



Howard County  
Health Department

**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](http://www.hchealth.org)

Facebook: [www.facebook.com/hocohealth](http://www.facebook.com/hocohealth)

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

RECEIPT DATE: 9-23-15 **ONSITE SEWAGE DISPOSAL SYSTEM** P 551381

APPROVAL DATE: 10/7/15 **PERMIT: CONSTRUCTION** A \_\_\_\_\_

PROPERTY ADDRESS: 2318 Meadow Trail Lane

SUBDIVISION: McKendree View LOT: 4 TAX ID: \_\_\_\_\_

CONTRACTOR: Sams Creek EMAIL: \_\_\_\_\_

CONTRACTOR ADDRESS: \_\_\_\_\_ PHONE: 443-824-4932

CONTRACTOR CERTIFIED FOR BAT INSTALLATION:  MDE  MANUFACTURER:

PROPERTY OWNER: Joel Shinn EMAIL: \_\_\_\_\_

OWNER ADDRESS: 9751 Evening Bird Lane PHONE: \_\_\_\_\_

BAT UNIT MODEL: Norweco TNTLP-500 PUMP SIZE: \_\_\_\_\_ PUMP TANK CAPACITY: \_\_\_\_\_

OPERATION & MAINTENANCE AGREEMENT DATE SIGNED: \_\_\_\_\_ DATE RECORDED: \_\_\_\_\_

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

TRENCHES:	LINEAR FEET REQUIRED: <u><del>156</del> 210'</u>	INLET DEPTH: <u><del>4</del> 4.5'</u>
	TRENCH WIDTH: <u>2'</u>	MAXIMUM BOTTOM DEPTH: <u>8</u>
	MINIMUM SPACE BETWEEN TRENCHES: <u>10</u>	EFFECTIVE AREA BEGINNING DEPTH: <u>5</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:	<u>3x70'</u>	

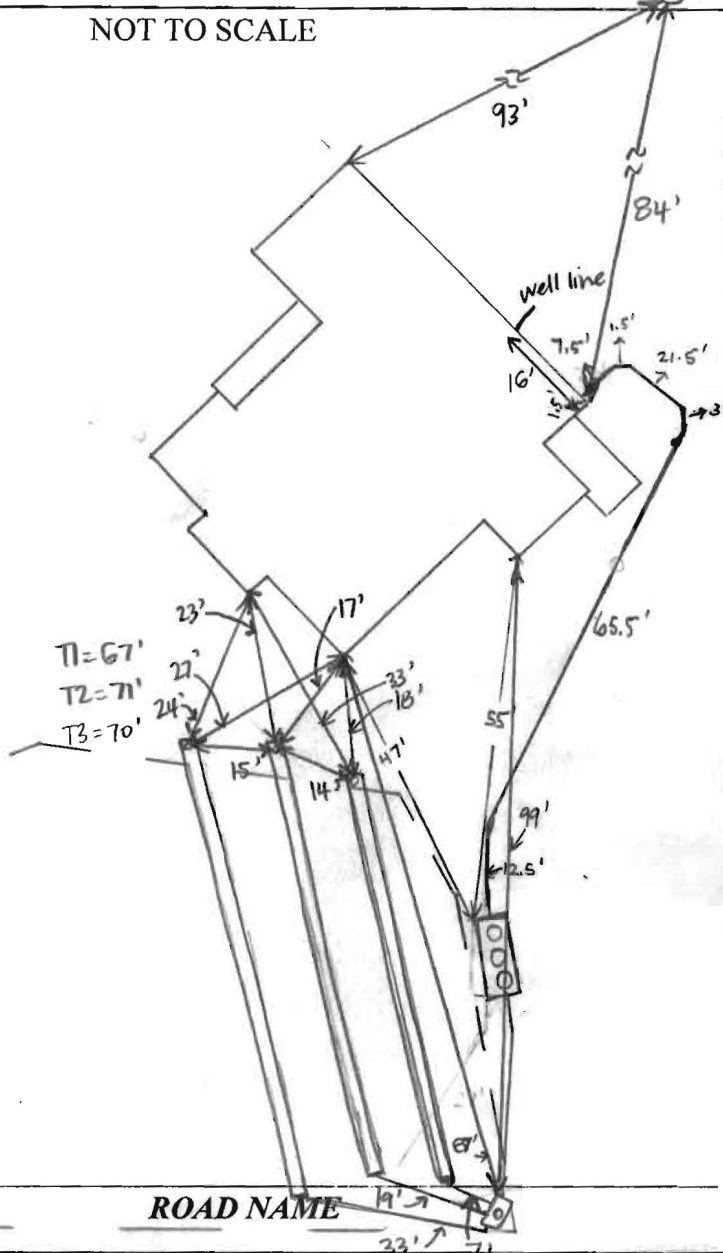
ISSUED BY: Hank Oswald ISSUE DATE: 9/28/15 EXPIRATION DATE: 9/28/15

- 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 \_\_\_\_\_
- 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

W H0-95-1132



**TRENCH/DRAINFIELD DATA**

WIDTH	INLET	BOTTOM
2'	4'	8'
NUMBER OF TRENCHES		3
TOTAL LENGTH		208'
ABSORPTION AREA		416' + SIDEWALL
DISTRIBUTION BOX LEVEL		YES
DISTRIBUTION BOX BAFFLE		YES
DISTRIBUTION BOX PORT		YES

**SEPTIC TANK DATA**

SEPTIC TANK I LEVEL	YES
MANUFACTURER	BACKRIVER / NO PNEUM
CAPACITY	1300 GAL
SEAM LOC	TOP
TANK LID DEPTH	~2'
BAFFLES	NO
BAFFLE FILTER	NO
MANHOLE LOC	FRONT, MID, REAR
6" PORT LOC	NONE
WATERTIGHT TEST	NO
SLOTTED	NO
DATE ON LID	-

**PUMP/SEPTIC TANK LEVEL**

MANUFACTURER	
CAPACITY	GAL
SEAM LOC	
TANK LID DEPTH	
BAFFLES	
BAFFLE FILTER	
MANHOLE LOC	
6" PORT LOC	
WATERTIGHT TEST	
SLOTTED	
DATE ON LID	

**PRE-CONSTRUCTION:**

9/28/15 Met Joe and Tim from Sams Creek for layout. All SDA and tank stakes present. Laid out 3x70' trenches on contour. Lower trench will be a few feet shorter in order to avoid a tree. Dan from Viking Homes on site - he's okay with running sewer line more directly towards tank from house vs. what's shown on the plan. Shift tank a few feet away from SDA to maintain 5' between tank and upper trench. (SC)

INSTALLATION: 9/30/15 - Site inspection completed, contractor on site, 4" PVC discharge line from house to tank almost complete except for last 12.5' piece into the tank, partial completion of discharge line from tank to D-box. - Stone not delivered yet - requested they load the line with stone then ok to backfill, site not completed yet. Trenches were just being started but it was raining and as per KW no work on trenches in the rain - requested that protect exposed soil and resume work when rain stops. Told them to leave ends of trenches open for inspection and retain stone tickets for review/perkins (SC)

10/1/15 T1 dug and left open. <sup>4' to stone,</sup> Missing an observation pipe + only 6' - add observation pipe + lengthen 4' (SC) 10/5/15 T2 finished, T3 dug + adding stone at site visit. 4' to stone under pipe. 8' to bottom. T1 has observation pipe + is 6' longer than last visit. No cement on hand to seal D-box outlet pipes - need to seal and to level speed levelers. (SC) 10/6/15 Line from

FINAL INSPECTOR Sarah Collins DATE OF APPROVAL 10/7/15  
 D-box to T3 still leaking. House connection made. (SC) 10/6/15 BAT startup certification received. (SC)  
 10/7/15 D-box not leaking, speed levelers leveled. (SC)

# Back River Pre-Cast, LLC

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

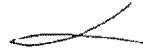
## Letter of Certification

This is to certify that the Norweco Singlair TNT 600 GPD Septic Tank installed at 2318 Meadow Trail Ln., West Friendship, MD 21794 September 30, 2015 was installed according to the manufacture's specifications.

Installer: Joe Wright

Property Owner: Joel Shinn

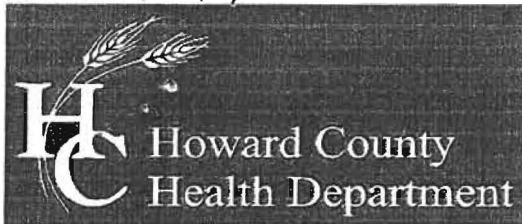
Permit #



---

MATTHEW GECKLE

Vice-President



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

Twitter: HowardCoHealthDep

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

**OPERATION AND MAINTENANCE AGREEMENT  
FOR AN ON-SITE SEWAGE DISPOSAL SYSTEM  
HAVING AN ADVANCED PRE-TREATMENT SYSTEM**

THIS AGREEMENT is made this 24<sup>th</sup> day of August, among Jill and Anna Shinn, hereinafter collectively referred to as "Owner", and the Howard County Health Department hereinafter referred to as the "County".

WHEREAS, Owner is the owner or contract owner of a parcel of land located at 2318 Meadow Trail Lane, in the 4<sup>th</sup> Election District of Howard County, Maryland, and the deed to same is recorded or shall be recorded among the Land Records of Howard County, Maryland in Liber 15977 Folio 0112.

WHEREAS, The Lot is suitable for the installation of a conventional on-site sewage disposal system with an advanced pre-treatment system, utilizing best available technology to perform nitrogen reduction, in accordance with the Code of Maryland Regulations 26.04.02.07, effective January 1, 2013. The pre-treatment device being installed is Norweco Sinarka TWT 600

NOW, THEREFORE, the parties hereto agree as follows:

- A. Owner hereby grants to the County the right to enter upon the Lot at any reasonable time for access to the system to make periodic inspections and the Owner agrees to provide any information and data in Owner's possession reasonably requested and needed by the County to develop accurate and thorough test results.
- B. Owner acknowledges and agrees that neither the County nor any of its agents or employees, either officially or individually, underwrites the operation of any system approved by them.
- C. The Owner will devote reasonable care and effort to the operation and maintenance of the system in perpetuity or until a public sewer connection is made so that a system malfunction is not the result of poor maintenance, faulty operation, or neglect.
- D. The Owner agrees to enter into a contract reasonably acceptable to the Owner and the County with a private entity to operate and maintain on a regularly scheduled basis an approved advanced pre-treatment system. The owner shall supply a copy of the contract to the County when it is renewed or altered.
- E. This agreement shall run with the land and upon Owner's taking title to the Lot shall bind the Owner, their heirs, successors, and assigns to the provisions of the agreement as long as the property is in existence and after installation of the system. Owner further agrees that they shall inform in writing any subsequent purchaser or lessee of the Lot that the system shall require

maintenance or other attention. Upon taking title to the Lot, the Owner agrees to cause this agreement to be recorded in the Land Records of Howard County and assure that it becomes part of the Deed for the subject property in order that prospective buyers may be aware of the special conditions affecting this property.

F. This agreement shall not be construed to limit any authority of the County to protect the public health, safety or comfort or to issue any other orders to take any other action which is now or may hereafter be within its authority.

G. This agreement may be voided at any time at the discretion of the County.

H. This agreement contains the entire agreement and understanding between the County and the Owner. There are no additional terms other than as contained in this agreement. This agreement may not be modified, except in writing signed by each of the parties or by their authorized representatives.

I. The laws of the State of Maryland govern the provisions of all transactions pursuant to this agreement.

J. Owner acknowledges and agrees that interior renovations to increase the number of bedrooms or an increase in living space shall not be permitted without approval from the County.

IN WITNESS WHEREOF, the parties have signed and sealed this agreement on the date indicated above.

Michael J. Davis 9/25/15  
Howard County Health Department

[Signature] 9/24/15  
Owner #1 Signature                      Date  
Joel Shinn  
Owner #1 Print Name

[Signature] 9/24/15  
Owner #2 Signature                      Date  
Joel Anna Shinn  
Owner #2 Print Name

[Signature] 9/24/15  
Buyer #1 Signature                      Date  
Joel Shinn  
Buyer #1 Print Name

[Signature] 9/24/15  
Buyer #2 Signature                      Date  
Anna Shinn  
Buyer #2 Print Name

Clerk of the Circuit Court for  
Howard County  
Land Records/Licensing

The Thomas Dorsey Building  
9250 Bendix Road  
Columbia, MD 21045  
410-313-5850

=====  
LR - Agreement Recording Fee  
1x 20.00 20.00

Grantor/Grantee Name: Shinn  
Reference/Control #: 64

LR - Agreement Surcharge  
1x 40.00 40.00

=====  
SubTotal: 60.00  
Total: 60.00

=====  
REV-Check-BOA 60.00  
Number : 11748

09/25/2015 12:03 CC13-DS  
#4904537 /1246/109

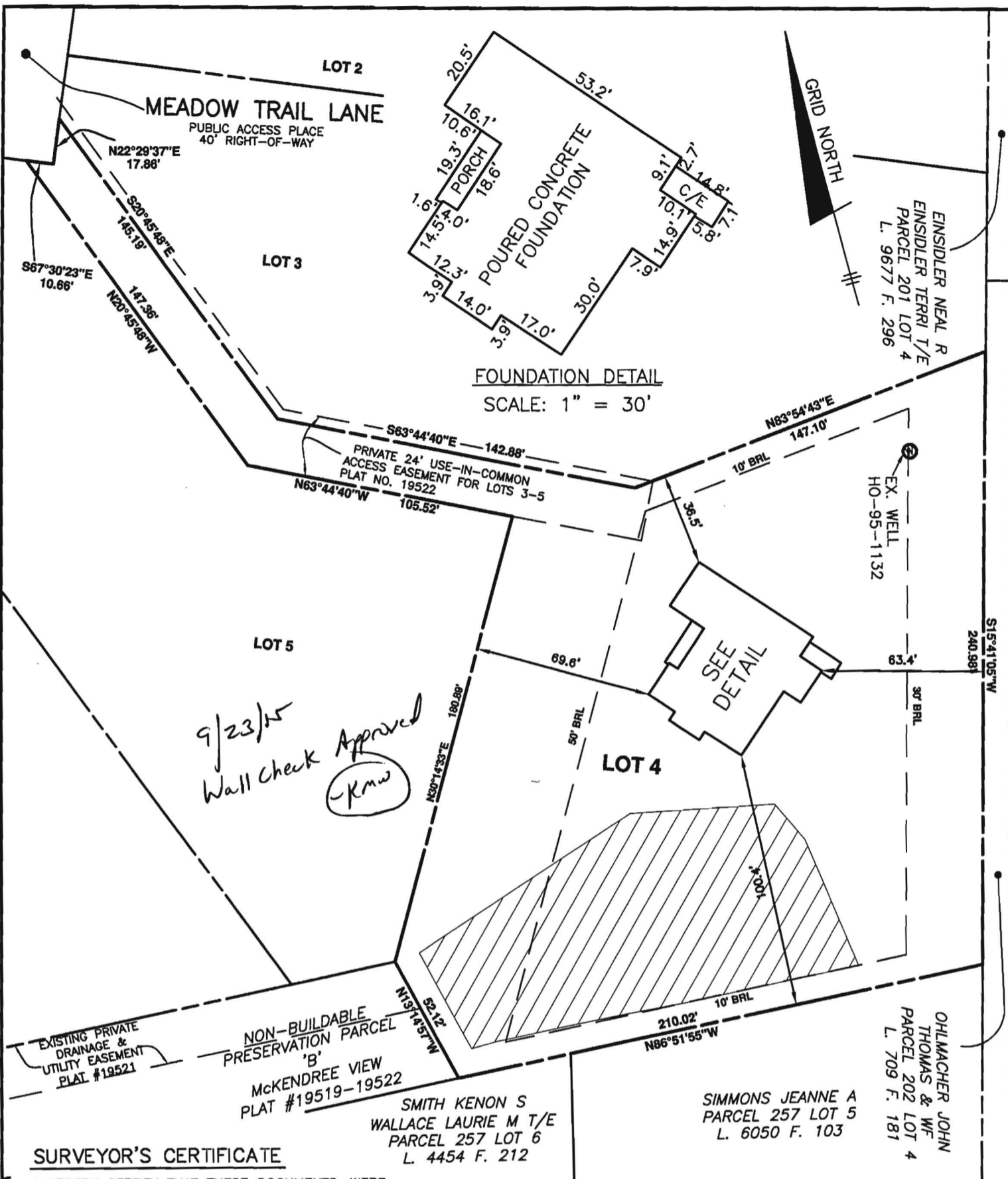
Thank you for visiting us today~

2318  
~~2318~~

Meadow Trail

Lane

Lot 4



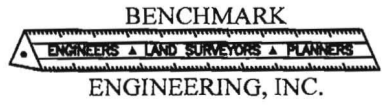
**SURVEYOR'S CERTIFICATE**

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 1-7-2017 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 06/08/2015.

TOP OF FOUNDATION WALL ELEVATION = 567.8'  
OFFSET DIMENSIONS TO PROPERTY LINES ARE ± 0.1'



DONALD A. MASON  
PROFESSIONAL LAND SURVEYOR  
MD REG. No. 21320  
FOR BENCHMARK ENGINEERING, INC.  
MD REG. No. 351  
FEMA FIRM No. 240027C0045D  
ZONE: X  
DATED: 11/06/2013



8480 BALTIMORE NATIONAL PIKE ▲ SUITE 315  
ELLCOTT CITY, MARYLAND 21043  
phone: 410-465-6105 ▲ fax: 410-465-6644  
www.bei-civilengineering.com

FIELD OBS. BY PHIL  
COMP. BY EWF  
DRAWN BY EWF

**WALL CHECK**

**MCKENDREE VIEW  
LOTS 1 THRU 8  
PLAT No. 19522  
LOT No. 4**

2318 MEADOW TRAIL LANE

4TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

SCALE: 1" = 50' DATE: 06/08/2015

### ECOPOD-N™ Fixed Film Wastewater Treatment System Unit Specifications

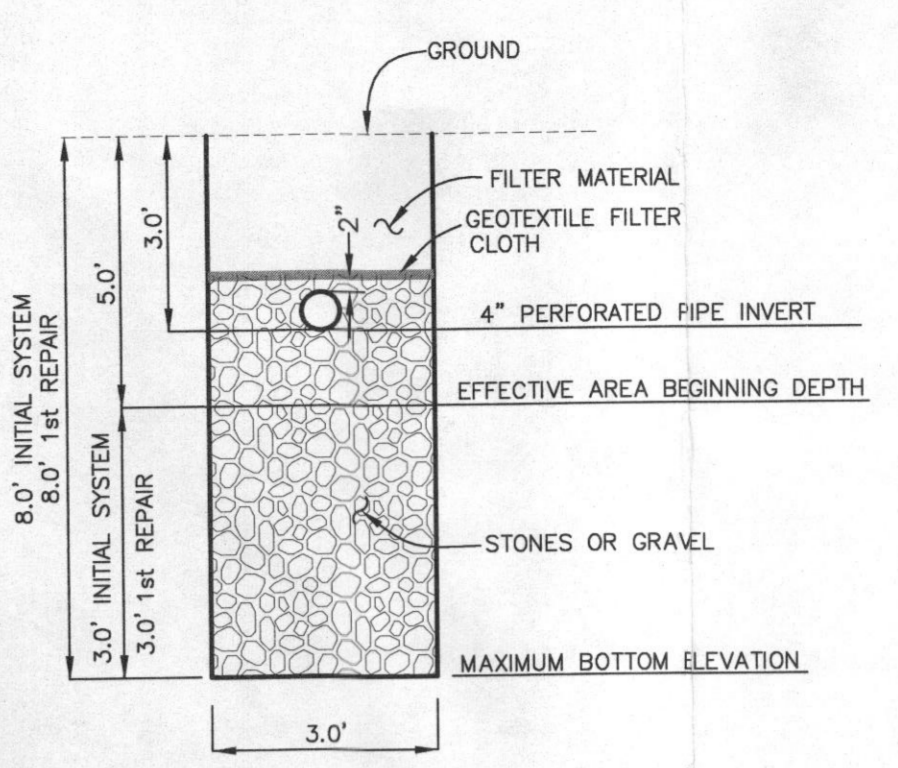
Treatment Plant	Treatment Capacity (GPD)	Primary Tank Total Volume (Gal)	Reactor Tank Volume (Gal)	Reactor Tank Diameter (ft)	Media Size	Air Requirements
E50-N	500	500	710	5.80	2' x 2' x 4'	12 CFM
E60-N	600	600	916	7.36	3' x 2' x 4'	14.4 CFM
E75-N	750	750	1099	9.09	3' x 2' x 4'	18 CFM
E100-N	1000	1000	1427	11.86	4' x 2' x 4'	24 CFM
E150-N	1500	1500	2130	17.71	6' x 2' x 4'	36 CFM

Materials of Construction		
Suffix FF	Reactor Tank	Fiberglass
	Cover	Fiberglass
Suffix CA	Media Container	Fiberglass
	Reactor Tank	Concrete
	Cover	Concrete
	Media Container	Fiberglass

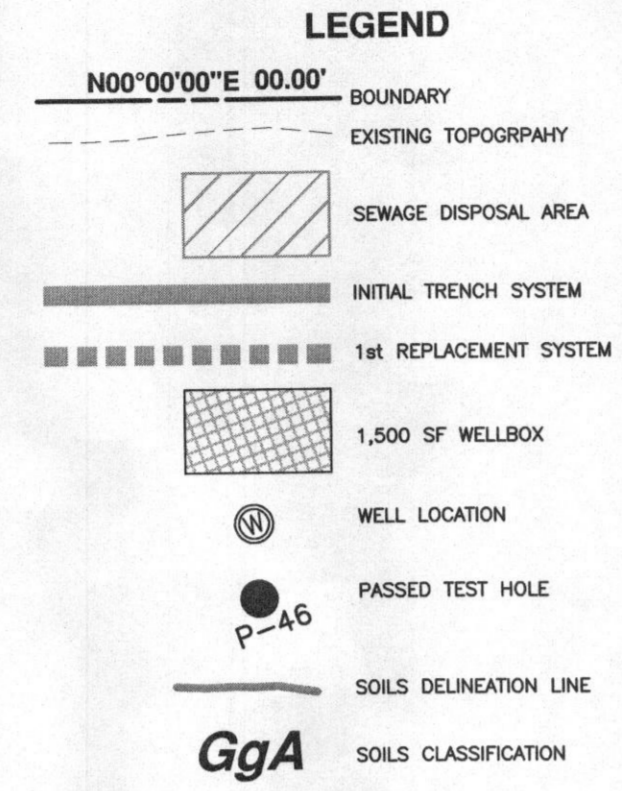
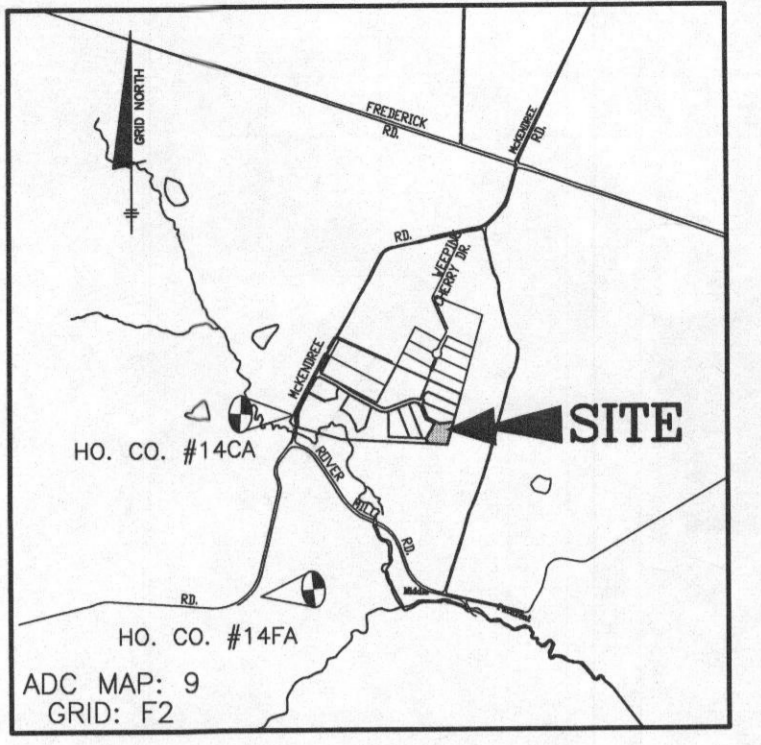
These are standard production units. Other configurations are available upon request.

- ### 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 COVER OVER BAT TANK PER THE MANUFACTURER'S SPECIFICATION IS TWO (2) FEET.
  - 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 (1) 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.



### BENCHMARKS NAD'83 HORIZONTAL

HO. CO. #14FA STAMPED BRASS DISK SET ON TOP OF CONCRETE BASE. N 595829.611' E 1310622.17' ELEVATION: 560.299'
HO. CO. #14CA STAMPED BRASS DISK SET ON TOP OF CONCRETE BASE. N 597624.973' E 1311015.48' ELEVATION: 560.299'



### SEPTIC INVERT CHART

INV @ HOUSE	563.66
GROUND @ HOUSE	566.00
INV IN BAT TANK	562.83
INV OUT BAT TANK	562.66
TOP OF BAT TANK	645.83
GROUND OVER TANK	565.50
INV IN DIST BOX	562.25
INV OUT DIST BOX	562.00
GROUND AT DIST BOX	565.00

### INITIAL SYSTEM

Number of Bedrooms	5
Application Rate	0.8 gpd/sf
Effective Area Beginning Depth	5 ft
Bottom Max Depth	8 ft
Design Flow	750 gpd
Drainage Field square footage	937.5 sf
Sidewall reduction credit	0.5
Trench width	3
Effective Area Depth	3
Linear Length of trench Required	156 lf

### TRENCH INFORMATION

TRENCH LENGTH	52 LF	TRENCH LENGTH	52 LF
GROUND ELEVATION	565.0	GROUND ELEVATION	563.5
INVERT ELEVATION	562.0	INVERT ELEVATION	460.5
MAX BOTTOM ELEV	557.0	MAX BOTTOM ELEV	555.5
TRENCH LENGTH	52 LF	TRENCH LENGTH	52 LF
GROUND ELEVATION	564.5	GROUND ELEVATION	563.0
INVERT ELEVATION	561.5	INVERT ELEVATION	560.0
MAX BOTTOM ELEV	556.5	MAX BOTTOM ELEV	555.0
TRENCH LENGTH	52 LF	TRENCH LENGTH	52 LF
GROUND ELEVATION	560.9	GROUND ELEVATION	562.7
INVERT ELEVATION	560.9	INVERT ELEVATION	559.7
MAX BOTTOM ELEV	555.9	MAX BOTTOM ELEV	554.7

### 1st REPLACEMENT SYSTEM

Number of Bedrooms	5
Application Rate	0.8 gpd/sf
Effective Area Beginning Depth	5 ft
Bottom Max Depth	8 ft
Design Flow	750 gpd
Drainage Field square footage	937.5 sf
Sidewall reduction credit	0.5
Trench width	3
Effective Area Depth	3
Linear Length of trench Required	156 lf

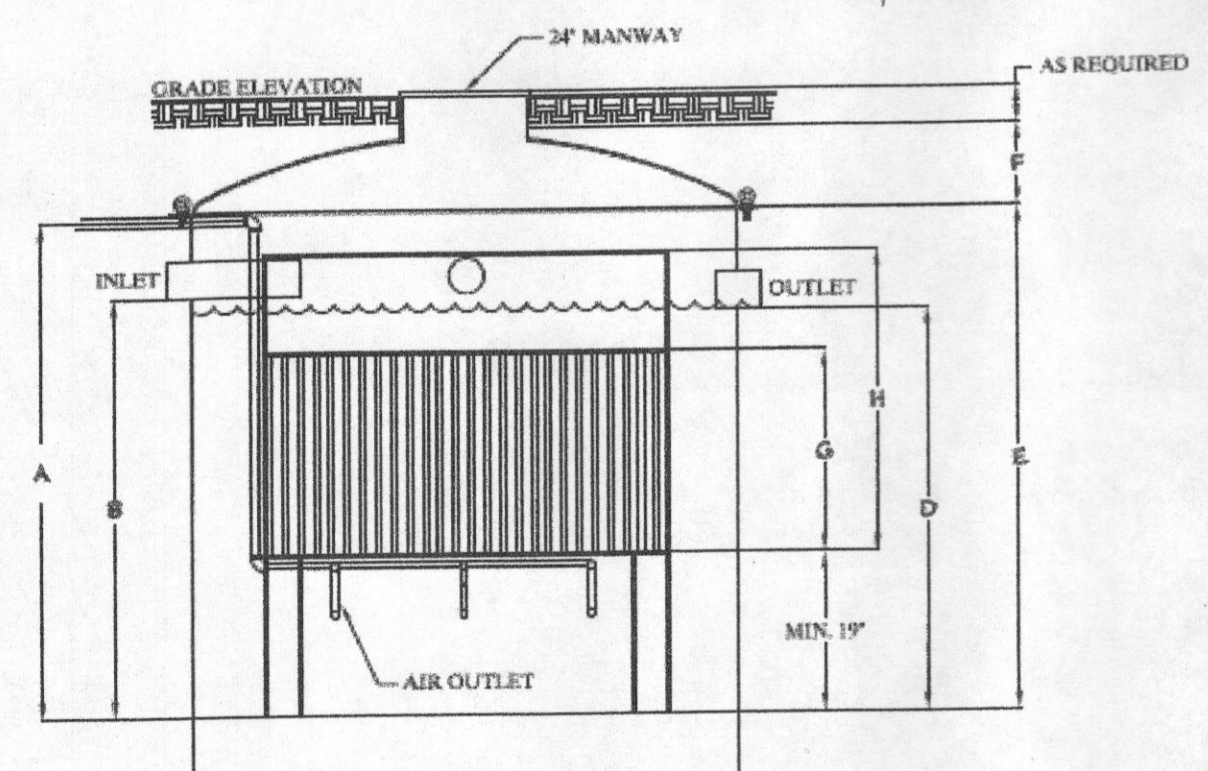
### Electrical Requirements

Model	Compressor	Motor full load Amps	Measured Operating Watts	Electrical Requirements
E50-N	Delta Model E50	3.5	185	115 volt - single phase
E60-N	Delta Model E60	4.7	280	115 volt - single phase
E75-N	Delta Model E75	4.7	280	115 volt - single phase
E100-N	Delta Model E100	7.1	475	115 volt - single phase
E150-N	Delta Model E150	7.1	475	115 volt - single phase

### Dimensions

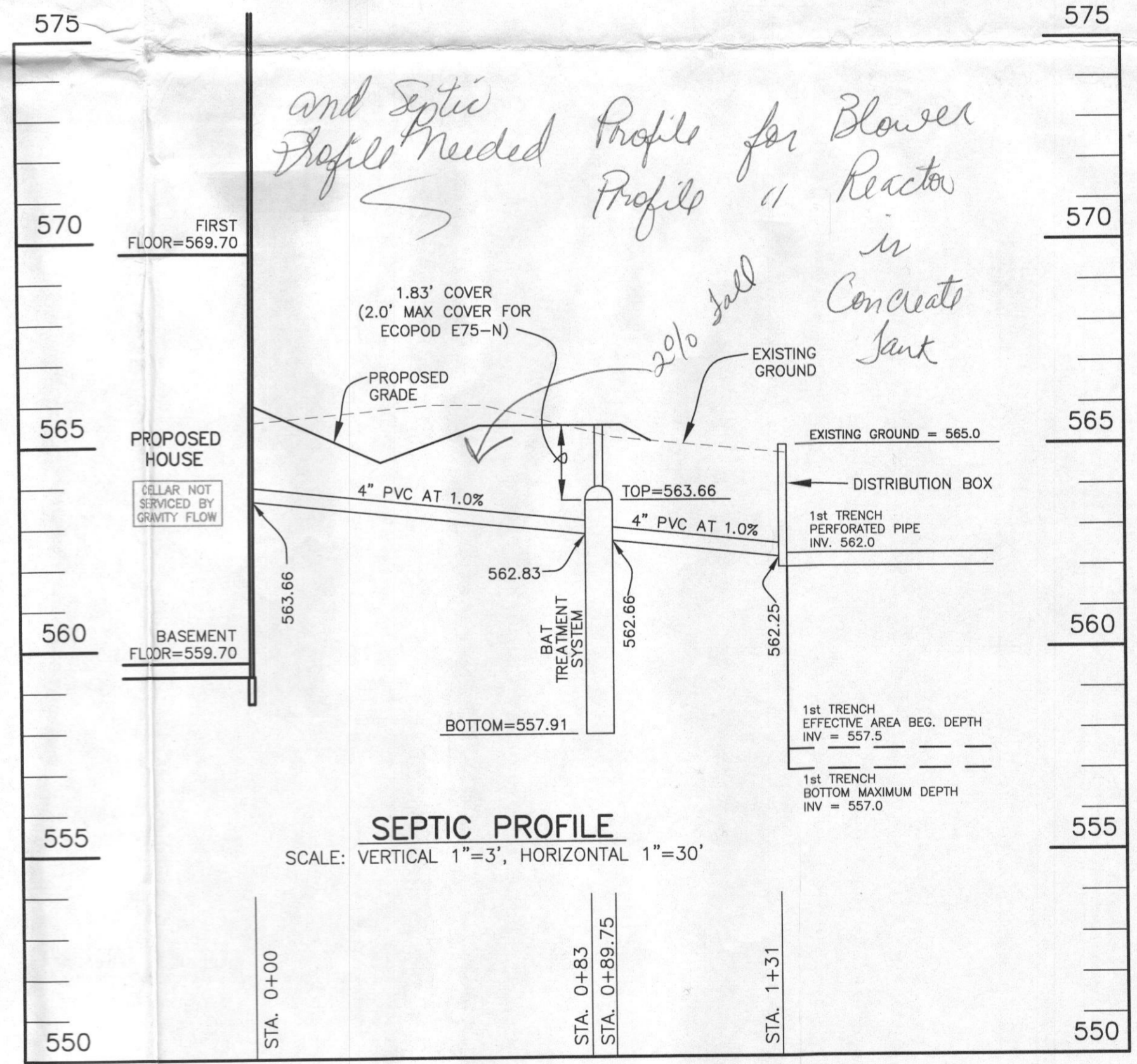
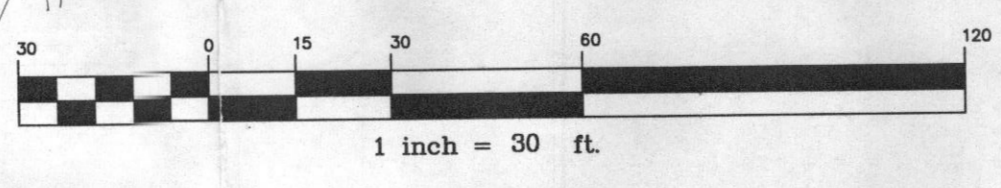
TREATMENT PLANT	A	B	C	D	E	F	G	H
E50-N	4'-11 1/4"	4'-2"	6'-0"	4"	5'-0"	10"	2"	3"
E60-N	5'-7 1/4"	4'-6"	6'-3"	4'-4"	5'-0"	11 1/4"	2"	3"
E75-N	6'-3/4"	4'-11"	6'-9"	4'-9"	5'-9"	11 1/4"	2"	3"
E100-N	6'-5 3/4"	5'-5"	7'-6"	5'-4"	6'-2"	1'-0"	2"	3"
E150-N	8'-3 3/4"	5'-9"	8"	6'-4"	1'-3 1/4"	2"	2"	3"

REFER TO TREATMENT PLANT DRAWINGS ON THE ABOVE DIMENSIONS.  
NOTE: For special cargo or container shipments 12 inches must be added to the diameters of all fiberglass units (due to the fiberglass flange and lifting lugs).



### NRCS SOILS CHART - HoCo Soils Map No. 10

SYMBOL	HYDRIC	GROUP	Kw	MAP UNIT NAME
GgB		B	0.37	GLENELG LOAM, 3 TO 8 PERCENT SLOPES
GgA		B	0.37	GLENELG LOAM, 0 TO 3 PERCENT SLOPES
GmB*	YES	C	0.43	GLENVILLE SILT LOAM, 3 TO 6 PERCENT SLOPES



### McKENDREE VIEW LOT 4

2318 MEADOW TRAIL LANE  
WEST FRIENDSHIP, MARYLAND 21794

TAX MAP: 14 GRID: 12 PARCEL: 54  
ZONED: RR-DEO ELECTION DISTRICT NO. 4

### SITE PLAN FOR BAT INSTALLATION

DATE: JANUARY 26, 2015 BEI PROJECT NO: 1777-L4  
SCALE: AS SHOWN SHEET 1 OF 1

BUILDER:  
CARY CLUMBERLAND  
VIKING CUSTOM HOMES  
815 WINDRIVER DRIVE  
SKYESVILLE, MARYLAND 21784  
410-489-6728

DESIGN: DBT DRAWN: DBT

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

DAVID THOMPSON 1/24/2015