



**Howard County
Health Department**

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

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

RECEIPT DATE: 2/24/23 **ONSITE SEWAGE DISPOSAL SYSTEM** P 572799

APPROVAL DATE: 6/5/23 **PERMIT: CONSTRUCTION** A _____

PROPERTY ADDRESS: 1921 DAVIS BRANCH ROAD, WOODSTOCK, MD 21163

SUBDIVISION: MYRTUE PROPERTY LOT: 18 TAX ID: 03-352528

CONTRACTOR: FARM AND HOME EXCAVATING, INC EMAIL: farmhomeex@verizon.net

CONTRACTOR ADDRESS: 901 DRIVER ROAD, MARRIOTTSVILLE, MD 21104 PHONE: (410)442-2139

PROPERTY OWNER: SONSHINE MD LP EMAIL: nbontempi@keystonecustomhomes.com

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

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

PUMP MODEL: Zoeller BN151 PUMP SIZE 1/3 Hp PUMP TANK CAPACITY: 2000

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

TRENCHES:	LINEAR FEET REQUIRED: <u>104</u>	INLET DEPTH: <u>2.8*</u>
	TRENCH WIDTH: <u>3</u>	MAXIMUM BOTTOM DEPTH: <u>8.0</u>
	MINIMUM SPACE BETWEEN TRENCHES: <u>11</u>	EFFECTIVE AREA BEGINNING DEPTH: <u>4.0</u>
LOCATION:	PER APPROVED SITE PLAN. SEWAGE DISPOSAL AREA AND TANK LOCATIONS MUST BE STAKED BY LICENSED SURVEYOR PRIOR TO PRE-CONSTRUCTION INSPECTION.	
NOTES:	*INLET INVERT FOR TRENCH 1-1 IS PLANNED AT 2.8 FEET; INVERT FOR TRENCH 1-2 MAY BE 2.5 FEET DEPTH. INSTALL A CLEANOUT IN SHC, NEAR FOUNDATION	
	PUMP SYSTEM MUST PASS PUMP AND ALARM TEST PRIOR TO FINAL APPROVAL OF THIS PERMIT AND HEALTH DEPARTMENT RELEASE FOR USE & OCCUPANCY	

ISSUED BY: R BRICKER ISSUE DATE: 2/24/2023 EXPIRATION DATE: 2/24/2024

- 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 DOWNGRADE 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 E22005225
- 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 separate sheet for As-Built

ROAD NAME

TRENCH/DRAINFIELD DATA

WIDTH 3' INLET 2.8/3' BOTTOM 8'
NUMBER OF TRENCHES 2
TOTAL LENGTH 106'
ABSORPTION AREA 318 sq ft +/- sidewalk
DISTRIBUTION BOX LEVEL yes
DISTRIBUTION BOX BAFFLE yes
DISTRIBUTION BOX PORT yes

SEPTIC TANK DATA

SEPTIC TANK 1 LEVEL yes
MANUFACTURER Moyer Bios
CAPACITY 2000 GAL
SEAM LOC Top
TANK LID DEPTH 1'
BAFFLES 9" back
BAFFLE FILTER
MANHOLE LOC Front + back
6" PORT LOC
WATERTIGHT TEST
SLOTTED yes
DATE ON LID 2/1/2023

PUMP/SEPTIC TANK LEVEL

MANUFACTURER
CAPACITY 2000 GAL
SEAM LOC Top
TANK LID DEPTH 1.5'-3'
BAFFLES
BAFFLE FILTER
MANHOLE LOC back
6" PORT LOC
WATERTIGHT TEST
SLOTTED
DATE ON LID 2/6/2023

PRE-CONSTRUCTION:

3/15/2023 On site for pre-con. SDA staked per plan, shot elevations trench locations OK per plan. Tank's staked OK to proceed as planned.

INSTALLATION:

3/22/2023 - House to septic tank has fall. C/O near foundation. 6" front baffle not installed, installer notified, reinspect for front baffle. septic tank 1" up cover & pump tank 3'-1.5' up cover. septic tank has slope. reinspect well to house & tanks to house.
3/22/2023 - Saw front 6" baffle. FM ran from pump tank to D box. FM was SCHD 90 PSI 280 2". weather conditions clear at first but started to rain. installer not starting trenches until 3/29 or 3/30. Gave OK to backfill FM.
3/31/23 - dbox set level, trenches installed according to plan, T2 has an extra 2', stone looks OK (could use another washing), observation ports installed, OK to continue backfill, reinspect for P&A.
6/5/23 - Pump's Alarm OK.

FINAL INSPECTOR

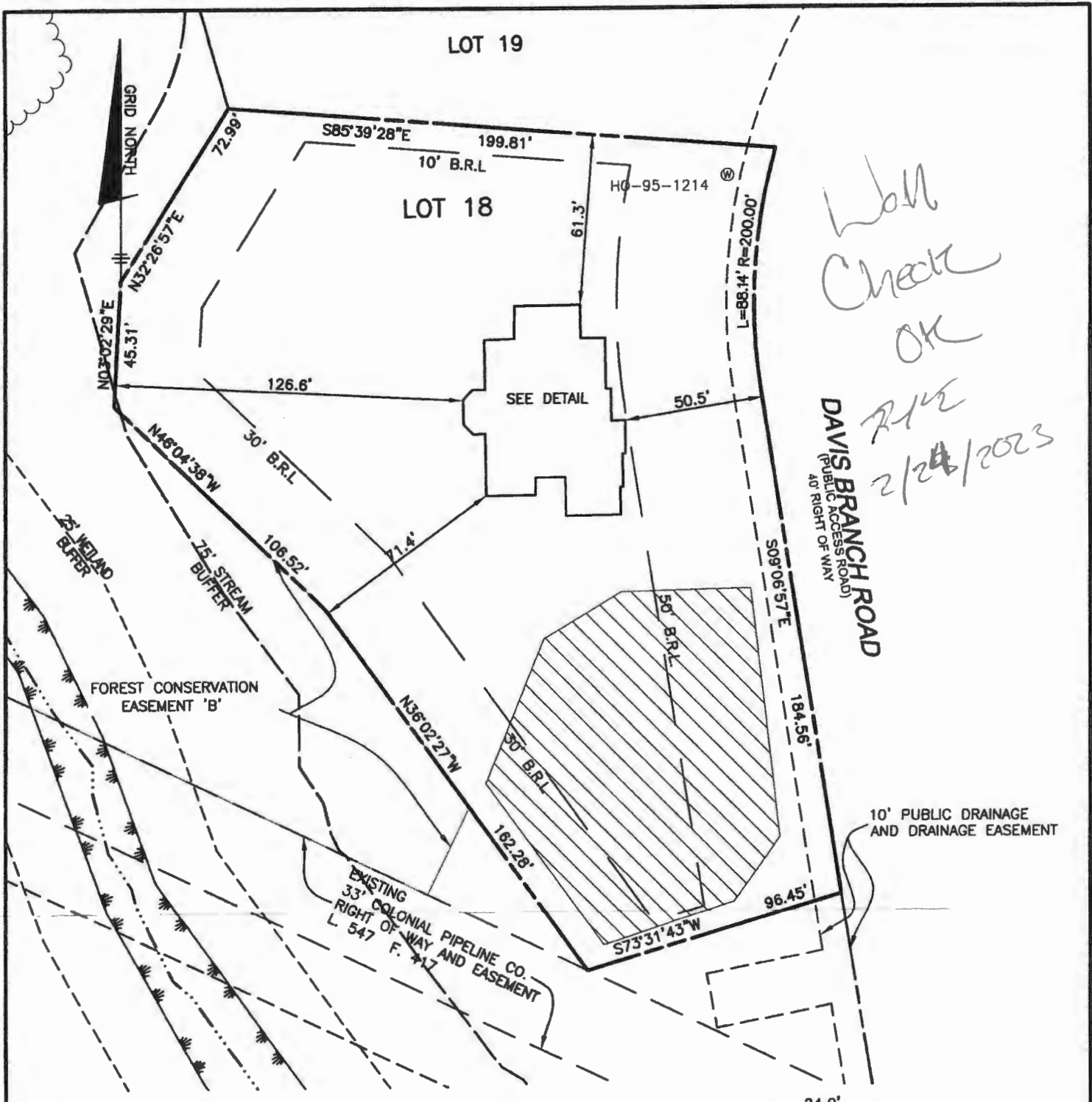
R. Ruppert

DATE OF APPROVAL

6/5/23

1" = 30'





WALL
CHECK
OK
R/W
2/24/2023

TOP OF FOUNDATION WALL = 422.3'
OFFSET DIMENSIONS TO PROPERTY LINES ARE ± 0.1'

SURVEYOR'S CERTIFICATE

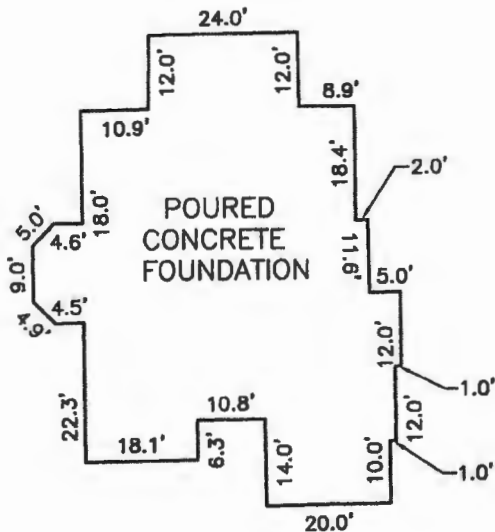
I HEREBY CERTIFY THAT THESE DOCUMENTS, WERE PREPARED BY ME OR UNDER MY RESPONSIBLE CHARGE, AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21320, EXPIRATION DATE 1-7-2023 AND TO THE BEST OF MY PROFESSIONAL KNOWLEDGE, INFORMATION AND BELIEF 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 11/22/2022.

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

FEMA FIRM No. 24027C0080D
ZONE: X
DATED: 11/06/2013

BENCHMARK
ENGINEERS LAND SURVEYORS PLANNERS

ENGINEERING, INC.
3300 N. RIDGE RD SUITE 140
ELLCOTT CITY, MARYLAND 21043
(P) 410-465-8105 (F) 410-465-8844



FOUNDATION DETAIL

SCALE: 1" = 30'

WALL CHECK

MYRTUE PROPERTY

PLAT No. 23866

LOT No. 18

1921 DAVIS BRANCH ROAD

3rd ELECTION DISTRICT

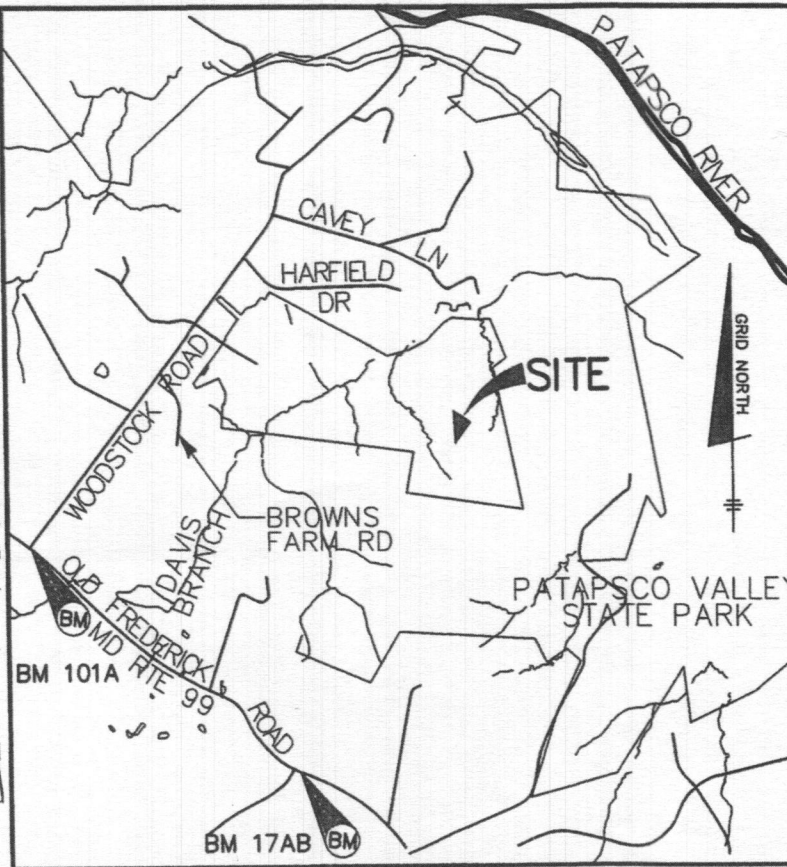
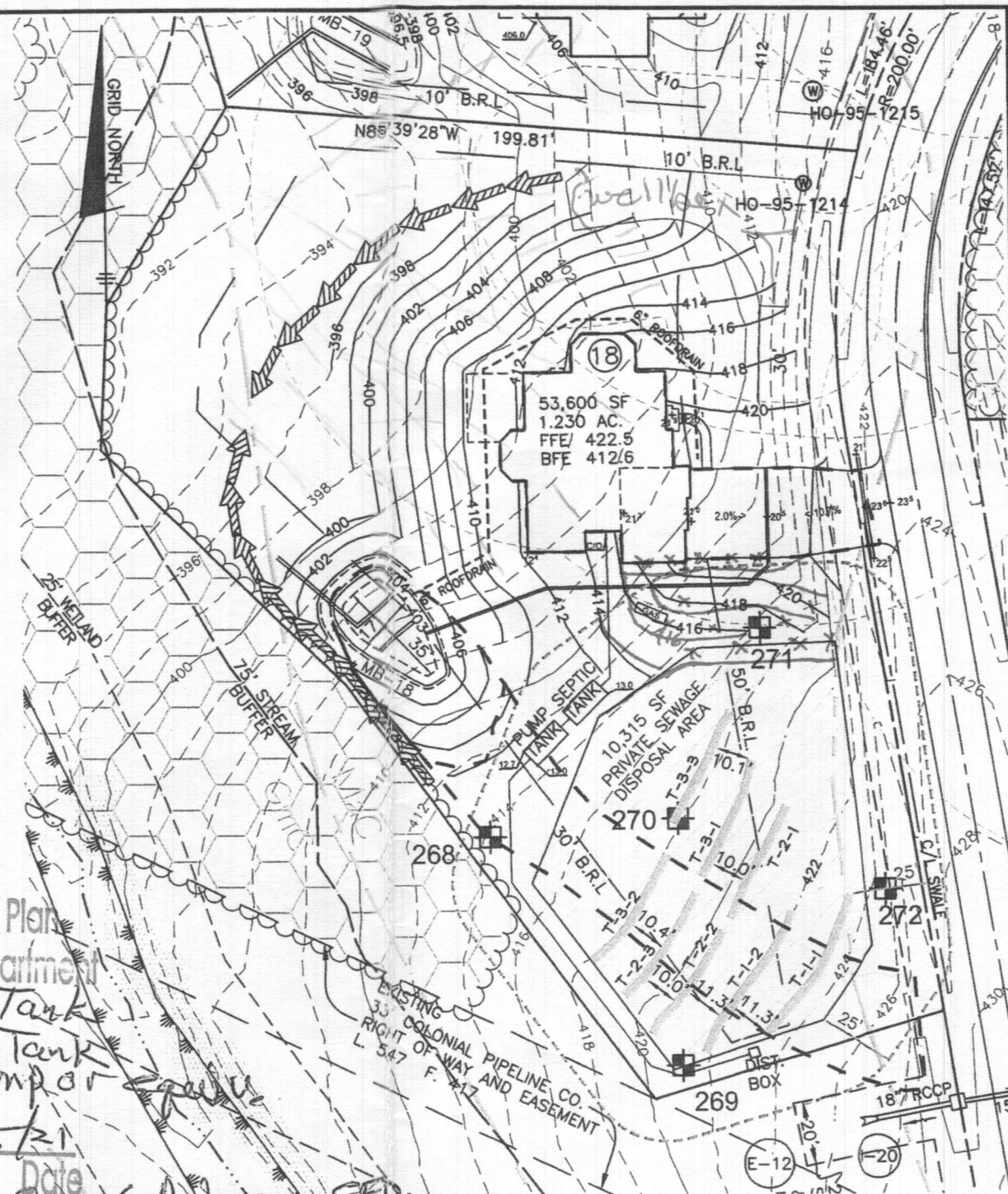
HOWARD COUNTY, MARYLAND

SCALE: 1" = 50' DATE: 11/22/2022

FIELD OBS. BY AS
COMP. BY DAM
DRAWN BY EWF

GENERAL NOTES

1. THE LOT SHOWN HEREON WAS RECORDED ON THE PLAT FOR MYRTUE PROPERTY, PLAT NUMBER 23866. REFER TO THE PLAT FOR LOT DIMENSIONS, LOT AREA, ALL EASEMENTS AND CONDITIONS.
2. THE EXISTING WELL SHOWN ON THIS PLAN (HO-95-1214) 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.
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.



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.

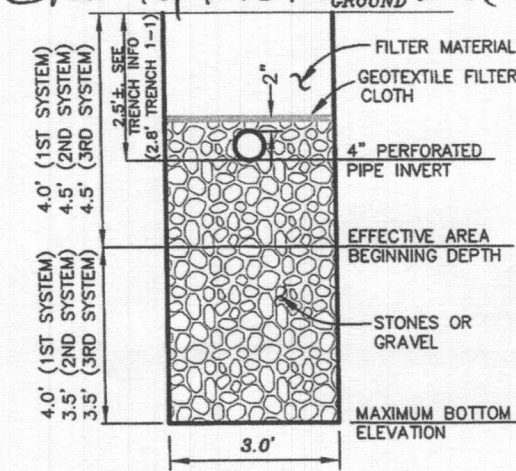


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LEGEND

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



PLAN VIEW
 1" = 50'

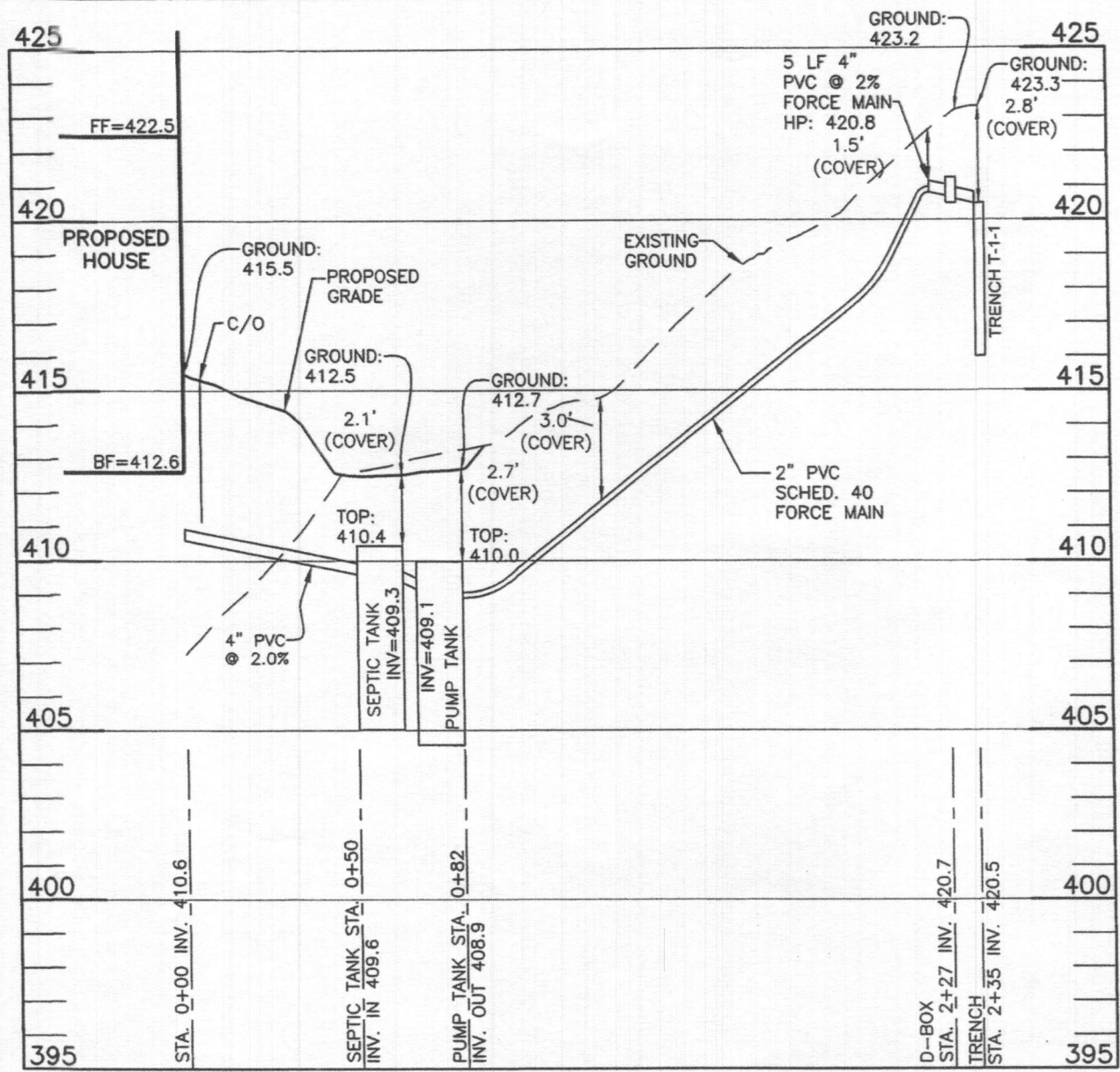
Recline Revision 12/7/21
 To show extended garage.

OK TB 12/21/21

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:	MYRTUE PROPERTY LOT 18	
LOCATION:	TAX MAP: 10, GRID: 24, PARCEL: 225, ZONED: RC-DEO 1921 DAVIS BRANCH RD. WOODSTOCK, MD 21163 6TH ELECTION DISTRICT, HOWARD COUNTY, MD, TAX ID 352528	
TITLE:	ONSITE SEWAGE DISPOSAL PLAN	
HOUSE TYPE:	CUSTOM - KEYSTONE HOMES	
DATE:	SEPTEMBER 2021	PROJECT NO. 2099
SCALE:	AS SHOWN	DRAWING 1 OF 4



LOT 18 SEWER PROFILE
 SCALE: 1"=50' HORIZ., 1"=5' VERT.

*Approved Septic System Plan
 Howard County Health Department
 Approved with credit for Replacement Systems Trenches Design
 Signature: [Handwritten Signature] Date: 10/5/24*

INITIAL SYSTEM		
Number of Bedrooms	6	
Application Rate	1.2	gpd/sf
Effective Area Beginning Depth	4.0	ft
Bottom Max Depth	8.0	ft
Design Flow	900	gpd
Drainage Field square footage	750	sf
Sidewall Reduction Credit	0.42	
Trench width	3	ft
Effective Area Depth	4	ft
Trench Spacing	11	ft
Linear Length of trench Required	104	lf

1ST REPLACEMENT SYSTEM		
Number of Bedrooms	6	
Application Rate	1.2	gpd/sf
Effective Area Beginning Depth	4.5	ft
Bottom Max Depth	8.0	ft
Design Flow	900	gpd
Drainage Field square footage	750	sf
Sidewall Reduction Credit	0.45	
Trench width	3	ft
Effective Area Depth	3.5	ft
Trench Spacing	10	ft
Linear Length of trench Required	114	lf

2ND REPLACEMENT SYSTEM		
Number of Bedrooms	6	
Application Rate	1.2	gpd/sf
Effective Area Beginning Depth	4.5	ft
Bottom Max Depth	8.0	ft
Design Flow	900	gpd
Drainage Field square footage	750	sf
Sidewall Reduction Credit	0.45	
Trench width	3	ft
Effective Area Depth	3.5	ft
Trench Spacing	10	ft
Linear Length of trench Required	114	lf

TRENCH DESIGN - Lot 18					
INITIAL SYSTEM					
T-1-1	LENGTH	52.1 ft	T-1-2	LENGTH	52.1 ft
	GROUND ELEVATION	423.4		GROUND ELEVATION	422.0
	INVERT ELEVATION	420.6		INVERT ELEVATION	419.5
	MAX BOTTOM ELEVATION	415.4		MAX BOTTOM ELEVATION	414.0
1ST REPLACEMENT SYSTEM					
T-2-1	LENGTH	57' 40ft	T-2-2	LENGTH	57' 40ft
	GROUND ELEVATION	420.5		GROUND ELEVATION	420.4
	INVERT ELEVATION	418.0		INVERT ELEVATION	417.9
	MAX BOTTOM ELEVATION	412.5		MAX BOTTOM ELEVATION	412.4
			T-2-3	LENGTH	40 ft
				GROUND ELEVATION	419.3
				INVERT ELEVATION	416.8
				MAX BOTTOM ELEVATION	411.3
2ND REPLACEMENT SYSTEM					
T-3-1	LENGTH	57' 40ft	T-3-2	LENGTH	57' 40ft
	GROUND ELEVATION	419.2		GROUND ELEVATION	418.1
	INVERT ELEVATION	416.7		INVERT ELEVATION	415.6
	MAX BOTTOM ELEVATION	411.2		MAX BOTTOM ELEVATION	410.1
			T-3-3	LENGTH	40 ft
				GROUND ELEVATION	417.8
				INVERT ELEVATION	415.3
				MAX BOTTOM ELEVATION	409.8

SEPTIC INVERT CHART - Lot 18	
INV @ HOUSE	410.6
GROUND @ HOUSE	415.5
INV IN SEPTIC TANK	409.6
INV OUT SEPTIC TANK	409.4
TOP OF SEPTIC TANK	410.4
GROUND OVER SEPTIC TANK	412.5
INV IN PUMP TANK	409.1
INV OUT PUMP TANK	408.9
TOP OF PUMP TANK	410.0
GROUND OVER PUMP TANK	412.7
INV IN DIST BOX	420.7
INV OUT DIST BOX	420.6
GROUND AT DIST BOX	423.2

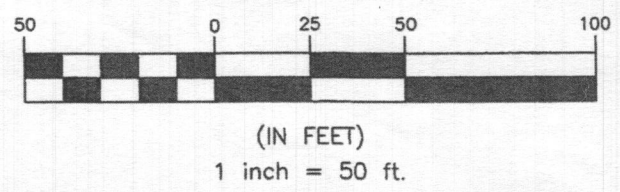
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HEALTH DEPARTMENT SPEC SHEET INFORMATION - Lot 18			
System	Application Rate	Effective Depth	Bottom Depth
1st System	1.2	4.0	8.0
2nd system	1.2	4.5	8.0
3rd System	1.2	4.5	8.0



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

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TITLE:	ONSITE SEWAGE DISPOSAL PLAN	
HOUSE TYPE:	CUSTOM - KEYSTONE HOMES	
DATE:	SEPTEMBER 2021	PROJECT NO. 2099
SCALE:	AS SHOWN	DRAWING 2 OF 4

Pumping Station

Diameter of Force Main and Manifold = 2" PVC SCH. 40
 Length of Force Main = 146 feet SCH.40 gallons/100 feet = 17.4 Table 4.2
 Volume of Main = 25.4 gallons
 Total Volume = 25.4 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 25 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	Walls:	
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	
		Volume: 340.89 cf	Inlet:	4.58 feet

Sizing the Pump

Flow: runtime = 5.714 minutes
 rate = 28.00 gallons/minute

Design Head:

Design Head = Static Head + Friction Head
 Static Head = highest elevation of main - pump off elevation
 Highest component of system = 420.8 Main HP
 Pump off elevation = 406.40
 Static Head = 14.40 feet
 Friction Head = Head loss due to pipe friction
 2.0" pipe = 146 feet
 90° bends 3 loss per bend@7' 21 feet per table 4.3
 45° bends 4 loss per bend@4' 16 feet per table 4.3
 Gate Valve 0 loss for tee 0 feet per table 4.3
 Friction loss per table 4.4 = 1.36 (ft/100 ft)
 Equivalent Length = 183 Friction loss = 2.50 feet
 Total Friction Head = 2.50
 Design Head = 16.90 feet

Pump Requirements:

Performance = 28.00 gpm
 Head of Water = 16.90 feet of head

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

Pump Flow Rate = 34.60 gallons/minute per rating curve. Run time: 4.62 Minutes
 TDH analysis 18.11 ft
 Between design and curve? Yes

Design Pump Chamber

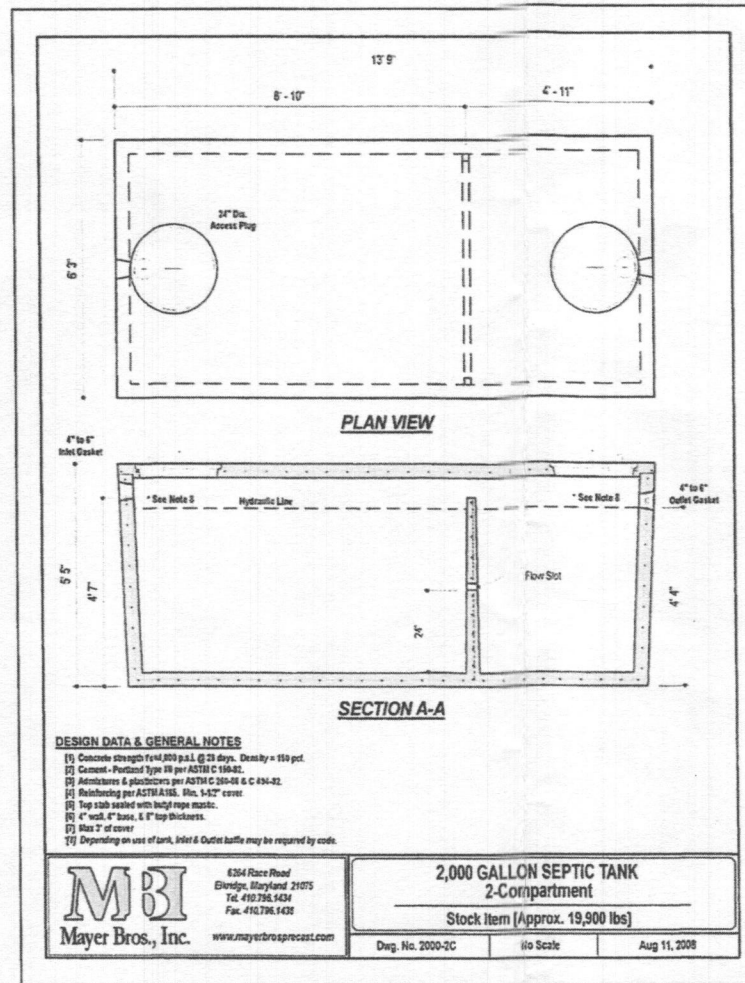
Ground over Tank = 412.70 Cover = 2.70 ft
 Top of Tank = 410.00
 Invert of Tank = 404.91
 Riser = 0.50 feet
 Pump Height = 0.97 feet
 Min. Pump off = 406.39
 Selected Pump off = 406.40

Dose = 21.4 cf
 Area of Pit = 73.05 sf

Pump on dist. = 0.29
 Pump on Elev. = 406.69

Distance between Pump on and Highwater Alarm = 0.5 feet
 Highwater Alarm Elevation = 407.19

Dist. for day stored above alarm 1.65
 Minimum Inlet Elev. = 408.84
 Tank Inlet = 409.16 Okay
 Dist. Alarm to Inlet = 1.97 Okay



DESIGN DATA & GENERAL NOTES

- [1] Concrete strength f'c=3000 p.s.i. @ 28 days. Density = 150 pcf.
- [2] Concrete - Portland Type III per ASTM C 150-02.
- [3] Admixtures & plasticizers per ASTM C 330-08 & C 494-02.
- [4] Reinforcing per ASTM A633, Min. 5-#2 cover.
- [5] Top slab sealed with butyl rope mastic.
- [6] 4" x 4" base, 6" top thickness.
- [7] Max 7' of cover.
- [8] Depending on use of tank, Inlet & Outlet baffles may be required by code.



2,000 GALLON SEPTIC TANK
 2-Compartment
 Stock Item (Approx. 19,900 lbs)
 Dwg. No. 2000-2C No Scale Aug 11, 2009

SEPTIC INVERT CHART - Lot 18	
INV @ HOUSE	410.6
GROUND @ HOUSE	415.5
INV IN SEPTIC TANK	409.6
INV OUT SEPTIC TANK	409.4
TOP OF SEPTIC TANK	410.4
GROUND OVER SEPTIC TANK	412.5
INV IN PUMP TANK	409.1
INV OUT PUMP TANK	408.9
TOP OF PUMP TANK	410.0
GROUND OVER PUMP TANK	412.7
INV IN DIST BOX	420.7
INV OUT DIST BOX	420.6
GROUND AT DIST BOX	423.2

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:	MYRTUE PROPERTY LOT 18	
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TITLE:	ONSITE SEWAGE DISPOSAL PLAN	
HOUSE TYPE:	CUSTOM - KEYSTONE HOMES	
DATE:	SEPTEMBER 2021	PROJECT NO. 2099
SCALE:	AS SHOWN	DRAWING 3 OF 4

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

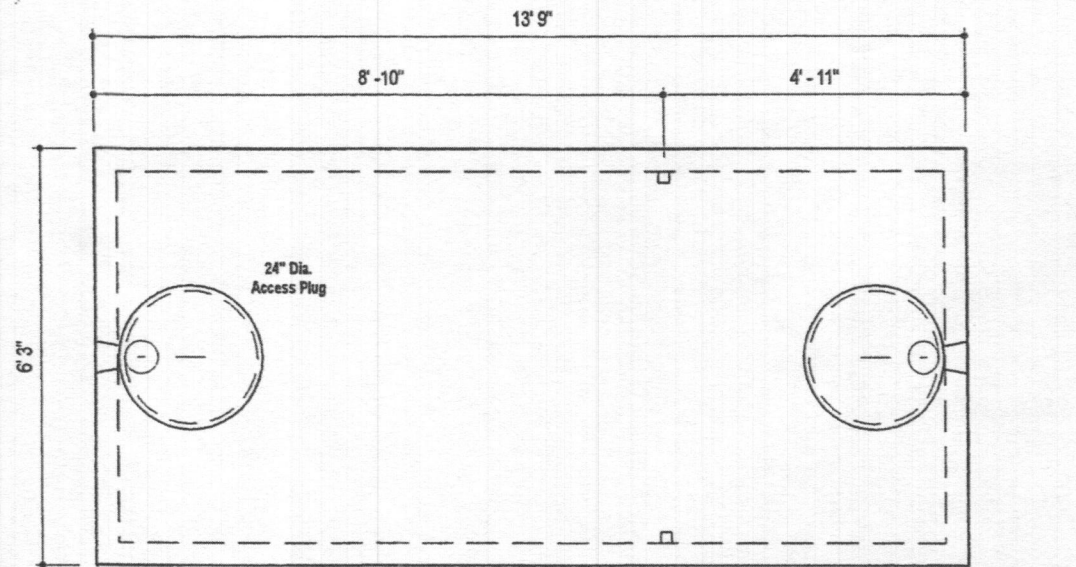
Approved Septic System Plan
 Howard County Health Department
 Approved
 Signature: [Signature]
 Date: 10/5/21

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.

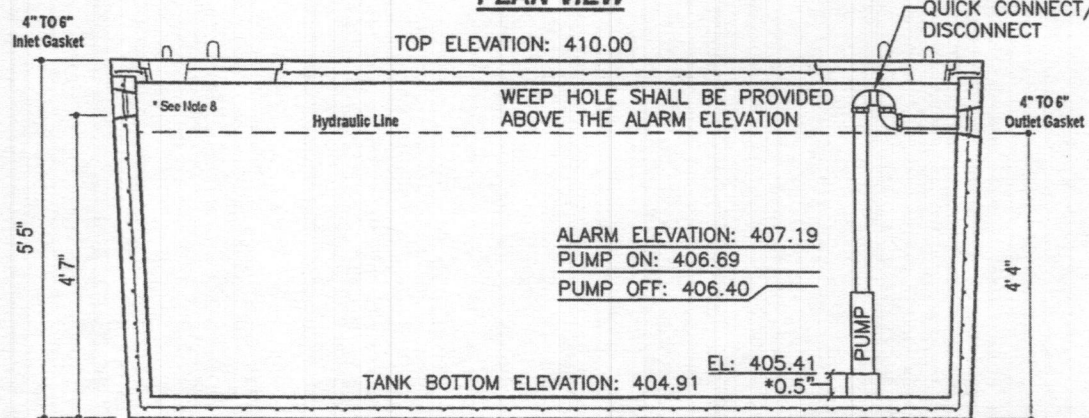


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PLAN VIEW



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 VII per ASTM C 150-92.
- [3] Admixtures & plasticizers per ASTM C 260-96 & C 494-92.
- [4] Reinforcing per ASTM A185. Min. 1-1/2" cover.
- [5] Top slab sealed with butyl rope mastic.
- [6] 4" wall, 4" base, & 5" top thickness.
- [7] Max 3" of cover
- [8] Depending on use of tank, Inlet & Outlet baffle may be required by code.

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™

Product information presented here is for informational purposes only. Consult factory regarding discrepancies or inaccuracies.

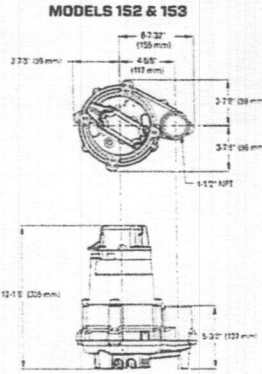
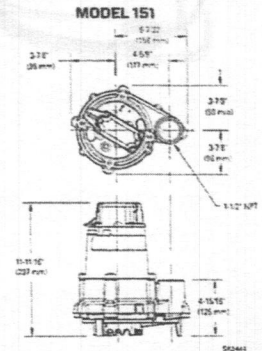


SECTION: 2.15.000
FM2784
1017
Supersedes
0315

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

PRODUCT SPECIFICATIONS

MOTOR	
Horse Power	1/3 (151), 1/4 (152), 1/2 (153)
Voltage	115 or 230
Phase	1 Ph
Hertz	60 Hz
RPM	3450
Type	Permanent split capacitor
Insulation	Class B
Amps	3.0 - 10.5
PUMP	
Operation	Automatic or manual
Discharge Size	1-1/2" NPT
Solids Handling	1/2" (12 mm), 3/4" (19 mm) spherical solids
Cord Length	20' (6 m)
Cord Type	UL listed power cord
Max. Head	44' (13.4 m)
Max. Flow Rate	77 GPM (291 LPM)
Max. Operating Temp.	130°F (54°C)
Cooling	Oil filled
Motor Protection	Auto reset thermal overload
Cap	Cast iron
Motor Housing	Cast iron
Pump Housing	Cast iron
MATERIALS	
Base	Plastic or cast iron
Upper Bearing	Sleeve bearing
Lower Bearing	Ball bearing
Mechanical Seals	Carbon and ceramic
Impeller Type	Non-clogging vortex
Impeller	Engineered thermoplastic
Hardware	Stainless steel
Motor Shaft	AISI 1215 steel
Gaskets	Neoprene



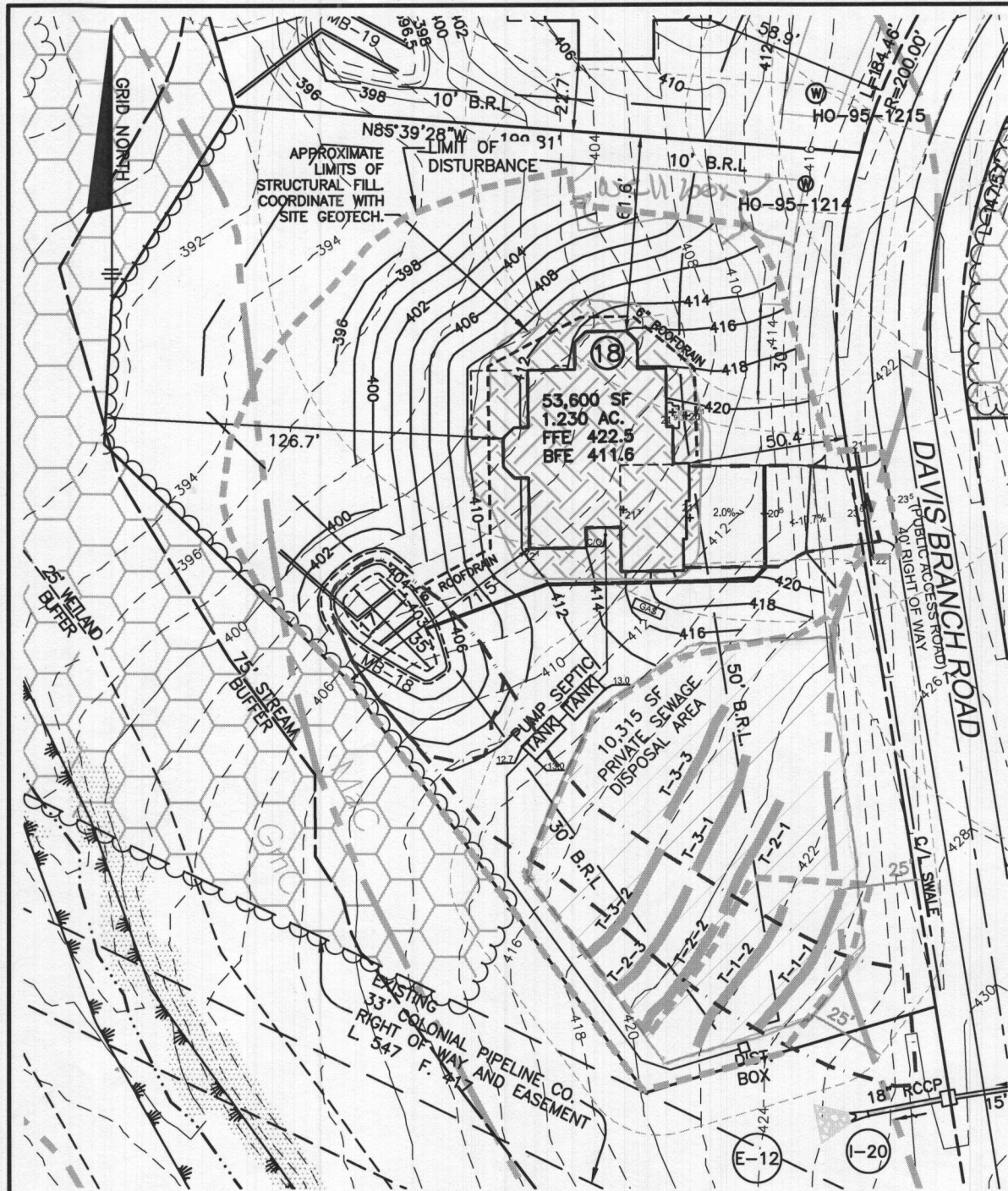
NOTE: The sizing of effluent systems normally requires variable level float(s) controls and properly sized basins to achieve required pumping cycles or dosing timers with nonautomatic pumps.
NOTE: See model comparison chart for specific details.



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**TOTAL DYNAMIC HEAD
FLOW PER MINUTE**

MODEL	151	152	153
Feet	1.8	2.0	2.6
Meters	0.55	0.61	0.79
GPM	30	35	45
LPM	113	130	168
Head	11	12	15
Flow	10	12	15
Head	15	16	20
Flow	15	18	23
Head	20	22	28
Flow	20	24	30
Head	25	26	33
Flow	25	28	35
Head	30	32	40
Flow	30	33	42
Head	35	36	45
Flow	35	36	45
Head	40	42	50
Flow	40	42	50
Head	45	48	55
Flow	45	48	55
Head	50	52	60
Flow	50	52	60
Head	55	58	65
Flow	55	58	65
Head	60	62	70
Flow	60	62	70
Head	65	68	75
Flow	65	68	75
Head	70	72	80
Flow	70	72	80
Head	75	78	85
Flow	75	78	85
Head	80	82	90
Flow	80	82	90
Head	85	88	95
Flow	85	88	95
Head	90	92	100
Flow	90	92	100
Head	95	98	105
Flow	95	98	105
Head	100	102	110
Flow	100	102	110
Head	105	108	115
Flow	105	108	115
Head	110	112	120
Flow	110	112	120
Head	115	118	125
Flow	115	118	125
Head	120	122	130
Flow	120	122	130
Head	125	128	135
Flow	125	128	135
Head	130	132	140
Flow	130	132	140
Head	135	138	145
Flow	135	138	145
Head	140	142	150
Flow	140	142	150
Head	145	148	155
Flow	145	148	155
Head	150	152	160
Flow	150	152	160
Head	155	158	165
Flow	155	158	165
Head	160	162	170
Flow	160	162	170
Head	165	168	175
Flow	165	168	175
Head	170	172	180
Flow	170	172	180
Head	175	178	185
Flow	175	178	185
Head	180	182	190
Flow	180	182	190
Head	185	188	195
Flow	185	188	195
Head	190	192	200
Flow	190	192	200
Head	195	198	205
Flow	195	198	205
Head	200	202	210
Flow	200	202	210
Head	205	208	215
Flow	205	208	215
Head	210	212	220
Flow	210	212	220
Head	215	218	225
Flow	215	218	225
Head	220	222	230
Flow	220	222	230
Head	225	228	235
Flow	225	228	235
Head	230	232	240
Flow	230	232	240
Head	235	238	245
Flow	235	238	245
Head	240	242	250
Flow	240	242	250
Head	245	248	255
Flow	245	248	255
Head	250	252	260
Flow	250	252	260
Head	255	258	265
Flow	255	258	265
Head	260	262	270
Flow	260	262	270
Head	265	268	275
Flow	265	268	275
Head	270	272	280
Flow	270	272	280
Head	275	278	285
Flow	275	278	285
Head	280	282	290
Flow	280	282	290
Head	285	288	295
Flow	285	288	295
Head	290	292	300
Flow	290	292	300
Head	295	298	305
Flow	295	298	305
Head	300	302	310
Flow	300	302	310
Head	305	308	315
Flow	305	308	315
Head	310	312	320
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Head	315	318	325
Flow	315	318	325
Head	320	322	330
Flow	320	322	330
Head	325	328	335
Flow	325	328	335
Head	330	332	340
Flow	330	332	340
Head	335	338	345
Flow	335	338	345
Head	340	342	350
Flow	340	342	350
Head	345	348	355
Flow	345	348	355
Head	350	352	360
Flow	350	352	360
Head	355	358	365
Flow	355	358	365
Head	360	362	370
Flow	360	362	370
Head	365	368	375
Flow	365	368	375
Head	370	372	380
Flow	370	372	380
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Flow	375	378	385
Head	380	382	390
Flow	380	382	390
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Flow	385	388	395
Head	390	392	400
Flow	390	392	400
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Flow	395	398	405
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Flow	400	402	410
Head	405	408	415
Flow	405	408	415
Head	410	412	420
Flow	410	412	420
Head	415	418	425
Flow	415	418	425
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Flow	420	422	430
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Flow	425	428	435
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Flow	430	432	440
Head	435	438	445
Flow	435	438	445
Head	440	442	450
Flow	440	442	450
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Flow	445	448	455
Head	450	452	460
Flow	450	452	460
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Flow	455	458	465
Head	460	462	470
Flow	460	462	470
Head	465	468	475
Flow	465	468	475
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Flow	470	472	480
Head	475	478	485
Flow	475	478	485
Head	480	482	490
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Flow	485	488	495
Head	490	492	500
Flow	490	492	500
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Flow	495	498	505
Head	500	502	510
Flow	500	502	510
Head	505	508	515
Flow	505	508	515
Head	510	512	520
Flow	510	512	520
Head	515	518	525
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Head	525	528	535
Flow	525	528	535
Head	530	532	540
Flow	530	532	540
Head	535	538	545
Flow	535	538	545
Head	540	542	550
Flow	540	542	550
Head	545	548	555
Flow	545	548	555
Head	550	552	560
Flow	550	552	560
Head	555	558	565
Flow	555	558	565
Head	560	562	570
Flow	560	562	570
Head	565	568	575
Flow	565	568	575
Head	570	572	580
Flow	570	572	580
Head	575	578	585
Flow	575	578	585
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Flow	580	582	590
Head	585	588	595
Flow	585	588	595
Head	590	592	600
Flow	590	592	600
Head	595	598	605
Flow	595	598	605
Head	600	602	610
Flow	600	602	610
Head	605	608	615
Flow	605	608	615
Head	610	612	620
Flow	610	612	620
Head	615	618	625
Flow	615	618	625
Head	620	622	630
Flow	620	622	630
Head	625	628	635
Flow	625	628	635
Head	630	632	640
Flow	630	632	640
Head	635	638	645
Flow	635	638	645
Head	640	642	650
Flow	640	642	650
Head	645	648	655
Flow	645	648	655
Head	650	652	660
Flow	650	652	660
Head	655	658	665
Flow	655	658	665
Head	660	662	670
Flow	660	662	670
Head	665	668	675
Flow	665	668	675
Head	670	672	680
Flow	670	672	680
Head	675	678	685
Flow	675	678	685
Head	680	682	690
Flow	680	682	690
Head	685	688	695
Flow	685	688	695
Head	690	692	700
Flow	690	692	700



PLAN VIEW
1" = 50'

GENERAL NOTES

1. THE LOT SHOWN HEREON WAS RECORDED ON THE PLAT FOR THE MYRTUE PROPERTY, PLAT No. 23866. REFER TO THE PLATS FOR LOT DIMENSIONS, LOT AREAS, ALL EASEMENTS AND CONDITIONS.
2. SEDIMENT AND EROSION CONTROLS WERE APPROVED BY HOWARD SOIL CONSERVATION DISTRICT UNDER GP-22-052. TOPOGRAPHY SHOWN HEREON IS TAKEN FROM THE APPROVED ROAD CONSTRUCTION PLANS F-06-104, PREPARED BY DAFT, McCUNE WALKER, INC. SEPT. 2007 AND REVISED BY BENCHMARK ENGINEERING, INC., DEC. 2015.
3. ALL SEDIMENT AND EROSION CONTROL FEATURES USED ON THIS SITE SHALL COMPLY WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
4. ALL DRAINAGE AND STORMWATER MANAGEMENT FEATURES USED ON THIS SITE MUST COMPLY WITH THE APPROVED ROAD CONSTRUCTION PLANS EXCEPT AS WAIVED.
5. THE EXISTING WELL SHOWN ON THIS PLAN, HO-95-1214, WAS FIELD LOCATED BY DMW, AND IS BELIEVED TO BE ACCURATELY SHOWN.
6. THERE ARE NO EXISTING WELLS OR SEPTIC SYSTEMS WITHIN 100' OF THIS PROJECT'S BOUNDARY EXCEPT AS NOTED.
7. ANY CHANGES TO A PRIVATE SEWAGE DISPOSAL AREA OR WELL BOX SHALL REQUIRE A REVISED PERCOLATION CERTIFICATION PLAN.
8. STORMWATER MANAGEMENT FOR THIS LOT IS PROVIDED BY ONE MICRO-BIORETENTION (MDE M-6).
9. RAINWATER SHALL BE CONVEYED TO THE SWM FACILITY WITH HDPE PIPES, ROOF LEADERS AND TRENCH DRAINS, AS SHOWN.

LEGEND

- 400 PROPOSED CONTOURS
- 398 EXISTING CONTOURS
- 400 EXISTING PRIVATE SEWAGE DISPOSAL AREA
- EXISTING WELL BOX
- PROPOSED TREELINE
- EXISTING TREELINE
- SOILS MAP SYMBOL
- SOILS DELINEATION LINE
- DRIVEWAY DISCONNECTION AND RECEIVING AREA
- LIMIT OF DISTURBANCE

Approved Septic System Plan
Howard County Health Department
5-bedroom residence
w/ rough-in bath
in unfinished basement
B. Buehler
Signature 4/1/2022
Date
B22001010
1921 Davis Branch Road

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.



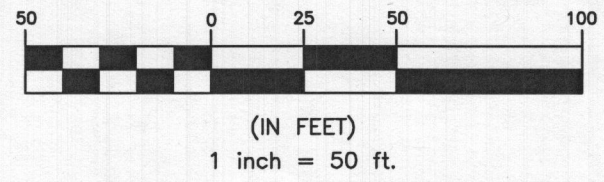
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2022.01.17 10:42:21 -05'00

BUILDER'S DATA

FINISHED FLOOR: 422.5
TOP OF WALL: 421.3
BASEMENT FLOOR: 411.6
BASEMENT SUBGRADE: 410.7
GARAGE FLOOR: 421.3
GARAGE LIP: 421.0
SEWER BELOW SLAB

GARAGE FLOOR IS EVEN WITH THE TOP OF THE REAR FOUNDATION WALL.



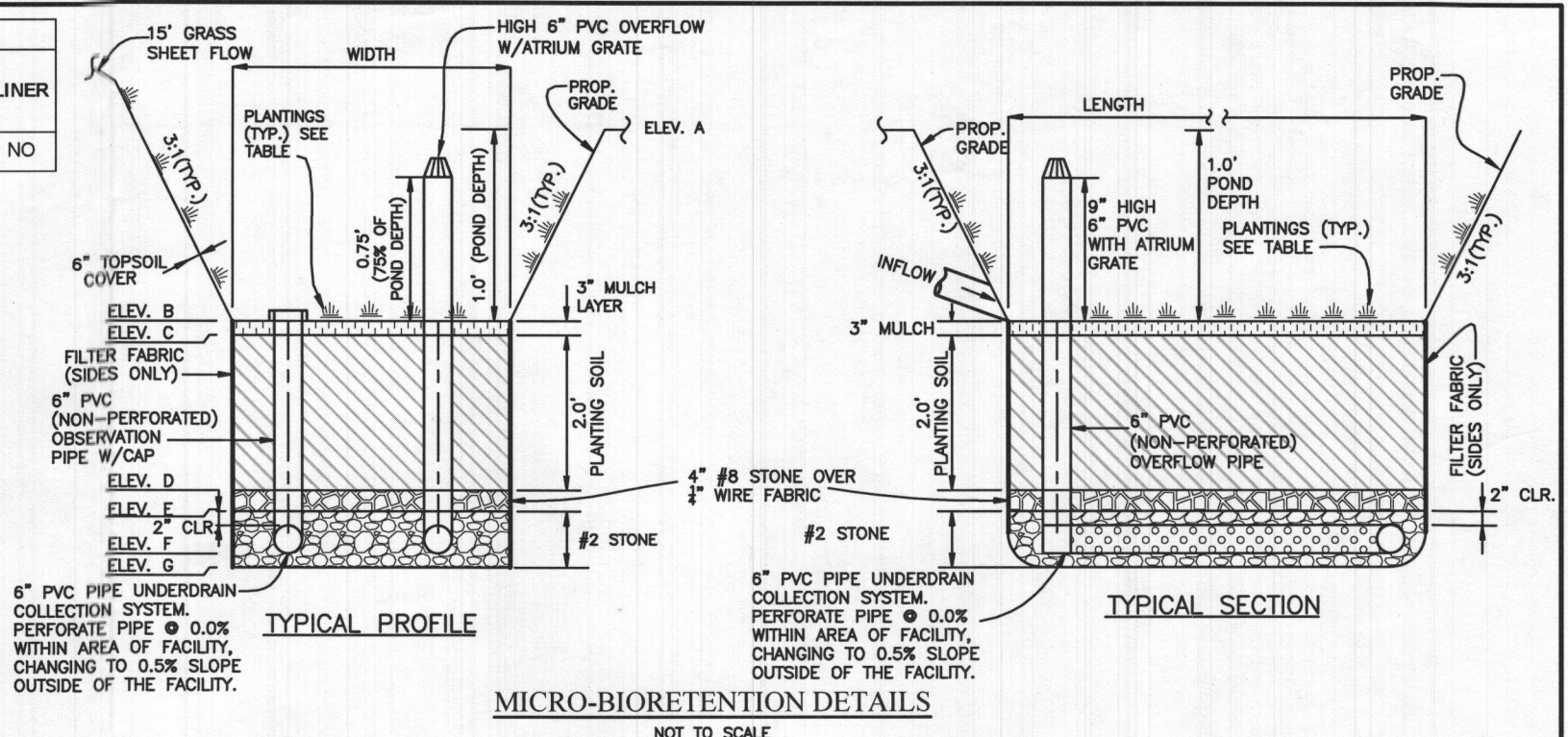
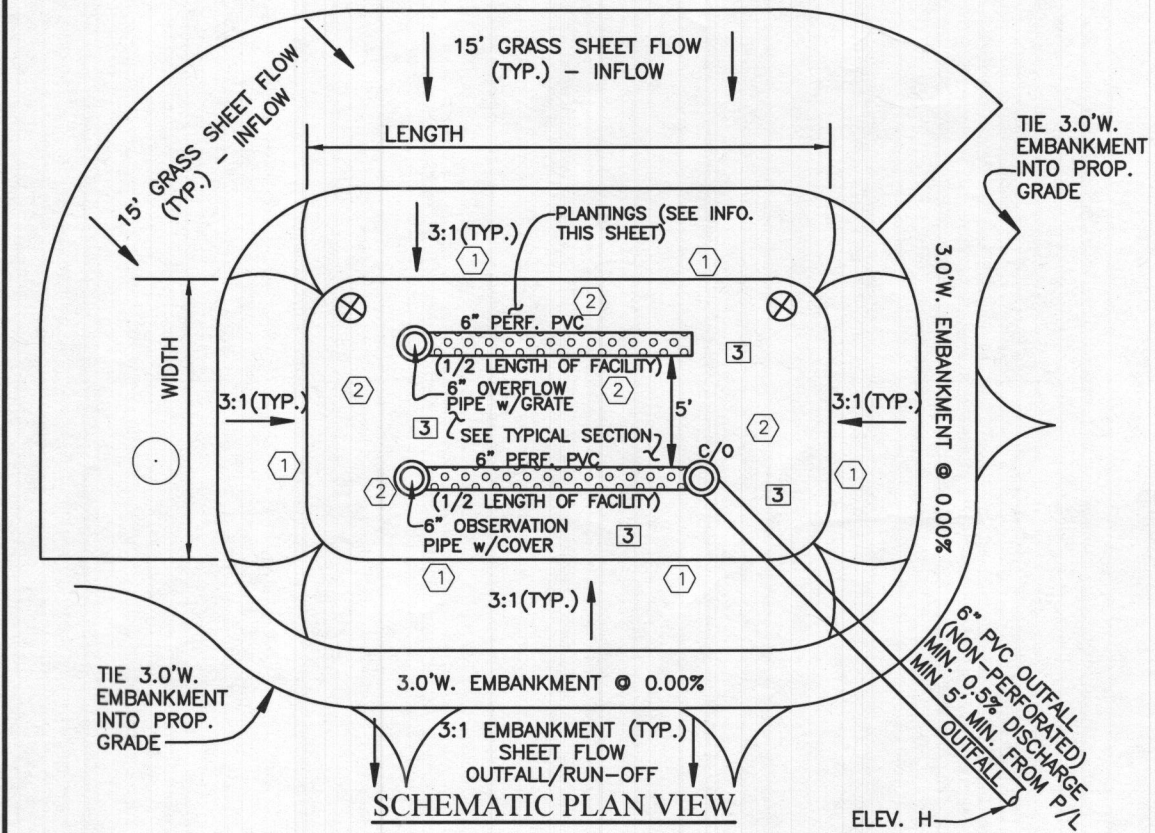
ESD STORMWATER MANAGEMENT SUMMARY TABLE													
Practice		#	DA to practice	Imp Area to practice	Af (s.f.)			ESDv			Rev (AC)		Ownership
Required	Provided	2% DA?	Required	Provided	Pe	Provided	Pe	Provided	Required	Provided			
(M-6) Micro-Bioretenion	#18		8,020	4,803	160	480	PASS	565	629	2.2	188.23	208.00	Private
Depth of Stone: 13.0 inches													

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-CIVILENGINEERING.COM

PROJECT:	MYRTUE PROPERTY LOT 18		
LOCATION:	TAX MAP: 10, GRID: 24, PARCEL: 225, ZONED: RC-DEO 1921 DAVIS BRANCH RD. WOODSTOCK, MD 21163 6TH ELECTION DISTRICT, HOWARD COUNTY, MD, TAX ID 352528		
TITLE:	BUILDING PERMIT PLAN		
HOUSE TYPE:	CUSTOM - KEYSTONE HOMES		
DATE:	DECEMBER, 2021	PROJECT NO.	2099
SCALE:	AS SHOWN	DRAWING	1 OF 2

ON-LOT BIORETENTION DIMENSIONS																
Practice	#	A	B	C	D	E	F	G	H	LENGTH	WIDTH	FILTER AREA	PLANTINGS			LINER
													1	2	3	
(M-6) Micro-Bioretenion	18	304.00	303.00	302.75	300.75	300.42	299.92	298.84	299.00	35	17	480	16	21	16	NO



MICROBIORETENTION PLANTING SCHEDULE

- (PLANTING SPECIES AND DENSITY CAN BE CHANGED OR SUBSTITUTED BY A LANDSCAPE ARCHITECT OR QUALIFIED DESIGNER)
- 1 IRIS FULVA (COPPER IRIS)
 - 2 LOBELIA CARDINALIS (CARDINAL FLOWER)
 - 3 RUDBECKIA SUBTOMENTOSA (SWEET CONEFLOWER)
 - ⊗ CALLUNA VULGARIS (HEATHER) (1 PER FACILITY)
 - ACER GINNALA (ARMUR MAPLE) (1 PER FACILITY)

MICROBIORETENTION PLANTING DATA

1. PLANTINGS WITHIN THE PONDING AREA OF THE FACILITY ARE TO BE OF A MEDIUM TO HIGH WATER TOLERANCE
2. PLANTINGS ALONG THE PERIMETER (BERM) AREA OF THE FACILITY ARE TO BE OF A LOW TO MEDIUM WATER TOLERANCE
3. AVOID PLANTINGS WITH EXCESSIVE ROOT MASS IN POND AREA OF THE RAIN GARDEN NEAR O.B. PIPE AND UNDERDRAIN.

OPERATION AND MAINTENANCE SCHEDULE FOR MICRO-BIORETENTION (M-6)

- A. THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL VOLUME II, TABLE A.4.1 AND 2.
- B. THE OWNER SHALL PERFORM A PLANT INSPECTION IN THE SPRING AND IN THE FALL OF EACH YEAR. DURING THE INSPECTION, THE OWNER SHALL REMOVE DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, REPLACE DEAD PLANT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL, TREAT DISEASED TREES AND SHRUBS, AND REPLACE ALL DEFICIENT STAKES AND WIRES.
- C. THE OWNER SHALL INSPECT THE MULCH EACH SPRING. THE MULCH SHALL BE REPLACED EVERY TWO TO THREE YEARS. THE PREVIOUS MULCH LAYER SHALL BE REMOVED BEFORE THE NEW LAYER IS APPLIED.
- D. THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.

MATERIALS & SPECIFICATIONS FOR MICRO-BIORETENTION

MATERIAL	SPECIFICATION	SIZE	NOTES:
PLANTINGS	SEE APPENDIX A; TABLE A.4	N/A	PLANTINGS ARE SITE SPECIFIC
PLANTING SOIL (2.0' TO 4.0' DEEP)	LOAMY SAND 60-65% COMPOST 35-40% OR SANDY LOAM 30% COARSE SAND 30% & COMPOST 40%	N/A	USDA SOIL TYPES: LOAMY SAND OR SANDY LOAM; CLAY CONTENT <5%
ORGANIC CONTENT	MIN 10% BY DRY WEIGHT ASTM D 2974		
MULCH	SHREDDED HARDWOOD	N/A	AGED 6 MONTHS, MINIMUM, NO PINE OR WOOD CHIPS
GEOTEXTILE (CLASS "C")		N/A	PE TYPE 1 NONWOVEN
GEOTEXTILE (1/4" WIRE MESH)		1/4" WIRE MESH	1/4" WIRE MESH
UNDERDRAIN GRAVEL	AASHTO M-43	NO. 57 OR NO. 6 0.375" TO 0.750"	
UNDERDRAIN PIPING	F758, TYPE PS28 OR AASHTO M-278	4" TO 6" RIGID SCH.40 PVC, SDR35 OR HDPE	3/8" PERF. @ 6" O/C, 4 HOLES PER ROW; MINIMUM OF 3" OF GRAVEL OVER PIPES. NOT NECESSARY UNDERNEATH PIPES. PIPE SHALL BE WRAPPED WITH 1/4-INCH GALVANIZED HARDWARE CLOTH
IMPERVIOUS LINER	ASTM-D-4833 (THICKNESS) ASTM-D-412 (TENSILE STRENGTH 1,100 LB., ELONGATION 200%) ASTM-D-624 (TEAR RESISTANCE - 150 LB./IN) ASTM-D-471 (WATER ADSORPTION: +8 TO -2% MASS)	30 MIL. THICK	LINER TO BE ULTRAVIOLET RESISTANT. A GEOTEXTILE FABRIC SHOULD BE USED TO PROTECT THE LINER FROM PUNCTURE.
GEOTEXTILE (BELOW IMPERV. LINER)	ASTM-D-4833 (PUNCTURE STRENGTH 125LB) ASTM-D-4632 (TENSILE STRENGTH 300 LB.)		

BENCHMARK
ENGINEERS ▲ LAND SURVEYORS ▲ PLANNERS

ENGINEERING, INC.
8480 BALTIMORE NATIONAL PIKE ▲ SUITE 315
ELLCOTT CITY, MARYLAND 21043
(P) 410-485-8105 ▲ (F) 410-485-8644

WWW.BEI-CVILENGINEERING.COM

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.



BEI-AAM

2021.12.13 10:15:30 -05'00

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

PROJECT:	MYRTUE PROPERTY LOT 18	
LOCATION:	TAX MAP: 10, GRID: 24, PARCEL: 225, ZONED: RC-DEO 1921 DAVIS BRANCH RD. WOODSTOCK, MD 21163 6TH ELECTION DISTRICT, HOWARD COUNTY, MD, TAX ID 352528	
TITLE:	BUILDING PERMIT PLAN	
HOUSE TYPE:	CUSTOM - KEYSTONE HOMES	
DATE:	DECEMBER, 2021	PROJECT NO. 2099
SCALE:	AS SHOWN	DRAWING <u>2</u> OF <u>2</u>

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

GENERAL NOTES

1. THE LOT SHOWN HEREON COMPLIES WITH THE MINIMUM OWNERSHIP WIDTH AND LOT AREA AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT. THE LOT SIZE FULFILLS THE REQUIREMENTS OF THE ZONING REGULATIONS, AND IS A RECORDED LOT, PLAT 23866.
2. THIS AREA DESIGNATES A PRIVATE SEWERAGE AREA OF AT LEAST 10,000 S.F. AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWERAGE DISPOSAL. IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWER IS AVAILABLE. THIS EASEMENT SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWER SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT ADJUSTMENTS TO THE PRIVATE SEWERAGE AREA. RECORDATION OF A MODIFIED SEWERAGE EASEMENT PLAT SHALL NOT BE REQUIRED.
3. TOPOGRAPHY SHOWN WAS FIELD SURVEY BY BENCHMARK ENGINEERING, INC. ON OCTOBER, 2021 AND CONSISTS OF 2 FOOT CONTOUR INTERVALS.
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. ANY CHANGES TO A PRIVATE SEWERAGE AREA SHALL REQUIRE A REVISED PERCOLATION CERTIFICATION PLAN.
6. THE EXISTING WELL SHOWN ON THIS PLAN (HO-95-1227) HAS BEEN FIELD LOCATED BY DAFT, McCUNE WALKER, INC. AND IS SHOWN IN ACCORDANCE WITH THEIR SURVEY.N.
7. PERCOLATION TEST FEE RECEIPT NUMBER IS 518006-C, DATED 11/22/02.

I CERTIFY THAT THE INFORMATION SHOWN HEREON IS BASED ON FIELD WORK PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION, AND IS CORRECT, TO THE BEST OF KNOWLEDGE AND BELIEF.

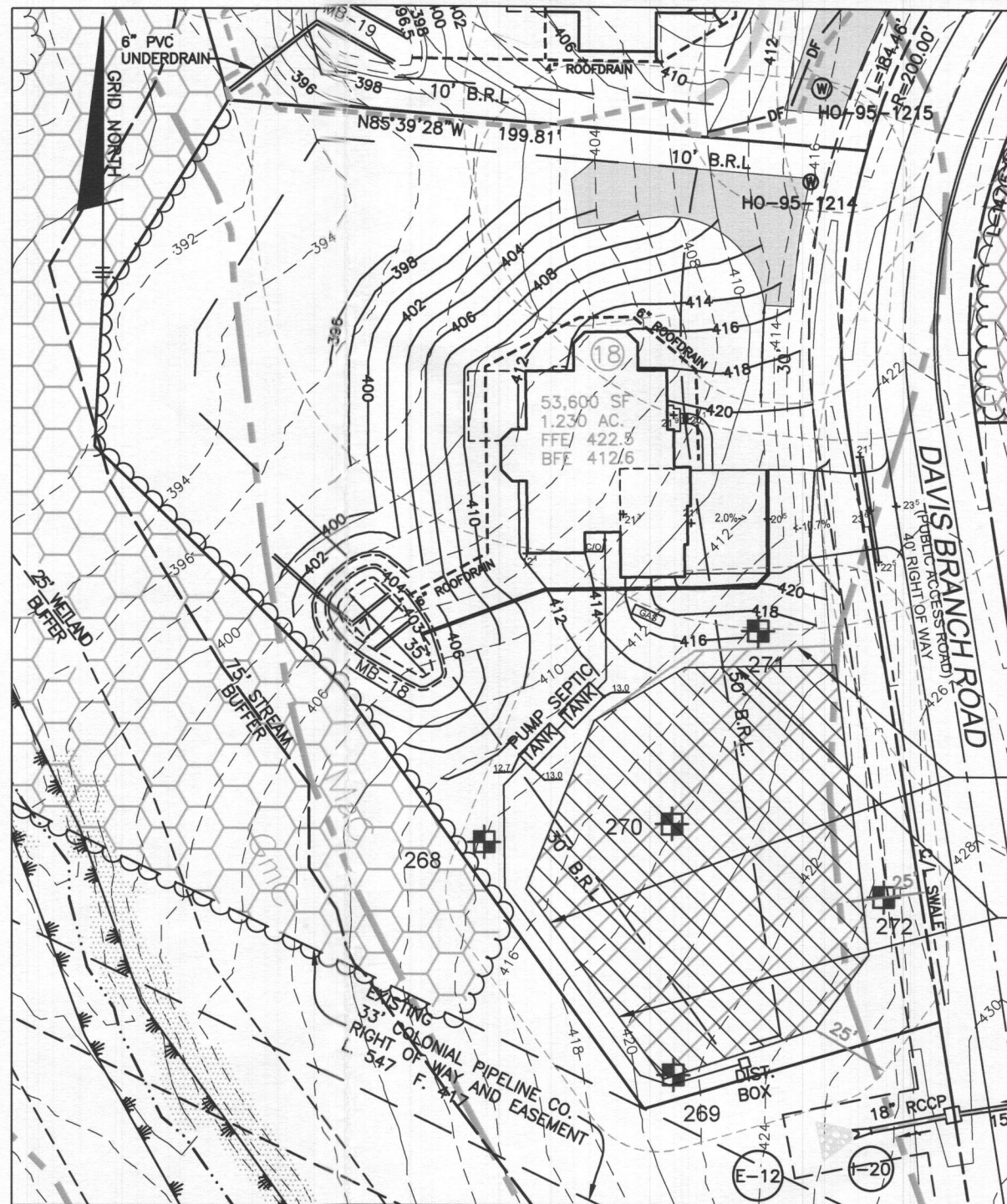
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2021.12.07 16:04:34 -05'00

ALICE A. MILLER, P.E.
PLAN PREPARER FOR BENCHMARK ENGINEERING

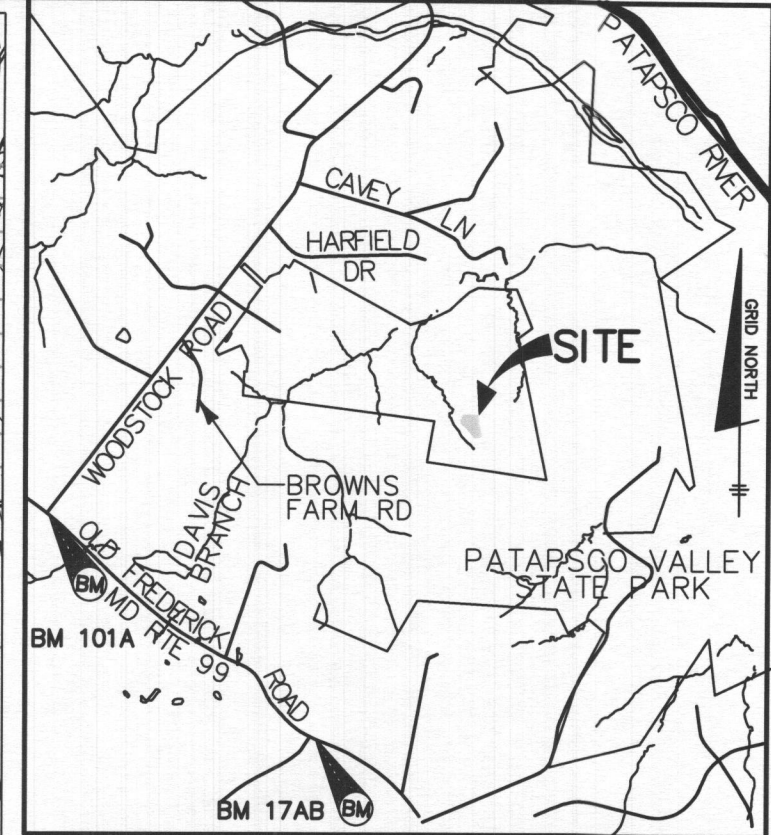
APPROVED FOR PRIVATE WATER AND SEWERAGE SYSTEM
HOWARD COUNTY HEALTH DEPARTMENT

DATE 12/22/21
HOWARD COUNTY HEALTH OFFICER



PLAN VIEW

1" = 50'



LOCATION MAP

SCALE: 1" = 2000'

EXISTING SEPTIC AREA PER 2007 SIGNED PERC CERTIFICATION (10,316 SF)

PROPOSED SEPTIC AREA (10,017 SF)

PURPOSE STATEMENT: THE PURPOSE OF THIS REVISED PERCOLATION PLAN IS TO ADJUST THE SEWAGE DISPOSAL AREA TO ACCOMMODATE GRADING FOR AN EXTENDED GARAGE.

PROJECT: **MYRTUE PROPERTY LOT 18**

LOCATION: TAX MAP: -10, GRID: 24, PARCEL: 225, ZONED: RC-DEO
1921 DAVIS BRANCH RD. WOODSTOCK, MD 21163
6TH ELECTION DISTRICT, HOWARD COUNTY, MD, TAX ID 352528

TITLE: **REVISED PERCOLATION CERTIFICATION**

HOUSE TYPE: **CUSTOM - KEYSTONE HOMES**

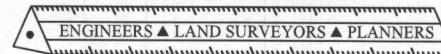
DATE: DECEMBER, 2021 PROJECT NO. 2099

SCALE: AS SHOWN DRAWING 1 OF 1

OWNER/BUILDER:

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

BENCHMARK



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

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