Howard County Health Department

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: 7/14/2014 **ONSITE SEWAGE DISPOSAL SYSTEM** P 554538

INSTALLATION APPROVAL DATE: 8/13/2014

PERMIT

CONSTRUCTION

A

PROPERTY ADDRESS: **6227 HEATHER GLEN WAY, CLARKSVILLE, MD 21029**

SUBDIVISION: **THE PRESERVE AT CLARKSVILLE** LOT: **28** TAX ID: **05-448425**

CONTRACTOR: **DALE THOMPSON (COMPASS HOMES)** EMAIL: **dalehthompson@gmail.com**

CONTRACTOR ADDRESS: **6206 HEATHER GLEN WAY, CLARKSVILLE, MD 21029** PHONE: **410-531-1223**

PROPERTY OWNER: **KERRY & HEATHER SKOLKIN** EMAIL:

OWNER ADDRESS: **2 WINTERBERRY LANE, ANDOVER, MA 01810** PHONE:

BAT UNIT MODEL: **ECOPOD E60-N** BAT UNIT SIZE: **600 gallons**

PUMP CHAMBER CAPACITY (GALLONS): ~~1800~~ 1500 VB PUMP SIZE: **0.5 horsepower**

NUMBER OF BEDROOMS: **4** HOUSE SQ. FT. **6995** APPLICATION RATE: **1.2**

DISTRIBUTION SYSTEM: GRAVITY FED LOW PRESSURE DOSED ☐

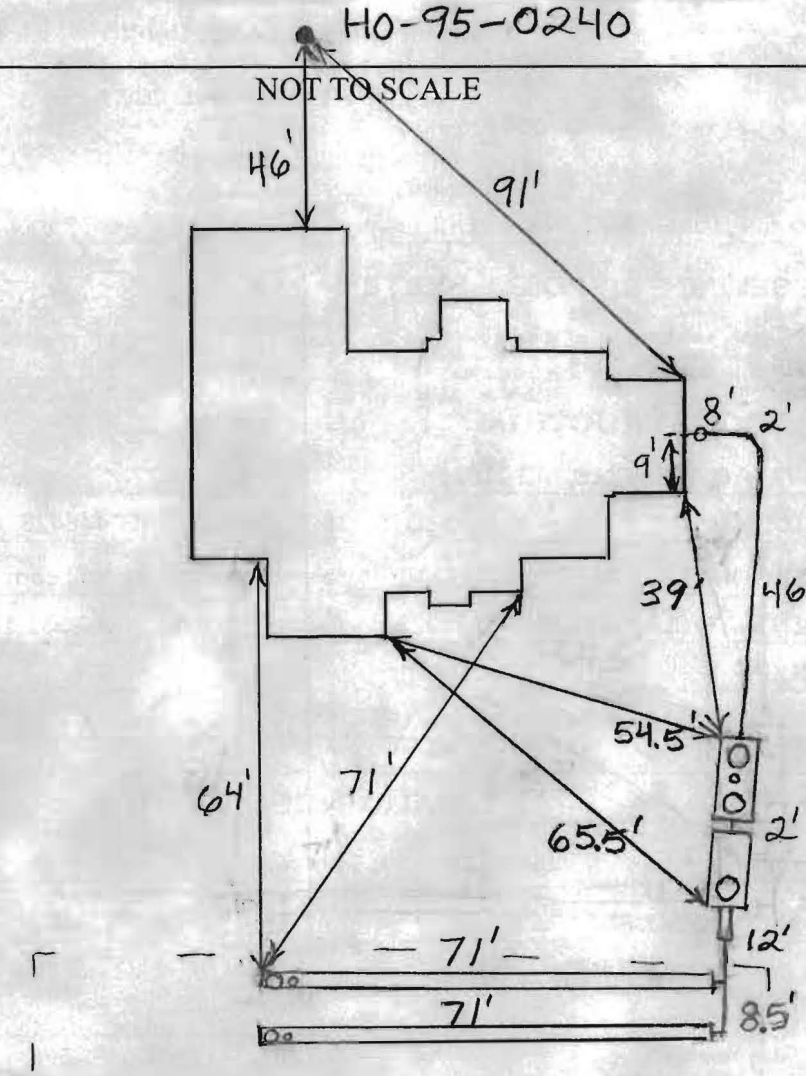
TRENCHES:	LINEAR FEET REQUIRED: 142	INLET DEPTH: 3
	TRENCH WIDTH: 2	MAXIMUM BOTTOM DEPTH: 6
	MINIMUM SPACE BETWEEN TRENCHES: 6	EFFECTIVE AREA BEGINNING DEPTH: 4
LOCATION:	**PER APPROVED SITE PLAN. SEWAGE DISPOSAL AREA AND BAT UNIT LOCATION MUST BE STAKED BY LICENSED SURVEYOR PRIOR TO PRE-CONSTRUCTION INSPECTION.**	
NOTES:	LPD DESIGN; SEE APPROVED BAT PLAN FOR DETAILS.	

ISSUED BY: **ROBERT BRICKER** ISSUE DATE: **7/14/2014** EXPIRATION DATE: **7/14/2015**

NOTE: CONTRACTOR MUST SCHEDULE A PRE-CONSTRUCTION INSPECTION PRIOR TO BEGINNING ANY INSTALLATION
NOTE: CONTRACTOR MUST SCHEDULE AN INSPECTION AND GAIN APPROVAL OF ALL COMPONENTS PRIOR TO COVERING
NOTE: STONE MUST BE APPROVED BY HEALTH DEPARTMENT AND GRAVEL TICKET MUST BE AVAILABLE FOR REVIEW.
NOTE: WATERTIGHT SEPTIC TANKS REQUIRED
NOTE: ALL PARTS OF SEPTIC SYSTEM SHALL BE AT LEAST 100 FEET DOWNGRADIENT FROM ANY WATER WELL
NOTE: MANHOLE RISERS REQUIRED ON ALL SEPTIC TANKS AND PUMP CHAMBERS
NOTE: AN ELECTRICAL PERMIT IS REQUIRED FOR INSTALLATION OF ANY ELECTRICAL COMPONENTS OF THE SYSTEM

NEITHER THE HOWARD COUNTY COUNCIL NOR THE HEALTH DEPARTMENT IS RESPONSIBLE FOR THE SUCCESSFUL OPERATION OF ANY SYSTEM.
PERMITTEE RESPONSIBLE FOR OBTAINING FINAL APPROVAL ON THIS PERMIT.
CALL 410-313-1771 TO SCHEDULE INSPECTIONS.

H0-95-0240



TRENCH/DRAINFIELD DATA

WIDTH	INLET	BOTTOM
2'	3'	6'

NUMBER OF TRENCHES 2
TOTAL LENGTH 142'
ABSORPTION AREA 284
DISTRIBUTION BOX LEVEL N/A
DISTRIBUTION BOX BAFFLE N/A
DISTRIBUTION BOX PORT N/A

SEPTIC TANK DATA

SEPTIC TANK 1 LEVEL Yes
MANUFACTURER Babylon
CAPACITY 2000 GAL
SEAM LOC Top
TANK LID DEPTH 1.5'-2.5'
BAFFLES Front
BAFFLE FILTER No
MANHOLE LOC Front + Rear
6" PORT LOC Middle
WATERTIGHT TEST No
SLOTTED N/A
DATE ON LID Dry

PUMP/SEPTIC TANK LEVEL N/A
MANUFACTURER Babylon
CAPACITY 1500 GAL
SEAM LOC Top
TANK LID DEPTH 1'-2'
BAFFLES Front
BAFFLE FILTER No
MANHOLE LOC Rear
6" PORT LOC None
WATERTIGHT TEST No
SLOTTED No
DATE ON LID Dry

PRE-CONSTRUCTION:
7/16/2014 Layout done. Install system similarly to what is shown on the BAT plan. (BB)

INSTALLATION: 7/18/2014 Tanks set. House connection made. (BB)
7/21/2014 Working on top trench. Lateral looks good. (BB)
7/22/2014 Working on lower trench. Lateral looks good. O.K. to backfill everything when done. Need pump and alarm test and BAT certification from Babylon. (BB)
8/8/2014 Pump and alarm working. Still need certification from Babylon. (BB) 8/13/2014 Received certification of Ecopod limit (BB)

FINAL INSPECTOR B. Baker . DATE OF APPROVAL 8/13/2014 .

MEMBER N. C. B. V. A.

Babylon
VAULT
SINCE 1930

MEMBER P. C. B. V. A

Burial Vaults - Septic Tanks

PHONE:
410-848-0393
FAX:
410-848-3551

925 WAKEFIELD VALLEY ROA
NEW WINDSOR, MD 21776

Five Year Initial Service Policy
On Site Wastewater Treatment System

Brand Name: Ecopod	Model Number: E-600-75
Purchase Date: 7/18/19	Serial Number: E60-621552A

INITIAL POLICY:

A five (5) year service policy shall be furnished to the user by the Installer.

This policy is included in the original purchase price and shall provide the following:

1. An inspection/service call every six months which includes inspections, adjustment and servicing of the mechanical and electrical component parts as necessary to ensure proper function for the first year. And once a year there after..

2. An effluent quality inspection every six months consisting of a visual check for color, turbidity, scum overflow, and an examination for odors for the first year. And then once a year there after.

3. A sample shall be pulled from the aeration tank once a year as described in the "Solids Removal" Section to determine if there is an excess of solids in the treatment plant. If the test results determine if there is an excess of solids in the treatment plant. If the rest results determine a need for solids removal, the user will bear the cost and responsibility for doing so.

4. If any improper operation is observed which cannot be corrected at that time, the user shall be notified immediately in writing of the conditions and the estimated date of correction.

Violations of Warranty including shutting off the electric current to the system for more than 24 hours, disconnecting the alarm system restricting ventilation to the aerator, overloading the system above its rated capacity, or introducing excessive amounts of harmful matter into the system, or any other form of unusual abuse.

THIS POLICY DOES NOT INCLUDE PUMPING SLUDGE FROM UNIT IF NECESSARY

PERMITTING AUTHORITY:
Howard County

SYSTEM OWNER:
Compass Homes

INSTALLATION LOCATION:
6227 Heather Glen Way
Clarksville MD 21029

DISTRIBUTOR:
Babylon Vault
925 Wakefield Valley Rd
New Windsor MD 21776

INSTALLER:
Compass Homes
Dale Thompson

SERVICE COMPANY:
Babylon Vault Gm Sturm RK

Service Operators License Number: _____

I agree to abide by the service policy as stated above: _____.

Witness: _____

e3 Environmental LLC

302-725-0788 www.e3onsite.com

ECOPOD-N Completion Statement

Installation Information

Owners Name	Compass Homes	# of Bedrooms / GPD	600
Street	6227 Heather Glen Way		
City	Clarksville	Repair	
State	MD	New Construction	X
Zip	21029		

Installation Company

Company	Compass Builders	Installed Date	8/18/14
Certified Installer	Dale Thompson	Startup Date	8/11/14
Street			
City			
State			
Zip			

ECOPOD-N

Model #		Serial #
E50		
E60	X	E60d - 82155CA
E75		
E100		
E150		

Blower Voltage	Good
Blower Running Amps	Good
Inches of water over media with blower turned off	2 inch
Vent Installed	yes
Tanks and Risers Water tight	yes
Alarm Functional	yes

I herby certify that the ECOPOD-N wastewater treatment system has been installed and started up in accordance with the construction permit and is in compliance with the manufacturers recommendations

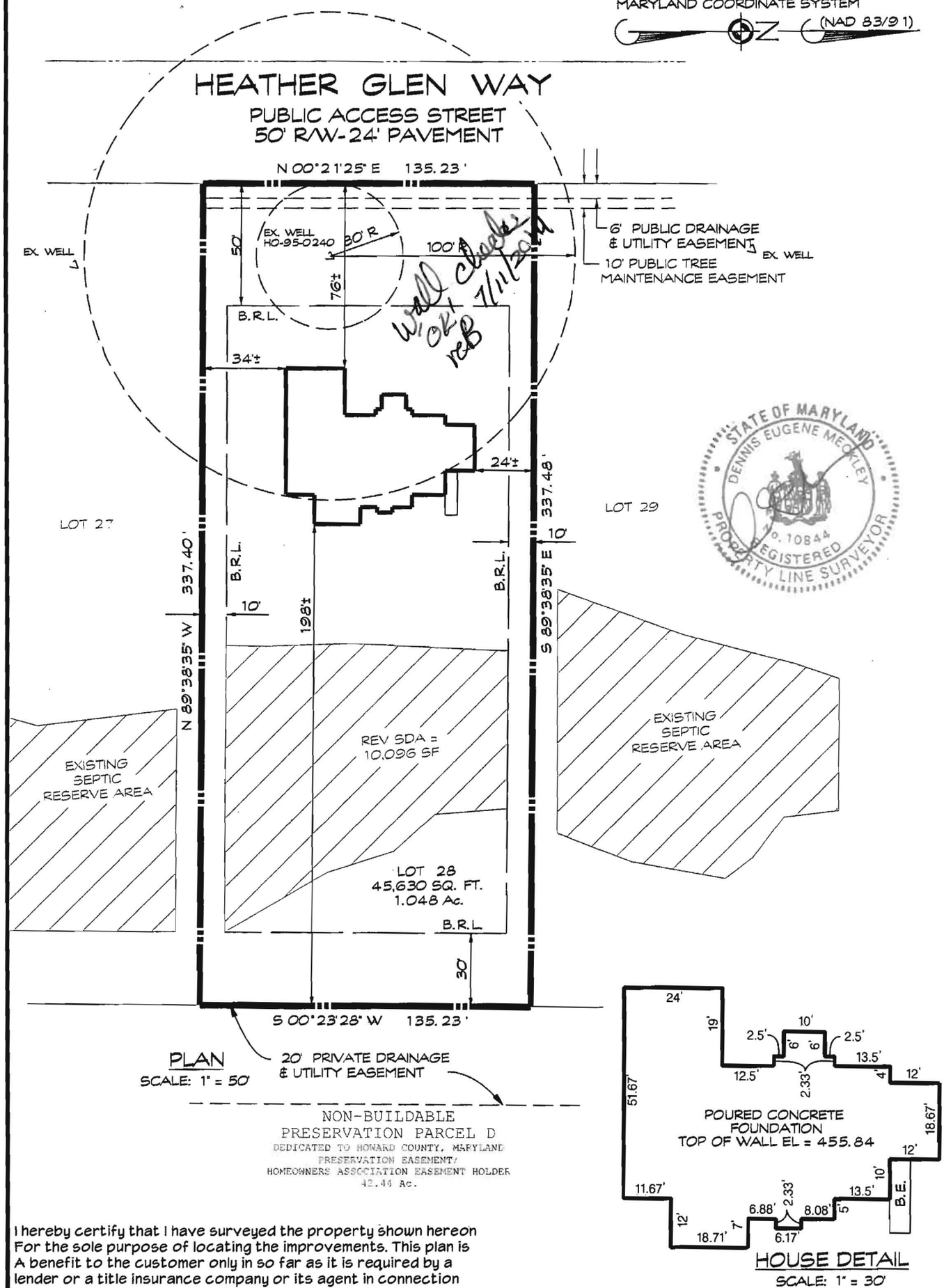
Company Babylon Vault Co. Date 8/11/14

Signature Steven R Kreutz

Printed Name Steven R Kreutz

Fax or email completed form to e3 Environmental at 302-258-0706 or ericv@e3onsite.com

MARYLAND COORDINATE SYSTEM (NAD 83/91)



PLAN
SCALE: 1" = 50'

Well check 7/11/2013 WLO RCB

STATE OF MARYLAND
DENNIS EUGENE MECKLEY
No. 10844
REGISTERED
PROPERTY LINE SURVEYOR

HOUSE DETAIL
SCALE: 1" = 30'

I hereby certify that I have surveyed the property shown hereon For the sole purpose of locating the improvements. This plan is A benefit to the customer only in so far as it is required by a lender or a title insurance company or its agent in connection with Contemplated transfer, financing or refinancing. It is not to be relied upon for the establishment of boundary, easement or right-of-way lines for any reason, such as the location of fences, garages, buildings, or other existing or future improvements. Offsets of buildings to property lines are to the nearest foot (1') unless otherwise noted.

FOUNDATION CERTIFICATION
LOT 28
THE PRESERVE AT CLARKSVILLE
#6227 HEATHER GLEN WAY

5th ELECTION DISTRICT • HOWARD COUNTY, MARYLAND
RECORDED IN PLAT 19215

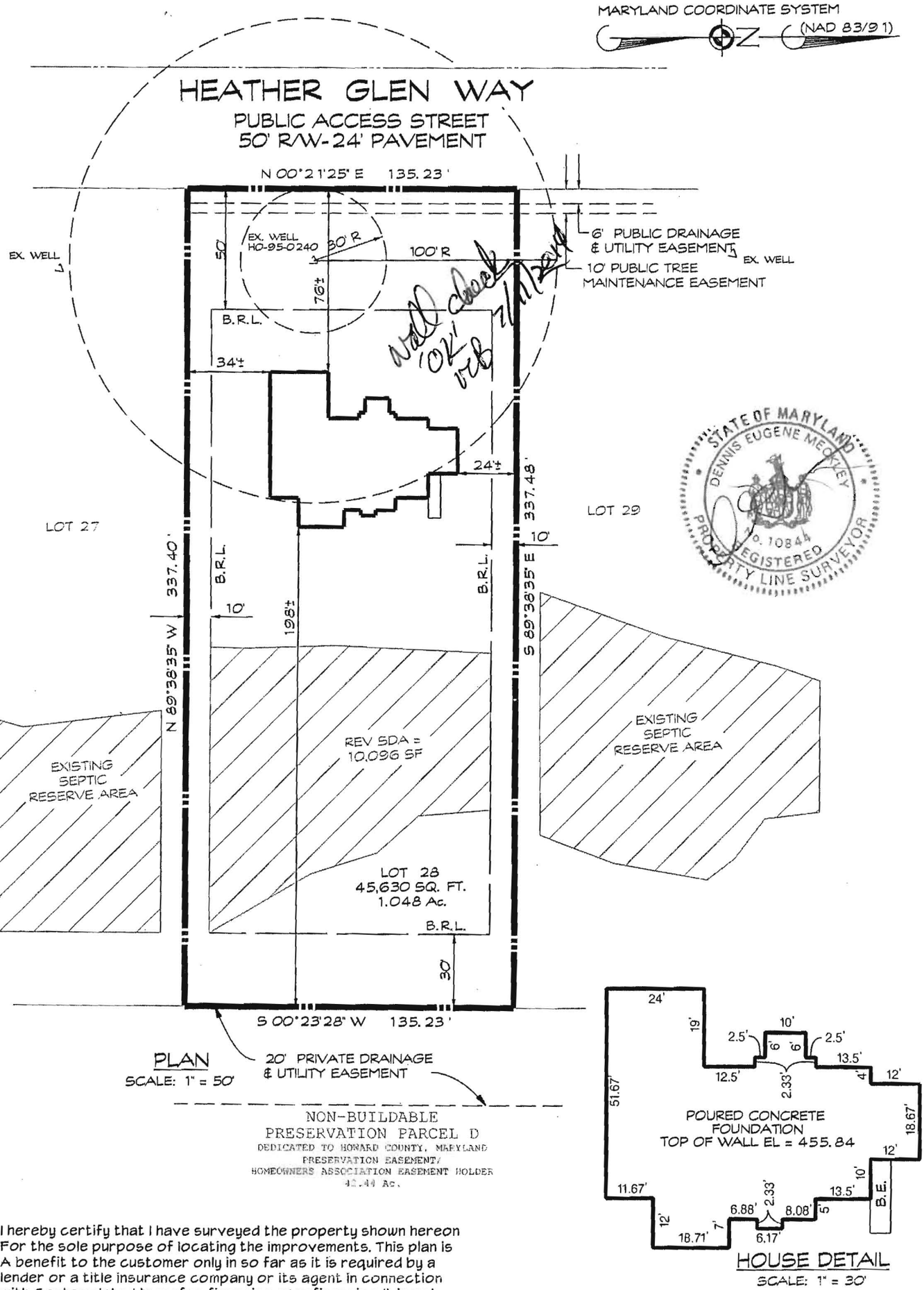
By: Dennis E Meckley Date: 10/4/13
Dennis E. Meckley Property Line Surveyor No. 10844
License expires March 29, 2014

A licensed Maryland Surveyor either personally prepared this Location Drawing, or was in responsible charge over its preparation and the surveying work reflected in it, in compliance with the Maryland Minimum Standards of Practice for Land Surveyors. (COMAR 09-13-06.06 AND .12)

Engineers • Surveyors
CLSI
Land Planning & Environmental Consultants
www.clsi-civileng.com
439 East Main Street Westminster, MD 21157-5539
(410) 848-1790 FAX (410) 848-1791

DRAWN BY:	KMB
DESIGN BY:	
REVIEW BY:	DEM
DATE:	10-09-13
SCALE:	1" = 50'
JOB NO:	2007035
SHEET:	1 OF 1

2:01:32 PM-10/14/2013-G:\2007\2007035\SURVEY\FOUNDATION\LOT_28.DGN



I hereby certify that I have surveyed the property shown hereon For the sole purpose of locating the improvements. This plan is A benefit to the customer only in so far as it is required by a lender or a title insurance company or its agent in connection with Contemplated transfer, financing or refinancing. It is not to be relied upon for the establishment of boundary, easement or right-of-way lines for any reason, such as the location of fences, garages, buildings, or other existing or future improvements. Offsets of buildings to property lines are to the nearest foot (1') unless otherwise noted.

FOUNDATION CERTIFICATION
LOT 28
THE PRESERVE AT CLARKSVILLE
#6227 HEATHER GLEN WAY

5th ELECTION DISTRICT • HOWARD COUNTY, MARYLAND
RECORDED IN PLAT 19215

By: Dennis E Meckley Date: 10/14/13
Dennis E. Meckley Property Line Surveyor No. 10844
License expires March 29, 2014

A licensed Maryland Surveyor either personally prepared this Location Drawing, or was in responsible charge over its preparation and the surveying work reflected in it, in compliance with the Maryland Minimum Standards of Practice for Land Surveyors. (COMAR 09-13-06.06 AND .12)

CLSI Engineers • Surveyors • Land Planning & Environmental Consultants
www.clsi-civil.com
439 East Main Street Westminster, MD 21157-5539
(410) 848-1790 FAX (410) 848-1791

DRAWN BY:	KMB
DESIGN BY:	
REVIEW BY:	DEM
DATE:	10-09-13
SCALE:	1" = 50'
JOB NO:	2007035
SHEET:	1 OF 1

2:01:32 PM-10/14/2013-G:\2007\2007035\SURVEY\FOUNDATION\LOT_28.DGN

3300 North Ridge Road, Suite 160
Ellicott City, MD 21043
Website: www.sillengineering.com
Office: 443-325-7682
Fax: 443-325-7685
Email: info@sillengineering.com
Civil Engineering for Land Development

SILL ENGINEERING GROUP, LLC

Preserve at Clarksville

Lot 28

6227 Heather Glen Way

Plot Plan
Low Pressure Dosing System Report

April 24, 2014

7/11/2014

Prepared For:

Compass Homes
6206 Heather Glen Way
Clarksville, Maryland 21029

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. 32025, Expiration Date: June 20, 2015

Project #14-016

Preserve at Clarksville
Lot 28
6227 Heather Glen Way
April 24, 2014

Pressure Network Design

- Design Flow: 600 gpd
- The absorption beds in the Initial System are each 71' long and the distribution network is an End Feed Network.
- For Perforation Size, Number, and Spacing see Pressure Distribution table.
- Diameter of lateral = 1.5"
- Spacing between laterals = 8'
- Number of laterals = 2
- Diameter of force main = 2.0"
- Diameter of manifold = 2.0"
- Material: Schedule 40 PVC

Septic System Trench Design Specifications

- Initial System And Replacements:
  - Application Rate: 1.2
  - Effective Area Beginning Depth: 4'
  - Bottom Maximum Depth: 6'
- Design Flow:
  - 4 Bedrooms at 150 gpd
    - 4x150 gpd = 600 gpd
- Square Footage Of Drain field Required:
  - Design Flow (600 gpd) / Application Rate (1.2) = 500 sf
- Sidewall Reduction Credit:
  - Trench Width (W) = 2'
  - Trench Effective Depth (D) = 2'
  - (W+2) / (W+1+2D) x 100 = 57.14%
- Linear Length of Trench Required: 142
  - Drain field Square Footage (500) x Sidewall Reduction Credit (57.14%) / Trench Width (2') = 142.85'
- Linear Length of Trench Provided = 142
  - Two trenches 71 lf each

Pumping System Design

- Dose Calculations:
  - Design Flow: 600 gpd
  - Length of force main and manifold
    - 2.0" force main = 5.0'
    - 2.0" manifold = 8.0'
  - Volume of force main:
    - 5.0' x 17.4 gallons per 100' = 0.9 gallons
  - Volume of manifold:
    - 8.0' x 17.4 gallons per 100' = 1.4 gallons
  - Length of 1.5" laterals: 142'
  - Volume of laterals:
    - 142' x 10.6 gallons per 100' = ~~15.1~~ 13.86 gallons

130.8

RECEIVED
JUN 30 2014
HOWARD COUNTY
BUREAU OF ENVIRONMENTAL

2/11/2014

Preserve at Clarksville
Lot 28
6227 Heather Glen Way
April 24, 2014

- Minimum dose is the greater of:
  - Volume of force main and manifold + (5 x Volume of the laterals):
    2.3 gallons + (5 x ~~15.1~~ 13.86 gallons) = ~~77.8~~ 71.6 gal gallons
  Or
  - 1/6th the design flow:
  - 1/6 x 600 gallons = 100.0 gallons

Use 100 gallons for dose

- Pump Design:
  - Pump flow required: 23 gpm (see Pressure Distribution table for initial system)
  - Dose amount: 100 gallons
  - Pump run time: 4.35 minutes
  - Static head: 4.33' use 4.5'
  - Friction head calculation (Table 4.3):

Pipe size	1.5"	2.0"
1/4 Bend (90°)	-	2 @ 7' = 14.0'
1/8 Bend (45°)	-	-
1/16 Bend (22.5°)	-	-
1/32 Bend (11.25°)	-	-
Ball Valve	-	1 @ 55' = 55.0'
Standard Tee	-	-
Run Tee	-	1 @ 2.0' = 2.0'
Cross	-	-
Reducer	-	2 @ 14.4' = 28.8'
Couplings	6 @ 1.5' = 9.0'	-
Total Equivalent Length of pipe	9.0'	99.8'

  - Flow at 2.0" pipe = 23 gpm
    - Friction loss per 100' (Table 4.4) of 2.0" schedule 40 plastic pipe: 0.96
    - Total equivalent length of 2.0" FM, manifold and appurtenances = 5.0' + 8.0' + 99.8' = 112.8'
    - Friction loss in 2.0" pipe = 112.8'/100 x 0.96 = 1.08'
  - Flow at 1.5" pipe = 11.5 gpm
    - Friction loss per 100' (Table 4.4) of 1.5" schedule 40 plastic pipe: 0.89
    - Total equivalent length of 1.5" laterals and appurtenances = 71.0' + 9.0' = 80.0'
    - Friction loss in 1.5" pipe = 80.0'/100 x 0.89 = 0.71'
  - Total Friction Head = 1.79'
  - Total Dynamic Head = Static head + Distal Head + Friction head
    - 4.5' + 2.0' + 1.79' = 8.29' use 8.5'

- Pump Chamber Design:
  - For pump tank dimensions and detail, see plans.
  - Pump chamber elevations (assumes 3.0' of cover over tank):
    Proposed grade at top of tank: 451.50
    Pump chamber invert: 447.41
    High Water Alarm: 444.70
    Pump On: 444.20
    Pump Off: 443.91

'OK MB 7/21/2014

Preserve at Clarksville
Lot 28
6227 Heather Glen Way
April 24, 2014

Bottom slab of tank: 442.33

- Pump Chamber volumes:
  - Invert In to Pump On: 147.07 cf or 1,100 gallons
  - Pump On to Pump Off: 13.29 cf or 100 gallons
- BAT Tank, Excess volume
  - Required excess volume: 600 gallons
  - High water alarm to invert in: 124.16 cf or 929 gallons
- Design based on:
  - Ecopod-N Series E60-N
  - Goulds WW05 series pump

7/11/2014

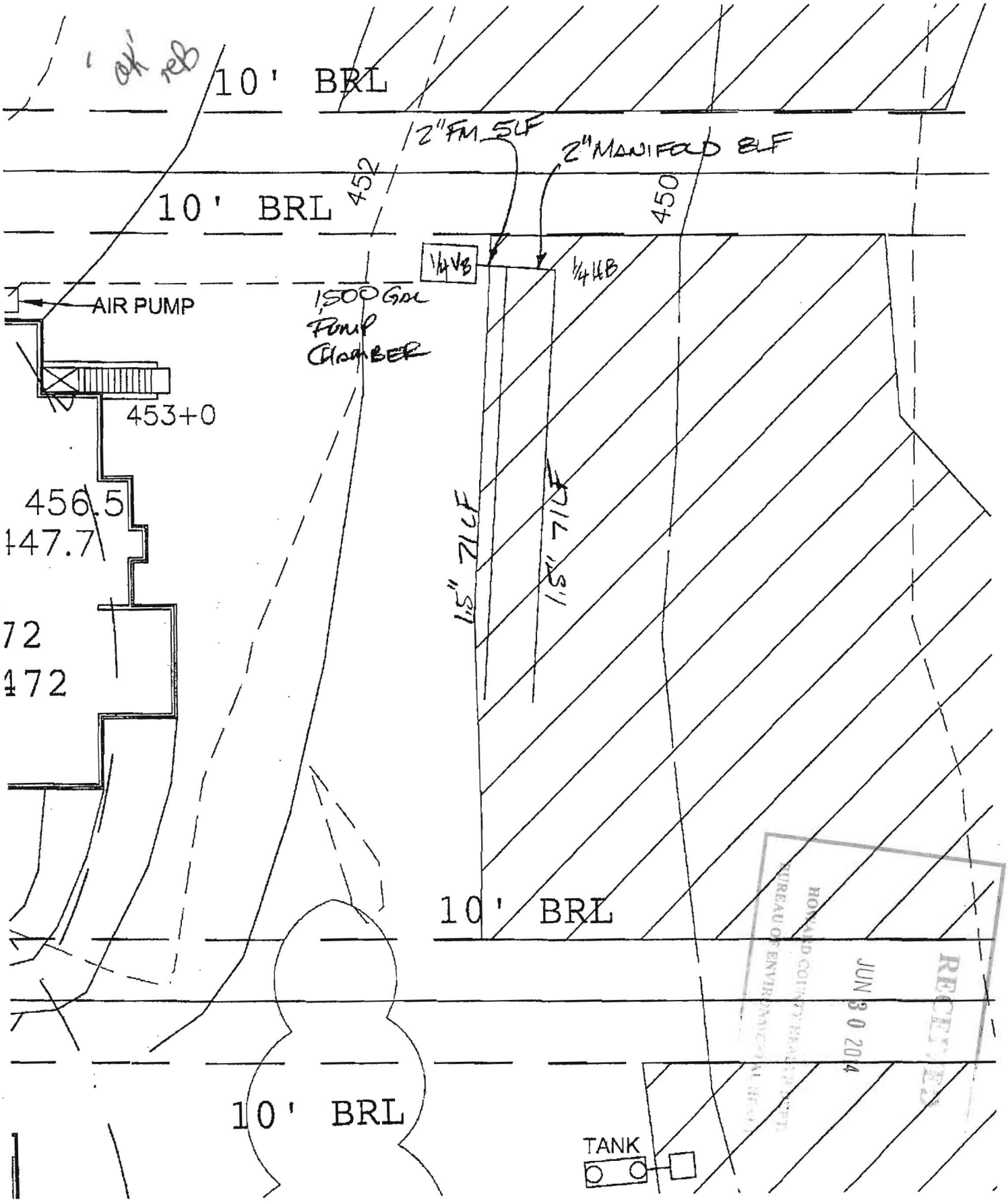
PRESSURE DISTRIBUTION
Preserve at Clarksville Lot 28
6227 Heather Glen Way

Lateral No.	Ex. Grd Elev. (ft)	Invert Elev. (ft)	Trench Bottom Elev. (ft)	Lateral Length (ft)	Head (ft)	Orifice Diameter (in)	Orifice Flow Rate (gpm)	Orifice Spacing (ft)	Number of Orifices	Trench Flow Rate (gpm)	Zone
1	451.3	448.3	445.3	71.0	2.0	5/16	1.63	5.8	7	11.41	
2	450.9	447.9	444.9	71.0	2.4	5/16	1.82	5.8	6	10.92	Initial

TOTALS 142 22.33

Invert depth = 3
Trench depth = 6

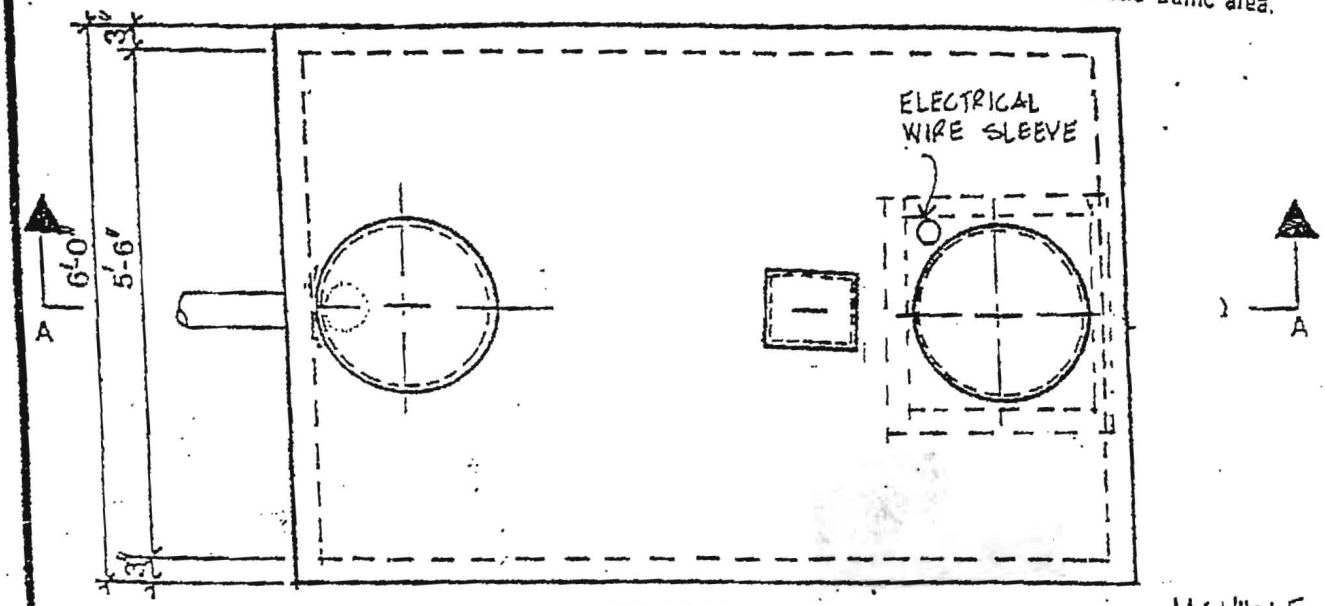
OK
MB
7/11/2014



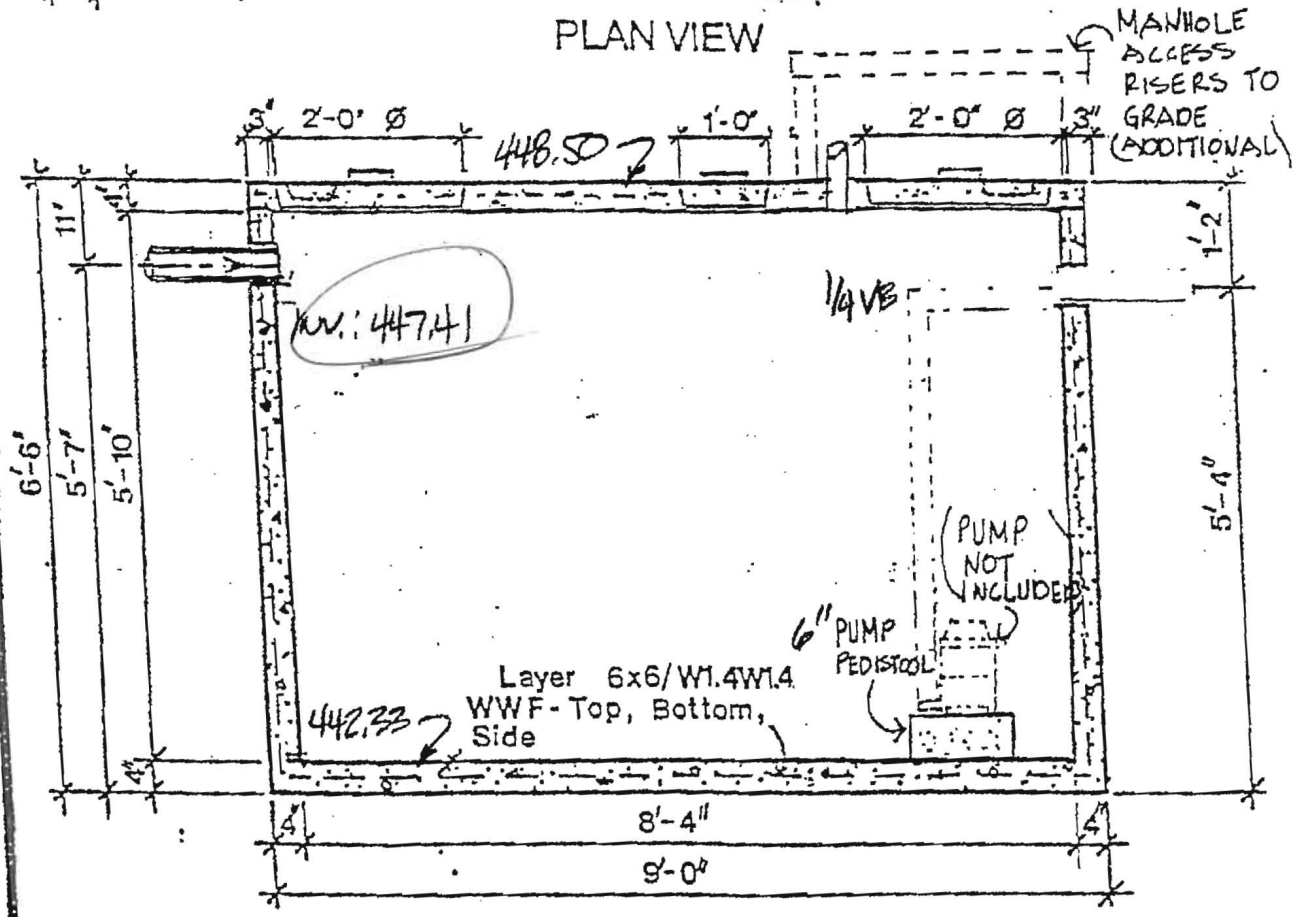
E:\Land Projects 2009\Preserves 14-016\dwg\LPDS\Preserve Site Plan_Layouts_BAT.dwg, 4/24/2014 2:41:41 PM, paul, 1:20

Note: Portland Type I/II
6000 psi min Concrete.

NOTE: This product is not designed, manufactured, or recommended to be installed under a vehicle traffic area.



PLAN VIEW



SECTION: A-A

C.R. Semler, Inc. Smithsburg, MD	1500 Gallon Top Seam Pump Chamber Single Compartment 1/2" = 1'-0"	12-28-89 Rev 6-94

TECHNICAL BROCHURE
B3872 R1

WW05 Series Model 3872

SUBMERSIBLE SEWAGE PUMPS

GOULDS WATER TECHNOLOGY
a xylem brand

FEATURES

Impeller: Glass-filled thermoplastic Full-Vortex design with pump out vanes for mechanical seal protection.

Casing and Base: Rugged glass-filled thermoplastic design provides superior strength and corrosion resistance.

Motor Housing: Cast iron for efficient heat transfer, strength, and durability.

Motor Cover: Thermoplastic cover with integral handle and float switch attachment points.

Bearings: Upper and lower heavy duty ball bearing construction.

Power Cable: Severe duty rated oil and water resistant.

O-ring: Provides positive sealing. Easily replaced during maintenance.

Stainless steel fasteners

AGENCY LISTINGS

By Canadian Standards Association

APPLICATIONS

Specifically designed for the following uses:

- Residential sewage systems
- Dewatering
- Water transfer

Anywhere waste or drainage must be disposed of quickly, quietly and efficiently.

SPECIFICATIONS

Pump:

- Solids handling capability: 2" maximum
- Capacities: up to 75 GPM
- Total heads: up to 18 feet
- Discharge size: 2" NPT
- Mechanical seal: carbon-rotary/ceramic-stationary, BUNA-N elastomers
- Temperature:
  104° F (40° C) continuous
  140° F (60° C) intermittent
- Class B Insulation
- Fasteners: 300 series stainless steel
- Capable of running dry without damage to components.

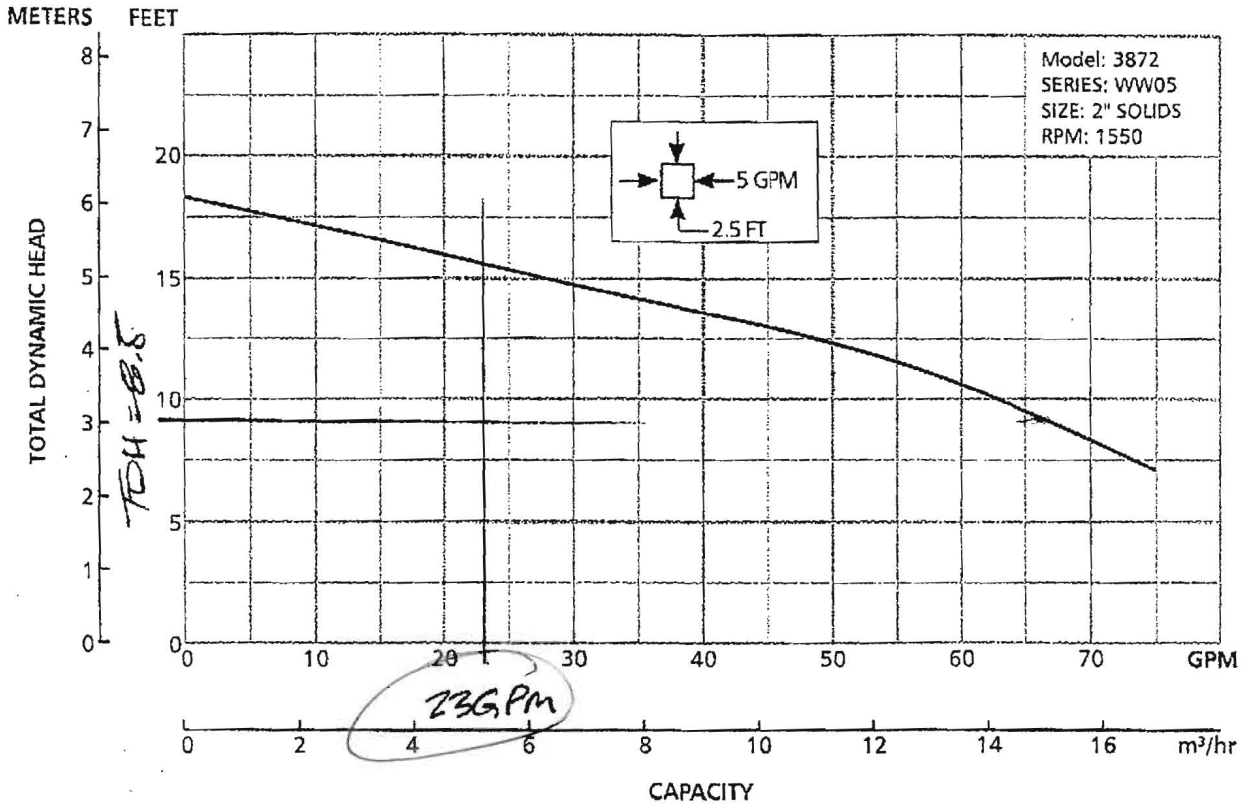
Motor

- Single phase: ½ HP, 115 or 230 V, 60 Hz, 1550 RPM, built in overload with automatic reset.
- Power cord: 10 foot standard length, 16/3 SJTW with three prong grounding plug. Optional 20 foot length, 16/3 SJTW with three prong grounding plug.
- Fully submerged in high grade turbine oil for lubrication and efficient heat transfer.

Available for automatic and manual operation. Automatic models include Mechanical Float Switch assembled and preset at the factory.

MODEL INFORMATION

Order No.	HP	Volts	Amps	Minimum Circuit Breaker	Phase	Float Switch Style	Cord Length	Discharge Connection	Minimum On Level	Minimum Off Level	Minimum Basin Diameter	Maximum Solids Size	Shipping Weight lbs/kg
WW0511	.5	115	13	20	1	Plug / No Switch	10'	2"	Manual	Manual	18"	2"	22 / 10
WW0511A						Piggyback / Wide-Angle	10'	2"	15"	9"	18"		23 / 10.4
WW0511F						Plug / No Switch	20'	2"	Manual	Manual	18"		22 / 10
WW0511AC						Piggyback / Wide-Angle	20'	2"	15"	9"	18"		23 / 10.4
WW0512		230	6.5	10		Plug / No Switch	10'	2"	Manual	Manual	18"		22 / 10
WW0512F						Plug / No Switch	20'	2"	Manual	Manual	18"		22 / 10



PERFORMANCE CHARTS

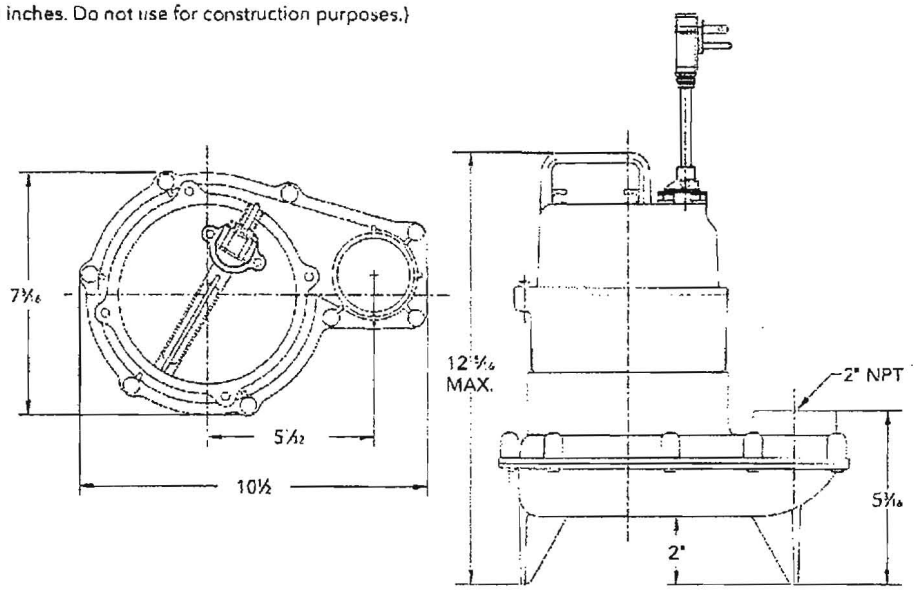
These charts show actual system performance with friction loss factored in for various discharge pipe lengths. Calculations and performance based on a system with 2" PVC, schedule 40 plastic pipe (C150), (4) 90° elbows, (1) check valve and (1) shut-off valve. Wastewater requires a minimum scouring velocity of 21 gpm for 2" pipe. Shaded areas do not provide min. scouring velocity - use only for gray water with no solids.

WW05 (3872)

	4	6	8	10	12	14	16
25	75	68	62	52	40	27	13
50	67	61	54	45	35	24	12
75	61	55	48	40	32	22	11
100	56	50	44	37	29	21	11
150	48	43	38	32	26	18	10
200	43	39	34	29	23	17	10
250	39	35	31	26	21	15	10
300	35	32	29	24	20	14	10

DIMENSIONS

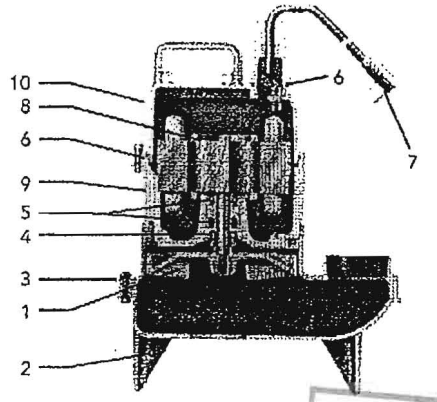
(All dimensions are in inches. Do not use for construction purposes.)



COMPONENTS *(for reference only)*

Item No.	Description
1	Impeller
2	Rugged thermoplastic base
3	Rugged thermoplastic pump casing
4	Mechanical seal
5	Ball bearings
6	O-rings
7	Power cord
8	Oil filled motor
9	Cast iron motor housing/stator assembly
10	Thermoplastic motor cover

* Parts available on repair parts selection chart.



xylem
Let's Solve Water

Xylem, Inc.
2881 East Bayard Street Ext., Suite A
Seneca Falls, NY 13148
Phone: (866) 325-4210
Fax: (888) 322-5877
www.goulds watertechnology.com

Howard County Health Department

Bureau of Environmental Health
8930 Stanford Boulevard, Columbia, MD 21045
Main: 410-313-1771 | Fax: 410-313-2648
TDD 410-313-2323 | Toll Free 1-866-313-6300
www.hchealth.org
Facebook: www.facebook.com/hocohealth
Twitter: HowardCoHealthDep

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

January 24, 2014

To: Amy Ferrer, Compass homes
Aferrer21@gmail.com

RE: BAT Site Plan comments, 6227 Heather Glen Way (Lot 28) MB

The septic system permit for 6227 Heather Glen Way (Lot 28) cannot be released at this time. Issues that need to be resolved are described below.

1. The graphic titled "BAT COMPONENT CROSS SECTION" is sufficient as a profile drawing, however pertinent invert elevations and ground elevations must be included.
2. Illustrate the location of the initial absorption (trench) system (a set of two 71-ft trenches, 2' wide) and the location of the first replacement absorption system (a second set of three 71-ft trenches, 2' wide). The specifications sheet is attached.
3. A detail of the best available technology unit to be installed must be presented. You may submit this document directly to me as an addendum to the revised BAT Site Plan. Detail drawings may be obtained from the manufacturer. Some manufacturers provide drawings on their website. Specific information must be presented in the detail, as follows:
    a. Present a Top View and a Side View of the tank.
    b. the detail Side View must illustrate the treatment unit and the air line entering the tank
    c. the make and model of the unit must be specified
    d. the size of the tank in which the treatment unit is installed must be specified
4. Details and data for a low-pressure distribution system must be included on the plan for this lot. As this type of distribution is similar to the distribution in a sand mound, the Bureau strongly recommends this part of the plan be completed by a person having experience with sand mound design. The following must be included:

a. A 1500-gallon pump tank with pump sized appropriately for the distribution network

b. Details of the pump tank must be shown, Top View and Side View, including

    i. Elevations for Invert In, Tank Invert (bottom of tank chamber), Pump Invert, Pump OFF elevation, Pump ON elevation, ALARM elevation (0.5 ft above Pump ON)

    ii. Illustrate path of force main from pump and exiting tank/manhole

    iii. Illustrate a 'weep hole' in the force main inside the tank chamber but above the ALARM elevation

c. Total Dynamic Head, including Friction Head Design Head (2 ft), and Static Head, must be calculated and data shown in table

d. A 'pump curve' for the pump selected must be presented

e. Volumes of force main, manifold, and laterals must be calculated and presented

f. Run time of pump must be calculated and presented

g. Lateral perforation spacing must be calculated, and the discharge from each lateral.

h. The lower lateral must be balanced with the upper lateral

    i. Having discharge within 10 percent, by

    ii. Selecting the lateral diameter and number of perforations so that the difference in dynamic head between the upper and lower laterals is no more than 5 feet.

i. Details must be presented for the LPD design, including

    i. Top View and Side View of trenches,

    ii. Perforation spacing, and ½-perforation spacing where appropriate

    iii. Depth of pipe invert, turn-up at pipe termination, and location of last perforation

    iv. Force main-manifold connection, and

    v. Manifold-lateral connections for end-feed system with two laterals

    vi. location of a valve and valve box in force main

5. An Operation and Maintenance (O&M) Agreement for the BAT system has not been received. For release of the septic system installation permit, the O&M Agreement must be
    a. Signed by the owner,
    b. Submitted at the Bureau of Environmental Health desk for signature by the Bureau Director,
    c. Submitted to the Land Records office for recording,
    d. and a receipt a copy of the receipt of payment for recording submitted to the Bureau of Environmental Health for inclusion in the property file

In addition to these comments, you may consider locating the Sewer Out of the residence at the south end of the structure with the BAT unit/septic tank 20 feet from the structure's corner and the pump tank between the BAT unit and the SDA corner. This

If you have questions related to these comments, you may reply to me via email, rbricker@howardcountymd.gov , or call my desk, 410-313-2691.

Respectfully,
Robert Bricker, CPSS, REHS/R.S., L.E.H.S.
Environmental Sanitarian II
Well and Septic Program, Bureau of Environmental Health
Howard County Health Department
8930 Stanford Boulevard
Columbia, MD 21045

RB
Copy: Dale Thompson, Compass Homes, Inc.
file

Bricker, Robert

From: Bricker, Robert
Sent: Friday, August 16, 2013 10:55 AM
To: 'dalehthompson@gmail.com'; 'amy Ferrer'
Subject: 6227 Heather Glen Way_Lot 28

I approved the building permit for the subject address (Preserve at Clarksville, Lot 28) today. Please be advised that a radium analysis will be needed for the well (#HO-95-0240) prior to Use and Occupancy approval by the Health Department.

ROBERT BRICKER, CPSS, REHS/RS
ENVIRONMENTAL HEALTH SPECIALIST
DEVELOPMENT COORDINATION SECTION, WELL AND SEPTIC PROGRAM
HOWARD COUNTY BUREAU OF ENVIRONMENTAL HEALTH
7178 COLUMBIA GATEWAY DRIVE
COLUMBIA, MD 21046

410-313-2691; fax, 410-313-2648
rbricker@howardcountymd.gov

Howard County Health Department

Bureau of Environmental Health
7178 Columbia Gateway Drive, Columbia, MD 21046-2147
Main: 410-313-6300 | Fax: 410-313-6303
TDD 410-313-2323 | Toll Free 1-866-313-6300
www.hchealth.org
Facebook: www.facebook.com/hocohealth
Twitter: HowardCoHealthDep

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

Date: August 22, 2013

To: Amy Ferrer, Applicant
Amy.compasshomes@gmail.com

RE: Best Available Technology (BAT) denitrification unit and low-pressure distribution (LPD) system required at 6227 Heather Glen Way, (The Preserve at Clarksville, Lot 28)

Dear Ms. Ferrer,

Please be advised that a best available technology (BAT) denitrification unit is required for treatment of wastewater discharge from the proposed dwelling at 6227 Heather Glen Way. Effluent from the BAT unit will be pumped to the drainfield and disbursed through a low-pressure distribution (LPD) system.

A BAT Site Plan is required. The BAT Site Plan must be submitted directly to the Health Department and approved prior to release of the septic system installation permit. The LPD design should be incorporated with the BAT Site Plan. This plan should be created by your engineer. I have enclosed a document listing the required content for a BAT Site Plan.

I am also attaching an Operation and Maintenance Agreement that the owner must complete, sign and submit at our Bureau desk. Our Bureau Director will then sign the agreement, and the owner will hand-carry the signed document first to the Howard County Finance Department and then to Howard County Land Records where the agreement will be recorded. We can release the septic system installation permit when we have a receipt by Land Records that indicates the agreement has been submitted for recordation.

Should you have any questions concerning this matter, you may contact me by calling 410-313-2691.

Respectfully,

Robert Bricker, REHS/R.S.
Environmental Sanitarian, Well and Septic Program
Howard County Bureau of Environmental Health

Enclosures (2)
Copy: file

LIBER | 5565 FOLIO 362

000119

Howard County Health Department

Bureau of Environmental Health
7178 Columbia Gateway Drive, Columbia, MD 21046-2147
Main: 410-313-2640 | Fax: 410-313-2648
TDD 410-313-2323 | Toll Free 1-866-313-6300
www.hchealth.org
Facebook: www.facebook.com/hocohealth
Twitter: HowardCoHealthDep

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

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

(5/1/2014)

THIS AGREEMENT is made this 17th day of March, 2014 among Kerry & Heather Skolkin, 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 6220 Heather Glen Way, Clarksville, MD 21029 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 14866 Folio 00246

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 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.

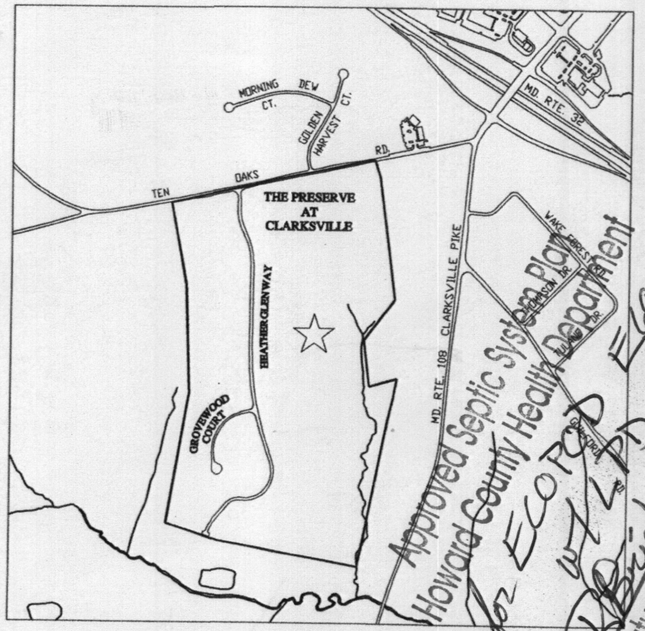
IN WITNESS WHEREOF, the parties have signed and sealed this agreement on the date indicated above.

Kerry Shalkin 3/17/2014
Owner / Kerry Shalkin Date

Heather Shalkin 3/17/2014
Owner / Heather Shalkin Date

Bert Nelson 5/1/2014
/ Howard County Health Department

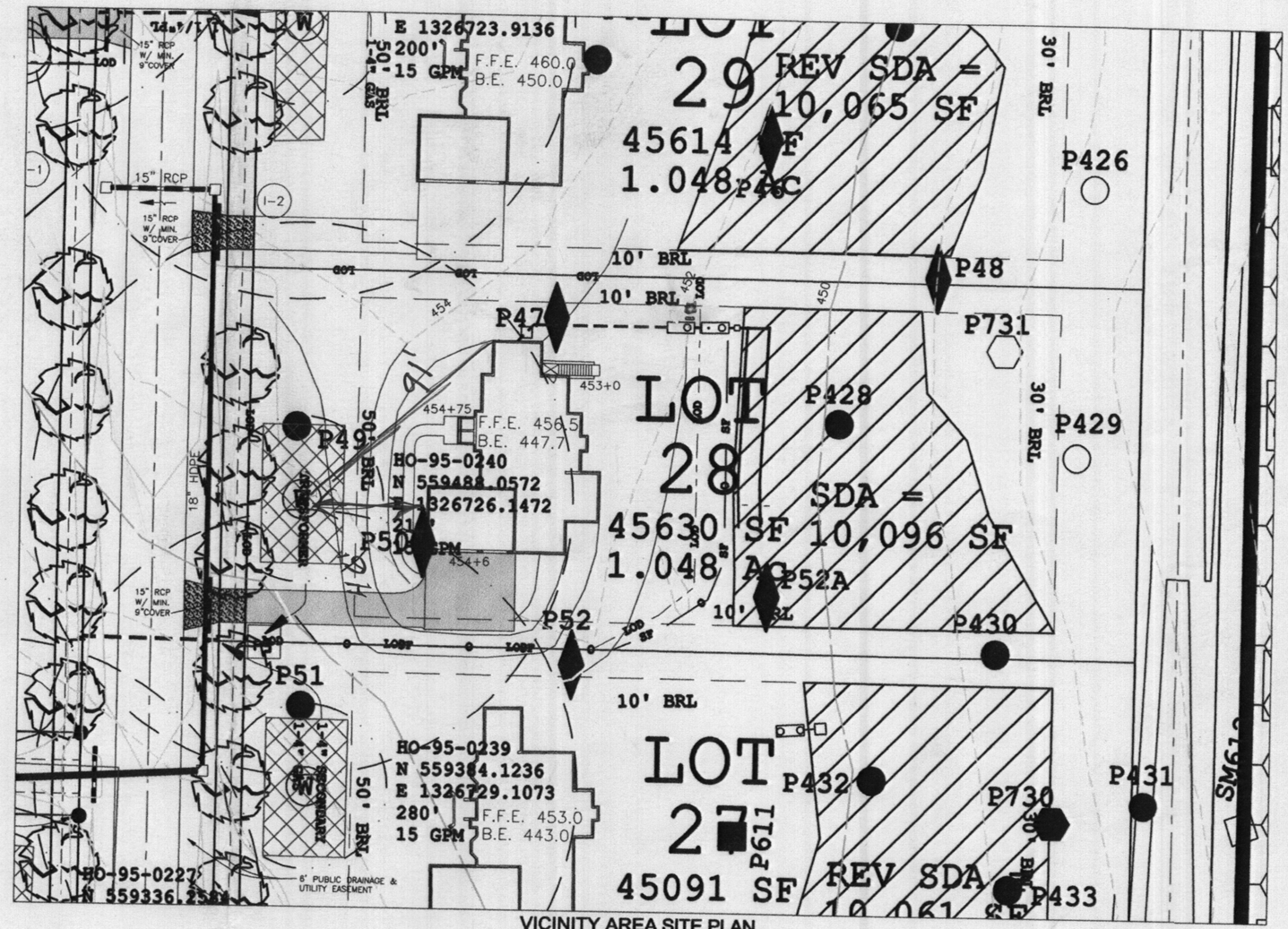
LR - Agreement
Recording Fee 20.00
Grantor/Grantee Name:
Shalkin
Reference/Control #:
119
LR - Agreement
Surcharge 40.00
SubTotal: 60.00
Total: 100.00
#2738856-1
05/01/2014 02:55 CC10:05
#2738856 CC0503 -
Howard Co
Columbia/CC05.03.05 -
Register 05 407



VICINITY MAP N.T.S.

LEGEND

- PERC PASSED-2001
- PERC FAILED-2001
- PERC FAILED-2003
- PERC PASSED-2003
- PERC PASSED-FEBRUARY 2004
- PERC FAILED-FEBRUARY 2004
- PERC PASSED-JUNE 2004
- PERC FAILED-JUNE 2004
- PERC PASSED-AUGUST 2004
- PERC FAILED-AUGUST 2004
- LIMIT OF DISTURBANCE
- SILT FENCE
- EXISTING CONTOURS (2' INTERVALS)
- EXISTING TREELINE
- PROPOSED TREELINE
- CL STREAM
- LIMIT OF WETLANDS
- FCE FOREST CONSERVATION SIGNAGE
- SPECIMEN TREE
- LIMIT OF 100YR FLOODPLAIN
- FOREST CONSERVATION EASEMENT
- FOREST CONSERVATION EASEMENT RETENTION AREA
- PRIVATE SEWAGE
- ABANDONED WELLBOX
- WELL REPLACEMENT AREA
- CONSTRUCTION DRIVE



VICINITY AREA SITE PLAN
SCALE 1" = 50'

SHEETS 1 THRU 5 TO BE USED WITH "LOW PRESSURE DOSING REPORT" APRIL 23, 2014 PAGES 1 THRU 23 PREPARED BY: SILL ENGINEERING GROUP, LLC

SHEET: 1 OF 5

GENERAL NOTES:

1. THIS AREA ▨ DESIGNATES A PRIVATE SEWAGE ARE OF AT LEAST 10,000 SQUARE FEET AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL. IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWERAGE IS AVAILABLE. THISE AREAS 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 SEWAGE AREA. RECORDATION OF MODIFIED SEWAGE AREA SHALL NOT BE NECESSARY.
2. TOPOGRAPHY SHOWN IS TWO-FEET CONTOUR INTERVALS AND HAS BEEN FIELD VERIFIED OR FIELD RUN.
3. ANY CHANGES TO A PRIVATE SEWAGE AREA SHALL REQUIRE A REVISED PERC CERTIFICATION PLAN.
4. EXISTING WELLS, SEPTIC SYSTEMS, AND SEWAGE DISPOSAL AREAS WITHIN 100' OF THE PROPERTY AND THOSE WITHIN 200' DOWNGRADIENT OF EXISTING OR PROPOSED SEPTIC OR SEWAGE DISPOSAL AREAS HAVE BEEN SHOWN USING ALL RESONABLE EFFORTS.
5. THE LOT SHOWN HERON WAS RECORDED ON THE PLAT # 19214 ET. SEQ. REFER TO PLAT FOR LOT DIMENSIONS, LOT AREAS, ALL EASEMENTS, ANY RESTRICTIONS, AND PROVISIONS.
6. THE EXISTING WELLS SHOWN ON THIS PLAN HAVE BEEN FIELD LOCATED BY A PROFESSIONAL LAND SURVEYOR AND ARE ACCURATELY SHOWN.
7. TESTING AND RESULTS FOR GROSS ALPHA, GROSS BETA AND VOC'S WILL BE REQUIRED PRIOR TO USE AND OCCUPANCY.

TITLE:

SITE PLAN LOT #28

PRESERVE @ CLARKSVILLE
HOWARD COUNTY, MD.

6227 Heather Glen Way
Clarksville, Maryland 21029

PURPOSE:

SITE PLAN AND CERTIFICATIONS FOR THE CONSTRUCTION OF AN ON LOT PRIVATE SEWAGE DISPOSAL SYSTEM

APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS IN CONFORMANCE WITH THE MASTER PLAN OF HOWARD COUNTY.

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

I certify that the information shown heron is based on field work performed under my direct supervision and is correct, to the best of my knowledge and belief.

Dale Thompson — 30 June 14 DATE

SEPTIC DESIGN PARAMETERS:

FOUR BEDROOM SFR
DESIGN FLOW = 600 GPD
APPLICATION RATE = 1.2
BAT & LPT DESIGN REQUIRING BASEMENT FACILITIES NOT SERVED BY GRAVITY

TAGGED WELL DATA

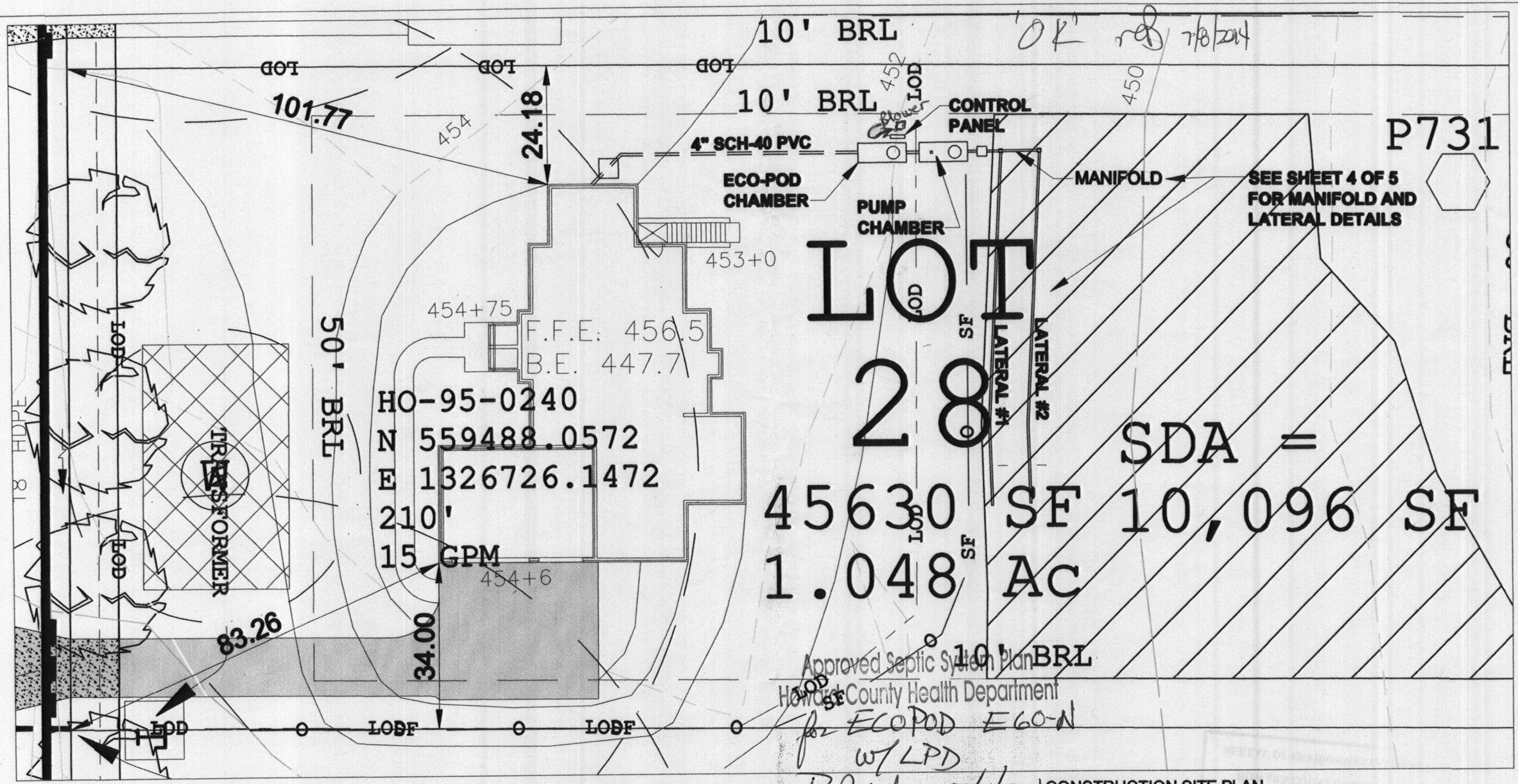
TAG NUMBER:	HO-95-0240
NORTHING:	N 559488.0572
EASTING:	E 1326726.1472
WELL YIELD:	15 GPM
WELL DEPTH:	210'

N

SCALE: 1:50

DEVELOPER: DAYTON OAKS,LLC
BUILDER: Compass Homes
6206 Heather Glen Way
Clarksville, MD 21029

DATE: 6/26/14



CONSTRUCTION SITE PLAN

SCALE 1" = 20'

SEWAGE DISPOSAL SYSTEM CONSTRUCTION NOTES:

1. ABSORPTION TRENCHES : 71 FEET LONG EACH
2. MINIMUM SPACING BETWEEN LATERALS : 8 FEET
3. FORCE MAIN : 2" PVC SCHEDULE 40
4. LATERALS : 1 1/2" PVC SCHEDULE 40
5. HOUSE COLLECTOR : 4" PVC SCHEDULE 40
6. TRENCH WIDTH : 2 FEET AT TOP
7. PERMIT # B13001799 PLOT PLAN LOT #28
8. ANY WELL DRILLED WITHIN 10' OF DRIVEWAY TO BE PROTECTED WITH TWO BALLARDS

APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS IN CONFORMANCE WITH THE MASTER PLAN OF HOWARD COUNTY.

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

I certify that the information shown heron is based on field work performed under my direct supervision and is correct, to the best of my knowledge and belief.

Dale Thompson — 30 June 14 DATE

N

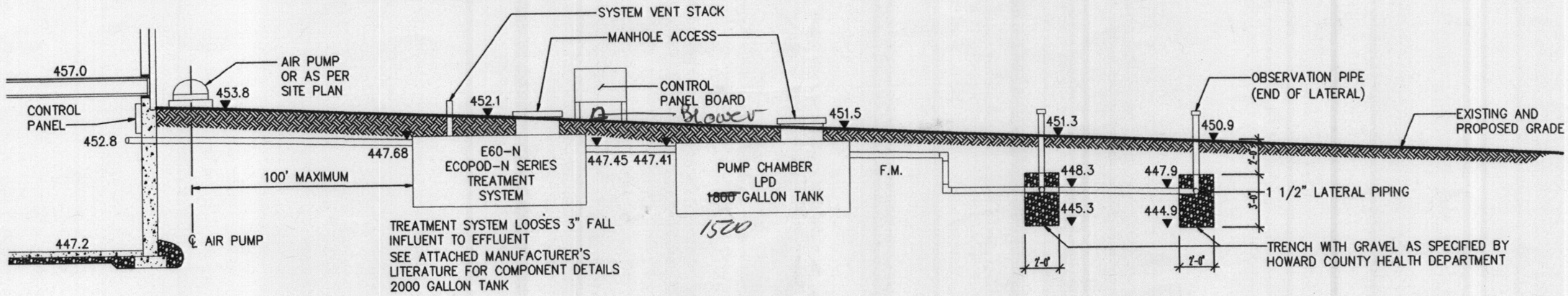
NEW HOME PROPOSED ELEVATIONS:

TOP OF BASEMENT SLAB:	460.2
TOP OF FOUNDATION WALL:	468.8
TOP OF FIRST SUBFLOOR:	470.0
INVERT OUT OF HOUSE:	465.0
INVERT INTO TANK:	460.0
INVERT OUT OF TANK:	459.5
INVERT INTO LPD PUMP CHAMBER:	459.3

CONSTRUCTION SITE PLAN

TITLE:
SITE PLAN LOT #28
PRESERVE @ CLARKSVILLE
HOWARD COUNTY, MD.
6227 Heather Glen Way
Clarksville, Maryland 21029

SHEET: 2 OF 5



2 BAT-3 **BAT COMPONENT CROSS SECTION**

SCALE: N.T.S.

'OK' rcb 7/8/2014

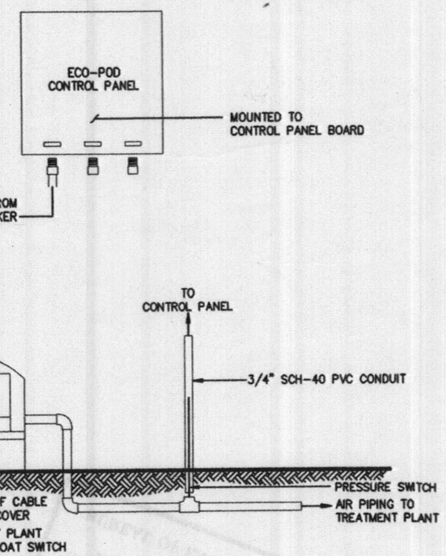
INSTALLATION NOTES:

1. PREPARE AN EXCAVATION, HAVING A DIAMETER APPROXIMATELY ONE FOOT LARGER THAN THE TANK AND A DEPTH THAT WILL ALLOW APPROXIMATELY THREE INCHES OF THE INSPECTION PORT TO EXTEND ABOVE NORMAL GROUND LEVEL.
2. DO NOT INSTALL THE AIR PUMP(S) IN A LOW LYING AREA WHERE WATER MAY ACCUMULATE. THE AIR PUMP SHOULD BE INSTALLED NEAR THE CONTROL PANEL AND WITHIN ONE HUNDRED FEET OF THE TANK. AIR PUMP CAN BE INSTALLED OUTDOORS OR IN A CLEAN, WELL VENTILATED AREA, SUCH AS A TOOL ROOM, GARAGE, ETC. IF THE LINEAR AIR PUMP IS TO BE INSTALLED IN AN ADDITIONAL ENCLOSURE, THE ENCLOSURE MUST BE APPROVED BY DELTA IN WRITING.
3. MOUNT THE CONTROL PANEL IN AN AREA SUCH THAT THE ALARM CAN BE HEARD AND BE READILY OBSERVED. A 3-WIRE GROUNDED GFI CIRCUIT IS REQUIRED FOR SAFETY. INSTALL A DISCONNECT SWITCH NEAR THE PANEL TO VISUALLY DISCONNECT THE CONTROL PANEL FROM THE POWER SOURCE. ALL ELECTRICAL WORK SHALL BE DONE ACCORDING TO NEC AND LOCAL CODE REQUIREMENTS. THE CONTROL PANEL MUST BE GROUNDED. CONNECT THE SOURCE GROUND WIRE TO THE GROUND LOCATION IN THE PANEL.
4. THE CONTROL PANEL IS RATED FOR INDOOR AND OUTDOOR USE AND CONTAINS A FUSE OR CIRCUIT BREAKER FOR THE AIR PUMP. AN ELECTRICAL MALFUNCTION IN THE AIR PUMP OR WIRING TO THE AIR PUMP WILL CAUSE THE FUSE TO BLOW OR CIRCUIT BREAKER TO TRIP. THE CONTROL PANEL ALSO CONTAINS A PRESSURE SWITCH AND VISUAL AND AUDIBLE ALARM. LOSS OF AIR PRESSURE CAUSED BY THE AIR PUMP SYSTEM MALFUNCTION OR A HIGH WATER LEVEL IN THE TREATMENT PLANT WILL CAUSE THE ALARM TO SOUND AND LIGHT TO ILLUMINATE.
5. INSTALL FLOAT SWITCH WIRE FROM THE CONTROL PANEL TO THE TREATMENT PLANT. WIRE CAN BE DIRECT BURIAL TYPE UF 600 VOLT OR CAN BE INSTALLED IN SCHEDULE 40 PVC CONDUIT. USE TYPE THWN, 600 VOLT IF INSTALLED IN CONDUIT. WIRE MUST BE BURIED IN ACCORDANCE WITH NEC TABLE 300-5. IF IN DOUBT BURY 24 INCHES DEEP. KEEP SUFFICIENT DISTANCE OR DEPTH FROM AIR LINE TO AVOID CONFUSION OF PIPES OR DAMAGE TO WIRING DURING INSTALLATION OR REPAIR OF PIPING. CONNECT TO THE FLOAT SWITCH NORMALLY OPEN CONTACTS USING UNDERGROUND RATED COMPOUND FILLED WIRE NUTS. FLOAT SWITCH IS NOT REQUIRED WHEN A DUAL PRESSURE SWITCH IS UTILIZED WHICH DETECTS HIGH WATER CONDITIONS.
6. CONNECT THE PRESSURE AIR TUBING TO THE $\frac{1}{8}$" BARB-FITTING IN THE AIR PIPING SYSTEM. THE AIR TUBING SHOULD BE PROTECTED BY CONDUIT AS SHOWN ON DRAWING.
7. INSTALL 3/4" SCHEDULE 40-PVC PIPING BETWEEN AIR PUMP AND TREATMENT UNIT. A MINIMUM OF 12 INCHES GROUND COVER IN RECOMMENDED.
8. TURN POWER ON TO CONTROL PANEL. AIR PUMP SHOULD START.
9. CHECK AIR PIPING JOINTS FOR LEAKAGE USING SOAPY WATER SOLUTION. REPAIR IF NECESSARY AND THEN CAREFULLY BACKFILL AIR LINE AND INLET AND DISCHARGE PIPING AND COVER PLANT TO GRADE LEVEL.
10. RE-CHECK WATER LEVEL IN THE TANK.
11. PLANT IS READY TO RECEIVE INCOMING SEWAGE. NO SPECIAL START-UP PROCEDURES ARE REQUIRED. THE PROCESS IS NATURALLY OCCURRING AND DOES NOT REQUIRE ANY SPECIAL ADDITIVES.
12. TEST ALARM CIRCUIT BY MOMENTARILLY SQUEEZING AIR TUBING AND ALLOWING AIR PRESSURE TO DECREASE. THIS SHOULD TAKE A FEW MINUTES. ALARM SHOULD OCCUR. RELEASE AIR TUBING AND ALARM SHOULD STOP. LIFT FLOAT IN TANK (IF INCLUDED)TO HORIZONTAL POSITION. ALARM SHOULD OCCUR. RELEASE FLOAT. ALARM SHOULD STOP. THE AUDIBLE ALARM CAN BE TURNED OFF BY FLIPPINGTHE TOGGLE SWITCH ON THE PANEL FRONT DOOR TO THE LEFT.

Approved Septic System Plan
Howard County Health Department
for ECOPOD E60-N w/LPD

R Bricker
Signature

7/11/2014
Date



1 BAT-3 **AIR PUMP INSTALLATION**

SCALE: N.T.S.

APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS IN CONFORMANCE WITH THE MASTER PLAN OF HOWARD COUNTY.

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

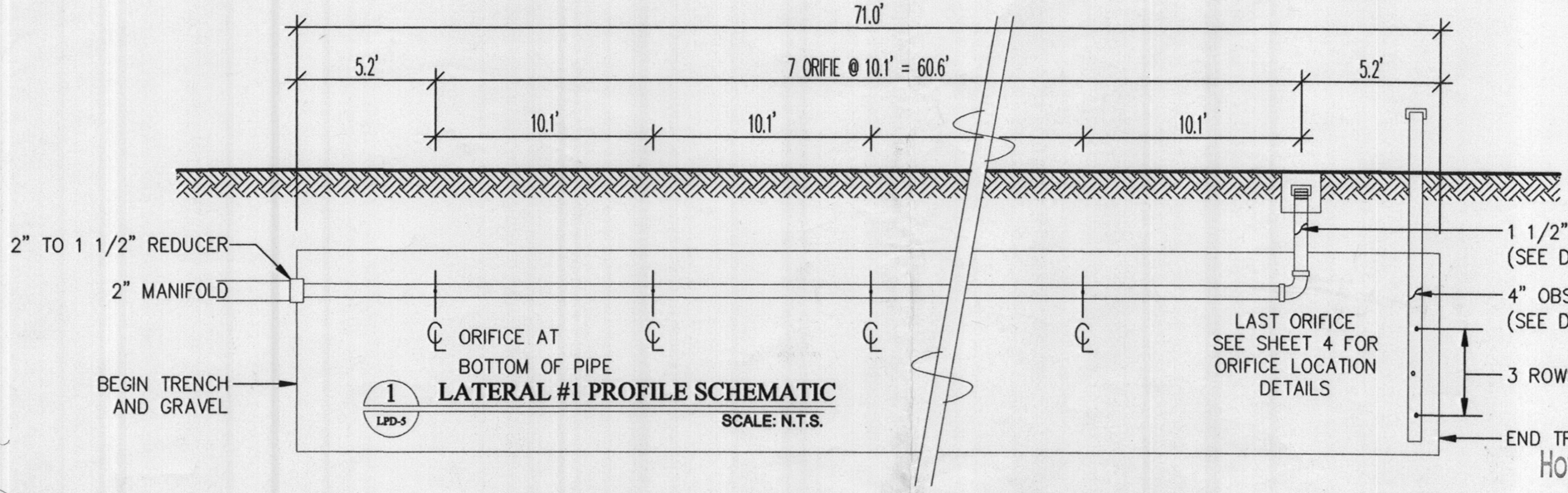
I certify that the information shown heron is based on field work performed under my direct supervision and is correct, to the best of my knowledge and belief.

Dale Thompson — 30 June 14 DATE

BAT SYSTEM

TITLE:
SITE PLAN LOT #28
PRESERVE @ CLARKSVILLE
HOWARD COUNTY, MD.
6227 Heather Glen Way
Clarksville, Maryland 21029

SHEET: 3 OF 5

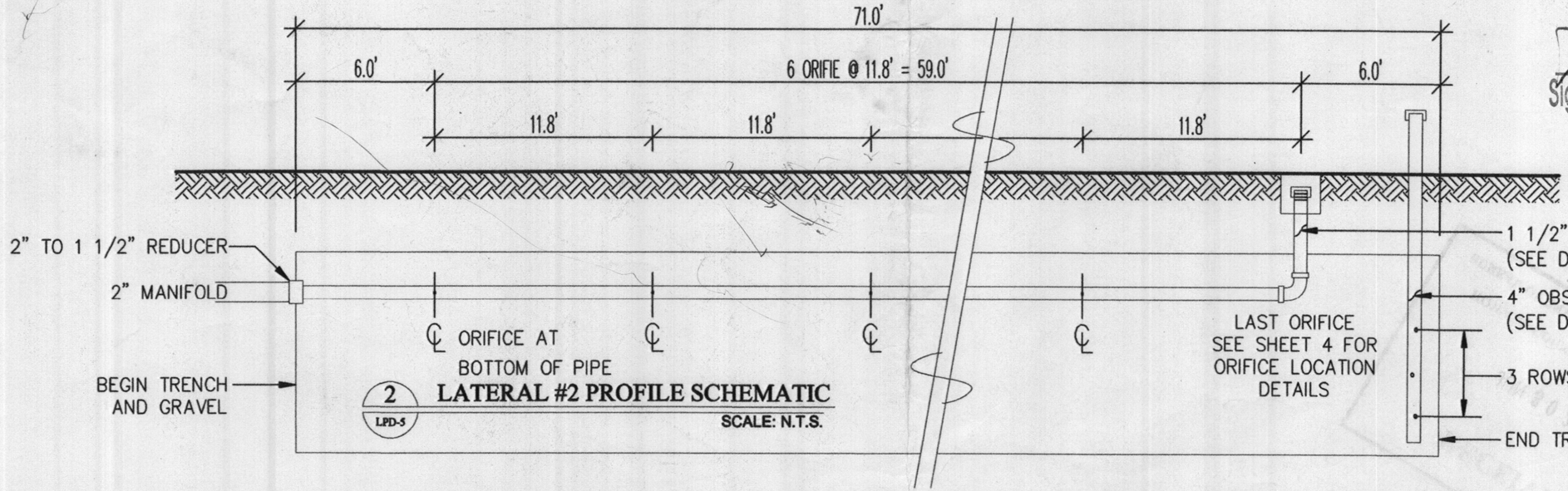


1 LPD-5 **LATERAL #1 PROFILE SCHEMATIC**

SCALE: N.T.S.

OK reB 1/8/14

Approved Septic System Plan
Howard County Health Department
for ECOPOD E60-N w/ LPD
Signature 7/11/2014 Date



2 LPD-5 **LATERAL #2 PROFILE SCHEMATIC**

SCALE: N.T.S.

APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS IN CONFORMANCE WITH THE MASTER PLAN OF HOWARD COUNTY.

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

I certify that the information shown heron is based on field work performed under my direct supervision and is correct, to the best of my knowledge and belief.

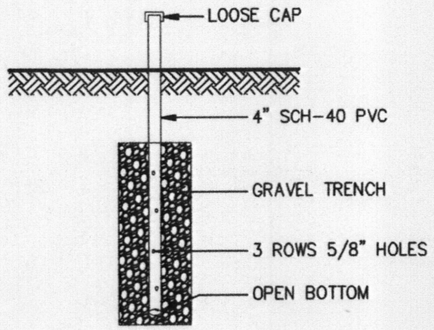
Dale Thompson — DATE 30 June 14

LPD SYSTEM

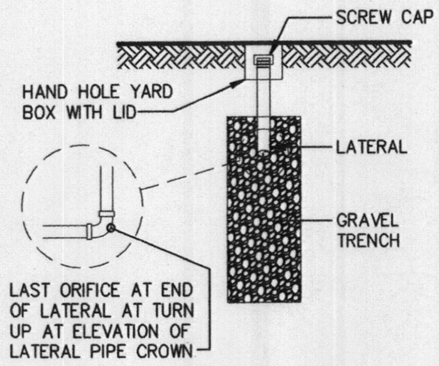
TITLE:

SITE PLAN LOT #28
PRESERVE @ CLARKSVILLE
HOWARD COUNTY, MD.
6227 Heather Glen Way
Clarksville, Maryland 21029

SHEET: 5 OF 5

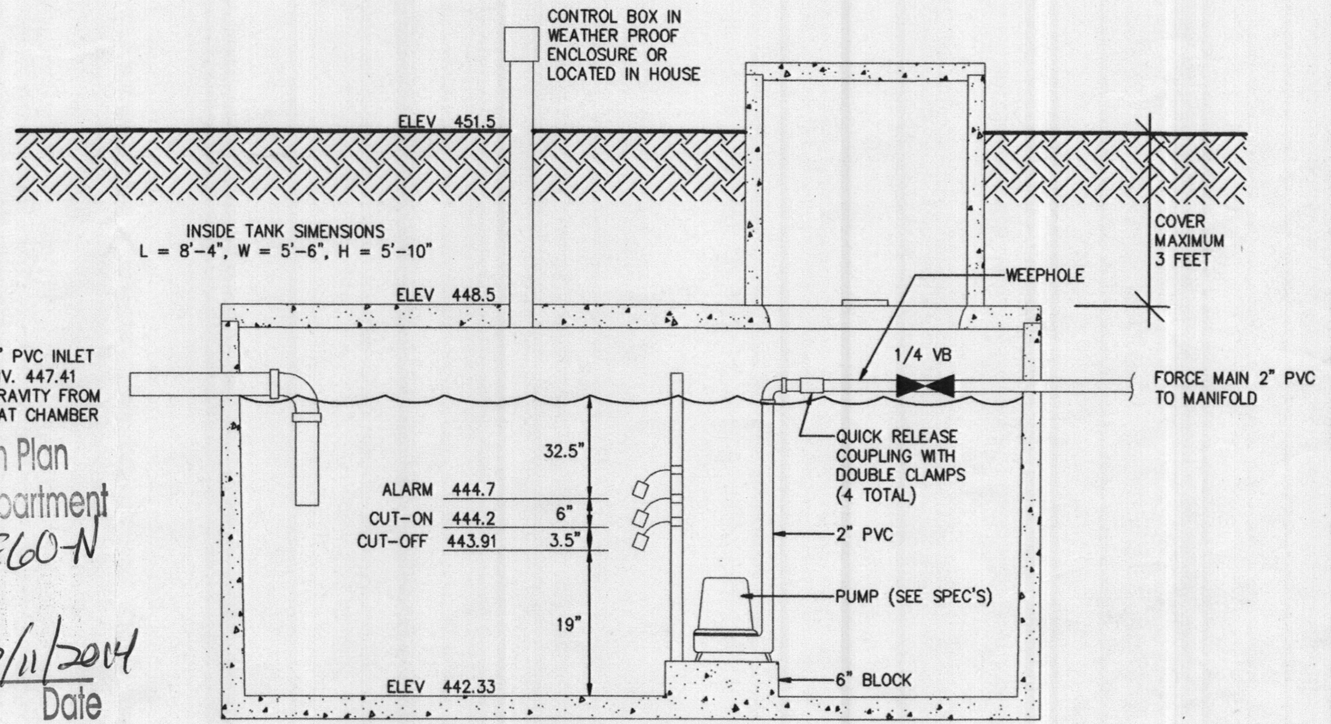


3 OBSERVATION PIPE
LPD-4 SCALE: N.T.S.

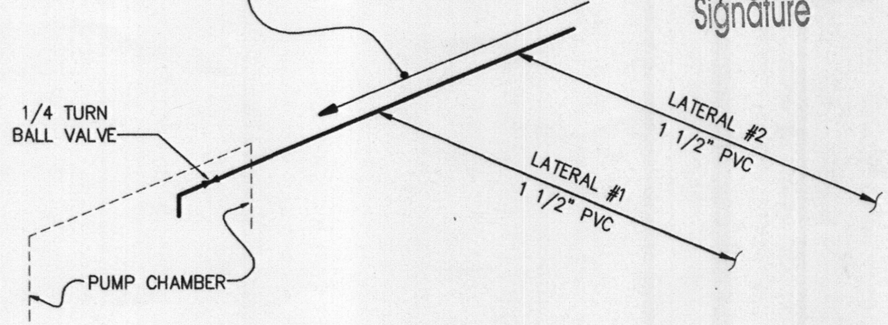


2 STAND PIPE
LPD-4 SCALE: N.T.S.

Approved Septic System Plan
Howard County Health Department
for ECOPOD E60-N
W/LPD
Signature
7/11/2014
Date



1 ~~1800~~ 1500 GAL. PUMP CHAMBER L.P.D.
LPD-4 SCALE: N.T.S.



4 MANIFOLD SCHEMATIC
LPD-4 SCALE: N.T.S.

PRESSURE DISTIBUTION CHART

LATERAL NUMBER	EXIST. GRADE ELEV. (FT.)	INVERT ELEV. (FT.)	TRENCH BOTTOM ELEV. (FT.)	LATERAL LENGTH (FT.)	HEAD (FT.)	ORIFICE DIAMETER (IN)	ORIFICE FLOW RATE (GPM)	ORIFICE SPACING (FT)	NUMBER OF ORIFICES	TRENCH FLOW RATE (GPM)
1	451.3	448.3	445.3	71.0	2.0	5/16	1.63	10.1	7	11.41
2	450.9	447.9	444.9	71.0	~~3.2~~ 2.4	5/16	~~1.99~~ 1.82	11.8	6	~~11.94~~ 10.92

APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS IN CONFORMANCE WITH THE MASTER PLAN OF HOWARD COUNTY.

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

I certify that the information shown heron is based on field work performed under my direct supervision and is correct, to the best of my knowledge and belief.

Dale Thompson — 30 June 14 DATE

NOTES:
1. LOCATE FLOAT VALVES FREE OF OBSTRUCTION TO FULL MOVEMENT.
2. LOCATE 1/4 TURN BALL VALVE WITH ACCESS TO ADJUST DURING OPERATION.
3. ORIFICE SIZE AND SPACING, SEE LATERAL DETAIL SHEETS.

PUMP SPECIFICATIONS:
GOULDS WW05 SERIES
MODEL # 3872
115 VOLTS, 13 AMP RUN, 20 AMP DEDICATED CIRCUIT GFI

LPD SYSTEM

TITLE:
SITE PLAN LOT #28
PRESERVE @ CLARKSVILLE
HOWARD COUNTY, MD.
6227 Heather Glen Way
Clarksville, Maryland 21029

SHEET: 4 OF 5