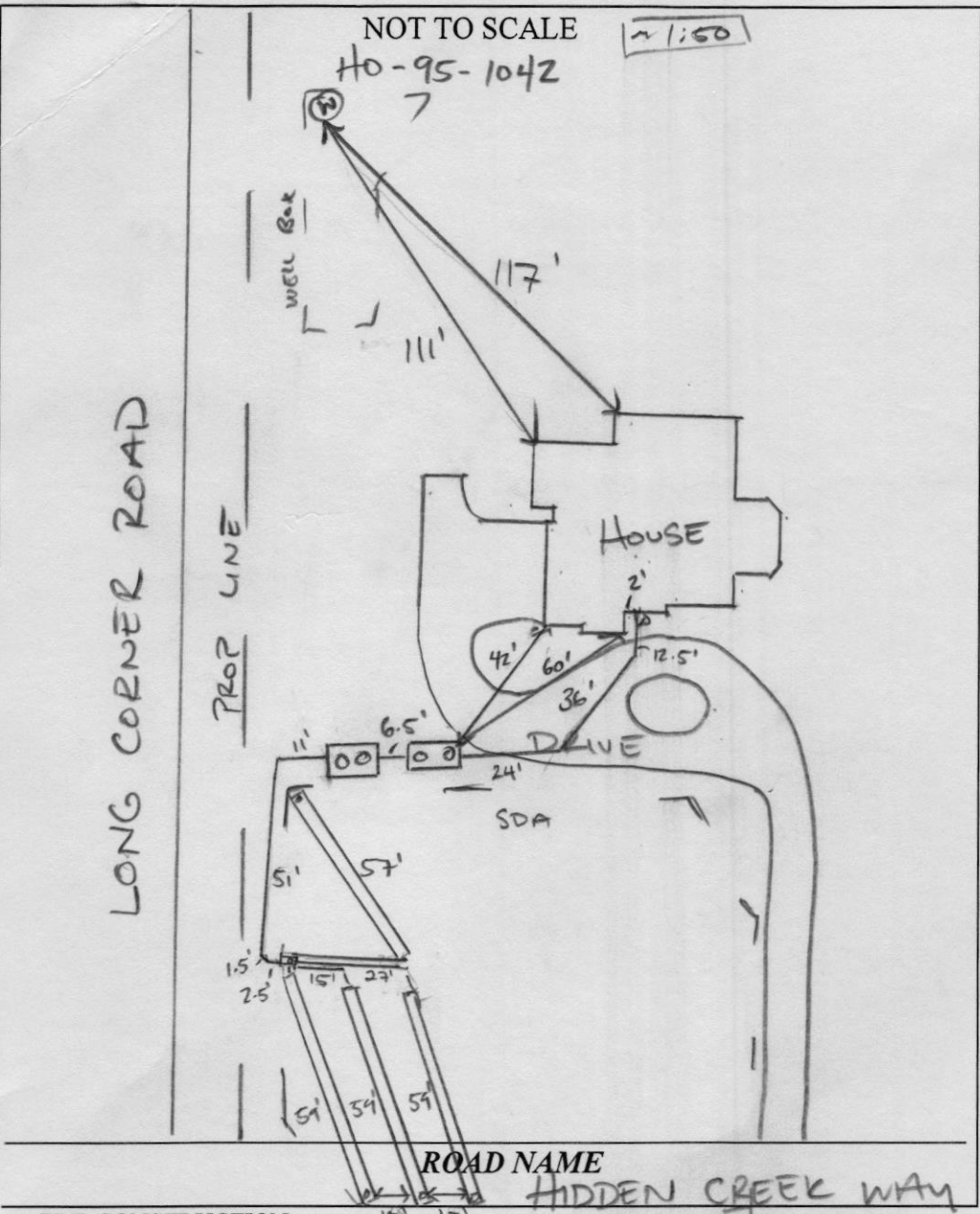
DISTRIBUTION SYSTEM: [X] GRAVITY [] PRESSURE DOSED BEDROOMS: 6 APPLICATION RATE: 0.8

Table with 2 columns: Field Name (TRENCHES, LOCATION, NOTES) and Field Value (Linear feet required, trench width, etc.)

ISSUED BY: Robert Freemon ISSUE DATE: 10/08/2021 EXPIRATION DATE: 10/08/2022

- 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
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.



TRENCH/DRAINFIELD DATA		
WIDTH	INLET	BOTTOM
3'	4'	6'
NUMBER OF TRENCHES		4
TOTAL LENGTH		234 F
ABSORPTION AREA		702 SF + 2' SIDE WALL
DISTRIBUTION BOX LEVEL		PUMP
DISTRIBUTION BOX BAFFLE		CONC
DISTRIBUTION BOX PORT		YES

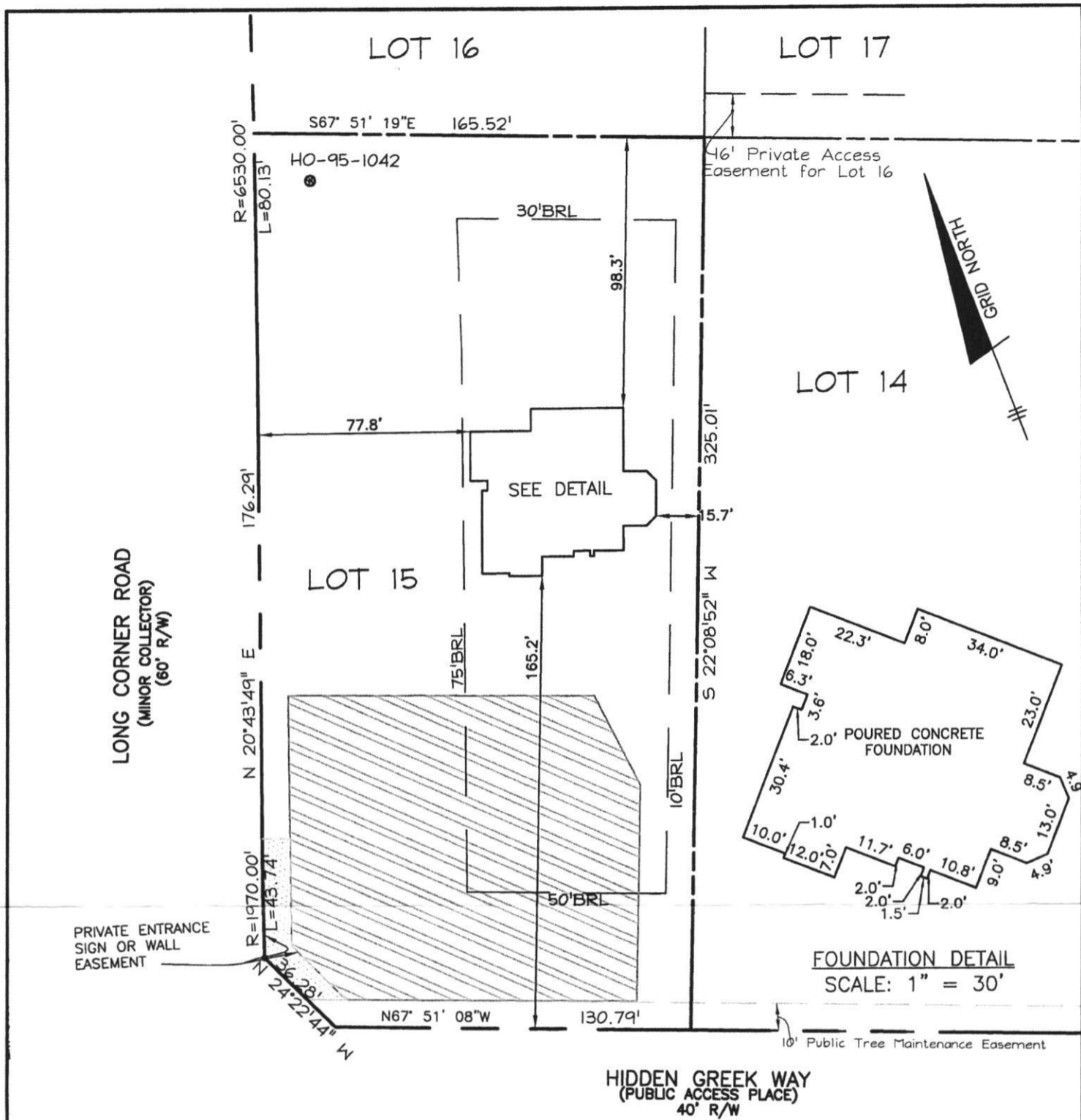
SEPTIC TANK DATA	
SEPTIC TANK 1 LEVEL	YES
MANUFACTURER	BABYLON
CAPACITY	2000 GAL
SEAM LOC	TOP
TANK LID DEPTH	2.5'
BAFFLES	YES
BAFFLE FILTER	-
MANHOLE LOC	FRONT/BACK
6" PORT LOC	-
WATERTIGHT TEST	-
SLOTTED	YES
DATE ON LID	10/12/2021
PUMP/SEPTIC TANK LEVEL	YES
MANUFACTURER	BABYLON
CAPACITY	2000 GAL
SEAM LOC	TOP
TANK LID DEPTH	2.5-3'
BAFFLES	-
BAFFLE FILTER	-
MANHOLE LOC	FRONT/BACK
6" PORT LOC	-
WATERTIGHT TEST	-
SLOTTED	-
DATE ON LID	10/12/2021

TRAFFIC BOARDING

PRE-CONSTRUCTION: 11/09/2021 STRAIGHTENED OUT 4x59' TRS ±6" CONTOUR. BE CAREFUL INSTALLING D BOX IN PROX TO ROAD UTILITY EASE. PROP AND 10D LINES. Ⓟ

INSTALLATION: 11/23/2021 INSTALLED SL AND SET TANKS. Ⓟ
 12/23/2021 TRS COMPLETE. TRN SLIGHTLY SHORT DUE TO LOT CONSTRUCTIONS. Ⓟ
 01/04/2022 P/A OK PUMP FLOW IS GENTLE; ALARM FUNCTIONS ELEMENTS ON SEP. BREAKERS. Ⓟ

FINAL INSPECTOR [Signature] DATE OF APPROVAL 01/04/2022



SURVEYOR'S CERTIFICATE

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. 21320, EXPIRATION DATE 1-7-2023 AND TO THE BEST OF MY PROFESSIONAL KNOWLEDGE, INFORMATION AND BELIEF, THAT THE DIMENSIONS OF THE BUILDING WALLS SHOWN HEREON ARE CORRECT; THAT THEY ARE BASED ON A FIELD RUN SURVEY PERFORMED BY BENCHMARK ENGINEERING, INC. ON 09/21/2021.

TOP OF FOUNDATION WALL = 814.2'
 OFFSET DIMENSIONS TO PROPERTY LINES ARE ± 0.1'

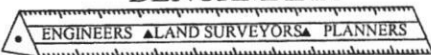
*Wall Check
 OK R/E
 10/8/2021*

Donald A. Mason 9/22/22

DONALD A. MASON
 PROFESSIONAL LAND SURVEYOR
 MARYLAND REG. No. 21320

FEMA FIRM No. 24027C0010D
 ZONE: X
 DATED: 11/6/2013

BENCHMARK



ENGINEERING, INC.

8480 BALTIMORE NATIONAL PIKE SUITE 315
 ELLICOTT CITY, MARYLAND 21043
 (P) 410-465-6105 (F) 410-465-6644

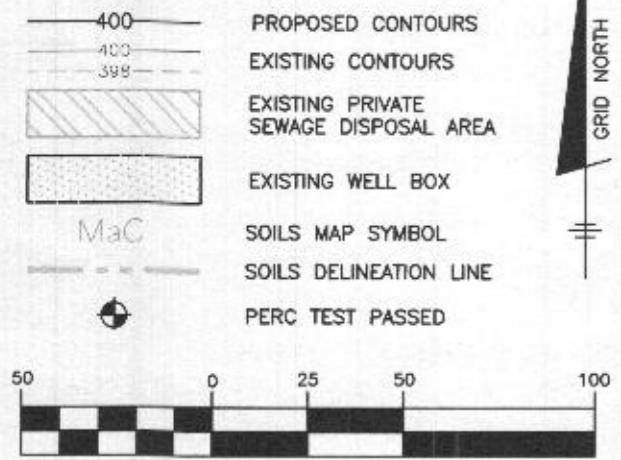
WALL CHECK

**WINDSOR FOREST KNOLLS
 LOTS 1 THRU 18
 PLAT No. 19396
 LOT No. 15**

18403 HIDDEN CREEK WAY

4TH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 FIELD OBS. BY ML
 COMP. BY EWF
 DRAWN BY EWF SCALE: 1" = 50' DATE: 09/21/2021

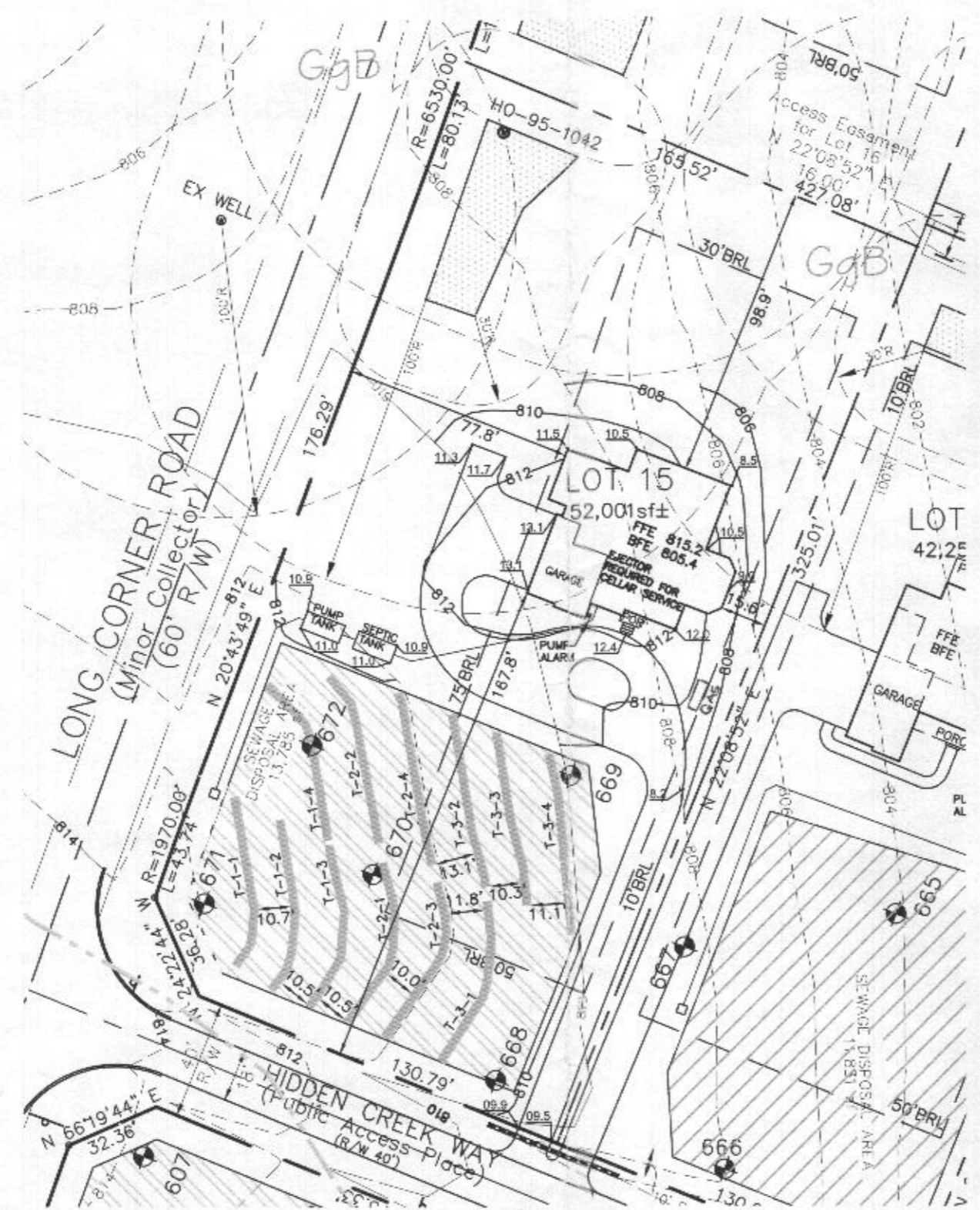
LEGEND



(IN FEET)
1 inch = 50 ft.

GENERAL NOTES

1. THE LOT SHOWN HEREON WAS RECORDED ON THE PLAT FOR WINDSOR FOREST KNOLLS, PLAT NUMBER 19395. REFER TO THE PLAT FOR LOT DIMENSIONS, LOT AREA, ALL EASEMENTS AND CONDITIONS.
2. THE EXISTING WELL SHOWN ON THIS PLAN (HO-95-1042) HAS BEEN FIELD LOCATED BY BENCHMARK ENGINEERING INC. JULY 2020 AND IS ACCURATELY SHOWN.
3. THERE ARE NO EXISTING WELLS OR SEPTIC SYSTEMS WITHIN 100' OF THIS PROJECT'S BOUNDARY EXCEPT AS NOTED.
4. TOPOGRAPHY SHOWN WAS BASED ON FIELD RUN TOPOGRAPHY BY C.B. MILLER & ASSOCIATES IN APRIL, 2002, AND WAS SUPPLEMENTED BY FIELD RUN TOPOGRAPHY BY BENCHMARK ENGINEERING, INC. JULY 2020.
5. SEDIMENT AND EROSION CONTROLS WILL BE SUBMITTED BY HOWARD SOILS CONSERVATION DISTRICT AS A CUSTOM GRADING PLAN.
6. ALL DRAINAGE AND STORMWATER MANAGEMENT FEATURES USED ON THIS SITE MUST COMPLY WITH THE APPROVED BUILDING PERMIT AND CUSTOM GRADING PLANS.
7. ANY CHANGES TO A PRIVATE SEWAGE DISPOSAL AREA OR WELL BOX SHALL REQUIRE A REVISED PERCOLATION CERTIFICATION PLAN.
8. ANY CHANGES 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.
9. ANY ELECTRICAL WORK FOR THE INSTALLATION MUST BE PERFORMED BY A LICENSED ELECTRICIAN.
10. THE SEPTIC TANK WILL BE A 2000 GALLON TWO COMPARTMENT TANK. THE PUMP TANK WILL BE A 2000 GALLON ONE COMPARTMENT TANK.
11. THE MAXIMUM EARTH COVER OVER THE TANK IS 3 FEET. GREATER EARTH COVER WILL REQUIRE A HEAVY LOAD BEARING TANK.
12. ELECTRICAL WORK FOR THE INSTALLATION MUST BE PERFORMED BY A LICENSED ELECTRICIAN.
13. ALL WELLS AND SEPTIC SYSTEMS LOCATED WITHIN 100' OF THE PROPERTY BOUNDARIES AND 200' DOWN GRADIENT OF ANY WELLS/OR SEPTIC SYSTEM HAVE BEEN SHOWN.

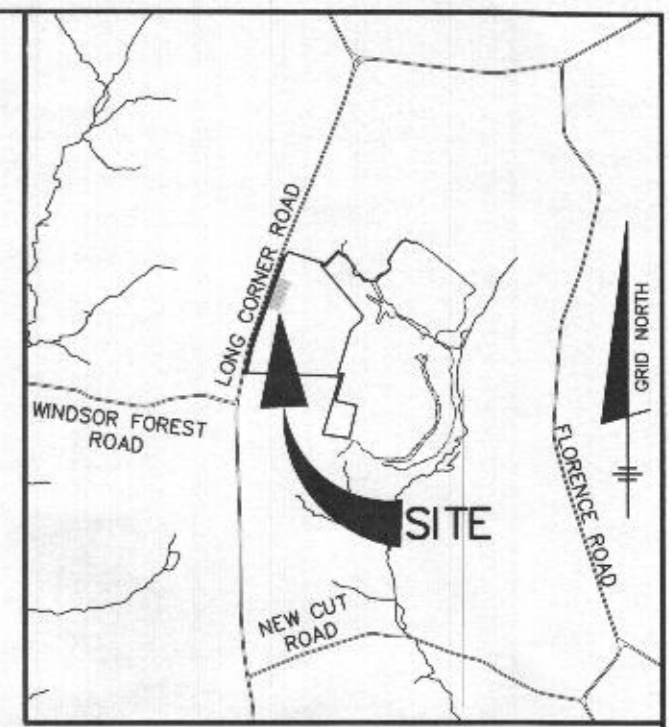


NOTE: CELLAR NOT SERVICED VIA GRAVITY, PUMP REQ'D FOR BASEMENT SERVICE

PLAN VIEW
1" = 50'

OWNER/BUILDER:
KEYSTONE CUSTOM HOMES, INC.
227 GRANITE RUN DR.
SUITE 100
LANCASTER, PA 17601
717-464-9060

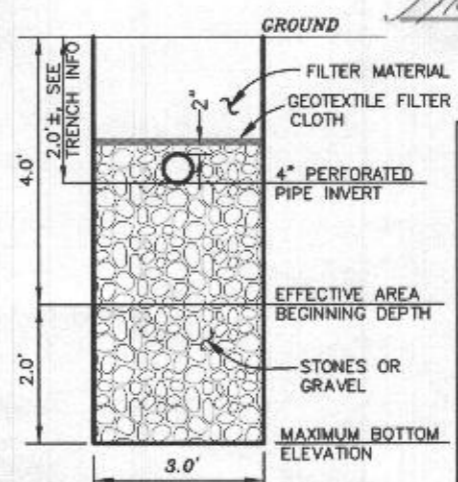
BENCHMARK ENGINEERING, INC.
ENGINEERS ▲ LAND SURVEYORS ▲ PLANNERS
8480 BALTIMORE NATIONAL PIKE ▲ SUITE 315
ELLCOTT CITY, MARYLAND 21043
(P) 410-465-6105 ▲ (F) 410-465-6644
WWW.BEI-CVILENGINEERING.COM



VICINITY MAP
SCALE: 1" = 2000'

Approved Septic System Plan
Howard County Health Department

[Signature] 2/24/2021
Signature Date



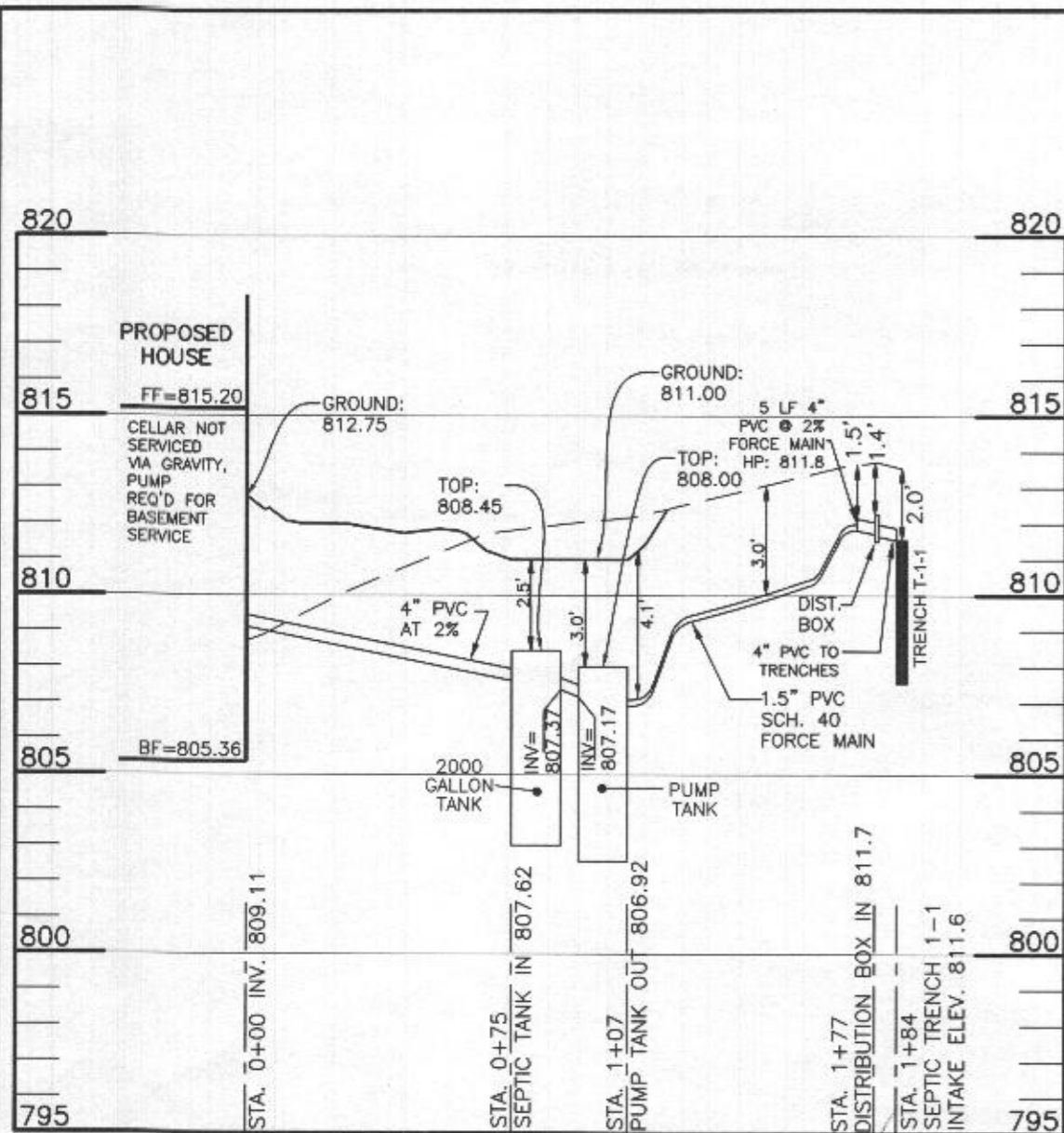
TYPICAL TRENCH DETAIL
ALL SYSTEMS
NOT TO SCALE

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 28376, Expiration Date: 01-01-2023.

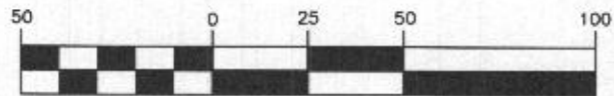


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PROJECT: WINDSOR FOREST KNOLLS LOT 15	
LOCATION: TAX MAP: 6 - GRID: 16 - PARCEL: 57 18403 HIDDEN CREEK WAY, TAX ID# 04-373316 ELECTION DISTRICT NO. 4 - HOWARD COUNTY, MARYLAND	
TITLE: ONSITE SEWAGE DISPOSAL PLAN	
HOUSE TYPE: CUSTOM - KEYSTONE HOMES	
DATE: JANUARY, 2021	PROJECT NO. 2986
SCALE: AS SHOWN	DRAWING 1 OF 4



LOT 15 SEPTIC PROFILE
 SCALE: 1"=50' HORIZ., 1"=5' VERT.



(IN FEET)
 1 inch = 50 ft.

SEPTIC INVERT CHART - Lot 15	
INV @ HOUSE	809.1
GROUND @ HOUSE	812.8
INV IN SEPTIC TANK	807.6
INV OUT SEPTIC TANK	807.4
TOP OF SEPTIC TANK	808.5
GROUND OVER SEPTIC TANK	811.0
INV IN PUMP TANK	807.2
INV OUT PUMP TANK	806.9
TOP OF PUMP TANK	808.0
GROUND OVER PUMP TANK	811.0
INV IN DIST BOX	811.7
INV OUT DIST BOX	811.6
GROUND AT DIST BOX	813.7

INITIAL SYSTEM	
Number of Bedrooms	6
Application Rate	0.8 gpd/sf
Effective Area Beginning Depth	4.0 ft
Bottom Max Depth	6.0 ft
Design Flow	900 gpd
Drainage Field square footage	1125 sf
Sidewall Reduction Credit	0.63
Trench width	3 ft
Effective Area Depth	2 ft
Trench Spacing	10 ft
Trench Length Required	234 lf

1ST REPLACEMENT SYSTEM	
Number of Bedrooms	6
Application Rate	0.8 gpd/sf
Effective Area Beginning Depth	4.0 ft
Bottom Max Depth	6.0 ft
Design Flow	900 gpd
Drainage Field square footage	1125 sf
Sidewall Reduction Credit	0.63
Trench width	3 ft
Effective Area Depth	2 ft
Trench Spacing	10 ft
Trench Length Required	234 lf

2ND REPLACEMENT SYSTEM	
Number of Bedrooms	6
Application Rate	0.8 gpd/sf
Effective Area Beginning Depth	4.0 ft
Bottom Max Depth	6.0 ft
Design Flow	900 gpd
Drainage Field square footage	1125 sf
Sidewall Reduction Credit	0.63
Trench width	3 ft
Effective Area Depth	2 ft
Trench Spacing	10 ft
Trench Length Required	234 lf

TRENCH DESIGN - Lot 15					
INITIAL SYSTEM					
T-1-1	LENGTH	58.6 ft	T-1-2	LENGTH	58.6 ft
	GROUND ELEVATION	813.6		GROUND ELEVATION	813.2
	INVERT ELEVATION	811.6		INVERT ELEVATION	811.2
	MAX BOTTOM ELEVATION	807.6		MAX BOTTOM ELEVATION	807.2
T-1-2	LENGTH	58.6 ft	T-1-4	LENGTH	58.6 ft
	GROUND ELEVATION	812.9		GROUND ELEVATION	812.9
	INVERT ELEVATION	810.9		INVERT ELEVATION	810.9
	MAX BOTTOM ELEVATION	806.9		MAX BOTTOM ELEVATION	806.9
1ST REPLACEMENT SYSTEM					
T-2-1	LENGTH	58.6 ft	T-2-2	LENGTH	58.6 ft
	GROUND ELEVATION	812.5		GROUND ELEVATION	812.5
	INVERT ELEVATION	810.5		INVERT ELEVATION	810.5
	MAX BOTTOM ELEVATION	806.5		MAX BOTTOM ELEVATION	806.5
T-2-3	LENGTH	58.6 ft	T-2-4	LENGTH	58.6 ft
	GROUND ELEVATION	812.1		GROUND ELEVATION	812.1
	INVERT ELEVATION	810.1		INVERT ELEVATION	810.1
	MAX BOTTOM ELEVATION	806.1		MAX BOTTOM ELEVATION	806.1
2ND REPLACEMENT SYSTEM					
T-3-1	LENGTH	58.6 ft	T-3-2	LENGTH	58.6 ft
	GROUND ELEVATION	811.4		GROUND ELEVATION	811.4
	INVERT ELEVATION	809.4		INVERT ELEVATION	809.4
	MAX BOTTOM ELEVATION	805.4		MAX BOTTOM ELEVATION	805.4
T-3-3	LENGTH	58.6 ft	T-3-4	LENGTH	58.6 ft
	GROUND ELEVATION	810.9		GROUND ELEVATION	810.1
	INVERT ELEVATION	808.9		INVERT ELEVATION	808.1
	MAX BOTTOM ELEVATION	804.9		MAX BOTTOM ELEVATION	804.1

Professional Certification, I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 28376, Expiration Date: 01-01-2023.



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HEALTH DEPARTMENT SPEC SHEET INFORMATION - Lot 15			
System	Application Rate	Effective Depth	Bottom Depth
1st System	0.8	4.0	6.0
2nd system	0.8	4.0	6.0
3rd System	0.8	4.0	6.0

OWNER/BUILDER:
 KEYSTONE CUSTOM HOMES, INC.
 227 GRANITE RUN DR.
 SUITE 100
 LANCASTER, PA 17601
 717-464-9060

BENCHMARK
 ENGINEERS ▲ LAND SURVEYORS ▲ PLANNERS
ENGINEERING, INC.
 8480 BALTIMORE NATIONAL PIKE ▲ SUITE 315
 ELLICOTT CITY, MARYLAND 21043
 (P) 410-465-6105 ▲ (F) 410-465-6644
 WWW.BEI-CIVILENGINEERING.COM

PROJECT:	WINDSOR FOREST KNOLLS LOT 15		
LOCATION:	TAX MAP: 6 - GRID: 16 - PARCEL: 57 18403 HIDDEN CREEK WAY, TAX ID# 04-373316 ELECTION DISTRICT NO. 4 - HOWARD COUNTY, MARYLAND		
TITLE:	ONSITE SEWAGE DISPOSAL PLAN		
HOUSE TYPE:	CUSTOM - KEYSTONE HOMES		
DATE:	JANUARY, 2021	PROJECT NO.	2986
SCALE:	AS SHOWN	DRAWING	2 OF 4

Pumping Station

Diameter of Force Main and Manifold = 1.5" PVC SCH. 40
 Length of Force Main = 89 feet SCH.40 gallons/100 feet = 10.6 Table 4.2

Volume of Main = 7.3 gallons

Total Volume = 7.3 gallons

Minimum Dose must be greater than 1/6 of the design flow 150 gallons

Minimum Dose must be greater than the volume of the main 7 gallons

Use minimum dose of 159.5 gallons okay Doses per Day = 5.642633

Size Pump Chamber

Pump chamber must be able to hold one dose and one days design flow

One day Capacity = 900 gallons
 Dose = 159.5 gallons
 Totals = 1059.5 gallons

Use 2,000 gallon pump tank

Tank Dimensions:	Exterior	Interior	Walls:	
Length:	13.75 feet	13.08 feet	Bottom:	0.33 feet
Width:	6.25 feet	5.58 feet	Top:	0.42 feet
Height:	5.42 feet	4.67 feet	Bottom to	
		Area:	Inlet:	4.58 feet
		Volume:		340.89 cf

Sizing the Pump

Flow: runtime = 5.500 minutes
 rate = 29.00 gallons/minute

Design Head: Design Head = Static Head + Friction Head
 Static Head = highest elevation of main - pump off elevation
 Highest component of system = 811.1 Main HP
 Pump off elevation = 804.30
 Static Head = 6.80 feet

Friction Head = Head loss due to pipe friction
 1.5" pipe = 89 feet
 90° bends 3 loss for bend 15 feet per table 4.3
 45° bends 2 loss for bend 6 feet per table 4.3

Friction loss per table 4.4 = 4.926 (ft/100 ft)

Equivalent Length = 90 Friction loss 4.43 feet

Total Friction Head = 4.43

Design Head = 11.23 feet

Pump Requirements:

Performance = 29.00 gpm
 Head of Water = 11.23 feet of head

Pump Selection: Zoeller Pump Company, Model 371
 1/3 horse power

Pump Flow Rate = 30.30 gallons/minute per rating curve. Run time: 5.26 Minutes
 TDH analysis 11.58 ft
 Between design and curve? Yes

Design Pump Chamber

Ground over Tank = 811.00 Cover = 3.00 ft
 Top of Tank = 808.00
 Invert of Tank = 802.91
 6" Riser = 0.50 feet
 Pump Height = 0.84 feet

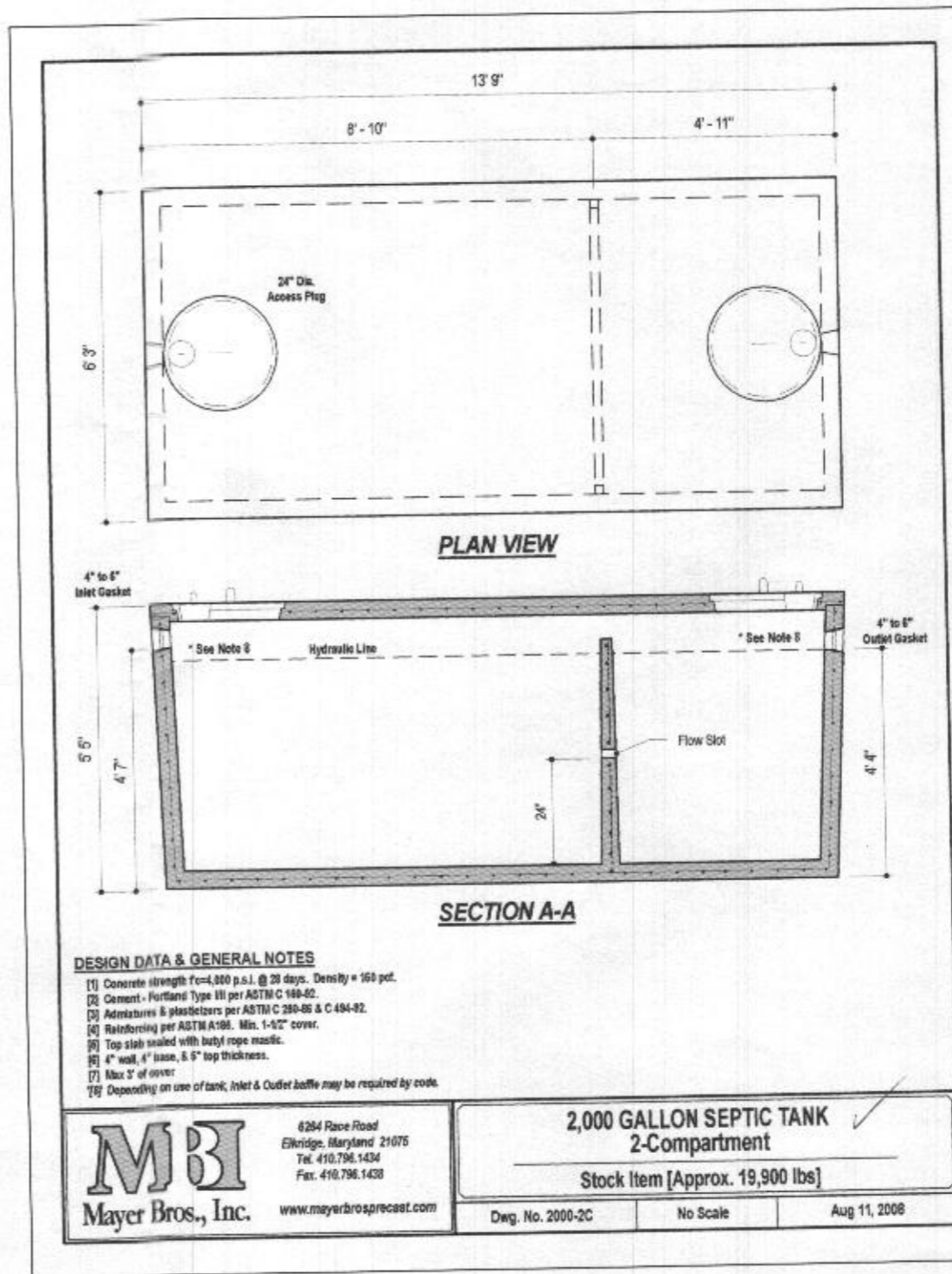
Min. Pump off = 804.25
 Selected Pump off = 804.30

Dose = 21.3 cf
 Area of Pit = 73.05 sf

Pump on dist. = 0.29
 Pump on Elev. = 804.59

Distance between Pump on and Highwater Alarm = 0.5 feet
 Highwater Alarm Elevation = 805.09

Dist. for day stored above alarm 1.65
 Minimum Inlet Elev. = 806.74
 Tank Inlet = 807.18 Okay
 Dist. Alarm to Inlet = 2.07 Okay



DESIGN DATA & GENERAL NOTES

- [1] Concrete strength f'c=4,000 p.s.i. @ 28 days. Density = 160 pcf.
- [2] Cement - Portland Type III per ASTM C 150-92.
- [3] Admixtures & plasticizers per ASTM C 260-95 & C 494-92.
- [4] Reinforcing per ASTM A106. Min. 1-1/2" cover.
- [5] Top slab sealed with butyl rope mastic.
- [6] 4" wall, 4" base, & 6" top thickness.
- [7] Max 3" of cover.
- [8] Depending on use of tank, Inlet & Outlet bottle may be required by code.

MBI
 Mayer Bros., Inc.
 6284 Race Road
 Elkridge, Maryland 21075
 Tel. 410.796.1434
 Fax. 410.796.1438
 www.mayerbrosprecast.com

2,000 GALLON SEPTIC TANK
2-Compartment

Stock Item [Approx. 19,900 lbs]

Dwg. No. 2000-2C No Scale Aug 11, 2008

SIGNATURE AND SEAL ARE FOR SEPTIC PROFILE AND CALCULATIONS ONLY, TANK, PUMP AND DETAILS WERE NOT DESIGNED OR REVIEWED BY THE ENGINEER:

THIS PLAN IS FOR SEPTIC DESIGN ONLY

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No. 28376, Expiration Date: 01-01-2023.



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SEE MANUFACTURER'S SPECIFICATIONS FOR DETAILS. EQUIVALENT FROM OTHER MANUFACTURERS CAN BE SUBSTITUTED.

OWNER/BUILDER:

KEYSTONE CUSTOM HOMES, INC.
 227 GRANITE RUN DR.
 SUITE 100
 LANCASTER, PA 17601
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PROJECT: WINDSOR FOREST KNOLLS LOT 15

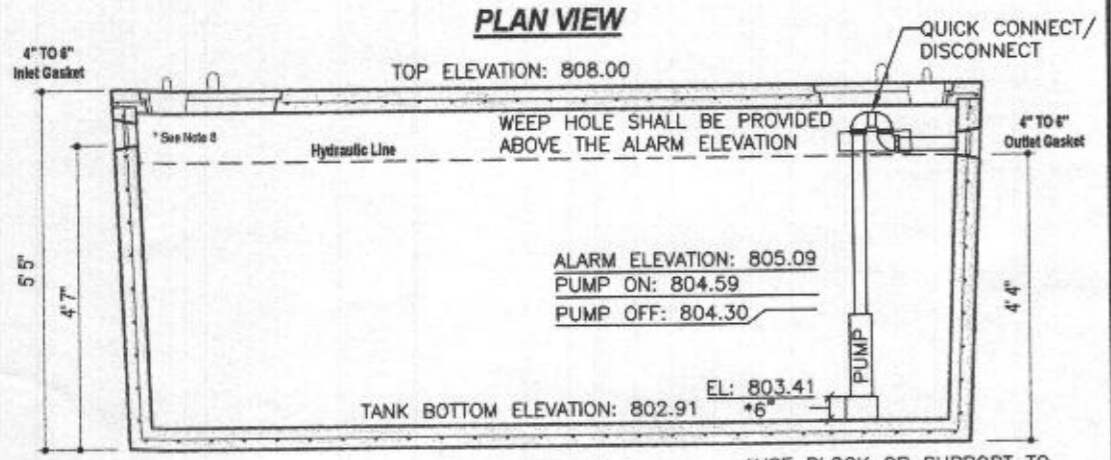
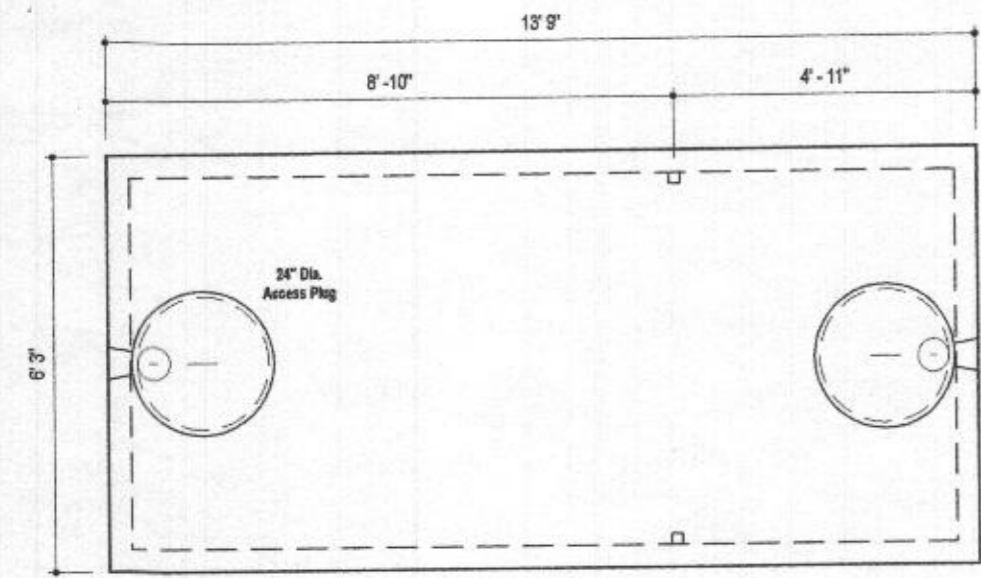
LOCATION: TAX MAP: 6 - GRID: 16 - PARCEL: 57
 18403 HIDDEN CREEK WAY, TAX ID# 04-373316
 ELECTION DISTRICT NO. 4 - HOWARD COUNTY, MARYLAND

TITLE: ONSITE SEWAGE DISPOSAL PLAN

HOUSE TYPE: CUSTOM - KEYSTONE HOMES

DATE: JANUARY, 2021 PROJECT NO. 2986

SCALE: AS SHOWN DRAWING 3 OF 4



- 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 150-52.
 - Admixtures & plasticizers per ASTM C 260-95 & C 494-92.
 - Reinforcing per ASTM A195. Min. 1-1/2" cover.
 - Top slab sealed with butyl rope mastic.
 - 4" wall, 4" base, & 8" top thickness.
 - Max 3" of cover
 - Depending on use of tank, inlet & Outlet baffles may be required by code.

WEIGHT = 19,000 lbs.

<p>6264 Race Road Elkridge, Maryland 21075 Tel. 410.796.1434 Fax. 410.796.1438 www.mayerbrosprecast.com</p>	2,000 GALLON SEPTIC TANK 1-Compartment Stock Item [Approx. 19,000 lbs]	
	Dwg. No. 2000-1C	Aug. 11, 2008

Your Peace of Mind is Our Top Priority

ZOELLER PUMP COMPANY
 Zoeller Family of Water Solutions

TECHNICAL DATA SHEET
EVAPORATIVE COOLING PUMPS
 Models 371, 372, 373 Submersible Effluent/Dewatering Pump

PRODUCT SPECIFICATIONS	
MOTOR	Motor Power: 1/2 HP Voltage: 115 or 230 Phase: 1 PH Horse: 60 hp RPM: 1740-3420 Type: Permanent split capacitor or shaded pole Protection: Class B Amps: 3.3 - 8.7
PUMP	Operation: Nonautomatic Discharge Size: 1-1/2" NPT Solid Handling: 1/2" (2mm) spherical solids Cord Length: 33 ft standard Cord Type: UL listed Max. Head: 26' (8 m) Max. Flow Rate: 180 GPM (301 LPM) Max. Operating Temp: 100°F (40°C) Casing: 2" (51 mm) Motor Protection: Auto reset thermal overload
MATERIALS	Cap: Duct iron Motor Housing: Cast iron Pump Housing: Cast iron Base: Cast iron or galvanized Upper Bearing: Oil-impregnated ball bearing Lower Bearing: Oil-impregnated ball bearing Venturi Seal: Carbon and silicon carbide Impeller Type: Non-clogging vortex Impeller: Engineered plastic Hardware: Stainless steel Motor Shaft: AISI 316L cold rolled steel Cable: Neoprene

(1) See model comparison sheet for specific details.

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 502 778-2721 | 800-826-7887 | 2849 Curve Run Road | Louisville, KY 40219-1801 | www.zoeller.com

TOTAL DYNAMIC HEAD
FLOW PER MINUTE

MODEL	371	372	373
Flow (GPM)	43	185	63
Flow (LPM)	162	700	238
Head (ft)	34	129	45
Head (m)	10	39	14
Flow (GPM)	45	185	63
Flow (LPM)	168	700	238
Head (ft)	32	126	44
Head (m)	9.8	38	13.7
Flow (GPM)	47	185	63
Flow (LPM)	176	700	238
Head (ft)	30	123	43
Head (m)	9.1	37	13.4
Flow (GPM)	49	185	63
Flow (LPM)	184	700	238
Head (ft)	28	120	42
Head (m)	8.5	36	13.1

PUMP PERFORMANCE CURVE
MODELS 371/372/373

RECOMMENDED PUMP:

Model	Head	Stroke	Volts	Ph	Amps	HP	Hz	L/min	kg
371-0002	Single	Non	115	1	3.7	0.5	60	21.0	2.5
371-0004	Single	Non	230	1	4.8	0.5	60	21.6	2.6
372-0001	Single	Non	115	1	6.0	0.5	60	30.0	3.0
372-0004	Single	Non	230	1	7.0	0.5	60	32.0	3.0
373-0002	Single	Non	115	1	8.5	0.5	60	37.0	3.5
373-0004	Single	Non	230	1	9.3	0.5	60	38.0	3.6

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Item	Elev.	Relative to
Float Tree:		
Bottom of Tank	802.91	Bottom
Top of Pump	804.25	1' 4 1/16"
Pump Off	804.30	1' 4 5/8"
Pump On	804.59	1' 8 1/8"
High Alarm	805.09	2' 2 1/8"

SIGNATURE AND SEAL ARE FOR SEPTIC PROFILE AND CALCULATIONS ONLY, TANK, PUMP AND DETAILS WERE NOT DESIGNED OR REVIEWED BY THE ENGINEER:

THIS PLAN IS FOR SEPTIC DESIGN ONLY

SEE MANUFACTURER'S SPECIFICATIONS FOR DETAILS. EQUIVALENT FROM OTHER MANUFACTURERS CAN BE SUBSTITUTED.

OWNER/BUILDER:
 KEYSTONE CUSTOM HOMES, INC.
 227 GRANITE RUN DR.
 SUITE 100
 LANCASTER, PA 17601
 717-464-9060

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PROJECT:	WINDSOR FOREST KNOLLS LOT 15	
LOCATION:	TAX MAP: 6 - GRID: 16 - PARCEL: 57 18403 HIDDEN CREEK WAY, TAX ID# 04-373316 ELECTION DISTRICT NO. 4 - HOWARD COUNTY, MARYLAND	
TITLE:	ONSITE SEWAGE DISPOSAL PLAN	
HOUSE TYPE:	CUSTOM - KEYSTONE HOMES	
DATE:	JANUARY, 2021	PROJECT NO. 2986
SCALE:	AS SHOWN	DRAWING 4 OF 4

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No. 28376, Expiration Date: 01-01-2023.

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