

**Bureau of Environmental Health**  
 8930 Stanförd 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](http://www.hchealth.org)  
 Facebook: [www.facebook.com/hocohealth](http://www.facebook.com/hocohealth)

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

RECEIPT DATE: 9/4/18 **ONSITE SEWAGE DISPOSAL SYSTEM** P 56398  
 APPROVAL DATE: 01/30/2019 @ **PERMIT: CONSTRUCTION** A \_\_\_\_\_  
 PROPERTY ADDRESS: 12402 All Daughters Lane  
 SUBDIVISION: Orchard Estates LOT: 8 TAX ID: \_\_\_\_\_  
 CONTRACTOR: Hatfields Equipment EMAIL: \_\_\_\_\_  
 CONTRACTOR ADDRESS: P.O. Box 599, Annapolis, Md 21701 PHONE: 410-984-0401  
 CONTRACTOR CERTIFIED FOR BAT INSTALLATION:  MDE  MANUFACTURER:  
 PROPERTY OWNER: MB Orchard Estates EMAIL: \_\_\_\_\_  
 OWNER ADDRESS: 1686 E. Gude Drive, Rockville, MD PHONE: 301-762-9511

BAT UNIT MODEL: Norweco PUMP SIZE: 0.33hp PUMP TANK CAPACITY: 1500  
 OPERATION & MAINTENANCE AGREEMENT DATE SIGNED: \_\_\_\_\_ DATE RECORDED: \_\_\_\_\_

DISTRIBUTION SYSTEM:  GRAVITY  PRESSURE DOSED BEDROOMS: 5 APPLICATION RATE: 0.8

TRENCHES:	LINEAR FEET REQUIRED: <u>156.3</u>	INLET DEPTH: <u>4</u>
	TRENCH WIDTH: <u>3</u>	MAXIMUM BOTTOM DEPTH: <u>7</u>
	MINIMUM SPACE BETWEEN TRENCHES: <u>10</u>	EFFECTIVE AREA BEGINNING DEPTH: <u>4</u>
LOCATION:	PER APPROVED SITE PLAN. SEWAGE DISPOSAL AREA AND BAT UNIT LOCATION MUST BE STAKED BY LICENSED SURVEYOR PRIOR TO PRE-CONSTRUCTION INSPECTION.	
NOTES:	BAT and LPD Design <u>PUMP: WE03</u>	

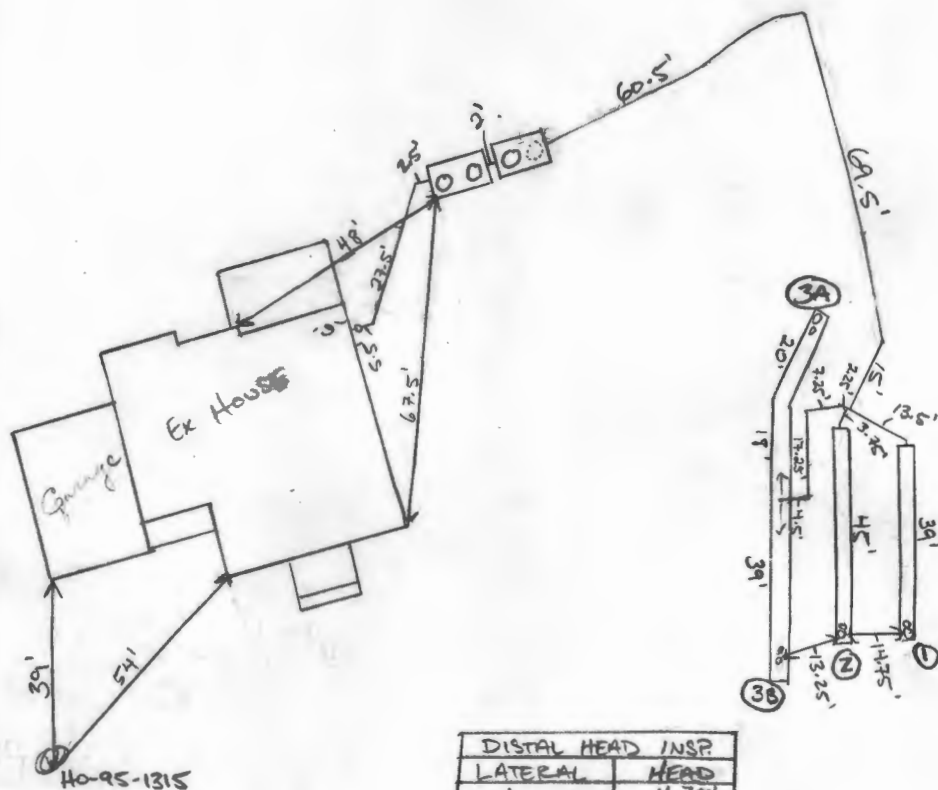
ISSUED BY: Hank Oswald ISSUE DATE: 09/04/2018 EXPIRATION DATE: 9/4/19

- 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 DOWNGRAIENT 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 18005122
- 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

2" F.M. (SPEC)  
SCH 40 PVC  
PR 280 PSI @ 73°F  
ASTM D-1785



LATERAL	DISTAL HEAD INSP HEAD
1	4.75'
2	5'
3A	5'
3B	4.75'

ROAD NAME  
ALL DAUGHTERS

**TRENCH/DRAINFIELD DATA**

WIDTH	INLET	BOTTOM
3'	4'	7'
NUMBER OF TRENCHES		4
TOTAL LENGTH		161 ft
ABSORPTION AREA		483 ft <sup>2</sup> + SIDE WALL
DISTRIBUTION BOX LEVEL		N/A
DISTRIBUTION BOX BAFFLE		N/A
DISTRIBUTION BOX PORT		N/A

**SEPTIC TANK DATA**

SEPTIC TANK 1 LEVEL	
MANUFACTURER	BACK RIVER
CAPACITY	750-800 GAL/DAY
SEAM LOC	1'-2'
TANK LID DEPTH	TOP
BAFFLES	N/A
BAFFLE FILTER	OUTLET
MANHOLE LOC	FRONT/BACK
6" PORT LOC	N/A
WATER TIGHT TEST	N/A
SLOTTED	
DATE ON LID	

PUMP/SEPTIC TANK LEVEL	
MANUFACTURER	BABYLON
CAPACITY	1500 GAL
SEAM LOC	TOP
TANK LID DEPTH	15'-2'
BAFFLES	N/A
BAFFLE FILTER	N/A
MANHOLE LOC	FRONT
6" PORT LOC	N/A
WATER TIGHT TEST	N/A
SLOTTED	NO
DATE ON LID	09/12/2018

NORWECO

**PRE-CONSTRUCTION:**

10/26/2018. NORWECO TO BE PLACED IN PUMP TANK LOCATION TO BE FOLLOWED BY PUMP TANK FORCE MAIN TO TURN OUTSIDE OF SDA CORNER. TRENCHES ARE OK. SIGHT CUT ~6" IN CENTER OF SDA. CONTRACTOR TO START AT END OF TRENCHES AND USE LASER LEVEL. CONFIRMED LATERAL SPECS AND UPDATED CONTRACTOR PLAN COPY W/ APPROVED REDLINE NOTES. OK TO START. (D)

INSTALLATION: 10/30/2018 TRENCHES COMPLETE, TANK SET, FORCE MAIN AND SHC INSTALLED ON 10/29/2018 - OFFICE MISTAKE IN INSPECTION BOOKING. CONFIRMED LATERALS CONSTRUCTION WAS TO SPEC (PM) GRADING OK. REINSPECTION P+A AND FLOAT TREE. (D) 1/28/2019 SEPTIC PUMP ON BREAKER IN SEPTIC ALARM ON SEPERATE BREAKER. DISTAL HEAD CHECKED AS SHOWN ON ABOVE TABLE. (D)

FINAL INSPECTOR

DATE OF APPROVAL 01/30/2019

## Oswald, Hank

---

**From:** Oswald, Hank  
**Sent:** Monday, June 11, 2018 8:44 AM  
**To:** 'Kristy Pierce'  
**Subject:** RE: BAT Plan\_12402 All Daughters Lane

Hi Kristy:

Good morning. Quick question.

Should trench #3 have 13 holes?

$13 \text{ holes} \times 5.62 = 73.06$  (Trench Length)

$73.06 - 2.81 = 70.25$  (Lateral Length)

$1.63 \times 13 = 21.19 / 70.25 = 0.3$  Flow/LF

OR

Make the hole spacing 6.08 and change the lateral length.

I can redline the plan.

Thanks,

Hank

**From:** Kristy Pierce [mailto:kpierce@glwpa.com]  
**Sent:** Monday, June 04, 2018 9:17 AM  
**To:** Oswald, Hank  
**Cc:** Mike Tran  
**Subject:** Re: BAT Plan\_12402 All Daughters Lane

Hi Hank,

Updated plan per your comments:

- 1.) Updated number of orifices in the lateral so that the **Flow/LF** is almost the same (clouded in purple)
- 2.) Added **Flow/LF** and **Trench Length** column to the chart (clouded in purple)
- 3.) Showed dose calculations (clouded in purple)
- 4.) Added the union disconnect friction loss to the "Coupling and Str. Run of Tee" (clouded in purple)
- 5.) Changed ground invert to read "ground elev." in the septic trench detail & plan view.

Also, we added/updated:

- Added a "typical center feed lateral in trench detail" and updated the Hole Spacing Chart accordingly (clouded in purple)
- Updated the Pump to Goulds to work with the new TDH & min System Discharge Rate gpm.
- Shortened manifold pipe & lengthened the 2" force main (in plan & profile) so that the total LF of pipe to install is less (clouded in yellow).

Let us know if we missed anything & we will get you your 3 new copies.

Thanks for your review!

**Kristy Pierce**

On Wed, May 30, 2018 at 11:27 AM, Oswald, Hank <[hoswald@howardcountymd.gov](mailto:hoswald@howardcountymd.gov)> wrote:

Hello Kristy:

The following comments pertain to the review of the revised PC plan for 12402 All Daughters Lane:

1.) The flow per linear feet should be almost the same per lateral. Flow for T-1 is almost twice as high. Change number of orifices in lateral so flow is less than or equal to flow in the other laterals.

Flow /Linear feet calculated:

$$T-1 = 1.63 \times 8 = 13.04/36.56 = 0.36 \text{ gal/LF}$$

$$T-2 = 1.63 \times 8 = 13.04/42.19 = 0.3 \text{ gal/LF}$$

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- 2.) Add column for **Flow/LF** and **Trench Length** to the chart on the plan.
- 3.) Show calculations for dose calculations (i.e. 1/6 design flow or Vol. of FM and manifold x (5 x vol. of the laterals)
  - 4.) Account for union disconnect in friction loss calculations.
  - 5.) Change ground invert elevation to read ground elevation in septic trench detail.

Please contact me with any questions.

Thanks,

Hank

**From:** Kristy Pierce [mailto:[kpierce@glwpa.com](mailto:kpierce@glwpa.com)]

**Sent:** Wednesday, May 16, 2018 2:29 PM

**To:** Oswald, Hank

**Subject:** Fwd: BAT Plan\_12402 All Daughters Lane

Hi Hank,

We got the comments for Lot 8, wanted to make sure the attached BAT plan is what you received for review on Lot 8?...Most of the details & calculations mentioned in the comments are shown on the attached plan.

Thanks!

Kristy Pierce

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

**From:** Carl Gutschick <[cgutschick@glwpa.com](mailto:cgutschick@glwpa.com)>

**Date:** Wed, May 16, 2018 at 1:31 PM

**Subject:** Fwd: BAT Plan\_12402 All Daughters Lane

**To:** Mike Tran <[mtran@glwpa.com](mailto:mtran@glwpa.com)>, Kristy Pierce <[kpierce@glwpa.com](mailto:kpierce@glwpa.com)>

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

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**Date:** Wed, May 16, 2018 at 1:11 PM

**Subject:** BAT Plan\_12402 All Daughters Lane

**To:** "[cgutschick@glwpa.com](mailto:cgutschick@glwpa.com)" <[cgutschick@glwpa.com](mailto:cgutschick@glwpa.com)>

Hello Mr. Gutschick:

Attached, please find a memo pertaining to the review of the BAT Plan for 12402 All Daughters Lane. Should you have any questions, please don't hesitate 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](mailto:hoswald@howardcountymd.gov)

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--

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Gutschick, Little & Weber, P.A.  
3909 National Drive, Suite 250  
Burtonsville, MD 20866  
Phone: 301-421-4024  
Fax: 301-421-4186  
[www.glwpa.com](http://www.glwpa.com)

---

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

**NORWECO CERTIFICATION**

PROPERTY OWNER: DONALD RICKERT	INSTALLATION COMPANY: HATFIELD
ADDRESS: 12402 ALL DAUGHTERS LANE	CERTIFIED INSTALLER: TODD TRACEY
CITY, ZIPCODE & COUNTY: HIGHLAND, 20777, HOWARD	PERMIT#
SIZE OF SYSTEM INSTALLED:	DATE INSTALLED: 10-29-18
600 GPD CONCRETE	START-UP DATE: 01-24-19
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: 37"	BURIAL DEPTH OF TANK: 18"
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 RTISER(S): 32"	VENTED LID(S) ON AERATION CHAMBER(S): YES
FEMALE PLUG(S) WIRED TO UF WIRE: YES	ANY GROUND SETTLING AROUND TANK: NO
CONDUIT(S) ENTERING AERATION RISER MADE WITH A WATERTIGHT CONNECTION: YES	
ISTHE INSIDE OF THE CONDUIT ENTERING THE CONTROL PANEL(S) AND AERATION RISER(S) SEALED WITH DUCT SEAL: YES	

ON 2<sup>ND</sup> 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 5<sup>TH</sup> HOUSE OF THE LEFT.

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

Matthew Geckle

January 23, 2019

Signature of BRP Representative

Vice-President

Date

# LOW PRESSURE DISTRIBUTION SYSTEM CALCULATIONS

*Per MDE BASIC LPD DESIGN - Draft Version 1 - Date July 3, 2014*

ADDRESS: **12402 All Daughters Lane**  
 SUBDIVISION: **Orchard Estates**  
 DATE: **June 2018**

LOT: **8**

Number of Manifolds: **1**

Design Flow: 750 gpd  
 Pump Off Elevation: 496.22  
 Inv. Out of Pump Tank: 498.46  
 Pump Bottom Elevation: 495.04

Manifold 1 Type: **Laterals #1 & #2 End-Feed, Lateral #3 Center-Feed**

Trench	<b>1</b>	Elev:	<b>500.4</b>	Length:	<b>39</b>
Trench	<b>2</b>	Elev:	<b>500.4</b>	Length:	<b>45</b>
Trench	<b>3</b>	Elev:	<b>500.4</b>	Length:	<b>73</b>

*0' Elev. Range, Single Manifold OK*

Manifold Length 47.7 ft Type: **SCH 40**  
 Hoiz. Force Main Length 157.0 ft Type: **SCH 40**

Manifold	Trench	Trench Length (ft)	Feed	Pipe Inv. Elev (ft)	Head (ft)	Hole Diam. (in)	Hole Flow Rate (gpm)	Hole Spacing (ft)	Number of Holes	Trench Flow Rate (gpm)	Lateral Length (ft)	Flow per LF	Lateral Diam. (in)*	Type
	1	1	39	End	500.4	2.0	5/16	1.63	6.50	6	9.77	32.50	0.301	1.5
2		45	End	500.4	2.0	5/16	1.63	6.43	7	11.40	38.57	0.296	1.5	SCH 40
3		73	Center	500.4	2.0	5/16	1.63	6.08	12	19.54	66.92	0.292	1.5	SCH 40

*Max/Min Flow Ratio (should be <1.10) : 1.03 \* Min. Per Figure 4.4*

**Min. System Discharge Rate:** 40.7 gpm

Manifold Diam.	<u>2.0</u> in	Vel.	<u>4.2</u> fps	Friction Loss (Table 4.4)	<u>2.712</u>
Force Main Diam.	<u>2.0</u> in	Vel.	<u>4.2</u> fps	Friction Loss (Table 4.4)	<u>2.712</u>

Minimum Dose: 125.0 gal (*Vol. in FM, Man, 5x Lat. = 108.8 gal. < 1/6 Design Flow = 750/6 = 125 gal.*)

**Calculate Total Design Head**

1. Friction Loss in FM & Mnfold: 5.6 ft

Friction Loss from Fittings: 29 ft X 2.712 = 0.8 ft

No.	Type	Equ. Length	No.	Type	Equ. Length
<u>3</u>	90 Deg. Std Ell	7.0	<u>0</u>	Gate Valve	1.3
<u>2</u>	45 Deg. Std Ell	4.0		Globe Valve	55
<u>0</u>	90 Deg. Side Tee	10.0		Angle Valve	28
<u>4</u>	Coupling or Str. Run of Tee	2.0			

Friction Loss from Laterals: 1.5 ft

2. Static Head: 4.18 ft

3. Min. Distal (discharge) head: 2 ft

**TDH= 14.1 ft**

Note #1: The minimum dose is the greater value of either 1/6 the Design Flow or [(5 x lateral volume)+ one volume the manifold + one volume of the force main]

**HOLE SPACING CHART**

<b>Trench No.</b>	<b>Feed Type</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>
1	End	39.0 ft	32.5 ft	3.25 ft	6	6.5 ft
2	End	45.0 ft	38.57 ft	3.21 ft	7	6.43 ft
3	Center	73.0 ft	66.92 ft	3.04 ft	12	6.08 ft
A	Trench Length.					
B	Lateral Length (pipe section between 1st and last holes).					
C	Distance from the end of the trench to the first and last holes.					
D	Total number of holes including the first and last holes.					
E	Orifice Spacing (distance between holes)					

## Oswald, Hank

---

**From:** Kristy Pierce <kpierce@glwpa.com>  
**Sent:** Monday, June 11, 2018 9:10 AM  
**To:** Oswald, Hank  
**Subject:** Re: BAT Plan\_12402 All Daughters Lane  
**Attachments:** Lot 08 Septic System Calcs.pdf

Hi Hank,

We would like to keep 12 holes and change "The LPD Calculations" spreadsheet:

- hole spacing to **6.08**
- lateral length to **66.92**
- Flow per LF **2.92**
- the min/max. Flow Ratio **1.03**

"The Hole Spacing Chart" changes would be:

- B=**66.92**
- C=**3.04**
- E=**6.08**

The attached pdf has these changes highlighted in purple.

You can go ahead and redline the plan for us.

Thank you!

Kristy Pierce

On Mon, Jun 11, 2018 at 8:43 AM, Oswald, Hank <[hoswald@howardcountymd.gov](mailto:hoswald@howardcountymd.gov)> wrote:

Hi Kristy:

Good morning. Quick question.

Should trench #3 have 13 holes?

13 holes x 5.62 = 73.06 (Trench Length)

73.06 – 2.81 = 70.25 (Lateral Length)

1.63 X 13 = 21.19/70.25 = 0.3 Flow/LF

OR

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$$T-3 = 1.63 \times 8 = 13.04/67.97 = 0.19 \text{ gal/LF}$$

2.) Add column for **Flow/LF** and **Trench Length** to the chart on the plan.

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Please contact me with any questions.

Thanks,

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Hank Oswald

Licensed Environmental Health Specialist

Howard County Health Department

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Well & Septic Program

8930 Stanford Boulevard

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410.313.1786 (Office)

[hoswald@howardcountymd.gov](mailto:hoswald@howardcountymd.gov)

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Carl K. Gutschick, P.E., Principal  
Gutschick, Little & Weber, P.A.  
3909 National Drive, Suite 250  
Burtonsville, MD 20866  
Phone: 301-421-4024  
Fax: 301-421-4186  
[www.glwpa.com](http://www.glwpa.com)

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**Date:** Wed, May 16, 2018 at 1:31 PM  
**Subject:** Fwd: BAT Plan\_12402 All Daughters Lane  
**To:** Mike Tran <[mtran@glwpa.com](mailto:mtran@glwpa.com)>, Kristy Pierce <[kpierce@glwpa.com](mailto:kpierce@glwpa.com)>

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

From: **Oswald, Hank** <[hoswald@howardcountymd.gov](mailto:hoswald@howardcountymd.gov)>

Date: Wed, May 16, 2018 at 1:11 PM

Subject: BAT Plan\_12402 All Daughters Lane

To: "[cgutschick@glwpa.com](mailto:cgutschick@glwpa.com)" <[cgutschick@glwpa.com](mailto:cgutschick@glwpa.com)>

Hello Mr. Gutschick:

Attached, please find a memo pertaining to the review of the BAT Plan for 12402 All Daughters Lane. Should you have any questions, please don't hesitate 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](mailto:hoswald@howardcountymd.gov)

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

**MEMORANDUM**

**TO:** G.L.W., P.A.  
3909 National Drive, Suite 250  
Burtonsville, MD 20866

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

**RE:** BAT (LPD) Plan  
12402 All Daughters Lane  
Orchard Estates, Lot 8

**Date:** May 16, 2018

The BAT (LPD) Plan for 12402 All Daughters Lane has been reviewed with the following comments:

- 1.) Center feed lateral #3 within the same trench Rev. lateral #3 to be Center-Feed in Plan view, Isometric View & LPD Calculations
- 2.) Make all 3 lateral elevations the same (i.e. elevation 504.4 with 2ft. of head). Updated lateral elevations to be the same.
- 3.) Show pump selection (i.e. make and model) Revised pump to Zoeller 150 series see ③ on attached 11x17 copy.
- 4.) Show dose calculation Shown, see ④ on attached copy
- 5.) Show friction loss calculations Shown, see ⑤ on attached 11x17 copy
- 6.) Add flow per linear feet and trench length columns to existing chart
- 7.) Add trench design chart with ground, stone, pipe invert, and bottom elevations as well as stone & effective depths, trench width and spacing. Shown, see ⑦ on attached 11x17 copy
- 8.) Show lateral turn up and cap detail Shown, see ⑧ on attached 11x17 copy
- 9.) Show manifold to lateral detail Shown, see ⑨ on attached 11x17 copy
- 10.) Show pump tank cross section with float elevation detail Shown, see ⑩ on attached 11x17 copy
- ✓ 11.) Show emergency storage calculation Shown, see ⑪ on attached 11x17 copy
- ✓ 12.) Add a union disconnect to pump tank pipe detail for purpose of pump replacement Added note ⑫

We updated BAT and Pump Tank configuration so that the chord can reach the control panel. The Zoeller pump selected has a 50' chord available.

Spec. trench 3

Add col.

① \* T-3  $1.63 \times 8 = 13.04 / 67.97 = 0.19 \text{ gal/LF}$   
 T-2  $42.19 = 0.3 \text{ gal/LF}$   
 T-1

\* Flow for T-1 is twice as high  
 change # or flow is <sup>50</sup> 10%  
 flow is 210%

②

\*  $\frac{1}{2}$  desc. flow  
 or

FM x (5 x Lat)

③ Act for union in frict loss

④ There is no ground invert

⑤ ~~crossed ground~~ <sup>to elev. next</sup> <sub>to depth</sub>

RECEIVED  
 MAY 18 2018  
 BUREAU OF ENVIRONMENTAL HEALTH  
 BUREAU OF ENVIRONMENTAL HEALTH

## Oswald, Hank

---

**From:** Kristy Pierce <kpierce@glwpa.com>  
**Sent:** Monday, June 04, 2018 9:17 AM  
**To:** Oswald, Hank  
**Cc:** Mike Tran  
**Subject:** Re: BAT Plan\_12402 All Daughters Lane  
**Attachments:** 12402 All Daughters Ln\_ Lot 8 BAT(revised).pdf

Hi Hank,

Updated plan per your comments:

- 1.) Updated number of orifices in the lateral so that the **Flow/LF** is almost the same (clouded in purple)
- 2.) Added **Flow/LF** and **Trench Length** column to the chart (clouded in purple)
- 3.) Showed dose calculations (clouded in purple)
- 4.) Added the union disconnect friction loss to the "Coupling and Str. Run of Tee" (clouded in purple)
- 5.) Changed ground invert to read "ground elev." in the septic trench detail & plan view.

Also, we added/updated:

- Added a "typical center feed lateral in trench detail" and updated the Hole Spacing Chart accordingly (clouded in purple)
- Updated the Pump to Goulds to work with the new TDH & min System Discharge Rate gpm.
- Shortened manifold pipe & lengthened the 2" force main (in plan & profile) so that the total LF of pipe to install is less (clouded in yellow).

Let us know if we missed anything & we will get you your 3 new copies.

Thanks for your review!

**Kristy Pierce**

On Wed, May 30, 2018 at 11:27 AM, Oswald, Hank <[hoswald@howardcountymd.gov](mailto:hoswald@howardcountymd.gov)> wrote:

Hello Kristy:

The following comments pertain to the review of the revised PC plan for 12402 All Daughters Lane:

1.) The flow per linear feet should be almost the same per lateral. Flow for T-1 is almost twice as high. Change number of orifices in lateral so flow is less than or equal to flow in the other laterals.

Flow /Linear feet calculated:

$$T-1 = 1.63 \times 8 = 13.04/36.56 = 0.36 \text{ gal/LF}$$

$$T-2 = 1.63 \times 8 = 13.04/42.19 = 0.3 \text{ gal/LF}$$

$$T-3 = 1.63 \times 8 = 13.04/67.97 = 0.19 \text{ gal/LF}$$

- 2.) Add column for **Flow/LF** and **Trench Length** to the chart on the plan.
- 3.) Show calculations for dose calculations (i.e. 1/6 design flow or Vol. of FM and manifold x (5 x vol. of the laterals)
  - 4.) Account for union disconnect in friction loss calculations.
  - 5.) Change ground invert elevation to read ground elevation in septic trench detail.

Please contact me with any questions.

Thanks,

Hank

**From:** Kristy Pierce [mailto:[kpierce@glwpa.com](mailto:kpierce@glwpa.com)]

**Sent:** Wednesday, May 16, 2018 2:29 PM

**To:** Oswald, Hank

**Subject:** Fwd: BAT Plan\_12402 All Daughters Lane

Hi Hank,

We got the comments for Lot 8, wanted to make sure the attached BAT plan is what you received for review on Lot 8?...Most of the details & calculations mentioned in the comments are shown on the attached plan.

Thanks!

Kristy Pierce

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

From: **Carl Gutschick** <[cgutschick@glwpa.com](mailto:cgutschick@glwpa.com)>  
Date: Wed, May 16, 2018 at 1:31 PM  
Subject: Fwd: BAT Plan\_12402 All Daughters Lane  
To: Mike Tran <[mtran@glwpa.com](mailto:mtran@glwpa.com)>, Kristy Pierce <[kpierce@glwpa.com](mailto:kpierce@glwpa.com)>

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

From: **Oswald, Hank** <[hoswald@howardcountymd.gov](mailto:hoswald@howardcountymd.gov)>  
Date: Wed, May 16, 2018 at 1:11 PM  
Subject: BAT Plan\_12402 All Daughters Lane  
To: "[cgutschick@glwpa.com](mailto:cgutschick@glwpa.com)" <[cgutschick@glwpa.com](mailto:cgutschick@glwpa.com)>

Hello Mr. Gutschick:

Attached, please find a memo pertaining to the review of the BAT Plan for 12402 All Daughters Lane. Should you have any questions, please don't hesitate 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)

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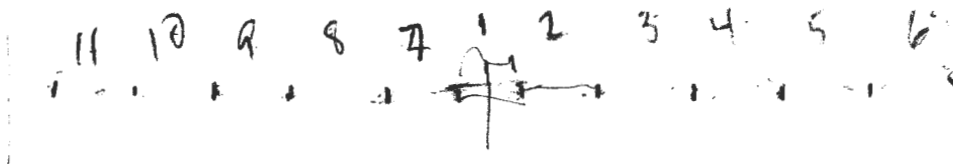
--

Carl K. Gutschick, P.E., Principal  
Gutschick, Little & Weber, P.A.  
3909 National Drive, Suite 250  
Burtonsville, MD 20866  
Phone: 301-421-4024  
Fax: 301-421-4186  
[www.glwpa.com](http://www.glwpa.com)

---

The information transmitted is intended only for the addressee shown above. Any design information (calculations, drawings, etc.) included in this transmission or any attachments are intended for the sole purpose agreed upon with Gutschick, Little & Weber, P.A. (GLW). If this information is to be used for any other purpose or transmitted to any other persons, prior consent must be received from GLW.

12



$$73 - 281 = 170.19$$

# GLW GUTSCHICK LITTLE & WEBER, P.A.

CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS

3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK

BURTONSVILLE, MD 20866

TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

## LETTER OF TRANSMITTAL

TO: Bureau of Environmental Health  
8930 Stanford Blvd.  
Columbia, MD 21045

ATTN: Hank Oswald

DATE	5/18/2018	JOB NO.	15112
PROJECT	Orchard Estates		
	Lot 8		
	12402 All Daughters Lane		

WE ARE SENDING THE FOLLOWING ITEMS:     ATTACHED     UNDER SEPARATE COVER

MYLARS     PRINTS     COST ESTIMATES     DESCRIPTIONS     GRADE SHEETS

COPY OF LETTER     APPLICATIONS     COMPUTATIONS     OTHER see below

VIA:     MAIL     OVERNIGHT     GLW COURIER     COURIER     OTHER \_\_\_\_\_

COPIES	DATE	PAGES	DESCRIPTION
3		1	Site Plan for BAT Installation - Lot 8 (revised)

THESE ARE TRANSMITTED as checked below:

FOR APPROVAL     SIGN & RETURN

FOR YOUR USE     AS SUBMITTED TO \_\_\_\_\_

FOR REVIEW & COMMENT     AS REQUESTED BY \_\_\_\_\_

PER YOUR REQUEST     \_\_\_\_\_

REMARKS: Revised BAT Site Plan per your comments ( see attached)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

COPY TO: Marc Quint

\_\_\_\_\_

\_\_\_\_\_

SIGNED: Kristy Pierce

Kristy Pierce

If enclosures are not as noted, kindly notify us at once.

---

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

**MEMORANDUM**

**TO:** G.L.W., P.A.  
3909 National Drive, Suite 250  
Burtonsville, MD 20866

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

**RE:** BAT (LPD) Plan  
12402 All Daughters Lane  
Orchard Estates, Lot 8

**Date:** May 16, 2018

---

The BAT (LPD) Plan for 12402 All Daughters Lane has been reviewed with the following comments:

- 1.) Center feed lateral #3 within the same trench
- 2.) Make all 3 lateral elevations the same (i.e. elevation 504.4 with 2ft. of head).
- 3.) Show pump selection (i.e. make and model)
- 4.) Show dose calculation
- 5.) Show friction loss calculations
- 6.) Add flow per linear feet and trench length columns to existing chart
- 7.) Add trench design chart with ground, stone, pipe invert, and bottom elevations as well as stone & effective depths, trench width and spacing.
- 8.) Show lateral turn up and cap detail
- 9.) Show manifold to lateral detail
- 10.) Show pump tank cross section with float elevation detail
- 11.) Show emergency storage calculation
- 12.) Add a union disconnect to pump tank pipe detail for purpose of pump replacement

## Oswald, Hank

---

**From:** Oswald, Hank  
**Sent:** Wednesday, May 16, 2018 1:12 PM  
**To:** 'cgutschick@glwpa.com'  
**Subject:** BAT Plan\_12402 All Daughters Lane  
**Attachments:** BAT LPD Memo\_GLW\_Hudson\_2018.pdf

Hello Mr. Gutschick:

Attached, please find a memo pertaining to the review of the BAT Plan for 12402 All Daughters Lane. Should you have any questions, please don't hesitate ask.

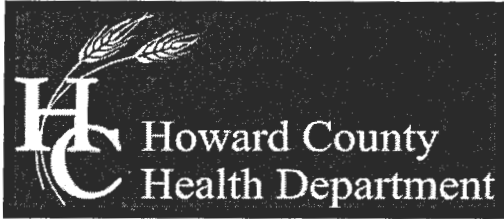
Respectfully,

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](mailto:hoswald@howardcountymd.gov)

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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: \_\_\_\_\_

Subdivision: Orchard Estates Lot: 8

Initial system: Application rate: 0.8 Effective area beginning depth: 4 Bottom maximum depth: 7  
 1<sup>st</sup> Replacement: Application rate: 0.8 Effective area beginning depth: 4 Bottom maximum depth: 7  
 2<sup>nd</sup> 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: [Signature] Date: 12/8/15

## ERRAND REQUEST FORM

DATE: 5-18-2018

JOB NUMBER AND NAME: 15112 Orchard Estates (12402 All Daughters Lane)

CODE (if billable): 15112.421

PICK-UP       DROP-OFF       WAIT  
 DEADLINE DATE FOR DELIVERY \_\_\_\_\_

### COUNTY

PRINCE GEORGE'S       HOWARD  
 MONTGOMERY       OTHER \_\_\_\_\_

MATERIAL(S): Site Plan for BAT Installation (12402 All Daughters Lane)

AT (AGENCY, ETC.): Bureau of Environmental Health

ADDRESS: 8930 Standford Blvd., Columbia MD 21045

FLOOR: \_\_\_\_\_ ROOM: \_\_\_\_\_

TELEPHONE #: \_\_\_\_\_ CONTACT: \_\_\_\_\_

DIRECTIONS: Drop off at Bureau front desk.

REQUESTED BY: Kristy

DONE BY: \_\_\_\_\_