

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: 03/21/2021 **ONSITE SEWAGE DISPOSAL SYSTEM** P 568819

APPROVAL DATE: 07/23/2021 **PERMIT: CONSTRUCTION** A _____

PROPERTY ADDRESS: 5624 DOSA COURT, CLARKSVILLE, MD 21029

SUBDIVISION: THE WOODLANDS LOT: 2 TAX ID: 05-601707

CONTRACTOR: HAT FIELDS EQUIPMENT EMAIL: _____

CONTRACTOR ADDRESS: P.O. BOX 519 ANNAPOLIS JUNCTION MD 20701 PHONE: _____

CONTRACTOR CERTIFIED FOR BAT INSTALLATION: MDE MANUFACTURER:

MarinaMorris@WilliamsburgLLC.co

PROPERTY OWNER: WBG ESM LLC EMAIL: m

OWNER ADDRESS: 5485 HARPERS FARM ROAD, COLUMBIA, MD 21044 PHONE: (410)997-3800

BAT UNIT MODEL: NORWECO TNT 500 PUMP SIZE: 0.3 Hp PUMP TANK CAPACITY: 15000

OPERATION & MAINTENANCE AGREEMENT DATE SIGNED: _____ DATE RECORDED: _____

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

TRENCHES:	LINEAR FEET REQUIRED: <u>106</u>	INLET DEPTH: <u>2.0</u>
	TRENCH WIDTH: <u>3</u>	MAXIMUM BOTTOM DEPTH: <u>8.0</u>
	MINIMUM SPACE BETWEEN TRENCHES: <u>10</u>	EFFECTIVE AREA BEGINNING DEPTH: <u>5.0</u>

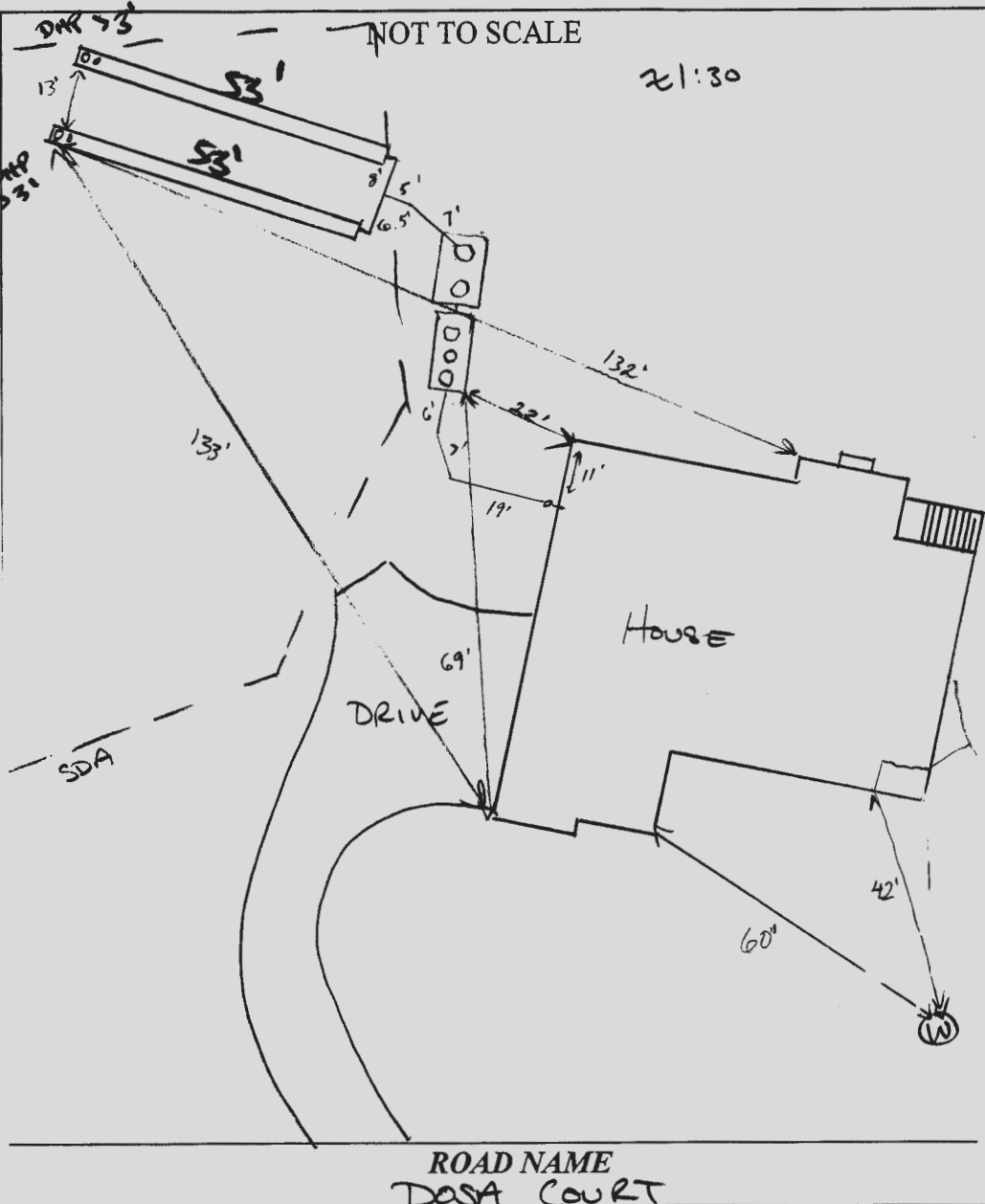
LOCATION: PER APPROVED SITE PLAN. SEWAGE DISPOSAL AREA AND BAT UNIT LOCATION MUST BE STAKED BY LICENSED SURVEYOR PRIOR TO PRE-CONSTRUCTION INSPECTION.

NOTES: The recommended pump is a GOULDS WS-03BHF, or equivalent
 Install Cleanout on SHC.
 The system must PASS a Pump and Alarm test for Final Approval of this permit prior to release of Use and Occupancy.

ISSUED BY: R BRICKER ISSUE DATE: 03/21/2021 EXPIRATION DATE: 03/21/2027

- 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 SEPTIC 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 20005786
- NOTE: AN INDIVIDUAL CERTIFIED BY MDE AND THE MANUFACTURER FOR BAT INSTALLATION MUST BE PRESENT AT ALL TIMES DURING BAT INSTALLATION.
- 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.**



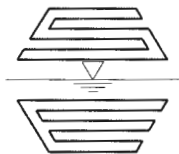
TRENCH/DRAINFIELD DATA		
WIDTH	INLET	BOTTOM
3	2	8
NUMBER OF TRENCHES		2
TOTAL LENGTH		106 F
ABSORPTION AREA		38 SF + SIDE WALL
DISTRIBUTION BOX LEVEL		LPD
DISTRIBUTION BOX BAFFLE		-
DISTRIBUTION BOX PORT		-

SEPTIC TANK DATA	
SEPTIC TANK 1 LEVEL	yps
MANUFACTURER	Norweco
CAPACITY	500 GAL
SEAM LOC	top
TANK LID DEPTH	2.5'
BAFFLES	no
BAFFLE FILTER	-
MANHOLE LOC	inlet, middle
6" PORT LOC	-
WATERTIGHT TEST	N/A
SLOTTED	N/A
DATE ON LID	2-11-21
PUMP/SEPTIC TANK LEVEL	yps
MANUFACTURER	Babylon
CAPACITY	1500 GAL
SEAM LOC	top
TANK LID DEPTH	3'
BAFFLES	no
BAFFLE FILTER	-
MANHOLE LOC	inlet & outlet
6" PORT LOC	-
WATERTIGHT TEST	-
SLOTTED	-
DATE ON LID	4-8-21

PRE-CONSTRUCTION:
 05/07/2021 CONFIRMED 3 BR w/ DEVELOPER + HEALTH PLAN REVIEW. (CONFIRMED)
 TRENCH CONTOUR. OK TO START. (P)

INSTALLATION: 05/17/2021 INSTALLED TWO TRENCH w/ LATERALS AND MANIFOLD. (P)
 5/18/21 Norweco and pump tank set, connected to manifold. SHC installed. Re-insp'd for BAT startup + P/A (S) 07/23/2021 P/A IS OK. DWP EXCEPT 3'. (P)

FINAL INSPECTOR [Signature] DATE OF APPROVAL 07/23/2021



16005 Frederick Road, 2nd Floor
Woodbine, MD 21797
Website: www.sillengineering.com
Civil Engineering for Land Development

Office: 443-325-5076
Fax: 410-696-2022
Email: info@sillengineering.com

SILL ENGINEERING GROUP, LLC

The Woodlands

Lot 2

5624 Dosa Court

Low Pressure Dosing System Report

August 03, 2020
Revised September 03, 2020
Revised September 15, 2020
Revised September 30, 2020
Revised October 9, 2020

OK
RB 10/15/2020

Prepared For:

Williamsburg Group
5485 Harpers Farm Road
Columbia, Md 21044



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,

The Woodlands, Lot 2
5624 Dosa Court
August 03, 2020
Revised September 30, 2020

License No. 32025,
Expiration Date: June 20, 2021

Project #20-003

Pressure Network Design

- Design Flow: 750 gpd
- Diameter of force main = 2.0"
- Diameter of manifold = 2.0"
- Diameter of lateral = 1.5"
- Material: Schedule 40 PVC

Septic System Trench Design Specifications

Initial System:

- Design Flow:
 - 5 Bedrooms at 150 gpd
 - $5 \times 150 \text{ gpd} = 750 \text{ gpd}$
- Application Rate: 1.2
 - Effective Area Beginning Depth: 5.0'
 - Bottom Maximum Depth: 8.0'
- Square Footage of Drain Field Required:
 - Design Flow (750 gpd) / Application Rate (1.2) = 625 sf
- Sidewall Reduction Credit:
 - Trench Width (W) = 3'
 - Trench Effective Depth (D) = 3.0'
 - $(W+2) / (W+1+2D) \times 100 = 50\%$
- Linear Length of Trench Required:
 - $$\frac{\text{Drain Field Square Footage (625)} \times \text{Sidewall Reduction Credit (0.50)}}{\text{Trench Width (3')}}$$
$$\text{Liner Length of Trench Required} = 104.17'$$
- Linear Length of Trench Provided = 106.0'
 - Two trenches at 53.0 lf each

Pumping System Design

- Dose Calculations:
 - Design Flow: 750 gpd
 - Volume of 2.0" pipe: 17.4 gallons per 100'
 - Volume of 1.5" pipe: 10.6 gallons per 100'
 - Dose to be the larger of:
 - $1/6^{\text{th}}$ the design flow: $1/6 \times 750 \text{ gallons} = 125.0 \text{ gallons}$
 - OR
 - Volume of Force Main + Volume of Manifold + 5x Volume of the Laterals:
 - $3.55 \text{ gallons} + 1.13 \text{ gallons} + 5.88 \text{ gallons} \times 5 = 34.08 \text{ gallons}$
- Minimum Dose = 125 gallons

The Woodlands, Lot 2
 5624 Dosa Court
 August 03, 2020
 Revised September 30, 2020

- Pump Design:
 - Pump flow required: 35.73 gpm: Use 36 gpm (see Pressure Distribution table for initial system)
 - Dose amount: 125 gallons
 - Pump run time: 3.47 minutes
 - Static head (see profile for detail): 8.5'
- Pipe Lengths:
 - 2.0" Force Main: 20.4'
 - 2.0" Manifold: 6.5'
 - 1.5" Lateral: 55.5' trench
- Friction head calculation (Table 4.3):

Pipe	2" Force Main	2.0" Manifold	1.5" Manifold	1.5" Lateral
1/4 Bend (90°)	3 @ 8.0' = 24.0'	2 @ 8.0' = 16.0'	-	-
1/8 Bend (45°)	2 @ 4.0' = 8.0'	-	-	-
1/16 Bend (22.5°)	-	-	-	-
1/32 Bend (11.25°)	-	-	-	-
Gate Valve	-	-	-	-
Standard Tee	1 @ 10.0' = 10.0'	-	-	-
Run Tee	-	-	-	-
Cross	-	-	-	-
Reducer	-	1 - 1.5"x2.0" @ 1.0' = 1.0'	-	-
Couplings	-	-	-	4 @ 1.5' = 6.0'
Quick Connect/Disconnect	1 @ 4.5' = 4.5'	-	-	-
Total Equivalent Length of pipe	46.5'	17.0'	N/A	6.0'

- Flow at 2.0" pipe (force main) = 36 gpm
 - Friction loss per 100' (Table 4.4) of 2.0" schedule 40 plastic pipe: 2.16
 - Total equivalent length of 2.0" FM and appurtenances =
 $20.4' + 46.5' = 66.9/100 = 0.669 \times 2.16 = 1.45'$
- Flow at 2.0" pipe (manifold) = 18 gpm
 - Friction loss per 100' (Table 4.4) of 2.0" schedule 40 plastic pipe: 0.62
 - Total equivalent length of 2.0" FM and appurtenances =
 $6.5' + 17.0' = 23.5/100 = 0.235 \times 0.62 = 0.15'$

The Woodlands, Lot 2
5624 Dosa Court
August 03, 2020
Revised September 30, 2020

- Flow at 1.5" pipe (lateral) = 18 gpm
 - Friction loss per 100' (Table 4.4) of 1.5" schedule 40 plastic pipe: 2.07
 - Total equivalent length of 1.5" FM and appurtenances =
 $55.5' + 6.0' = 61.5/100 = 0.615 \times 2.07 = 1.27'$
- Total Friction Head = $1.45' + 0.15' + 1.27' = 2.87'$

- Total Dynamic Head = Static head + Distal Head + Friction head + Lateral friction head safety factor =

$$8.50' + 2.5' + 2.87' + 1.5' = 15.37 \text{ use } 16'$$

- Pump Chamber Design:

- For pump tank dimensions and detail, see plans.
- Cross sectional area of tank: 50.82cf per one vertical foot
- Pump chamber elevations:
 - Proposed grade at top of tank (at inlet): 507.7
 - Top of pump tank (interior): 504.42
 - Pump chamber invert in: 503.67
 - High Water Alarm: 502.41
 - Pump On: 501.91
 - Pump Off: 501.58
 - Bottom inside slab of tank: 499.50
- Pump Chamber volumes:
 - Invert In to High Water Alarm: 64.0332 cf or 479.0 gallons
 - Pump On to Pump Off: 16.7706 cf or 125.5 gallons
 - Excess volume above Pump On: 144.3457 cf or 1,079.8 gallons
- Design based on:
 - Goulds WS03BHF series pump or equivalent
 - Babylon Vaults 1,500-gallon septic tank or equivalent

→ 4" height/depth

PRESSURE DISTRIBUTION ON SLOPING SITES

The Woodlands, LOT 2 - Pressure System

Lateral No.	Prop. Grd Elev. (ft)	Invert Elev. (ft)	Trench Bottom Elev. (ft)	Lateral Length (ft)	Head (ft)	Orifice Diameter (in)	Orifice Flow Rate (gpm)	Orifice Spacing (ft)	Number of Orifices	Trench Flow Rate (gpm)	
I1	510.50	508.5	502.50	52	2.0	5/16	1.63	4.7	11	17.93	ZONE 1
I2	510.05	508.1	502.05	52	2.4	5/16	1.78	5.2	10	17.80	

104

35.73 TOTALS
Use 36 gpm

Trench I1

Effective area beginning depth = 5

Trench depth = 8

Trench I2

Effective area beginning depth = 5

Trench depth = 8

xylem
Let's Solve Water

TECHNICAL BROCHURE

B3887BHF R4



WS_BHF Series

Model 3887BHF

SUBMERSIBLE SEWAGE PUMP



 **GOULDS**
WATER TECHNOLOGY
a xylem brand

FEATURES

Impeller: Cast iron, enclosed, non-clog, dynamically balanced with pump out vanes for mechanical seal protection.

Casing: Cast iron flanged volute type for maximum efficiency. Designed for easy installation on A10-20 slide rail or base elbow rail systems.

Mechanical Seal: SILICON CARBIDE VS. SILICON CARBIDE sealing faces for superior abrasive resistance, stainless steel metal parts, BUNA-N elastomers.

Shaft: Corrosion-resistant, 300 series stainless steel. Threaded design. Locknut on all models to guard against component damage on accidental reverse rotation.

Fasteners: 300 series stainless steel.

Capable of running dry without damage to components.

Designed for continuous operation when fully submerged.

EXTENDED WARRANTY AVAILABLE FOR RESIDENTIAL APPLICATIONS.

APPLICATIONS

Specifically designed for the following uses:

- Homes
- Water transfer
- Sewage systems
- Light industrial
- Dewatering/Effluent
- Commercial applications

Anywhere waste or drainage must be disposed of quickly, quietly and efficiently.

SPECIFICATIONS

Pump

- Solids handling capabilities: 2" maximum
- Capacities: up to 220 GPM
- Total heads: up to 81 feet TDH
- Discharge size: 2" NPT threaded companion flange as standard. 3" option available but must be ordered separately. (Order no. A1-3)
- Temperature: 104°F (40°C) continuous
140°F (60°C) intermittent.

MOTORS

- Fully submerged in high grade turbine oil for lubrication and efficient heat transfer. All ratings are within the working limits of the motor.

Class B insulation on 1/3-1 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.
- 1/3 - 1 HP models have NEMA three prong ground-ing plugs.
- 1 1/2 HP and larger units have bare lead cord ends.

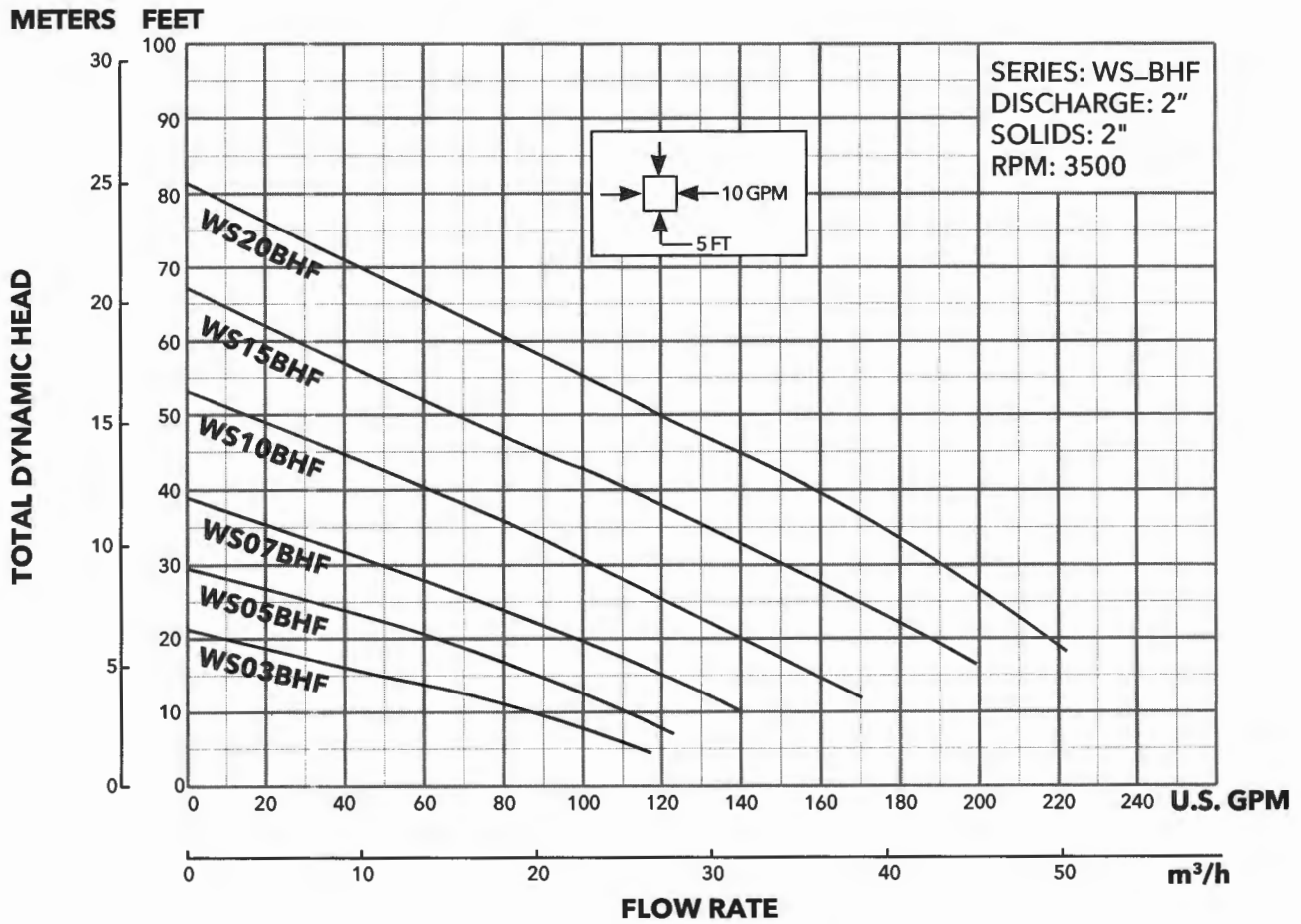
Three phase (60 Hz):

- Class 10 overload protection must be provided in separately ordered starter unit.
- STOW power cords all have bare lead cord ends.
- Bearings: Upper and lower heavy duty ball bearing construction.
- Designed for Continuous Operation: Pump ratings are within the motor manufacturer's recommended working limits, can be operated continuously without damage when fully submerged.
- 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.
- Motor Cover O-ring: Assures positive sealing against contaminants and oil leakage.

AGENCY LISTINGS

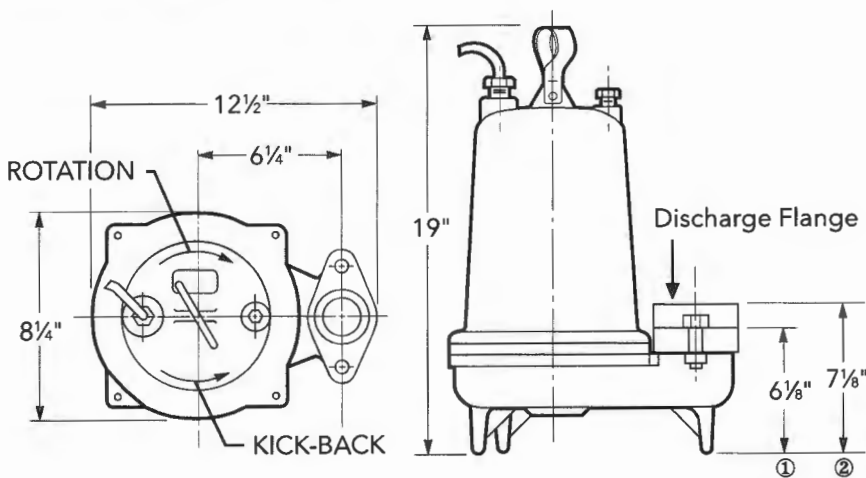


Tested to UL 778 and CSA 22.2 108 Standards
By Canadian Standards Association
File #LR38549



DIMENSIONS

(All dimensions are in inches. Do not use for construction purposes.)



MOTOR AND MODEL INFORMATION

Order Number	HP	Phase	Volts	RPM	Impeller Diameter (in.)	Maximum Amps	Locked Rotor Amps	KVA Code	Full Load Motor Efficiency %	Resistance	
										Start	Line-Line
WS0311BHF	0.33	1	115	3500	2.94	12.4	46.0	M	54	7.5	1.0
WS0318BHF			208			6.8	31.0	K	68	9.7	2.4
WS0312BHF			230			6.2	34.5	M	53	9.6	4.0
WS0511BHF	0.5	1	115		3.19	14.5	46.0	M	54	7.5	1.0
WS0518BHF			208			8.4	31.0	K	68	9.7	2.4
WS0512BHF			230			7.6	34.5	M	53	9.6	4.0
WS0538BHF		3	200			4.9	22.6	R	68	-	3.8
WS0532BHF			230			3.6	18.8	R	70	-	5.8
WS0534BHF			460			1.8	9.4	R	70	-	23.2
WS0537BHF	575	1.5	7.5		R	62	-	35.3			
WS0718BHF	0.75	1	208		3.44	11.0	31.0	K	68	9.7	2.4
WS0712BHF			230			10.0	27.5	J	65	12.2	2.7
WS0738BHF		3	200			6.2	20.6	L	64	-	5.7
WS0732BHF			230			5.4	15.7	K	68	-	8.6
WS0734BHF			460			2.7	7.9	K	68	-	11
WS0737BHF			575			2.2	9.9	L	78	-	26.5
WS1018BHF	1	1	208		3.75	14.5	59.0	K	68	9.3	1.1
WS1012BHF			230			13.0	36.2	J	69	10.3	2.1
WS1038BHF		3	200	8.6		27.6	M	77	-	2.7	
WS1032BHF			230	7.5		24.1	L	79	-	4.1	
WS1034BHF			460	3.8		12.1	L	79	-	16.2	
WS1037BHF			575	3.1		9.9	L	78	-	26.5	
WS1512BHF	1.5	1	230	4.00	18.0	52.0	J	67	2.76	0.53	
WS1538BHF		3	200		10.0	42.4	K	78	-	1.7	
WS1532BHF			230		9.6	42.4	K	78	-	1.7	
WS1534BHF			460		4.8	21.2	K	78	-	6.6	
WS1537BHF			575		3.9	16.3	L	78	-	10.5	
WS2012BHF	2	1	230	4.44	18.0	49.6	F	78	3.2	1.1	
WS2038BHF			200		12.0	42.4	K	78	-	1.7	
WS2032BHF		3	230		11.6	42.4	K	78	-	1.7	
WS2034BHF			460		5.8	21.2	K	78	-	6.6	
WS2037BHF			575		4.7	16.3	L	78	-	10.5	

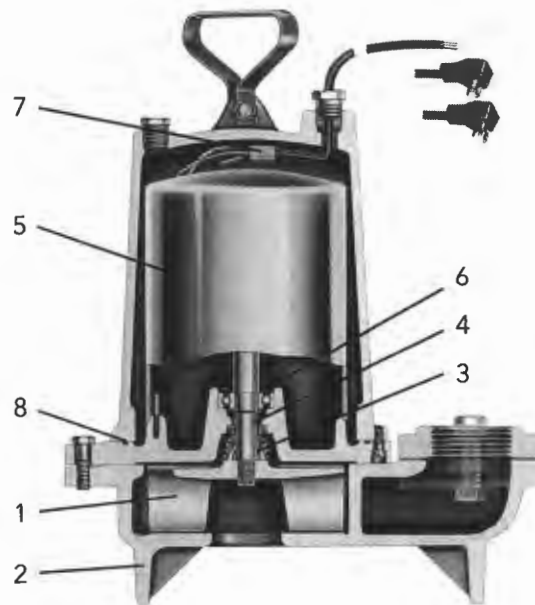
PERFORMANCE RATINGS (gallons per minute)

Order No.	WS03-BHF	WS05-BHF	WS07-BHF	WS10-BHF	WS15-BHF	WS20-BHF	
Total Head Feet of Water	HP	1/3	1/2	3/4	1	1 1/2	2
	RPM	3500	3500	3500	3500	3500	3500
	10	86	110	140	-	-	-
	15	48	88	120	158	-	-
	20	-	62	98	139	186	217
	25	-	32	74	120	170	204
	30	-	-	49	101	150	190
	35	-	-	21	82	130	175
	40	-	-	-	60	110	159
	45	-	-	-	38	88	140
	50	-	-	-	-	67	120
	55	-	-	-	-	47	100
	60	-	-	-	-	29	80
	65	-	-	-	-	-	62
	70	-	-	-	-	-	43
	75	-	-	-	-	-	23

COMPONENTS (for reference only)

Item No.	Description
1	Impeller
2	Casing
3	Mechanical Seal
4	Motor Shaft
5	Motor
6	Ball Bearings
7	Power Cable
8	Casing O-Ring

* For repair parts, reference repair parts book.



STANDARD PANEL OPTIONS

Pump Order Number	K Series		Boulay Series	
	Simplex	Duplex	Simplex	Duplex
WS0311BHF	KS19020WF	KD19020WF	S10020	D10020
WS0318BHF	KS19020WF	KD19020WF	S10020	D10020
WS0312BHF	KS19020WF	KD19020WF	S10020	D10020
WS0511BHF	KS19020WF	KD19020WF	S10020	D10020
WS0518BHF	KS19020WF	KD19020WF	S10020	D10020
WS0512BHF	KS19020WF	KD19020WF	S10020	D10020
WS0538BHF	KS34518WF	KD34518WF	S34063	D34063
WS0532BHF	KS31255WF	KD31255WF	S32540	D32540
WS0534BHF	KS31255WF	KD31255WF	S31625	D31625
WS0537BHF	N/A	N/A	S31625	D31625
WS0718BHF	KS19020WF	KD19020WF	S10020	D10020
WS0712BHF	KS19020WF	KD19020WF	S10020	D10020
WS0738BHF	KS34518WF	KD34518WF	S34063	D34063
WS0732BHF	KS34518WF	KD34518WF	S34063	D34063
WS0734BHF	KS31255WF	KD31255WF	S32540	D32540
WS0734BHF	KS31255WF	KD31255WF	S31625	D31625
WS1018BHF	KS19020WF	KD19020WF	S10020	D10020
WS1012BHF	KS19020WF	KD19020WF	S10020	D10020
WS1038BHF	KS34518WF	KD34518WF	S36310	D36310
WS1032BHF	KS34518WF	KD34518WF	S36310	D36310
WS1034BHF	KS31255WF	KD31255WF	S32540	D32540
WS1037BHF	N/A	N/A	S32540	D32540
WS1512BHF	KS19020WF	KD19020WF	S10020	D10020
WS1538BHF	KS34518WF	KD34518WF	S31016	D31016
WS1532BHF	KS34518WF	KD34518WF	S36310	D36310
WS1534BHF	KS31255WF	KD31255WF	S34063	D34063
WS1537BHF	N/A	N/A	S32540	D32540
WS2012BHF	KS19020WF	KD19020WF	S10020	D10020
WS2038BHF	KS34518WF	KD34518WF	S31016	D31016
WS2032BHF	KS34518WF	KD34518WF	S31016	D31016
WS2034BHF	KS34518WF	KD34518WF	S34063	D34063
WS2037BHF	N/A	N/A	S34063	D34063

Note: Boulay Series part numbers have additional available features, see page 7 for more information.

Note: K Series panel part numbers include floats, to order without float switches, remove the 'WF' suffix. Boulay Series panels do not include float switches.



K-SERIES

- NEMA 4X dead front outdoor rated enclosure
- Red LED alarm beacon
- HOA selector switch
- Field wiring terminal block
- Single phase models handle 120, 208 and 230V service
- Three phase models handle 200, 230 and 460V service
- Requires separate control/alarm power feed
- See brochure "BCPKSDPANELS" for additional information

BOULAY SERIES

- NEMA 4X outdoor rated enclosure
- Red alarm beacon
- HOA selector switch
- Through door pump run light(s)
- Through door alarm test and horn silence button
- Single phase models handle 120, 208 and 230V service
- Three phase models handle 200, 230, 460 and 575V service
- Accepts single or dual power feed
- See brochure "BCP3 R11" for additional information on simplex models
- See brochure "BCP4 R14" for additional information on duplex models

Xylem |'zīləm|

- 1) The tissue in plants that brings water upward from the roots;
- 2) a leading global water technology company.

We're a global team unified in a common purpose: creating advanced technology solutions to the world's water challenges. Developing new technologies that will improve the way water is used, conserved, and re-used in the future is central to our work. Our products and services move, treat, analyze, monitor and return water to the environment, in public utility, industrial, residential and commercial building services settings. Xylem also provides a leading portfolio of smart metering, network technologies and advanced analytics solutions for water, electric and gas utilities. In more than 150 countries, we have strong, long-standing relationships with customers who know us for our powerful combination of leading product brands and applications expertise with a strong focus on developing comprehensive, sustainable solutions.

For more information on how Xylem can help you, go to www.xylem.com

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www.xylem.com/goulds

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Bricker, Robert

From: Bricker, Robert
Sent: Thursday, August 27, 2020 12:16 PM
To: Paul Sill
Subject: Addendum_ 5624 Dosa Ct_BAT Plan comments

Paul,
Adding to my comments: re-title the calculation for 1st Replacement System trench length and re-calculate length using 3.5 feet as depth for beginning effective absorption area.

Robert Bricker, REHS/RS, L.E.H.S.
Howard County Health Department
Bureau of Environmental Health
Well & Septic Program
8930 Stanford Boulevard
Columbia, MD 21045
410.313.2691 (Office)
rbricker@howardcountymd.gov



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From: Bricker, Robert
Sent: Thursday, August 27, 2020 11:58 AM
To: Paul Sill <paul@sillengineering.com>
Subject: 5624 Dosa Ct_BAT Plan comments

The submitted BAT Plan for 5624 Dosa Ct is not approvable at this time.

1. Percolation test locations with correct labels are required content. Include appropriate entries in the Legend.
2. The spacing between perforations in laterals is too wide. I suggest using 10 and 11 perforations for the upper and lower laterals, respectively. This will result in a slightly longer upper trench.
3. The Myers CMV5 pump will not be approved for utilization in the pump tank. The range of operation would not be adjustable without pulling the pump. Additionally, I read the technical data for it and found no mention of interfacing with a control panel required additional float for High Water Alarm. Myers does make pumps appropriate for this application as do other pump manufacturers.

Robert Bricker, REHS/RS, L.E.H.S.
Howard County Health Department
Bureau of Environmental Health

Bricker, Robert

From: Bricker, Robert
Sent: Thursday, April 1, 2021 12:59 PM
To: Marina Morris
Cc: Rob Scranton; Paul Sill
Subject: 5624 Dosa Court revision_BAT Site Plan issue

Good day Marina,

I have reviewed the submitted revision that adds a conservatory and modifies the basement at 5624 Dosa Court (The Woodlands, Lot 2). A revision of the BAT Site Plan is needed for the purposes of updating the footprint of the foundation and for adding capacity to all of the components of the proposed septic system. In essence, the BAT unit, the pump tank and the trench system need to be at design capacity to serve a 6-bedroom residence.

Release of the Septic System Permit for system installation will be held until the BAT Site Plan revision is approved. Also, an Operation and Maintenance Agreement for the BAT unit must be submitted for recording prior to release of the installation permit.

Robert Bricker, REHS/RS, L.E.H.S.
Howard County Health Department
Bureau of Environmental Health
Well & Septic Program
8930 Stanford Boulevard
Columbia, MD 21045
410.313.2691 (Office)
rbricker@howardcountymd.gov



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BACK RIVER PRE-CAST, LLC
 PO BOX 329
 GLYNDON, MD 21071
 PH# 410-833-3394

NORWECO CERTIFICATION

PROPERTY OWNER: WILLIAMSBURG GROUP, LLC	INSTALLATION COMPANY: HATFIELD
ADDRESS: 5624 DOSA CT.	CERTIFIED INSTALLER: TODD TRACEY
CITY, ZIPCODE & COUNTY: CLARKSVILLE, 21029, HOWARD	PERMIT#
SIZE OF SYSTEM INSTALLED:	DATE INSTALLED: 05-17-21
6000 GPD CONCRETE	START-UP DATE: 07-23-21
NUMBER OF BEDROOMS:	DATE OF FINAL INSPECTION:
TYPE OF INSTALLATION: NEW CONSTRUCTION	DATE OF ELECTRICAL INSPECTION:
ELECTRICAL WIRING PER ELECTRICAL INSTRUCTIONS: YES	TANK LEVEL: YES
HT. OF CONTROL PANEL ABOVE FINAL GRADE: 30"	BURIAL DEPTH OF TANK: 24"
SYSTEM WIRED ON A 15-AMP DEDICATED CIRCUIT WITH STD. BREAKER: YES	RISERS 4" - 6" ABOVE GRADE: YES
LENGTH(S) OF UF WIRE PAST LAST AERATION RISER(S): 30"	VENTED LID(S) ON AERATION CHAMBER(S): YES
FEMALE PLUG(S) WIRED TO UF WIRE: YES	ANY GROUND SETTLING AROUND TANK: NO
CONDUIT(S) ENTERING AERATION RISER MADE WITH A WATERTIGHT CONNECTION: YES	
ISTHE INSIDE OF THE CONDUIT ENTERING THE CONTROL PANEL(S) AND AERATION RISER(S) SEALED WITH DUCT SEAL: YES	

ON 2ND PAGE MAKE A ROUGH SKETCH OF THE HOUSE ,WHERE THE SYSTEM IS LOCATED, WHERE THE CONTROL PANEL IS LOCATED , WHERE THE FRONT OF THE IS AND DIRECTIONS TO THE PROPERTY.

DIRECTIONS CAN START A FEW STREETS AWAY

EXAMPLE: RT. X LEFT ONTO XX STREET RIGHT ONTO PRIVATE DRIVEWAY 5TH HOUSE OF THE LEFT.

I certify that the Norweco Singulair TNT Wastewater Treatment System was installed according to the manufacture's specifications.

Matthew Geckle

July 23, 2021

Signature of BRP Representative

Vice-President

Date

Chamblis Property
Lot 2

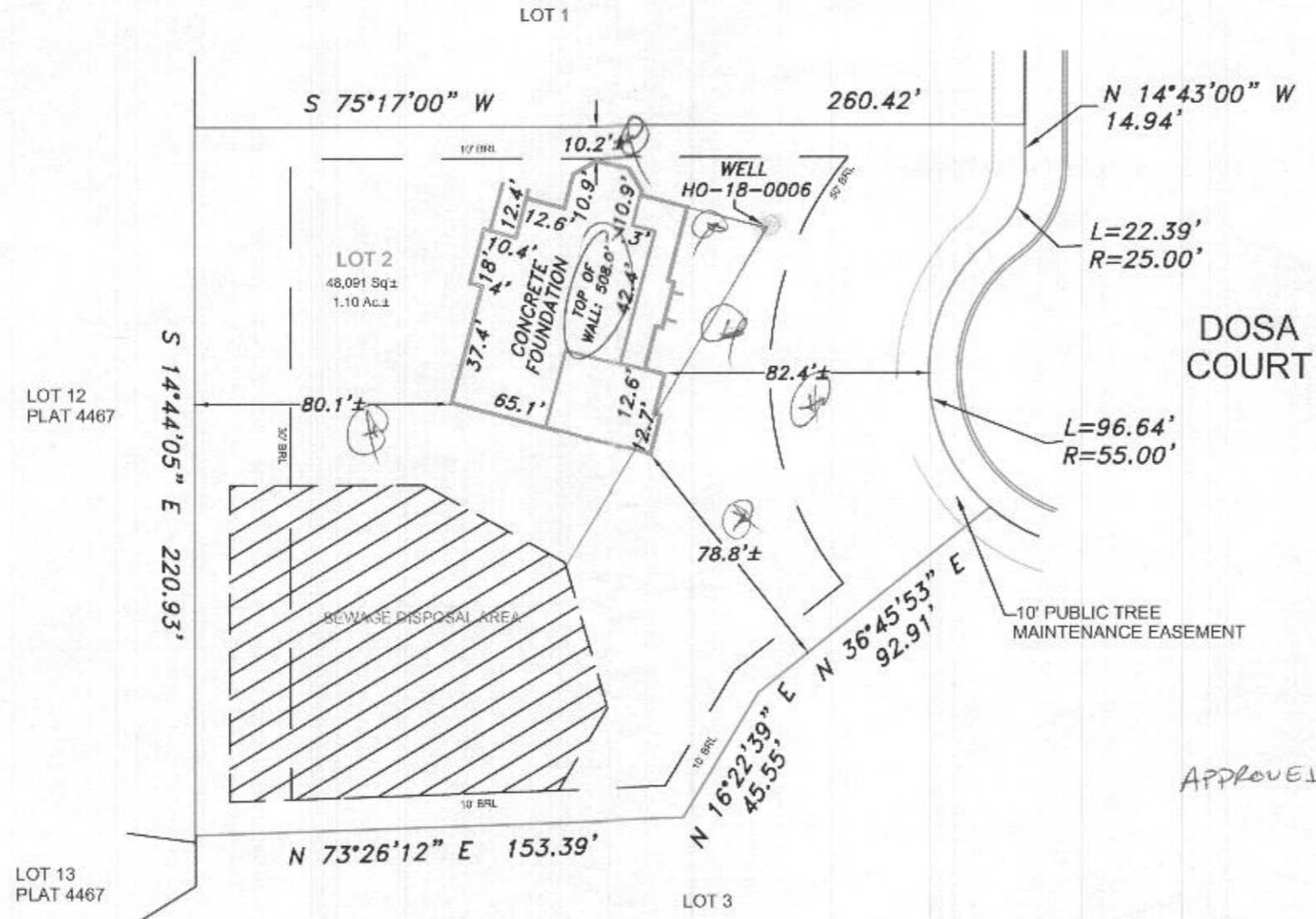
FILE INQUIRY NOTES

DATE	RESULTS OF REVIEW FOR FILE
10/21/14	* A BAT unit must be included in septic system for lot 2 (Per Cert, Oct 2014)
	* All septic system distribution networks for lot 2 must be designed for pressure distribution or equivalent.
	R. Buckner

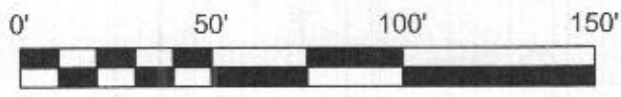
GENERAL NOTES:

- 1) The accuracy of the distances shown from any structure to any apparent property line is 1'±.
- 2) This drawing does not represent a Boundary Survey. Any property markers labeled hereon are not guaranteed by NTT Associates, Inc.
- 3) This plat is of benefit to a consumer only insofar as it is required by a lender, a title insurance company or its agent in connection with contemplated transfer, financing, or refinancing.
- 4) This plat does not provide for the accurate identification of property boundary lines, but such identification may not be required, for the transfer of title or securing financing or refinancing.
- 5) This plat is not to be relied upon for the establishment or location of fences, garages, buildings, or other existing or future improvements.
- 6) Unless noted on the drawing, no title report was provided. This drawing was prepared by examining the current title deed or record plat. Any easements, restrictions, rights of way, or any other property alterations not referred to in the current title deed may not be shown.
- 7) Unless otherwise noted, the bearings and north arrow shown hereon are in the meridian of the current title deed or record plat.
- 8) Building Restriction Line Information, if shown, was obtained from existing records only and is not guaranteed by NTT Associates, Inc.
- 9) Flood Zone Information shown on FIRM maps is subject to interpretation.
- 10) Improvements which in the surveyor's opinion appear to be in a state of disrepair or considered "temporary" may not be shown.
- 11) If it appears encroachments may exist, a Boundary Survey is recommended to determine the exact location of the property boundary lines and improvements.
- 12) The locations of fence lines, if shown, are approximate.

Subject property is shown in Zone X on the FIRM Map of Howard County, Maryland on Community Panel Number 24027C0130 D , effective 11/06/2013



APPROVED 04/16/2021



The purpose of this drawing is to locate, describe, and represent the positions of buildings and substantial improvements affecting the property shown hereon, being known as: LOT 2 as shown on the plat entitled "THE WOODLANDS" recorded among the land records of Howard County, Maryland in Plat Number 25052

This is to certify that I either personally prepared or was in responsible charge over the preparation of this drawing and the surveying work reflected in it, all set forth in Regulation .12 of Chapter 09.13.06 of the Code of Maryland Annotated Regulations.



James Carl Hudgins
Property Line Surveyor #96
Expiration Date: 3/11/2022

WALL CHECK
5624 DOSA COURT
5th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

NTT Associates, Inc.
16205 Old Frederick Rd.
Mt. Airy, Maryland 21771
Phone: (410) 442-2031
Fax: (410) 442-1315
www.nttsurveyors.com

Scale: 1" = 50'
Date: 3/16/2021
Field By: CB
Drawn By: SCK
File No.: SEG20-003 T
Page No.: 1 of 1

GENERAL NOTES

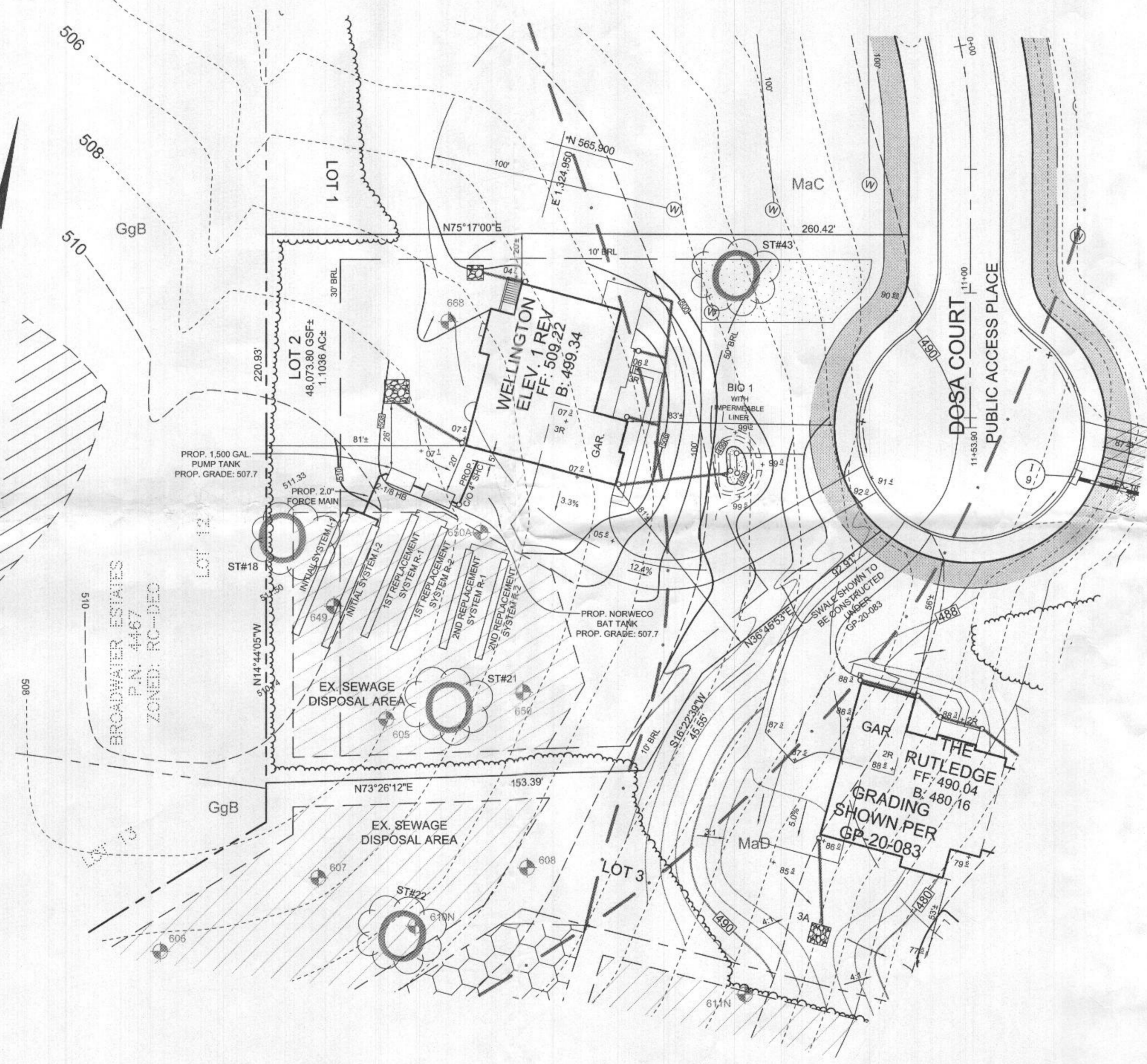
- SUBJECT PROPERTY ZONED RC-DEO PER 10/08/13 COMPREHENSIVE ZONING PLAN. PROPERTY ADDRESS: 5624 DOSA COURT, CLARKSVILLE 21029. TOTAL AREA OF PROPERTY = 1.1036 AC.
- PRIVATE WATER AND PRIVATE SEWER WILL BE USED WITHIN THIS SITE.
- THIS AREA DESIGNATES A PRIVATE SEWAGE AREA OF AT LEAST 10,000 SF AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL (COMAR 26.04.03). 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. RECORDATION OF A MODIFIED SEWAGE AREA SHALL NOT BE NECESSARY.
- THE BOUNDARY SHOWN HEREON IS BASED ON A FIELD RUN BOUNDARY SURVEY PREPARED BY ADCOCK & ASSOCIATES, LLC ON SEPTEMBER 16, 2014.
- THE TOPOGRAPHY SHOWN HEREON HAS BEEN FIELD RUN BY ADCOCK & ASSOCIATES, LLC, ON SEPTEMBER 16, 2014. THE EXISTING TOPOGRAPHY SHOWN OUTSIDE THE SITE IS BASED ON HOWARD COUNTY AERIAL TOPOGRAPHY FLOWN IN 2004.
- REFERENCE: RECORD PLAT NO. 25051.
- PREVIOUS HOWARD COUNTY FILE NUMBERS: RECORD PLAT NO. 5471, F-83-114, ECP-15-032, WP-16-017, WP-17-060, SP-16-008, PB 431, WP-18-127, RECORD PLAT NO. 25051, F-18-094.
- THE SOILS SHOWN HAVE BEEN TAKEN FROM THE US DEPARTMENT OF AGRICULTURE, NATURAL RESOURCE CONSERVATION SERVICE, WEB SOIL SURVEY WEBSITE. HOWARD COUNTY SOILS GRID 12, SUB-GRID 205.
- A WETLAND AND STREAM STUDY HAS BEEN PREPARED BY ECO SCIENCE PROFESSIONALS INC. IN NOVEMBER 2014.
- THE LOTS SHOWN HEREON COMPLY WITH THE MINIMUM OWNERSHIP, WIDTH AND LOT AREA AS REQUIRED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT.
- ALL EXISTING WELLS, SEPTIC SYSTEMS AND SEWAGE DISPOSAL AREAS WITHIN 100 FEET OF THE PROPERTY BOUNDARIES AND ALL EXISTING AND PROPOSED WELLS THAT ARE LOCATED WITHIN 200 FEET DOWN GRADIENT OF EXISTING OR PROPOSED SEPTIC SYSTEMS AND SEWAGE DISPOSAL AREAS HAVE BEEN FIELD LOCATED.
- EXISTING UTILITIES ARE LOCATED BY THE USE OF ANY OR ALL OF THE FOLLOWING: ROAD CONSTRUCTION PLANS, FIELD SURVEYS, PUBLIC WATER AND SEWER PLANS AND OTHER AVAILABLE RECORD DRAWINGS. APPROXIMATE LOCATION OF THE EXISTING UTILITIES ARE SHOWN FOR THE CONTRACTOR'S INFORMATION. CONTRACTOR SHALL LOCATE EXISTING UTILITIES WELL IN ADVANCE OF CONSTRUCTION ACTIVITIES AND TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND TO MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO THE CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
- GEOTECHNICAL INFORMATION HAS BEEN TAKEN FROM THE US DEPARTMENT OF AGRICULTURE, NATURAL RESOURCE CONSERVATION SERVICE, WEB SOIL SURVEY WEBSITE AND FIELD INVESTIGATIONS.
- STORMWATER MANAGEMENT OBLIGATIONS FOR THIS SITE WILL BE MET ONE BIORETENTION FACILITY (M-6) AND TWO DRYWELLS (M-5).
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL, WHICH IS BASED ON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENTS NUMBERS 28HC AND 34BA WERE USED FOR THIS PROJECT.
- NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE LIMITS OF WETLANDS, STREAMS, OR THEIR REQUIRED BUFFERS, FLOODPLAIN AND FOREST CONSERVATION EASEMENT AREAS, UNLESS ALTERNATIVE COMPLIANCE HAVE BEEN APPROVED OR ACTIVITIES HAVE BEEN DETERMINED ESSENTIAL BY THE DEPARTMENT OF PLANNING AND ZONING.
- THERE ARE NO HISTORIC STRUCTURES OR CEMETERIES WITHIN THE PROJECT BOUNDARY.
- FOREST CONSERVATION OBLIGATIONS HAVE BEEN FULFILLED UNDER F-18-019.
- ANY VEGETATION WITHIN AND NEAR TO WELL ZONES OR SEWAGE DISPOSAL AREAS POTENTIALLY COULD BE DAMAGED OR DESTROYED DURING INSTALLATION OF WELLS OR SEPTIC SYSTEMS. ALL SPECIMEN TREES WITHIN OR NEAR SDA OR WELL ZONES HAVE BEEN DESIGNATED FOR REMOVAL AND APPROVED FOR REMOVAL UNDER SP-16-008 AND WP-17-060.
- BIORETENTION FACILITY 1 IS TO BE WRAPPED IN AN IMPERMEABLE LINER.
- DRIVEWAY(S) SHALL BE PROVIDED PRIOR TO ISSUANCE OF AN USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS TO ENSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING REQUIREMENTS:
 - WIDTH - 12 FEET (16 FEET SERVING MORE THAN ON RESIDENCE)
 - SURFACE - SIX (6) INCHES OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING (1-1/2" MINIMUM)
 - GEOMETRY - MAXIMUM 15% GRADE CHANGE AND 45-FOOT TURNING RADIUS
 - STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H25-LOADING)
 - DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100 YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE
 - MAINTENANCE - SUFFICIENT TO ENSURE ALL WEATHER USE
 - DRIVEWAY ENTRANCES TO BE PER HOWARD COUNTY STANDARD DETAIL R-6.05 FOR DRIVEWAY LOTS, 1, 2, AND THE USE IN COMMON DRIVEWAY FOR LOTS 3, 4, 5, 6, 7 AND 8, AND BUILDABLE PRESERVATION PARCEL A.

SEPTIC SYSTEM TRENCH DESIGN SPECIFICATIONS

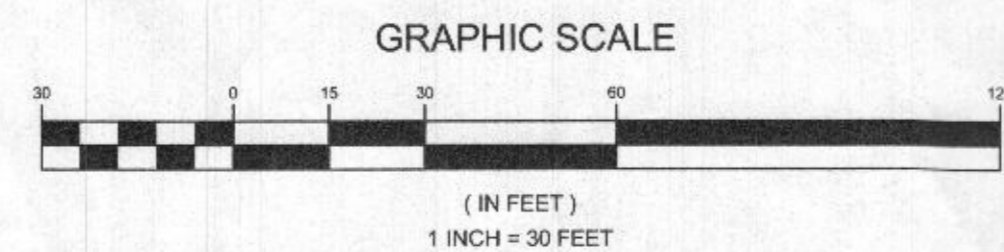
- INITIAL SYSTEM SYSTEM:**
 - APPLICATION RATE: 1.2
 - EFFECTIVE AREA BEGINNING DEPTH: 5.0'
 - BOTTOM MAXIMUM DEPTH: 8.0'
- DESIGN FLOW:**
 - 5 BEDROOMS AT 150 GPD
 - 5x150 GPD = 750 GPD
- SQUARE FOOTAGE OF DRAIN FIELD REQUIRED:**
 - DESIGN FLOW (750 GPD) / APPLICATION RATE (1.2) = 625 SF
- SIDEWALL REDUCTION CREDIT:**
 - TRENCH WIDTH (W) = 3.0'
 - TRENCH EFFECTIVE DEPTH (D) = 3.0'
 - (W+2) / (W+1+2D) X 100 = 50%
- LINEAR LENGTH OF TRENCH REQUIRED:**
 - REDUCTION CREDIT (50%) / TRENCH WIDTH (3.0') = 16.67'
 - TWO TRENCHES 53.0 LF EACH
- EXISTING GRADE:** TRENCH 11: 510.5
 INVERT: TRENCH 11: 508.5
 EXISTING GRADE: TRENCH 12: 510.1
 INVERT: TRENCH 12: 508.1
- 1ST REPLACEMENT SYSTEM:**
 - APPLICATION RATE: 1.2
 - EFFECTIVE AREA BEGINNING DEPTH: 3.5'
 - BOTTOM MAXIMUM DEPTH: 7.0'
- DESIGN FLOW:**
 - 5 BEDROOMS AT 150 GPD
 - 5x150 GPD = 750 GPD
- SQUARE FOOTAGE OF DRAIN FIELD REQUIRED:**
 - DESIGN FLOW (750 GPD) / APPLICATION RATE (1.2) = 625 SF
- SIDEWALL REDUCTION CREDIT:**
 - TRENCH WIDTH (W) = 3.0'
 - TRENCH EFFECTIVE DEPTH (D) = 3.5'
 - (W+2) / (W+1+2D) X 100 = 45%
- LINEAR LENGTH OF TRENCH REQUIRED:**
 - REDUCTION CREDIT (45%) / TRENCH WIDTH (3.0') = 93.75'
 - TWO TRENCHES 47.0 LF EACH
- EXISTING GRADE:** TRENCH R1: 508.1
 INVERT: TRENCH R1: 507.1
 EXISTING GRADE: TRENCH R2: 508.3
 INVERT: TRENCH R2: 506.3
- 2ND REPLACEMENT SYSTEM:**
 - APPLICATION RATE: 1.2
 - EFFECTIVE AREA BEGINNING DEPTH: 3.5'
 - BOTTOM MAXIMUM DEPTH: 8.0'
- DESIGN FLOW:**
 - 5 BEDROOMS AT 150 GPD
 - 5x150 GPD = 750 GPD
- SQUARE FOOTAGE OF DRAIN FIELD REQUIRED:**
 - DESIGN FLOW (750 GPD) / APPLICATION RATE (1.2) = 625 SF
- SIDEWALL REDUCTION CREDIT:**
 - TRENCH WIDTH (W) = 3.0'
 - TRENCH EFFECTIVE DEPTH (D) = 4.5'
 - (W+2) / (W+1+2D) X 100 = 39%
- LINEAR LENGTH OF TRENCH REQUIRED:**
 - REDUCTION CREDIT (39%) / TRENCH WIDTH (3.0') = 81.25'
 - TWO TRENCHES 41 LF EACH
- EXISTING GRADE:** TRENCH R1: 507.5
 INVERT: TRENCH R1: 506.5
 EXISTING GRADE: TRENCH R2: 508.6
 INVERT: TRENCH R2: 504.6

SOILS LEGEND			
SYMBOL	NAME / DESCRIPTION	GROUP	'K' FACTOR
GaC	GAILA LOAM, 8 TO 15 PERCENT SLOPES	B	0.24
GgB	GLENELG LOAM, 3 TO 8 PERCENT SLOPES	B	0.20
GmB	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	0.37
MaC	MANOR LOAM, 8 TO 15 PERCENT SLOPES	B	0.24
MmD	MANOR LOAM, 15 TO 25 PERCENT SLOPES	B	0.24
WmB	WILTSHIRE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	0.24

- NOTES:
- SOIL INFORMATION HAS BEEN TAKEN FROM THE UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE, WEB SOIL SURVEY, SOILS GRID 12, SUB-GRID 205.
 - HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR 'K' GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT.

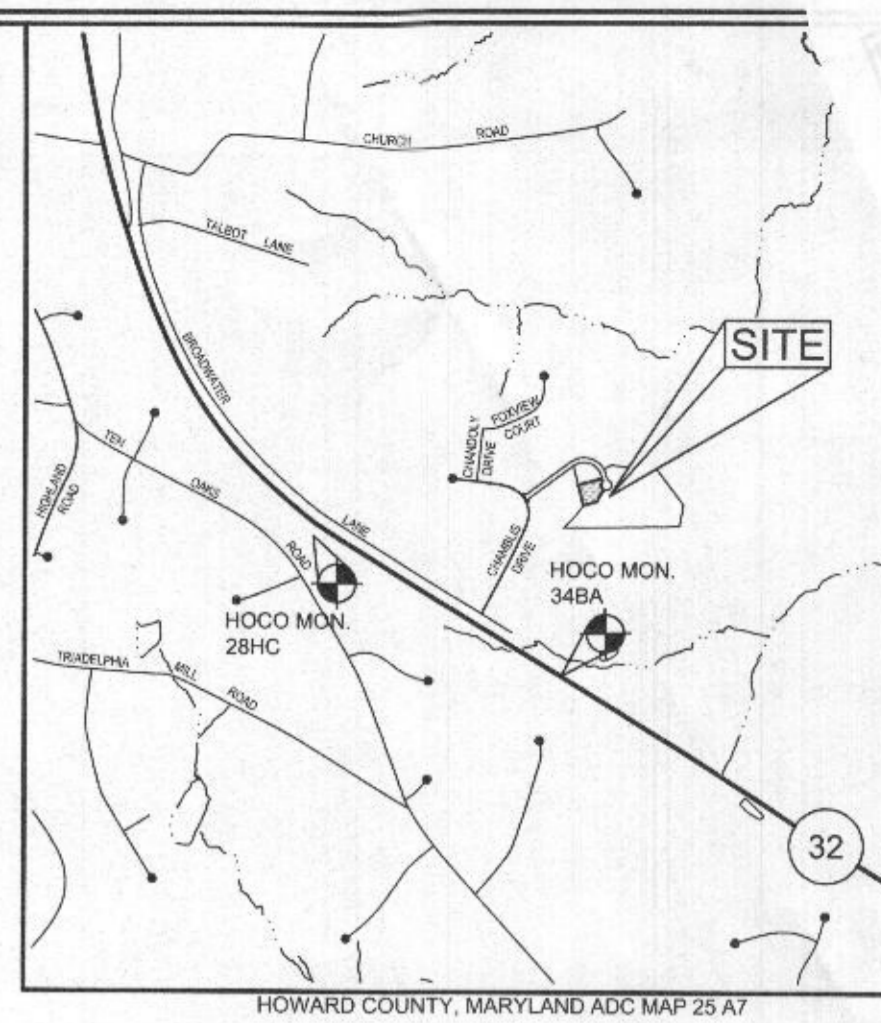


PLAN VIEW
SCALE: 1"=30'



LEGEND

- EXISTING CONTOUR
- PROPOSED CONTOUR
- EXISTING SPOT ELEVATION
- PROPOSED SPOT ELEVATION
- DIRECTION OF FLOW
- EXISTING TREELINE
- SOIL BOUNDARY
- EXISTING SPECIMEN TREE
- APPROVED FOR REMOVAL IF NECESSARY
- EXISTING WELL
- FUTURE WELL LOCATION
- WALKOUT BASEMENT



BENCHMARKS				
NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
28HC	565,351.762	1,332,102.463	552.207	S SIDE OF ROUTE 32, 0.2 MILES W OF EXIT 20 SIGN, +/- 320' E OF GUARD RAIL
34BA	563,852.491	1,324,672.167	450.046	2.5' N OF EDGE OF PAVEMENT OF ROUTE 32, 33.3' SE OF EXIT 20 SIGN

SHEET INDEX	
SHEET NO.	DESCRIPTION
1	SITE PLAN FOR BAT INSTALLATION
2	LOW PRESSURE DOSING SYSTEM PLAN AND PROFILE

This plan to be voided when the 6-bed room proposal is received.

Approved Septic System Plan
 Howard County Health Department
 NORWECO TITLP 500
 w/ 1500 gal Pump Tank (Babylon Vault Co)
 & 2 Gals WS-DS BAF pump or equivalent
 Signature: [Signature] 10/5/2020
 Date: 10/5/2020
 To LPD for 5-bedroom SFD

OWNER/DEVELOPER

WILLIAMSBURG GROUP
 5485 HARPERS FARM ROAD, SUITE 200
 COLUMBIA, MARYLAND 21044
 410.997.8800

**SITE PLAN FOR BAT INSTALLATION
 THE WOODLANDS
 5624 DOSA COURT, LOT 2**

TAX MAP 28 GRID 23
 5TH ELECTION DISTRICT

PARCEL
 HOWARD COUNTY, MARYLAND

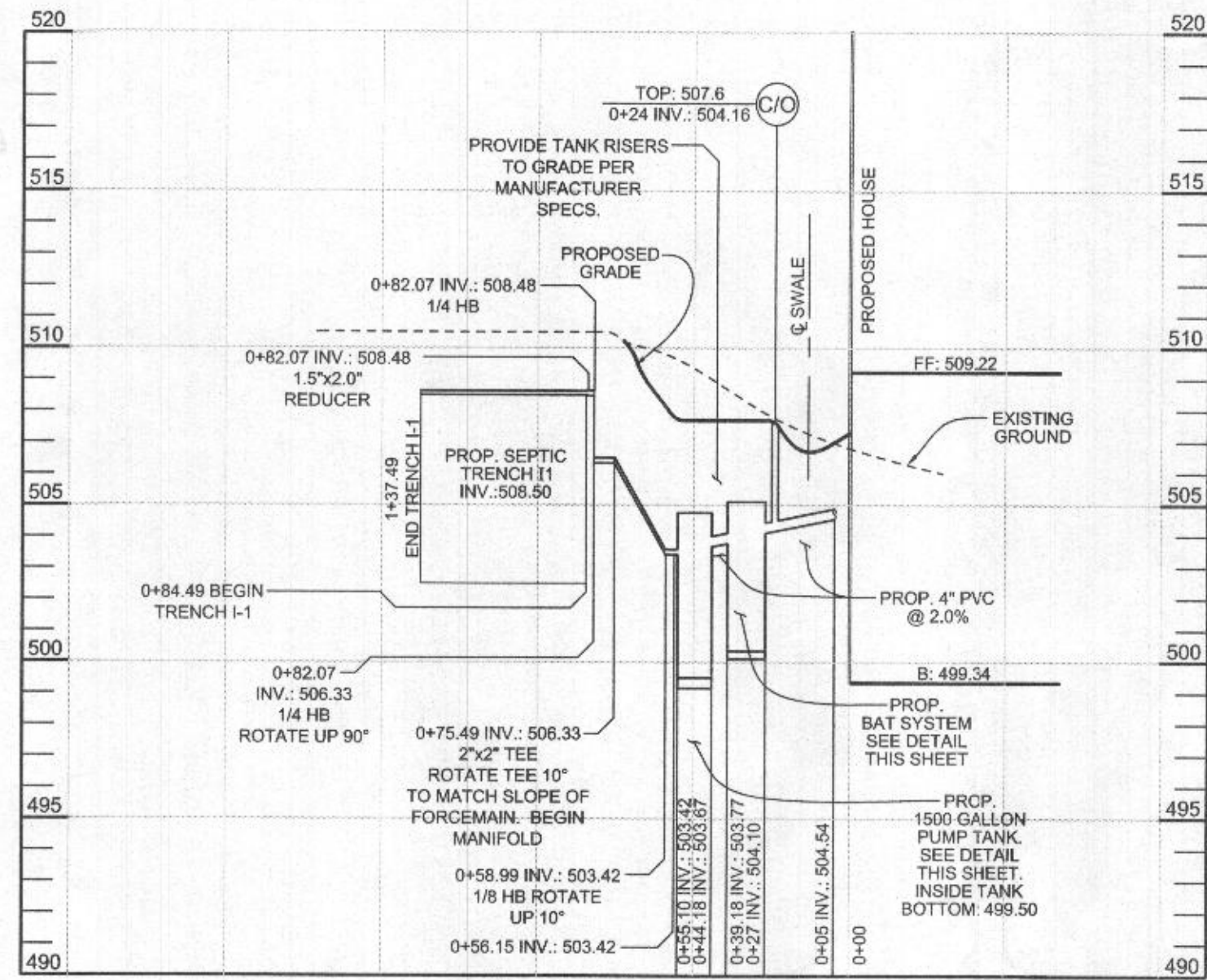
DESIGN BY: PS
 DRAWN BY: PS
 CHECKED BY: PS

SCALE: AS SHOWN
 DATE: OCTOBER 9, 2020
 PROJECT #: 20-003
 SHEET #: 1 of 2

STATE OF MARYLAND
 PROFESSIONAL ENGINEER
 No. 32025

SILL ENGINEERING GROUP, LLC
 16005 Frederick Road, 2nd Floor
 Woodbine, Maryland 21797
 Phone: 443.325.5076
 Fax: 410.696.2022
 Email: info@sillengineering.com
 Civil Engineering for Land Development

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 32025, EXPIRATION DATE: JUNE 30, 2025.

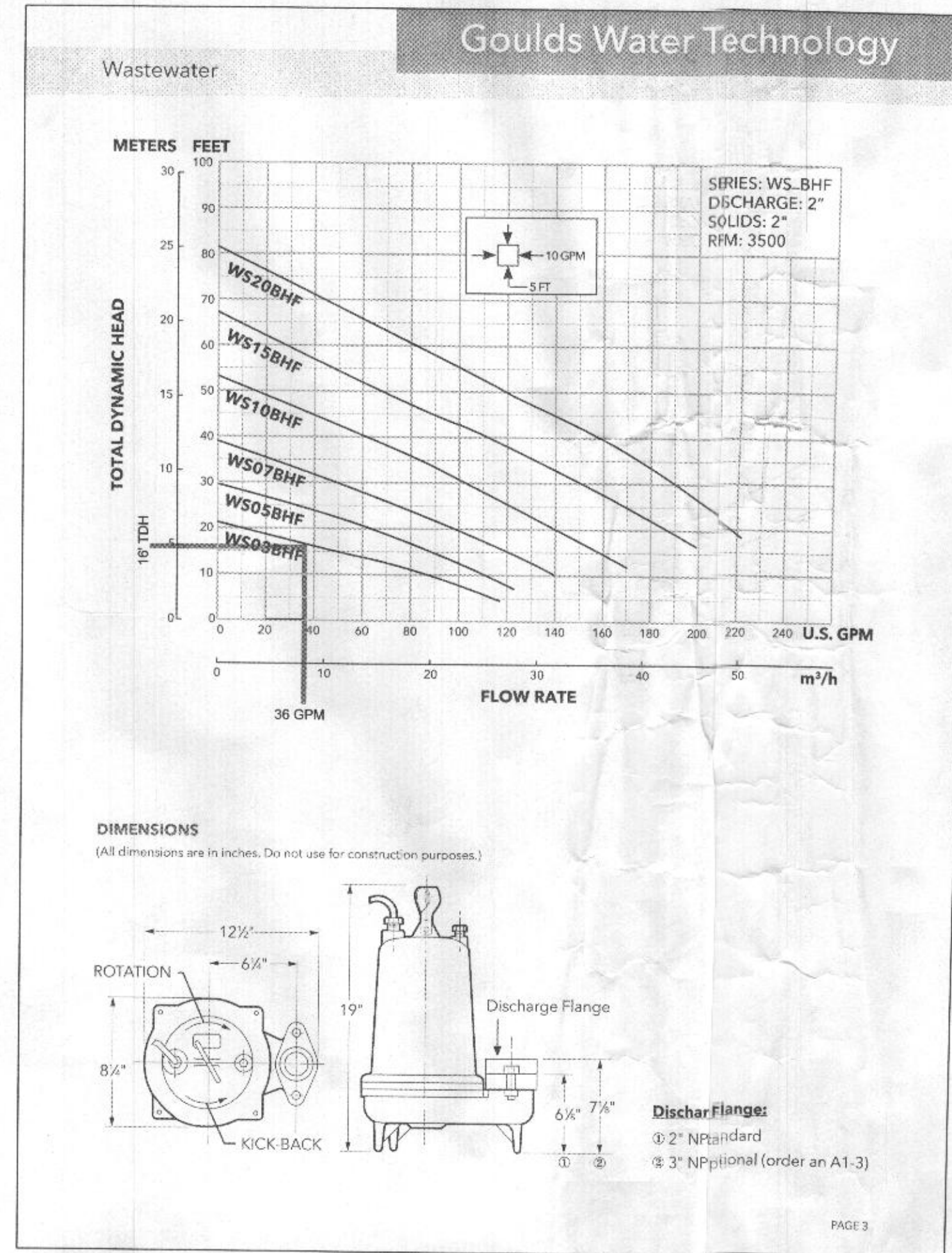


PROFILE VIEW
SCALE: HORIZ: 1"=50'
VERT: 1"=50'

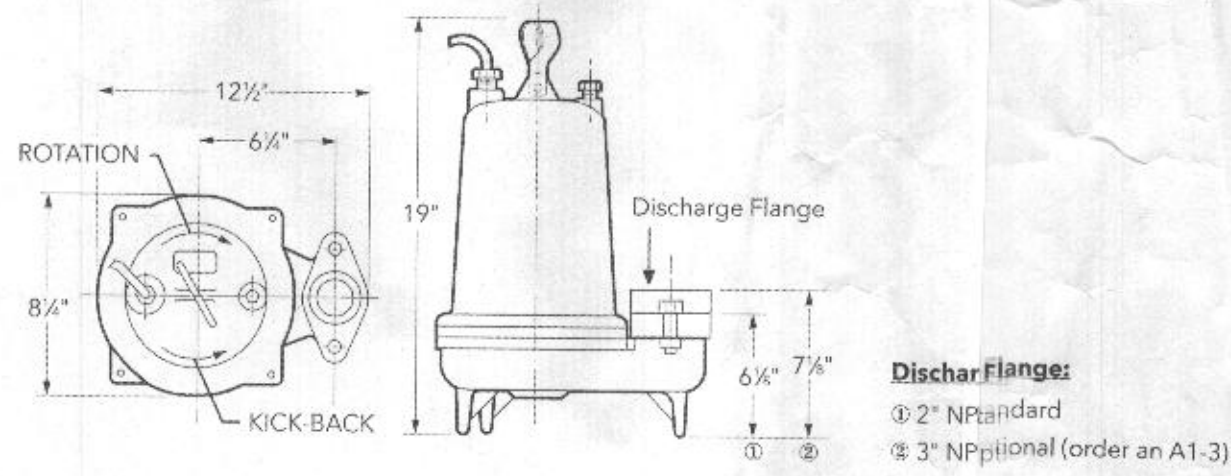
TRENCH DESIGN CHART									
TRENCH	GROUND ELEV.	STONE ELEV.	PIPE INV. ELEV.	BOTTOM ELEV.	DEPTH OF EFFECTIVE STONE	TRENCH LENGTH	TRENCH WIDTH	TRENCH SPACING	
I1	510.50	509.0	508.50	502.50	6.5'	53.0'	3.0'	10.0'	
I2	510.05	508.55	508.05	502.05	6.5'	53.0'	3.0'	10.0'	

SEWAGE DISPOSAL AREA LATERAL SIZING SUMMARY											
FIELD	LATERAL TRENCH NO.	LATERAL LENGTH	LATERAL DIAMETER	INVERT ELEV.	HEAD	ORIFICE DIAMETER	ORIFICE FLOW RATE	ORIFICE SPACING	NUMBER OF ORIFICES	TRENCH FLOW RATE (GPM)	ZONE
INITIAL	L1	53.0'	1.5"	508.1	2.4'	5/16"	1.78	5.2'	11	17.80	1
	L2	53.0'	1.5"	508.1	2.4'	5/16"	1.78	5.2'	11	17.80	1

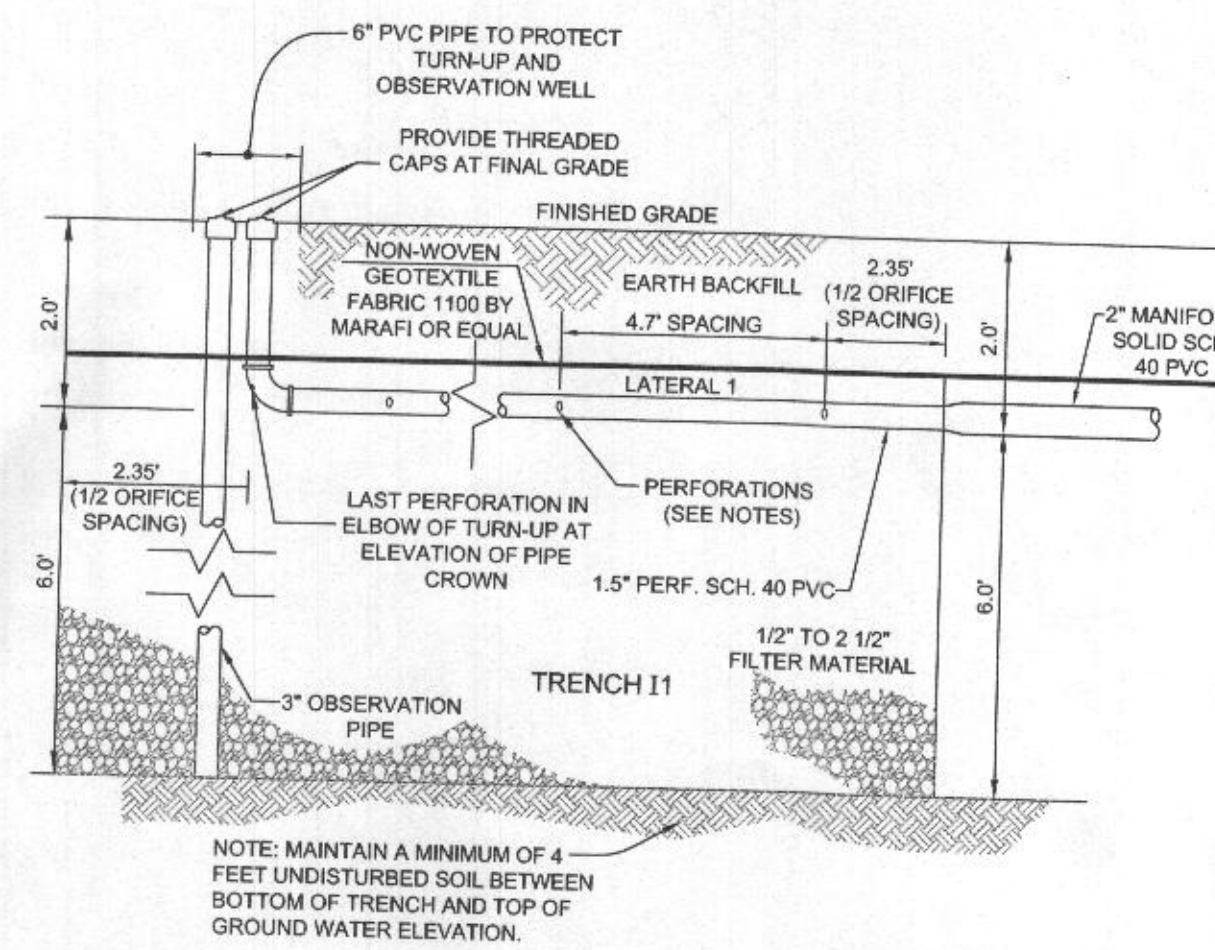
TOTAL FLOW: 35.73 GPM (USE 36 GPM)



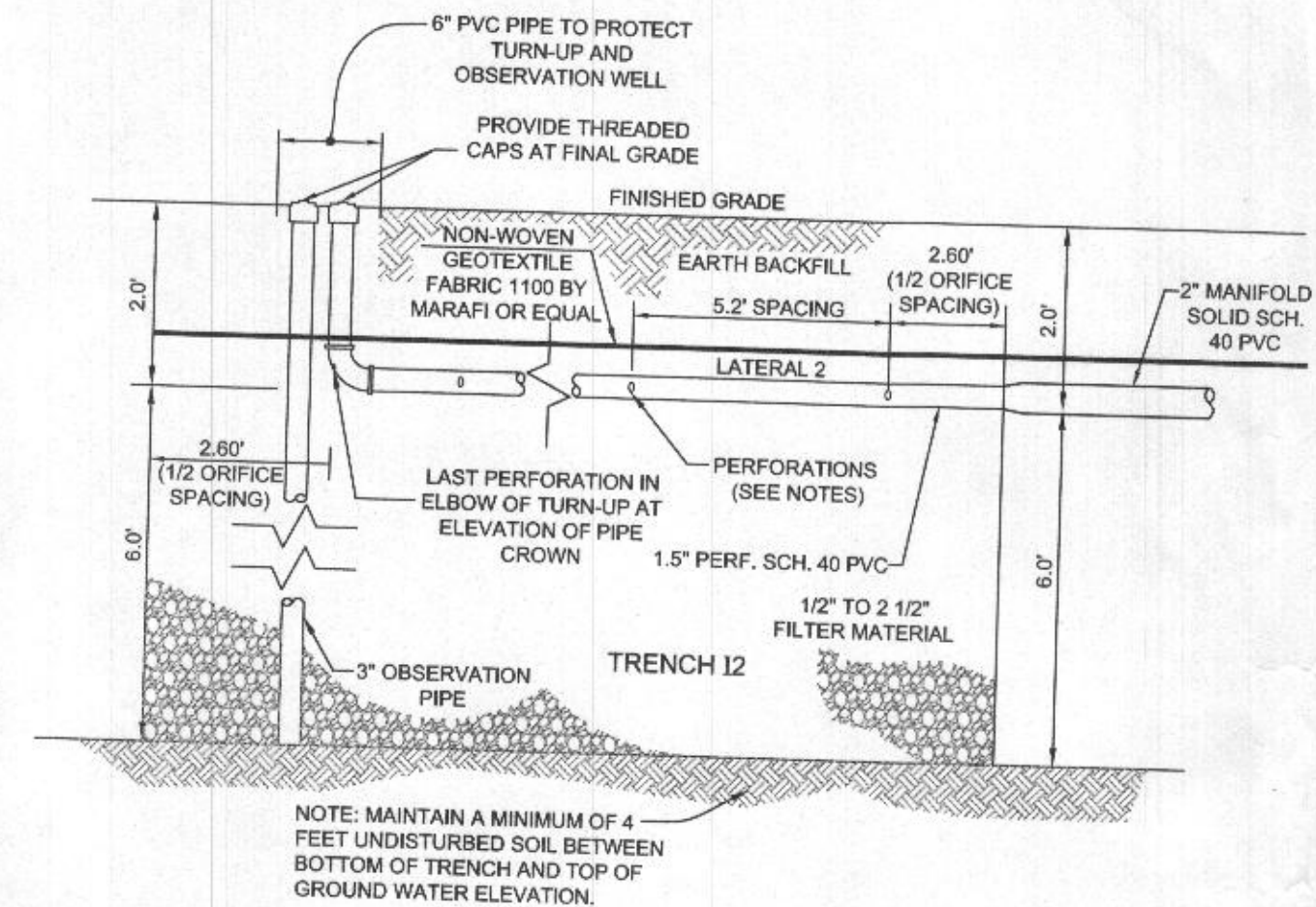
DIMENSIONS
(All dimensions are in inches. Do not use for construction purposes.)



PAGE 3

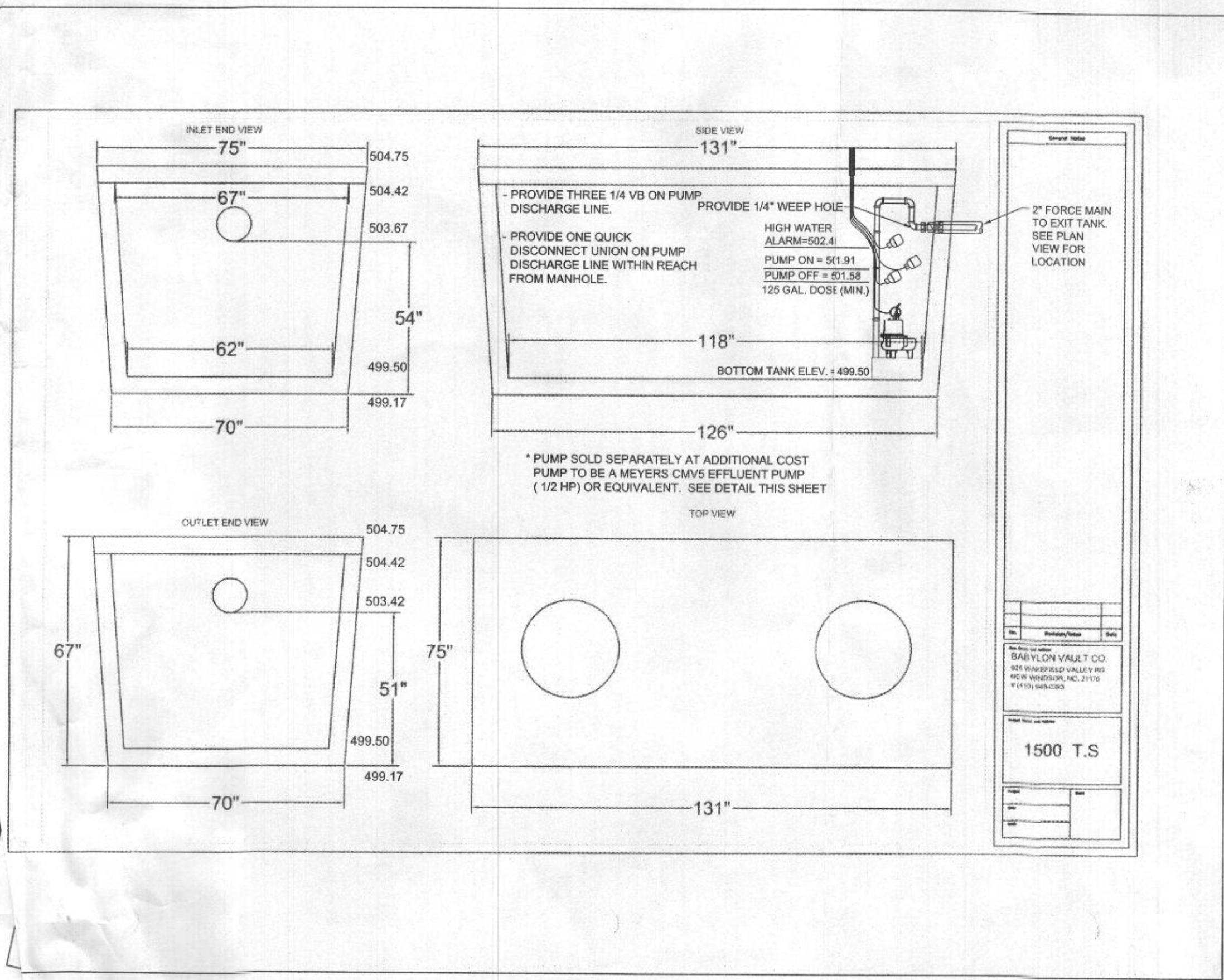


DISTRIBUTION LATERAL DOSING FIELDS PROFILE VIEW
NOT TO SCALE

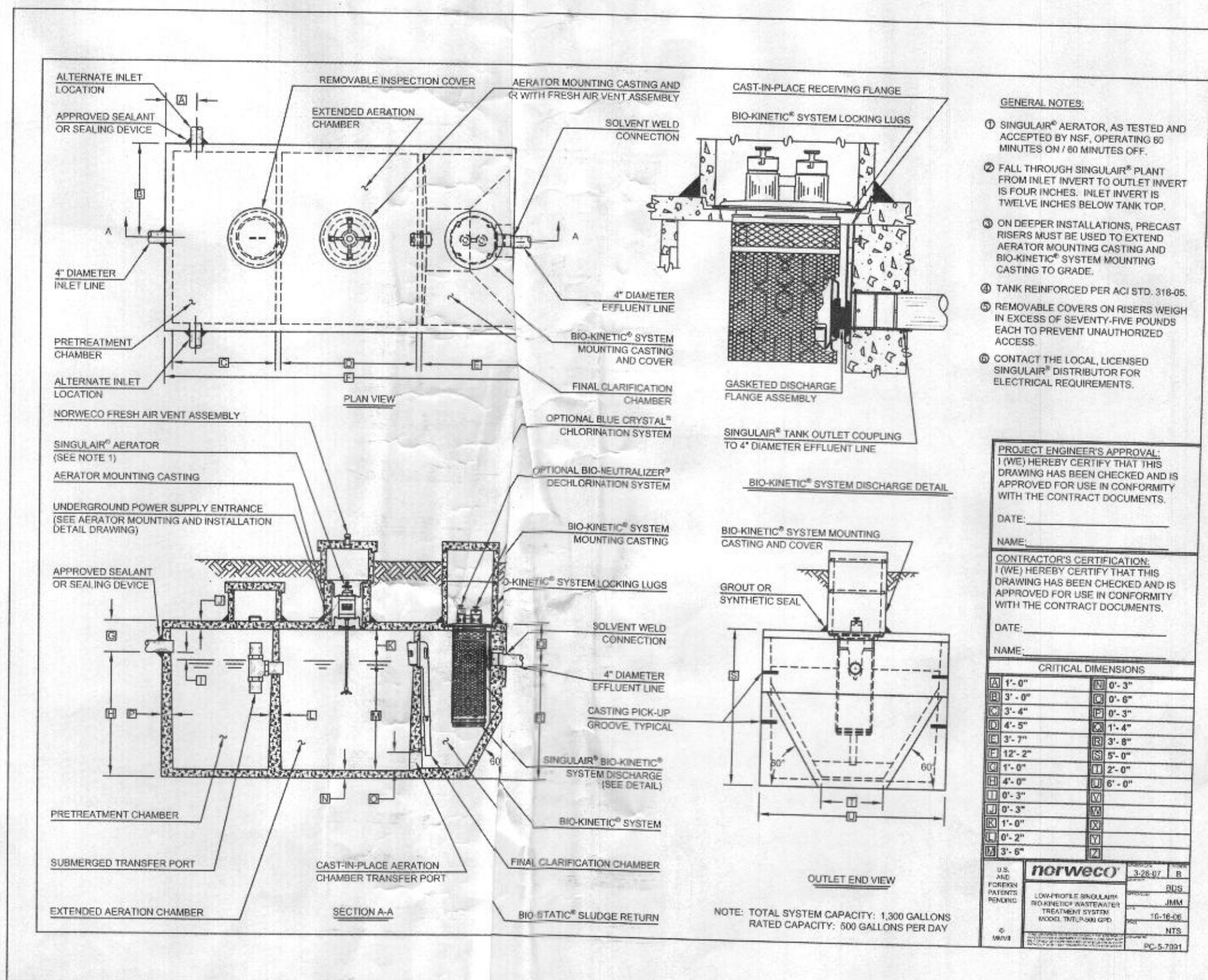


DISTRIBUTION LATERAL DOSING FIELDS PLAN VIEW
NOT TO SCALE

- NOTES:**
- CONTRACTOR TO BUILD / INSTALL 3" WIDE DISPOSAL TRENCHES.
 - DISTRIBUTION LATERALS TO BE INSTALLED ON LEVEL GRADE. BOTTOM OF TRENCH TO BE EXCAVATED ON LEVEL GRADE.
 - CONTRACTOR TO DRILL ORIFICES IN DISTRIBUTION LATERALS AS SHOWN. INSTALL PIPE ORIFICE DOWNWARD.
 - THE LAST HOLE IN THE LATERALS MUST BE LOCATED AT THE CROWN OF THE INVERT.
 - TERMS ORIFICE/ORIFICES AND PERFORATION/PERFORATIONS ARE INTERCHANGEABLE.



PUMP TANK DETAIL
NTS



AT SYSTEM DETAIL
NTS

BAT 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. REVISED BAT SITE PLAN MAY BE REQUIRED.
- THE MAXIMUM DEPTH OF THE BAT PER THE MANUFACTURER'S SPECIFICATION IS 3 FEET. DEEPER INSTALLATIONS MAY REQUIRE PRECAST CONCRETE RISERS.
- THE BLOWER MAY NOT BE LOCATED MORE THAN 50 FEET FROM THE TANK BASED ON THE MANUFACTURER'S SPECIFICATIONS.
- THE BAT SYSTEM SHALL BE MAINTAINED AND OPERATED FOR THE LIFE OF THE SYSTEM.
- THE BAT SHALL BE OPERATED BY AND MAINTAINED BY A CERTIFIED SERVICE PROVIDER. REPORT TO THE MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) IN A MANNER AND THE TYPE OF BAT INSTALLED.
- ELECTRICAL WORK FOR THE BAT INSTALLATION MUST BE PERFORMED BY A LICENSED ELECTRICIAN.
- AN AGREEMENT AND EASEMENT MUST BE COMPLETED AND SIGNED BY ALL APPLICABLE PARTIES, AND RECORDED IN THE LAND RECORDS OF HOWARD COUNTY.
- THE HEALTH DEPARTMENT REQUIRES DOCUMENTATION FOR THE START-UP CERTIFICATION FROM THE MANUFACTURER PRIOR TO FINAL APPROVAL OF THE INSTALLATION.
- DOSE TO BE 125 GALLONS ON A PUMP RUN TIME OF 3.47 MINUTES ON DEMAND.
- PUMP TO BE A GOULDS WS03BH SERIES OR EQUIVALENT.
- BAT SYSTEM TO BE A NORWECO SINGULAR MODEL TNLTP-500 OR EQUIVALENT.
- TOTAL DYNAMIC HEAD (TDH) CALCULATION:
TDH = STATIC HEAD + DISTAL HEAD + FRICTION HEAD + LATERAL FRICTION HEAD SAFETY FACTOR = 8.50' + 2.5' + 2.87' + 1.5' = 15.37' USE 15'

OWNER/DEVELOPER
WILLIAMSBURG GROUP
5485 HARPERS FARM ROAD, SUITE 200
COLUMBIA, MARYLAND 21044
410.997.8800

LOW PRESSURE DOSING SYSTEM PLAN AND PROFILE
THE WOODLANDS
5624 DOSA COURT, LOT 2

TAX MAP 28 GRID 23
5TH ELECTION DISTRICT
PARCEL 15
HOWARD COUNTY, MARYLAND

SILL ENGINEERING GROUP, LLC
16005 Frederick Road, 2nd Floor
Woodbine, Maryland 21797
Phone: 443.325.5076
Fax: 410.696.2022
Email: info@sillengineering.com
Civil Engineering for Land Development

DESIGN BY: PS
DRAWN BY: PS
CHECKED BY: PS
SCALE: AS SHOWN
DATE: SEPTEMBER 30, 2020
PROJECT #: 20-003
SHEET #: 2 of 2

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. 32026, EXPIRATION DATE: JUNE 20, 2021



HOWARD COUNTY HEALTH DEPARTMENT

68819

DATE
3/24/24

P5

Received From

Hatfields Equip

PHONE #

For

Septic Permit / 5624 Posa
G

CASH

CHECK

NO
4422

Three hundred ninety six Dollars

\$ 396 00

Received By

Aken