



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: 2/8/2019

ONSITE SEWAGE DISPOSAL SYSTEM

P 564753

APPROVAL DATE: 4/1/19 SEC

PERMIT: CONSTRUCTION

A _____

PROPERTY ADDRESS: 3255 ROSCOMMON DRIVE, GFLENELG, MD 21737

SUBDIVISION: ROSCCOMMON ESTATES

LOT: 9

TAX ID: 03-287343

CONTRACTOR: HATFIELDS EQUIPMENT

EMAIL: ken@hatfieldsequipment.com

CONTRACTOR ADDRESS: P.O. BOX 519, ANNAPOLI JUNCTION, MD 20701

PHONE: (410)490-4289

CONTRACTOR CERTIFIED FOR BAT INSTALLATION:

☐

MDE

☐

MANUFACTURER:

PROPERTY OWNER: ELEONORA-DON MINEVICH

EMAIL: ELEONORADON6@YAHOO.COM

OWNER ADDRESS: 3255 ROSCOMMON DRIVE, GFLENELG, MD 21737

PHONE: (410)404-0706

BAT UNIT MODEL: NORWECO TNTLP 1000

PUMP SIZE: 0.3

PUMP TANK CAPACITY: 2000

OPERATION & MAINTENANCE AGREEMENT

DATE SIGNED:

DATE RECORDED:

DISTRIBUTION SYSTEM:

☐

GRAVITY

X

☐

PRESSURE DOSED

BEDROOMS:

8

APPLICATION RATE:

0.6

TRENCHES:

LINEAR FEET REQUIRED: 247

INLET DEPTH: 2.6

TRENCH WIDTH: 3

MAXIMUM BOTTOM DEPTH: 8.0

MINIMUM SPACE

BETWEEN TRENCHES: 10

EFFECTIVE AREA BEGINNING DEPTH: 5.5

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: H OSWALD

ISSUE DATE: 2/8/2019

EXPIRATION DATE: 2/8/2020

NOTE: CONTRACTOR MUST SCHEDULE A PRE-CONSTRUCTION INSPECTION PRIOR TO BEGINNING ANY INSTALLATION

NOTE: CONTRACTOR MUST SCHEDULE AN INSPECTION AND GAIN APPROVAL OF ALL COMPONENTS PRIOR TO COVERING

NOTE: STONE MUST BE APPROVED BY HEALTH DEPARTMENT AND GRAVEL TICKET MUST BE AVAILABLE FOR REVIEW.

NOTE: WATERTIGHT SEPTIC TANKS REQUIRED

NOTE: ALL PARTS OF SEPTIC SYSTEM SHALL BE AT LEAST 100 FEET DOWNGRADIENT FROM ANY WATER WELL

NOTE: MANHOLE RISERS REQUIRED ON ALL SEPTIC TANKS AND PUMP CHAMBERS

NOTE: AN ELECTRICAL PERMIT IS REQUIRED FOR INSTALLATION OF ANY ELECTRICAL COMPONENTS OF THE SYSTEM

☐

ELECTRICAL PERMIT ISSUED

E

18001557 19001159

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

* to Norweco, set by Matt Czekle. Norweco aerators run + alarms sound. Both pump alarms sound. First Wasp panel controls first pump + ^{first} aerator, second Wasp panel controls second aerator + pump to laterals. Checked lateral head heights - just over 24" on lower laterals but 14-16" on upper two laterals. Contact engineer a/b potential pump upgrade. [Corrective action.] BAT startup certification received (SC) 4/1/19 Pump upgraded to 1/2 hp, checked lateral head heights. 4' at lower turnups, 39-40" at middle, and 36-41" at upper. [Corrective action completed.] (SC)

See separate sheet for as-built drawing

Tank

③ Norweco
MFR: BABYLON
CAPACITY:
SEAM: TOP
DEPTH: 2.5'
BAFFLES: NO
MANHOLES: FRONT,
MID, 2 REAR
6" PORT: NONE
WATERTIGHT TEST: NO
SLOTTED: NO
DATE: 4-2-18 (stamp)

Tank

④ Pump tank
MFR: BABYLON
CAPACITY: 2000 gal
SEAM: TOP
DEPTH:
BAFFLES:
MANHOLES:
6" PORT: NONE
WATERTIGHT TEST: NO
SLOTTED: NO
DATE: 1-7-19
PUMP: MEYER 1/2 HP
ME50S-11

ROAD NAME

TRENCH/DRAINFIELD DATA

WIDTH	INLET	BOTTOM
3'	2.5'	8'
NUMBER OF TRENCHES 3		
TOTAL LENGTH 250'		
ABSORPTION AREA 750' + SIDEWALK		
DISTRIBUTION BOX LEVEL		
DISTRIBUTION BOX BAFFLE		
DISTRIBUTION BOX PORT		

SEPTIC TANK DATA

① SEPTIC TANK 1 LEVEL YES
MANUFACTURER BABYLON
CAPACITY 2000 GAL
SEAM LOC TOP
TANK LID DEPTH 2-2.5'
BAFFLES YES
BAFFLE FILTER REAR ✓
MANHOLE LOC FRONT + REAR
6" PORT LOC NONE
WATERTIGHT TEST NO
SLOTTED YES
DATE ON LID 7-30-18

② PUMP/SEPTIC TANK LEVEL YES
MANUFACTURER BABYLON
CAPACITY 2000 GAL
SEAM LOC TOP
TANK LID DEPTH 2-2.5'
BAFFLES YES
BAFFLE FILTER NO
MANHOLE LOC FRONT + REAR
6" PORT LOC NONE
WATERTIGHT TEST NO
SLOTTED NO
DATE ON LID

PRE-CONSTRUCTION:

2/19/19 Met Hatfield's + owner Max on site for layout. SDA and initial trenches staked. Shot elevations. T1 ends are within 3" of each other and T2 + T3 are 1-2" different. Tanks staked. Old tank and two drywells uncovered + pumped. (SC)

INSTALLATION:

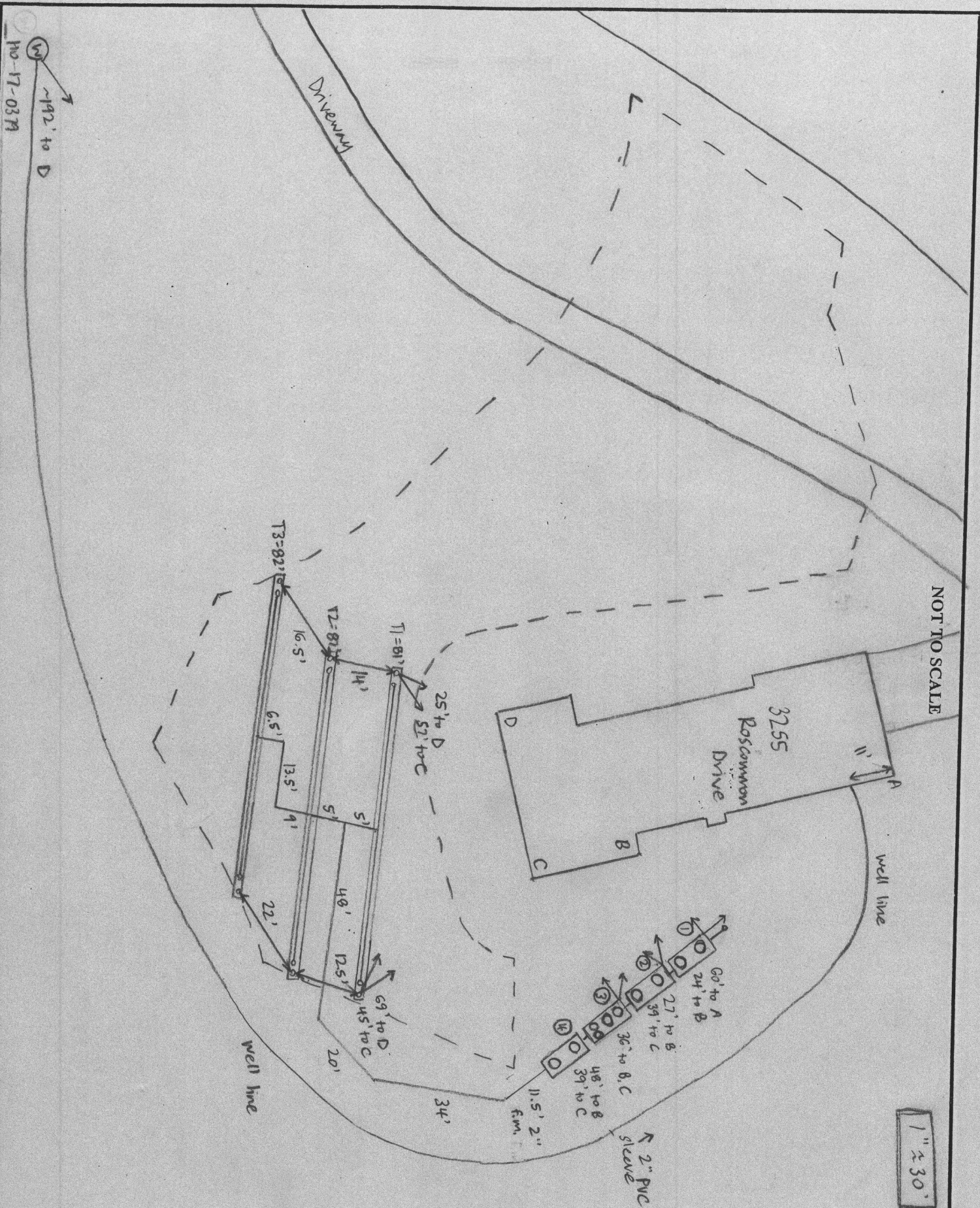
2/22/19 Hatfield's has first three tanks set. Tanks bedded with #57 stone, digging last tank hole. Soil looks good in tank hole. Old tank + 2 drywells abandoned. Tanks tied into existing sewer line. Tanks moved a foot to stay off drywell. Effluent filter installed in trash tank, NSF standard 46. (SC) 2/25/19 Force main installed to manifold, started digging upper trench. 8' bottom 3' wide using laser to check depths. Start of trench is at an angle 8' bottom starts at obs. pipe 5' from end at stake. Force main installed to drain back to pump tank after pump cycle. (SC) 2/25/19 Upper trench dug, stone + pipe installed in lateral closer to road. 3' wide, 2.5' inlet. (SC) 2/26/19 Trenches complete, middle trench left open at ends and lower trench left open for inspection. 2' to stone 3' wide. Need pump + alarm test and BAT startup certification. (SC) 3/19/19 On site for pump + alarm test. First pump doses ~39 gal

FINAL INSPECTOR

Sarah Collins

DATE OF APPROVAL

4/1/19



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 7th day of FEBRUARY, 2019, among ELDONA DOR-MINGUICH, 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 3255 RORRMAN DR, CLEVELAND MD 21737, in the 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 # 0022, Block # 0001, Parcel # 0544, Deed Reference # 18038/00044 and Tax Account # 07-287343 ("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

NORSCO INTL 1000.

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.

Beit Ruyon 2/7/2019
Howard County Health Department

Elvira Don-Munoz 2/7/19
Owner #1 Signature Date

ELVIRA DON-MUNOZ
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



HOWARD COUNTY HEALTH DEPARTMENT

64753

DATE

2/8/19

PS

Received From

Haffields & Equipment

PHONE #

39490-4289

For

Sophic Upgrade - 3255
Rose Annons Drive

☐ CASH

☒ CHECK

NO.

1083

Dollars

Three Hundred Ninety-Six
Quintus King

\$

396.00

Received By

Quintus King

3255 Roscommon DL
GLENELL MD 21737

Clerk of the Circuit Court for
Howard County
Land Records/Licensing

The Thomas Dorsey Building
9250 Bendix Road
Columbia, MD 21045
410-313-5850

=====

LR - Agreement Recording Fee		
	1x	20.00 20.00

Name: Don-Minevich
Ref: 16

LR - Agreement Surcharge

	1x	40.00
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=====

SubTotal:	60.00
Total:	

=====

CRD-Credit	60.00
Credit Card Confirmation : 04476G	

02/07/2019 10:09
#11629407/1246/109

CC13-DS

~ Thank you for visiting us today~



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

NORWECO CERTIFICATION

PROPERTY OWNER: ELENORA DON-MINVICH	INSTALLATION COMPANY: HATFIELD
ADDRESS: 3255 ROSCOMMON DR	CERTIFIED INSTALLER: KEN HATFIELD JR.
CITY, ZIPCODE & COUNTY: GLENELG, 21737, HOWARD	PERMIT#
SIZE OF SYSTEM INSTALLED:	DATE INSTALLED: 02-22-2019
600 GPD CONCRETE	START-UP DATE: 03-15-2019
NUMBER OF BEDROOMS:	DATE OF FINAL INSPECTION:
TYPE OF INSTALLATION: NEW CONSTRUCTION	DATE OF ELECTRICAL INSPECTION:
ELECTRICAL WIRING PER ELECTRICAL INSTRUCTIONS: YES	TANK LEVEL: YES
HT. OF CONTROL PANEL ABOVE FINAL GRADE: 10"	BURIAL DEPTH OF TANK: 30"
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): 32"	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
IS THE 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

March 15, 2019

Signature of BRP Representative

Vice-President

Date

3255 Roscommon Drive



2/25/19 Force main



2/22/19 Digging hole for pump tank



2/22/19 First three tanks set

3255 Roscommon Drive
Well line installation 3/8/19



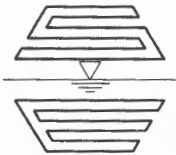
Sleeve under sidewalk



Sleeve near tanks



Tracer line at pitless adaptor



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

Roscommon Estates

Lot 9

3255 Roscommon Drive

BAT Plan

Low Pressure Dosing System Report

August 27, 2018

Rev. September 20, 2018

Prepared For:

Eleonora Don-Minevich
3255 Roscommon Drive
Glenelg, MD 21737

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, 2019

Project #18-061

Pressure Network Design

- Design Flow: 800gpd
 - 8 residents at 100gpd/resident = 800 gpd
- The absorption beds in the Initial System are each 82.5' long and the distribution network is a Center Feed Network.
- For Perforation Size, Number, and Spacing see Pressure Distribution table.
- Spacing between laterals = 13'
- Number of laterals = 3
- Diameter of force main = 2.0"
- Diameter of manifold = 2.0"
- Diameter of lateral = 1.5"
- Material: Schedule 40 PVC

Septic System Trench Design Specifications

Initial System:

- Application Rate: 0.6
 - Effective Area Beginning Depth: 5.5'
 - Bottom Maximum Depth: 8.0'
 - Design Flow:
 - 8 Residents at 100 gpd
 - $8 \times 100 \text{ gpd} = 800 \text{ gpd}$
 - Square Footage of Drain Field Required:
 - Design Flow (800 gpd) / Application Rate (0.6) = 1,333.3 sf
 - Sidewall Reduction Credit:
 - Trench Width (W) = 3'
 - Trench Effective Depth (D) = 2.5'
 - $(W+2) / (W+1+2D) \times 100 = 55.55\%$
 - Linear Length of Trench Required:
 - Drain field Square Footage (800) x Sidewall Reduction Credit (0.5555) / Trench Width (3') = 246.9' use 247.0
- Linear Length of Trench Provided = 247.5
- three trenches @ 82.5 LF

Pumping System Design

BAT Pre-treatment Pump Chamber

- Dose Calculation
 - Design Flow: 1,000gpd (1,000 gpd is the treatment for what the BAT is designed for)
 - Dose amount: 50gph
 - Pump flow required: 27 gpm
 - Pump run time: 1.9 minutes (1min, 51 sec.)
 - Static head: 1.75' use 2'
 - Friction Head: Not applicable
 - Total Dynamic Head: 1.75'
- Dose Calculations:
 - Design Flow: 800 gpd

Roscommon Estates, Lot 9
 3255 Roscommon Drive
 August 27, 2018

- Length of force main and manifold
 - 2.0" force main = 106.37'
 - 2.0" manifold = 38.86'
- Volume of force main:
 - 106.37×17.4 gallons per 100' = 18.5 gallons
- Volume of manifolds:
 - 38.86×17.4 gallons per 100' = 6.8 gallons
- Length of 1.5" laterals:
 - 222.78'
- Volume of laterals:
 - 222.78×10.6 gallons per 100' = 23.61
- Minimum dose is the greater of:
 - Volume of force main, manifolds and leaders + (5 x Volume of the laterals):
 - $18.8 + 6.8 + (5 \times 23.61 \text{ gallons}) =$
 - $18.5 + 6.8 + 118.1 = 143.35$ gallons
 - Or
 - $1/6^{\text{th}}$ the design flow:
 - $1/6 \times 800$ gallons = 133.33 gallons

Use 144 gallons for dose

- Pump Design:
 - Pump flow required: 42 gpm (see Pressure Distribution table for initial system)
 - Dose amount: 144 gallons
 - Pump run time: 3.4 minutes (3 min.26 sec.)
 - Static head (see profile for detail): 4.81'
 - Friction head calculation (Table 4.3):

Pipe size	2.0" Force Main	2" Manifold
1/4 Bend (90°)	1 @ 7.0' = 7.0'	2 @ 7.0' = 14.0'
1/8 Bend (45°)	3 @ 4.0' = 12.0'	-
1/16 Bend (22.5°)	-	-
1/32 Bend (11.25°)	-	-
Gate Valve	-	-
Standard Tee	-	2 @ 12.0' = 24.0'
Run Tee	-	-
Cross	-	1 @ 12.0' = 12.0'
Reducer	-	6 @ 1.3' = 7.8'
Couplings	4 @ 2.0' = 8.0'	-
Total Equivalent Length of pipe	27.0'	57.8'

- Flow at 2.0" pipe = 42 gpm
 - Friction loss per 100' (Table 4.4) of 2.0" schedule 40 PVC: 2.88
 - Total equivalent length of 2.0" FM, manifold and appurtenances =
 - $106.37 + 27 + 38.86 + 57.8 = 230.03'$
 - Friction loss in 2.0" force main and manifold pipe = $230.03/100 \times 2.88 = 6.62'$
- Total Friction head
 - 6.62'**

- Total Dynamic Head = Static head + Distal Head + Friction head + Lateral Friction Head Safety Factor

$$4.81' + 2.0 + 6.62' + 1.5 = 14.93 \text{ use } 15'$$

- Pump Chamber Design:

- For pump tank dimensions and detail, see plans.

- Pump chamber to trench elevations:

Proposed grade at top of tank (at inlet): 626.30'

Pump chamber invert in: 623.58'

High Water Alarm: 621.77'

Pump On: 621.27'

Pump Off: 620.99'

Bottom inside slab of tank: 619.41'

- Pump Chamber volumes:

- Cross section of pump tank: Interior width x Interior length

$$- 5.67' \times 11.92' = 67.59 \text{ cf}$$

- Invert In to Pump On:

- Pump In: 623.58

Pump On: 621.27

2.31

$$- 2.31 \times 67.59 = 156.13 \text{ cf OR}$$

$$- 156.13 \times 7.4805 = 1,167.95 \text{ gallons}$$

- Pump On to Pump Off:

- Pump On: 621.27

Pump Off: 620.99

0.28

$$- 0.28 \times 67.59 = 18.93 \text{ cf OR}$$

$$- 18.93 \times 7.4805 = 141.57 \text{ gallons}$$

- Design based on:

- Norweco TNTLP1000 GPD or equivalent

- Meyers ME3F series pump or equivalent

SEE Next page for Replacement System Calculations.

Replacement System 1:

- Application Rate: 0.6
 - Effective Area Beginning Depth: 5.5'
 - Bottom Maximum Depth: 8.0'
 - Design Flow:
 - 8 Residents at 100 gpd
 - $8 \times 100 \text{ gpd} = 800 \text{ gpd}$
 - Square Footage of Drain Field Required:
 - Design Flow (800 gpd) / Application Rate (0.6) = 1,333.3 sf
 - Sidewall Reduction Credit:
 - Trench Width (W) = 3'
 - Trench Effective Depth (D) = 2.5'
 - $(W+2) / (W+1+2D) \times 100 = 55.55\%$
 - Linear Length of Trench Required:
 - Drain field Square Footage (800) x Sidewall Reduction Credit (0.5555) / Trench Width (3') = 246.9' use
- Linear Length of Trench Provided = 247.0
- four trenches @ 51.75 LF

Replacement System 2:

- Application Rate: 0.8
- Effective Area Beginning Depth: 5.5'
- Bottom Maximum Depth: 8'
- Design Flow:
 - 8 Bedrooms at 100 gpd
 - $8 \times 100 \text{ gpd} = 800 \text{ gpd}$
- Square Footage of Drain field Required:
 - Design Flow (800 gpd) / Application Rate (0.8) = 1,000 sf
- Sidewall Reduction Credit:
 - Trench Width (W) = 3'
 - Trench Effective Depth (D) = 2.5'
 - $(W+2) / (W+1+2D) \times 100 = 55.55\%$
- Linear Length of Trench Required:
 - Drain field Square Footage (800) x Sidewall Reduction Credit (55.55%) / Trench Width (3') = 185.17'
- Linear Length of Trench Provided = 186
- four trenches @ 46.5 LF

PRESSURE DISTRIBUTION ON SLOPING SITES

Roscommon, Lot 9 - Pressure System

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)	
I1	628.4	625.8	623.3	37.13	2.0	5/16	1.41	8.3	5	7.05	ZONE 1
I2	628.4	625.8	623.3	37.13	2.0	5/16	1.41	8.3	5	7.05	
I3	627.9	625.8	623.3	37.13	2.0	5/16	1.41	8.3	5	7.05	
I4	627.9	625.8	623.3	37.13	2.0	5/16	1.41	8.3	5	7.05	
I5	627.8	625.8	623.3	37.13	2.0	5/16	1.41	8.3	5	7.05	
I6	627.8	625.8	623.3	37.13	2.0	5/16	1.41	8.3	5	7.05	

222.78

42.30

TOTAL

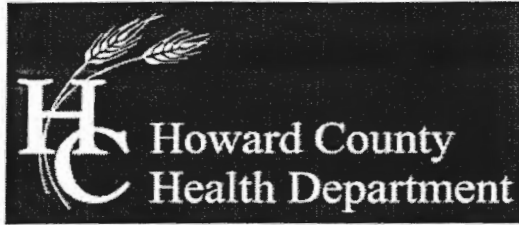
Laterals I1-I6

42

Effective area beginning depth = 5.5

Trench bottom = 8

Effective depth = 2.5



Bureau of Environmental Health

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www.hchealth.org

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Twitter: HowardCoHealthDep

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

SEWAGE DISPOSAL SYSTEM SPECIFICATIONS WORKSHEET

Address: 3255 Roscommon Dr

Subdivision: Roscommon Estates Lot: 9

(lots 14, 15, & 16)

Initial system: Application rate: 0.6 Effective area beginning depth: 5.5 Bottom maximum depth: 8 (#16)

1st Replacement: Application rate: 0.6 Effective area beginning depth: 5.5 Bottom maximum depth: 8 (#14 & 15)

2nd Replacement: Application rate: _____ Effective area beginning depth: _____ Bottom maximum depth: _____

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:

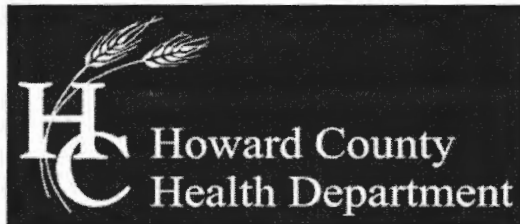
$$\frac{W + 2}{W + 1 + 2D} \times 100 = \text{Percent of length of standard trench where } W = \text{trench width and } D = \text{depth between effective area beginning depth and trench bottom.}$$

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:

Approved: Hank Oswald Date: 4/24/18



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

Twitter: HowardCoHealthDep

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

SEWAGE DISPOSAL SYSTEM SPECIFICATIONS WORKSHEET

Address: 3255 Roscommon Dr

Subdivision: Roscommon Estates Lot: 9

(Holes 1-5)

Initial system: Application rate: 0.6 Effective area beginning depth: 7 Bottom maximum depth: 8 (3,2,1)

1st Replacement: Application rate: 0.8 Effective area beginning depth: 7 Bottom maximum depth: 8 (1)

2nd Replacement: Application rate: 0.8 Effective area beginning depth: 7 Bottom maximum depth: 8 (4,5)

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:

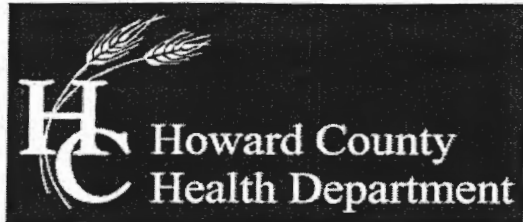
$$\frac{W + 2}{W + 1 + 2D} \times 100 = \text{Percent of length of standard trench where } W = \text{trench width and } D = \text{depth between effective area beginning depth and trench bottom.}$$

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:

Approved: Hank Oswald Date: 4/24/18



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

Twitter: HowardCoHealthDep

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

SEWAGE DISPOSAL SYSTEM SPECIFICATIONS WORKSHEET

Address: 3255 Roscommon Dr

Subdivision: Roscommon Estates Lot: 9
(lots 10, 11, 12 & 13)

Initial system: Application rate: 0.8 Effective area beginning depth: 7 1/2 Bottom maximum depth: 8 10, 11, 12

1st Replacement: Application rate: _____ Effective area beginning depth: _____ Bottom maximum depth: _____

2nd Replacement: Application rate: _____ Effective area beginning depth: _____ Bottom maximum depth: _____

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:

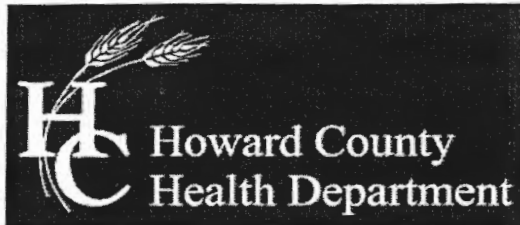
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- Maximum trench length is 100'
- Maximum pipe depth is 4'

Additional requirements:

Approved: Hank Oswald Date: 4/24/18



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Facebook: www.facebook.com/hocohealth

Twitter: HowardCoHealthDep

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

SEWAGE DISPOSAL SYSTEM SPECIFICATIONS WORKSHEET

Address: 3255 Roscommon Dr

Subdivision: Roscommon Estates Lot: 9
(holes 17 & 18)

Initial system: Application rate: 0.8 Effective area beginning depth: 5.5 Bottom maximum depth: 8

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

2nd Replacement: Application rate: Effective area beginning depth: Bottom maximum depth:

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:

$$\frac{W + 2}{W + 1 + 2D} \times 100 = \text{Percent of length of standard trench where } W = \text{trench width and } D = \text{depth between effective area beginning depth and trench bottom.}$$

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:

Approved: Hank Oswald Date: 4/24/18

Oswald, Hank

From: Steven Krieg -MDE- <steven.krieg@maryland.gov>
Sent: Wednesday, September 26, 2018 3:35 PM
To: Williams, Jeffrey; Oswald, Hank
Subject: Fwd: Re: FW: FW: Norweco 1000

----- Forwarded message -----

From: MATT GECKLE <124hratm@comcast.net>
Date: Wed, Sep 26, 2018, 2:14 PM
Subject: Fwd: Re: FW: FW: Norweco 1000
To: Steven Krieg <steven.krieg@maryland.gov>

FYI

They might get it right some time this year

MATT GECKLE
BACK RIVER PRE-CAST,LLC

COURAGE IS BEING SCARED TO DEATH-
BUT SADDLING UP ANYWAY

----- Original Message -----

From: MATT GECKLE <124hratm@comcast.net>
To: Anita Allen <anita@sillengineering.com>
Date: September 26, 2018 at 2:09 PM
Subject: Re: FW: FW: Norweco 1000

Anita,

See my answers below.

MATT GECKLE
BACK RIVER PRE-CAST,LLC

COURAGE IS BEING SCARED TO DEATH-
BUT SADDLING UP ANYWAY

On September 26, 2018 at 11:25 AM Anita Allen <anita@sillengineering.com>
wrote:

Good Morning Matt,

I went over the design with my boss and he made some suggestions that I should change but advised I get back with you for your input before I change anything and see if you could offer more feedback:

1. Change the pretreatment to have the single compartment (2000 gal) chamber first, and then have the 2 compartment (2000 gal) chamber after the single compartment and put the pump in the second chamber of the second tank.

No

Using a 2 compartment tank first will allow the heavy solids to settle out and allow a effluent filter to be used.

Using a effluent filter will reduce the size of solids going into the flow equalization tank and prevent items such as adult diapers from entering the flow equalization tank. This will ensure a longer life for the pump.

You cannot use a 2 compartment tank for a flow equalization tank because you will not have the reserve capacity in case of a pump failure or a water slug entering the system.

2. Removing the effluent pump in the single compartment and putting a grinder/effluent pump instead. (The ME40 maybe). Using the Norweco HB105 effluent pump with a TDH of 4' and a dose of 28 GPM the intersection falls outside the pump performance curve. With the Head being so low the ME40 would fall outside the performance curve as well. I used the Pentair Myers Product search using conditions of Service and none of their products were found for these conditions.

Your condition is outside the bottom end of the curve, which means the pump will pump 28 GPM at 4 ft. of TDH.

Do you know of a grinder pump that would work in this case. Or can you confirm that you have used the Norwecco HB105 effluent pump in a similar setup and that it is performing efficiently?

We have HB 105 pumps with this set up and they are working properly.

We routinely see pumps outside the bottom end of the curve when you have a low TDH.

We also recommend to avoid using grinder pumps whenever possible. They require yearly maintenance and their life span is less.

3. Could you explain what would happen if in the absolute worst case scenario if there was a sudden dump into the first pump tank? Since it is a timed dose what happens if the tank becomes full before the hour is up?

I went over the design with my boss and he made some suggestions that I should change but advised I get back with you for your input before I change anything and see if you could offer more feedback:

1. Change the pretreatment to have the single compartment (2000 gal) chamber first, and then have the 2 compartment (2000 gal) chamber after the single compartment and put the pump in the second chamber of the second tank.

No

Using a 2 compartment tank first will allow the heavy solids to settle out and allow a effluent filter to be used.

Using a effluent filter will reduce the size of solids going into the flow equalization tank and prevent items such as adult diapers from entering the flow equalization tank. This will ensure a longer life for the pump.

You cannot use a 2 compartment tank for a flow equalization tank because you will not have the reserve capacity in case of a pump failure or a water slug entering the system.

2. Removing the effluent pump in the single compartment and putting a grinder/effluent pump instead. (The ME40 maybe). Using the Norweco HB105 effluent pump with a TDH of 4' and a dose of 28 GPM the intersection falls outside the pump performance curve. With the Head being so low the ME40 would fall outside the performance curve as well. I used the Pentair Myers Product search using conditions of Service and none of their products were found for these conditions.

Your condition is outside the bottom end of the curve, which means the pump will pump 28 GPM at 4 ft. of TDH.

Do you know of a grinder pump that would work in this case. Or can you confirm that you have used the Norwecco HB105 effluent pump in a similar setup and that it is performing efficiently?

We have HB 105 pumps with this set up and they are working properly.

We routinely see pumps outside the bottom end of the curve when you have a low TDH.

We also recommend to avoid using grinder pumps whenever possible. They require yearly maintenance and their life span is less.

3. Could you explain what would happen if in the absolute worst case scenario if there was a sudden dump into the first pump tank? Since it is a timed dose what happens if the tank becomes full before the hour is up?

In my set up that means you are using twice the amount of water that you said you were going to use and more then twice the amount of water the system was designed for. They also ignored the high water alarm telling them the tank is near full and they should stop using water and call someone to inspect the alarm condition.

The flow equalization tank is the system's traffic cop it does not allow the user to overload the treatment tank or the dispersal system. Also, in order for it to back up into the building they would have to be using about 2000 GPD.

Bottom line you cannot use more water then the system is designed for.

Thank you,

Anita

From: MATT GECKLE <124hratm@comcast.net>
Sent: Thursday, September 13, 2018 11:16 AM
To: Anita Allen <anita@sillengineering.com>
Subject: Re: Norweco 1000

Anita,

Per our conversation this is how I would do the treatment system:

1st) 2000 gal 2 compartment septic tank (drawing attached) with effluent filter on the outlet (assisted living facilities tend flush a lot things they should not and this will help protect the pump).

2nd) 2000 gal pump chamber (dosing tank) (drawing attached) with a Norweco HB-105 pump (manual attached).

Use a Norweco Wasp panel (manual attached) to time dose the Norweco treatment tank at 50 gals. every hour

and this would also control 1 aerator in the Norweco treatment tank.

Pump run time: 1 min 47 secs. pump off time: 58 mins. 13 secs.

(2) floats (1) on / off float and (1) high water alarm float.

3rd) Norweco 1000 gal treatment tank (tank with 2 aerators and 2 filters) and aerators controlled by (2) Wasp panels

(1) for the 2000 gal. pump chamber and (1) for the 1500 gal. pump chamber

4th) 1500 gal. pump chamber(drawing attached) with 110 volt pump controlled by a Norweco Wasp panel and (2) floats (1) on / off float and (1) high water alarm float. This Wasp panel will time dose the LPD per your design.

If you need anything else just let me know.

Thanks,

MATT GECKLE
BACK RIVER PRE-CAST,LLC

COURAGE IS BEING SCARED TO DEATH-
BUT SADDLING UP ANYWAY

On September 13, 2018 at 10:03 AM
Anita Allen
<anita@sillengineering.com> wrote:

Good Morning Matt,

I am writing you about a design that I have in Howard County. I have designed a BAT Low pressure dosing system for an 8 bedroom assisted living facility (with a total of 800GPD) using the Norweco 1000.

MDE is asking me to modify my design to include a septic tank and time dosing tank prior to entering the BAT system and suggested I consult with you on the design. Do you think

that is necessary in this application?
Are there alternatives to this?

I've attached the proposed design
plan to this email.

I called this morning but you were
unavailable, please give me a call
when you a few minutes to discuss
this.

Thank you in advance for your help,

Anita

Anita E. Allen

Sill Engineering Group, LLC

11130 Dovedale Court, Suite 200

Marriottsville, MD 21104

443-325-5076 Ext. 104

From: MATT GECKLE

[<124hratm@comcast.net>](mailto:124hratm@comcast.net)

Sent: Thursday, December 28, 2017

11:07 AM

To: Anita Allen

[<anita@sillengineering.com>](mailto:anita@sillengineering.com)

Subject: Re: Norweco 750 for 6
bedrooms

Anita,

Attached are PDF and CADD
drawings for the Norweco 750
GPD

You can send the information to Robert.

He has already approved the 750 GPD for 6 bedroom homes in Ho. Co.

If he has any problems just let me know and I will talk to Robert and get it approved.

He usually contacts me if he has a question about a Norweco.

If you have any questions about a Norweco please contact me.

Here are the current sizings for the Norweco's

Norweco 500 / 600 1-5 bedrooms

Norweco 750 6 bedrooms

Norweco 1000 7-9 bedrooms

Norweco 1250 10 - 11 bedrooms

Happy New Year,

MATT GECKLE
BACK RIVER PRE-CAST,LLC

COURAGE IS BEING SCARED

TO DEATH-
BUT SADDLING UP ANYWAY

On December 28,
2017 at 10:08 AM
Anita Allen
<anita@sillengineering.com> wrote:

Good Morning Matt,

We just spoke about
the residential system
that was released by
Norweco this year
2017 that will treat a
6 bedroom house and
eliminate the need for
the pretreatment tank.

Can you please send
me the specifications
on the system so I can
include them on our
BAT plan required by
the Howard County
Health Department.

And with your
permission I'd like to
send the information
on to Robert Bricker,
Environmental
Sanitarian, with the
Howard County
Heath Department.

Thank you,

Anita

Anita E. Allen

Sill Engineering
Group, LLC

11130 Dovedale
Court, Suite 200

Marriottsville, MD
21104

Office: 443-325-
5076

Fax: 410-696-2022

Cell: 443-897-3046

Website:
[www.sillengineering
.com](http://www.sillengineering.com)

[Click here](#) to complete a three question customer experience survey.

Oswald, Hank

From: Williams, Jeffrey
Sent: Wednesday, September 12, 2018 3:13 PM
To: 'Paul Sill'
Cc: Oswald, Hank
Subject: RE: 3255 Roscommon Drive

I talked with Steve and he is requiring a time dosed system entering the BAT unit due to experience he has with other assisted living facilities and the erratic volume of waste issues that interfere with BAT performance. He suggested that you consult with the BAT manufacturer on the proper system before the BAT. I saw you are using a Norweco, he said that Matt Geckle, the local distributor, has experience with Steve setting up this type of system.

Our plan will need to show the details of the system with pump and controls as I mentioned in the prior email. Thanks
Jeff

From: Paul Sill [<mailto:paul@sillengineering.com>]
Sent: Tuesday, September 11, 2018 9:36 AM
To: Williams, Jeffrey
Subject: RE: 3255 Roscommon Drive

Wow, okay. Let me know.

From: Williams, Jeffrey <jewilliams@howardcountymd.gov>
Sent: Tuesday, September 11, 2018 9:25 AM
To: Paul Sill <paul@sillengineering.com>
Subject: RE: 3255 Roscommon Drive

That's what Steve called for in the condition and what I'm trying to clarify with him. If it stands, we'd be looking at a one or two comp trash tank, then a pump tank with time dosed pump, then BAT unit, then pump tank to drainfield.

From: Paul Sill [<mailto:paul@sillengineering.com>]
Sent: Saturday, September 08, 2018 10:07 AM
To: Williams, Jeffrey
Subject: RE: 3255 Roscommon Drive

Ah-ha! I did not see that condition. So, there will be a first pump tank, then the BAT, then the second pump tank?

From: Williams, Jeffrey <jewilliams@howardcountymd.gov>
Sent: Friday, September 07, 2018 3:38 PM
To: Paul Sill <paul@sillengineering.com>
Subject: RE: 3255 Roscommon Drive

This is what I want to clarify with Steve. His condition calls for time dosing the BAT unit from the first septic tank, which is the 2nd pump we're referencing. One pump to time dose the BAT and a 2nd pump to send the effluent to the trenches.

From: Paul Sill [<mailto:paul@sillengineering.com>]
Sent: Friday, September 07, 2018 3:14 PM

To: Williams, Jeffrey
Subject: RE: 3255 Roscommon Drive

Thanks for the clarification, Jeff.

We don't have a two-pump system. There's gravity flow from the house to the tanks, and then a pump chamber to pump to the trenches.

How will we know in the future what you are going to want us to do with trenches? I'll never have the budget to do two designs. With that in mind, can we keep this design as is, and start with this new process next time? I got murdered on the Clime design last year, only to have the design changed again in the field back close to our original design. You guys are going to put me out of business...

From: Williams, Jeffrey <jewilliams@howardcountymd.gov>
Sent: Friday, September 07, 2018 1:22 PM
To: Paul Sill <paul@sillengineering.com>
Cc: Oswald, Hank <hoswald@howardcountymd.gov>; Anita Allen <anita@sillengineering.com>
Subject: RE: 3255 Roscommon Drive

I reached out to Steve at MDE to provide some more clarification on this time dosed system he wants before the BAT. I'll get back to you. Essentially, if we need two pumps, we need to know all the details needed for installation and our verification that it will work: model, horsepower, float setup, for time dosed, there will be a control panel and will both pumps be on one panel or are they separate? What is the panel model and how will it be set up? Etc.

For the trenches, we are taking a renewed focus on getting trenches as shallow as possible for proper system design. IN a case like this where it is being pumped up, the trenches can all be set a 2-3 foot invert depth. Since the effective area doesn't start until deeper and the ground elevation doesn't change much, you can set the invert depths at the same elevation (with the relative depths changing slightly as the ground elevation changes). That will allow for a much simpler and effective design where all the laterals can have the same hole spacing and be at the same discharge rate.

From: Paul Sill [mailto:paul@sillengineering.com]
Sent: Tuesday, September 04, 2018 1:12 PM
To: Williams, Jeffrey
Cc: Oswald, Hank; Anita Allen
Subject: 3255 Roscommon Drive

Hey Jeff,

We received comments on this BAT from Hank Friday and have some questions, but I see he's out for the week. I don't want to lose a week though (the client is pushing hard to move this forward), so I was wondering if you can help?

- Comment #2: We've not been asked to provide details on the panel before. Do you have a sample for that? Also, I'm not sure of the difference between the two pumps he mentions. Can you clarify?
- Comment #5: I'm not sure what is being asked for here. Our manifold is at one elevation, and we wouldn't have all the trenches at the same invert and head. Any thoughts?
- Comments #8 and #9: All this information is on the plans in the specific places for each piece. I try not to have duplicate information on the plans and providing a chart with the duplicate information just leads to possibilities of errors, with one number being changed and the other being missed. I'd like to think that never happens, but it does. Rather than provide a chart only, I think it makes more sense to keep the information with the appropriate details and/or notes. I think Anita does a great job with the details and sections making them as clear as possible. Let me know what you think.

The other comments are not an issue.

Thanks,

Paul M. Sill, PE, LEED AP
Sill Engineering Group, LLC
11130 Dovedale Court, Suite 200
Marriottsville, MD 21104
Office: 443-325-5076 ext. 102
Fax: 410-696-2022
Cell: 443-878-4314
Website: www.sillengineering.com

 Please consider the environment before printing this email.

Oswald, Hank

From: Williams, Jeffrey
Sent: Friday, September 07, 2018 1:22 PM
To: 'Paul Sill'
Cc: Oswald, Hank; Anita Allen
Subject: RE: 3255 Roscommon Drive

I reached out to Steve at MDE to provide some more clarification on this time dosed system he wants before the BAT. I'll get back to you. Essentially, if we need two pumps, we need to know all the details needed for installation and our verification that it will work: model, horsepower, float setup, for time dosed, there will be a control panel and will both pumps be on one panel or are they separate? What is the panel model and how will it be set up? Etc.

For the trenches, we are taking a renewed focus on getting trenches as shallow as possible for proper system design. IN a case like this where it is being pumped up, the trenches can all be set a 2-3 foot invert depth. Since the effective area doesn't start until deeper and the ground elevation doesn't change much, you can set the invert depths at the same elevation (with the relative depths changing slightly as the ground elevation changes). That will allow for a much simpler and effective design where all the laterals can have the same hole spacing and be at the same discharge rate.

From: Paul Sill [<mailto:paul@sillengineering.com>]
Sent: Tuesday, September 04, 2018 1:12 PM
To: Williams, Jeffrey
Cc: Oswald, Hank; Anita Allen
Subject: 3255 Roscommon Drive

Hey Jeff,

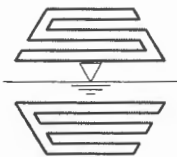
We received comments on this BAT from Hank Friday and have some questions, but I see he's out for the week. I don't want to lose a week though (the client is pushing hard to mov this forward), so I was wondering if you can help?

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The other comments are not an issue.

Thanks,

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SILL ENGINEERING GROUP, LLC

September 21, 2018

Howard County Health Department
Bureau of Environmental Health
8390 Stanford Boulevard
Columbia, Maryland 21045

Attn: Mr. Hank Oswald

Re: OSDS Plan
32255 Roscommon Drive
Response Letter

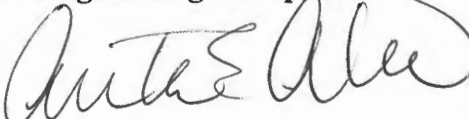
Dear Mr. Oswald:

Please find a point by point response to your comments dated August 31, 2018 below:

1. The plan has been signed and sealed.
2. As suggested by Matt Geckle, local Distributor, the system will require 2 Norweco WASP panels that will be mounted side by side. The first panel will time dose the BAT pretreatment pump chamber and control 1 aerator in the Norweco BAT tank. The second panel will control the time dose for the pump chamber to the trenches and 1 aerator in the Norweco BAT tank. This information has been shown on Sheet 2 of the plan.
3. The first tank in the system has been changed to a 2-compartment tank. A BAT pretreatment pump chamber has been added to the plan at the request of MDE. The notes have been updated to reflect these changes.
4. The proposed well line has been shown and sleeved at all parts of the line that are within 10' of the sewage disposal area or beneath the driveway.
5. The system has been redesigned to hold the inverts at 2-3 feet below the existing grade, as well as keep all inverts at the same depth and head. Please see revised plan and computations.
6. The design was revised to use 5/16" holes.
7. I held 3 trenches but made 6 laterals.
8. I Separated the charts for laterals and trenches.
9. Please find trench chart on Sheet 2.

Please find attached three copies of the revised plan and the report. Should you have any questions or comments regarding this matter, please do not hesitate to contact this office.

Sincerely,
Sill Engineering Group, LLC


Anita Allen

MEMORANDUM

TO: Sill Engineering Group, LLC

FROM: Hank Oswald, L.E.H.S.
Well & Septic Program

RE: OSDS Plan
3255 Roscommon Drive

Date: August 31, 2018

The following comments pertain to the review of the OSDS Plan for 3255 Roscommon Drive:

- 1.) Add professional seal and signature to the plan.
- 2.) Add details about electrical panel setup to control separately the time-dose pump and distribution pump
- 3.) Make first tank a 2 – compartment tank. Change note #13 to reflect.
- 4.) Show well line (Show sleeve on any part of line within 10 feet of the SDA or beneath driveway).
- 5.) Make inverts depth 2 – 3 feet and all inverts the same depth & head.
- 6.) Recommend 5/16 in. holes (¼ in. holes need at least 3 foot of head).
- 7.) Keep 3 trenches but make 6 laterals (i.e. L1 thru L6 on chart).
- 8.) Show trench detail and lateral details on separate charts on plan (This make the plan easier to read when installing system)
- 9.) Add trench design chart to plan with columns for ground elev., stone elev., pipe invert elev., and bottom elev. as well as depth of stone, effective depth, effective depth, trench width & trench spacing (See attachment for example).

Oswald, Hank

From: Oswald, Hank
Sent: Friday, August 31, 2018 11:44 AM
To: Paul (paul@sillengineering.com)
Cc: ELEONORADON6@YAHOO.COM
Subject: OSDS Plan_3255 Roscommon_2018
Attachments: BAT LPD Memo_2018.pdf

Hello Paul:

Attached, please find memo with comments pertaining to the review of the OSDS Plan for 3255 Roscommon Drive.

Should you have any questions, please don't hesitate to ask.

Respectfully,

Hank

Hank Oswald
Licensed Environmental Health Specialist
Howard County Health Department
Bureau of Environmental Health
Well & Septic Program
8930 Stanford Boulevard
Columbia, MD 21045
410.313.1786 (Office)
hoswald@howardcountymd.gov

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Oswald, Hank

From: Oswald, Hank
Sent: Monday, July 23, 2018 8:51 AM
To: home@shanlane.com
Cc: ELEONORADON6@YAHOO.COM
Subject: Perc Cert_Roscommon_Variance Note

Hello All:

Good morning. The full note about the variance condition must be on the plan. It should read;

"MDE has approved a variance to allow the sewage disposal area on Lot 9 to be up-gradient of the well located on Lot 8 (3246 Roscommon Drive) and it's subject to the following condition:

- 1.) A BAT unit is required and it must be timed dosed (Install a 2 - compartment tank with a pump in the second chamber on a timer before the BAT unit)."

Thanks,

Hank

Hank Oswald
Licensed Environmental Health Specialist
Howard County Health Department
Bureau of Environmental Health
Well & Septic Program
8930 Stanford Boulevard
Columbia, MD 21045
410.313.1786 (Office)
hoswald@howardcountymd.gov

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Oswald, Hank

From: Oswald, Hank
Sent: Thursday, May 24, 2018 11:14 AM
To: home@shanlane.com
Cc: ELEONORADON6@YAHOO.COM
Subject: Perc Cert_3255 Roscommon
Attachments: PC_3255 Roscommon.pdf

Hi Scott:

The revised perc cert received on May 23, 2018 has been reviewed with the following comments:

- 0.4 1.) Replacement System #1 (R1) is subject to 0.6 rate (not 0.8) near hole#16
- 0.4 2.) Replacement System #2 (R2) has effective depth beginning at 5.5 and a bottom depth of 8 feet near holes 17 & 18
- 0.4 3.) Under "Septic System Design Trench Specs" on plan for Replacement 2 - #6, the labels should read; Trench R2 - 1, R2 - 2 etc.
- 0.4 4.) Define the circle and square on the plan as highlighted in the attachment or remove them from plan.
- 0.4 5.) Remove portion of the SDA that's not part of the design area but keep the perc test hole locations on plan (maintain at least 10k).

Should you have any questions, please don't hesitate to ask.

Respectfully,

Hank

Hank Oswald
Licensed Environmental Health Specialist
Howard County Health Department
Bureau of Environmental Health
Well & Septic Program
8930 Stanford Boulevard
Columbia, MD 21045
410.313.1786 (Office)
hoswald@howardcountymd.gov

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

MEMORANDUM

TO: Shanaberger & Lane
8726 Town & Country Blvd
Suite 201
Ellicott City, MD 21043

FROM: Hank Oswald, L.E.H.S.
Well & Septic Program

RE: 3255 Roscommon Drive
Roscommon Estates, Lot 9

Date: May 10, 2018

The perc cert plan for 3255 Roscommon Drive, Roscommon Estates, Lot 9 has been reviewed with the following comments:

- 1.) The purpose statement must include that the existing residence is being converted to an Assistant Living Facility.
- 2.) The design flow for an assisted living facility is 100 gallons/day/bed.
- 3.) Please specify whether employees will work in shifts or stay in a room on site. Add 150 gpd per bedroom to the design flow for the later.
- 4.) Add note to plan: The new septic system must be installed prior to Health Department approval of a building permit.
- 5.) Change signature block to read, "Health Officer, Howard County Health Department".
- 6.) Remove small circle from plan adjacent well box.
- 7.) Add the words "to accommodate 3 systems" after the word "area" in the first sentence of note #12
- 8.) Add note to plan: A pretreatment unit shall be required for a down gradient well and/or for effluent quality stronger than 300 mg/l biological oxygen demand or 300 mg/l suspended solids per COMAR 26.04.02.

Oswald, Hank

From: Oswald, Hank
Sent: Thursday, May 10, 2018 3:04 PM
To: 'Shanaberger & Lane'
Cc: ELEONORADON6@YAHOO.COM
Subject: Perc Cert Memo_3255 Roscommon Drive
Attachments: PERC CERT Memo To Shanaberger_2018.pdf

Good afternoon:

Attached, please find a memo with comments to the perc cert plan for 3255 Roscommon Drive. Should you have any questions, please don't hesitate to ask.

Thanks,

Hank

Hank Oswald
Licensed Environmental Health Specialist
Howard County Health Department
Bureau of Environmental Health
Well & Septic Program
8930 Stanford Boulevard
Columbia, MD 21045
410.313.1786 (Office)
hoswald@howardcountymd.gov

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SITE INSPECTION SHEET

OWNER: Bon Minerva Ekanora PHONE #: _____

ADDRESS: 3255 Roscommon Dr. CONTRACTOR: _____

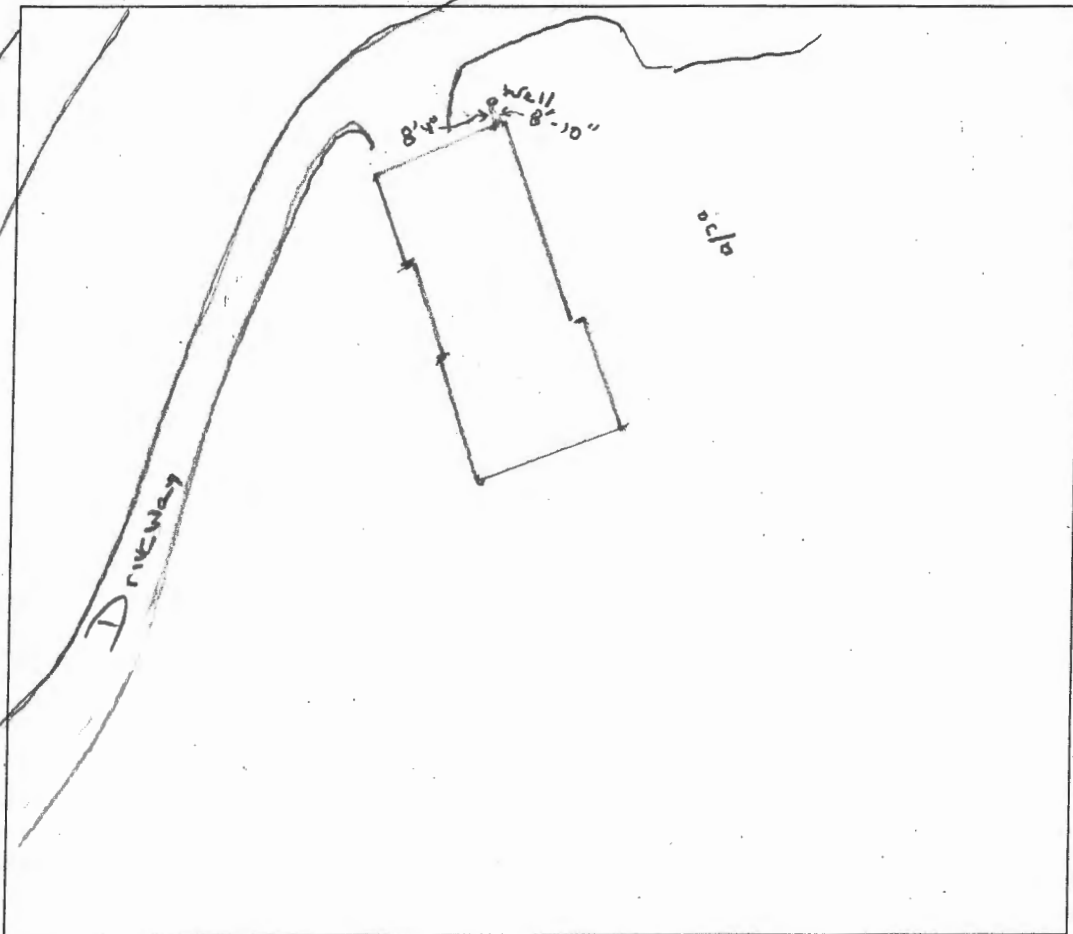
Glencly

WELL TAG #: Not observed

SUBDIVISION: _____ LOT: 9 COUNTY #: _____

PROPOSAL: Remodel bathrooms, change windows/doors & paint.

LOCATION DIAGRAM



COMMENTS: Well cap had a hole in it & it was only a couple inches above grade. Tank aleanout observed covered w/ bucket. House is vacant/under repair. Instructed owner to replace cap, disinfect well & sample.

DATE: 3.2.18

INSPECTOR: H. Oswald

11 January 2018

JOHN MOSEMAN
WELL WATER SOLUTIONS, INC.
5163 DARTING BIRD LANE
COLUMBIA, MD 21044
RE: 3255 ROSCOMMON DR

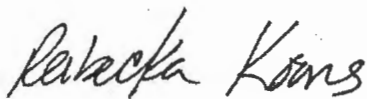
Enclosed are the results of analyses for samples received by the laboratory on 01/03/18 12:00.

A more detailed report format is available upon request, which lists the accreditation status for all analytical methods performed.

Please visit our website at www.mdspectral.com for a complete listing of our accreditations.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Rabecka Koons
Quality Assurance Officer

Analytical Results

1500 Caton Center Dr Suite 4

Baltimore MD 2122

410-247-760

www.mdspectral.com

Project: 3255 ROSCOMMON DR

Project Number: 3255 ROSCOMMON DR, GLENELG MD

Project Manager: JOHN MOSEMAN

Reported:

01/11/18 14:47

Client Sample ID	Alternate Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
3255 ROSCOMMON DR		8010302-01	Drinking Water	01/02/18 17:30	01/03/18 12:00

Rabecka Koons

Rabecka Koons, Quality Assurance Officer

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Analytical Results

Project: 3255 ROSCOMMON DR

Project Number: 3255 ROSSCOMMON DR, GLENELG MD

Project Manager: JOHN MOSEMAN

Reported:

01/11/18 14:47

3255 ROSCOMMON DR

8010302-01 (Drinking Water)

Sample Date: 01/02/18

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 524.2 (GC/MS)									
tert-Amyl alcohol (TAA)	ND		ug/L	10.0	10.0	1	01/03/18	01/03/18 16:10	WB
tert-Amyl methyl ether (TAME)	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
Benzene	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
Bromobenzene	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
Bromochloromethane	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
Bromodichloromethane	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
Bromoform	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
Bromomethane	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
tert-Butanol (TBA)	ND		ug/L	10.0	10.0	1	01/03/18	01/03/18 16:10	WB
n-Butylbenzene	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
sec-Butylbenzene	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
tert-Butylbenzene	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
Carbon tetrachloride	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
Chlorobenzene	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
Chloroethane	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
Chloroform	1.51		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
Chloromethane	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
2-Chlorotoluene	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
4-Chlorotoluene	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
Dibromochloromethane	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
1,2-Dibromo-3-chloropropane	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
1,2-Dibromoethane (EDB)	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
Dibromomethane	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
1,2-Dichlorobenzene	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
1,3-Dichlorobenzene	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
1,4-Dichlorobenzene	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
Dichlorodifluoromethane	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
1,1-Dichloroethane	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
1,2-Dichloroethane	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
1,1-Dichloroethene	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
cis-1,2-Dichloroethene	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
trans-1,2-Dichloroethene	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
1,2-Dichloropropane	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
1,3-Dichloropropane	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB

Rabecka Koons

Rabecka Koons, Quality Assurance Officer

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Analytical Results

Project: 3255 ROSCOMMON DR

Project Number: 3255 ROSCOMMON DR, GLENELG MD

Project Manager: JOHN MOSEMAN

Reported:

01/11/18 14:47

3255 ROSCOMMON DR

8010302-01 (Drinking Water)

Sample Date: 01/02/18

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 524.2 (GC/MS) (continued)									
2,2-Dichloropropane	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
1,1-Dichloropropene	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
cis-1,3-Dichloropropene	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
trans-1,3-Dichloropropene	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
Diisopropyl ether (DIPE)	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
Ethyl tert-butyl ether (ETBE)	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
Ethylbenzene	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
Hexachlorobutadiene	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
Isopropylbenzene (Cumene)	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
4-Isopropyltoluene	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
Methyl tert-butyl ether (MTBE)	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
Methylene chloride	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
Naphthalene	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
n-Propylbenzene	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
Styrene	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
1,1,1,2-Tetrachloroethane	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
1,1,2,2-Tetrachloroethane	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
Tetrachloroethene	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
Toluene	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
1,2,3-Trichlorobenzene	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
1,2,4-Trichlorobenzene	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
1,1,1-Trichloroethane	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
1,1,2-Trichloroethane	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
Trichloroethene	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
Trichlorofluoromethane (Freon 11)	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
1,2,3-Trichloropropane	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
1,2,4-Trimethylbenzene	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
1,3,5-Trimethylbenzene	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
Vinyl chloride	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
o-Xylene	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
m- & p-Xylenes	ND		ug/L	0.50	0.50	1	01/03/18	01/03/18 16:10	WB
Surrogate: 4-Bromofluorobenzene		80-120		83 %	01/03/18		01/03/18 16:10		
Surrogate: 1,2-Dichlorobenzene-d4		80-120		86 %	01/03/18		01/03/18 16:10		

Rabecka Koons

Rabecka Koons, Quality Assurance Officer

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Analytical Results

1500 Caton Center Dr Suite 6

Baltimore MD 2122

410-247-760

www.mdspectral.com

Project: 3255 ROSCOMMON DR

Project Number: 3255 ROSCOMMON DR, GLENELG MD

Project Manager: JOHN MOSEMAN

Reported:

01/11/18 14:47

Notes and Definitions

T	Sample temperature upon receipt was above acceptance criteria.
B	Analyte is found in the associated blank as well as in the sample (CLP B-flag).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Rabecka Koons

Rabecka Koons, Quality Assurance Officer

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Company Name: WILL WATER SOLUTIONS		Project Manager:		Analysis Requested										CHAIN-OF-CUSTODY RECORD										
Project Name: 3255 ROSCOMMON DR GLENRILE MD		Project ID:																						
Sampler(s): JOHN MOSEMAN		P.O. Number:												No. of Containers VOC									Maryland Spectral Services, Inc. 1500 Caton Center Drive, Suite G Baltimore, MD 21227 410-247-7600 • Fax 410-247-7602 labman@mdspectral.com Matrix Codes: NW (nonpotable water) PW (potable water) Preservative: 1+1 HCL, H ₂ SO ₄ , Methanol, Na ₂ S ₂ O ₃ , NaHCO ₃	
Field Sample ID		Date	Time	Water	Soil	Other																		
3255 ROSCOMMON DR		1/2	5:30	X																				
GLENRILE MD																								
Relinquished by: (Signature) JOHN MOSEMAN		Date/Time 1/2 5:30 PM		Received by: (Signature)			Relinquished by: (Signature)			Date/Time		Received by: (Signature)												
(Printed)				(Printed)			(Printed)					(Printed)												
Relinquished by: (Signature) JOHN MOSEMAN		Date/Time 1/3 12:00		Received by Lab: (Signature) K. McAldoo			Turn Around Time:			Lab Use:														
(Printed) John Moselman				(Printed) Karla McAldoo			☒ Normal (7 day) ☐ 5 day ☐ 4 day ☐ 3 day ☐ Rush (2 day) ☐ Next Day ☐ Other: _____ ☐ Specific Due Date: _____			Temp: 8.8 °C ☒ Received on Ice ☐ Received same day ☐ Preservation Appropriate Sample Disposal: ☐ Return to Client ☐ Disposal by lab ☐ Archive for _____ days														
Delivery Method: ☐ Courier ☐ Client ☐ UPS ☐ FedEx ☐ USPS ☐ Other: _____		Special Instructions/QC Requirements & Comments:																						