

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

RECEIPT DATE: 10-21-22

ONSITE SEWAGE DISPOSAL SYSTEM

P 572666

APPROVAL DATE: 12/14/2022

PERMIT:

CONSTRUCTION

A

PROPERTY ADDRESS: 1053 Pudding Lane

SUBDIVISION: Kings Forest

LOT: 29

TAX ID:

CONTRACTOR:

Forbes Septic & Drain Inc.

EMAIL:

Kingforbesinc@aol.com

CONTRACTOR ADDRESS:

580 Oberlin Rd, Sykesville, MD 21784

PHONE:

410-795-5070

CONTRACTOR CERTIFIED FOR BAT INSTALLATION:



MDE



MANUFACTURER:

Norweco

PROPERTY OWNER: Toll Brothers

EMAIL: Sriley1@tollbrothers.com

OWNER ADDRESS: 6731 Columbia Gateway Drive, Suite 120

PHONE: (410) 872-9105

BAT UNIT MODEL: Norweco

PUMP SIZE: M:EP50

PUMP TANK CAPACITY: 2000 Gallon

OPERATION & MAINTENANCE AGREEMENT

DATE SIGNED:

11/1/2022

DATE RECORDED:

11/1/2022

DISTRIBUTION SYSTEM:



GRAVITY



PRESSURE DOSED

BEDROOMS: 6

APPLICATION RATE: 1.2

TRENCHES:	LINEAR FEET REQUIRED:	<u>177.50</u>	INLET DEPTH:	<u>3'</u>
	TRENCH WIDTH:	<u>3'</u>	MAXIMUM BOTTOM DEPTH:	<u>8'</u>
	MINIMUM SPACE BETWEEN TRENCHES:	<u>10'</u>	EFFECTIVE AREA BEGINNING DEPTH:	<u>4'.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:	***** Electrical Permit Needed *****			

ISSUED BY: Dana Bernard

ISSUE DATE: 11-3-22

EXPIRATION DATE: 10-21-23

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 DOWNGRADE 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

22004904 or E22004694

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 SEPERATE
SHEET FOR
AS-BUILT

Not
verified
(Kmw for
JCC)

ROAD NAME

TRENCH/DRAINFIELD DATA

WIDTH INLET BOTTOM

3' 3' 8'

NUMBER OF TRENCHES 2

TOTAL LENGTH 178 F

ABSORPTION AREA 5.3/sf 3.5'

DISTRIBUTION BOX LEVEL PUMP

DISTRIBUTION BOX BAFFLE 45° TO SIDE

DISTRIBUTION BOX PORT YES

SIDE
WALL

SEPTIC TANK DATA

SEPTIC TANK 1 LEVEL YES

MANUFACTURER BACKRIVER

CAPACITY INTLP GAL

SEAM LOC TOP

TANK LID DEPTH

BAFFLES BAT

BAFFLE FILTER BAT

MANHOLE LOC FRONT/MID/BACK

6" PORT LOC -

WATERTIGHT TEST -

SLOTTED BAT

DATE ON LID 10/19/2022

PUMP/SEPTIC TANK LEVEL YES

MANUFACTURER BACKRIVER

CAPACITY 2000 GAL

SEAM LOC TOP

TANK LID DEPTH

BAFFLES -

BAFFLE FILTER -

MANHOLE LOC FRONT/BACK

6" PORT LOC -

WATERTIGHT TEST -

SLOTTED -

DATE ON LID 09/22/2022

NORWECO

PRE-CONSTRUCTION:

11/10/2022 CONFIRMED CONTOUR ON TRENCHES. P

INSTALLATION:

11/10/2022 SHC, SL, TANKS SET. P

11/15/2022 FM INSTALLED - TRENCHES COMPLETE. P

12/01/2022 pump and alarm function; Control box is on sub panel.

electrical connections are in septic pump tank. P

12/12/22 - control box below grade + in riser. Contractor on site for inspection. Told

Contractor alarm can't be approved & they need to send specs of electrical

work in risers to Jeff & Mike. (P/R/S) 12/13/22 - Contractor onsite but the installation

electrical components into a post was not done yet. 12/14/2022 Reinspected P/A;

Confirm junction element in riser. P

Final Inspector DATE OF APPROVAL 12/14/2022

12/14/2022 Confirmed w/ contractor no 'splice' connections made in tank.

London box set-up intake is something we do not normally see. (Kmw)

10533 PUDDING LANE

NOT TO SCALE

21:30

LOT 30

100' WEL
ARC

PROP LINE

155

DRIVE

192' FORCE SDA
MAIN

213'

HOUSE
LOT 29

145

142

12' 12' C/O

146

PROP LINE

LOT 28

*Distance measurement
between the
trees in the
area for
existing
road



BACK RIVER PRE-CAST, LLC
 PO BOX 329
 GLYNDON, MD 21071
 PH# 410-833-3394

NORWECO CERTIFICATION

PROPERTY OWNER: TOLL MID-ATLANTIC	INSTALLATION COMPANY: FOGLES SEPTIC
ADDRESS: 10533 PUDDING LANE	CERTIFIED INSTALLER: JAMIE DEAVERS
CITY, ZIPCODE & COUNTY: ELLICOTT CITY, 21042, HOWARD	PERMIT#
SIZE OF SYSTEM INSTALLED:	DATE INSTALLED: 11-10-22
750 GPD CONCRETE	START-UP DATE: 12-10-22
NUMBER OF BEDROOMS:	DATE OF FINAL INSPECTION:
TYPE OF INSTALLATION: NEW	DATE OF ELECTRICAL INSPECTION:
ELECTRICAL WIRING PER ELECTRICAL INSTRUCTIONS: YES	TANK LEVEL: YES
HT. OF CONTROL PANEL ABOVE FINAL GRADE: 24"	BURIAL DEPTH OF TANK: 22"
SYSTEM WIRED ON A 15-AMP DEDICATED CIRCUIT WITH STD. BREAKER: YES	RISERS 4" - 6" ABOVE GRADE: YES
LENGTH(S) OF UF WIRE PAST LAST AERATION RISER(S): 30"	VENTED LID(S) ON AERATION CHAMBER(S): YES
FEMALE PLUG(S) WIRED TO UF WIRE: YES	ANY GROUND SETTLING AROUND TANK:
CONDUIT(S) ENTERING AERATION RISER MADE WITH A WATERTIGHT CONNECTION: YES	NO
ISTHE INSIDE OF THE CONDUIT ENTERING THE CONTROL PANEL(S) AND AERATION RISER(S) SEALED WITH DUCT SEAL: YES	

ON 2ND PAGE MAKE A ROUGH SKETCH OF THE HOUSE , WHERE THE SYSTEM IS LOCATED, WHERE THE CONTROL PANEL IS LOCATED , WHERE THE FRONT OF THE IS AND DIRECTIONS TO THE PROPERTY.

DIRECTIONS CAN START A FEW STREETS AWAY

EXAMPLE: RT. X LEFT ONTO XX STREET RIGHT ONTO PRIVATE DRIVEWAY 5TH HOUSE OF THE LEFT.

I certify that the Norweco Singlair TNT Wastewater Treatment System was installed according to the manufacture's specifications.

Matthew Geckle

December 10,2022

Signature of BRP Representative

Vice-President

Date

10533 Pudding Ln 12/12/22



10533 pudding lane 12/12/22



10533 pudding lane 12/12/22



Bernard, Dana

From: Bernard, Dana
Sent: Friday, October 21, 2022 10:43 AM
To: jnmengineeringllc@gmail.com
Subject: 10533 Pudding Lane

Good Morning Jim,

We need an O and M agreement for 10533 Pudding Lane before we can issue a permit.

Thanks

Dana Bernard, LEHS
Environmental Health Specialist II
Howard County Health Department
Well and Septic Program
8930 Stanford Blvd. Columbia, MD 21045
410-313-2775 office
www.hchealth.org
Social Media: @hocohealth



Clerk of the Circuit Court

Howard County

9250 Judicial Way,
Ellicott City, MD 21043
410-313-2111

LR - Agreement Recording Fee
1x 20.00 20.00

Name: patele
Ref: 10

LR - Agreement Surcharge
1x 40.00 40.00

SubTotal: 60.00

Total: 60.00

CRD-Credit 60.00

Credit Card Confirmation : 043744

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 26th day of October, among Bijal 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 10533 Pudding Lane, in the 3rd Election District of Howard County, Maryland, and the deed and subdivision plat of the property is recorded among the Land Records of Howard County, Maryland, Tax Map # 23, Block # 23, Parcel # 148, Deed Reference # 25764-68 and Tax Account # 603439 ("the Property").

WHEREAS, The Property 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 November 24, 2016. The pre-treatment device being installed is Norweco TNTLP-7506PD

NOW, THEREFORE, the parties hereto agree as follows:

- A. Owner hereby grants to the County the right to enter upon the Property at any reasonable time with prior notice 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.
- 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 Property 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 Property that the system shall require maintenance or other attention. Upon taking title to the Property, 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 this agreement on the date indicated above.


Howard County Health Department

 10/25/22
Owner #1 Signature Date


Owner #1 Print Name

Owner#2 Signature Date

Owner #2 Print Name



Buyer #1 Signature Date

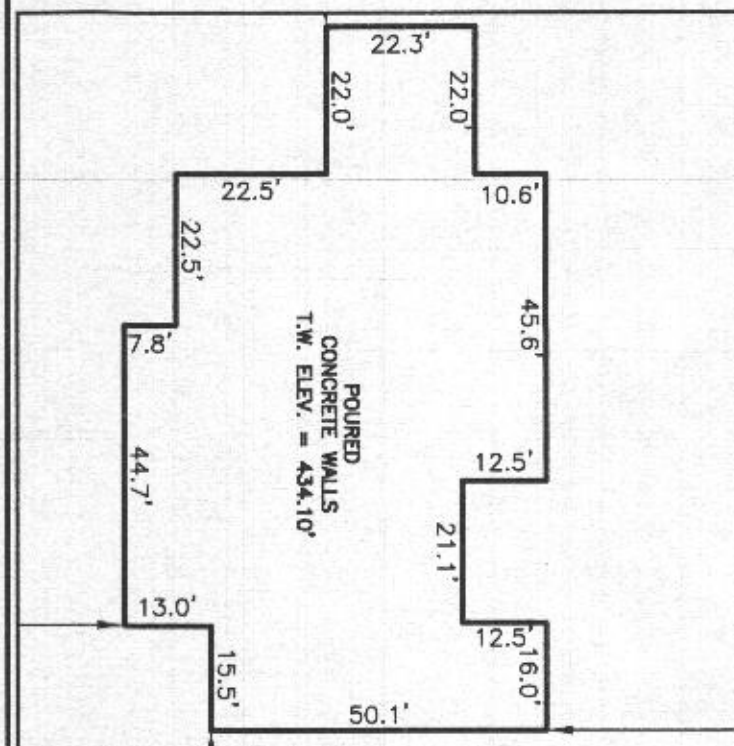
Buyer #1 Print Name

Buyer #2 Signature Date

Buyer #2 Print Name

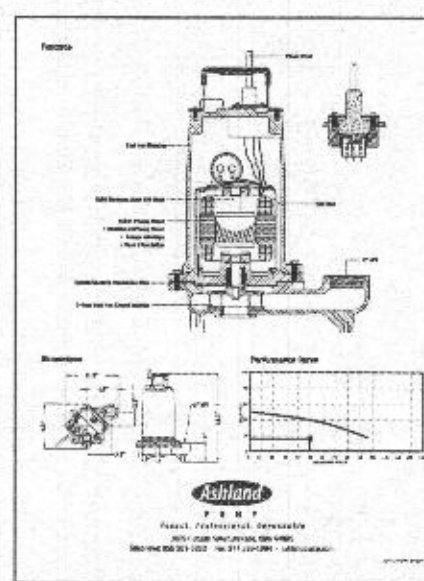
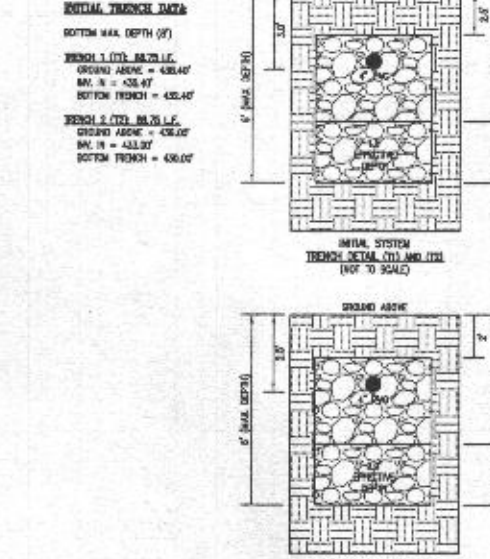
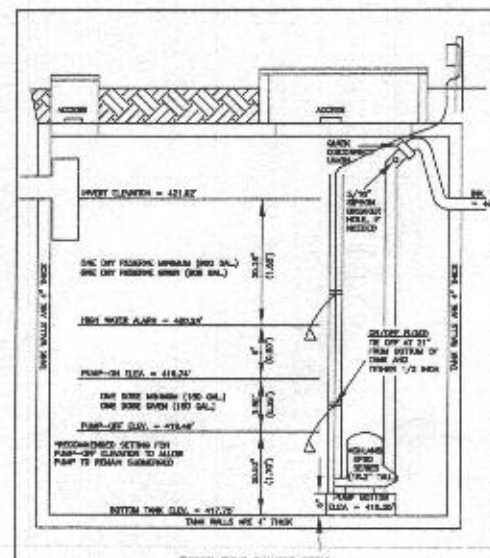
LEGEND:

 SEPTIC DISPOSAL AREA
 WELL BOX AREA



A circular professional seal for Michael Joe Boyce, a Professional Land Surveyor in the State of Maryland. The seal features the state coat of arms in the center, surrounded by the text "STATE OF MARYLAND" at the top and "PROFESSIONAL LAND SURVEYOR" at the bottom. The name "MICHAEL JOE BOYCE" is written in a circle around the coat of arms, and the number "NO. 21328" is at the bottom. There are handwritten initials "MB" on the left side of the seal.

FILE: 3502 WC Lot 29
DRAWN: V.X.P.



AT LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21504, EXPIRATION DATE 1/6/22

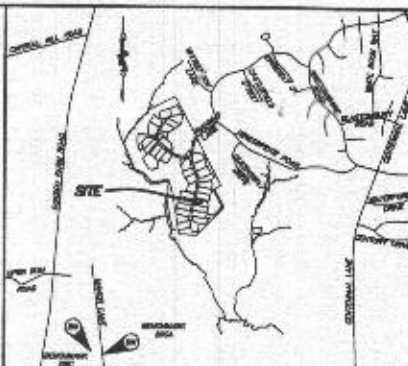
OWNER'S COMMENTS:

EXIST. TYPE: MAINTAIN EXISTING CONSTRUCTION

TWO CHURCH STREET FRONT CORNER
FACING LONDON LEVEL
WALL-OUT DRAINAGE
LONDON TOWN, 2.54 METER (8 INCH) DEEP

ANALYSIS:

TYPE	REMARKS/RESTRICTION LINE
00	WELL LOCATION
01	7'3" OF MAIL
02	GARAGE FLOOR
03	BASEMENT FLOOR

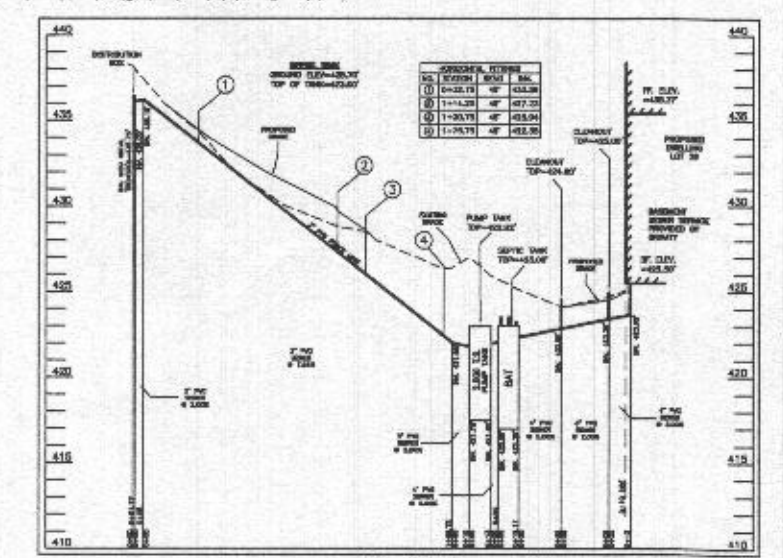


VICINITY MAP
1" = 2000'
TAX MAP 28, GRID 02

BENCHMARK 28CA
N: 574,525.138, E: 1,343,933.620, El: 423.532'

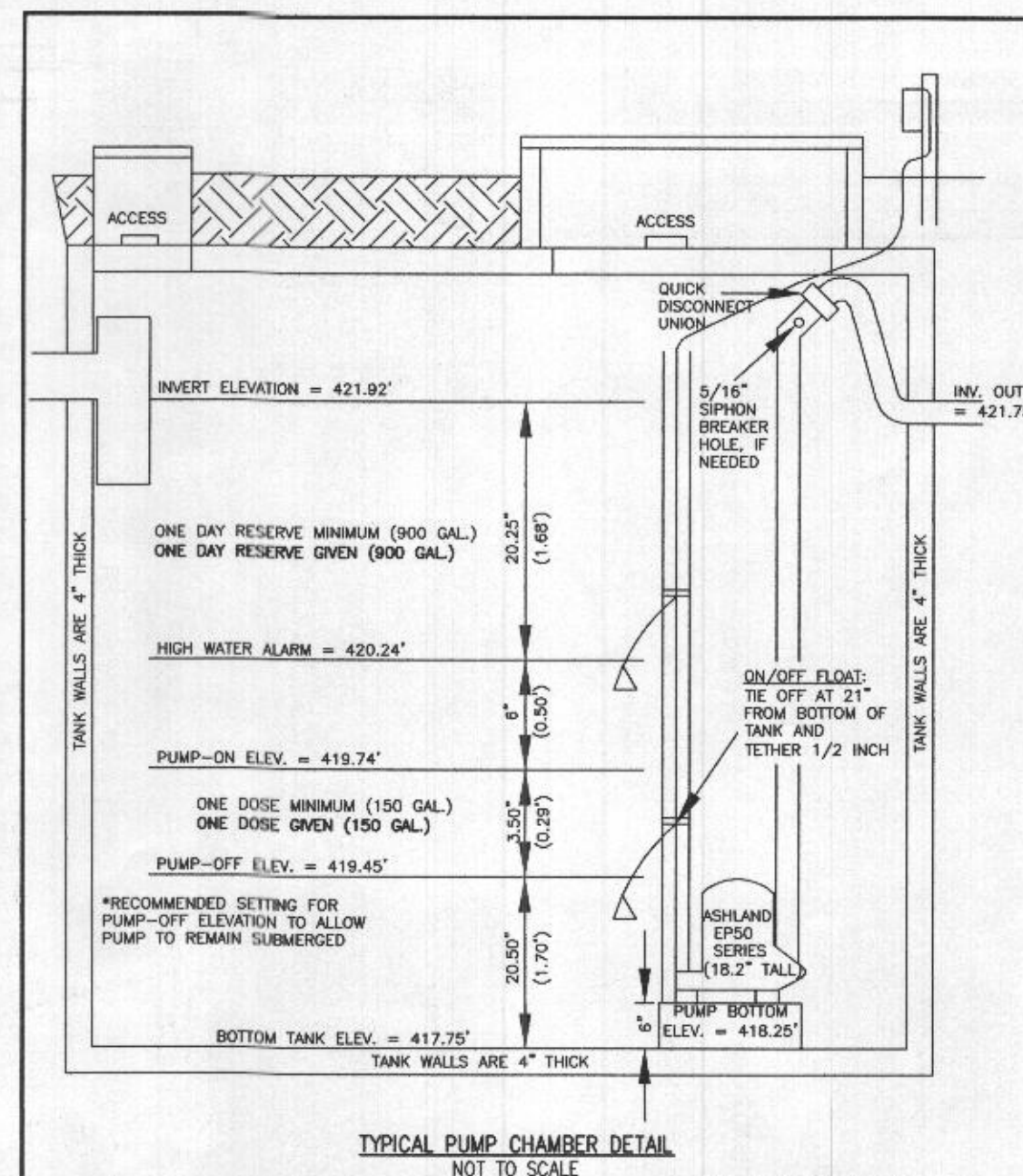
BENCHMARK 28IC
N: 572,323.559, E: 1,334,112.295, El: 468.785'

- GENERAL NOTES:**
1. ~~EXISTING~~ THESE AREAS DESIGNATE A PRIVATE SEWAGE AREA OF AT LEAST 10000 SQUARE FEET AS REQUIRED BY THE WATLANDS DEPARTMENT OF THE ENVIRONMENT FOR MINORAL SEWAGE DISPOSAL REPRESENTED BY ANY NATURE IN THIS AREA ARE RESTRICTED UNDER PUBLIC RIGHTS IS AVAILABLE. THESE AREAS SHALL BECOME WALL AND VOID UPON CONNECTION TO A PRIVATE SEWAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT VARIANCES FOR ENCROACHMENTS INTO THE PRIVATE SEWAGE AREA. PERCOLATION OF EXISTING SEWAGE AREA SHALL NOT BE NECESSARY.
 2. EXISTING WELLS, SEPTIC SYSTEMS, AND SEWAGE DISPOSAL AREAS WITHIN YOE OF THE PROPERTY AND THESE WELLS WITHIN 200' DOWN GRADIENT OF EXISTING OR PROPOSED SEPTIC SYSTEMS OR SEWAGE DISPOSAL AREAS HAVE BEEN SHOWN.
 3. ANY CHANGES TO A PRIVATE SEWAGE AREA SHALL REQUIRE A REVISED PERCOLATION DETERMINATION PLAN.
 4. BOUNDARY SURVEYS (ALL) - SHOWN HEREIN FOR SITE DEVELOPMENT PLAN SURVEY DISTANCES SHOWN HEREIN AS "2" HAVE AN ACCURACY OF MAY FOOT.
 5. ANY CHANGES TO THE LOCATIONS OF EXISTING TO ANY COMPLAINTS MUST BE APPROVED BY THE ENGINEER AND THE HONORARY COUNTY HEALTH DEPARTMENT PRIOR TO INSTALLATION. A REVISED SITE PLAN MAY BE REQUIRED.
 6. THE MAXIMUM ENTRY COVER OVER THE "X" IS THREE (3) FEET. BREAKER CATCH PITS SHALL REQUIRE A HEAVY DUTY BREAKER COVER.
 7. THE LOT SHOWN HEREIN COMPLIES WITH THE MINIMUM OWNERSHIP, WATH, AND LOT AREA AS REQUIRED BY THE WATLANDS STATE DEPARTMENT OF THE ENVIRONMENT.
 8. THE EXISTING PROPERTY SHOWN HEREIN IS FROM HONOLULU COUNTY, INC., OF THE COUNTY OF HAWAII AND FIELDS OWNED BY HONOLULU COUNTY, INC., OF THE COUNTY OF HAWAII.
 9. THE EXISTING WELL SHOWN FOR LOT 33 (240-16-10-2058) HAS BEEN FIELD LOCATED AND IS ACCURATELY SHOWN HEREIN.










<p align="center">SEPTIC SYSTEM PROFILE SCALE - HORIZONTAL: 1"=30' VERTICAL: 1"=5'</p>		
<p>SITE PLAN FOR BAT INSTALLATION LOT 29 KINGS FOREST LUBER 11372, FOLIO 431 PLAT NO. 16791 ELECTION DISTRICT No. 2 HOWARD COUNTY, MARYLAND ADDRESS: 10533 PUDGING LANE ELIJAH CITY, MARYLAND 21042</p>	<p align="center">ESE CONSULTANTS ENGINEERING • PLANNING • SURVEYS • ENVIRONMENTAL ESE Consultants, Inc. 6731 Columbia Gateway Drive • Suite 126 • Columbia, MD 21046 T: 410-872-4105</p>	
<p>DATE: 01/29/2002</p>	<p>SCALE: 1"= 30'</p>	<p>FILE: BAT LOT 29</p>

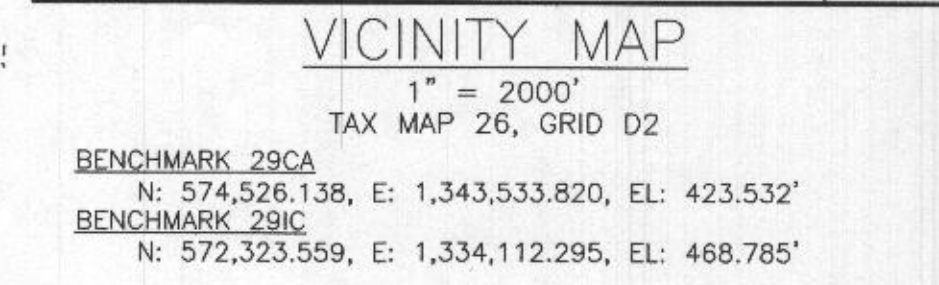
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HOUSE OPTIONS:
HOUSE TYPE: KALORAMA (MODERN FARMHOUSE)

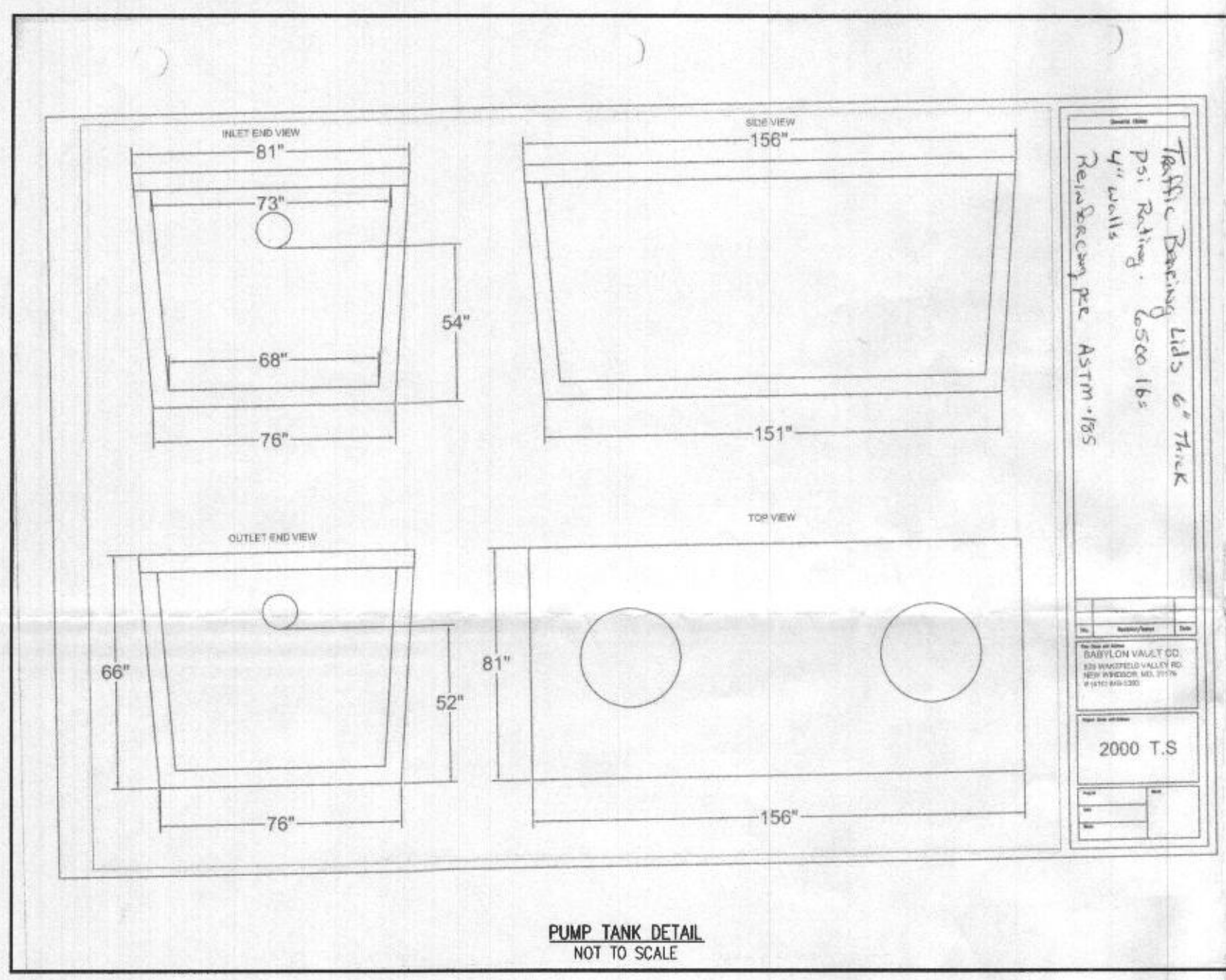
TWO CAR SIDE ENTRY GARAGE
FINISHED LOWER LEVEL
WALK-OUT BASEMENT
ADDITIONAL TWO CAR FRONT ENTRY GARAGE
POWDER ROOM - FINISHED BASEMENT
STUDY IN LIEU OF LIVING ROOM/FLEX ROOM
CAMP MULTI-GENERATIONAL SUITE ADDITION
ALTERNATE CLOSET
PREP KITCHEN
OUTDOOR LIVING DECK - WALK-OUT
PLANNING CENTER
MEDIA ROOM - FINISHED BASEMENT
DOUBLE WIDE DRIVEWAY TAIL

OPTION NO. 012	BBL	BUILDING RESTRICTION LINE
OPTION NO. 013	W	WELL LOCATION
OPTION NO. 017	N.W.	TOP OF WALK
OPTION NO. 283019	G.F.	GARAGE FLOOR
OPTION NO. 283036	B.F.	BASEMENT FLOOR
OPTION NO. 283038	DW	DRYWELL
OPTION NO. 283075		FAILED PERC LOCATION
OPTION NO. 283111		SEPTIC DISPOSAL AREA
OPTION NO. 283158		
OPTION NO. 283169		
OPTION NO. 283177		
OPTION NO. 522		
OPTION NO. 851		
		PROPOSED TREE SPECIMEN TREE
		SILT FENCE
		SUPER SILT FENCE
		LIMITS DISTURBANCE
		SOIL DELINEATION LINE

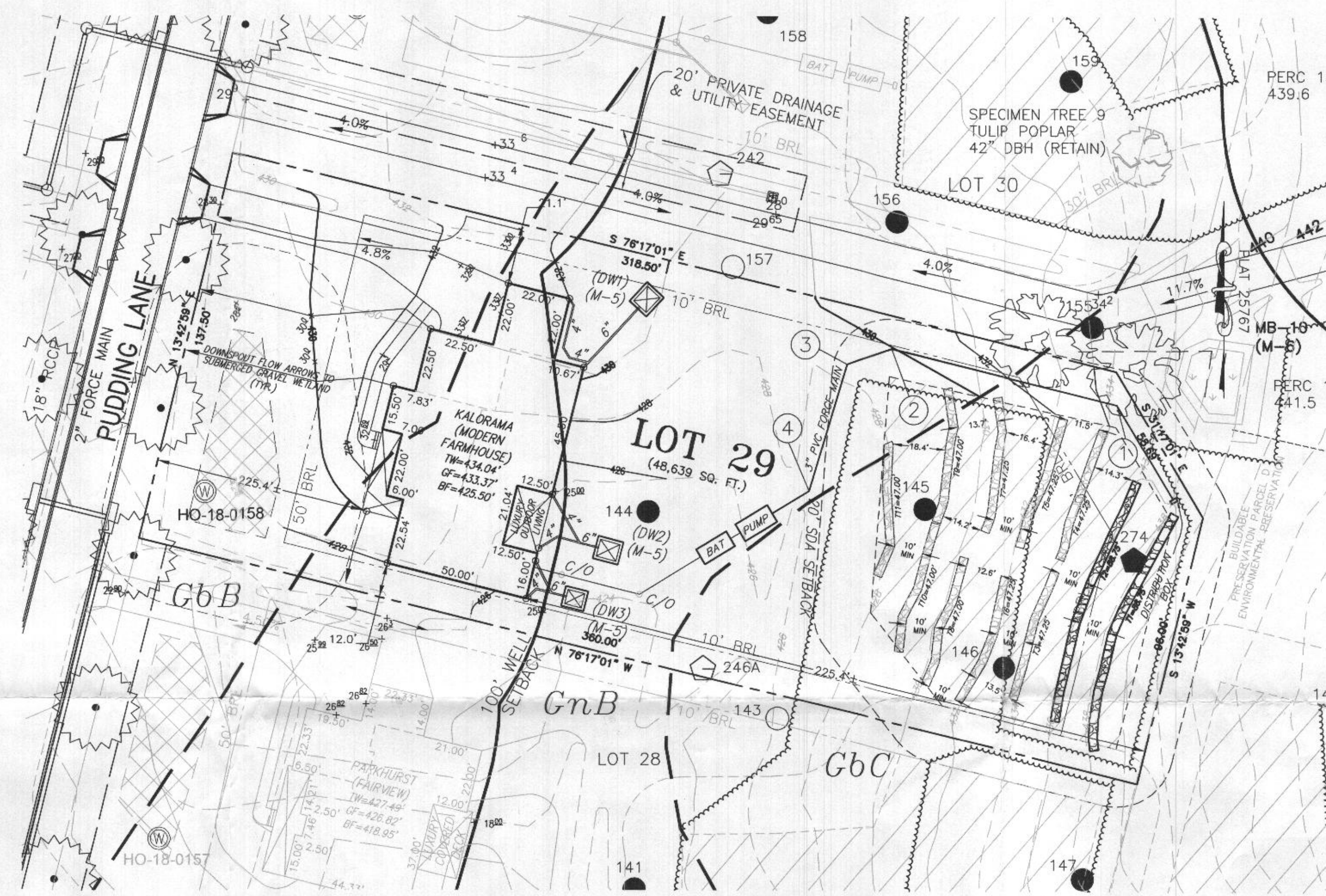
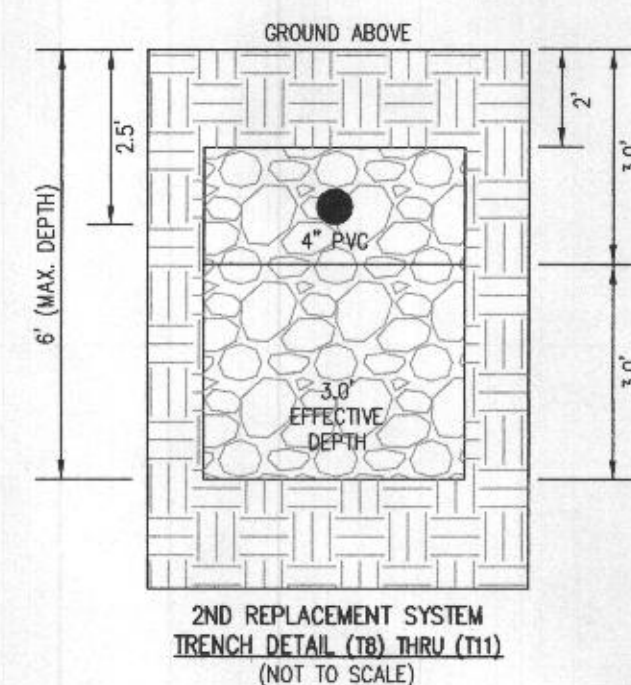
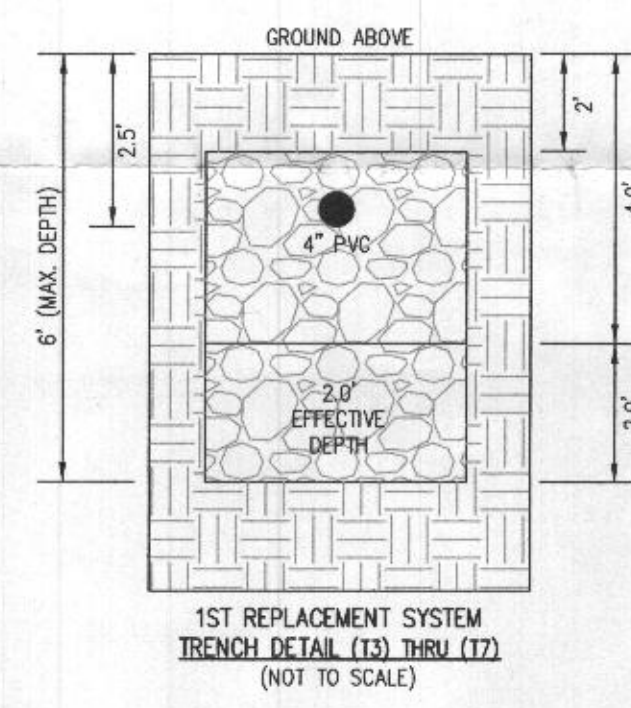
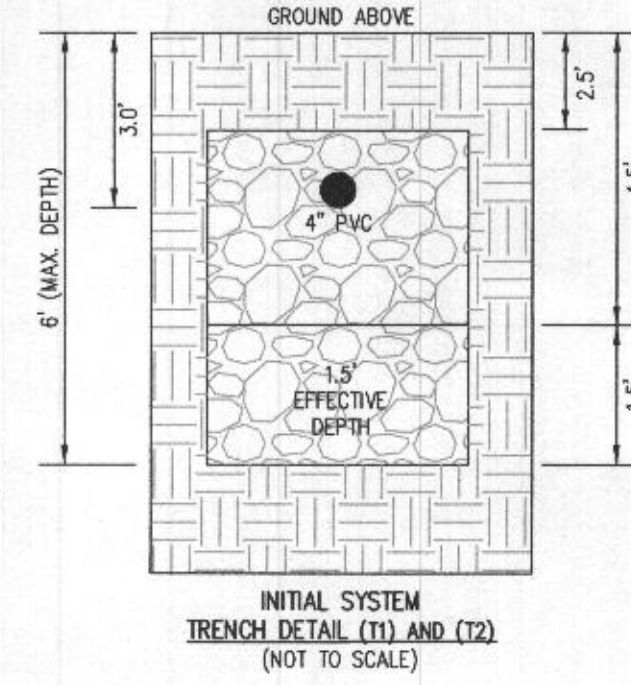


GENERAL NOTES:

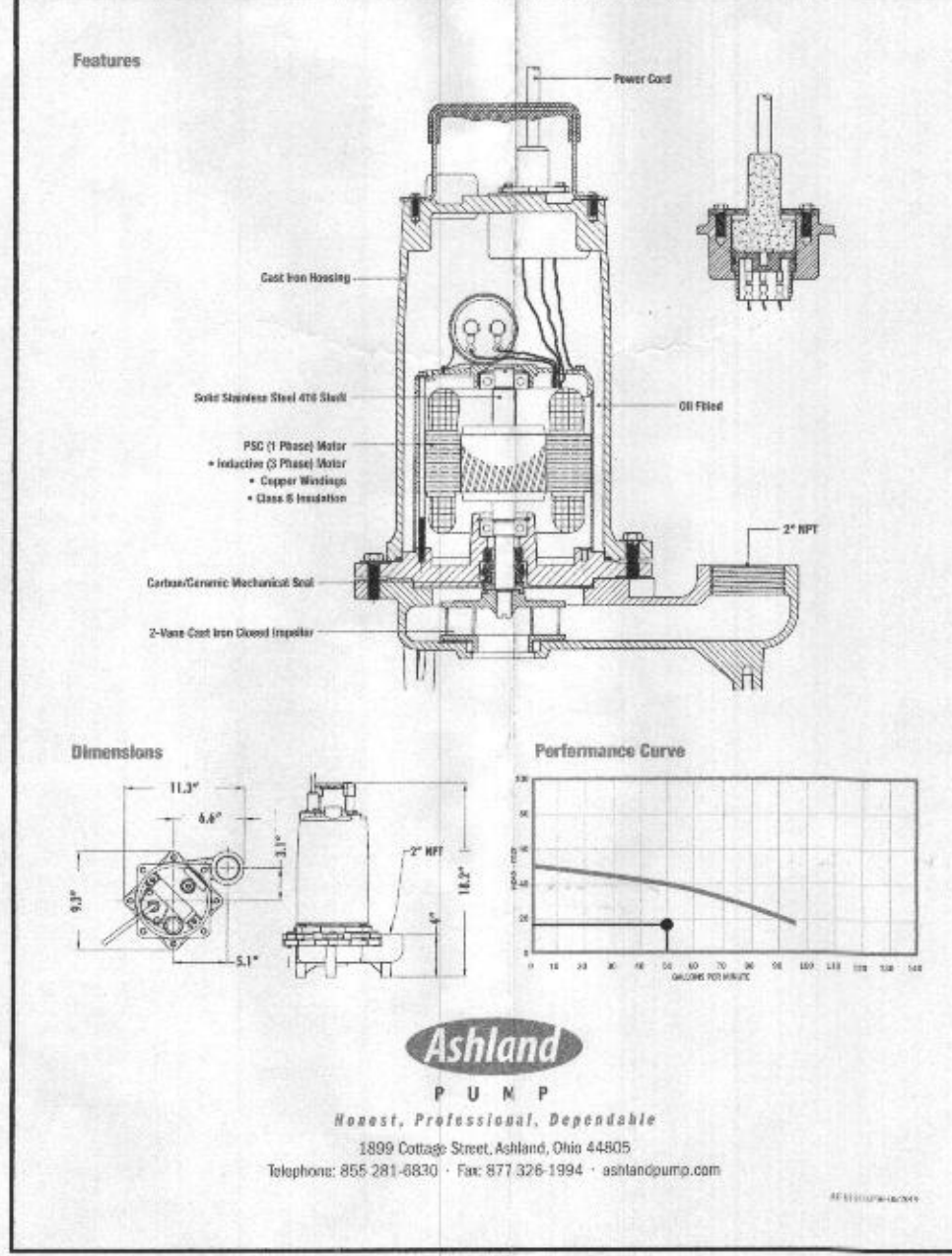
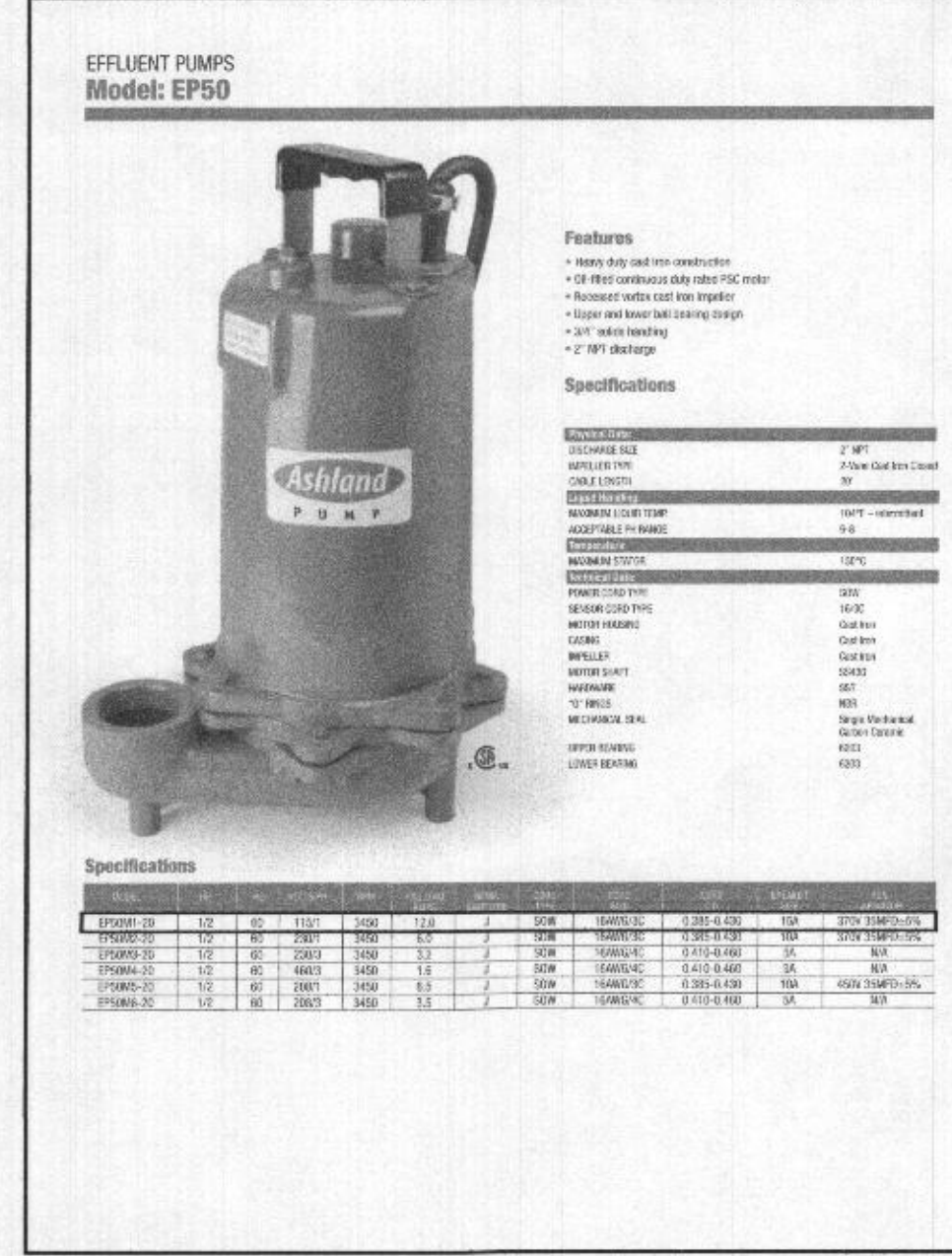
1. ZZZZ THESE AREAS DESIGNATE A PRIVATE SEWAGE AREA OF AT LEAST 10,000 SQUARE FEET AS REQUIRED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWAGE IS AVAILABLE. THESE AREAS SHALL BECOME HULL AND VOID UPON CONNECTION TO A PUBLIC SEWAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT VARIANCES FOR ENCROACHMENTS INTO THE PRIVATE SEWAGE AREA. RECORDATION OF A MODIFIED SEWAGE AREA SHALL NOT BE NECESSARY.
2. EXISTING WELLS, SEPTIC SYSTEMS, AND SEWAGE DISPOSAL AREAS WITHIN 100' OF THE PROPERTY AND THOSE WELLS WITHIN 200' DOWN GRADIENT OF EXISTING OR PROPOSED SEPTIC SYSTEMS OR SEWAGE DISPOSAL AREAS HAVE BEEN SHOWN.
3. ANY CHANGES TO A PRIVATE SEWAGE AREA SHALL REQUIRE A REVERSED PERCOLATION CERTIFICATION PLAN.
4. BUILDING SETBACKS (B.L.R.'S) SHOWN HEREON PER SITE DEVELOPMENT PLAN SETBACK DISTANCES SHOWN HEREON AS "±" HAVE AN ACCURACY OF ±0.1' FOOT.
5. ANY CHANGES TO THE LOCATIONS OR DEPTHS TO ANY COMPONENTS MUST BE APPROVED BY THE ENGINEER AND THE HOWARD COUNTY HEALTH DEPARTMENT PRIOR TO INSTALLATION. A REVERSED SITE PLAN MAY BE REQUIRED.
6. THE MAXIMUM EARTH COVER OVER THE BANK IS THREE (3) FEET. GREATER EARTH COVER WILL REQUIRE A HEAVY LOAD BEARING TANK.
7. THE LOT SHOWN HEREON COMPLIES WITH THE MINIMUM OWNERSHIP, WIDTH, AND LOT AREA AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT.
8. THE EXISTING TOPOGRAPHY SHOWN HEREON IS FROM HOWARD COUNTY GIS, 2' CONTOUR INTERVAL AND FIELD VERIFIED BY BENCHMARK ENGINEERING, INC., IN FEBRUARY 2014.
9. THE EXISTING WELL SHOWN FOR LOT 29 (TAG H0-18-0158) HAS BEEN FIELD LOCATED AND IS ACCURATELY SHOWN HEREON.



INITIAL TRENCH DATA:
BOTTOM MAX. DEPTH (8')
TRENCH 1 (T1): 88.75 I.F.
GROUND ABOVE = 438.40'
INV. IN = 435.40'
BOTTOM TRENCH = 432.40'
TRENCH 2 (T2): 88.75 I.F.
GROUND ABOVE = 436.00'
INV. IN = 433.00'
BOTTOM TRENCH = 430.00'



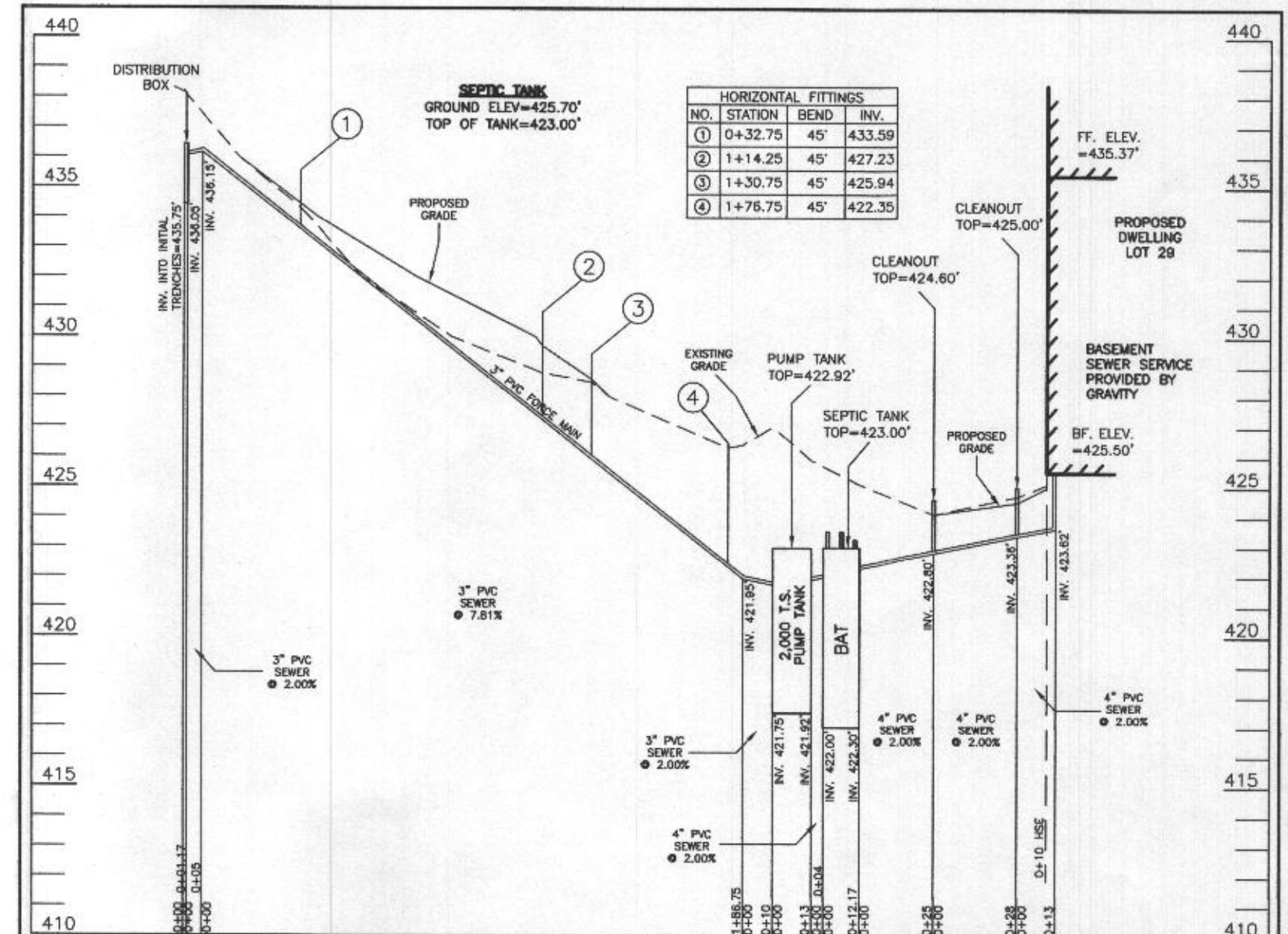
Approved Septic System Plan
Howard County Health Department
Dana Bernard 5-3-22
Signature Date



PUMP SYSTEM CALCULATIONS			
TOTAL DOSE PER DAY = 150 GALLONS X 6 EVENTS PER DAY IS 900 GPD		DESIGN FLOW = 900 GPD	
TRENCH 1 (T1)	INV. ELEV.=435.40'	LENGTH=88.75'	PUMP OFF ELEV. = 419.45'
TRENCH 2 (T2)	INV. ELEV.=433.00'	LENGTH=88.75'	INV. OUT PUMP TANK = 421.75'
			PUMP BOTTOM ELEV. = 418.25'
			PUMP SELECTED = 1/2 HP
FORCEMAIN LENGTH = 196.75'		TYPE=SCH40	
*****PUMPING FORCEMAIN TO A DISTRIBUTION BOX AND GRAVITY FLOW FROM DISTRIBUTION BOX TO TRENCHES, NO MANHOLE AND TRENCH CALCULATIONS NEEDED*****			
MIN. SYSTEM DISCHARGE RATE =	50	GPM	
MANHOLE DIAMETER =	3	IN.	
FORCE MAIN DIAMETER =	3	IN.	
MINIMUM DOSE =	150	GAL.	
VELOCITY =		FPS	
VELOCITY =	2.17	FPS	
FRICTION LOSS (TABLE 4.4) =			
FRICTION LOSS (TABLE 4.4) =		0.58	
CALCULATE TOTAL DESIGN FHD			
LENGTH OF FM FROM PUMP TANK TO DISTRIBUTION BOX = 196.75'			
# OF (45°) BENDS IN FM =	N/A	(ADD 6' PER BEND) =	24.00'
# OF (90°) BENDS IN FM =	N/A	(ADD 10' PER BEND) =	N/A
TOTAL LENGTHS =	196.75'	TOTAL ADD'L LENGTHS =	24.00'
(550 GPM OF 3" PVC = 0.58 PER 100' PIPE); 0.58 / 100' = 0.0058 X 220.75' = 1.280'		TOTAL FRICTION LOSS = 220.75'	
FRICTION HEAD = 1.28' FT. (PER ABOVE CALCULATION) STATIC HEAD = 16.70' FT. (HIGHEST POINT IN DISTRIBUTION SYSTEM - PUMP OFF FLOW ELEVATION) TOTAL DYNAMIC HEAD = 17.98' FT. (FRICTION HEAD + STATIC HEAD)			
THEREFORE A PUMP CAPABLE OF DELIVERING AT LEAST 50 GPM AGAINST 1798' OF HEAD IS REQUIRED. EPSOM-20, 1/2 H.P. IS EFFICIENT			

SEWAGE DISPOSAL SYSTEM DATA (6 BDRM):

- PROPOSED INVERT AT FOUNDATION WALL: 423.62'
1. EX. GRADE OVER TANK: 425.70'
PROPOSED GRADE OVER TANK: 425.70'
INVERT IN: 422.30' INVERT OUT: 422.00'
2. DISTRIBUTION BOX
EXISTING GRADE OVER TANK: 438.10'
PROPOSED GRADE OVER TANK: 438.10'
INVERT IN: 435.75' INVERT OUT: 436.05'
3. INITIAL TRENCH DESIGN (6 BDRM x 150 GPD/BDRM = 900 GPD)
900 GPD / 0.8 A.P. RATE = 750 SF
USE 3' WIDE TRENCH WITH GRAVEL BELOW PIPE
10' MIN. SPACING BETWEEN TRENCH EDGES
750 SF / 3" WIDTH = 250 LF @ 0.71 (SIDEWALL REDUCTION) = 177.50 LF MIN.
USE 2 88.75" LONG TRENCHES = 177.50 LF
4. 1ST REPLACEMENT TRENCH DESIGN (6 BDRM x 150 GPD/BDRM = 900 GPD)
900 GPD / 0.8 A.P. RATE = 1,125 SF
USE 3' WIDE TRENCH WITH 42" GRAVEL BELOW PIPE
10' MIN. SPACING BETWEEN TRENCH EDGES
1,125 SF / 3" WIDTH = 375 LF @ 0.63 (SIDEWALL REDUCTION) = 238.25 LF MIN.
USE 5 47.25" LONG TRENCHES = 238.25 LF
5. 2ND REPLACEMENT TRENCH DESIGN (6 BDRM x 150 GPD/BDRM = 900 GPD)
900 GPD / 0.8 A.P. RATE = 1,125 SF
USE 3' WIDE TRENCH WITH 42" GRAVEL BELOW PIPE
10' MIN. SPACING BETWEEN TRENCH EDGES
1,125 SF / 3" WIDTH = 375 LF @ 0.50 (SIDEWALL REDUCTION) = 187.50 LF MIN.
USE 4 47" LONG TRENCHES = 188.00 LF



10533 Pudding Lane

SITE PLAN FOR BAT INSTALLATION
LOT 29
KINGS FOREST
LIBER 11372, FOLIO 431
PLAT NO. 19791
ELECTION DISTRICT No. 2
HOWARD COUNTY, MARYLAND
ADDRESS: 10533 PUDDING LANE
ELLCOTT CITY, MARYLAND 21042

ESE CONSULTANTS

ENGINEERING • PLANNING • SURVEYING • ENVIRONMENTAL

ESE Consultants, Inc.
 6731 Columbia Gateway Drive • Suite 120 • Columbia, MD 21046
 T: 410-872-9105

