

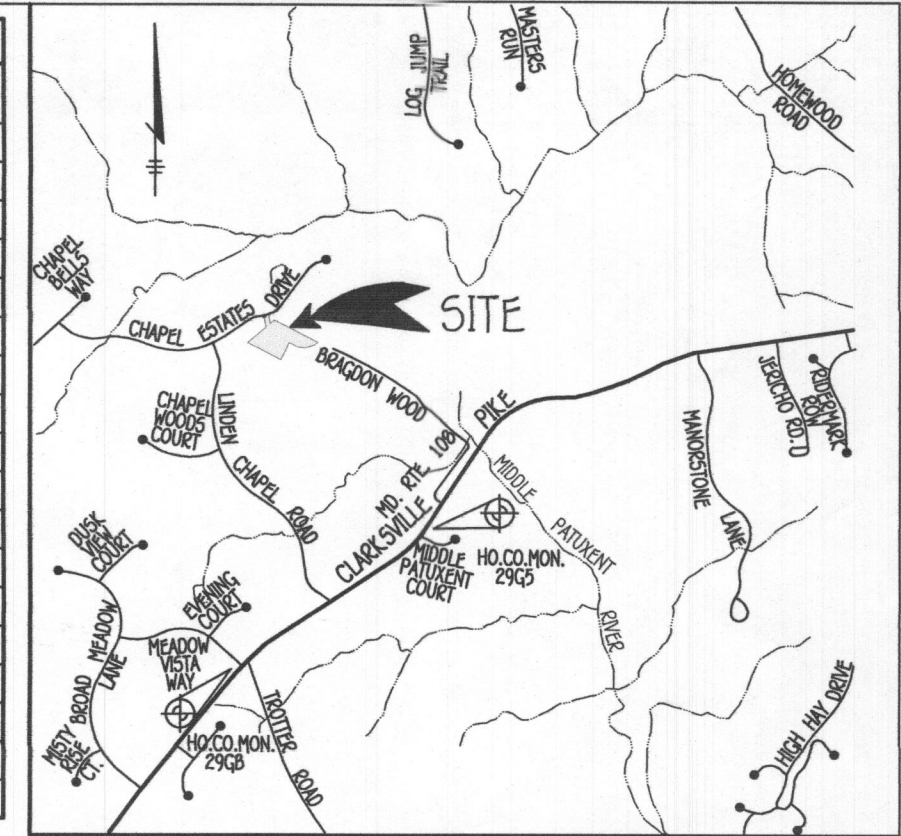
SOILS LEGEND

SOIL	NAME	CLASS
GhC	Gladstone loam, 0 to 15 percent slopes	B
GhB	Glenville-Baile silt loams, 0 to 8 percent slopes	C
MaD	Manor loam, 15 to 25 percent slopes	B

- ### GENERAL NOTES
- SUBJECT PROPERTY ZONED: RC-DEO
 - TOTAL AREA OF PROPERTY: 3.20 AC.
 - LIMIT OF DISTURBANCE: 64,227 SQ.FT. OR 1.47 ACRES.
 - CONTRACTOR/BUILDER TO VERIFY ELEVATION IN THE FIELD BEFORE BEGINNING ANY CONSTRUCTION.
 - BOUNDARY OF LOT BASED ON PLAT #23207.
 - TOPOGRAPHY SHOWN HEREON BASED ON FIELD RUN TOPOGRAPHIC SURVEY CONDUCTED BY FISHER, COLLINS & CARTER, INC. IN JULY, 2017. TOPOGRAPHY IS SUPPLEMENTED BY HOWARD COUNTY 200 SCALE TOPOGRAPHY.
 - WETLANDS EXIST ON THIS LOT AND HAVE BEEN SHOWN BASED ON F-14-119.
 - PLAN SUBJECT TO VARIANCE APPROVED ON APRIL 2, 2013 TO ALLOW SEWAGE DISPOSAL SYSTEMS SERVING LOTS 1 & 2 TO BE LOCATED UPGRADIENT FROM THE PRIVATE WATER SUPPLY ON NEIGHBORING PARCELS OFF OF CHAPEL WOODS DRIVE.

LEGEND

SYMBOL	DESCRIPTION
---342---	EXISTING CONTOUR 2' INTERVAL
---340---	EXISTING CONTOUR 10' INTERVAL
X	EXISTING FENCE
---	EXISTING STORM DRAIN LINE
---	EXISTING WATER LINE
---342---	PROPOSED CONTOUR 2' INTERVAL
---340---	PROPOSED CONTOUR 10' INTERVAL
x 329.14	SPOT ELEVATION
---	PROPOSED PAVING
---	EXISTING TREE LINE
---	PROPOSED TREE LINE
---	BUILDING RESTRICTION LINE
---	PROPOSED SEPTIC LINE
---	PROPOSED RETAINING WALL
---	PROPOSED CONCRETE / PATIO
○ 217	PASSED PERC HOLE
○ 5	FAILED PERC HOLE
---	PROPOSED RIPRAP



VICINITY MAP
SCALE: 1" = 200'
HO. CO. MD. ADC MAP 4934, GRID C3

BENCH MARKS

T.P. 2928 ELEV 456.00 N. 565.856.1 E. 1,333,265.9 LOC. SW CORNER OF MEADOW VISTA WAY & TROTTER RD. NEAR INTERSECTION OF RTE. 108 & MEADOW VISTA WAY	T.P. 2925 ELEV. 387.40 N. 568,341.2 E. 1,335,392.5 LOC. SE SIDE OF ROUTE 108 & NEAR INTERSECTION OF RTE. 108 & MIDDLE PATIENT COURT
--	--

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 COVER OVER THE BAT SHALL BE 3 FEET. GREATER EARTH COVER WILL REQUIRE A HEAVY LOAD BEARING TANK.
- ANY ELECTRICAL WORK FOR THE BAT INSTALLATION MUST BE PERFORMED BY A LICENSED ELECTRICIAN.
- THE WELL (TAG # HO-14-0047) HAS BEEN FIELD LOCATED AND IS ACCURATELY SHOWN.
- ALL WELLS AND SEPTIC SYSTEMS LOCATED WITHIN 100 FEET OF THE PROPERTY BOUNDARIES AND 200 FEET DOWNGRADIENT OF ANY WELLS AND/OR SEPTIC SYSTEMS HAVE BEEN SHOWN.
- 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.
- AN AGREEMENT AND EASEMENT HAS BEEN COMPLETED AND SIGNED BY ALL APPLICABLE PARTIES, AND RECORDED IN THE LAND RECORDS OF HOWARD COUNTY, LIBES 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 ELEVATIONS

FFE = 373.19
BSE = 362.00
INV. OUT OF HOUSE = 359.50
PROP GROUND AT CLEANOUT = 370.5
INVERT INTO CLEANOUT = 359.20
INVERT OUT OF CLEANOUT = 359.10
PROP GROUND AT CLEANOUT = 364.7
INVERT INTO CLEANOUT = 358.40
INVERT OUT OF CLEANOUT = 358.30
PROP GROUND AT BAT TANK = 364.0
TOP OF BAT TANK = 359.20
COVER OVER BAT TANK = 4.0 FT
INVERT INTO BAT TANK = 358.20
INVERT OUT OF BAT TANK = 357.87
PROP GROUND AT PUMP TANK = 363.0
TOP OF PUMP TANK = 356.80
COVER OVER PUMP TANK = 4.2 FEET
INVERT INTO PUMP TANK = 357.79
INVERT OUT OF PUMP TANK = 361.83

SEPTIC SYSTEM DESIGN

5 BEDROOM HOUSE
LOADING RATE = 750 GPD
APPLICATION RATE = 1.2
EFFECTIVE SIDEWALL BEGINS AT 3.0 FEET
TRENCH DEPTH = 6 FEET
TRENCH WIDTH (W) = 3 FEET
EFFECTIVE DEPTH (D) = 3 FEET
SF OF DRAINFIELD = 750 GPD / 1.2 = 625 SF
COEFFICIENT OF REDUCTION OF TRENCH LENGTH =
(W+2)/(W+1+2D) = (3+2)/(3+1+(2x3)) = 0.5
TRENCH LENGTH = 625 SF x 0.5 / 3 = 104.17 FEET (USE 104 FEET)
TRENCH SPACING = 20+W = ((2x3) + 3) = 9 USE 10'

TRENCH DESIGN

TRENCH	GROUND ELEV.	TOP OF STONE ELEV.	PIPE INVERT ELEV.	DEPTH TO STONE FROM GROUND	DEPTH OF STONE (FT)	BOTTOM OF TRENCH ELEV.	EFFECTIVE DEPTH STARTS AT	EFFECTIVE DEPTH (D)	TRENCH DEPTH	WIDTH OF TRENCHES (W)	TRENCH SPACING
1A	415.0	413.3	412.0	2.5 FT	3.5 FT	409.0	3 FT	3 FT	6 FT	3 FT	10 FT
1B	413.0	411.3	410.0	2.5 FT	3.5 FT	407.0	3 FT	3 FT	6 FT	3 FT	10 FT
1C	413.0	411.3	410.0	2.5 FT	3.5 FT	407.0	3 FT	3 FT	6 FT	3 FT	10 FT

LOW PRESSURE DOSING SYSTEM - INITIAL INSTALLATION

TRENCH	GROUND ELEV.	PIPE INVERT ELEV.	TRENCH LENGTH (FT)	LATERAL PIPE LENGTH (FT)	PERFORATION DIAMETER (IN)	HEAD (FT)	PERFORATION FLOW RATE (GPM)	PERFORATION SPACING (FT)	NUMBER OF ORIFICES	TRENCH FLOW RATE (GPM)
1A	415.0	412.0	34.7	32.22	5/16	2	1.63	4.96	7	11.41
1B	413.0	410.0	34.7	31.23	5/16	4	2.30	6.94	5	11.50
1C	413.0	410.0	34.7	31.23	5/16	4	2.30	6.94	5	11.50
TOTAL TRENCH FLOW RATE										34.41

FRICTION LOSS IN 3" PIPE FITTINGS:
 0 1/8 HB x 4 FEET PER FITTING = 32 EQUIVALENT FEET OF PIPE
 1 TEE/CROSS x 11 FEET PER FITTING = 11 EQUIVALENT FEET OF PIPE
 1 UNION x 2 FEET PER FITTING = 2 EQUIVALENT FEET OF PIPE
 1 ELBOWS x 9 FEET PER FITTING = 9 EQUIVALENT FEET OF PIPE
TOTAL EQUIVALENT FEET OF PIPE = 54 FT

TOTAL LINEAR FEET OF 2" SCH. 40 PVC = 562 LF + 54 LF = 616 LF

DYNAMIC HEAD
 616 LF X 2.50 FT PER 100 LF OF PIPE = 15.40 FT OF FRICTION HEAD
 DISTAL HEAD = 2.00 FT
 VERTICAL FROM PUMP OFF TO DISCHARGE = 8.00 FT OF STATIC HEAD
 VERTICAL FROM DISCHARGE TO HIGHEST ELEV OF MAIN = 50.97 FT
TOTAL DYNAMIC HEAD = 76.45 FT

PIPE VOLUMES
 562 LF (2" SCH. 40 PIPE) X 17.4 GALLONS PER 100 LF = 97.8 GALLONS
 94.7 LF (1.5" SCH. 40 PIPE) X 10.6 GALLONS PER 100 LF = 10.0 GALLONS

MINIMUM DOSE
 MINIMUM DOSE = (5 X LATERAL PIPE VOLUME) + (FORCE MAIN & MANIFOLD)
 = (5 X 10.0) + (90)
 = 140 GALLONS

140 GALLONS IS MORE THAN 1/6 DESIGN FLOW (750/6=125)
 USE 172 GALLON DOSE (140 GALLON MINIMUM)
 (RUN TIME = 5 MIN (34.4 GPM X 5 = 172 GALLON DOSE))

PUMP NEEDS TO HANDLE 34.4 GPM AT 76.5 FT OF HEAD
 USE 1.5 HP (M150 PUMP)

PLAN VIEW
SCALE: 1"=30'

1:2017.03.06 (am) 13:06:4007 BAT Plan.dwg, BAT Plan, 4/12/2018 10:07:09 AM, 1:1

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE PARK - 10272 BALDORNE NATIONAL PIKE
 ELICOTT CITY, MARYLAND 21044
 (410) 461 - 2855

NO.	REVISION	DATE

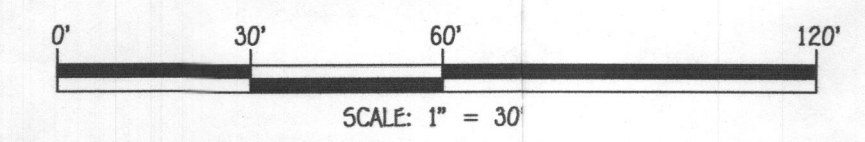
THIS DEVELOPMENT IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT. APPROVED:

HOWARD SOIL CONSERVATION DISTRICT

OWNER
 NISHA PATEL
 C/O GREENFIELD FAMILY HOMES
 6420 AUTUMN SKY WAY
 COLUMBIA, MD 21044
 (443) 324-4732

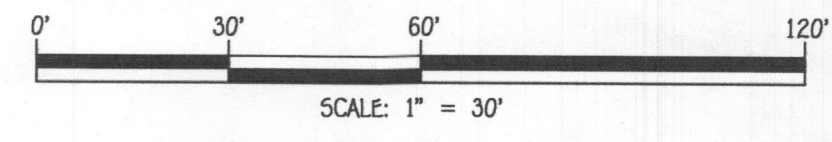
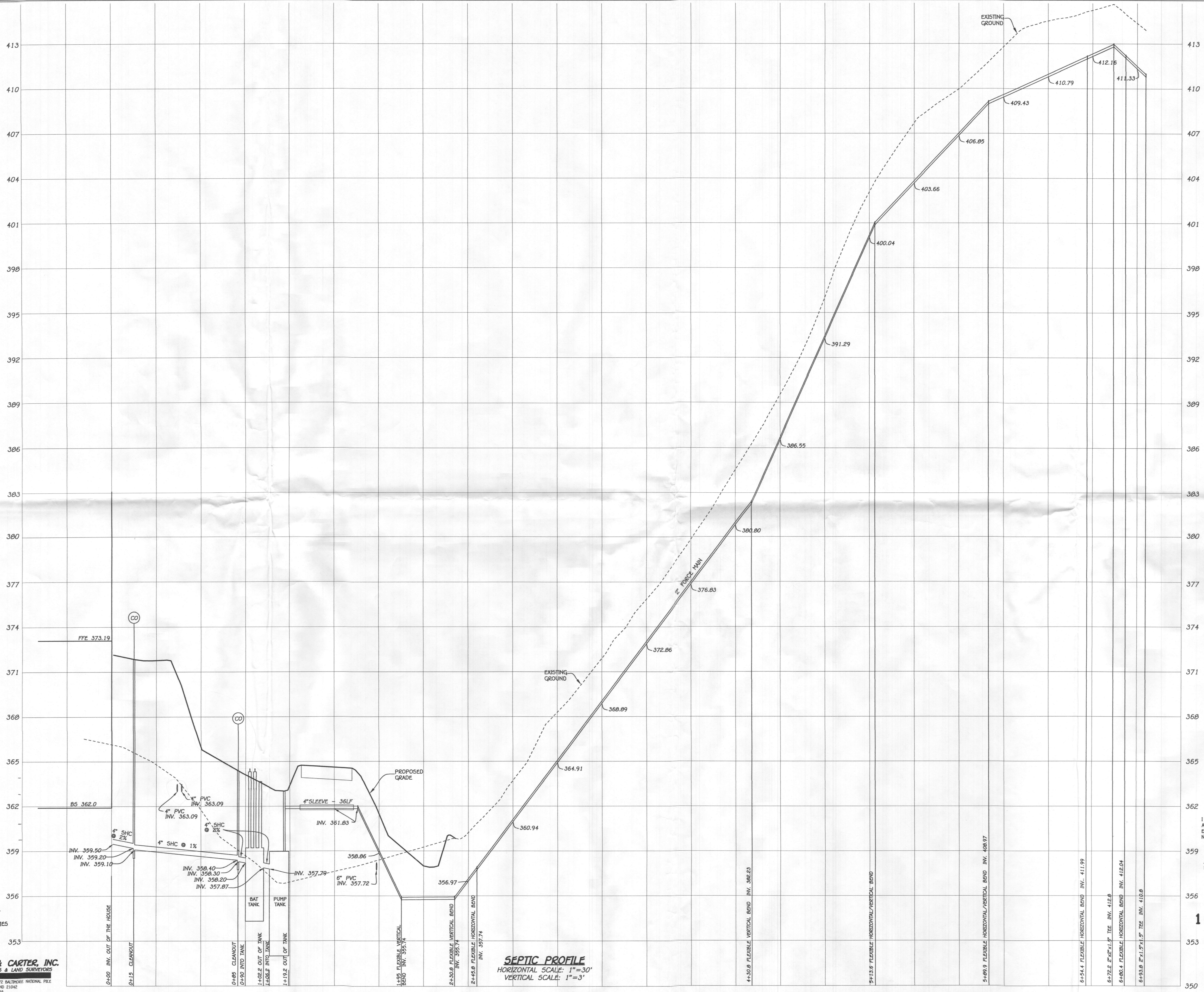
PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 38386, EXPIRATION DATE: 01/12/2020.

Stephen J. Jantz 4/12/18
 Signature of Professional Engineer DATE



BAT SITE PLAN
11011 CHAPEL ESTATES DRIVE
 BALAKIRSKY PROPERTY, LOT 2
 PLAT #23207
 ZONING: RC-DEO

TAX MAP No. 29 GRID No. 14 PARCEL No. 42
 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 SCALE: AS SHOWN DATE: APRIL, 2018
 SHEET 1 OF 3



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. 36386, EXPIRATION DATE: 01/12/2020.
Stephanie J. Little
 Signature of Professional Engineer DATE



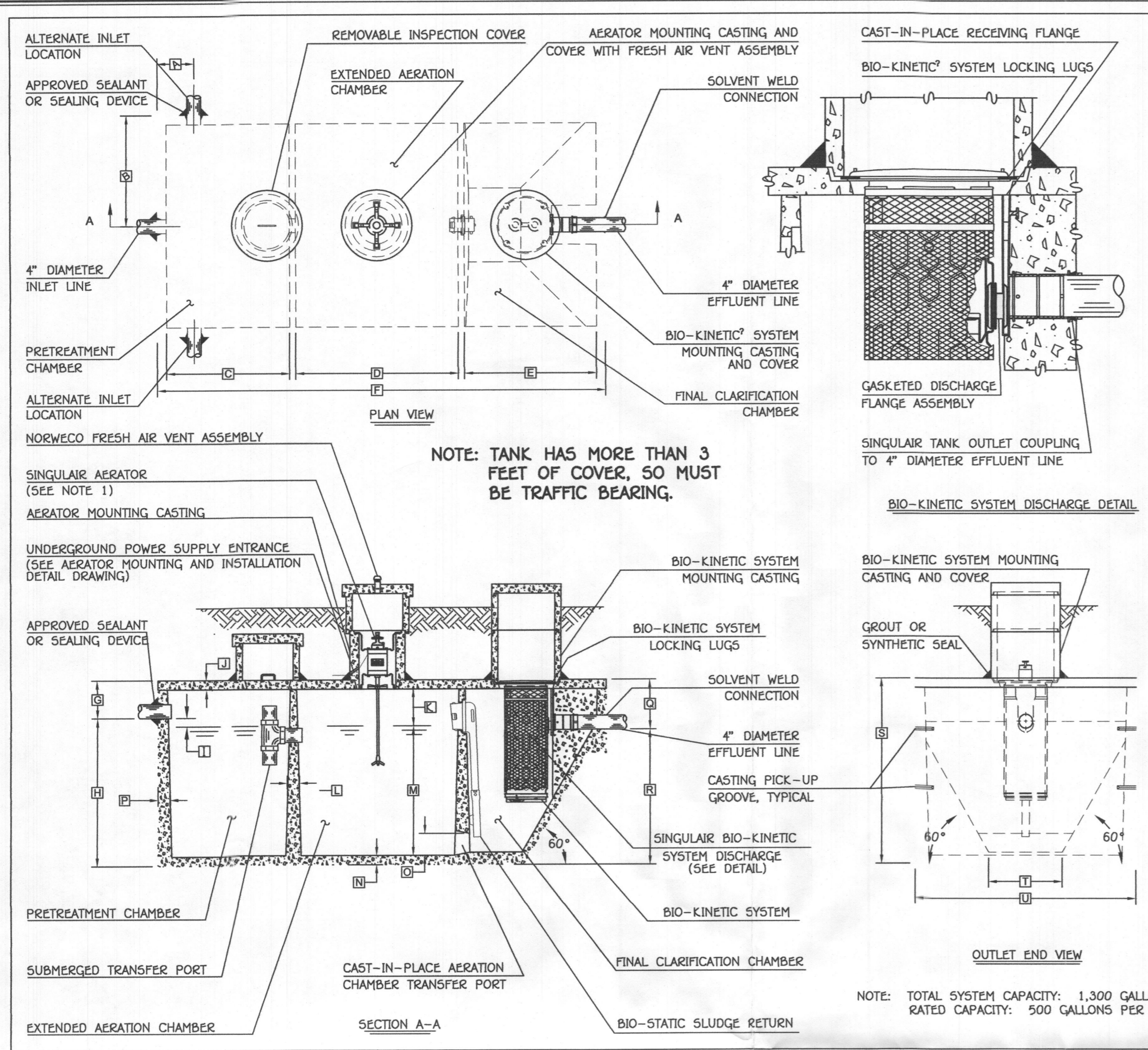
BAT PROFILE
11011 CHAPEL ESTATES DRIVE
 BALAKIRSKY PROPERTY, LOT 2
 PLAT #23207
 ZONING: RC-DEO
 TAX MAP No. 29 GRID No. 14 PARCEL No. 42
 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 SCALE: AS SHOWN DATE: APRIL, 2018
 SHEET 2 OF 3

OWNER
 NISHA PATEL
 C/O GREENFIELD FAMILY HOMES
 6420 AUTUMN SKY WAY
 COLUMBIA, MD 21044
 (443) 324-4732

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SOURCE OFFICE PARK - 10722 BALTIMORE NATIONAL PIKE
 ELICOTT CITY, MARYLAND 21042
 (410) 461-2899

SEPTIC PROFILE
 HORIZONTAL SCALE: 1"=30'
 VERTICAL SCALE: 1"=3'

I:\2017\12\06\dwg\12064-007 BAT Plan.dwg, Profile, 4/12/2018 9:54:01 AM, L1



GENERAL NOTES:

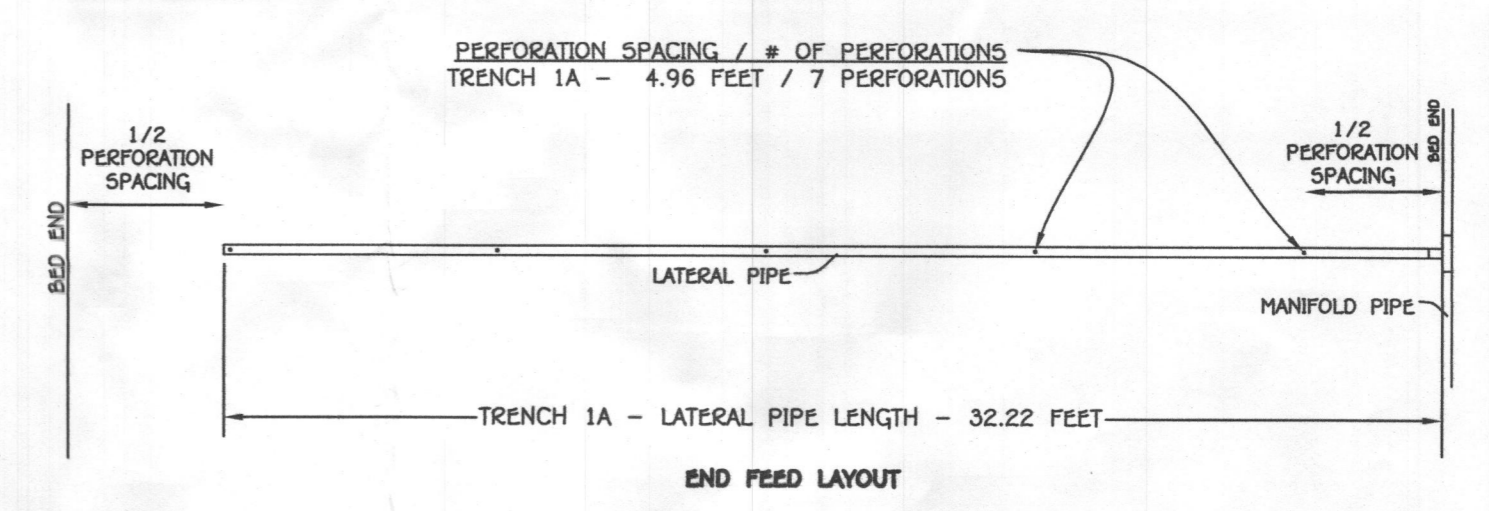
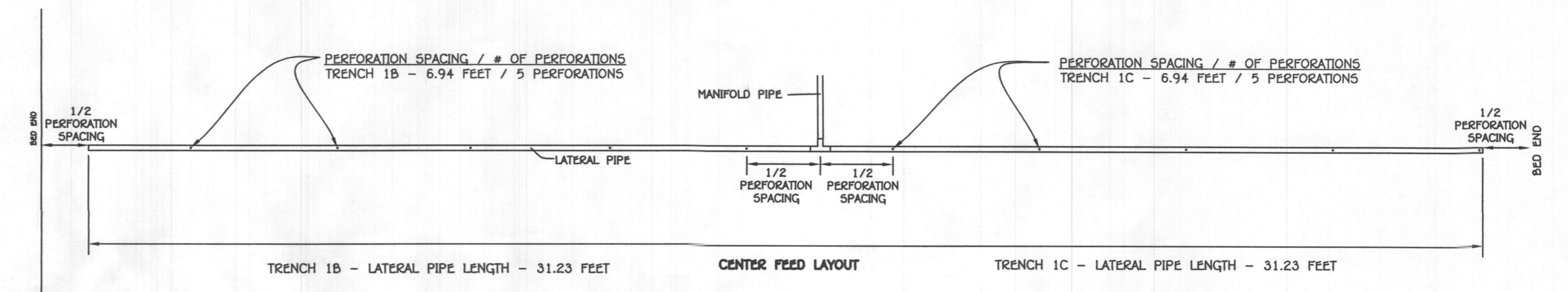
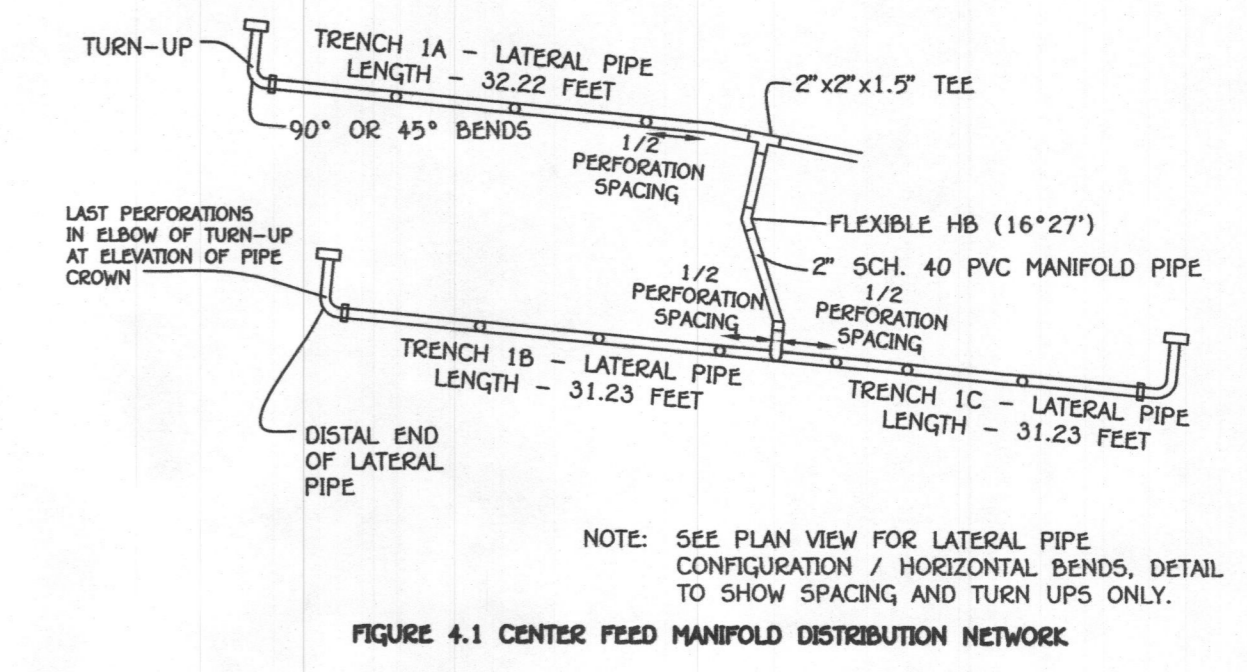
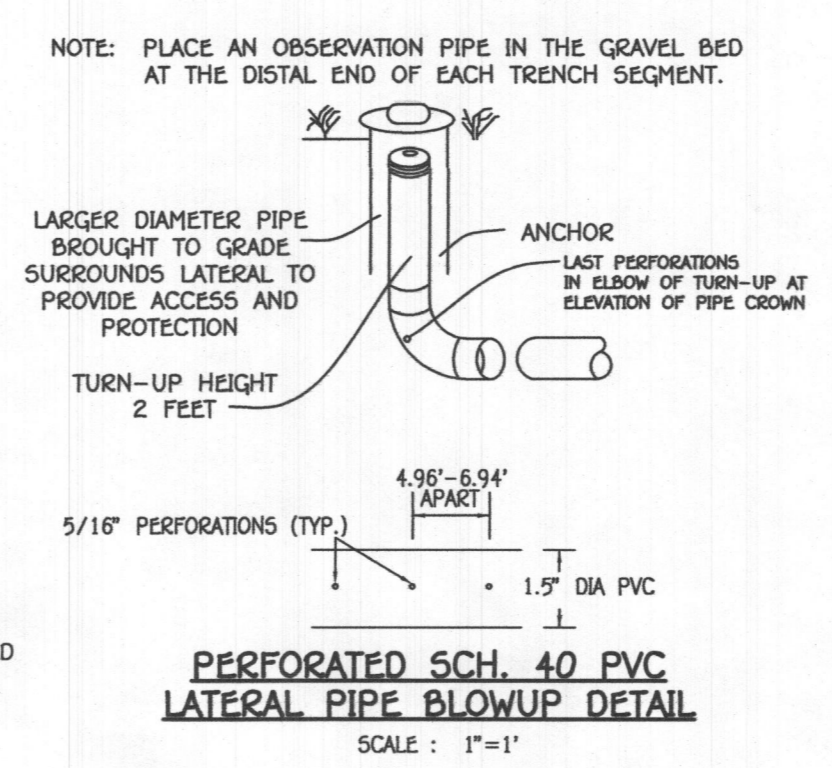
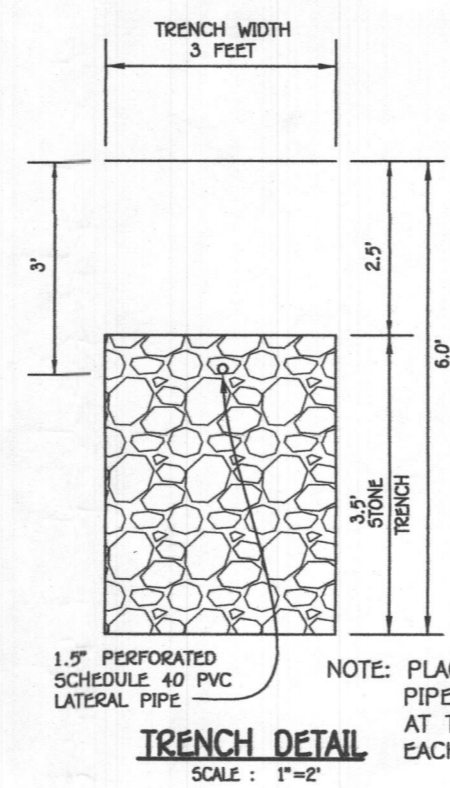
- SINGULAR AERATOR, AS TESTED AND ACCEPTED BY NSF, OPERATING 60 MINUTES ON / 60 MINUTES OFF.
- FALL THROUGH SINGULAR PLANT FROM INLET INVERT TO OUTLET INVERT IS FOUR INCHES. INLET INVERT IS TWELVE INCHES BELOW TANK TOP.
- ON DEEPER INSTALLATIONS, PRECAST RISERS MUST BE USED TO EXTEND AERATOR MOUNTING 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.

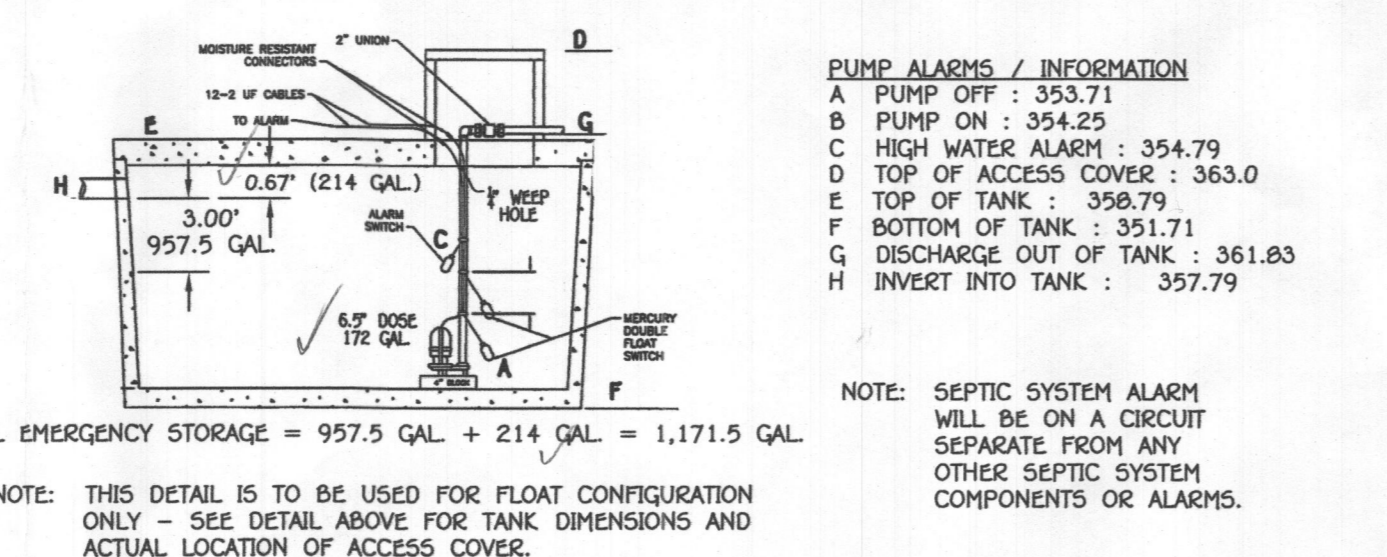
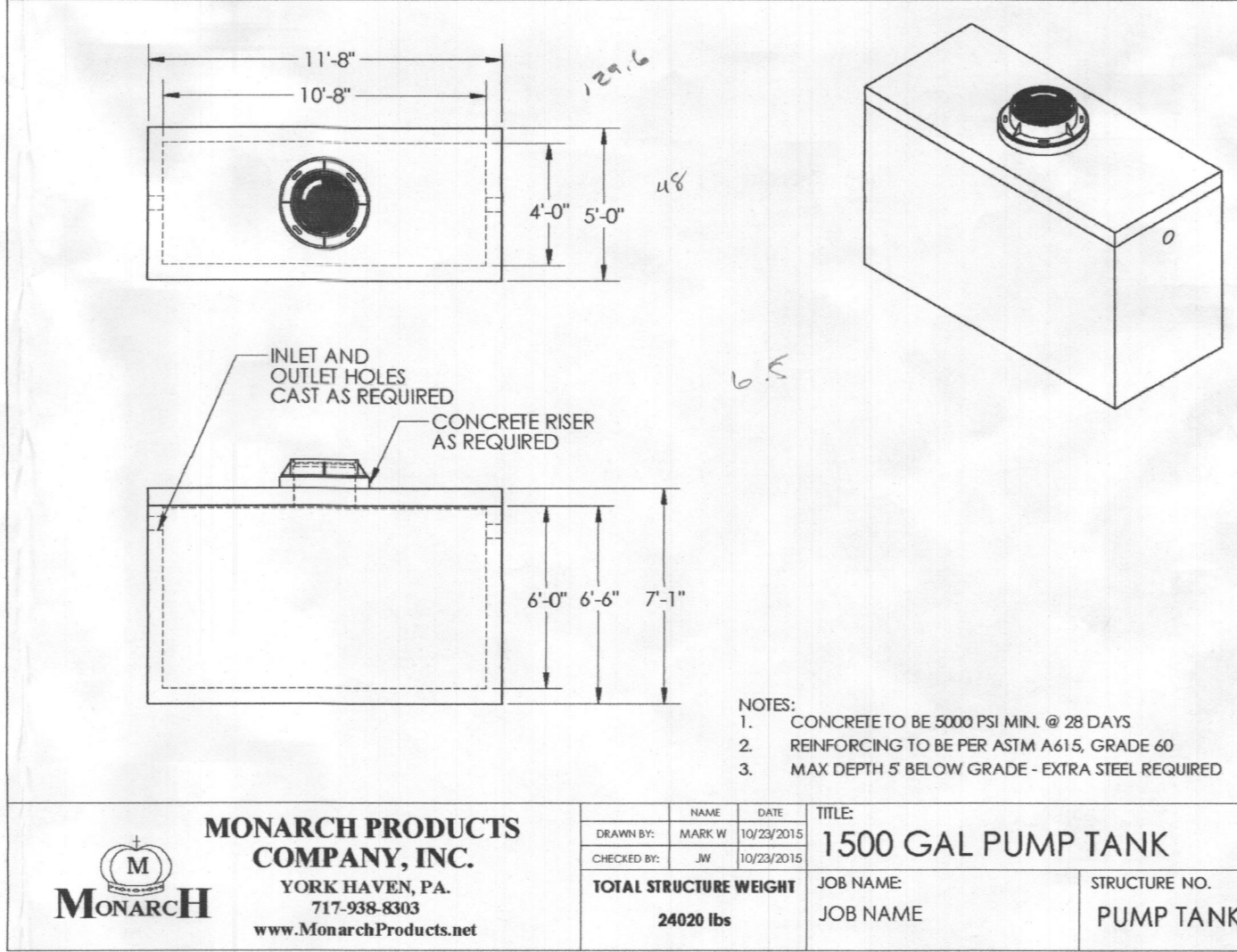
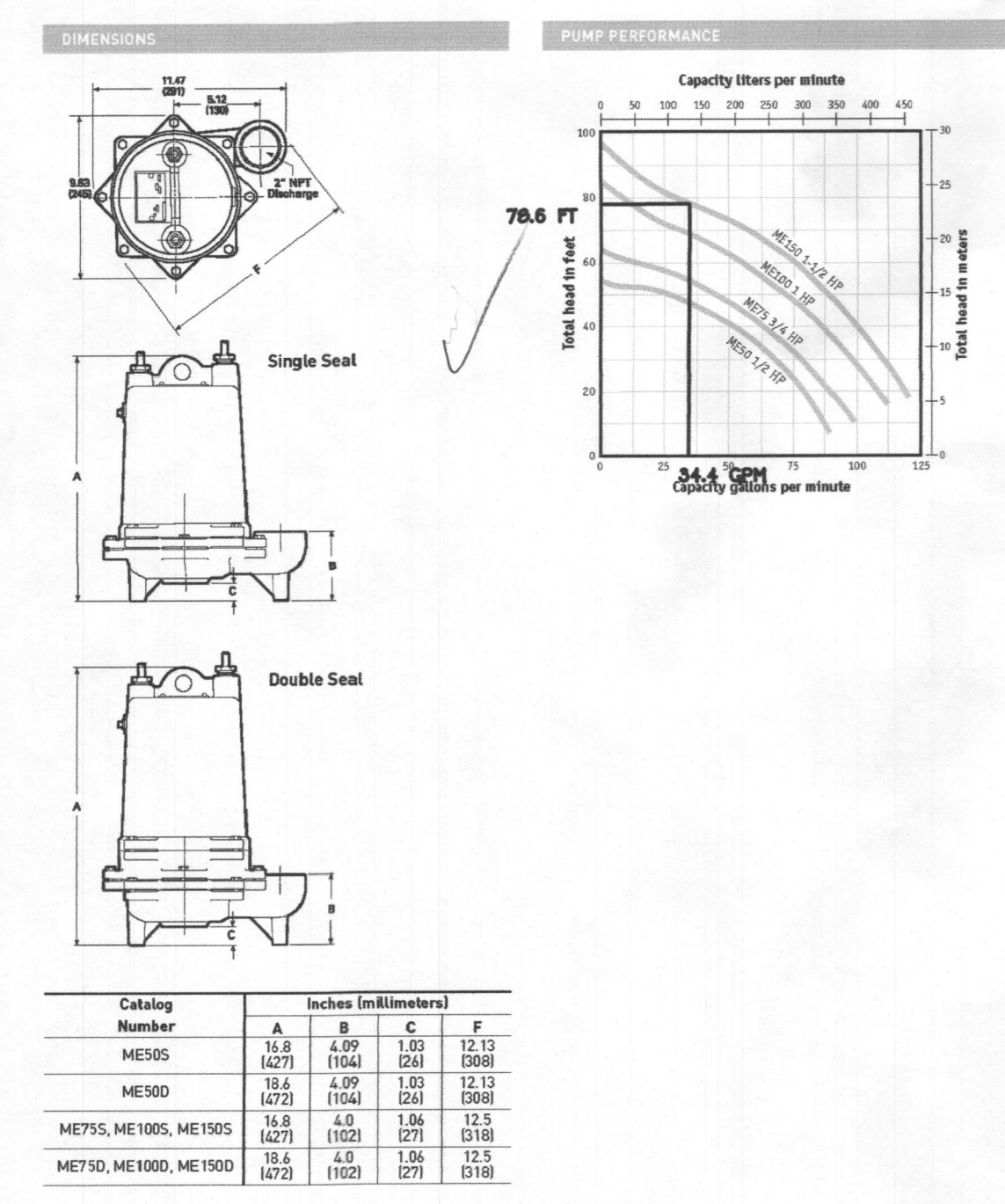
CONTRACTOR'S CERTIFICATION:
I (WE) HEREBY CERTIFY THAT THIS DRAWING HAS BEEN CHECKED AND IS APPROVED FOR USE IN CONFORMITY WITH THE CONTRACT DOCUMENTS.

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

U.S. AND FOREIGN PATENTS PENDING
norweco 3-28-07 B
LOW-PROFILE SINGULAR BIO-KINETIC WASTEWATER TREATMENT SYSTEM
MODEL TWLPL-500 GPD
PC-5-7091



EFFLUENT PUMPS
MYERS® ME SERIES



PENTAIR
NOTE: USE A ME150 PUMP

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
10722 BALTIMORE NATIONAL PIKE
ELKOTTS CITY, MARYLAND 21042
(410) 461-2895

NO.	REVISION	DATE

THIS DEVELOPMENT IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

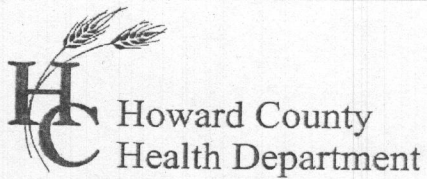
APPROVED: _____
HOWARD SOIL CONSERVATION DISTRICT

OWNER
NISHA PATEL
C/O GREENFIELD FAMILY HOMES
6420 AUTUMN SKY WAY
COLUMBIA, MD 21044
(443) 324-4732

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. 36386, EXPIRATION DATE: 01/12/2020.

Signature Date: 4/12/18
Signature of Professional Engineer DATE

BAT DETAILS
11011 CHAPEL ESTATES DRIVE
BALAKIRSKY PROPERTY, LOT 2
PLAT #23207
ZONING: RC-DEO
TAX MAP No. 29 GRID No. 14 PARCEL No. 42
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: APRIL, 2018
SHEET 3 OF 3



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

April 2, 2013

COPIES

Scott Shanaberger
Shanaberger & Lane
8726 Town & Country Blvd., Suite #201
Ellicott City, MD 21043

**RE: Variance request
Hinkson Property
1755 Bragdon Wood**

Dear Mr. Shanaberger,

The Health Department has received your variance request dated March 21, 2013 for the above referenced property. Maryland Department of the Environment has accepted our recommendation to approve the following variance requests under the *Code of Maryland Regulations 26.04.02.05 (C)* to allow: the sewage disposal systems serving Lots 1 and 2 to be located upgradient from the private water supplies on neighboring parcels off of Chapel Woods Drive. Due to the landscape position of the sewage areas and wells, the request was approved subject to the following conditions:

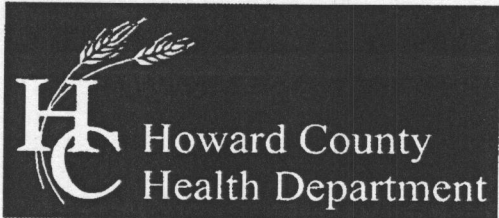
1. An advanced pre-treatment system, which utilizes best available technology to perform nitrogen reduction, must be installed on the sewage disposal systems on Lots 1 and 2. In addition, ongoing maintenance is required. An agreement acknowledging the need for maintaining a service contract with an authorized service provider must be recorded in the Howard County Land Records for each of these lots within 30 days after plat recordation. Building permit applications for the respective lots will not be approved until such an agreement is recorded. Before a septic system installation permit is released for the advanced pre-treatment system, a site plan must be submitted with all necessary details for installation of the system.
2. The well on Lot 2 must be constructed using a steel well casing, which must be installed to a minimum depth of 50' below ground surface or 10' into the competent bedrock, whichever is deeper.
3. A low pressure dosing system will be required for the sewage disposal systems on Lots 1 and 2.

If you have any questions regarding this matter, please contact me at the above address or by calling (410) 313-2775.

Sincerely,

Dana Bernard
Dana Bernard, REHS/RS
Well & Septic Program

Steven R. Krieg
Maryland Department of the Environment
Steven Krieg, R.S.



Bureau of Environmental Health Agreement
 8930 Stanford Boulevard, Columbia, MD 21046
 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

Recording Fee	20.00
Name: Patel	
Ref: 45	
LR - Agreement	
Surcharge	40.00
=====	
SubTotal:	60.00
=====	
Total:	60.00

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

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

04/24/2018 09:34
 CC13-LH
 #10233956 CC0503 -
 Howard Co
 Columbia/CC05.03.08 -
 Register 08

THIS AGREEMENT is made this 23 day of APRIL, among Nisha Patel, 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 11811 Chapel Estates Drive, in the 5th 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 17664 Folio 88.

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 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

HOWARD COUNTY CIRCUIT COURT (Land Records) WAR 18144, p. 0182, MSA CES18136. Date available 04/25/2018. Printed 05/02/2018.

45

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.


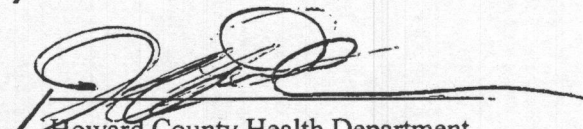
G. This agreement may be voided at any time at the discretion of the County.

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.

	<u>4-23-18</u>	_____	_____
Owner	Date	Owner	Date
<u>NISHA PATEL</u>			
			
Howard County Health Department			

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

Name: pate1
Ref: 45

=====
LR - Agreement Surcharge 1x 40.00 40.00

=====
SubTotal: 60.00
Total: 60.00

=====
REV-Check-BOA 60.00
Number : 5454

04/24/2018 09:33 CC13-LH
#10233956/1247/109
***** DUPLICATE #001 *****

04/24/2018 09:34 CC13-LH
Thank you for visiting us today

Freemon, Robert

To: Stephanie Tuite
Subject: RE: 11811 Chapel Rise

Stephanie,

The house setback (20') and driveway setback (10') are not being met with where you are placing the tanks. If the four additional parking spaces are removed I don't see any issue with placing the tanks in that area. The other option I see is to place them at the southeast end of the house while maintaining the pool and house setbacks. The storm water management line will need to be removed/relocated however. You may ask for a waiver to any of the county setbacks or a variance to the MDE setbacks however I cannot guarantee their approval or the time it will take for a response to be sent. If you would like to set up a meeting to discuss this we I would be happy to do that for you.

Robert "Spencer" Freemon
Howard County Health Department
8930 Stanford Blvd. Columbia, MD 21045
Bureau of Environmental Health
Well and Septic Program
Phone: 410-313-6357
Email: rfeemon@howardcountymd.gov
Website: <https://www.howardcountymd.gov/Departments/Health/Environmental-Health/Well-and-Septic>

From: Stephanie Tuite [<mailto:Stephanie@fcc-eng.com>]
Sent: Thursday, April 19, 2018 2:17 PM
To: Freemon, Robert
Subject: RE: 11811 Chapel Rise
Importance: High

Here is what I am talking about. Can you approve the tanks being here? Not sure what else to do.

Steph

Stephanie Tuite, RLA, PE, LEED AP BD&C
FISHER, COLLINS & CARTER, INC.

From: Freemon, Robert <rfeemon@howardcountymd.gov>
Sent: Thursday, April 19, 2018 1:42 PM
To: Stephanie Tuite <Stephanie@fcc-eng.com>
Subject: 11811 Chapel Rise

Stephanie,

Unless there is a dire situation or a situation that calls for it we do not approve building permits prior to septic plans being approved. I have attached my comments. If you have any questions let me know. If you would like to schedule a meeting to go over any plans you need done I would be happy to schedule a day.

Robert "Spencer" Freemon
Howard County Health Department
8930 Stanford Blvd. Columbia, MD 21045
Bureau of Environmental Health
Well and Septic Program

Freemon, Robert

From: Stephanie Tuite <Stephanie@fcc-eng.com>
Sent: Thursday, April 19, 2018 1:54 PM
To: Freemon, Robert
Subject: RE: 11811 Chapel Rise

Health is the only hold up on this permit. That is the reason I am asking and you have to issue a septic permit anyway, so there would be a fall back.

In trying to accommodate all the requirements I unfortunately didn't notice being slightly under a 100ft from an intermittent stream. I am just trying to allow the client to start building which will take a while. Can you give me an idea where you will approve me putting the tanks so I can get this approved before my client is very upset? I am running out of options that I think you will allow, since you have been shooting down what I have proposed. Thanks.

Steph

Stephanie Tuite, RLA, PE, LEED AP BD&C
FISHER, COLLINS & CARTER, INC.

From: Freemon, Robert <rfreemon@howardcountymd.gov>
Sent: Thursday, April 19, 2018 1:42 PM
To: Stephanie Tuite <Stephanie@fcc-eng.com>
Subject: 11811 Chapel Rise

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Robert "Spencer" Freemon
Howard County Health Department
8930 Stanford Blvd. Columbia, MD 21045
Bureau of Environmental Health
Well and Septic Program
Phone: 410-313-6357
Email: rfreemon@howardcountymd.gov
Website: <https://www.howardcountymd.gov/Departments/Health/Environmental-Health/Well-and-Septic>

From: Stephanie Tuite [<mailto:Stephanie@fcc-eng.com>]
Sent: Thursday, April 19, 2018 11:25 AM
To: Freemon, Robert
Subject: RE: checking in

Is there anyway you could sign off on building permit and the remaining revisions be prior to septic permit? Getting beat up by owner and client.

Steph

Stephanie Tuite, RLA, PE, LEED AP BD&C
FISHER, COLLINS & CARTER, INC.

From: Freemon, Robert <rfreemon@howardcountymd.gov>
Sent: Thursday, April 19, 2018 9:48 AM
To: Stephanie Tuite <Stephanie@fcc-eng.com>
Subject: RE: checking in

Stephanie,

I am reviewing the septic plan for the Balakirsky Property however I do not have an answer for you yet. I will let you know as soon as I do.

Robert "Spencer" Freemon
Howard County Health Department
8930 Stanford Blvd. Columbia, MD 21045
Bureau of Environmental Health
Well and Septic Program
Phone: 410-313-6357
Email: rfreemon@howardcountymd.gov
Website: <https://www.howardcountymd.gov/Departments/Health/Environmental-Health/Well-and-Septic>

From: Stephanie Tuite [<mailto:Stephanie@fcc-eng.com>]
Sent: Wednesday, April 18, 2018 3:23 PM
To: Freemon, Robert
Subject: checking in

Spencer,

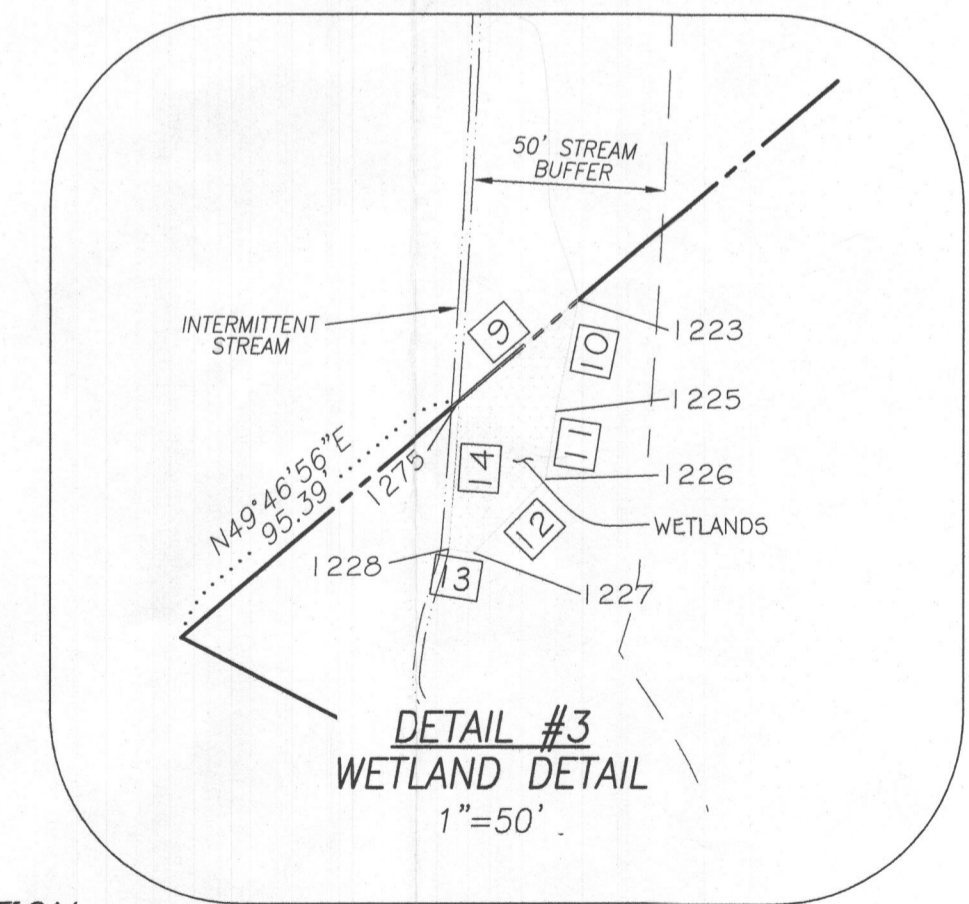
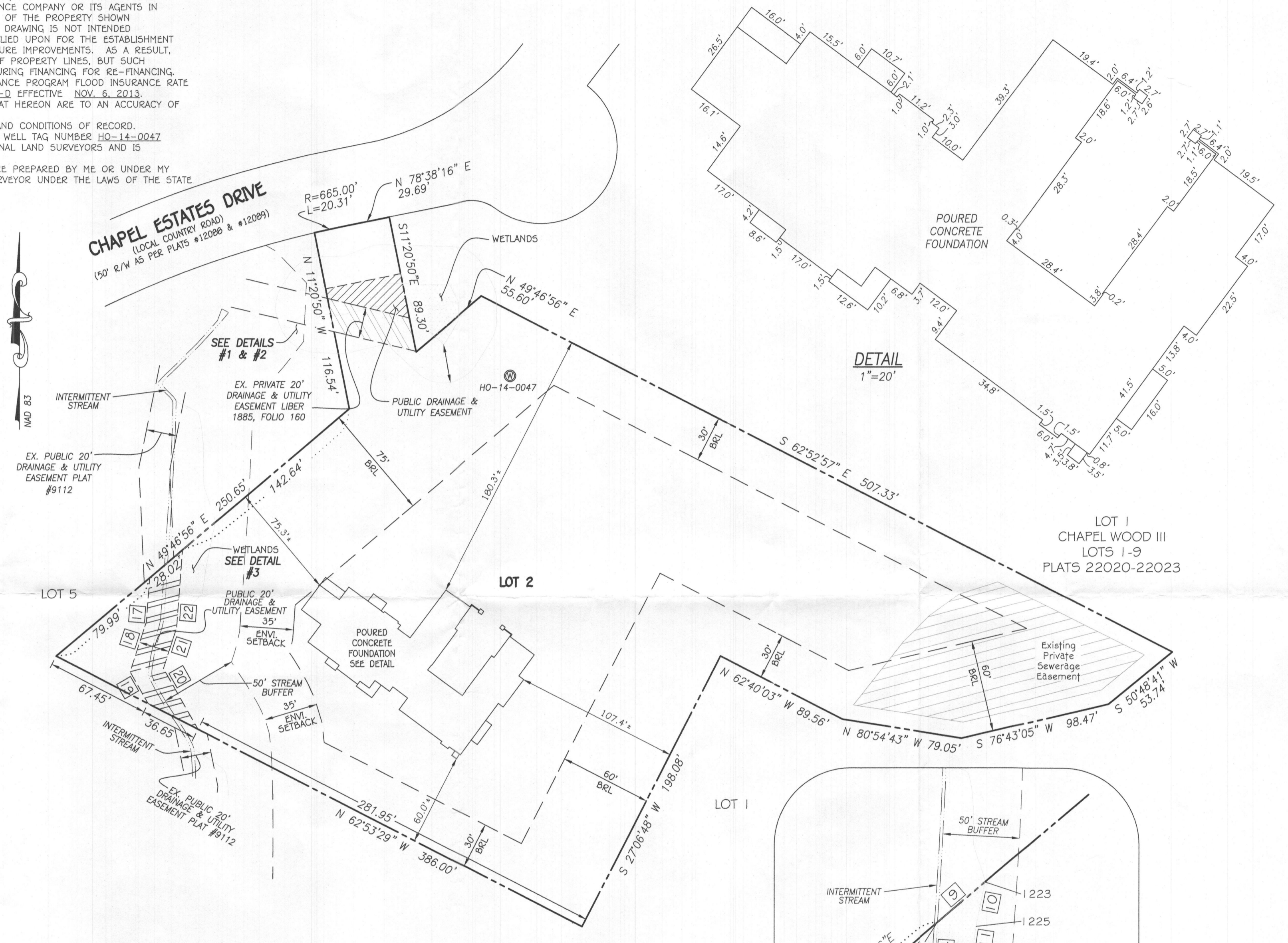
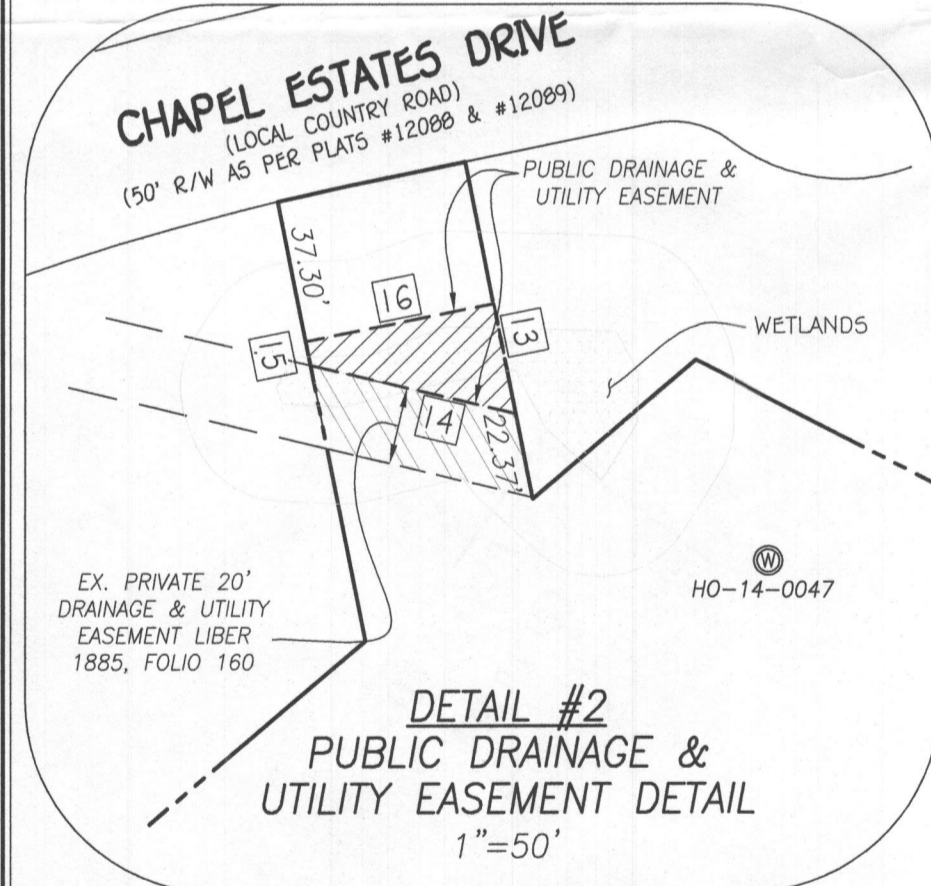
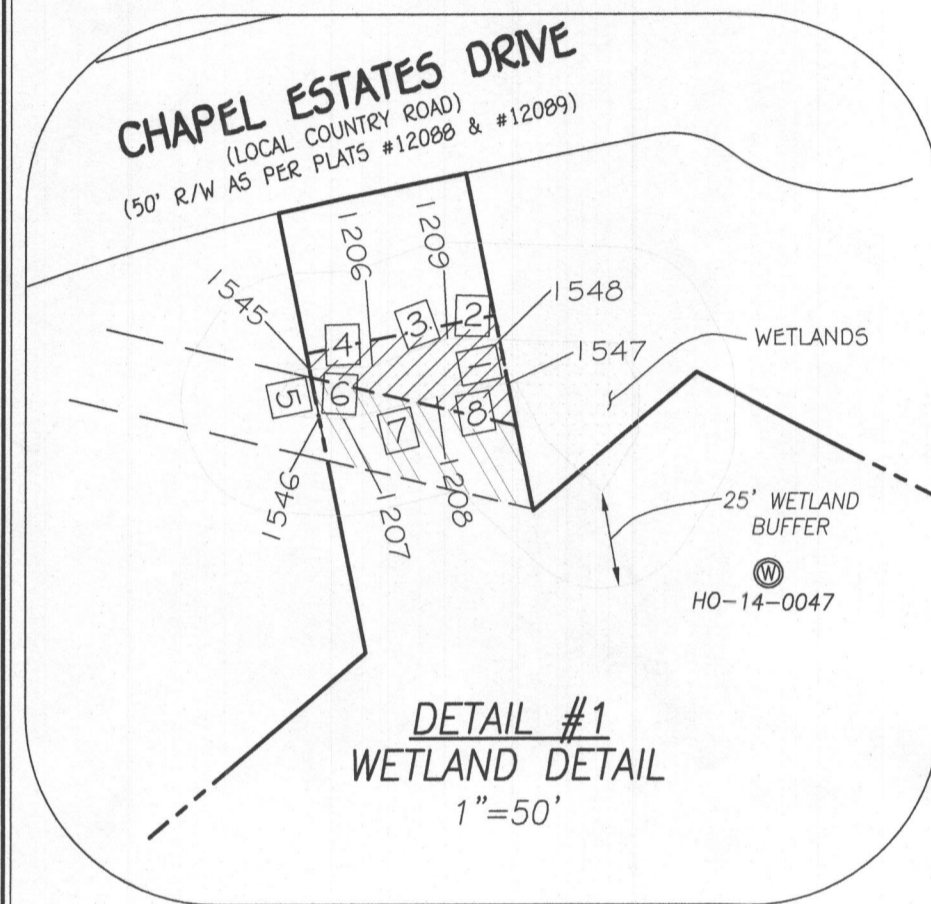
Called earlier and was told you were out of the office. Have you had a chance to look at the plans for Balakirsky Property Lot 2 (11811 Chapel Estates Dr)?

Steph

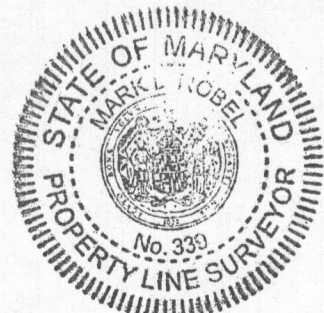


GENERAL NOTES:

- THIS LOCATION DRAWING IS PREPARED FOR THE BENEFIT OF THE CLIENT SIGNING THE HOUSE LOCATION SURVEY APPROVAL FORM INSOFAR AS IT IS REQUIRED BY A LENDER OR TITLE INSURANCE COMPANY OR ITS AGENTS IN CONNECTION WITH THE CONTEMPLATED TRANSFER, FINANCING OR REFINANCING OF THE PROPERTY SHOWN HEREON. UNLESS INDICATED AS BEING A BOUNDARY SURVEY, THIS LOCATION DRAWING IS NOT INTENDED FOR USE IN THE ESTABLISHMENT OF PROPERTY LINES AND IS NOT TO BE RELIED UPON FOR THE ESTABLISHMENT OR LOCATIONS OF FENCES, GARAGES, BUILDINGS OR OTHER EXISTING OR FUTURE IMPROVEMENTS. AS A RESULT, THIS LOCATION DRAWING DOES NOT PROVIDE FOR ACCURATE IDENTIFICATION OF PROPERTY LINES, BUT SUCH IDENTIFICATION MAY NOT BE REQUIRED FOR THE TRANSFER OF TITLE OR SECURING FINANCING FOR RE-FINANCING.
- SUBJECT PROPERTY IS SHOWN IN ZONE X ON THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAP OF HOWARD COUNTY, MARYLAND, COMMUNITY PANEL No. 24027C0135-D EFFECTIVE NOV. 6, 2013.
- THE OFFSETS FROM BUILDING LINE TO PROPERTY LINE AS SHOWN ON THE PLAT HEREON ARE TO AN ACCURACY OF PLUS OR MINUS 0.2'
- NO TITLE REPORT FURNISHED. SUBJECT TO ALL EASEMENTS, RIGHTS OF WAY AND CONDITIONS OF RECORD.
- THE EXISTING WELL(S) SHOWN ON THIS PLAN (IDENTIFIED WITH THE ATTACHED WELL TAG NUMBER HO-14-0047) HAS BEEN FIELD LOCATED BY FISHER, COLLINS AND CARTER, INC. PROFESSIONAL LAND SURVEYORS AND IS ACCURATELY SHOWN.
- PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY ME OR UNDER MY RESPONSIBLE CHARGE, AND THAT I AM A DULY LICENSED PROPERTY LINE SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 339, EXPIRATION DATE 10/04/20.
- BUILDING PERMIT #(B-18000473)



WETLANDS LINE TABLE			WETLANDS COORDINATES			WETLANDS COORDINATES			PUBLIC DRAINAGE & UTILITY EASEMENT LINE TABLE		
LINE	BEARING	DISTANCE	POINT	NORTHING	EASTING	POINT	NORTHING	EASTING	LINE	BEARING	DISTANCE
1	N 11°20'05" W	11.47'	1206	570498.184	1333637.948	1223	570349.783	1333548.710	17	S 04°14'25" W	29.23'
2	N 88°28'05" W	13.51'	1207	570484.521	1333630.550	1225	570320.886	1333542.901	18	S 17°47'37" W	34.52'
3	S 69°47'14" W	20.94'	1208	570490.366	1333654.786	1226	570303.344	1333540.301	19	N 28°49'20" W	23.46'
4	S 88°01'11" W	16.36'	1209	570505.417	1333657.594	1227	570284.117	1333521.632	20	S 28°49'20" E	45.36'
5	N 11°20'05" W	12.98'	1545	570497.619	1333621.603	1228	570285.121	1333515.083	21	N 17°47'37" E	28.08'
6	S 86°41'26" E	6.41'	1546	570484.890	1333624.164	1275	570323.673	1333517.833	22	S 04°14'25" W	51.23'
7	S 76°26'22" W	24.93'	1547	570493.807	1333673.361						
8	N 79°30'23" E	18.89'	1548	570505.056	1333671.104						
9	N 49°46'56" E	40.44'									
10	N 11°21'53" E	29.48'									
11	S 08°25'49" W	17.73'									
12	S 44°09'23" W	26.80'									
13	S 81°16'57" E	6.63'									
14	N 04°04'44" E	38.65'									



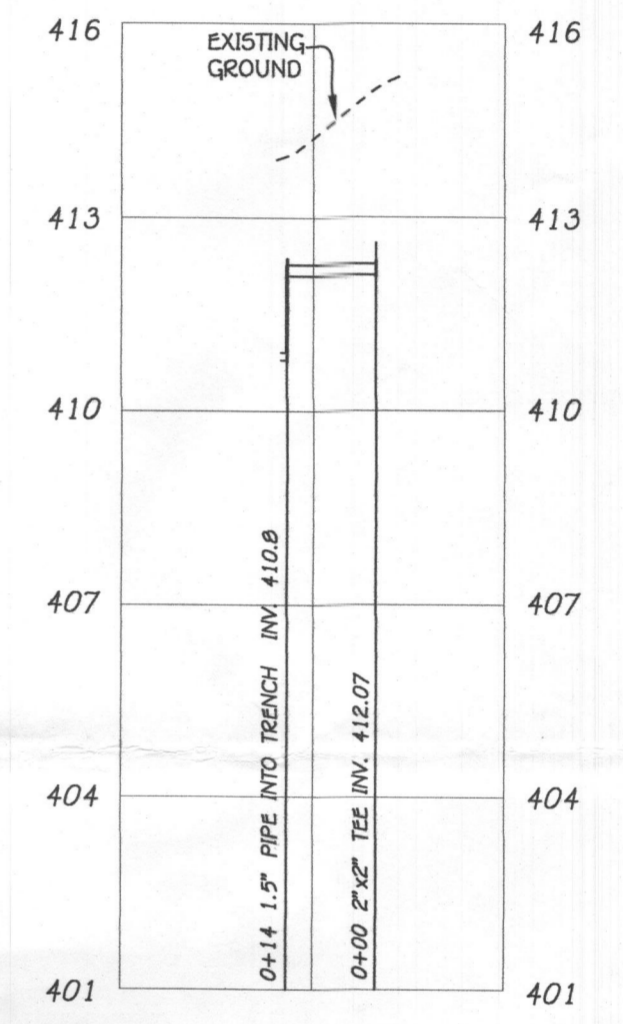
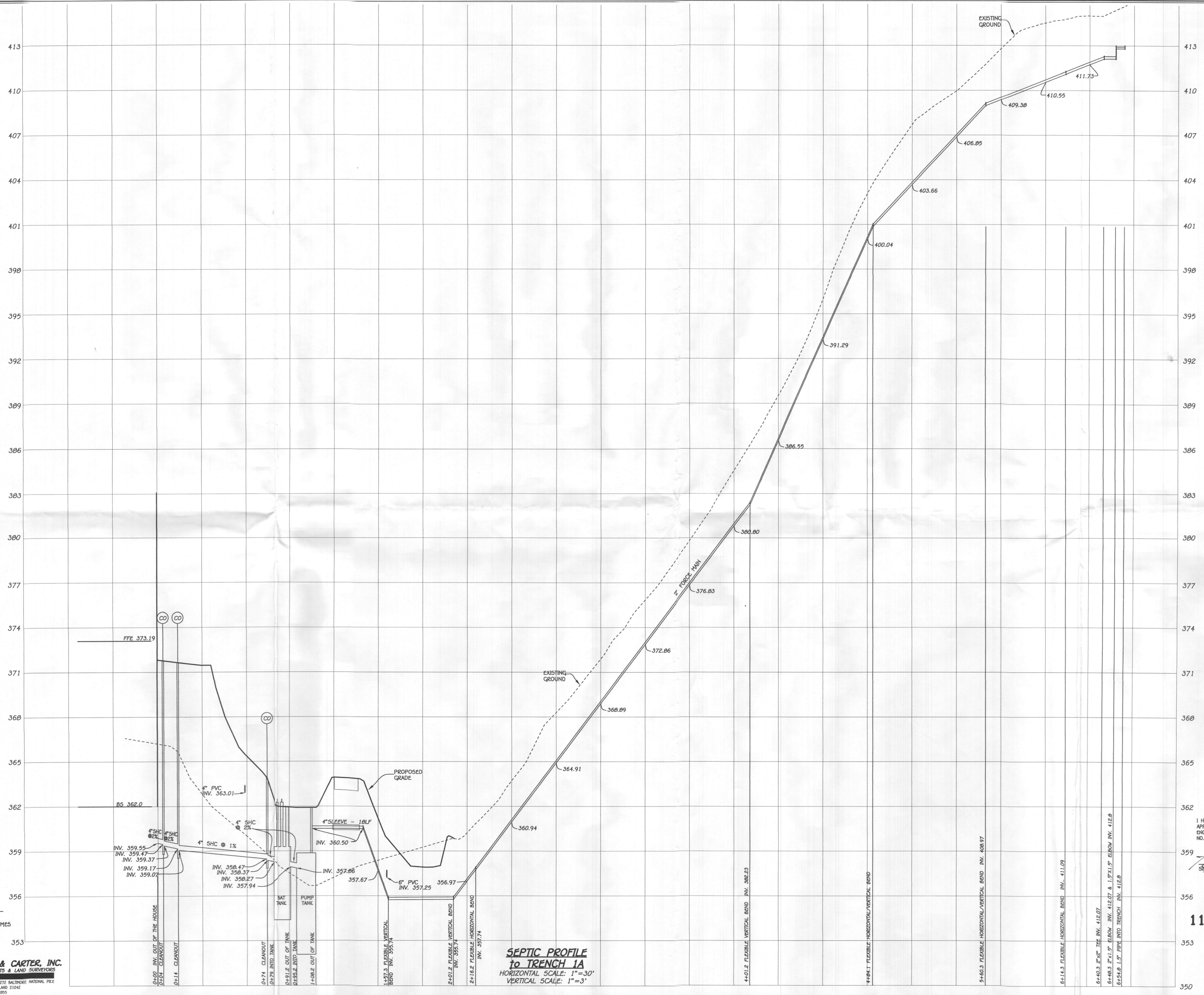
Mark J. Hibel
 PROPERTY LINE SURVEYOR
 REG. #339
 DATE 10/16/18

#11811 CHAPEL ESTATES DRIVE
 TOP OF FOUNDATION ELEVATION = UPPER = 392.5'
 LOWER = 391.2'

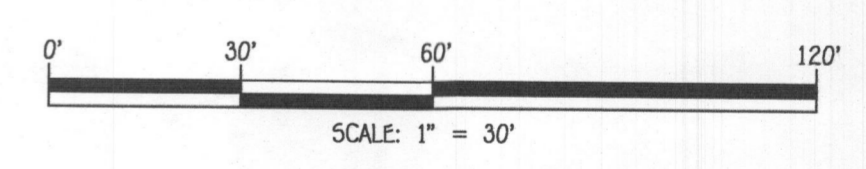
HOUSE LOCATION DRAWING

FOUNDATION LOCATION: 6/28/18
 FINAL LOCATION: _____
 BOUNDARY SURVEY: _____
 SCALE: 1"=50'
 DATE: REVISED 10/16/18
 DRAWN BY: MD
 CHECKED BY: MLR
 PROJECT No.: 12060-6001

LOT 2
 BALAKIRSKY PROPERTY
 LOTS 1 & 2
 PLAT NO. 23207
 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND



SEPTIC PROFILE to TRENCHES 1B & 1C
 HORIZONTAL SCALE: 1"=30'
 VERTICAL SCALE: 1"=3'



OWNER
 NISHA PATEL
 C/O GREENFIELD FAMILY HOMES
 6420 AUTUMN SKY WAY
 COLUMBIA, MD 21044
 (443) 324-4732

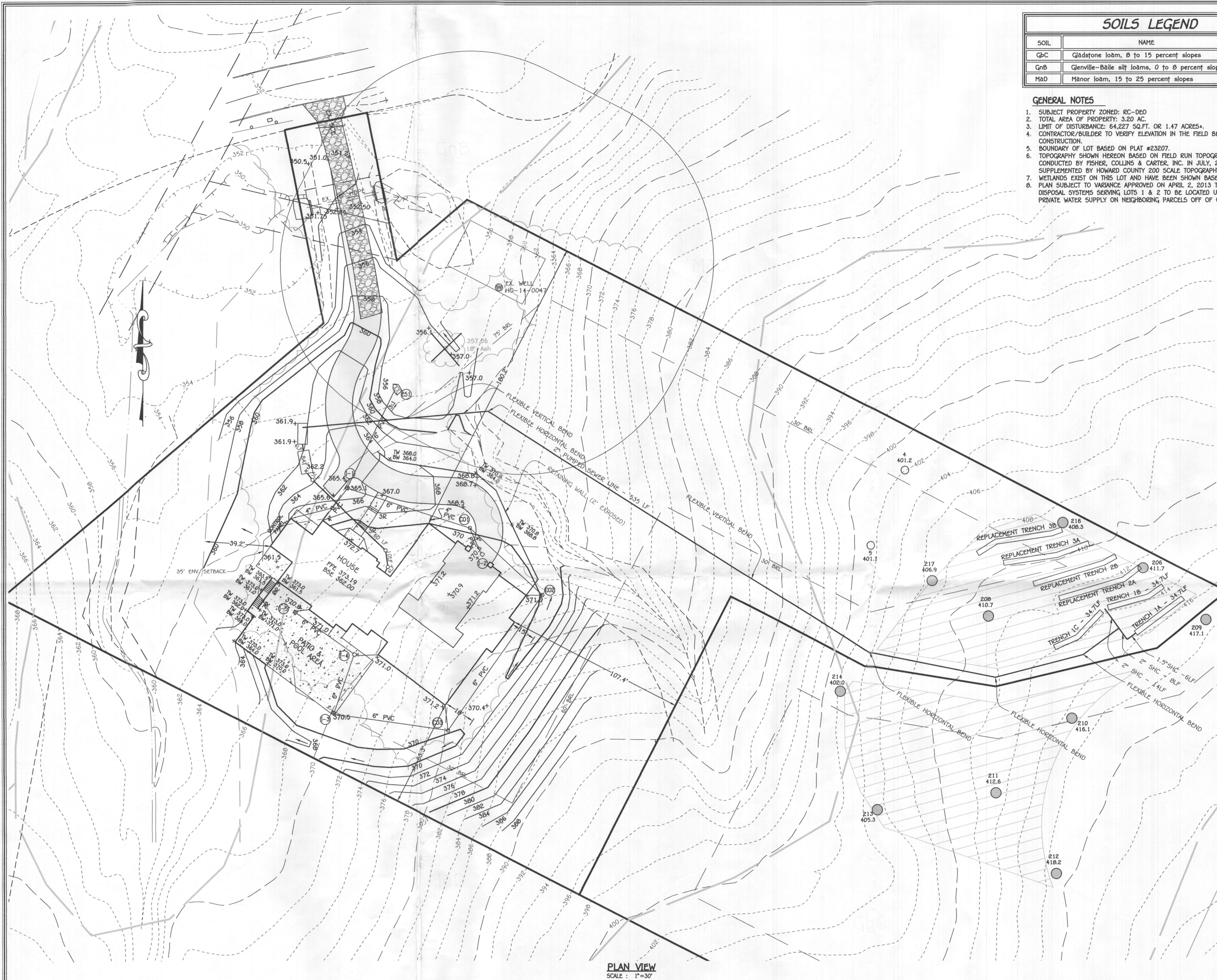
FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SERVICE OFFICE: 10272 BALDWIN NATIONAL PIKE
 ELICOTT CITY, MARYLAND 21042
 (410) 461-2895

SEPTIC PROFILE to TRENCH 1A
 HORIZONTAL SCALE: 1"=30'
 VERTICAL SCALE: 1"=3'

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: 01/12/2020.

Signature of Professional Engineer DATE: 5/19/19

BAT PROFILE
11011 CHAPEL ESTATES DRIVE
 BALAKIRSKY PROPERTY, LOT 2
 PLAT #23207
 ZONING: RC-DEO
 TAX MAP No. 29 GRID No. 14 PARCEL No. 42
 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 SCALE: AS SHOWN DATE: MAY, 2018
 SHEET 2 OF 3



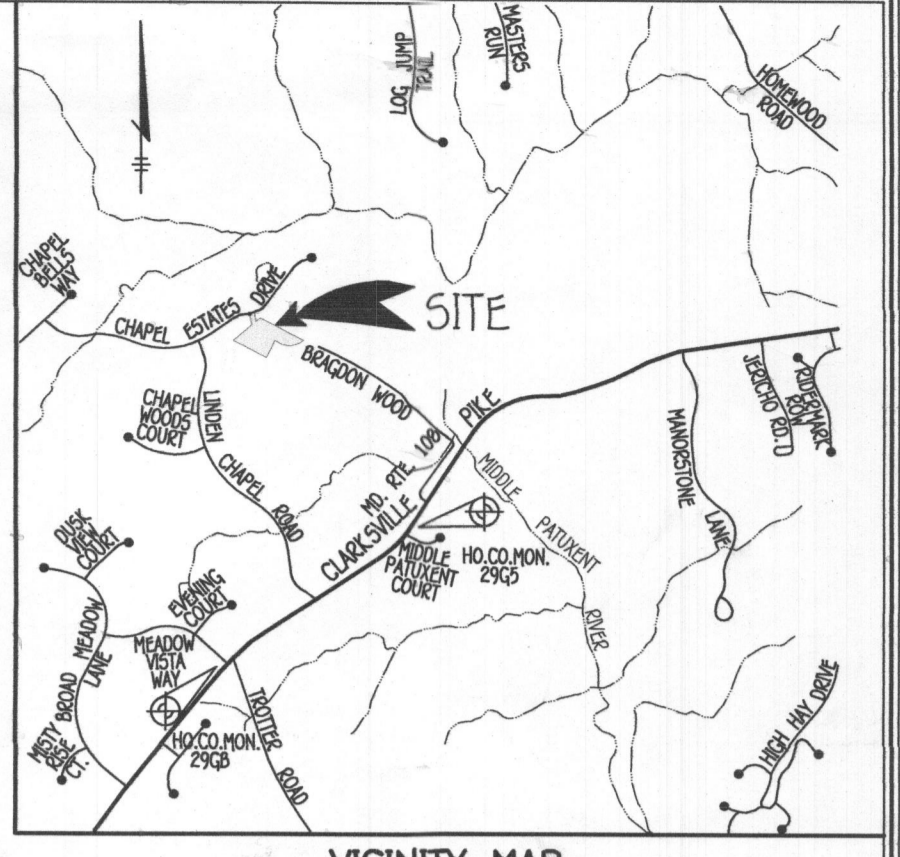
SOILS LEGEND

SOIL	NAME	CLASS
GbC	Gladstone loam, 0 to 15 percent slopes	B
GnB	Glenville-Baile silt loams, 0 to 8 percent slopes	C
MaD	Manor loam, 15 to 25 percent slopes	B

- ### GENERAL NOTES
- SUBJECT PROPERTY ZONED: RC-DEO
 - TOTAL AREA OF PROPERTY: 3.20 AC.
 - LIMIT OF DISTURBANCE: 64,227 SQ.FT. OR 1.47 ACRES.
 - CONTRACTOR/BUILDER TO VERIFY ELEVATION IN THE FIELD BEFORE BEGINNING ANY CONSTRUCTION.
 - BOUNDARY OF LOT BASED ON PLAT #23207.
 - TOPOGRAPHY SHOWN HEREON BASED ON FIELD RUN TOPOGRAPHIC SURVEY CONDUCTED BY FISHER, COLLINS & CARTER, INC. IN JULY, 2017. TOPOGRAPHY IS SUPPLEMENTED BY HOWARD COUNTY 200 SCALE TOPOGRAPHY.
 - WETLANDS EXIST ON THIS LOT AND HAVE BEEN SHOWN BASED ON F-14-119.
 - PLAN SUBJECT TO VARIANCE APPROVED ON APRIL 2, 2013 TO ALLOW SEWAGE DISPOSAL SYSTEMS SERVING LOTS 1 & 2 TO BE LOCATED UPGRADIENT FROM THE PRIVATE WATER SUPPLY ON NEIGHBORING PARCELS OFF OF CHAPEL WOODS DRIVE.

LEGEND

SYMBOL	DESCRIPTION
---	EXISTING CONTOUR 2' INTERVAL
---	EXISTING CONTOUR 10' INTERVAL
---	EXISTING STREAM
X	EXISTING FENCE
---	EXISTING STORM DRAIN LINE
---	EXISTING WATER LINE
---	PROPOSED CONTOUR 2' INTERVAL
---	PROPOSED CONTOUR 10' INTERVAL
x 329.14	SPOT ELEVATION
---	PROPOSED PAVING
---	EXISTING TREELINE
---	PROPOSED TREELINE
---	B.R.L. BUILDING RESTRICTION LINE
---	PROPOSED SEPTIC LINE
---	PROPOSED RETAINING WALL
---	PROPOSED CONCRETE / PATIO
○ 217	PASSED PERC HOLE
○ 5	FAILED PERC HOLE
---	PROPOSED RIPRAP



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 COVER OVER THE BAT SHALL BE 3 FEET. GREATER EARTH COVER WILL REQUIRE A HEAVY LOAD BEARING TANK.
- ANY ELECTRICAL WORK FOR THE BAT INSTALLATION MUST BE PERFORMED BY A LICENSED ELECTRICIAN.
- THE WELL (TAG # HO-14-0047) HAS BEEN FIELD LOCATED AND IS ACCURATELY SHOWN.
- ALL WELLS AND SEPTIC SYSTEMS LOCATED WITHIN 100 FEET OF THE PROPERTY BOUNDARIES AND 200 FEET DOWNGRADIENT OF ANY WELLS AND/OR SEPTIC SYSTEMS HAVE BEEN SHOWN.
- 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.
- AN AGREEMENT AND EASEMENT HAS BEEN COMPLETED AND SIGNED BY ALL APPLICABLE PARTIES, AND RECORDED IN THE LAND RECORDS OF HOWARD COUNTY, LIBER 18144, FOLD 182.
- 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.
- THE BLOWER MAY NOT BE LOCATED MORE THAN 50 FEET FROM THE TANK BASED ON THE MANUFACTURER'S SPECIFICATIONS.

SEPTIC SYSTEM ELEVATIONS

FFE = 373.19
 BSE = 362.00
 INV. OUT OF HOUSE = 359.51
 PROP GROUND AT CLEANOUT = 371.6
 INVERT INTO CLEANOUT = 358.47
 PROP GROUND AT CLEANOUT = 358.37
 PROP GROUND AT CLEANOUT = 371.5
 INVERT INTO CLEANOUT = 355.17
 PROP GROUND AT CLEANOUT = 359.07
 PROP GROUND AT CLEANOUT = 364.8
 INVERT INTO CLEANOUT = 358.47
 INVERT OUT OF CLEANOUT = 358.37
 PROP GROUND AT BAT TANK = 362.2
 TOP OF BAT TANK = 359.27
 COVER OVER BAT TANK = 2.9 FT
 INVERT INTO BAT TANK = 358.27
 INVERT OUT OF BAT TANK = 357.94
 PROP GROUND AT PUMP TANK = 361.9
 TOP OF PUMP TANK = 358.86
 COVER OVER PUMP TANK = 3 FEET
 INVERT INTO PUMP TANK = 357.86
 INVERT OUT OF PUMP TANK = 360.50

SEPTIC SYSTEM DESIGN

5 BEDROOM HOUSE
 LOADING RATE = 750 GPD
 APPLICATION RATE = 1.2
 EFFECTIVE SIDEWALL BEGINS AT 3.0 FEET
 TRENCH DEPTH = 6 FEET
 TRENCH WIDTH (W) = 3 FEET
 EFFECTIVE DEPTH (D) = 3 FEET
 5' OF DRAINFIELD = 750 GPD / 1.2 = 625 SF
 COEFFICIENT OF REDUCTION OF TRENCH LENGTH = (W+2)/(W+1+2D) = (3+2)/(3+1+2(3)) = 0.5
 TRENCH LENGTH = 625 SF x 0.5 / 3 = 104.17 FEET (USE 104 FEET)
 TRENCH SPACING = 2D+W = (2(3)+3) = 9 USE 10'

TRENCH DESIGN

TRENCH	GROUND ELEV.	TOP OF STONE ELEV.	PIPE INVERT ELEV.	DEPTH TO STONE (FT)	DEPTH OF STONE (FT)	BOTTOM OF STONE (FT)	EFFECTIVE DEPTH (FT)	EFFECTIVE DEPTH (D)	TRENCH DEPTH (FT)	TRENCH WIDTH (W)	WIDTH OF TRENCH (FT)	TRENCH SPACING (FT)
1A	415.0	413.0	412.0	2.5 FT	3.5 FT	409.0	3 FT	3 FT	6 FT	3 FT	3 FT	10 FT
1B	413.0	411.3	410.0	2.5 FT	3.5 FT	407.0	3 FT	3 FT	6 FT	3 FT	3 FT	10 FT
1C	413.0	411.3	410.0	2.5 FT	3.5 FT	407.0	3 FT	3 FT	6 FT	3 FT	3 FT	10 FT

LOW PRESSURE DOSING SYSTEM - INITIAL INSTALLATION

TRENCH	GROUND ELEV.	PIPE INVERT ELEV.	TRENCH LENGTH (FT)	LATERAL PIPE LENGTH (FT)	PERFORATION DIAMETER (IN)	PERFORATION HEAD (FT)	PERFORATION FLOW RATE (GPM)	PERFORATION SPACING (FT)	NUMBER OF ORIFICES	TRENCH FLOW RATE (GPM)
1A	415.0	412.0	34.7	32.2	5/16	2	1.63	8.96	7	11.41
1B	413.0	410.0	34.7	31.23	5/16	4	2.30	6.94	5	11.50
1C	413.0	410.0	34.7	31.23	5/16	4	2.30	6.94	5	11.50
TOTAL TRENCH FLOW RATE										34.41

FRICITION LOSS IN PIPE FITTINGS:
 8 1/2" HB x 4 FEET PER FITTING = 32 EQUIVALENT FEET OF PIPE
 1 TEE/CROSS x 11 FEET PER FITTING = 11 EQUIVALENT FEET OF PIPE
 1 UNION x 2 FEET PER FITTING = 2 EQUIVALENT FEET OF PIPE
 3 ELBOWS x 9 FEET PER FITTING = 27 EQUIVALENT FEET OF PIPE
 TOTAL EQUIVALENT FEET OF PIPE = 72 FT

TOTAL LINEAR FEET OF 2" SCH. 40 PVC = 543 LF + 72 LF = 615 LF

DYNAMIC HEAD
 615 LF X 2.50 FT PER 100 LF OF PIPE = 15.38 FT OF FRICTION HEAD
 DISTAL HEAD = 2.00 FT
 VERTICAL FROM PUMP OFF TO DISCHARGE = 6.55 FT OF STATIC HEAD
 VERTICAL FROM DISCHARGE TO HIGHEST ELEV OF MAIN = 52.30 FT
 TOTAL DYNAMIC HEAD = 75.93 FT

PIPE VOLUMES
 543 LF (2" SCH. 40 PIPE) X 17.4 GALLONS PER 100 LF = 94.5 GALLONS
 94.7 LF (1.5" SCH. 40 PIPE) X 10.6 GALLONS PER 100 LF = 10.0 GALLONS

MINIMUM DOSE
 MINIMUM DOSE = (Σ X LATERAL PIPE VOLUME) + (FORCE MAIN & MANIFOLD)
 = (6 X 10.0) + (95)
 = 85 GALLONS

145 GALLONS IS MORE THAN 1/6 DESIGN FLOW (750/6=125)
 USE 172 GALLON DOSE (145 GALLON MINIMUM)
 (RUN TIME = 5 MIN (34.4 GPM X 5 = 172 GALLON DOSE))

PUMP NEEDS TO HANDLE 34.4 GPM AT 75.9 FT OF HEAD
 USE 1.5 HP (NE150 PUMP)

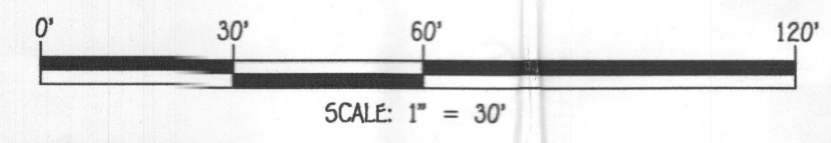
PLAN VIEW
 SCALE: 1"=30'

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. 36386, EXPIRATION DATE: 01/12/2020.

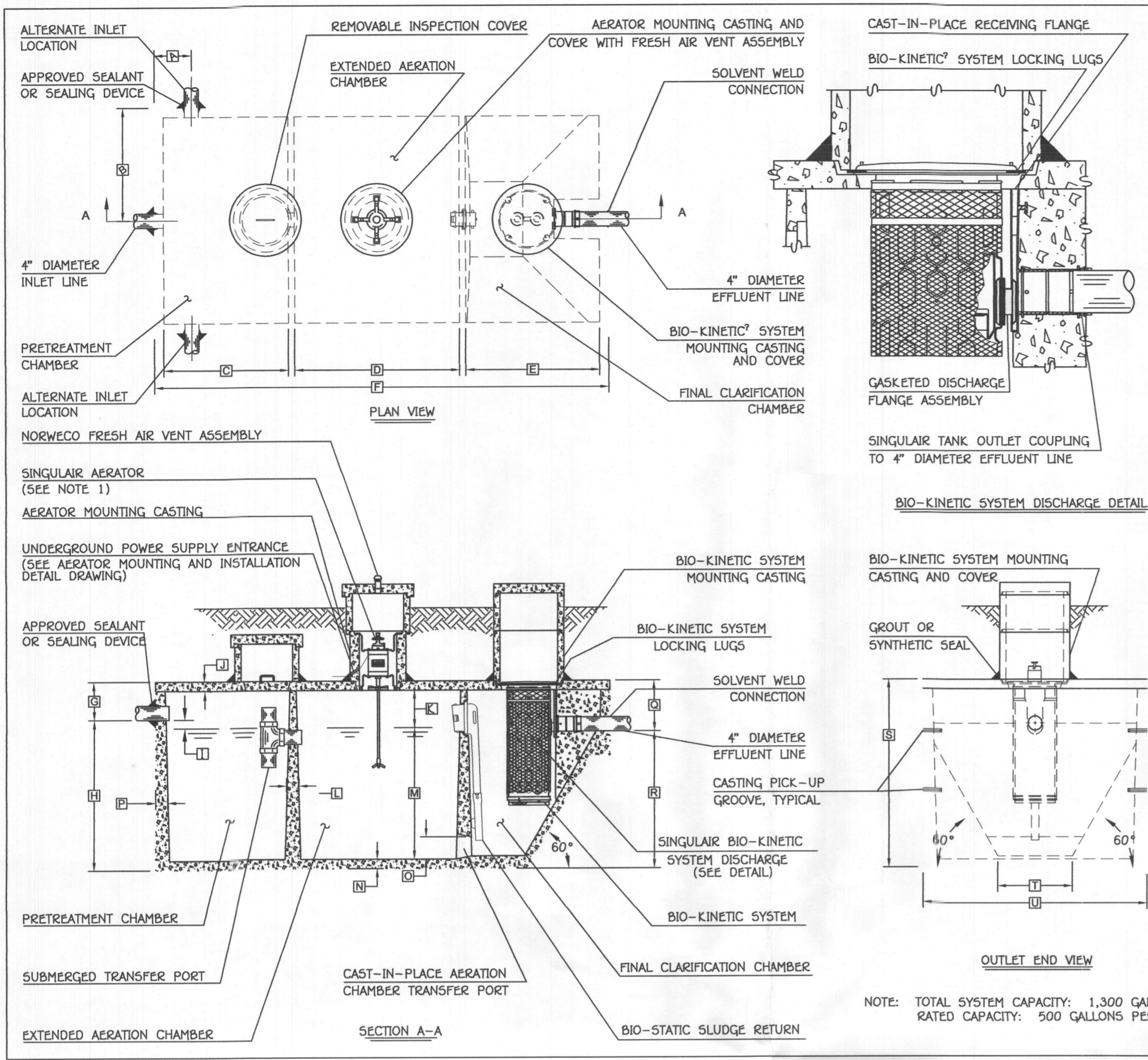
Signature 5/18/18
 Signature of Professional Engineer DATE



OWNER
 NISHA PATEL
 C/O GREENFIELD FAMILY HOMES
 6420 AUTUMN SKY WAY
 COLUMBIA, MD 21044
 (443) 324-4732



BAT SITE PLAN
 11011 CHAPEL ESTATES DRIVE
 BALAKIRSKY PROPERTY, LOT 2
 PLAT #23207
 ZONING: RC-DEO
 TAX MAP No. 29 GRID No. 14 PARCEL No. 42
 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 SCALE: AS SHOWN DATE: MAY, 2018
 SHEET 1 OF 3



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: _____

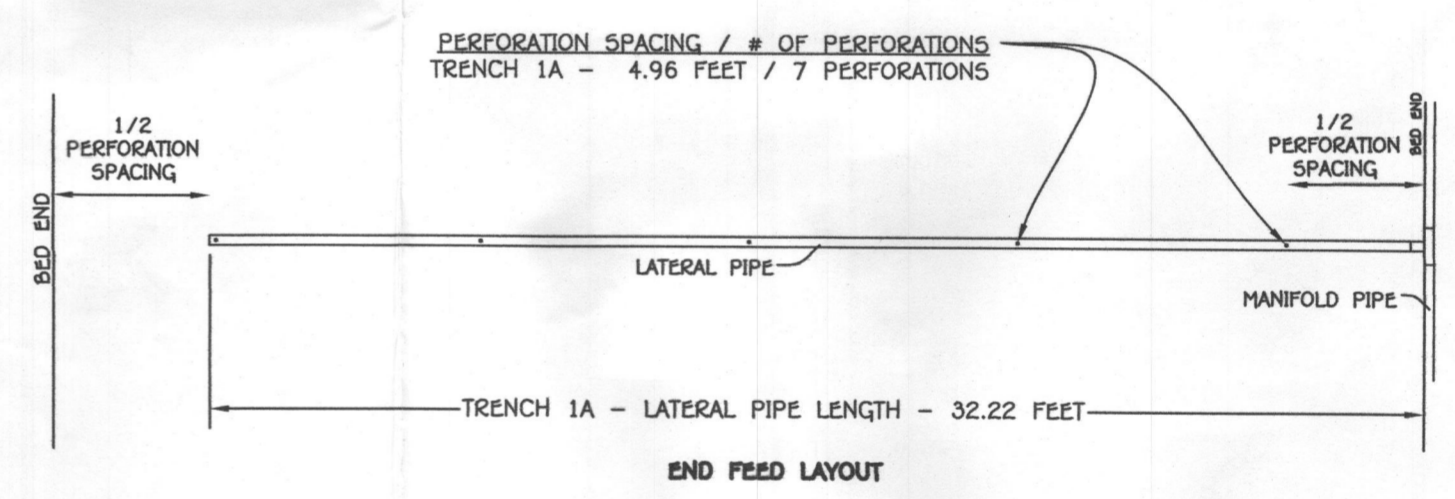
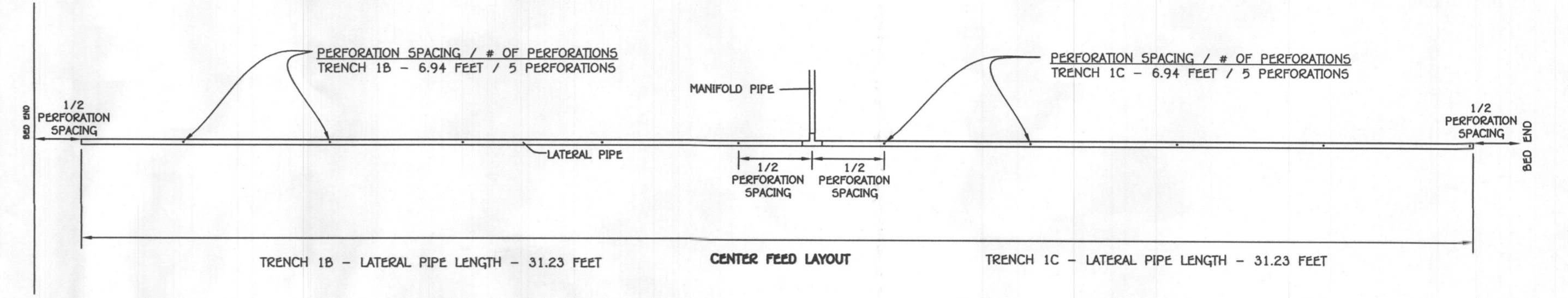
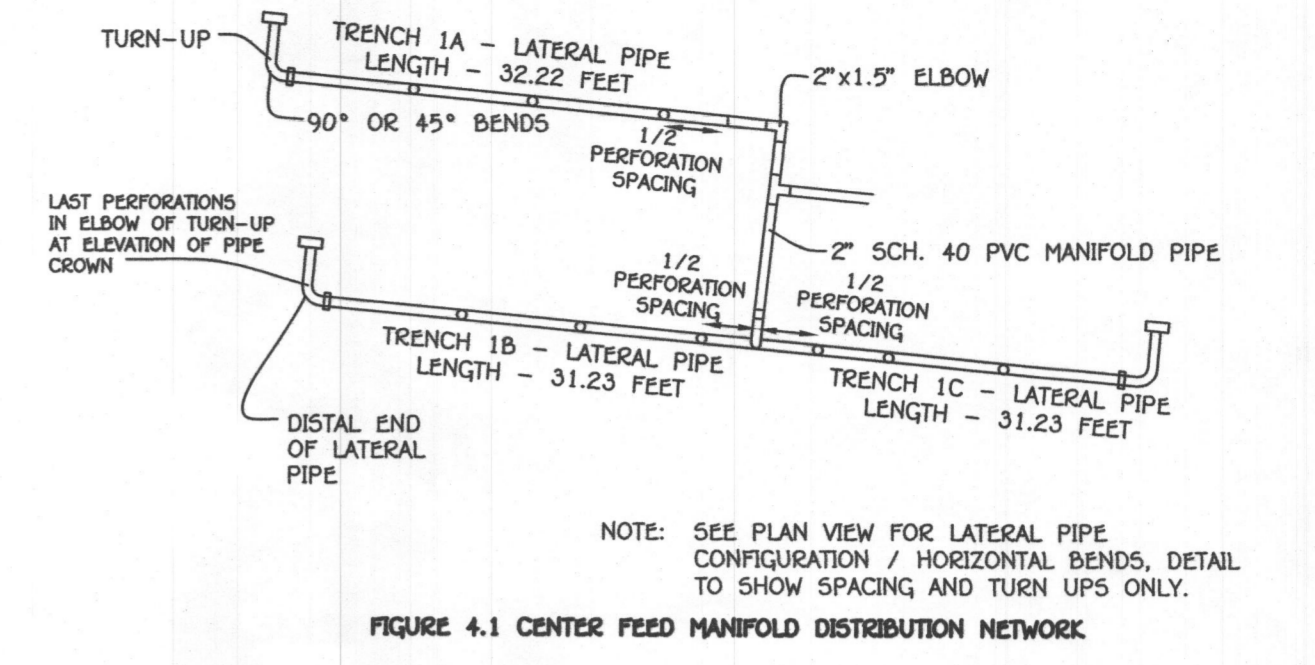
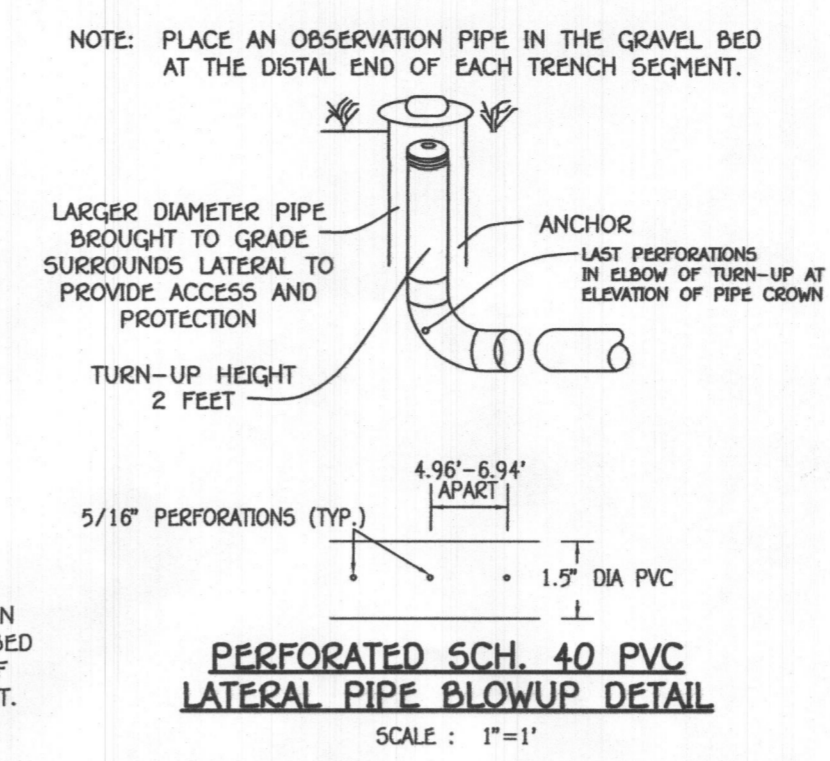
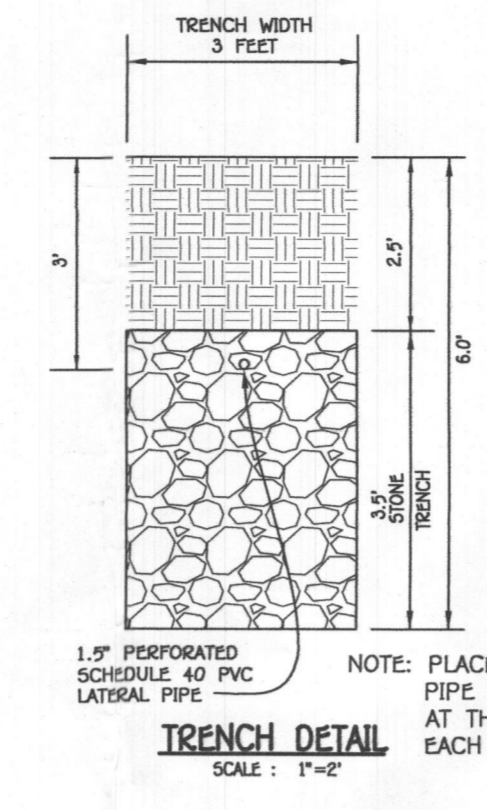
CRITICAL DIMENSIONS

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

U.S. AND FOREIGN PATENT PENDING

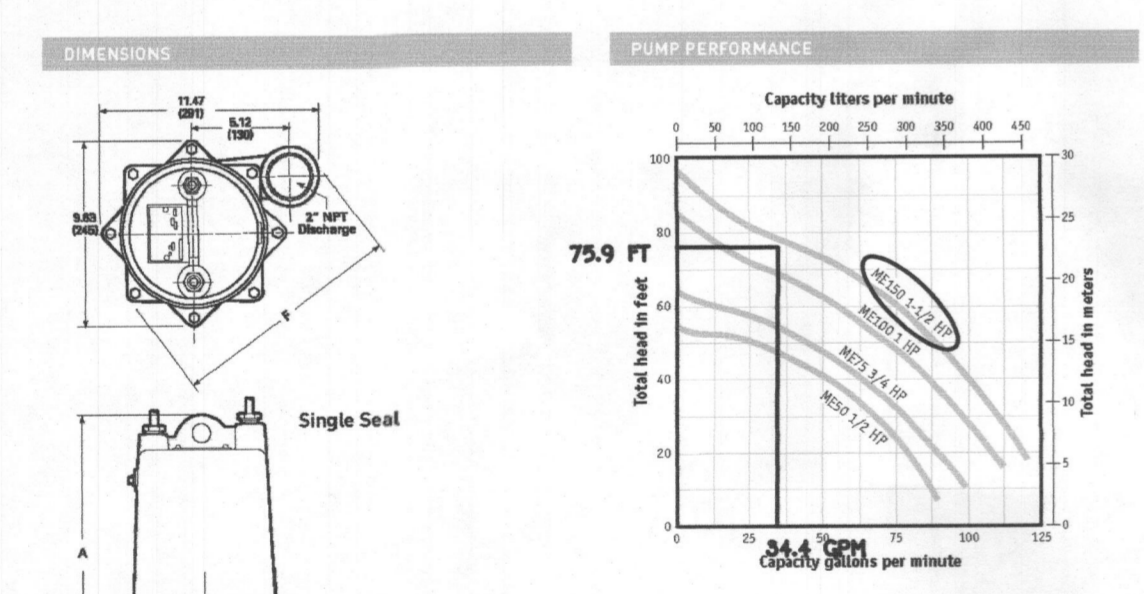
norweco 3-26-07 B
LOW-PROFILE SINGULARAERATOR WATER TREATMENT SYSTEM MODEL T114-300-SPD 10-16-06 NTS PC-S-7091

NOTE: TOTAL SYSTEM CAPACITY: 1,300 GALLONS
RATED CAPACITY: 500 GALLONS PER DAY

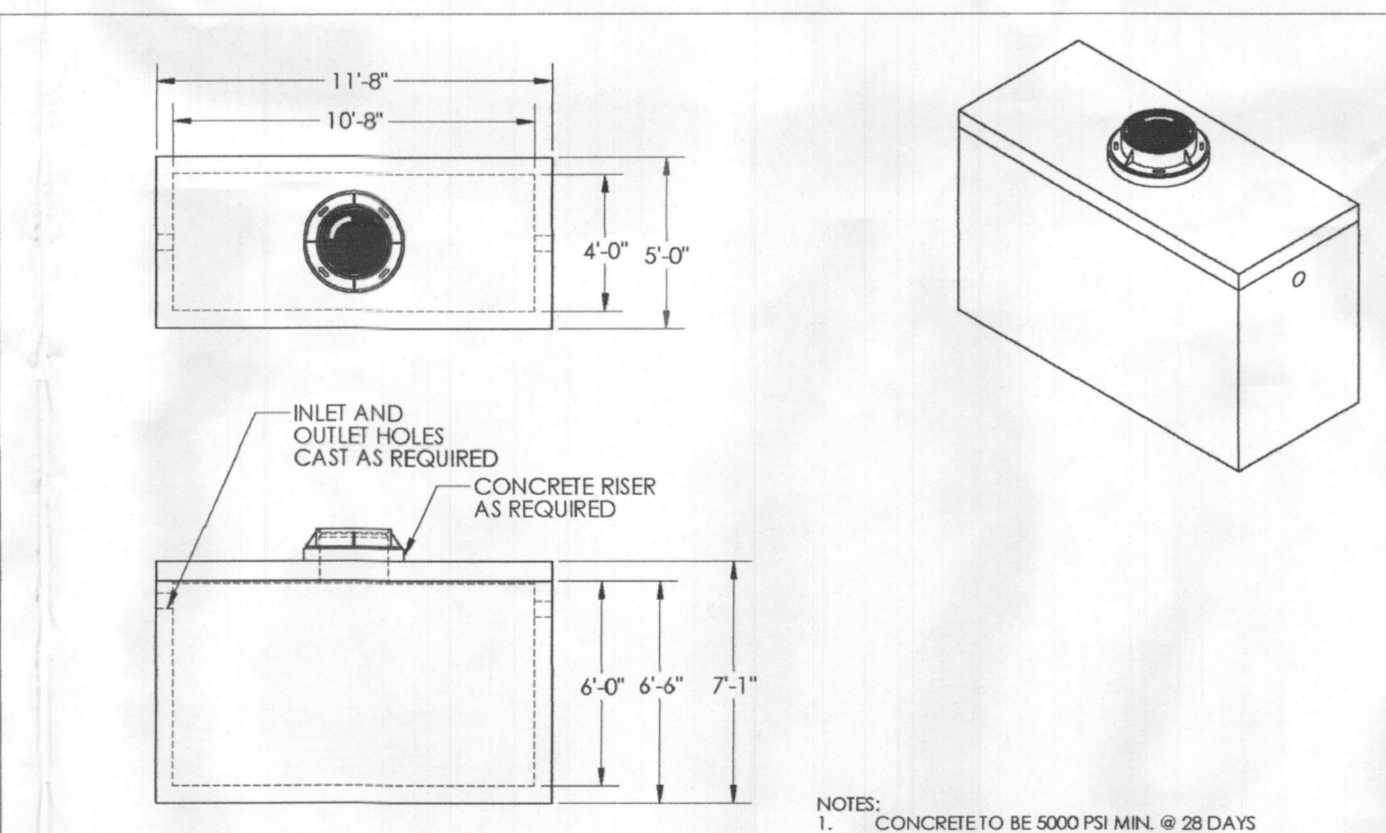


EFFLUENT PUMPS

MYERS® ME SERIES



Model	A	B	C	F
ME505	16.8 (427)	4.99 (126)	1.03 (26)	12.13 (308)
ME500	16.8 (427)	4.99 (126)	1.03 (26)	12.13 (308)
ME755, ME1005, ME1505	16.8 (427)	4.0 (102)	1.56 (39)	12.5 (318)
ME750, ME1000, ME1500	16.8 (427)	4.0 (102)	1.56 (39)	12.5 (318)

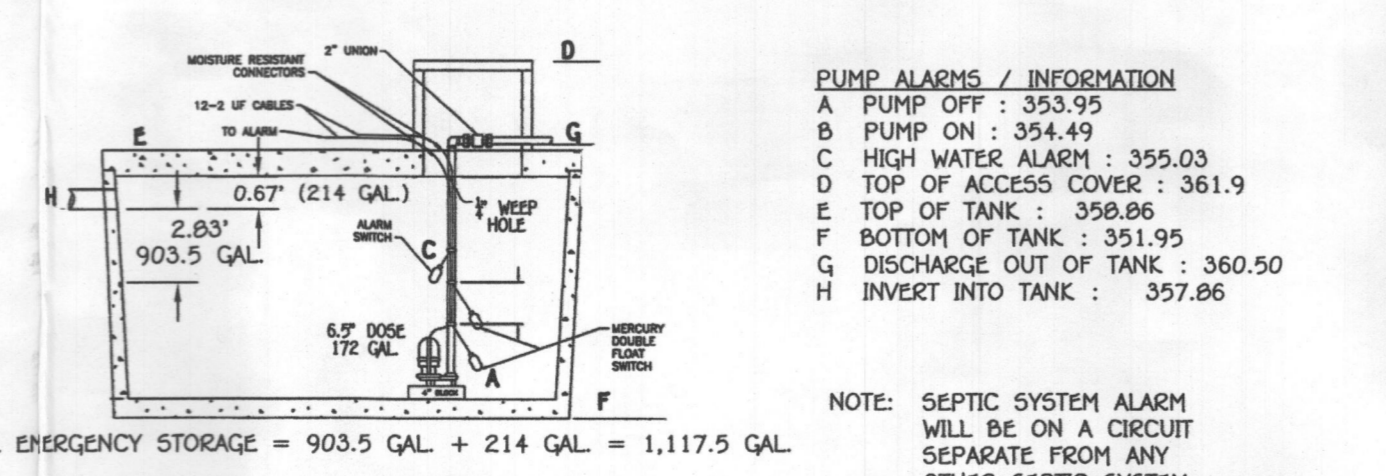


MONARCH PRODUCTS COMPANY, INC.
YORK HAVEN, PA. 717-938-8303
www.MonarchProducts.net

NAME: _____ DATE: _____ TITLE: **1500 GAL PUMP TANK**

DRAWN BY: MARK W. 10/23/2013 CHECKED BY: JIM 10/23/2013

TOTAL STRUCTURE WEIGHT: 24020 lbs JOB NAME: _____ STRUCTURE NO.: _____ PUMP TANK



NOTE: THIS DETAIL IS TO BE USED FOR FLOAT CONFIGURATION ONLY - SEE DETAIL ABOVE FOR TANK DIMENSIONS AND ACTUAL LOCATION OF ACCESS COVER.

PENTAIR

NOTE: USE A ME150 PUMP

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CONTINENTAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLSWORTH CITY, MARYLAND 21042
(410) 461-2895

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. 38386, EXPIRATION DATE: 01/12/2020.

Signature of Professional Engineer DATE: 5/19/19

STATE OF MARYLAND
PROFESSIONAL ENGINEER
No. 38386

BAT DETAILS

11011 CHAPEL ESTATES DRIVE
BALAKIRSKY PROPERTY, LOT 2
PLAT #23207
ZONING: RC-DEO
TAX MAP No. 29 GRID No. 14 PARCEL No. 42
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: MAY, 2018
SHEET 3 OF 3