



410
934-0101
Kenny Sr.

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: 6-24-16 **ONSITE SEWAGE DISPOSAL SYSTEM** P 5580763

APPROVAL DATE: 9/9/2016 **PERMIT: CONSTRUCTION** A _____

PROPERTY ADDRESS: 11017 Blevins Drive

SUBDIVISION: Blevins Property LOT: 3 TAX ID: 05-597768

CONTRACTOR: Hatfield's Equipment EMAIL: ken@hatfieldsequipment.com

CONTRACTOR ADDRESS: P.O. Box 519, Annapolis Junction, MD 20701 PHONE: 301-480-4289

CONTRACTOR CERTIFIED FOR BAT INSTALLATION: MDE MANUFACTURER: 490

PROPERTY OWNER: Williamsburg Group LLC EMAIL: marinamorris@williamsburgllc.com

OWNER ADDRESS: 5485 Harpers Farm Road, Columbia, MD 21044 PHONE: 410-997-8800

BAT UNIT MODEL: NORWECO TNTLP-500 PUMP SIZE: 0.5HP PUMP TANK CAPACITY: 1500

OPERATION & MAINTENANCE AGREEMENT DATE SIGNED: 10/1/15 DATE RECORDED: 10/1/15

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

TRENCHES:	LINEAR FEET REQUIRED: <u>130' 69'</u>	INLET DEPTH: <u>4</u>
	TRENCH WIDTH: <u>32'</u>	MAXIMUM BOTTOM DEPTH: <u>8</u>
	MINIMUM SPACE BETWEEN TRENCHES: <u>12' 10'</u>	EFFECTIVE AREA BEGINNING DEPTH: <u>4</u>

LOCATION: **PER APPROVED SITE PLAN. SEWAGE DISPOSAL AREA AND BAT UNIT LOCATION MUST BE STAKED BY LICENSED SURVEYOR PRIOR TO PRE-CONSTRUCTION INSPECTION.** 85 tons

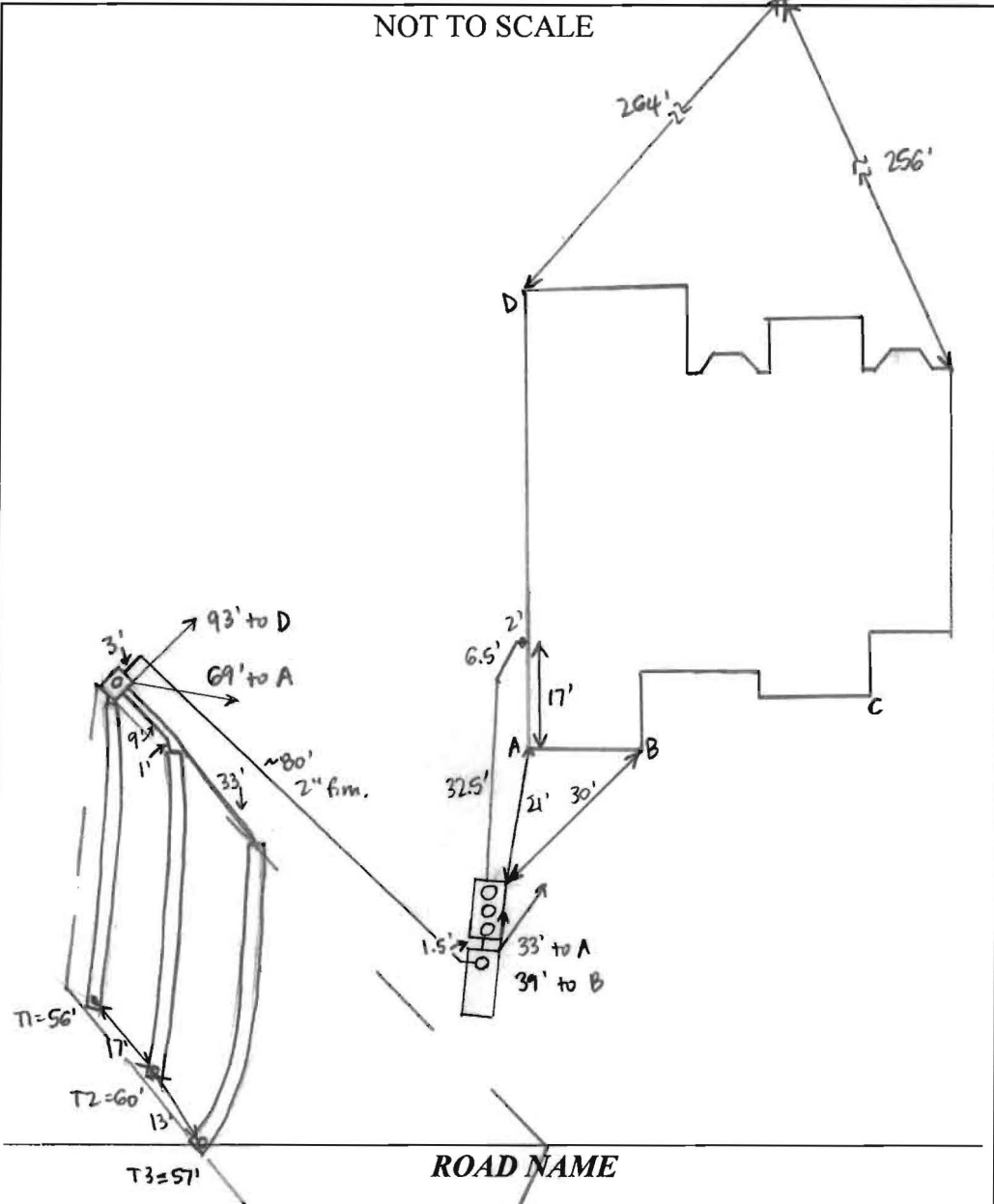
NOTES: Install 3x56' trenches.

ISSUED BY: Robert Bricker ISSUE DATE: 6-24-16 EXPIRATION DATE: 6-24-17

- 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 16003290
- 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.**

NOT TO SCALE



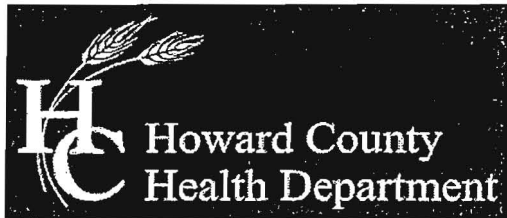
TRENCH/DRAINFIELD DATA		
WIDTH	INLET	BOTTOM
2'	4'	8'
NUMBER OF TRENCHES	3	
TOTAL LENGTH	158'	
ABSORPTION AREA	316' + SIDEWALL	
DISTRIBUTION BOX LEVEL	YES	
DISTRIBUTION BOX BAFFLE	YES	
DISTRIBUTION BOX PORT	Yes	

SEPTIC TANK DATA	
SEPTIC TANK 1 LEVEL	YES
MANUFACTURER	BACKRIVER / NORWEGIAN
CAPACITY	1300 GAL
SEAM LOC	TOP
TANK LID DEPTH	1.5'
BAFFLES	NO
BAFFLE FILTER	NO
MANHOLE LOC	FRONT, MID, REAR
6" PORT LOC	NONE
WATERTIGHT TEST	NO
SLOTTED	NO
DATE ON LID	5-15-16
PUMP/SEPTIC TANK LEVEL	YES
MANUFACTURER	BACKRIVER
CAPACITY	1500 GAL
SEAM LOC	TOP
TANK LID DEPTH	2'
BAFFLES	NO
BAFFLE FILTER	NO
MANHOLE LOC	FRONT
6" PORT LOC	NONE
WATERTIGHT TEST	NO
SLOTTED	NO
DATE ON LID	5-15-16

PRE-CONSTRUCTION:
 6/27/16 Met Hatfield's on site for layout. SDA and tank stakes present. Laid out 3 x 56' trenches on contour. (SC)

INSTALLATION: 6/28/16 Tanks set and house connection made. Some water at bottom of pump tank hole - Hatfield's says it's from the gravel bed under the foundation. (SC)
 6/29/16 T2 + T3 dug + left open at ends 3-3.5' to store + 2' wide. Hatfield's digging T1 during site visit, using laser to check bottom depth. (SC) 6/30/16 T1 complete. Need BAT startup certification and pump + alarm test. (SC) 7/5/16 BAT startup certification received. (SC) 9/1/16 No electrical powered to the unit. Contractor to reschedule (time) 9/10/2016 Pump and alarm working. (BB)

FINAL INSPECTOR B. Baker DATE OF APPROVAL 9/9/2016



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

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

AGREEMENT FOR APPROVAL OF AN INDIVIDUAL DRINKING WELL WITH AN ON-SITE TREATMENT SYSTEM

This agreement is entered into by and between the Howard County Health Department ("the Health Department") and Brendan Lytle ("the Owner").

WHEREAS, the Owner owns a tract of land at street address 11017 Blevins Drive Lot 3, Clarksville MD 21029 and the deed and subdivision plat of the property is recorded among the Land Records of Howard County, Maryland, Tax Map # 35, Block # , Parcel # 310, Deed Reference # 15765 and Tax Account # 325 ("the Property").

WHEREAS, the Property lacks an available public drinking water source and is required to have and individual well as the source of drinking water for the residence of the property.

WHEREAS, the Owner has installed a residential drinking well under well permit HO-95-2256 that has been tested by the Health Department (or a private laboratory certified to perform testing) for radionuclide particles. The results of the tests have shown that the gross alpha particle content and/or the gross beta particle content and/or the combined radium 226/228 levels exceeds the standards of 15 picocuries per liter (pCi/L), 4 millirems per year (mrem/yr) and/or 5pCi/L respectively.

WHEREAS, The Maryland Department of the Environment (MDE) has promulgated rules and regulations under which a Certificate of Potability may be issued and has delegated the authority to issue such Certificate to the Health Department.

WHEREAS, MDE regulations permit the Health Department to issue as a special condition, a permanent deviation to the Certificate of Potability for individual wells where treatment has been installed to meet the maximum contaminate levels (MCL's) for radionuclides.

WHEREAS, MDE has determined that radium can be effectively removed from the drinking water by the use of treatment devices (e.g., ion exchange or reverse osmosis).

WHEREAS, the Owner is requesting that the Health Department issue a Certificate of Potability contingent upon installation and maintenance of a water treatment device to reduce radionuclides.

WHEREAS, neither the Owner nor the Health Department has knowledge of an alternative safe source of water for the Property.

NOW THEREFORE, the parties have agreed to the following terms and conditions:

Back River Pre-Cast, LLC

PO BOX 329
Glyndon, MD 21071
Phone # 410-833-3394
Fax # 410-833-4116

Letter of Certification

This is to certify that the Norweco Singulair TNT 600 GPD Septic Tank installed at 11017 Blevins Dr., Clarksville, MD 21029 June 28, 2016 was installed according to the manufacture's specifications.

Installer: Kenneth Hatfield, Jr.

Property Owner: Williamsburg Group

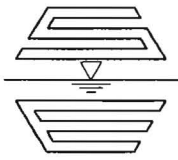
Permit #

THIS CERTIFICATION IS FOR INSTALLATION ONLY. THE 5-YEAR OPERATIONS & MAINTENANCE AGREEMENT FROM DATE OF INSTALLATION WILL ONLY GO INTO EFFECT AFTER BACK RIVER PRE-CAST, LLC RECEIVES FINAL AND FULL PAYMENT FOR THE SYSTEM.



MATTHEW GECKLE

Vice-President



SILL ENGINEERING GROUP, LLC

December 30, 2015

Howard County Health Department
Bureau of Environmental Health
8390 Stanford Boulevard
Columbia, Maryland 21045
Attn: Mr. Robert Bricker

Re: Blevins Property
Lot 3
Pump Design

11017 Blevins Dr.

Dear Mr. Bricker:

Please find below the Pump Design for this project. Based on this design we recommend:

- Norweco Singlair Model TNTLP 500 or equivalent
- Meyers SRM4 series pump or equivalent
- C.R. Semler, Inc 1,500 gallon top seam tank.

- Design Flow: 750 GPD
- Diameter of Force Main: 2.0"
- Material: Schedule 40 PVC
- Dose Calculations:
 - Design Flow: 750 gpd
 - Length of force main:
 - 2.0" force main = 64.7'
 - Volume of force main:
 - 64.7 x 17.4 gallons per 100' = 11.3 gallons
 - Minimum dose is the greater of:
 - Volume of force main: 11.3
 - Or
 - 1/6th the design flow: 1/6 x 750 gallons = 125.0 gallons

OK reB 12/31/15

Use 125 gallons for dose

- Pump Design:
 - Pump flow required: 30 gpm
 - Dose amount: 125 gallons
 - Pump run time: 4.2 minutes
 - Static head (see profile for detail): 10.26' use 10.3'
 - Friction head calculation (Table 4.3):

*Actual ~40-46 gpm
~ 3 min.*

Pipe size	-	2.0"
1/4 Bend (90°)	-	-
1/8 Bend (45°)	-	3 @ 4.0' = 12.0'
1/16 Bend (22.5°)	-	-
1/32 Bend (11.25°)	-	-
Gate Valve	-	1 @ 1.3' = 1.3'

Blevins Property
 Lot 3
 December 30, 2015

Standard Tee	-	-
Run Tee	-	-
Cross	-	-
Quick Connect/Disconnect	-	1 @ 4.5' = 4.5'
Couplings	-	3 @ 2.0' = 6.0'
Total Equivalent Length of pipe	-	23.8'

- Flow at 2.0" pipe = 30 gpm
 - Friction loss per 100' (Table 4.4) of 2.0" schedule 40 plastic pipe: 1.54
 - Total equivalent length of 2.0" Force Main and appurtenances = 64.7 + 23.8 = 88.5'
 - Friction loss in 2.0" pipe = $88.5/100 \times 1.54 = 1.36'$
- Total Friction Head = 1.36'
- Total Dynamic Head = 10.3' (Static head) + 0.0' (Distal Head) + 1.36' (Friction head) = 11.66' Use 12'
- Pump Chamber Design:
 - For pump tank dimensions and detail, see plans.
 - Pump chamber elevations:
 - Proposed grade at top of tank (at inlet): 480.3'
 - Top of pump tank (interior): 478.51'
 - Pump chamber invert in: 477.43'
 - High Water Alarm: 474.73'
 - Pump On: 474.23'
 - Pump Off: 473.87'
 - Bottom inside slab of tank: 472.84'
 - Pump Chamber volumes:
 - Invert In to High Water Alarm: 123.7 cf or 925.34 gallons
 - Pump On to Pump Off: 16.49 cf or 123.35 gallons

OK reB 12/31/15

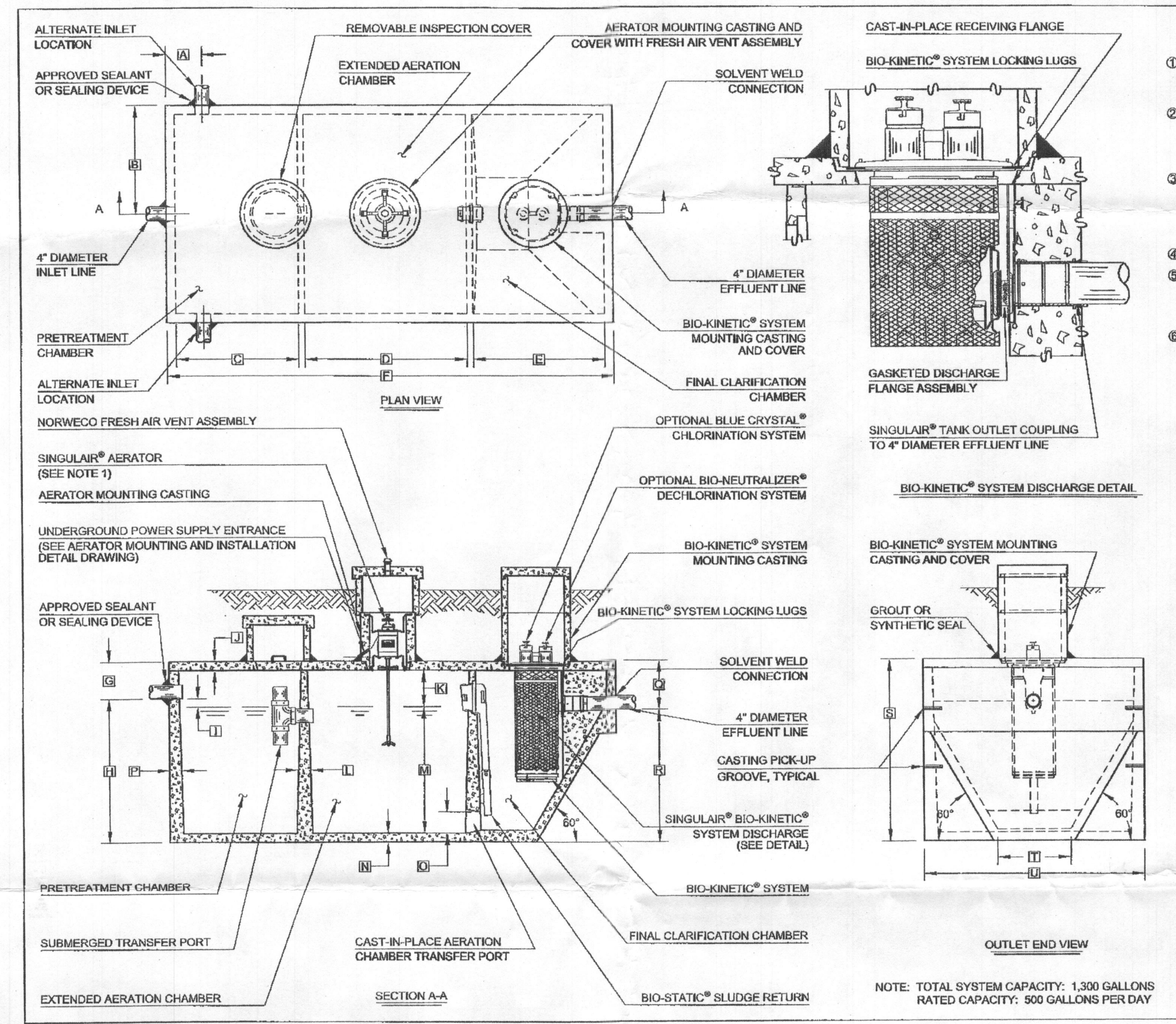
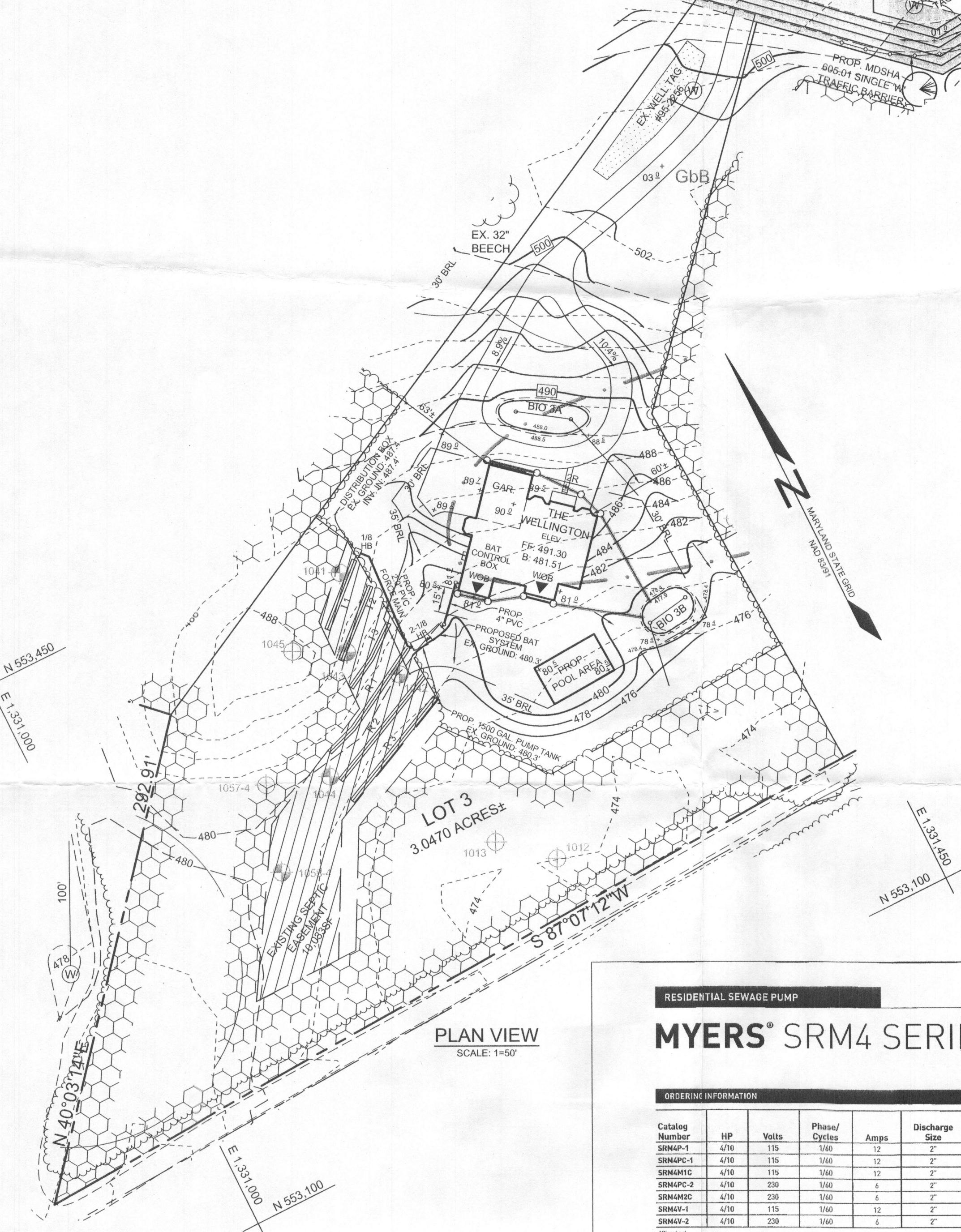
Thank you for your consideration of this Pump Design. Should you have any questions or comments regarding this matter, please do not hesitate to contact this office.

Sincerely,
Sill Engineering Group, LLC

Anita E. Allen
 Anita E. Allen

SOILS LEGEND			
SYMBOL	NAME / DESCRIPTION	GROUP	"K" FACTOR
G3A	GLADSTONE LOAM, 0 TO 3 PERCENT SLOPES	B	0.20
G3B	GLADSTONE LOAM, 3 TO 8 PERCENT SLOPES	B	0.20
G3C	GLADSTONE LOAM, 8 TO 15 PERCENT SLOPES	B	0.20
M4D	MANOR LOAM, 15 TO 25 PERCENT SLOPES	B	0.24

NOTES:
 1) SOIL INFORMATION HAS BEEN TAKEN FROM THE UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE, WEBB SOIL SURVEY.
 2) 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.



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. A REVISED SITE PLAN MAY BE REQUIRED.
- THE MAXIMUM DEPTH OF THE BAT PER THE MANUFACTURER'S SPECIFICATION IS 5 FEET. 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.
- WITHIN ONE MONTH OF INSTALLATION, A PERSON INSTALLING THE BAT SYSTEM SHALL REPORT TO THE MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) IN A MANNER ACCEPTABLE TO MDE, THE ADDRESS AND DATE OF COMPLETION OF THE BAT INSTALLATION 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 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.
- PUMP TO BE A MYERS SRM4 SERIES OR EQUIVALENT.
- BAT SYSTEM TO BE A NORWECO LOW PROFILE SINGULAR MODEL TMTLP-500 OR EQUIVALENT.

GENERAL NOTES:

- SINGULAR® AERATOR, AS TESTED AND ACCEPTED BY NSF, OPERATING 60 MINUTES ON / 60 MINUTES OFF.
- FALL THROUGH SINGULAR® PLANT FROM INLET INVERT TO OUTLET INVERT IS FOUR INCHES. INLET INVERT IS TWELVE INCHES BELOW TANK TOP.
- ON DEEPER INSTALLATIONS, PRECAST RISERS MUST BE USED TO EXTEND AERATOR MOUNTING CASTING AND BIO-KINETIC® SYSTEM MOUNTING CASTING TO GRADE.
- TANK REINFORCED PER ACI STD. 318-05.
- REMOVABLE COVERS ON RISERS WEIGH IN EXCESS OF SEVENTY-FIVE POUNDS EACH TO PREVENT UNAUTHORIZED ACCESS.
- CONTACT THE LOCAL LICENSED SINGULAR® DISTRIBUTOR FOR ELECTRICAL REQUIREMENTS.

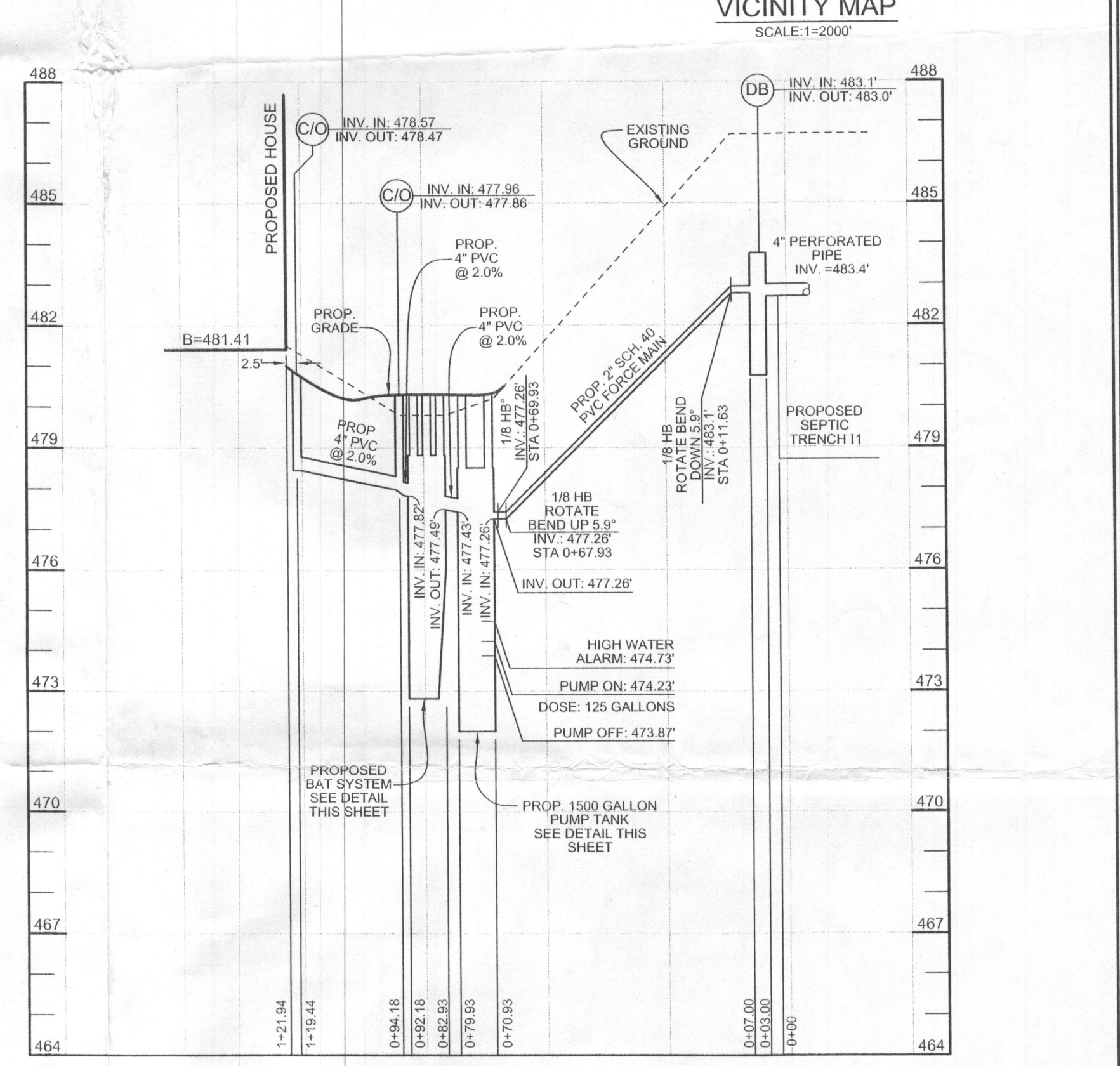
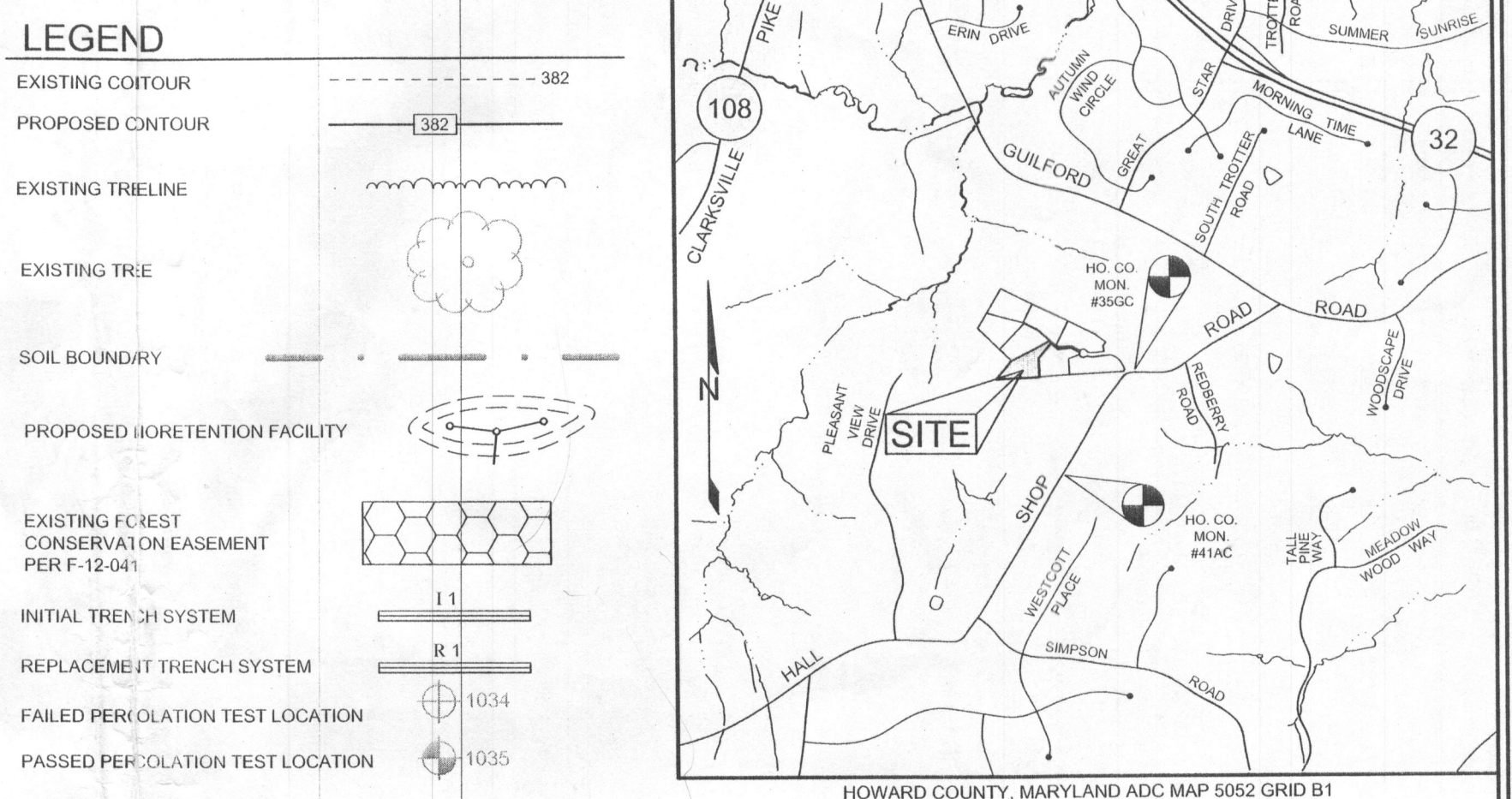
PROJECT ENGINEER'S APPROVAL:
 I (WE) HEREBY CERTIFY THAT THIS DRAWING HAS BEEN CHECKED AND IS APPROVED FOR USE IN CONFORMITY WITH THE CONTRACT DOCUMENTS.
 DATE: _____
 NAME: _____

CONTRACTOR'S CERTIFICATION:
 I (WE) HEREBY CERTIFY THAT THIS DRAWING HAS BEEN CHECKED AND IS APPROVED FOR USE IN CONFORMITY WITH THE CONTRACT DOCUMENTS.
 DATE: _____
 NAME: _____

CRITICAL DIMENSIONS			
A	1'-0"	N	0'-3"
B	3'-0"	P	0'-6"
C	3'-4"	Q	0'-3"
D	4'-0"	R	1'-1"
E	5'-7"	S	3'-8"
F	12'-2"	T	5'-0"
G	1'-0"	U	2'-0"
H	4'-0"	V	6'-0"
I	0'-3"	W	0'-0"
J	1'-0"	X	0'-0"
K	0'-2"	Y	0'-0"
L	0'-2"	Z	0'-0"

norweco TMTLP-500
 LOW PROFILE SINGULAR AERATOR
 BIO-KINETIC® SYSTEM
 MODEL TMTLP-500 SPS
 18 1/2" DIA.
 50 GALLONS PER DAY

NOTE: TOTAL SYSTEM CAPACITY: 1300 GALLONS
 RATED CAPACITY: 500 GALLONS PER DAY



RESIDENTIAL SEWAGE PUMP

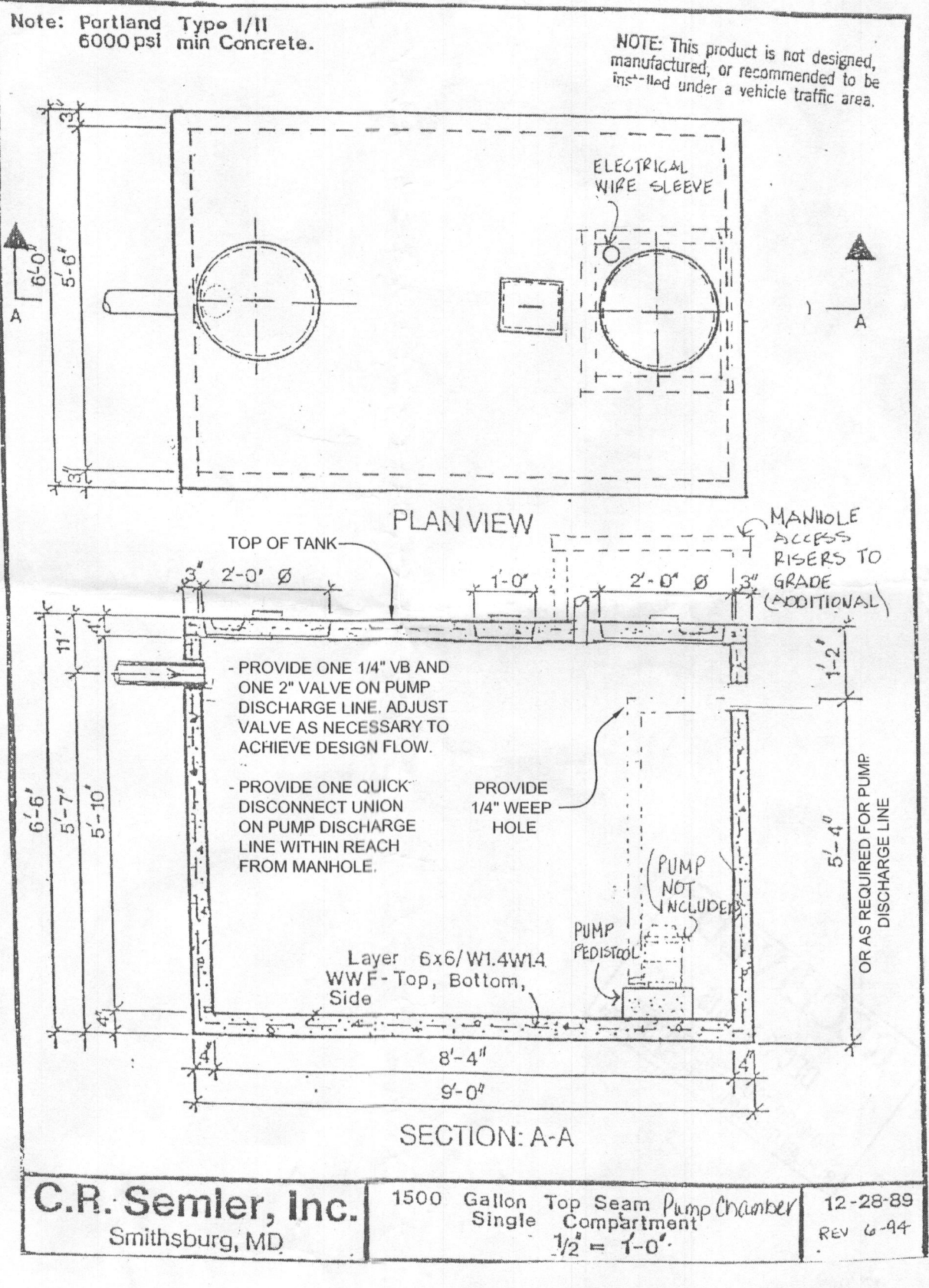
MYERS® SRM4 SERIES

ORDERING INFORMATION

Catalog Number	HP	Volts	Phase/Cycles	Amps	Discharge Size	Switch Type	Cord Length	Approx. Wt. Lbs.
SRM4P-1	1/2	115	1/60	12	2"	Tethered Automatic*	10'	68
SRM4P-1	1/2	115	1/60	12	2"	Tethered Automatic*	20'	68
SRM4TC	1/2	115	1/60	12	2"	Manual	20'	39
SRM4P-2	1/2	230	1/60	6	2"	Tethered Automatic*	20'	69
SRM4P-2C	1/2	230	1/60	6	2"	Manual	20'	39
SRM4P-1	1/2	115	1/60	12	2"	Vertical Automatic*	20'	68
SRM4P-2	1/2	230	1/60	6	2"	Vertical Automatic*	20'	68

DIMENSIONS

PUMP PERFORMANCE



Approved Septic System Plan
 Howard County Health Department
 NORWECO TMTLP-500
 w/ Sewer 1500-gal Pump Tank
 & Myers SRM4 pump
 J. Buckles
 Signature
 2/31/15
 Date

B15005310
 11017 Blevins Drive

SEPTIC SYSTEM TRENCH DESIGN SPECIFICATIONS

- INITIAL SYSTEM:
 - APPLICATION RATE: 0.8
 - EFFECTIVE AREA BEGINNING DEPTH: 4'-0"
 - BOTTOM MAXIMUM DEPTH: 8'
- DESIGN FLOW:
 - 5 BEDROOMS AT 150 GPD
 - 5X150 GPD = 750 GPD
- SQUARE FOOTAGE OF DRAIN FIELD REQUIRED:
 - DESIGN FLOW (750 GPD) / APPLICATION RATE (0.8) = 937.5 SF
- SIDEWALL REDUCTION CREDIT:
 - TRENCH WIDTH (W) = 3'
 - TRENCH EFFECTIVE DEPTH (D) = 4'-0"
 - (W-2) / (W+1-2D) X 100 = 41.7%
- LINEAR LENGTH OF TRENCH REQUIRED:
 - DRAIN FIELD SQUARE FOOTAGE (938) X SIDEWALL REDUCTION CREDIT (41.7%) / TRENCH WIDTH (3) = 130.3'
- EX. GRADE: TRENCH R1: 481.0'; TRENCH R2: 479.0'; TRENCH R3: 477.7'
- INVERT: TRENCH R1: 477.0'; TRENCH R2: 475.0'; TRENCH R3: 473.7'

SITE PLAN FOR BAT INSTALLATION
 BLEVINS PROPERTY
 LOT 3

TAX MAP 35 GRID 19
 5TH ELECTION DISTRICT

PARCEL 310
 HOWARD COUNTY, MARYLAND

OWNER/DEVELOPER
 WILLIAMSBURG GROUP
 5485 HARPERS FARM ROAD, SUITE 200
 COLUMBIA, MARYLAND 21044
 410.997.8000

SILL ENGINEERING GROUP, LLC
 1130 Dovedale Court, Suite 200
 Marriottsville, Maryland 21104
 Phone: 443.325.5076
 Fax: 410.696.2022
 Email: info@sillengineering.com
 Civil Engineering for Land Development

DESIGN BY: PS
 DRAWN BY: KSA/AEA
 CHECKED BY: PS
 SCALE: AS SHOWN
 DATE: DECEMBER 31, 2015
 PROJECT #: 14-040
 SHEET #: 1 of 1

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 30263, EXPIRATION DATE: JUNE 29, 2017.

