

Bureau of Environmental Health
 8930 Stanford Boulevard, Columbia, MD 21045
 Main: 410-313-2640 | Fax: 410-313-2648
 TDD 410-313-2323 | Toll Free 1-866-313-6300
www.hchealth.org
 Facebook: www.facebook.com/hocohealth

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

RECEIPT DATE: 8-2-16 **ONSITE SEWAGE DISPOSAL SYSTEM** P 558814-D

APPROVAL DATE: 10-12-16 **PERMIT: CONSTRUCTION** A _____

PROPERTY ADDRESS: 12007 Catherine Close Road

SUBDIVISION: Greenberry LOT: 8 TAX ID: 05-598671

CONTRACTOR: South Carroll Backhoe EMAIL: scbackhoe@comcast.net

CONTRACTOR ADDRESS: 4410 Salem Bottom Road, Westminster, MD 21157 PHONE: 410-596-3618

CONTRACTOR CERTIFIED FOR BAT INSTALLATION: MDE MANUFACTURER:

PROPERTY OWNER: NVR Inc. EMAIL: _____

OWNER ADDRESS: 9720 Patuxent Woods Road PHONE: 410-379-5956

BAT UNIT MODEL: Hoot BNR PUMP SIZE: 0.4 PUMP TANK CAPACITY: 750 Gal

OPERATION & MAINTENANCE AGREEMENT DATE SIGNED: _____ DATE RECORDED: _____

DISTRIBUTION SYSTEM: GRAVITY PRESSURE DOSED BEDROOMS: 4 APPLICATION RATE: 1.2

TRENCHES:	LINEAR FEET REQUIRED: <u>104</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:

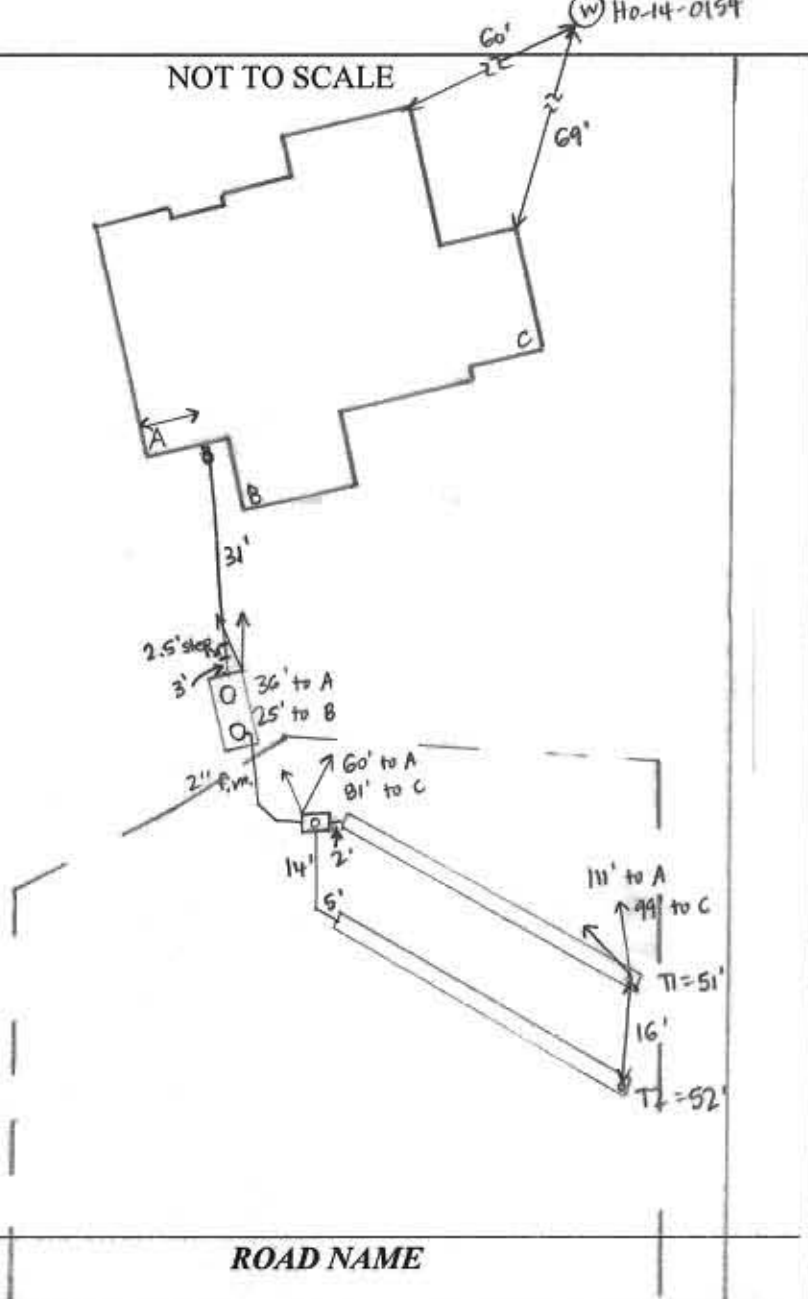
ISSUED BY: Robert Bricker ISSUE DATE: 8-2-16 EXPIRATION DATE: 8-2-17

- 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 DOWNGRAIDENT 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 16003579
- 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.**

Ho-14-0194

NOT TO SCALE



TRENCH/DRAINFIELD DATA

WIDTH	INLET	BOTTOM
3'	4'	6'
NUMBER OF TRENCHES		2
TOTAL LENGTH		103'
ABSORPTION AREA		309' + SIDEWALL
DISTRIBUTION BOX LEVEL		YES
DISTRIBUTION BOX BAFFLE		ELBOW
DISTRIBUTION BOX PORT		YES

SEPTIC TANK DATA

SEPTIC TANK I LEVEL	YES
MANUFACTURER	MAYER BROS. / HOOT
CAPACITY	1500 GAL
SEAM LOC	TOP
TANK LID DEPTH	1.5-2.5'
BAFFLES	YES
BAFFLE FILTER	NO
MANHOLE LOC	FRONT + REAR
6" PORT LOC	NONE
WATERTIGHT TEST	NO
SLOTTED	NO
DATE ON LID	

PUMP/SEPTIC TANK LEVEL

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

PRE-CONSTRUCTION:

8/30/16 Met S. Carroll on site for layout. All tank + SDA stakes present. Laid out 2=52' trenches on contour. (SC)

INSTALLATION:

8/30/16 S. Carroll setting tank (SC) 9/6/16 T1 finished + left open at ends, S. Carroll adding stone to T2. 3' wide, 3.5' to stone above pipe. Using a laser to check depths. (SC) 9/7/16 D-box installed + connected to tank and trenches (SC) 9/12/16 House connection made. Need BAT startup certification. (SC) 10/12/16 - BAT start up completed - contractor will email cert form for file. (PR)

FINAL INSPECTOR Ryan Rappaport

DATE OF APPROVAL 10/12/16



MAYER BROS., INC.
Precast Concrete Products
6264 Race Rd. Elkridge, MD 21075

Letter of Satisfaction Hoot System Installation

Address of Property: 12007 Catherine Close Rd.
Clarksville, MD. 21029

Date of Final Inspection: 10/12/16

Installer: South Carroll Backhoe Service

Hoot Technician/Inspector: Mike Sample

I hereby certify that the Hoot system installed at the property listed above has been installed according to proper Hoot installation practices. I have also verified the startup of the system and it is in proper working order.

Sincerely,

Name of Inspector
Mayer Bros., Inc.

PH: 410-796-1434

WBE

FX: 410-796-1438

www.mayerbrosprecast.com

CATHERINE CLOSE ROAD

(PUBLIC - 50' R/W) $R=255.00'$
 $L=36.64'$



ADDRESS: 12007 CATHERINE CLOSE ROAD
TOP OF WALL ELEV. = 561.0±
FIRST FLOOR ELEV. = N/A

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. 574, EXPIRATION DATE: 03/21/17.

LOT 8
GREENBERRY
PLATS 23453-23461
ELECTION DISTRICT No. 5
HOWARD COUNTY, MARYLAND

THE INFORMATION SHOWN HAS BEEN ESTABLISHED BY CURRENT ACCEPTABLE SURVEY PROCEDURES AND FROM AVAILABLE RECORD INFORMATION. THIS DRAWING IS TO BE USED FOR TITLE TRANSFER FINANCING, OR REFINANCING ONLY AND IS NOT TO BE USED FOR THE ESTABLISHMENT OF PROPERTY LINES, LOCATION OF FENCES, GARAGES, BUILDINGS, OR OTHER EXISTING OR FUTURE IMPROVEMENTS.

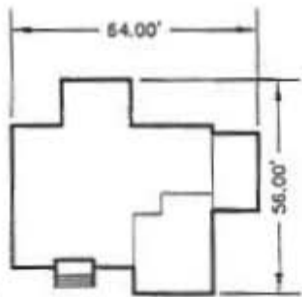
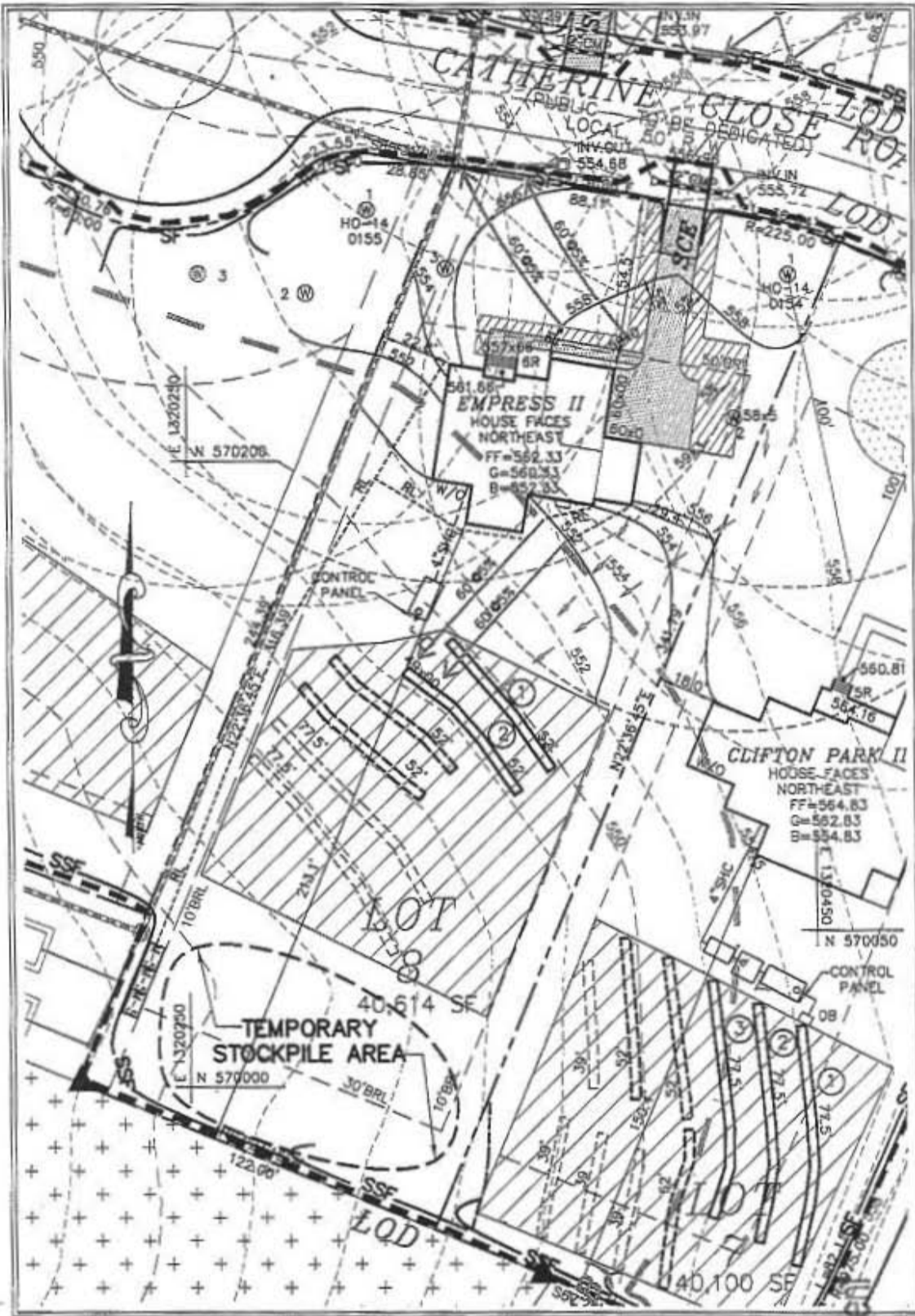
MILDENBERG BOENDER, & ASSOC., INC.

Engineers Planners Surveyors
7350-B Grace Drive, Columbia, MD 21044
(410) 997-0298 Ball. (410) 997-0298 Fax.



GARY EDWARD LANE
PROP. LINE SURVEYOR
MARYLAND No. 574

FOUNDATION	DATE: 03/15/16	FINAL LOCATION	DATE: N/A
DRAWN BY: MES	CHECKED BY: GEL	SCALE: 1"=50'	
PROJECT NO.: 15-005	LOCATION DRAWING		



REVISED

Date: 05/27/2016

EMPRESS II
ELEVATION C

Comments: B16001702

Approved Septic System Plan
Howard County Health Department
4-Bedroom SFD

12007 Catherine Close Road

R. Buehler
Signature
Date 6/2/2016

CHANGE HOUSE LOCATION PER HEALTH DEPT

PLOT PLAN (SITE SPECIFIC)
GREENBERRY
LOT 8

**MILDENBERG
BOENDER, & ASSOC., INC.**

Engineers Planners Surveyors
7350-B Cross Drive, Columbia, Maryland 21044
(410) 997-0296 Cell (410) 997-0298 Fax

FIFTH ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

SCALE: 1"=50'

DRAWN BY: MMM

DATE: APR. 2016

PN:15-005



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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 15th day of APRIL 2014 among Zihao Wang + Li Jing and NVR, Inc., 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 12007 Catherine Close Rd Sparksville, 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 Plat # 23453

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 HURT 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.

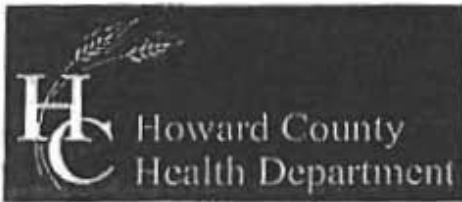
E. This agreement shall run with the land and upon Owner's taking title to the Lot shall bind the Owner, their heirs, successors, and assigns to the provisions of the agreement as long as the property is in existence and after installation of the system. Owner shall agree that they shall inform in writing any subsequent purchaser or lessee of the Lot that the system shall require

20
40
In

JW 8/8/2014

000038

LR - Agreement 40.00
Recording Fee 20.00
Grantor/Brentee Name:
vavo
Reference/Control #:
38
Ltr Agreement 40.00
Srch Charge 60.00
Total: 160.00
APR 16 12:32
2014
CC13-LS
0036 C08503
Howard Co
Legis/CC05.03.08
Letter 00



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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 15th day of APRIL 2014 among Zihao Wang + Li Jing and NVR, Inc., 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 12007 Catherine Close Rd MD 21034, 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 ... Plat # 23453

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 Hout 600.

20
44
in

NOW, THEREFORE, the parties hereto agree as follows:

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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

LR - Agreement 40.00
Recording Fee 28.00
Grantor/Grantee Name: wang
Reference/Control #: 38
Agreement 40.00
Date: 4/15/2014 12:32
CC13-15
#2036 C00503 -
Howard Co
Subsidiary/CO05.03.08 -
Folio 00

JW 8/8/2014

000038

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.

Deed Return 4/15/2016
Howard County Health Department

Phil An 4/14/16
Owner #1 Signature Date

NVR
ROBERT C. GAFFMAN
Owner #1 Print Name

36 ic 3-31-16
Buyer #1 Signature Date

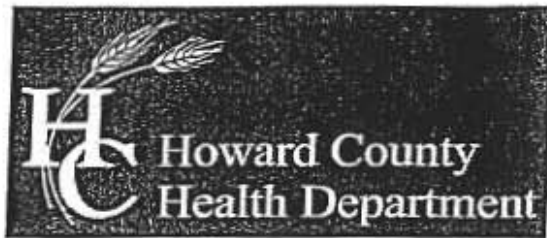
Zihao Wang
Buyer #1 Print Name

Owner #2 Signature Date

Owner #2 Print Name

2e fuy 3-31-16
Buyer #2 Signature Date

Li Jing
Buyer #2 Print Name



Bureau of Environmental Health

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

SEWAGE DISPOSAL SYSTEM SPECIFICATIONS WORKSHEET

Address: 12007 Catherine Close Way

Subdivision: Greenberry Lot: 8

Initial system: Application rate: 1.2 Effective area beginning depth: 4 Bottom maximum depth: 8

1st Replacement: Application rate: 1.2 Effective area beginning depth: 4 Bottom maximum depth: 8

2nd Replacement: Application rate: 0.8 Effective area beginning depth: 7 Bottom maximum depth: 8 (7)

Design Flow = 150 gallons per day per bedroom

Design flow + application rate = square footage of drainfield required

Linear length of trench required = drainfield square footage x sidewall reduction percentage + trench width

Sidewall reduction credit formula:

(W+2)/(W+1+2D) x 100 = Percent of length of standard trench where W=trench width and D= depth between effective area beginning depth and trench bottom.

Standard design requirements:

- All trenches must be equal length unless low pressure dosed
All trenches must be on contour
Minimum trench spacing: 10' for all trenches utilizing sidewall reduction credit.
Additional spacing may be necessary for any trench using over 3.5' of effective sidewall.
In those cases, the spacing formula is 2D +W up to a maximum spacing of 18'.
Minimum trench spacing for trenches with no sidewall credit (bottom area only) is 6' for a 2' wide trench and 9' for a 3' wide trench (spacing is measured edge to edge)
Maximum trench length is 100'
Maximum pipe depth is 4'

Additional requirements:

BAT unit

Approved: R Bricker Date: 8/11/2015

SOILS TABLE (WITHIN LOD)

SYMBOL	RATING	NAME	K FACTOR
GgB	(B)	GLENELG LOAM, 3-8% SLOPES.	.20
GgC	(B)	GLENELG LOAM, 8-15% SLOPES.	.20

PRIMARY TRENCH DATA

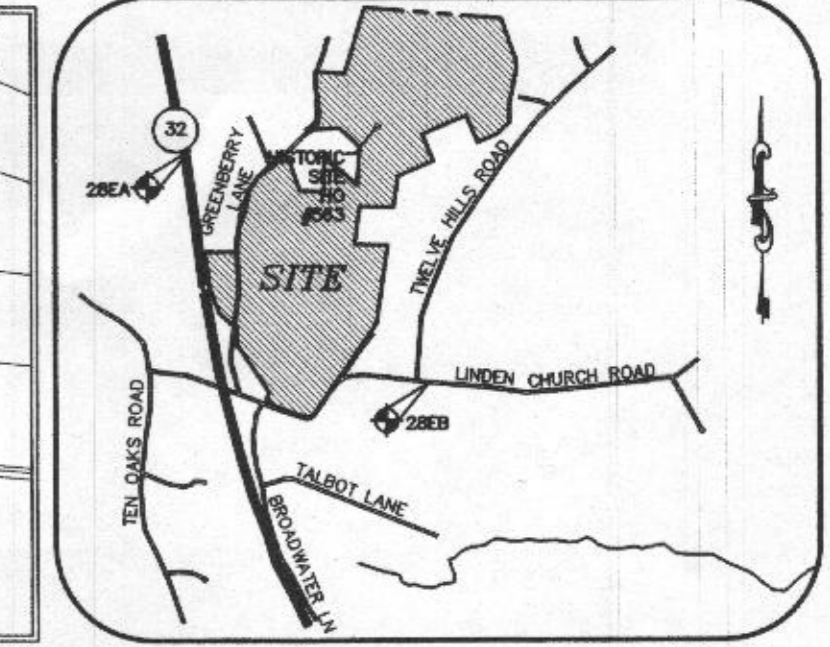
TRENCH	EX. GROUND ELEVATION	INVERT ELEVATION	BOTTOM OF TRENCH EL.
1	549.7	545.7	543.7
2	548.3	544.8	542.8

SEPTIC TRENCH SIZING

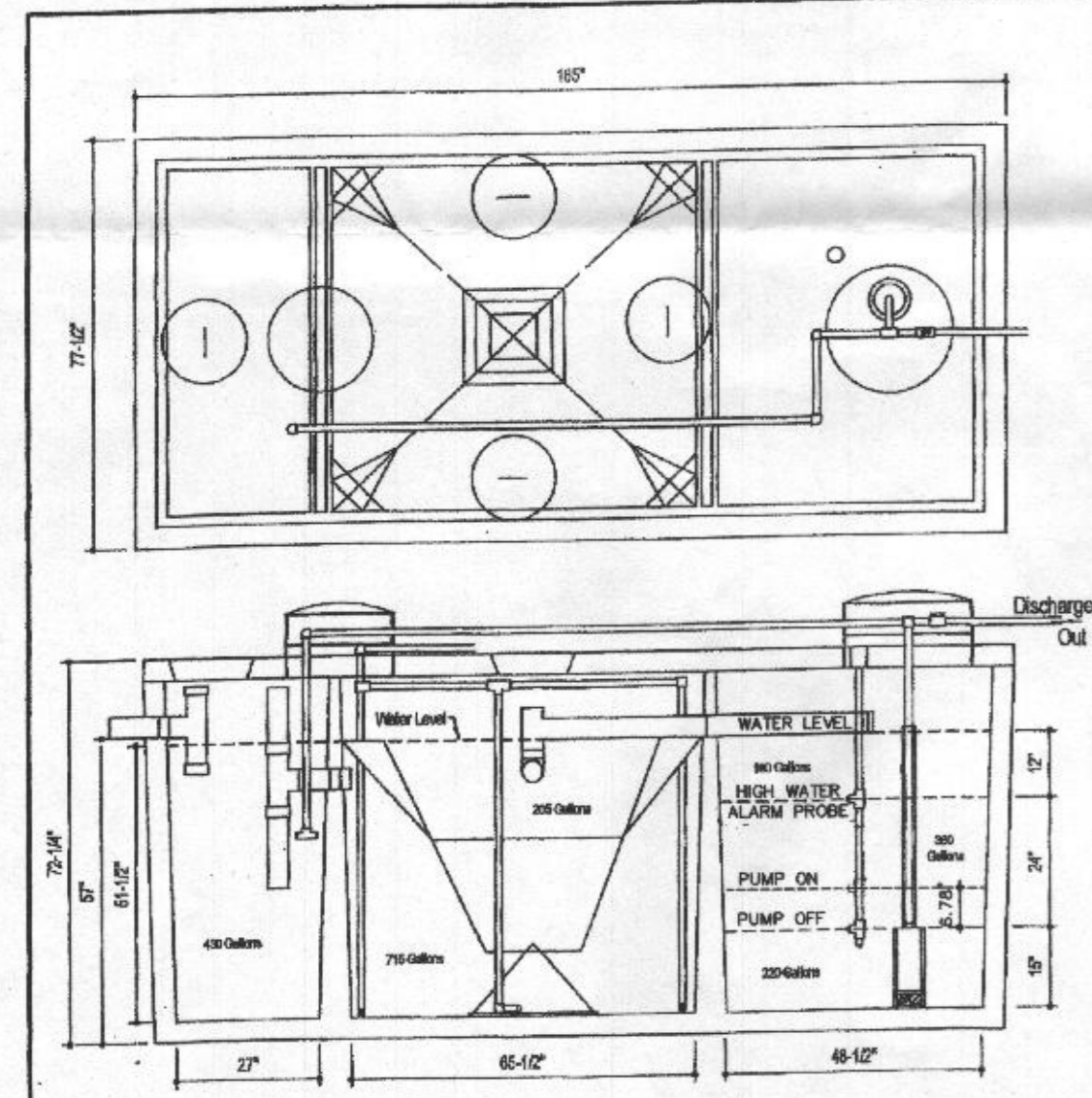
SYSTEM	APPLICATION RATE (GPD / SF)	MAXIMUM FLOW RATE (GPD)	AREA OF REQUIRED TRENCH (SF)	TRENCH WIDTH (FT)	LENGTH OF REQUIRED TRENCH (LF)	EFFECTIVE DEPTH BEGINS (FT)	TRENCH BOTTOM DEPTH (FT)	TRENCH REDUCTION FACTOR**	ADJUSTED LENGTH OF REQUIRED TRENCH (LF)	MINIMUM TRENCH SPACING (FT)	NUMBER OF TRENCHES	PROVIDED TRENCH LENGTH (FT)
PRIMARY	1.2	600	500	3	166.7	4.0	6.0	0.62	103.3	10.0'	2	51.7
SECONDARY	1.2	600	500	3	166.7	4.0	7.0	0.5	83.35	10.0'	1	88.33
TERTIARY	0.8	600	750	3	250.0	7.0	7.0	0	250.0	10.0'	3	88.33



LOCATION PLAN
SCALE: 1"=600'



VICINITY MAP
SCALE: 1"=2000'
ADC MAP 24 GRID F6



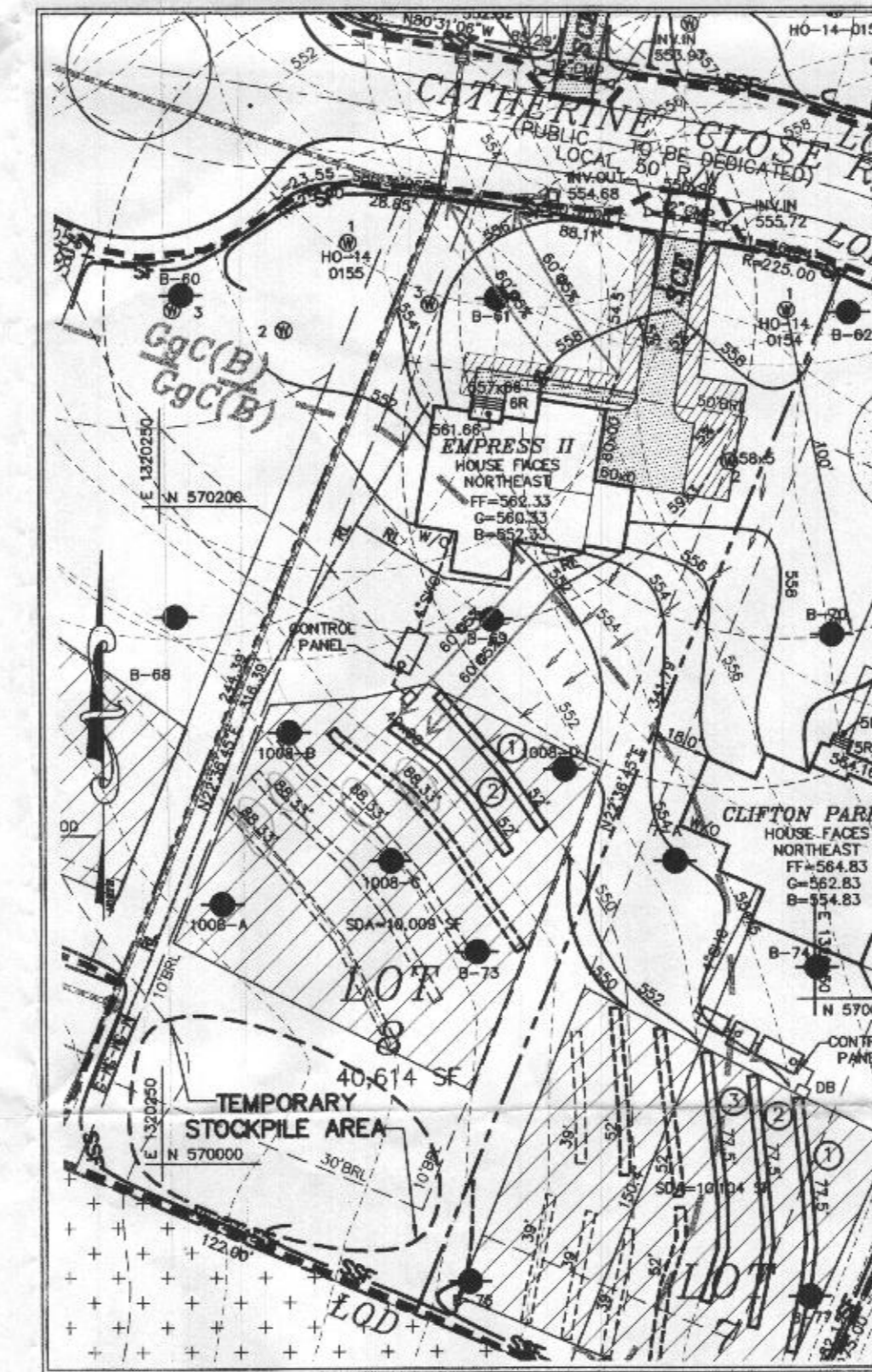
BAT SYSTEM ELEVATIONS

DESCRIPTION	VALUE
BASEMENT ELEVATION	552.33
INVERT OUT OF HOUSE	549.83
FINISHED GRADE AT SEPTIC TANK	550.00
INVERT INTO TANK	547.22
EXTERIOR BOTTOM OF TANK	542.47
INTERIOR BOTTOM OF TANK	542.80
INVERT OUT OF TANK	548.80
PUMP OFF	550.05
PUMP ON	550.61
HIGH WATER ALARM	552.05
WATER LEVEL	556.05
TOTAL HEAD	6.25'
DOSED RATE	50 GPM
PUMP RUNTIME	2.0 MIN.

DESIGN DATA & GENERAL NOTES

- 1) Capacity: 600 GPD, 10" dia. 8" dia. 10" dia.
- 2) Capacity: 600 GPD, 10" dia. 8" dia. 10" dia.
- 3) Capacity: 600 GPD, 10" dia. 8" dia. 10" dia.
- 4) Capacity: 600 GPD, 10" dia. 8" dia. 10" dia.

Mayer Brothers, Inc.
600 GPD BNR SYSTEM
H-600 BNR
with 750 GALLON PUMP CHAMBER
March 15, 2016



GRAPHIC SCALE
1 inch = 50 ft.

GENERAL NOTES:

- THE SUBJECT PROPERTY IS ZONED RR-DEO PER THE OCTOBER 6, 2013 COMPREHENSIVE ZONING PLAN.
- PARCEL BACKGROUND:
TAX MAP: 28
GRID: 9
PARCEL: 48
LOT: 8
DEED REFERENCE: LIBER 5891 FOLIO 307
ELECTION DISTRICT: FIFTH
ZONING: RR-DEO
AREA: 40,614 S.F.
DPZ FILES: ECP-13-025, SP-13-010, F-14-095, GP-15-081
- TOPOGRAPHY FOR THE DEVELOPED AREAS IS BASED ON AERIAL SURVEY FLOWN BY WINGS TOPOGRAPHY INC. ON OR ABOUT MARCH 2007.
- SOILS DATA BASED ON THE USDA SOIL SURVEY OF HOWARD COUNTY, MD, DATED MAY, 2006.
- THIS AREA DESIGNATES A PRIVATE SEWERAGE EASEMENT OF AT LEAST 10,000 SQ. FT. AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF ENVIRONMENT FOR INDIVIDUAL SEWERAGE DISPOSAL. IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWERAGE IS AVAILABLE. THIS EASEMENT SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWERAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT ADJUSTMENTS TO THE PRIVATE SEWERAGE EASEMENT. RECORDATION OF A MODIFIED EASEMENT SHALL NOT BE NECESSARY.
- ANY CHANGES TO A PRIVATE SEWERAGE EASEMENT SHALL REQUIRE A REVISED PERC CERTIFICATION PLAN.
- EXISTING WELLS, SEPTIC SYSTEMS, AND SEWERAGE DISPOSAL AREAS WITHIN 100' OF THE PROPERTY AND THOSE WELLS WITHIN 200' DOWN GRADIENT OF EXISTING OR PROPOSED SEPTIC SYSTEMS OR SEWERAGE DISPOSAL AREAS HAVE BEEN SHOWN.

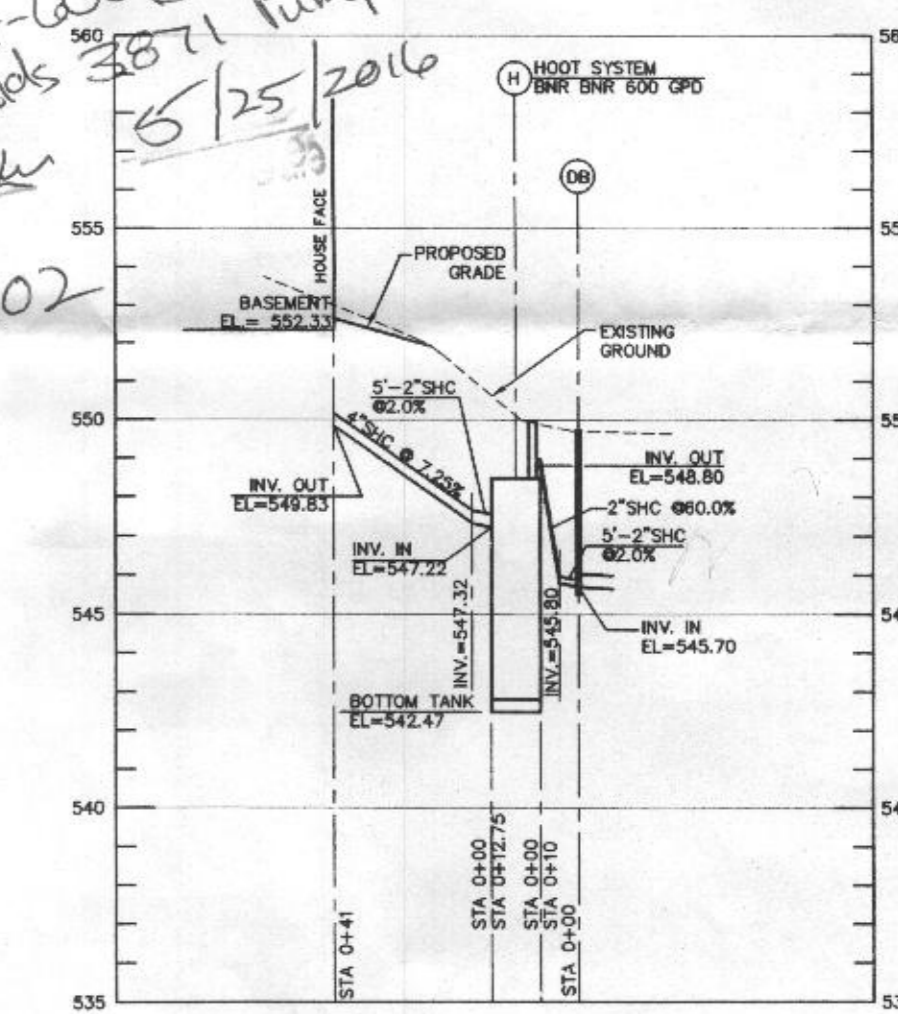
BEST AVAILABLE TECHNOLOGY SITE PLAN NOTES

- 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 DEPTH OF THE BAT PER THE MANUFACTURER'S SPECIFICATION IS 3.0' FEET.
- THE BLOWER MAY NOT BE LOCATED MORE THAN 100 FEET FROM THE TANK BASED ON MANUFACTURER'S SPECIFICATIONS.
- THE BAT SYSTEM SHALL BE MAINTAINED AND OPERATED FOR THE LIFE OF THE SYSTEM.
- THE BAT SHALL BE OPERATED BY AND MAINTAINED BY A CERTIFIED SERVICE PROVIDER.
- WITHIN ONE (1) MONTH OF INSTALLATION, A PERSON INSTALLING THE BAT SYSTEM SHALL REPORT TO THE MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) IN A MANNER ACCEPTABLE TO MDE, THE ADDRESS AND DATE OF COMPLETION OF THE BAT INSTALLATION AND THE TYPE OF BAT INSTALLED.
- ELECTRICAL WORK FOR THE BAT INSTALLATION MUST BE PERFORMED BY A LICENSED ELECTRICIAN.
- AN AGREEMENT AND EASEMENT MUST BE COMPLETED AND SIGNED BY ALL APPLICABLE PARTIES, AND RECORDED IN THE LAND RECORDS OF HOWARD COUNTY.

ON-SITE SEWAGE DISPOSAL SYSTEM:

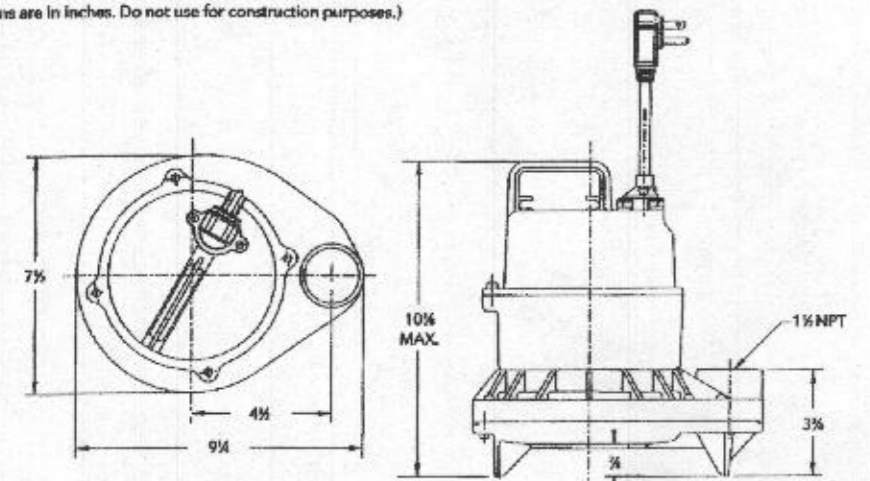
RESIDENTIAL SYSTEM DESIGN: HOOT 600 BNR
4 BEDROOM HOUSE LIVING AREA = 2,288 SQ.FT.
150 GALLONS X # OF BEDROOMS = VOLUME OF WASTEWATER / DAY
150 X 4 = 600 GPD
PERC RATE = 2-5 MINUTES/INCH
APPLICATION RATE = 1.2 GPD/SQ.FT.
DESIGN FLOW + APPLICATION RATE = SQ.FT. OF TRENCH REQUIRED
600 + 1.2 = 500 SQ.FT.
SQ.FT. REQUIRED + WIDTH OF TRENCH = LENGTH OF TRENCH
500 + 3.0' = 166.7 FT
USE 2" OF GRAVEL BELOW DRAIN PIPE
166.7 X 0.62 = 103.3
USE TWO (2) TRENCHES (52')
A MINIMUM OF 10' BETWEEN TRENCHES UTILIZING SIDE WALL REDUCTION CREDIT.
MINIMUM TANK CAPACITY = 750 GALLONS
PUMP: GOULDS MODEL 3871, EP04 SERIES

Approved by...
Hoot H-600 BNR
157 Goolds 3871 Pump @ 4.0 gpm or equiv.
B16001702
5/25/2016



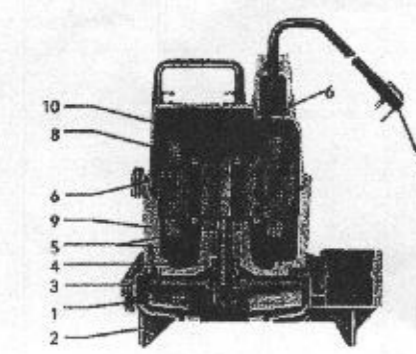
PROFILE - PRIVATE SEWER
SCALE: 1"=50' HOR
1"=5' VER

DIMENSIONS
(All dimensions are in inches. Do not use for construction purposes.)



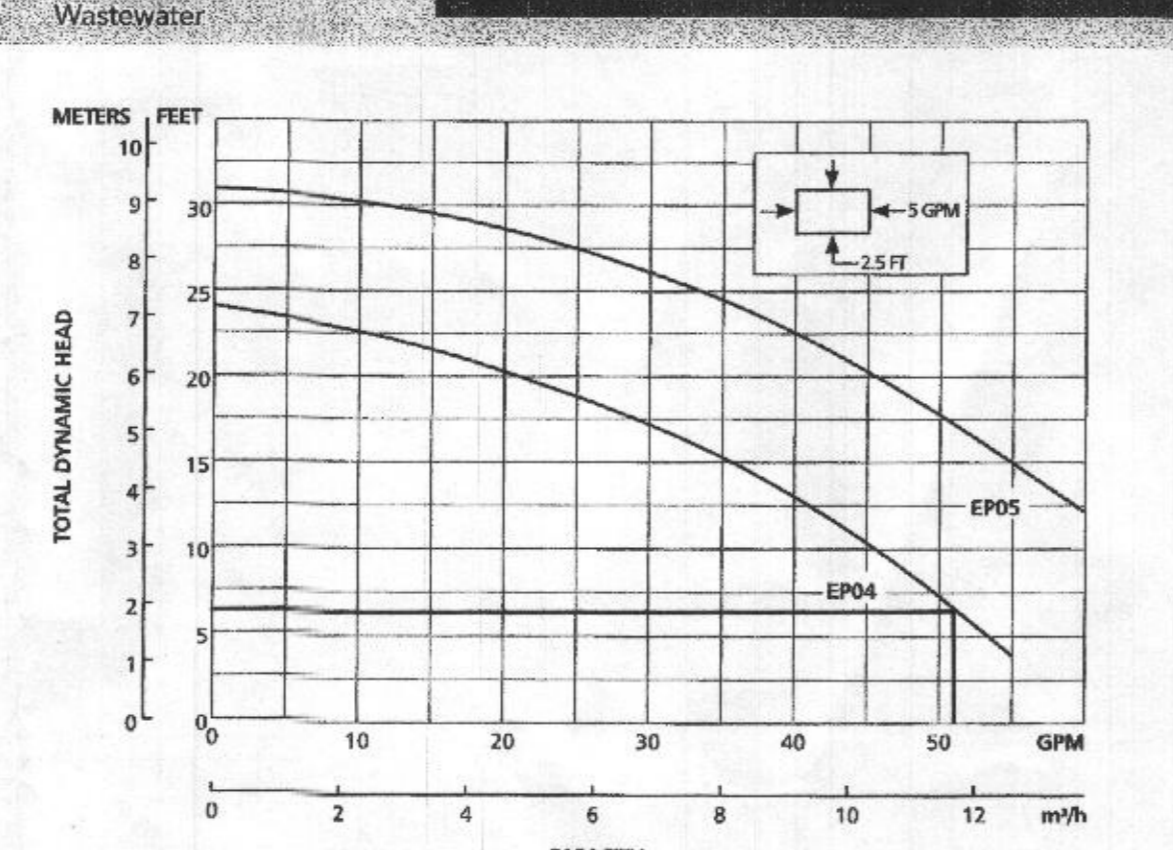
COMPONENTS

Item No.	Description
1	Inceptor
2	Blower
3	Pump casing
4	Mechanical seal
5	Ball bearings
6	O-rings
7	Flange cover
8	Oil filled motor
9	Motor housing/motor assembly
10	Motor cover



xylem
Let's Solve Water
Xylem, Inc.
2881 East Bayard Street Ext., Suite A
Seneca Falls, NY 13156
Phone: (848) 325-4210
Fax: (888) 322-5677
www.goalds.com
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Goalds Water Technology



MODEL INFORMATION

Order No.	HP	Volts	Amperage	Minimum Circuit Breaker	Phase	Float Switch Style	Float Switch Length	Discharge Connection	Minimum On Level	Minimum Off Level	Minimum Basin Diameter	Maximum Slope Size	Shipping Weight (lbs/ft)
EP0511	1	115	12	20	1	Flag / No Switch	18"	1 1/2"	Manual	Manual	15"	15'	20 / 9.1
EP0411A	1	115	12	20	1	Flag / No Switch	18"	1 1/2"	Manual	Manual	15"	15'	21 / 9.5
EP0411F	1	115	12	20	1	Flag / No Switch	20"	1 1/2"	Manual	Manual	15"	15'	20 / 9.1
EP0411AC	1	115	12	20	1	Flag / No Switch	20"	1 1/2"	Manual	Manual	15"	15'	21 / 9.5
EP0412	1	230	6	10	1	Flag / No Switch	10"	1 1/2"	Manual	Manual	15"	15'	20 / 9.1
EP0412F	1	230	6	10	1	Flag / No Switch	20"	1 1/2"	Manual	Manual	15"	15'	20 / 9.1
EP0511F	1	115	13	26	1	Flag / No Switch	20"	1 1/2"	Manual	Manual	15"	15'	22 / 10
EP0511AC	1	115	13	26	1	Flag / No Switch	20"	1 1/2"	Manual	Manual	15"	15'	23 / 10.4
EP0512F	1	230	6.5	10	1	Flag / No Switch	20"	1 1/2"	Manual	Manual	15"	15'	22 / 10

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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. 17942, EXP DATE 09/03/2016.
R. JACOB HIKMAT, P.E.
DATE: 05/13/16

DEVELOPER
NV HOMES
9720 PATUXENT WOODS DRIVE
COLUMBIA, MARYLAND 21046
(410)379-5956

WELL CERTIFICATION:
THE EXISTING WELL, TAG NO. HO-14-0154, HAS BEEN FIELD LOCATED AND IS ACCURATELY SHOWN

Project	15-005
date	MAY 2016
illustration	MMM
engineering	MMM
approval	RJH
scale	1"=50'
description	
revisions	

12007 CATHERINE CLOSE ROAD, CLARKSVILLE MD
GREENBERRY LOT 8
HOWARD COUNTY
FIFTH ELECTION DISTRICT
SITE PLAN FOR BAT INSTALLATION

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
7350-B Cruse Drive, Columbia, Maryland 21044
(410) 997-0298 Fax