



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: 12-15-20 **ONSITE SEWAGE DISPOSAL SYSTEM** P 572892

APPROVAL DATE: 03/19/2021 **PERMIT: CONSTRUCTION** A _____

PROPERTY ADDRESS: 1904 DAVIS BRANCH ROAD, WOODSTOCK, MD 21163

SUBDIVISION: MYRTUE PROPERTY LOT: 17 TAX ID: 03-352501

CONTRACTOR: Bill Ingram Farm & Home Exc. EMAIL: _____

CONTRACTOR ADDRESS: 901 River Road, Marrotsville, MD 2104 PHONE: 410-442-2139

PROPERTY OWNER: SONSHINE MD LP EMAIL: greinsmith@keystonecustomhomes.

OWNER ADDRESS: 227 GRANITE RUN DRIVE, SUITE 100, LANCASTER, PA 17601 PHONE: (717)464-9060

SEPTIC TANK SIZE (GALLONS): 2000 TANK MANUFACTURER: MAYER BROS., INC.

PUMP MODEL: ZOELLER BN153 PUMP SIZE: 0.5 PUMP TANK CAPACITY: 2000

DISTRIBUTION SYSTEM: GRAVITY PRESSURE DOSED BEDROOMS: 6 APPLICATION RATE: 1.2

TRENCHES:	LINEAR FEET REQUIRED: <u>89</u>	INLET DEPTH: <u>2.0</u>
	TRENCH WIDTH: <u>3</u>	MAXIMUM BOTTOM DEPTH: <u>7.5</u>
	MINIMUM SPACE BETWEEN TRENCHES: <u>13</u>	EFFECTIVE AREA BEGINNING DEPTH: <u>2.5</u>
LOCATION:	PER APPROVED SITE PLAN. SEWAGE DISPOSAL AREA AND TANK LOCATIONS MUST BE STAKED BY LICENSED SURVEYOR PRIOR TO PRE-CONSTRUCTION INSPECTION.	
NOTES:	<p>THE TEMPORARY SEDIMENT TRAP NEXT TO THE PROPOSED LOCATION FOR THE SEPTIC TANK MUST BE REMOVED AND GRADED PRIOR TO INSTALLATION OF THE SEPTIC TANK AND PUMP TANK.</p> <p>A PUMP AND ALARM INSPECTION MUST BE CONDUCTED AND HAVE SATISFACTORY RESULT PRIOR TO HEALTH DEPARTMENT RELEASE OF USE AND OCCUPANCY.</p>	

ISSUED BY: R BRICKER ISSUE DATE: 1-6-21 EXPIRATION DATE: 12-15-21

- 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.

① H10-95-1232

NOT TO SCALE

TRENCH/DRAINFIELD DATA

WIDTH INLET BOTTOM

3' 2' 7.5'

NUMBER OF TRENCHES 2

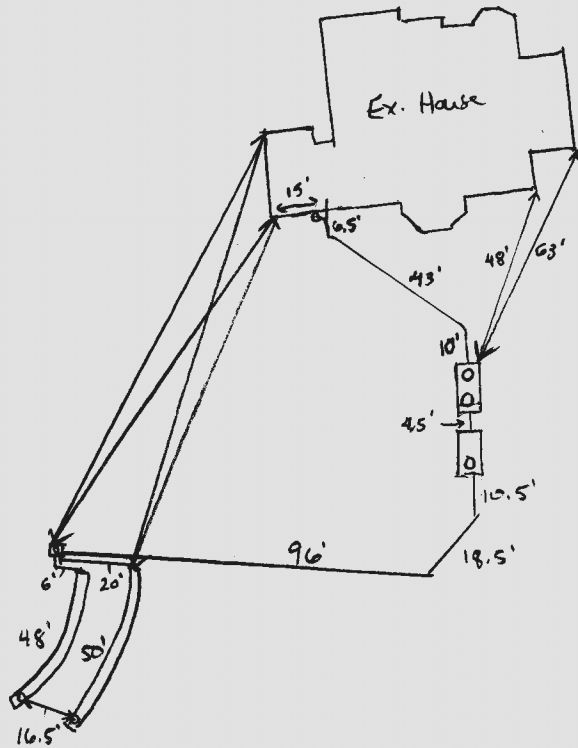
TOTAL LENGTH 98'

ABSORPTION AREA ~~294 SF~~

DISTRIBUTION BOX LEVEL N/A

DISTRIBUTION BOX BAFFLE YES

DISTRIBUTION BOX PORT YES



ROAD NAME

SEPTIC TANK DATA

SEPTIC TANK 1 LEVEL yes

MANUFACTURER Babylon

CAPACITY 2000' GAL

SEAM LOC top

TANK LID DEPTH 1.5'

BAFFLES inlet + outlet

BAFFLE FILTER -

MANHOLE LOC inlet + outlet

6" PORT LOC -

WATERTIGHT TEST -

SLOTTED yes

DATE ON LID 11-6-20

PUMP/SEPTIC TANK LEVEL yes

MANUFACTURER Babylon

CAPACITY 2000' GAL

SEAM LOC top

TANK LID DEPTH 2'

BAFFLES inlet

BAFFLE FILTER -

MANHOLE LOC outlet

6" PORT LOC -

WATERTIGHT TEST -

SLOTTED no

DATE ON LID 12-15-20

PRE-CONSTRUCTION:

1/19/21 Laid out 2x46' trenches according to plan.

INSTALLATION: 1/19/21 Sewer line constructed and connected to 2 tanks. (ST)

1/22/2021 FM INSTALLED, TRENCHES COMPLETE; REINSPECT PUMP AND

ALARM (P) 02/05/2021 PUMP/ALARM OK. (P)

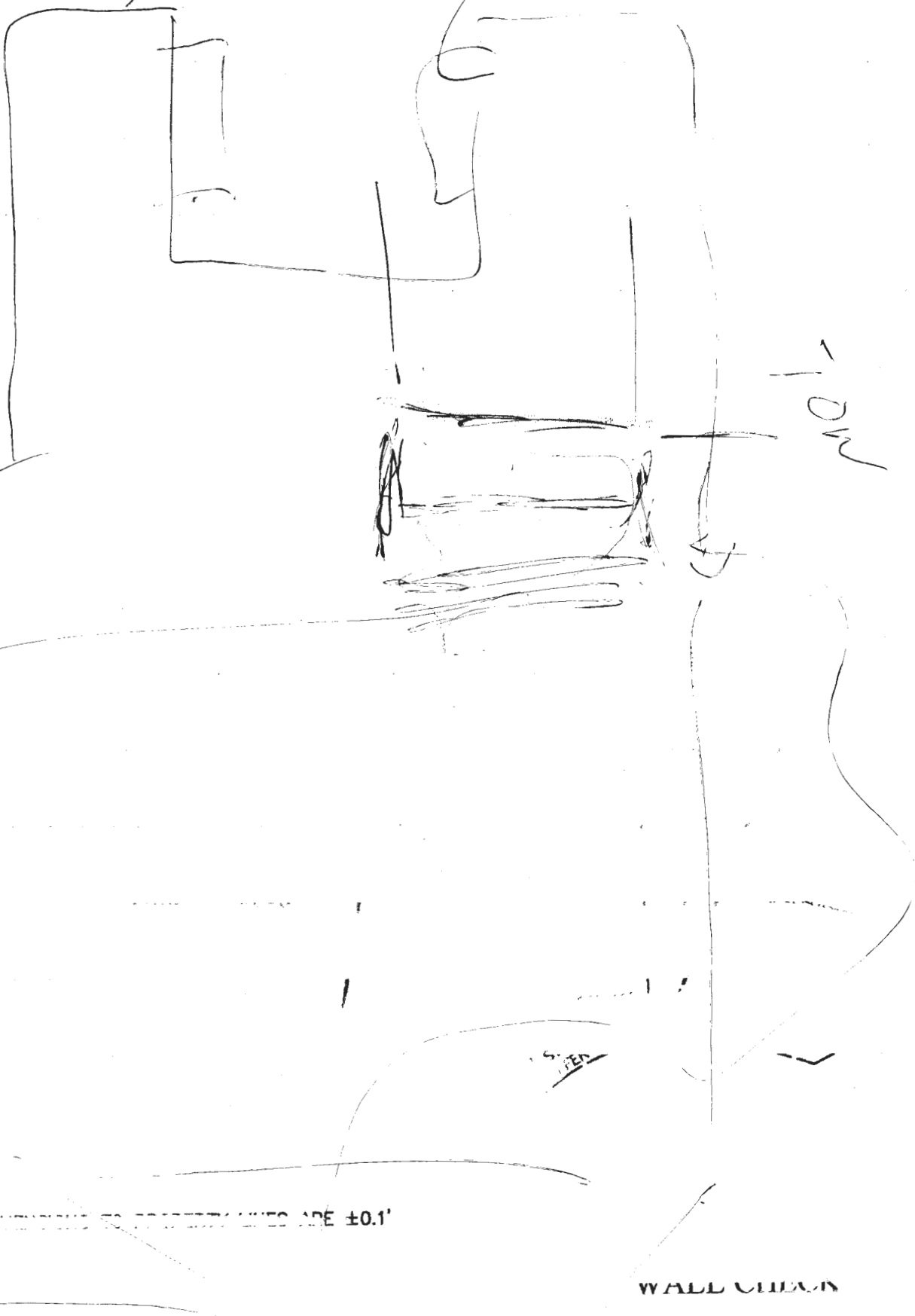
FINAL INSPECTOR

[Handwritten Signature]

DATE OF APPROVAL

03/19/2021

DEC 14 2020



PROPERTY LINES ARE ±0.1'

WALL CHECK

LOT NO. 21

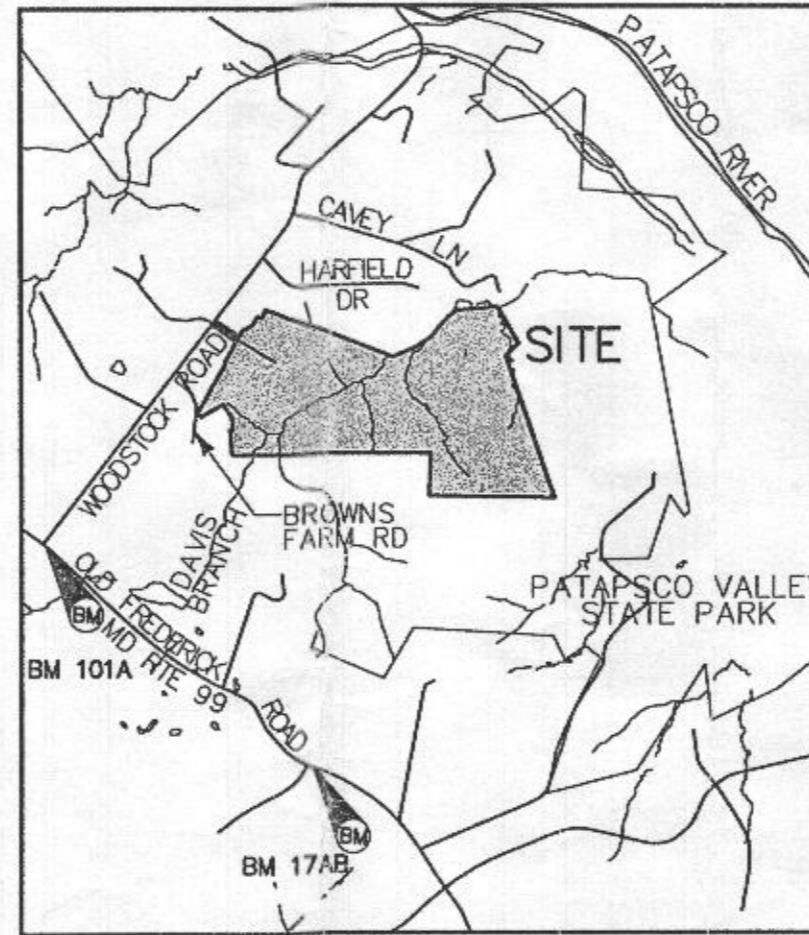


GENERAL NOTES

1. THE LOT SHOWN HEREON WAS RECORDED ON THE PLAT FOR MYRTUE PROPERTY, PLAT NUMBER 23865. REFER TO THE PLAT FOR LOT DIMENSIONS, LOT AREA, ALL EASEMENTS AND CONDITIONS.
2. THE EXISTING WELL SHOWN ON THIS PLAN (HO-98-1232) HAS BEEN FIELD LOCATED BY DAFT, McCUNE WALKER, INC. AND IS SHOWN IN ACCORDANCE WITH THEIR SURVEY.
3. THERE ARE NO EXISTING WELLS OR SEPTIC SYSTEMS WITHIN 100' OF THIS PROJECT'S BOUNDARY EXCEPT AS NOTED.
4. TOPOGRAPHY SHOWN WAS FLOWN BY VIRGINIA RESOURCE MAPPING, INC. DATED FEBRUARY 2003 AND SUPPLEMENTED WITH FIELD SURVEY BY DMW, INC. DATED 2005 AND BENCHMARK ENGINEERING, INC. DATED JUNE, 2019 WHICH CONSISTS OF 2 FOOT CONTOUR INTERVALS.
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 ONE-COMPARTMENT 2000 GAL. TANK.
11. THE MAXIMUM EARTH COVER OVER THE TANK IS 3 FEET. GREATER EARTH COVER WILL REQUIRE A HEAVY LOAD BEARING TANK.
12. 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.

BENCHMARK INFORMATION NAD83

Ho. Co. STATION 101A STAMPED DISC SET ON TOP OF CONCRETE COLUMN	Ho. Co. STATION 17AB STAMPED DISC SET ON TOP OF CONCRETE COLUMN
NORTHING: 565347.937' EASTING: 1319266.269' ELEVATION: 588.708'	NORTHING: 564468.943' EASTING: 1318257.375' ELEVATION: 561.105'



VICINITY MAP

SCALE: 1"=2000'



Approved Septic System Plan
Howard County Health Department
2000-gal Septic Tank with
2000-gal Pump Tank and
Zoeller BN 153 (0.5hp) pump
R. Buckler
Signature 7/14/2020
To serve 6-Bedroom SFD

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: 01-01-2021.

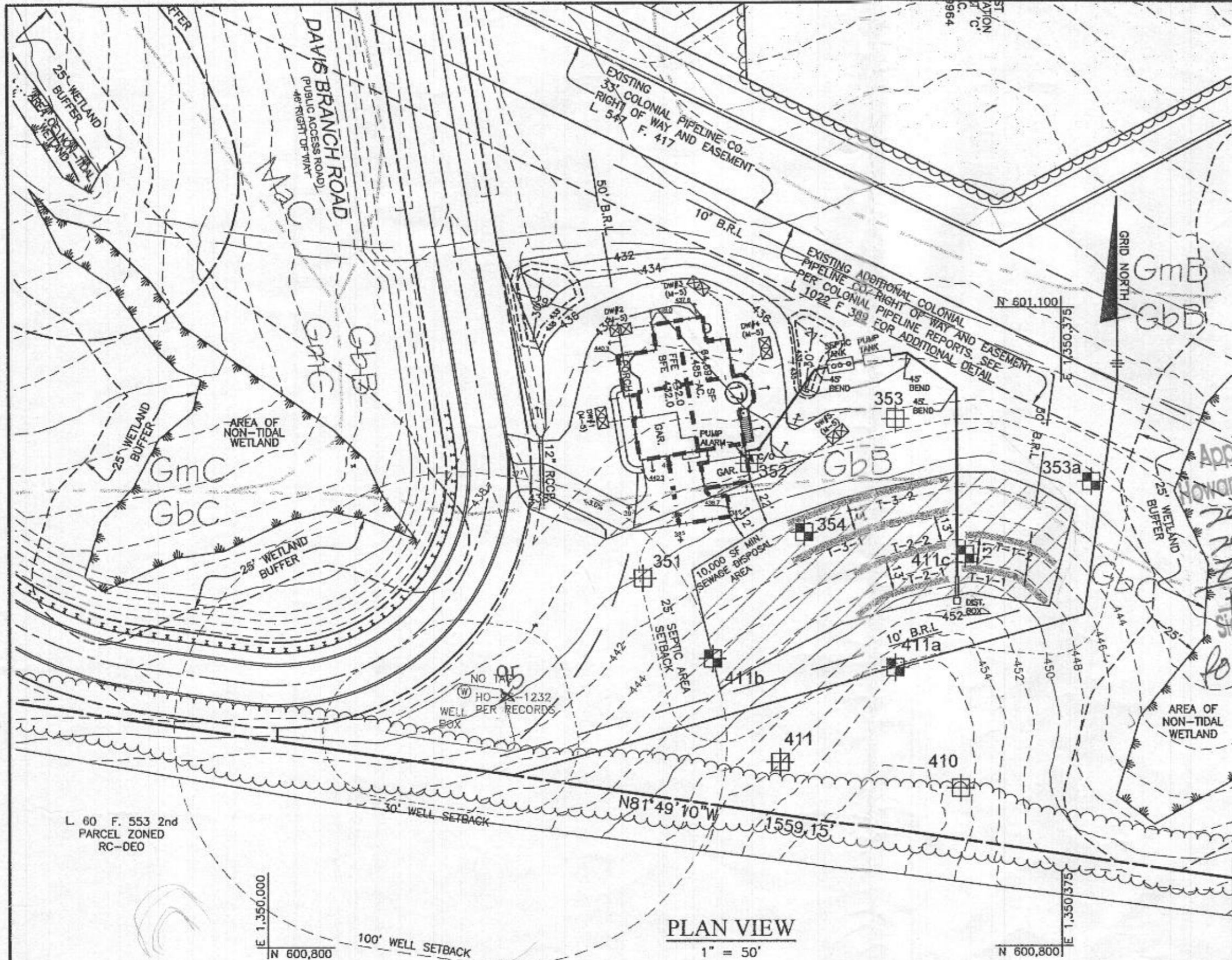


Jul 7 2020 11:53 AM DocuSign

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
ELLCOTT CITY, MARYLAND 21043
(P) 410-465-8105 & (F) 410-465-8644
WWW.BE-CVLENGINEERING.COM

PROJECT: MYRTUE PROPERTY LOT 17	
LOCATION: TAX MAP: 10, GRID: 24, PARCEL: 225, ZONED: RC-DEO 1904 DAVIS BRANCH RD. WOODSTOCK, MD 21163 6TH ELECTION DISTRICT, HOWARD COUNTY, MD, TAX ID 352404	
TITLE: ONSITE SEWAGE DISPOSAL PLAN	
HOUSE TYPE: CUSTOM - KEYSTONE HOMES	
DATE: JULY, 2020	PROJECT NO. 2099
SCALE: AS SHOWN	DRAWING <u>1</u> OF <u>5</u>



LEGEND

- 400 PROPOSED CONTOURS
- 398 EXISTING CONTOURS
- 400 EXISTING CONTOURS
- EXISTING PRIVATE SEWAGE DISPOSAL AREA
- EXISTING WELL BOX
- PROPOSED TREELINE
- EXISTING TREELINE
- SOILS MAP SYMBOL
- SOILS DELINEATION LINE
- PERC TEST PASSED
- PERC TEST FAILED

Approved Septic System Plan
 Howard County Health Department
 2000 gal Septic Tank with
 2000 gal Pump tank and
 Zoeller BN 153 (0.5hp) Pump or equiv
 7/14/2020
 Signature: *[Signature]*
 Date: *[Date]*
 for 6-Bedroom

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: 01-01-2021.



Jul 7 2020 11:53 AM DocuSign



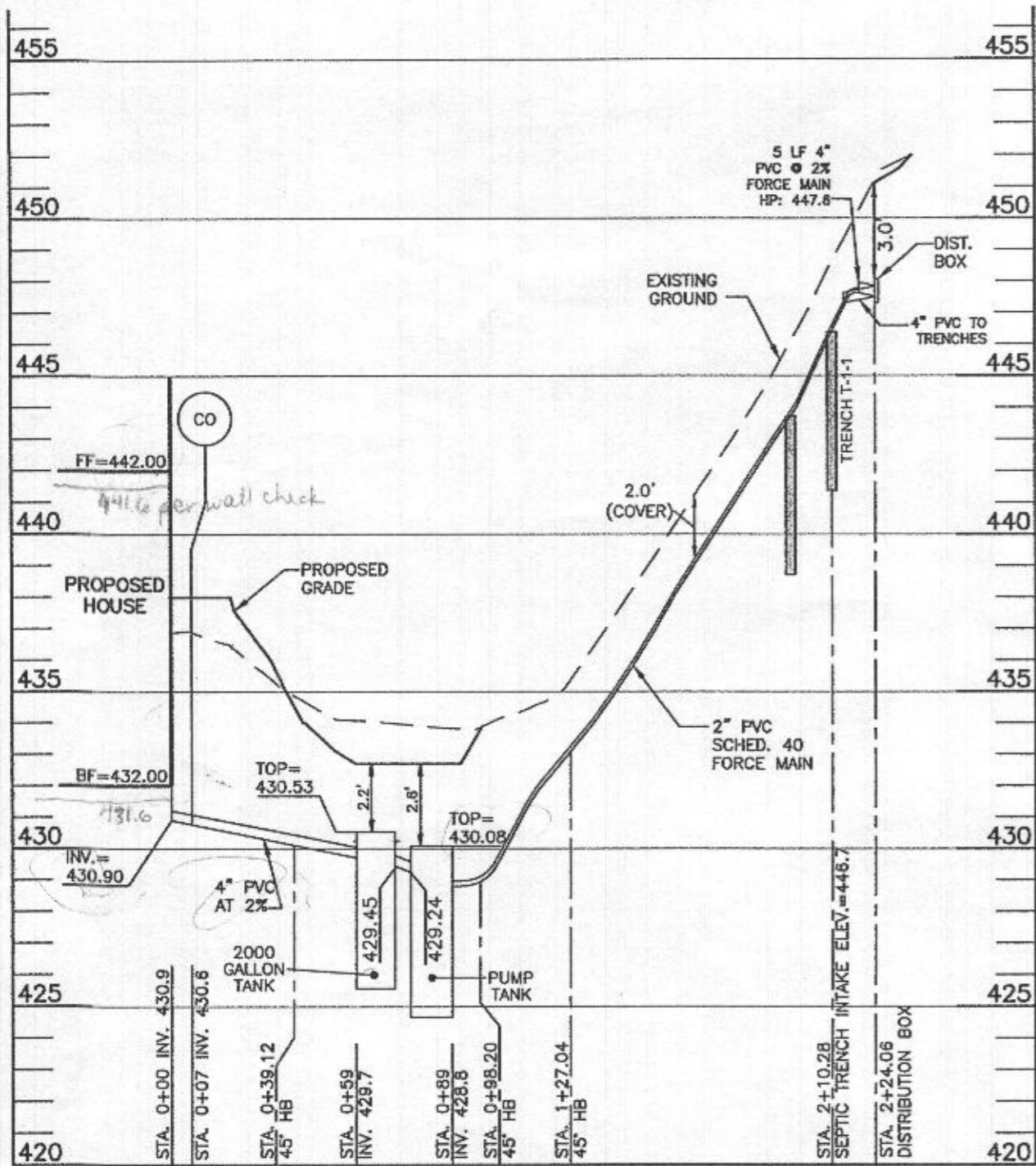
PLAN VIEW
1" = 50'

L 60 F. 553 2nd
PARCEL ZONED
RC-DEO

PROJECT:		MYRTUE PROPERTY LOT 17	
LOCATION:		TAX MAP: 10, GRID: 24, PARCEL: 225, ZONED: RC-DEO 1904 DAVIS BRANCH RD. WOODSTOCK, MD 21163 6TH ELECTION DISTRICT, HOWARD COUNTY, MD, TAX ID 352404	
TITLE:		ONSITE SEWAGE DISPOSAL PLAN	
HOUSE TYPE:		CUSTOM - KEYSTONE HOMES	
DATE:	JULY, 2020	PROJECT NO.	2099
SCALE:	AS SHOWN	DRAWING	2 OF 5

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) 410-465-6844
 WWW.BEI-CIVILENGINEERING.COM



LOT 17 SEPTIC PROFILE
SCALE: 1"=50' HORIZ., 1"=5' VERT.

HEALTH DEPARTMENT SPEC SHEET INFORMATION - LOT 17

System	Application Rate	Effective Depth	Bottom Depth
1st Replacement	1.2	2.5	7.5
2nd Replacement	1.2	2.5	7.5
3rd Replacement	1.2	5.0	7.0

INITIAL SYSTEM

Number of Bedrooms	6
Application Rate	1.2 gpd/sf
Effective Area Beginning Depth	2.5 ft
Bottom Max Depth	7.5 ft
Design Flow	900 gpd
Drainage Field square footage	750 sf
Sidewall Reduction Credit	0.36
Trench width	3 ft
Effective Area Depth	5 ft
Trench Spacing	13 ft
Linear Length of trench Required	89 lf

TRENCH DESIGN - LOT 17

INITIAL SYSTEM					
T-1-1	LENGTH	44.7 ft	T-1-2	LENGTH	44.7 ft
	GROUND ELEVATION	448.7		GROUND ELEVATION	445.6
	INVERT ELEVATION	446.7		INVERT ELEVATION	443.6
	MAX BOTTOM ELEVATION	441.2		MAX BOTTOM ELEVATION	438.1
1ST REPLACEMENT SYSTEM					
T-2-1	LENGTH	44.7 ft	T-2-2	LENGTH	44.7 ft
	GROUND ELEVATION	449.4		GROUND ELEVATION	446.3
	INVERT ELEVATION	447.4		INVERT ELEVATION	444.3
	MAX BOTTOM ELEVATION	441.9		MAX BOTTOM ELEVATION	438.8
2ND REPLACEMENT SYSTEM					
T-3-1	LENGTH	78.2 ft	T-3-2	LENGTH	78.2 ft
	GROUND ELEVATION	443.54		GROUND ELEVATION	441.24
	INVERT ELEVATION	441.5		INVERT ELEVATION	439.2
	MAX BOTTOM ELEVATION	436.5		MAX BOTTOM ELEVATION	434.2

1ST REPLACEMENT SYSTEM

Number of Bedrooms	6
Application Rate	1.2 gpd/sf
Effective Area Beginning Depth	2.5 ft
Bottom Max Depth	7.5 ft
Design Flow	900 gpd
Drainage Field square footage	750 sf
Sidewall Reduction Credit	0.36
Trench width	3 ft
Effective Area Depth	5 ft
Trench Spacing	13 ft
Linear Length of trench Required	89 lf

2ND REPLACEMENT SYSTEM

Number of Bedrooms	6
Application Rate	1.2 gpd/sf
Effective Area Beginning Depth	5.0 ft
Bottom Max Depth	7.0 ft
Design Flow	900 gpd
Drainage Field square footage	750 sf
Sidewall Reduction Credit	0.63
Trench width	3 ft
Effective Area Depth	2 ft
Trench Spacing	10 ft
Linear Length of trench Required	156 lf

Approved Septic System Plan
Howard County Health Department
2000-gal Septic Tank with
2000-gal Pump Tank and
Zeller BN153(6.5hp) Pump required.
H. Bueh 7/14/2020
Signature Date
Gravity Distribution
for 6-Bedroom SFD

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: 01-01-2021.



Jul 7 2020 11:53 AM DocuSign

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

BENCHMARK ENGINEERING, INC.
ENGINEERS & LAND SURVEYORS & PLANNERS
8480 BALTIMORE NATIONAL PIKE SUITE 315
ELLICOTT CITY, MARYLAND 21043
(P) 410-485-8105 & (F) 410-465-6844
WWW.BEJ-CVLENGINEERING.COM

PROJECT:	MYRTUE PROPERTY LOT 17		
LOCATION:	TAX MAP: 10, GRID: 24, PARCEL: 225, ZONED: RC-DEO 1904 DAVIS BRANCH RD. WOODSTOCK, MD 21163 6TH ELECTION DISTRICT, HOWARD COUNTY, MD, TAX ID 352404		
TITLE:	ONSITE SEWAGE DISPOSAL PLAN		
HOUSE TYPE:	CUSTOM - KEYSTONE HOMES		
DATE:	JULY, 2020	PROJECT NO.	2099
SCALE:	AS SHOWN	DRAWING	3 OF 5

Pumping Station

Diameter of Force Main and Manifold = 2" PVC SCH. 40
 Length of Force Main = 131 feet SCH.40 gallons/100 feet = 17.4 Table 4.2
 Volume of Main = 22.8 gallons
 Total Volume = 22.8 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 23 gallons
 Use minimum dose of 160 gallons okay Doses per Day = 5.625

Size Pump Chamber

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

One day Capacity = 900 gallons
 Dose = 160 gallons
 Totals = 1060 gallons

Use 2,000 gallon pump tank

Tank Dimensions:		Exterior	Interior		
Length:	13.75 feet	Length:	13.08 feet	Walls:	0.33 feet
Width:	6.25 feet	Width:	5.58 feet	Bottom:	0.33 feet
Height:	5.42 feet	Height:	4.67 feet	Top:	0.42 feet
		Area:	73.05 sf	Bottom to Inlet:	4.58 feet
		Volume:	341.14 cf		

Sizing the Pump

Flow: runtime = 4 minutes
 rate = 40.00 gallons/minute

Design Head:

Design Head = Static Head + Friction Head
 Static Head = highest elevation of main - pump off elevation
 Highest component of system = 447.62 Main HP
 Pump off elevation = 426.56
 Static Head = 21.06 feet
 Friction Head = Head loss due to pipe friction
 2.0" pipe = 131 feet
 45° bends 4 loss for bend 16 feet per table 4.3
 Gate Valve 0 loss for tee 0 feet per table 4.3
 Friction loss per table 4.4 = 2.6 (ft/100 ft)
 Equivalent Length = 147 Friction loss 3.82 feet
 Total Friction Head = 3.82
 Design Head = 24.88 feet

Pump Requirements:

Performance = 40.00 gpm
 Head of Water = 24.88 feet of head

Pump Selection: Zoeller Pump Company Flow-mate Series, Model 152 / 153
 1/10 horse power

Pump Flow Rate = 42.00 gallons/minute per rating curve. Run time: 3.81 Minutes
 TDH analysis 25.25 ft
 Between design and curve? Yes

see graph RB

Design Pump Chamber

Ground over Tank = 432.70 Cover 2.6 ft
 Top of Tank = 430.08
 Invert of Tank = 424.99
 6" Riser = 0.50 feet
 Pump Height = 1.01 feet

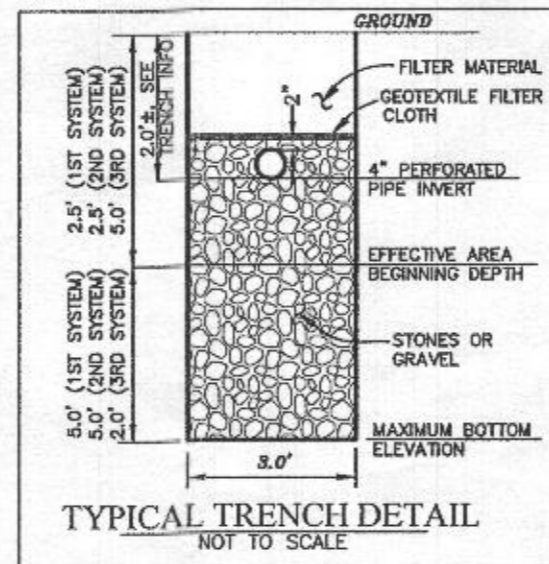
Min. Pump off = 426.50
 Selected Pump off = 426.56

Dose = 21.4 cf
 Area of Pit = 73.05 sf

Pump on dist. = 0.29
 Pump on Elev. = 426.85

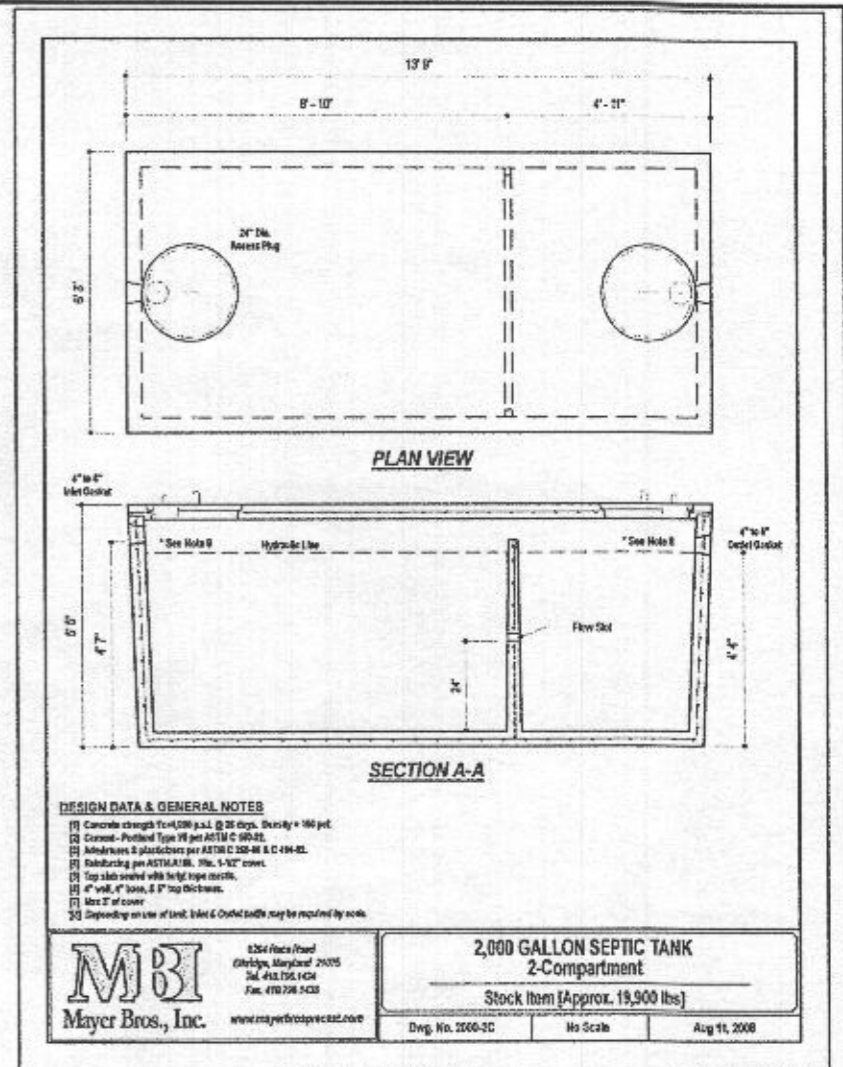
Distance between Pump on and Highwater Alarm = 0.5 feet
 Highwater Alarm Elevation = 427.35

Dist. for day stored above alarm 1.65
 Minimum Inlet Elev. = 429.00
 Tank Inlet = 429.24 Okay
 Dist. Alarm to Inlet = 1.89 Okay



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



DESIGN DATA & GENERAL NOTES

- Concrete strength 4000 p.s.i. @ 28 days. Density = 150 pcf.
- Concrete - Portland Type IV per ASTM C 90-92.
- Reinforcing steel per ASTM A 618, 60,000 psi, 1/2\"/>

MBI
 Mayer Bros., Inc.
 1254 Peach Road
 Gaithersburg, Maryland 20878
 Tel. 410.756.1424
 Fax. 410.726.5433
 www.mayerbrospumps.com

2,000 GALLON SEPTIC TANK
 2-Compartment
 Stock Item (Approx. 19,900 lbs)
 Dwg. No. 2000-SC No Scale Aug 11, 2008

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: 01-01-2021.



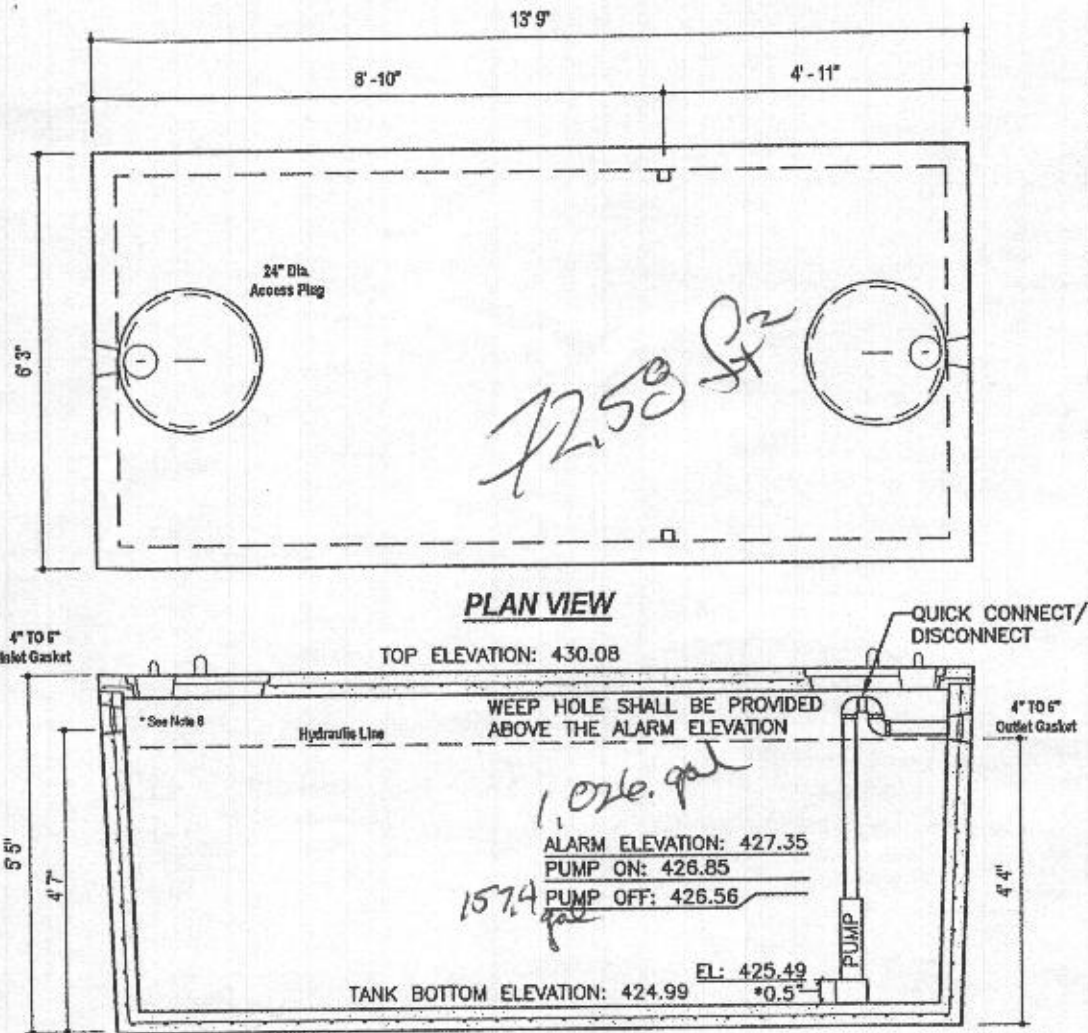
Jul 7 2020 11:53 AM DocuSign

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

BENCHMARK
 ENGINEERS & LAND SURVEYORS & PLANNERS
ENGINEERING, INC.
 8480 BALTIMORE NATIONAL PIKE & SUITE 315
 ELLICOTT CITY, MARYLAND 21043
 (P) 410-485-8105 & (F) 410-485-8644
 WWW.BEJ-CMILENGINEERING.COM

PROJECT: MYRTUE PROPERTY LOT 17	
LOCATION: TAX MAP: 10, GRID: 24, PARCEL: 225, ZONED: RC-DEO 1904 DAVIS BRANCH RD. WOODSTOCK, MD 21163 6TH ELECTION DISTRICT, HOWARD COUNTY, MD, TAX ID 352404	
TITLE: ONSITE SEWAGE DISPOSAL PLAN	
HOUSE TYPE: CUSTOM - KEYSTONE HOMES	
DATE: JULY, 2020	PROJECT NO. 2099
SCALE: AS SHOWN	DRAWING 4 OF 5



SECTION A-A

*USE BLOCK OR SUPPORT TO RAISE PUMP INLET A MINIMUM OF 0.5' OFF BOTTOM OF TANK

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 150-52.
- [3] Admixtures & plasticizers per ASTM C 250-06 & C 494-02.
- [4] Reinforcing per ASTM A186. 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 baffles may be required by code.

FLOAT TREE:	ELEV.	RELATIVE TO BOTTOM
BOTTOM OF TANK	424.99	
TOP OF PUMP	426.50	1'-6 2/16"
PUMP OFF	426.56	1'-6 4/3"
PUMP ON	426.85	1'-10 1/3"
HIGH ALARM	427.35	2'-4 1/3"

WEIGHT = 19,000 lbs.

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

2,000 GALLON SEPTIC TANK
1-Compartment
Stock Item [Approx. 19,000 lbs]
Dwg. No. 2000-1C No Scale Aug. 11, 2008

Trusted. Tested. Tough.™



SECTION 2.15.090
FANZ794
1017
Revised 06/06
0315

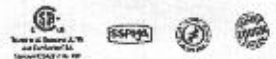
TECHNICAL DATA SHEET
DOSE-MATE SERIES
Models 151, 152, 153 Effluent Pumps

PRODUCT SPECIFICATIONS

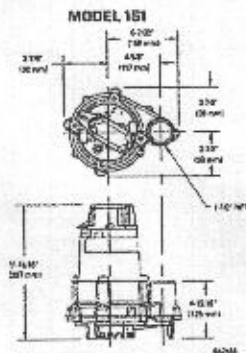
MOTOR	MODEL 151
Horse Power	1/2 (151), 2/3 (152, 153)
Voltage	115 or 230
Phase	1 Ph
Hz	60 Hz
WHA	2450
Type	Fluorescent split capacitor
Insulation	Class B
Amis	2.0 - 2.0
Operation	Automatic or manual
Discharge Size	1-1/2" NPT
Ends Handling	1" (151 only), 1-1/4" (152 and 153)
Cord Length	20' (151)
Cord Type	UL listed power cord
Max. Head	40' (151 & 152)
Max. Flow Rate	77 GPM (201 LPM)
Max. Operating Temp.	130 °F (54 °C)
Coating	Oil Resistant
Motor Protection	Auto reset thermal overload
Case	Cast Iron
Motor Housing	Cast Iron
Pump Housing	Cast Iron
Base	Plastic or cast iron
Upper Bearing	Glass bearing
Lower Bearing	Ball bearing
Mechanical Seal	Carbon and ceramic
Inlet/Outlet Type	Non-clogging V-port
Inlet/Outlet	Engineered thermoplastic
Wasteway	Stainless steel
Motor Shaft	3/8" 303 steel
Socket	Nylon

NOTE: The sizing of effluent systems normally require variable level float controls and properly sized piping to achieve required pumping cycles or dosing streams with non-toxic waste water.

NOTE: See model comparison chart for specific details.

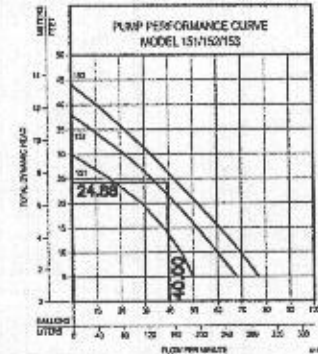


© Copyright 2017 Zoeller® Co. All rights reserved.
602-778-2721 | 800-828-7857 | 3549 Cave Run Road | Louisville, KY 40219-1601 | zoellerpumps.com



TOTAL DYNAMIC HEAD
FLOW PER MINUTE

MODEL	151	152	153
Flow	15	18	21
Head	32	45	58
Flow	18	21	24
Head	25	38	51
Flow	21	24	27
Head	18	31	44
Flow	24	27	30
Head	15	28	41
Flow	27	30	33
Head	12	25	38
Flow	30	33	36
Head	9	22	35
Flow	33	36	39
Head	6	19	32
Flow	36	39	42
Head	3	16	29
Flow	39	42	45
Head	0	13	26



RECOMMENDED PUMP: BN151

Model	Style	Mode	Volts	PH	Temp.	HP	Flow	Head	Weight	Dimensions	Depth
BN151	Single	Man	115	1	4.0	1/2	15	32	16	1	2 or 3
BN152	Single	Man	230	1	2.0	1/2	15	32	16	1	2 or 3
BN153	Single	Man	115	1	6.0	1/2	18	45	23	1	2 or 3
BN151	Single	Auto	230	1	3.0	1/2	18	45	23	1	2 or 3
BN152	Single	Man	115	1	4.5	1/2	18	45	23	1	2 or 3
BN153	Single	Man	230	1	4.5	1/2	18	45	23	1	2 or 3
BN151	Single	Auto	115	1	8.5	1/2	21	51	27	1	2 or 3
BN152	Single	Man	230	1	4.5	1/2	18	45	23	1	2 or 3
BN153	Single	Man	115	1	16.5	1/2	24	57	30	1	2 or 3
BN151	Single	Auto	230	1	5.3	1/2	21	51	27	1	2 or 3
BN152	Single	Man	230	1	5.3	1/2	21	51	27	1	2 or 3

*115 and 230 models include a 20' (6.1 m) piggyback variable level pump switch. Additional switch lengths are available in 20' (6.1 m) or 30' (9.1 m) increments. All switches are available for 20V split phase only.

NOTE: Model 151 has a plastic base. Models 152 & 153 have a cast iron base.

SELECTION GUIDE

- For automatic, use single piggyback variable level float switch or double piggyback variable level float switch.
- Refer to FANZ477.
- See FANZ228 for correct model of simplex control panel.
- See FANZ712 for correct model of duplex control panel.

OPTIONAL PUMP STAND P/N 90-2421

- Reduces potential clogging by debris
- Replaces socket or base under the pump
- Made of durable, non-toxic ABS
- Mounts pump 2" (51 mm) off bottom of tank
- Provides the ability to raise tank by adding sections of 1/2" or 2" (12.7 mm or 50.8 mm) PVC piping
- Anodized aluminum to resist corrosion
- Also provides leveling, leveling, and airflow applications



CAUTION: All operations of electrical equipment and wiring should be done by a qualified licensed electrician. All wiring and wire sizes should be followed including the maximum National Electrical Code (NEC) and the Occupational Safety and Health Act (OSHA).

© Copyright 2017 Zoeller® Co. All rights reserved.
602-778-2721 | 800-828-7857 | 3549 Cave Run Road | Louisville, KY 40219-1601 | zoellerpumps.com

Approved Septic System Plan
Howard County Health Department
2000-gal septic tank
w/ 2000-gal pump tank
& BN153 (0.5 hp) pump or equiv.
[Signature]
Signature 7/14/2020
Date

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: 01-01-2021.



Jul 7 2020 11:54 AM

DocuSign

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

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

PROJECT:	MYRTUE PROPERTY LOT 17		
LOCATION:	TAX MAP: 10, GRID: 24, PARCEL: 225, ZONED: RC-DEO 1904 DAVIS BRANCH RD. WOODSTOCK, MD 21163 6TH ELECTION DISTRICT, HOWARD COUNTY, MD, TAX ID 352404		
TITLE:	ONSITE SEWAGE DISPOSAL PLAN		
HOUSE TYPE:	CUSTOM - KEYSTONE HOMES		
DATE:	JULY, 2020	PROJECT NO.	2099
SCALE:	AS SHOWN	DRAWING	5 OF 5