



**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: 1/15/16 **ONSITE SEWAGE DISPOSAL SYSTEM** P 557967

APPROVAL DATE: 4/25/16 **PERMIT: CONSTRUCTION** A \_\_\_\_\_

PROPERTY ADDRESS: 2779 Florence Road

SUBDIVISION: Layton Knoll LOT: 3 TAX ID: \_\_\_\_\_

CONTRACTOR: Cumberland and Company EMAIL: \_\_\_\_\_

CONTRACTOR ADDRESS: \_\_\_\_\_ PHONE: \_\_\_\_\_

CONTRACTOR CERTIFIED FOR BAT INSTALLATION:  MDE  MANUFACTURER:

PROPERTY OWNER: CUMBERLAND DEVELOPMENT CORPORATION EMAIL: ccumbe54237@gmail.com

OWNER ADDRESS: 16391 A.E.MULLINIX ROAD, WOODBINE, MD 21797 PHONE: 301-252-1122

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

OPERATION & MAINTENANCE AGREEMENT DATE SIGNED: 1/15/16 DATE RECORDED: 1/15/16

DISTRIBUTION SYSTEM:  GRAVITY  PRESSURE DOSED BEDROOMS: 4 APPLICATION RATE: 0.8

TRENCHES:	LINEAR FEET REQUIRED: <u>156.8</u>	INLET DEPTH: <u>4</u>
	TRENCH WIDTH: <u>3</u>	MAXIMUM BOTTOM DEPTH: <u>6</u>
	MINIMUM SPACE BETWEEN TRENCHES: <u>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.**

NOTES: 2x 78' Trenches

ISSUED BY: Hank Oswald ISSUE DATE: 1/15/16 EXPIRATION DATE: 1/15/17

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

See As-Built Drawing  
On Separate Sheet

ROAD NAME

TRENCH/DRAINFIELD DATA

WIDTH 3 INLET 4' BOTTOM 6

NUMBER OF TRENCHES 2  
TOTAL LENGTH 162'  
ABSORPTION AREA 486+Sidewall  
DISTRIBUTION BOX LEVEL Levelers  
DISTRIBUTION BOX BAFFLE Yes  
DISTRIBUTION BOX PORT Yes

SEPTIC TANK DATA

SEPTIC TANK I LEVEL Yes  
MANUFACTURER Norweco  
CAPACITY 1300 GAL  
SEAM LOC Top  
TANK LID DEPTH 0.5-1'  
BAFFLES No  
BAFFLE FILTER No  
MANHOLE LOC Front/Middle+Rear  
6" PORT LOC None  
WATERTIGHT TEST No  
SLOTTED N/A  
DATE ON LID Dry

PUMP/SEPTIC TANK LEVEL N/A

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

PRE-CONSTRUCTION

2/18/2016 Install two 78' trenches similar to what is shown on plan. O.K. to install tank and dist. box near top middle of septic easement. (Requested by builder - Kelly Cumberland). House connection moved to back middle of house. (BB)

INSTALLATION: 3/9/2016 Tank installed. House connection made. Working on trenches. (BB)

3/11/2016 Trenches installed. Need BAT approval from Norweco representative. (BB)

4/22/2016 Aerator and alarm working. Need BAT approval from Norweco distributor. (BB)

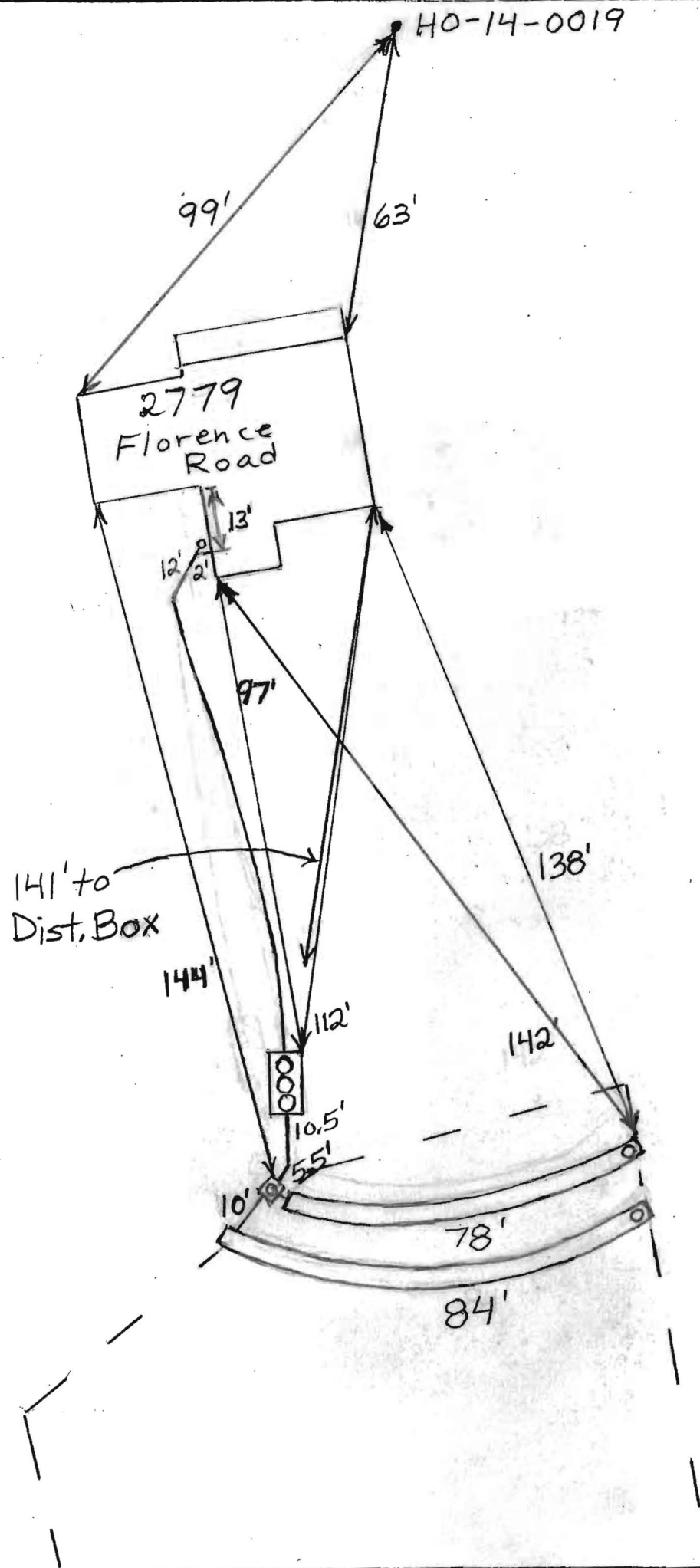
4/25/16 BAT startup rec'd.

FINAL INSPECTOR

*[Signature]*

DATE OF APPROVAL

4/25/16



# 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 2779 Florence Rd., Woodbine, MD 21797 March 1, 2016 was installed according to the manufacture's specifications.

Installer: Kelly Cumberland

Property Owner: Cumberland Development

Permit #

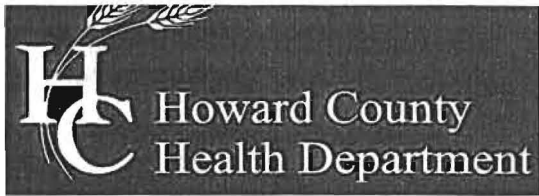
**THIS CERTIFICATION IS FOR INSTALLATION ONLY. THE 5-YEAR OPERATIONS & MAINTENANCE AGREEMENT FROM DATE OF INSTALLATION WILL ONLY GO INTO EFFECT AFTER BACK RIVER PRE-CAST, LLC RECEIVES FINAL AND FULL PAYMENT FOR THE SYSTEM.**



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MATTHEW GECKLE

Vice-President



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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 15<sup>th</sup> day of January 2016 among Cumberland Development Corp, 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 2779 Florence Rd. Woodbine MD, in the \_\_\_ 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. The pre-treatment device being installed is Narweco Singular TNT 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.

Bert Nufon 1/15/2016  
Howard County Health Department

Kelly Cumberland 1-14-16  
Owner #1 Signature                      Date

Kelly Cumberland  
Owner #1 Print Name

\_\_\_\_\_  
Owner #2 Signature                      Date

\_\_\_\_\_  
Owner #2 Print Name

\_\_\_\_\_  
Buyer #1 Signature                      Date

\_\_\_\_\_  
Buyer #2 Signature                      Date

\_\_\_\_\_  
Buyer #1 Print Name

\_\_\_\_\_  
Buyer #2 Print Name

STATE OF MARYLAND  
County of Carroll

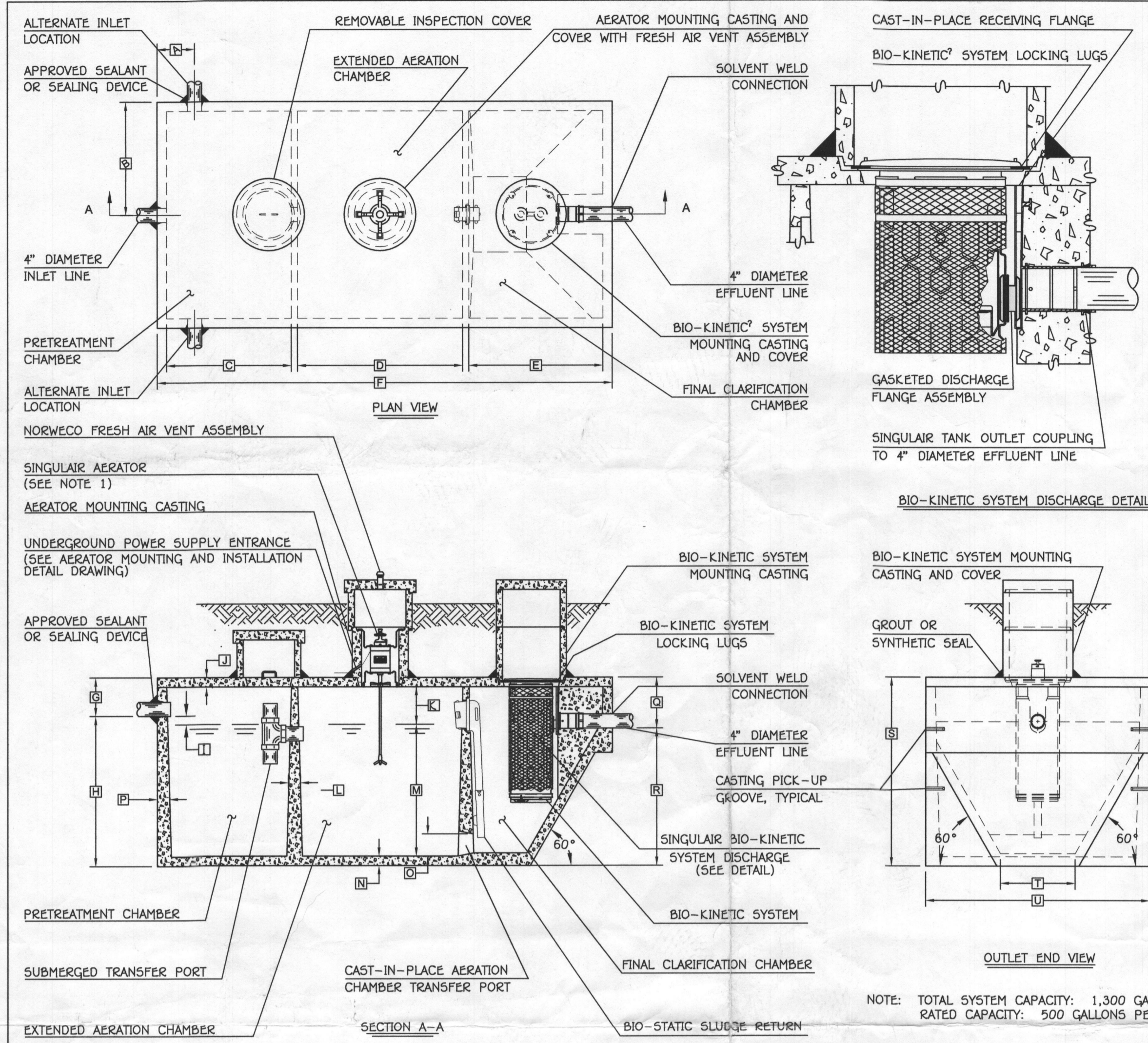
On this 7<sup>th</sup> day of January, 20 16, before me, the undersigned officer personally appeared Kelly Cumberland, of Cumberland Company, Inc., and that he, as President of said corporation, being authorized to do so, executed the foregoing instrument for the purposes therein contained, by signing the name of the corporation by himself as President of the named corporation.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

Danielle Cumberland

Danielle Cumberland  
Notary Public, Carroll County, State of Maryland

My commission expires 4-18-18



**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"	O	0'-6"
C	3'-4"	P	0'-3"
D	4'-8"	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"
I	0'-3"	V	
J	0'-3"	W	
K	1'-0"	X	
L	0'-2"	Y	
M	3'-6"	Z	

**norweco** 3-20-07 B  
U.S. AND FOREIGN PATENTS PENDING  
LOW-PROFILE SINGULAR® BIO-KINETIC WASTEWATER TREATMENT SYSTEM  
MODEL TWTLP-600 GPD  
BOD5  
BMM  
10-16-06  
NTS  
PC-6-T091

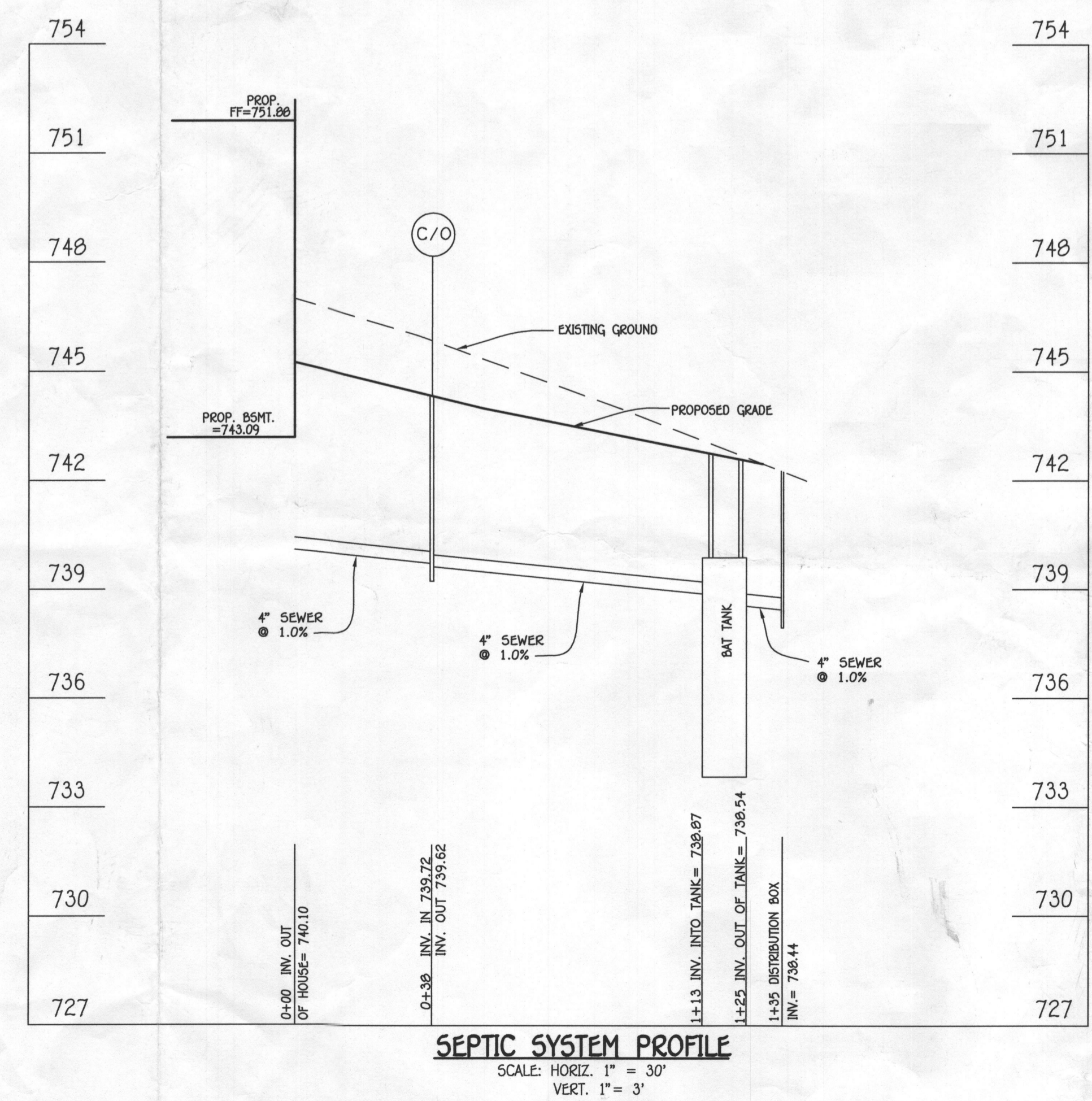
**BAT NOTES**

- 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 ROUGHED SITE PLAN MAY BE REQUIRED.
- THE MAXIMUM COVER OVER THE BAT SHALL BE 3 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 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.
- ANY ELECTRICAL WORK FOR THE BAT INSTALLATION MUST BE PERFORMED BY A LICENSED ELECTRICIAN.
- AN AGREEMENT AND EASEMENT HAS BEEN COMPLETED AND SIGNED BY ALL APPLICABLE PARTIES, AND RECORDED IN THE LAND RECORDS OF HOWARD COUNTY, LIBER \_\_\_\_\_, FOLIO \_\_\_\_\_.
- THE HEALTH DEPARTMENT REQUIRES DOCUMENTATION FOR THE START-UP CERTIFICATION FROM THE MANUFACTURER PRIOR TO FINAL APPROVAL OF THE INSTALLATION.
- SURFACE RUNOFF SHALL BE DIRECTED AROUND THE BAT TANK.

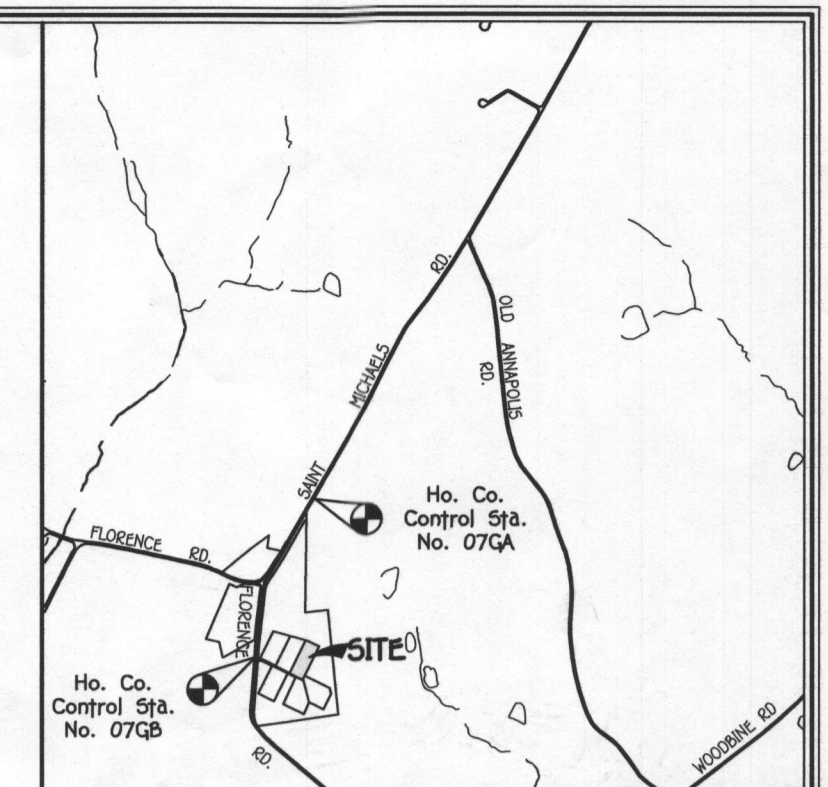
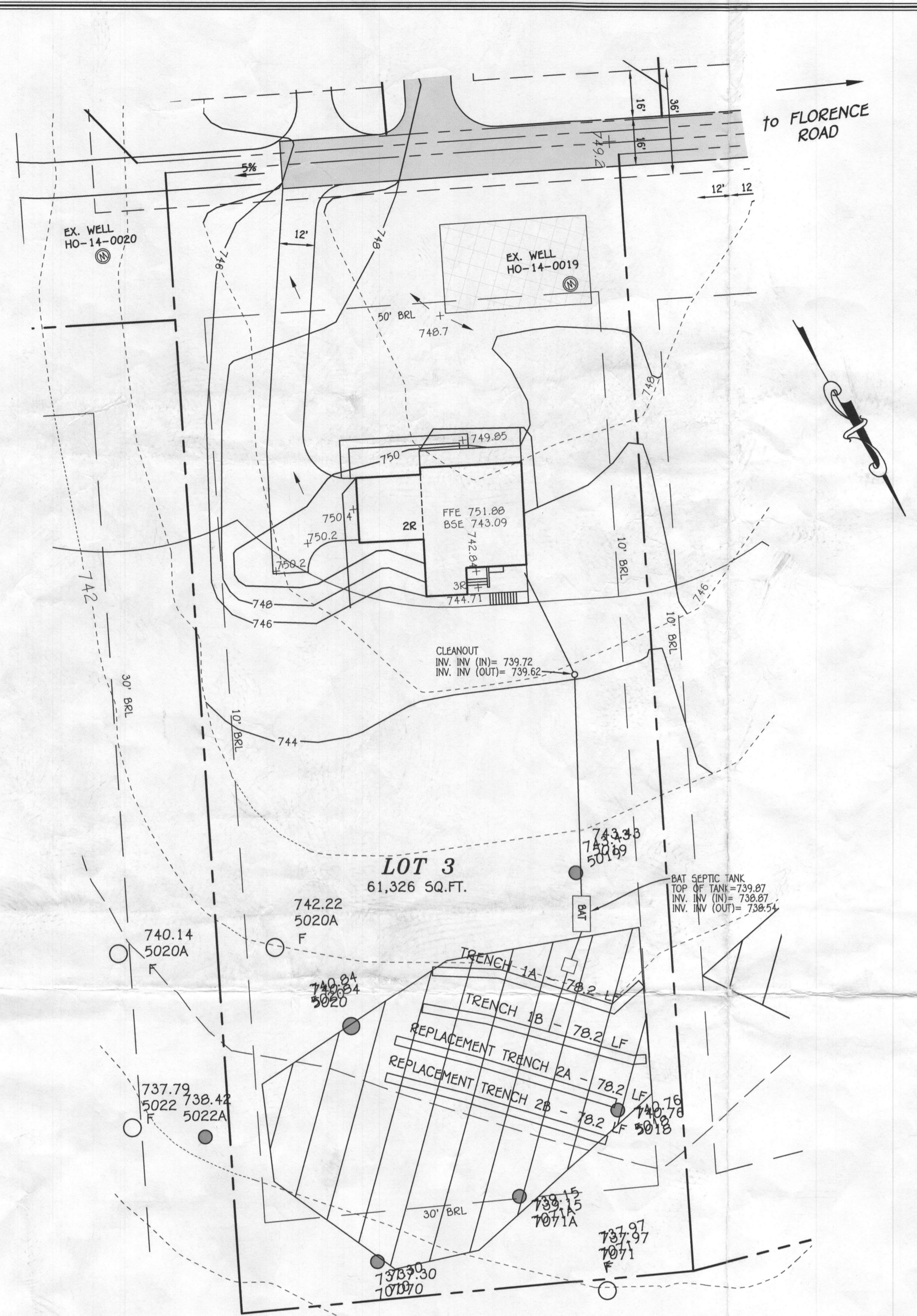
**SEPTIC SYSTEM DESIGN**  
4 BEDROOM HOUSE  
LOADING RATE = 600 GPD  
APPLICATION RATE = 0.8

EFFECTIVE SIDEWALL BEGINS AT 4 FEET  
TRENCH DEPTH = 6 FEET  
TRENCH WIDTH (W) = 3 FEET  
EFFECTIVE DEPTH (D) = 2 FEET  
COEFFICIENT OF REDUCTION OF TRENCH LENGTH = 0.625  
 $(W+2) / (W+1+2D) = (3+2) / (3+1+2(2))$   
SF OF DRAINFIELD = 600 GPD / 0.8 = 750 SF  
TRENCH LENGTH = 750 SF x 0.625 / 3 = 156.3 FEET

**SEPTIC SYSTEM ELEVATIONS**  
FFE = 751.86  
BSE = 743.09  
INV. OUT OF HOUSE = 740.10  
PROPOSED GROUND AT C/O = 744.4  
INV. INTO C/O 739.72  
INV. OUT OF C/O 739.62  
EX. GROUND AT BAT TANK = 742.6  
PROP. GRADE AT BAT TANK = 742.6  
TOP OF BAT TANK = 739.87  
COVER OVER BAT TANK = 2.93 FT  
INVERT INTO BAT TANK = 738.87  
INVERT OUT OF BAT TANK = 738.54  
EX. GRADE AT DIST BOX = 742.3  
INVERT INTO DISTRIBUTION BOX = 738.44  
INVERT OUT OF DISTRIBUTION BOX = 738.3



**SEPTIC SYSTEM PROFILE**  
SCALE: HORIZ. 1" = 30'  
VERT. 1" = 3'



**GENERAL NOTES**

- SUBJECT PROPERTY ZONED: RC-DEO
- TOTAL AREA OF PROPERTY: 61,326 SQ.FT.
- SEPTIC EASEMENT SUBJECT TO HOWARD COUNTY HEALTH DEPARTMENT REVIEW.
- LENGTH OF TRENCH TO BE DETERMINED AT TIME OF SEPTIC PERMIT ISSUANCE.
- CONTRACTOR/BUILDER TO VERIFY ELEVATION IN THE FIELD BEFORE BEGINNING ANY CONSTRUCTION.
- EXISTING TOPOGRAPHY SHOWN IS BASED ON A FIELD RUN SURVEY ALONG FLORENCE ROAD & SAINT MICHAELS ROAD WITH MAXIMUM TWO FOOT CONTOUR INTERVALS PREPARED BY FISHER, COLLINS & CARTER, INC. DATED AUGUST, 2014, SUPPLEMENTED WITH HOWARD COUNTY GIS TOPOGRAPHY ON-SITE AND OFF-SITE.
- NO WETLANDS CURRENTLY EXIST ON THE PROPERTY.

**TRENCH DESIGN**

TRENCH	GROUND ELEV.	TOP OF STONE ELEV.	INVERT INTO TRENCH	DEPTH OF STONE AT	DEPTH OF STONE (FT)	BOTTOM OF TRENCH ELEV.	EFFECTIVE DEPTH (FROM EX. GROUND)	EFFECTIVE DEPTH (D)	WIDTH OF TRENCHES (W)	TRENCH SPACING
T1A	741.6	738.13	737.80	3.67'	2.33'	735.8	4	2	3.0	10
T1B	741.3	737.63	737.30	3.67'	2.33'	735.3	4	2	3.0	10
RT2A	740.7	737.03	736.70	3.67'	2.33'	734.7	4	2	3.0	10
RT2B	740.2	736.53	736.20	3.67'	2.33'	734.2	4	2	3.0	10

Approved Septic System Plan  
Howard County Health Department  
Signature: *Hank Cawth* Date: 9/21/15

**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. 38386, EXPIRATION DATE: 01/12/2016.  
*Abrahami* 9/17/15  
Signature of Professional Engineer DATE

SITE PLAN  
FOR BAT SYSTEM INSTALLATION  
**LAYTON KNOLL**  
LOT 3  
2779 FLORENCE ROAD  
ZONED RC-DEO

TAX MAP NO.: 7 GRID NO.: 19 PARCEL NO.: 112  
FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
SCALE: 1" = 30' DATE: SEPTEMBER, 2015  
SHEET 1 OF 1