

13886 Clarksville Pike Highland md

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

20777

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

LR - DOT/Mortgage Recording Fee  
1x 20.00 20.00

Name: Howard County  
Reference/Control #: 91

LR - DOT/Mortgage Surcharge  
1x 40.00 40.00

SubTotal: 60.00  
Total: 60.00

REV-Cash 60.00

02/12/2014 11:55  
#2462338 /494/109

CC13-NN

Thank you

lay~



# HOWARD COUNTY HEALTH DEPARTMENT

46268

CODES

DATE

3/7/14

P-5

CASH

CHECK

Received From

Hatfields Equip

NO.

For

Septic Permit - 13886 Rt. 108

3230

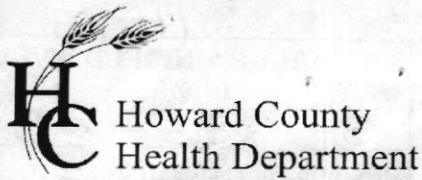
Three hundred ninety-six <sup>XX</sup>/<sub>100</sub> Dollars

\$

396 00

Received By

J King



Bureau of Environmental Health  
 7178 Gateway Drive Columbia, MD 21046  
 (410) 313-2640 Fax (410) 313-2648  
 TDD (410) 313-2323 Toll Free 1-866-313-6300  
 website: www.hchealth.org

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

RECEIPT DATE: 3-7-14

**ONSITE SEWAGE DISPOSAL SYSTEM**

P 546268

INSTALLATION APPROVAL DATE: 4/15/2014

**PERMIT  
CONSTRUCTION**

A \_\_\_\_\_

PROPERTY ADDRESS: 13886 Route 108  
 SUBDIVISION: \_\_\_\_\_ LOT: \_\_\_\_\_ TAX ID: 05-372046  
 CONTRACTOR: Hatfields Equipment EMAIL: Ken@hatfieldsequipment.com  
 CONTRACTOR ADDRESS: \_\_\_\_\_ PHONE: \_\_\_\_\_  
 PROPERTY OWNER: Omar El Sawi EMAIL: \_\_\_\_\_  
 OWNER ADDRESS: 13886 Route 108, Highland, MD 20777 PHONE: 301-928-6627

BAT UNIT MODEL: Norweco, Low - Profile Singlair BAT UNIT SIZE: 600GPD

PUMP CHAMBER CAPACITY (GALLONS): 1500 PUMP SIZE: 1/2 HP

NUMBER OF BEDROOMS: 5 HOUSE SQ. FT. \_\_\_\_\_ APPLICATION RATE: 0.8

DISTRIBUTION SYSTEM: GRAVITY FED  LOW PRESSURE DOSED

TRENCHES:	LINEAR FEET REQUIRED: <u>220</u>	INLET DEPTH: <u>3.5</u>
	TRENCH WIDTH: <u>3</u>	MAXIMUM BOTTOM DEPTH: <u>5</u>
	MINIMUM SPACE BETWEEN TRENCHES: <u>9</u>	EFFECTIVE AREA BEGINNING DEPTH: <u>3.5</u>
LOCATION:	<b>PER APPROVED SITE PLAN. SEWAGE DISPOSAL AREA AND BAT UNIT LOCATION MUST BE STAKED BY LICENSED SURVEYOR PRIOR TO PRE-CONSTRUCTION INSPECTION.</b>	
NOTES:	Set BAT unit per plan and Pump tank per plan. Set distribution box per plan. Install 4 x 55' trenches on contour in upper Northeast portion of SDA.	

ISSUED BY: Robert Bricker ISSUE DATE: 3-7-14 EXPIRATION DATE: 3-7-15

- 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

**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  
3' ~ 3.5' ~ 5'  
 NUMBER OF TRENCHES 3  
 TOTAL LENGTH 211'  
 ABSORPTION AREA 633 + Sidewall  
 DISTRIBUTION BOX LEVEL Yes  
 DISTRIBUTION BOX BAFFLE Yes  
 DISTRIBUTION BOX PORT Yes

**NORWECO SINGULAIR TNT**  
 12'x6' CAPACITY 1300? GAL  
 SEAM LOC Top  
 TANK LID DEPTH 0.5'-2.5'  
 BAFFLES Middle  
 BAFFLE FILTER No  
 MANHOLE LOC Front/Middle/Rear  
 6" PORT LOC None  
 WATERTIGHT TEST No  
 BLOWER TEST Yes  
 BLOWER ALARM TEST Yes

PUMP TANK LEVEL Yes  
 CAPACITY 1500 GAL  
 SEAM LOC Top  
 TANK LID DEPTH 0'-2.5'  
 BAFFLES Front  
 MANHOLE LOC Front + Rear  
 6" PORT LOC None  
 WATERTIGHT TEST No  
 PUMP TEST Yes  
 PUMP ALARM TEST Yes

See As-Built Drawing On  
Separate Sheet

PRE-CONSTRUCTION:

3/21/2014 Tank location marked by surveyors  
 O.K. Easement not staked (BB)

INSTALLATION:

3/25/2014 Starting on system. Laid out trenches. (BB)  
 3/26/2014 Trenches finished. Continuing with pump line. (BB)  
 3/27/2014 Tanks set. Plumbing finished. Need pump and alarm  
 test and start-up certification from Norweco. (BB)  
 4/15/2014 Pump and alarm working. Aerator and aerator  
 alarm working. Homeowner supposed to do final  
 "out of tank" wiring. Received start-up certification

FINAL INSPECTOR B. Baker  
 from Norweco rep. (BB)

DATE OF APPROVAL 4/15/2014

HO-94-0678

38.5'

88'

79'

3'  
5.5'

40.5'

13886  
Clarksville  
Pike

11.5'

26'

58'

66.5'

1.5'

77'

80'

70'

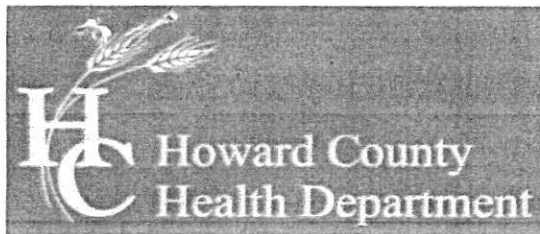
74'

77'

20.5'

3'

7.5'



Bureau of Environmental Health  
7178 Columbia Gateway Drive, Columbia, MD 21046-2147  
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 11<sup>th</sup> day of Feb. 2014, among OMAR M. EL SAWI, 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 13886 Clarksville Pike, Highland, md 20773, in the 5 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 \_\_\_\_\_ Folio \_\_\_\_\_.

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.

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



SEPTIC SPECIFICATIONS WORKSHEET

initial system  
owner, Omar El Sawi A

Subdivision \_\_\_\_\_

Street Name 13886 Route 108

Lot Number \_\_\_\_\_

Average Percolation Rate (min./in.) 12 min./inch

Application Rate (GPD/sq. ft.) 0.8

~~#20 & #8502~~  
Number of Bedrooms 5

Design Flow (#BRx150) = 750

Square Footage (of House) \_\_\_\_\_

Septic Tank Capacity (gal.) \_\_\_\_\_

Sidewall Credit / % Reduction 1.5 feet / 71%

Total Length of Trench (ft.) 220

\*All Septic/Pump tanks must be top seamed unless otherwise approved by this agency. 221.9

\*All Septic tanks must be compartmented unless otherwise approved by this agency.

Baffle Filter Required? Yes No

TRENCH DIMENSIONS: Trench to 3 feet wide. Inlet is at 3.5 feet below original grade with 1.5 feet of stone below the distribution pipe. Bottom maximum depth is 5 feet below original grade. Effective sidewall begins at 3.5 feet below original grade. Maintain at least 9 feet spacing between trenches.

PUMP SYSTEM PROPOSED? YES NO

Pump system details: 1500 gallon pump chamber

Pump Model # 33EB05  
Size: 1/2 HP

Note 1: Septic pump detail to be provided by installer prior to issuance of septic permit.

Note 2: Pump performance test required prior to Health Department approval of pumped septic system.

LOCATION:

- 1. Set septic tank BAT unit per plan & Pump Tank per plan Model # TNTLP-600680
- 2. Set distribution box per plan
- 3. Install 4x55 trenches on contour in upper, northeast portion of SDA

ADDITIONAL NOTES Do not order the septic tank until after layout inspection and Sanitarian approval. Stake septic easement corners. Call for layout inspection. Mark utilities. Gravel tickets must be available for Environmental Sanitarians. Stone must be approved by the Howard County Health Department. A written variance request is required for tanks deeper than 3 feet. A traffic bearing lid is required for tanks deeper than 4 feet.

Reviewed by: R Bricker

Date: 4/15/2014

SEPTIC SPECIFICATIONS WORKSHEET

1st Replacement

Subdivision \_\_\_\_\_ A \_\_\_\_\_

Street Name 13886 Route 108 Lot Number \_\_\_\_\_

Average Percolation Rate (min./in.) \_\_\_\_\_ min./inch Application Rate (GPD/sq. ft.) 1.2

Number of Bedrooms 5 Design Flow (#BRx150) = 750

Square Footage (of House) \_\_\_\_\_ Septic Tank Capacity (gal.) \_\_\_\_\_

Sidewall Credit / % Reduction 2.5 feet / \_\_\_\_\_ % Total Length of Trench (ft.) 114

\*All Septic/Pump tanks must be top seamed unless otherwise approved by this agency. (114.6')

\*All Septic tanks must be compartmented unless otherwise approved by this agency.

Baffle Filter Required? Yes No

TRENCH DIMENSIONS: Trench to 3 feet wide. Inlet is at 3.5 feet below original grade with 4 feet of stone below the distribution pipe. Bottom maximum depth is 7.5 feet below original grade. Effective sidewall begins at 5 feet below original grade. Maintain at least 11 feet spacing between trenches.

PUMP SYSTEM PROPOSED? YES NO

Pump system details: \_\_\_\_\_ gallon pump chamber

Note 1: Septic pump detail to be provided by installer prior to issuance of septic permit.

Note 2: Pump performance test required prior to Health Department approval of pumped septic system.

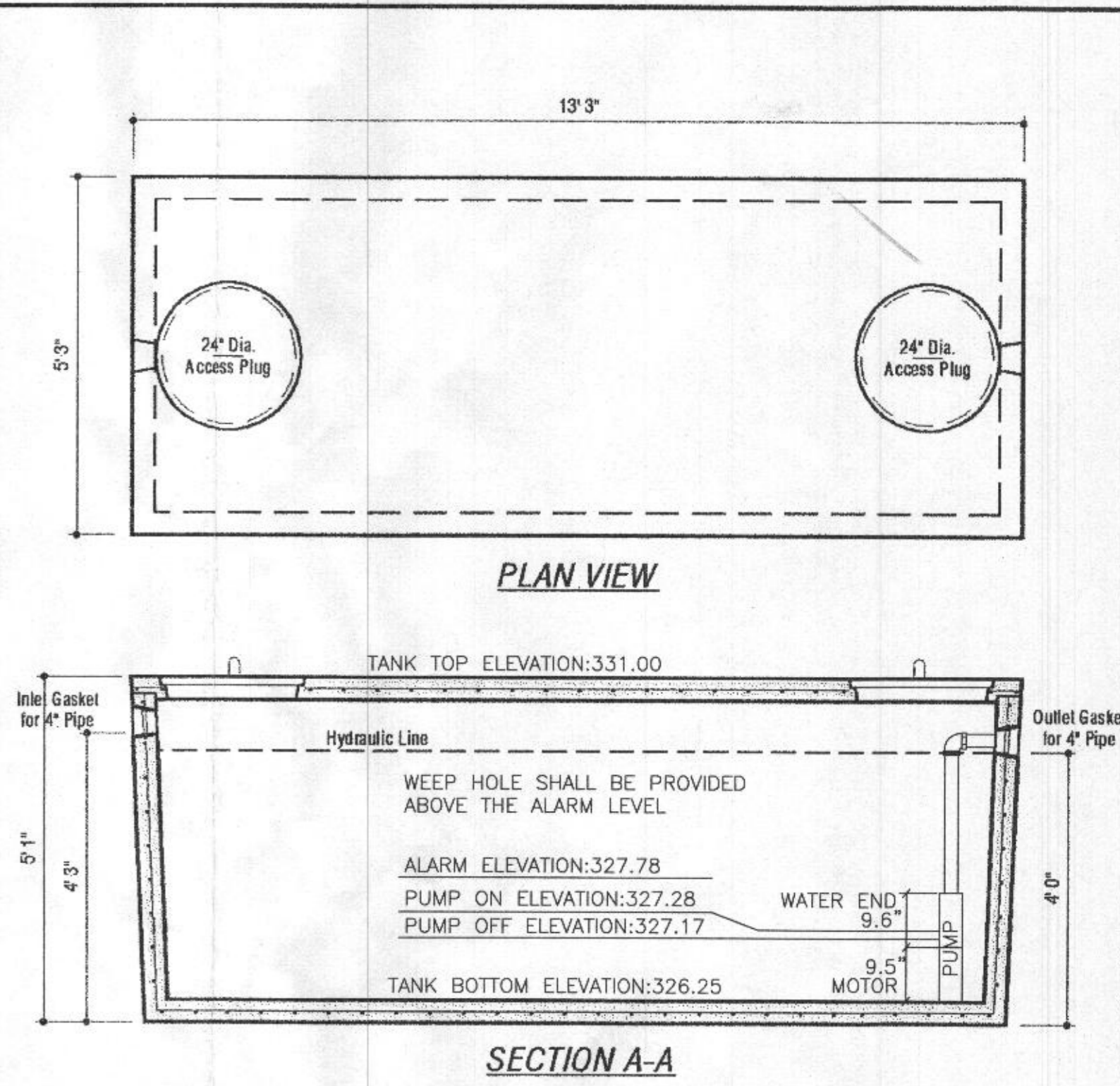
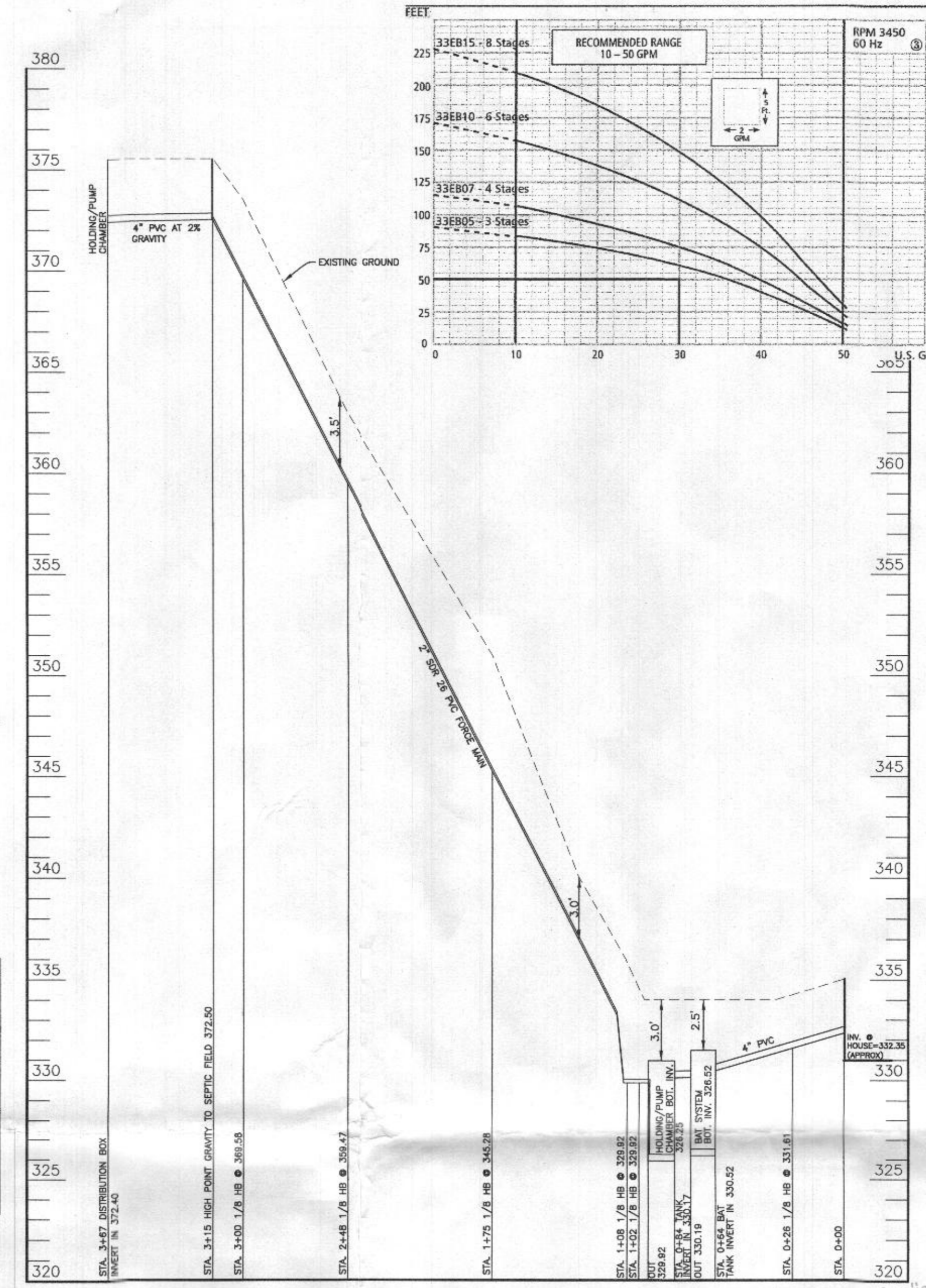
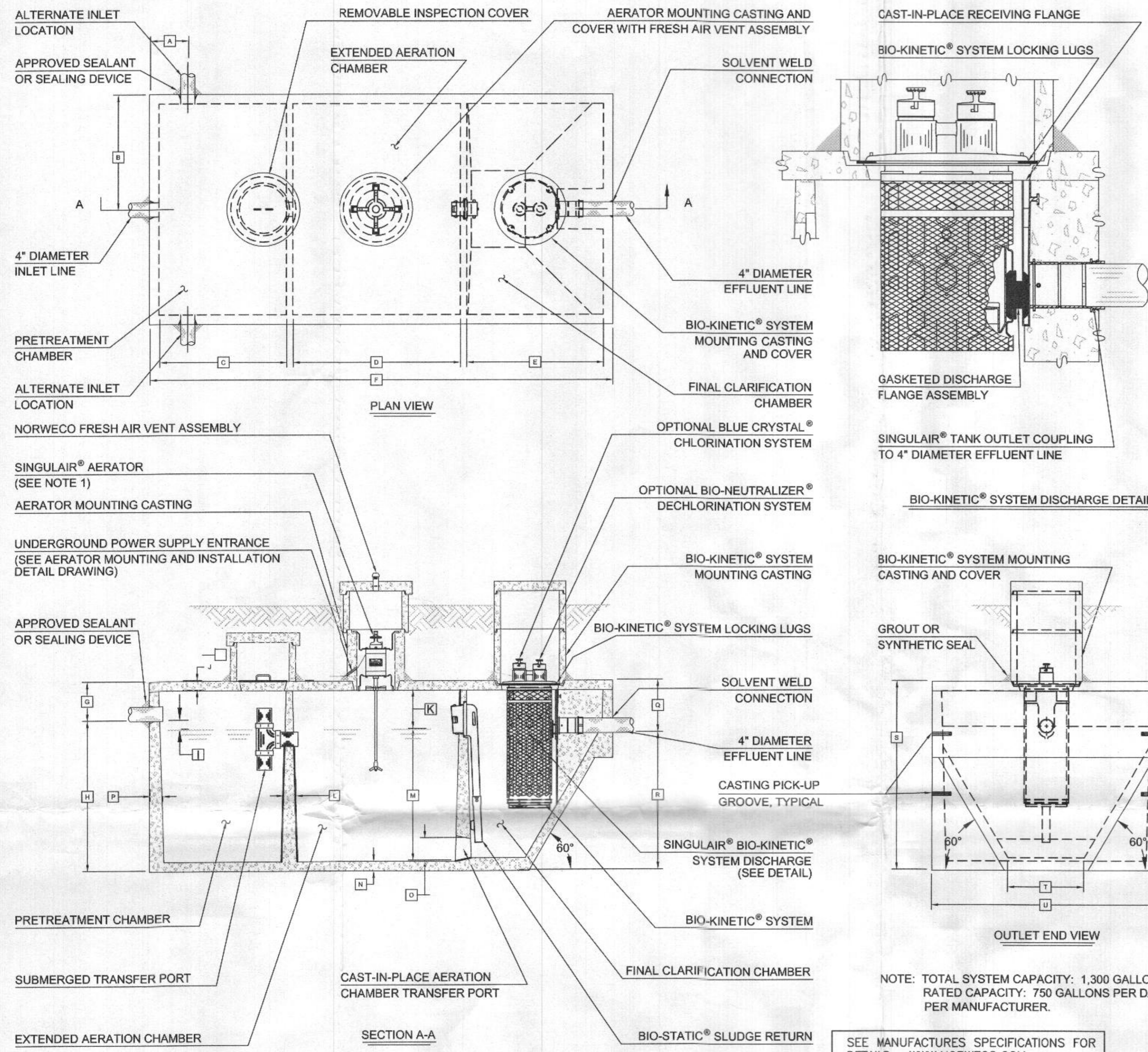
LOCATION:

- 1. Set septic tank existing pump tank
- 2. Set distribution box per layout.
- 3. Install 2x57' trenches on contour in southeast portion of SOA

ADDITIONAL NOTES Do not order the septic tank until after layout inspection and Sanitarian approval. Stake septic easement corners. Call for layout inspection. Mark utilities. Gravel tickets must be available for Environmental Sanitarians. Stone must be approved by the Howard County Health Department. A written variance request is required for tanks deeper than 3 feet. A traffic bearing lid is required for tanks deeper than 4 feet.

Reviewed by: RBurden

Date: 1/15/2013



**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 260-86 & C 494-92.
- [4] Reinforcing per ASTM A185. Min. 1-1/2" cover.
- [5] Top slab sealed with butyl rope mastic.
- [6] 4" wall, base, & top thickness.

**MBI** Mayer Bros., Inc. 6264 Hans Road, Ellicott City, Maryland 21075. Tel: 410.796.1434, Fax: 410.796.1488. www.mayerbrosprecast.com

**1,500 GALLON SEPTIC/PUMP TANK 1-Compartment**  
NON-Traffic MAX 3 ft. OF COVER

Dwg. No. 1500-1C No Scale Jan 1, 2000

- Required BAT Site Plan Notes**
1. 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.
  2. The maximum depth of the BAT shall be per the manufacturer's specification.
  3. The blower may not be located further from the tank than the manufacturer's specifications.
  4. The BAT system shall be maintained and operated for the life of the system.
  5. The BAT shall be operated by and maintained by a certified service provider.
  6. 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.
  7. Electrical work for the BAT installation must be performed by a licensed electrician.
  8. An agreement and Easement must be completed and signed by all applicable parties, and recorded in Land Records of Howard County.
  9. The Health Department requires documentation for the start-up certification from the manufacturer prior to final approval of the installation.

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

SEE MANUFACTURER'S SPECIFICATIONS FOR DETAILS. WWW.NORWECO.COM

**CRITICAL DIMENSIONS**

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

**norweco** 3-26-07 B  
LOW-PROFILE SINGULAIR® BIO-KINETIC® WASTEWATER TREATMENT SYSTEM MODEL THTLP-600 GPD  
PC-S-7091

**DIMENSIONS AND WEIGHTS**

Order Number	HP	Phase	Stages	W.E.D.	Motor	Length (Inches)	L.O.A. @	H.E.	Motor	Total
20090522, 20090521	1/2	1	5	8.6	55	18.8	3	18	21	
20090722	1/2	1	6	11.3	10.7	22.0	4	20	24	
20091022	1	1	8	13.0	11.8	24.8	5	23	28	
20091322	1 1/2	1	11	15.5	15.1	30.6	6	31	37	
20090522, 20090521	1/2	1	3	11.0	9.5	20.5	4	18	22	
33080722	1/2	1	4	12.2	10.7	22.9	5	20	25	
33081022	1	1	6	14.7	11.8	26.4	6	23	29	
33081322	1 1/2	1	8	17.1	15.1	32.2	7	31	38	

W.E. = water end or pump valve motor  
L.O.A. = length of assembly - cassette pump - water end and motor  
H.E. = height of assembly - cassette pump - water end and motor  
Motor = Performance curves are based on venting pumps without 1/2" discharge head weepholes. Actual performance will be slightly lower unless weep hole is plugged.

**Project:** 13886 State Route 108 **BE#** 2517-B **Date:** 1/16/2014

**Waste Water Flows**  
# dwellings = 1  
bedrooms = 5 gal/day/bedroom = 150  
Total flow = 750 GPD

**Tank Sizing**  
COMAR septic tank sizing = 2,000 gallons  
Design septic tank size = 1,500 gallons  
BA Tank Size = 1,300 gallons  
Pump Tank = 1,500 gallons

**Tank Design and Flow Rates**  
Tank Size: x=12.58 ft, y=5.58 ft, z=3.67 ft (to inlet elevation), Width (bottom)=0.33 ft, Width (top)=0.42 ft  
Pump Model = 33EB05, H(wet) = 11 inches, Note: 1.5" added to pump inlet

**Controls**  
Bottom Elevation = 326.25, Off Elevation = 327.17, On Elevation = 327.28, Alarm Elevation = 327.78  
Storage above alarm = 1123 Gallons, Required depth = 2.14 ft, Desired runtime = 2 minutes, Pump design volume = 8.02 cfs, Flow rate = 30 GPM  
Does storage above alarm sufficient YES

**Friction Head**  
Force Main Size = 2 inches, Invert @ pump = 327.04, Invert @ high pt. = 372.50, Static Head = 45.46 ft, Force Main Length = 215 ft  
45° Bend Loss = 4 ft/fitting - Table 4.3, 90° Bend Loss = 7 ft/fitting - Table 4.3, Gate Valve = 1.3 ft/fitting - Table 4.3  
Total Horizontal Equivalent = 254 ft  
Pipe Loss = 1.54 ft/100ft - Table 4-4, Friction Head = 3.91 ft  
Total Dynamic Head = 49.37 For pump design

Approved Septic System Plan  
Howard County Health Department  
Installation  
Plan Approved  
R. B. B. 2/5/14  
Signature Date

I CERTIFY THAT THE INFORMATION SHOWN HEREON IS BASED ON FIELD WORK PERFORMED BY ME OR UNDER MY DIRECTION AND IS IN ACCORDANCE WITH HEALTH DEPARTMENT'S BEST AVAILABLE TECHNOLOGY FOR NITROGEN REMOVAL (BAT) SITE PLAN REQUIREMENTS.

PLAN PREPARED BY BRIAN P. CLEARY FOR BENCHMARK ENGINEERING, INC.

BAT TECHNOLOGY SHALL BE IN COMPLIANCE WITH THE CURRENT LIST APPROVED BY MDE ON THE FOLLOWING WEB SITE: [http://www.mde.state.md.us/programs/Water/BayRestorationFund/OnsiteDisposalSystems/Pages/water/cbwrt/osds/bat\\_process.aspx](http://www.mde.state.md.us/programs/Water/BayRestorationFund/OnsiteDisposalSystems/Pages/water/cbwrt/osds/bat_process.aspx)

**BENCHMARK ENGINEERING, INC.**  
6240 BALTIMORE NATIONAL PIKE & SUITE 315 • ELLICOTT CITY, MARYLAND 21043  
(P) 410-485-6105 (F) 410-485-6644  
75 THOMAS JOHNSON DRIVE • SUITE E • FREDERICK, MARYLAND 21702  
301-710-5686  
WWW.BE-CIVILENGINEERING.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. 28559, Expiration Date: 7-22-2015.

**OWNER:** MOHAMED KAMAL EL SAWI, 13942 CLARKSVILLE PIKE, HIGHLAND, MARYLAND 20777

**PROJECT:** 13886 MD. ROUTE 108

**LOCATION:** TAX MAP-40 GRID-15 PARCEL-40, 5th ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

**TITLE:** BAT INSTALLATION DETAILS

**DATE:** JANUARY, 2014 **PROJECT NO.:** 2517-B

**DESIGN:** BFC **DRAFT:** BFC **SCALE:** AS SHOWN **DRAWING:** 2 OF 2

THE DETAILS SHOWN HEREON ARE BASED ON TYPICAL MANUFACTURER'S DRAWINGS PROVIDED BY NORWECO, ACTUAL MANUFACTURER MAY DIFFER. CONTRACTOR TO VERIFY THAT ALL DIMENSIONS ARE IN COMPLIANCE WITH THE HEALTH DEPARTMENT REQUIREMENTS.