

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: 4/15/19 **ONSITE SEWAGE DISPOSAL SYSTEM** P ~~504300~~ 5165360
 APPROVAL DATE: 7/22/19 **PERMIT: CONSTRUCTION** A _____
 PROPERTY ADDRESS: 10865 Braeburn Drive
 SUBDIVISION: Braeburn LOT: 13 TAX ID: _____
 CONTRACTOR: South Carroll Backhoe EMAIL: Scbackhoe@comcast.net
 CONTRACTOR ADDRESS: 4410 Salem Bottom Road, Westminster, MD 21157 PHONE: 410-596-3618

CONTRACTOR CERTIFIED FOR BAT INSTALLATION: MDE MANUFACTURER:

PROPERTY OWNER: Angela and Guerdy Valey EMAIL: _____
 OWNER ADDRESS: DSC 78 BOX 12 PHONE: _____

BAT UNIT MODEL: NORWECO TNTLP 500 PUMP SIZE: 1/3HP PUMP TANK CAPACITY: 1500

OPERATION & MAINTENANCE AGREEMENT DATE SIGNED: 1/3/19 DATE RECORDED: _____

DISTRIBUTION SYSTEM: GRAVITY PRESSURE DOSED BEDROOMS: 4 APPLICATION RATE: 0.8

TRENCHES:	LINEAR FEET REQUIRED: <u>130.28</u>	INLET DEPTH: <u>2.25</u>
	TRENCH WIDTH: <u>3</u>	MAXIMUM BOTTOM DEPTH: <u>7.5</u>
	MINIMUM SPACE BETWEEN TRENCHES: <u>10</u>	EFFECTIVE AREA BEGINNING DEPTH: <u>3</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 unit LOD design plan utilizing existing 90' trench + new 40.28 LF trench	

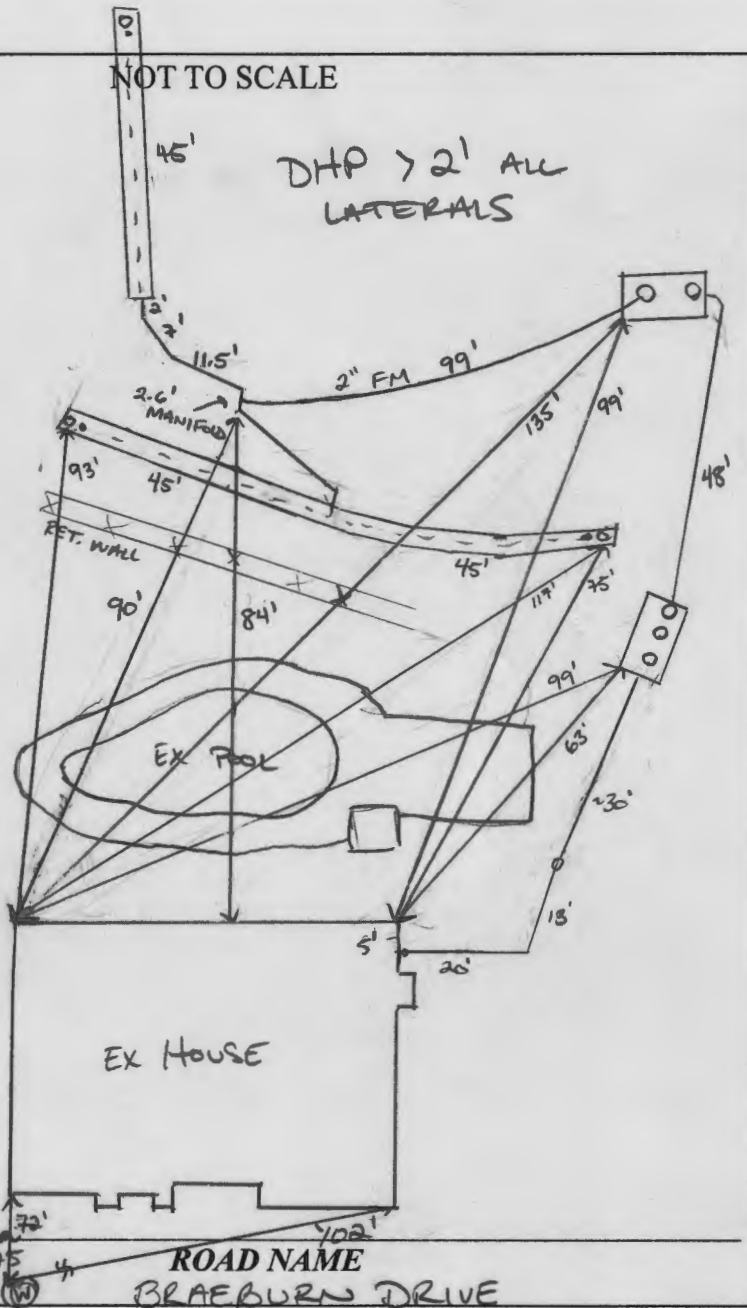
ISSUED BY: H. Oswald ISSUE DATE: 4/15/19 EXPIRATION DATE: 4/15/20

- 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 19001522
- 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

DHP > 2' ALL
LATERALS



TRENCH/DRAINFIELD DATA

WIDTH	INLET	BOTTOM
3'	2'	7.5'
NUMBER OF TRENCHES		3
TOTAL LENGTH		135 F
ABSORPTION AREA		405 SF
DISTRIBUTION BOX LEVEL		N/A
DISTRIBUTION BOX BAFFLE		N/A
DISTRIBUTION BOX PORT		N/A

SEPTIC TANK DATA

SEPTIC TANK 1 LEVEL	YES
MANUFACTURER	BACKRIVER
CAPACITY	TOTLP 500 GAL
SEAM LOC	TOP
TANK LID DEPTH	24" - ~16"
BAFFLES	BAT
BAFFLE FILTER	BAT
MANHOLE LOC	FRONT/MID/BACK
6" PORT LOC	-
WATERTIGHT TEST	-
SLOTTED	BAT
DATE ON LID	6/28/2019

PUMP/SEPTIC TANK LEVEL

MANUFACTURER	BABYLON
CAPACITY	1500 GAL
SEAM LOC	TOP
TANK LID DEPTH	2'
BAFFLES	NO
BAFFLE FILTER	-
MANHOLE LOC	OUTLET
6" PORT LOC	-
WATERTIGHT TEST	-
SLOTTED	NO
DATE ON LID	-

PRE-CONSTRUCTION:

6/24/2019 SDA. TANK, AND TRENCHES STAGED. CONTOUR CHECKED.

INSPECT UNCOVERING OF EX TRENCH. (1)

*7/8/2019: C/A FOR TRENCH: CUT TURN UP AND ADD LENGTH TO 6.4'. CHANGE DUAL SINGLE FEED TO CENTER FEED ON EXISTING TRENCH. (1)

INSTALLATION:

7/26/2019 TRENCH 2 COMPLETE TO SPEC. 3.2' SPACE BETWEEN HOLE 6 AND HOLE 7. ENG EMAILED TO CONFIRM. EX TRENCH UNCOVERED APPEARS GREY, WITHOUT SIGN OF BIO MAT ACCUMULATION. OK TO CONTINUE. CALL IF STONE WORSE UNDER EX PIPE. (1) 7/1/2019 SHC INSTALLED

w/ ~40' SEWER LINE (1) 7/3/2019 EXPOSING EX TRENCH AND REPLACING w/ CLEAN STONE, BEDDING FOR LATERAL (PM) LATERALS DRILLED (C/A: RE DRILL OTHER LATERAL @ 7/9/2019 - EXTREME RAIN ON OPEN TRENCH.

CONT. HAD FILTER FABRIC DAMAGE IS NOT SEVERE BUT NOTE WORTHY. (PM) FM + PMP TEST OK. REINSPECTION - CAT START 7/18/2019 PIA COMPLETE

FINAL INSPECTOR

DATE OF APPROVAL 07/22/2019

ALL CIRCUITRY ON OUTSIDE OF HOUSE. AWAITING START UP 7/22/2019 START UP RECEIVED. (1)

checked - 9/23/63 approved A.H.

PERMIT

P. 07443
A. 06428

SEWAGE DISPOSAL SYSTEM

MARYLAND STATE DEPARTMENT OF HEALTH

HOWARD COUNTY

ELLICOTT CITY

DISTRICT 5

DATE 9-16-63

INDEXED

INDEXED

Kenneth Wilk

IS PERMITTED TO INSTALL ALTER

ADDRESS _____ PHONE _____

A SEWAGE DISPOSAL SYSTEM LOCATED AT _____

SUBDIVISION Braeburn ROAD Braeburn Rd. LOT 13

PROPERTY OWNER Charles Prince

ADDRESS _____

SPECIFICATIONS Leaching Bed - 400 sq. ft. installed 7 to 10 ft deep

DRAIN FIELD _____ DEPTH _____ FEET BOTTOM AREA _____ SQ. FT.

SEEPAGE PITS ABSORBENT SIDE-WALL AREA 400 SQ. FT. below salt

SEPTIC TANK CAPACITY 750 GALLONS

FOR GARBAGE GRINDER, INCREASE DISPOSAL AREA 22% & TANK CAPACITY 50%.

OTHER Raw system 75 to 125 ft. from front lot line

and 90 to 110 ft. from left side as seen when facing

lot from Braeburn Rd.

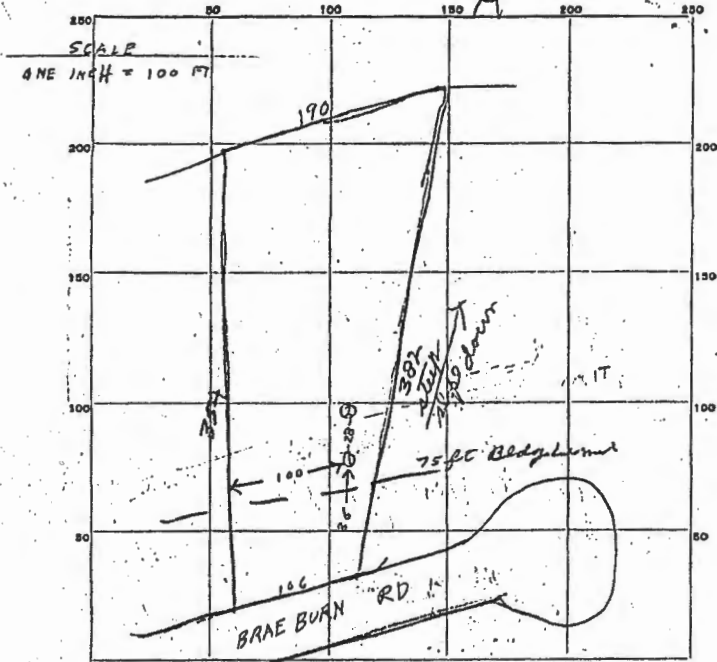
PLANS APPROVED BY Raymond Hodge DATE 3-22-63

FILL SEPTIC TANK AND DISTRIBUTION BOX WITH WATER BEFORE CALLING FOR AN INSPECTION. COVER NO WORK UNTIL INSPECTED AND APPROVED.

NEITHER THE HOWARD COUNTY COMMISSIONERS NOR THE HEALTH DEPARTMENT IS RESPONSIBLE FOR THE SUCCESSFUL OPERATION OF ANY SYSTEM.

A 06428

A# 06428



86
50
135

301

75
30
70

26
7
12
2
12

DATE	TEST NO.	DEPTH	PRE-WET		TEST - 1" DROP		TIME
			START	STOP	START	STOP	
3-27-53	1	9	232	238	238	251	13
" "	2	7	325	334	334	347	13

SOIL AUGER FINDING _____
 TESTED BY Raymond Holroyd
 REMARKS Wet clay soil
 ALSO PRESENT _____ LOT NO. _____

PERMIT

Approved
8/9/77
TSD.

P 26457

A _____

SEWAGE DISPOSAL SYSTEM

MARYLAND STATE DEPARTMENT OF HEALTH

HOWARD COUNTY

ELLICOTT CITY

DISTRICT 5th

INDEXED

DATE 7/20/77

Charles L. Prince and/or Sylvan Pools IS PERMITTED TO INSTALL _____ ALTER X

ADDRESS 10865 Braeburn Road, Clarksville, Columbia, Md. PHONE 531-6611

A SEWAGE DISPOSAL SYSTEM LOCATED AT _____

SUBDIVISION Braeburn ROAD 10865 Braeburn Rd. LOT 13

PROPERTY OWNER Charles L. Prince

ADDRESS 10865 Braeburn Rd., Clarksville, Columbia, Md. 21044

SPECIFICATIONS

DRAIN FIELD _____ DEPTH _____ FEET, BOTTOM AREA _____ SQ. FT.

SEEPAGE PITS _____ ABSORBENT SIDE-WALL AREA _____ SQ. FT.

SEPTIC TANK CAPACITY _____ GALLONS

FOR GARBAGE GRINDER, INCREASE DISPOSAL AREA 22% & TANK CAPACITY 50%.

OTHER REPAIR- Invert of trenches to be 3 feet below original grade. ASTM 2729 plastic pipe.
in accordance with attached drawing,
Total 60 foot trench and maximum depth 10 feet below original grade.

NOTE: CALL FOR INSPECTION OF TRENCH BEFORE PLACING GRAVEL IN TRENCH.

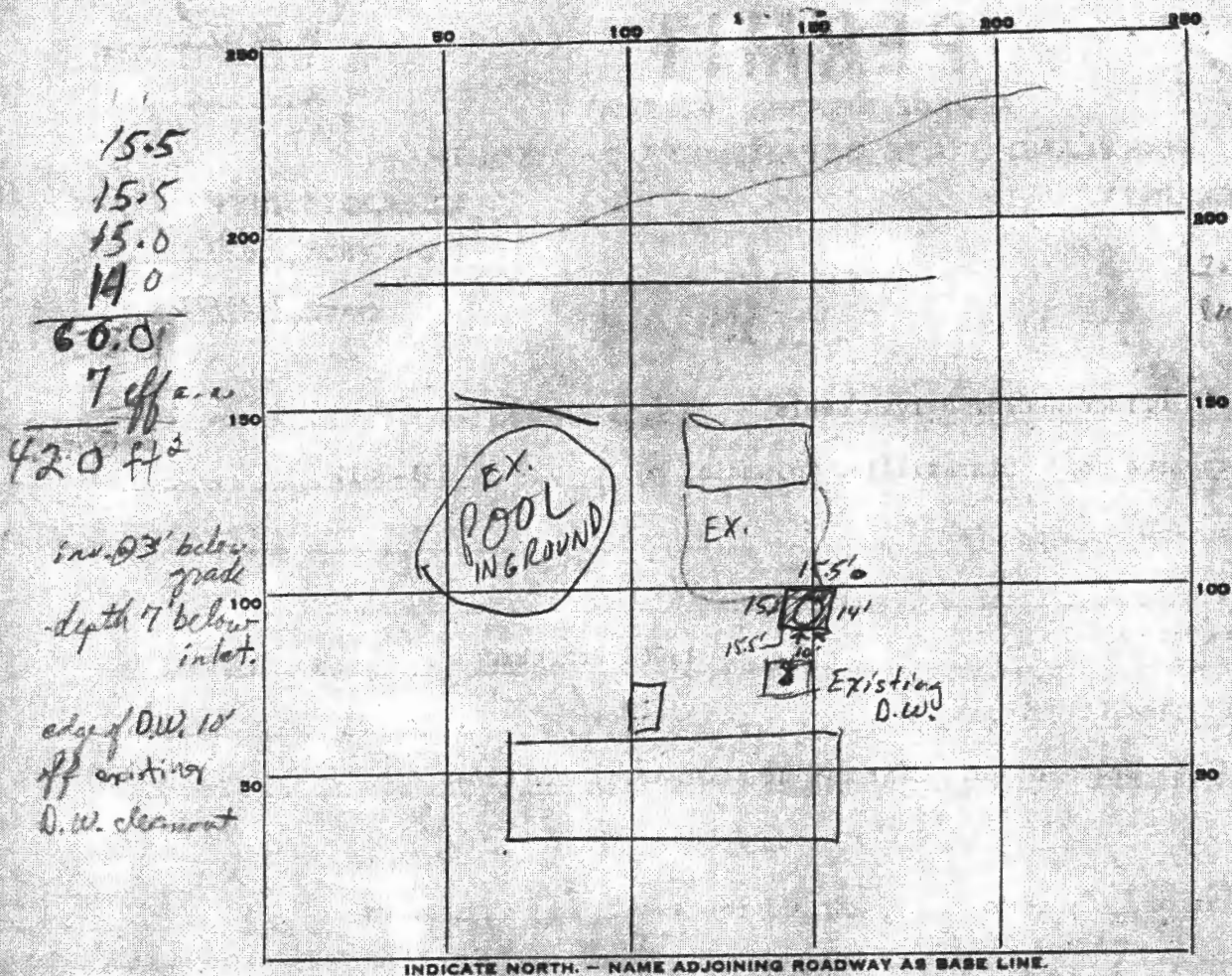
OK Seepage pit 420' sidewall area inv 3' max 10' - put
vertical 4" perforated pipe in center & to back fill.

PLANS APPROVED BY David O'Neill DATE 7/20/77

FILL SEPTIC TANK AND DISTRIBUTION BOX WITH WATER BEFORE CALLING FOR AN INSPECTION. COVER NO WORK UNTIL INSPECTED AND APPROVED.

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P-26457



INDICATE NORTH. - NAME ADJOINING ROADWAY AS BASE LINE.

Bracburn Rd.

PERMIT CARD

SEPTIC TANK, LEVEL _____

CLEANOUTS _____

DISTRIBUTION BOX, LEVEL _____

TILE FIELD, DEPTH _____ FT. TRENCH WIDTH _____ FT.

GRAVEL DEPTH _____ IN. TOTAL LENGTH _____ FT.

NUMBER OF TRENCHES _____ TOTAL BOTTOM AREA _____

SEEPAGE PITS, INSIDE DIAMETER *perimeter 60* FT. DEPTH BELOW INLET *7* FT.

ABSORBENT AREA *420* SQ. FT.

REMARKS _____

DATE SYSTEM APPROVED *8/9/77*

INSPECTOR *Thomas S. Ogb*

1/25/02 - 10AM
2/11/02 - Final

INDEXED PERMIT

ISSUE DATE: 01/23/02

P 516484

APPROVAL DATE: 2/11/02

A REPAIR

ON-SITE SEWAGE DISPOSAL SYSTEM HOWARD COUNTY HEALTH DEPARTMENT BUREAU OF ENVIRONMENTAL HEALTH 05-363829

Hatfields Equipment IS PERMITTED TO INSTALL ALTER

ADDRESS: 13785 Burntwoods Road, Glenelg PHONE NUMBER: 301-854-6172

SUBDIVISION: Braeburn I LOT NUMBER: 13

ADDRESS: 10865 Braeburn Road PROPERTY OWNER: Bolcy

SEPTIC TANK CAPACITY (GALLONS): 1,000 Fiberglass

PUMP CHAMBER CAPACITY (GALLONS): N/A

NUMBER OF BEDROOMS: 3

SQUARE FEET PER BEDROOM: 180

LINEAR FEET OF TRENCH REQUIRED: 90-100 connected to existing 1977 pit/drywell.

TRENCHES:	Trench to be <u>3</u> feet wide. Inlet <u>4</u> feet below original grade. Bottom maximum depth <u>6</u> feet below original grade. Effective area begins at <u>4</u> feet below original grade. <u>2</u> feet of stone below distribution pipe.
LOCATION:	<u>Install trench down hill of deck</u>
PURPOSE:	Existing septic system has failed. Call for inspection when ground is opened so sanitarian can recommend repair.

PLANS APPROVED: MR/KG DATE: 1/25/02

- NOTE: PERMIT VOID AFTER 2 YEARS
- NOTE: CONTRACTOR RESPONSIBLE FOR SCHEDULING A PRE-CONSTRUCTION INSPECTION FOR ALL INSTALLATIONS
- NOTE: WATERTIGHT SEPTIC TANKS REQUIRED
- NOTE: ALL PARTS OF SEPTIC SYSTEM SHALL BE 100 FEET FROM ANY WATER WELL
- NOTE: MANHOLE RISERS REQUIRED ON ALL SEPTIC TANKS AND PUMP CHAMBERS

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 410-313-2640 FOR INSPECTION OF SEPTIC SYSTEM

BUILDING PERMIT SIGNED AND RETURNED

3/25/03 300140508 ENLARGE DECK + ENCLOSURE W/ SUNROOM

P 516484

1704
6/20/49

8/11/49



1704

1704
1704
1704

1704
1704

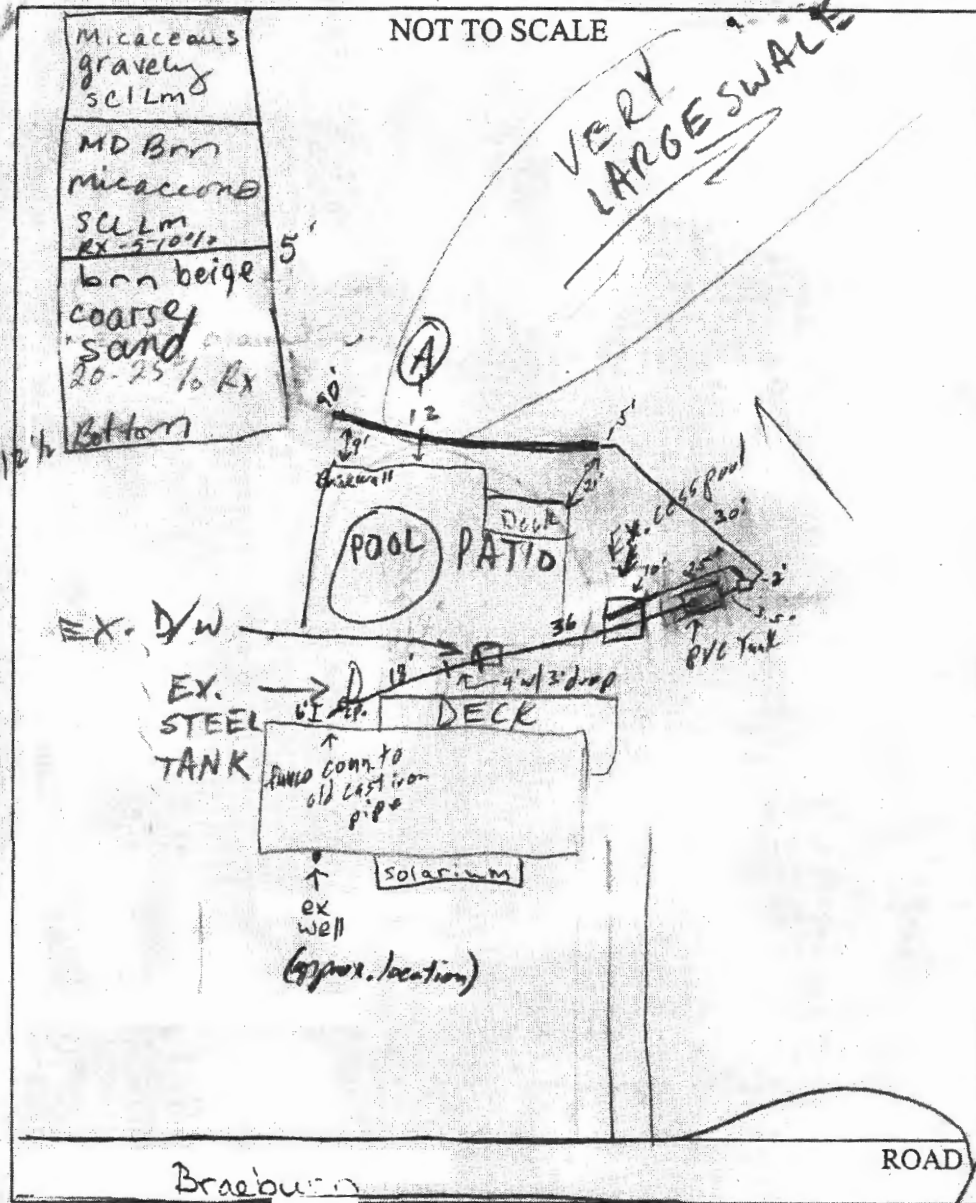
1704

Soil Profile "A"

NOT TO SCALE

Micaceous
gravelly
scllm
5'
MD Brn
micaceous
scllm
EX-5-10%
brn beige
coarse
sand
20-25% R_x
Bottom

VERY
LARGE SWALE



TRENCH/DRAINFIELD DATA		
WIDTH	INLET	BOTTOM
3'	4'	6'
NUMBER OF TRENCHES		1'
TOTAL LENGTH		90
ABSORPTION AREA		180
DISTRIBUTION BOX LEVEL		Yes
DISTRIBUTION BOX BAFFLE		
DISTRIBUTION BOX PORT		No

SEPTIC TANK 1 LEVEL	
SEPTIC TANK 1 LEVEL	Yes
CAPACITY	1500 GAL
SEAM LOC	PVC Tank
TANK LID DEPTH	1-2'
BAFFLES	1/4
BAFFLE FILTER	No
MANHOLE LOC	Back-Buried
6" PORT LOC	Front
WATERTIGHT TEST	N/A

SEPTIC TANK 2 LEVEL	
CAPACITY	_____ GAL
SEAM LOC	_____
TANK LID DEPTH	_____
BAFFLES	_____
BAFFLE FILTER	_____
MANHOLE LOC	_____
6" PORT LOC	_____
WATERTIGHT TEST	_____

PRE-CONSTRUCTION 1/25/02 Replace S.T. with a fiberglass septic tank. Keep one dry well, and add 1-100' french (MEL/KG)

INSTALLATION 2/11/02 Ex. D/W & Steel tank abandoned. Inlet to Ex cess pool is 1' lower than previously. OK to cover all work (SO)

BUILDING PERMIT SIGNED

FINAL INSPECTOR *[Signature]*

DATE OF APPROVAL 2/11/02

PERMIT

Approved
8/9/77
TSD.

P 26457

A

SEWAGE DISPOSAL SYSTEM

MARYLAND STATE DEPARTMENT OF HEALTH

HOWARD COUNTY

ELLICOTT CITY

DISTRICT 5th

INDEXED

DATE 7/20/77

Charles L. Prince and/or Sylvan Pools IS PERMITTED TO INSTALL ALTER

ADDRESS 10865 Braeburn Road, Clarksville, Columbia, Md. PHONE 531-6611

A SEWAGE DISPOSAL SYSTEM LOCATED AT

SUBDIVISION Braeburn ROAD 10865 Braeburn Rd. LOT 13

PROPERTY OWNER Charles L. Prince

ADDRESS 10865 Braeburn Rd., Clarksville, Columbia, Md. 21044

SPECIFICATIONS

DRAIN FIELD DEPTH FEET, BOTTOM AREA SQ. FT.

SEEPAGE PITS ABSORBENT SIDE-WALL AREA SQ. FT.

SEPTIC TANK CAPACITY GALLONS

FOR GARBAGE GRINDER, INCREASE DISPOSAL AREA 22% & TANK CAPACITY 50%.

OTHER REPAIR- Invert of trenches to be 3 feet below original grade. ASTM 2729 plastic pipe. in accordance with attached drawing, Total 60 foot trench and maximum depth 10 feet below original grade.

NOTE: CALL FOR INSPECTION OF TRENCH BEFORE PLACING GRAVEL IN TRENCH.

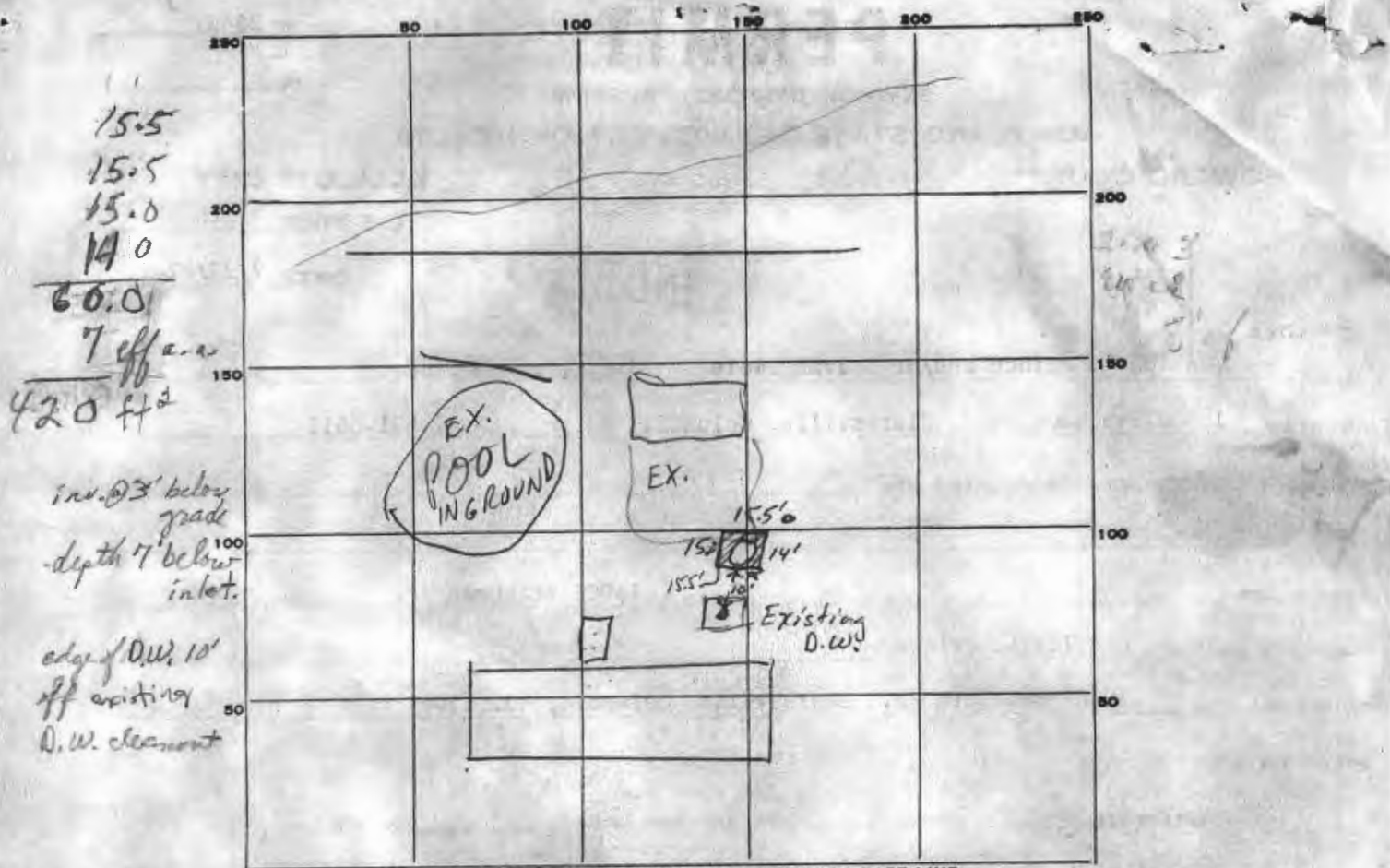
Ok seepage pit 420' sidewall area 120 3" max 10' - PUT
vertical 4" perforated pipe in center ok to backfill.

PLANS APPROVED BY David O'Neill DATE 7/20/77

FILL SEPTIC TANK AND DISTRIBUTION BOX WITH WATER BEFORE CALLING FOR AN INSPECTION. COVER NO WORK UNTIL INSPECTED AND APPROVED.

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P-26457



INDICATE NORTH. - NAME ADJOINING ROADWAY AS BASE LINE.

Braeburn Rd.

PERMIT CARD

SEPTIC TANK, LEVEL _____ CLEANOUTS _____

DISTRIBUTION BOX, LEVEL _____

TILE FIELD, DEPTH _____ FT. TRENCH WIDTH _____ FT.

GRAVEL DEPTH _____ IN. TOTAL LENGTH _____ FT.

NUMBER OF TRENCHES _____ TOTAL BOTTOM AREA _____

SEEPAGE PITS, INSIDE DIAMETER *perimeter 60* FT. DEPTH BELOW INLET *7* FT.

ABSORBENT AREA *420* SQ. FT.

REMARKS _____

DATE SYSTEM APPROVED *8/9/77* INSPECTOR *Thomas L. O'G*

1704
6/22/49

at ...

1 ...



0
10

of ...
...
No. 2729 plastic

13. 140 3'

10'

...

1/25/02 - 10AM
2/11/02 - Final

INDEXED PERMIT

ISSUE DATE: 01/23/02

P 516484

APPROVAL DATE: 2/11/02

A REPAIR

ON-SITE SEWAGE DISPOSAL SYSTEM HOWARD COUNTY HEALTH DEPARTMENT BUREAU OF ENVIRONMENTAL HEALTH 05-363829

Hatfields Equipment IS PERMITTED TO INSTALL ALTER

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SUBDIVISION: Braeburn I LOT NUMBER: 13

ADDRESS: 10865 Braeburn Road PROPERTY OWNER: Boley

SEPTIC TANK CAPACITY (GALLONS): 1,000 fiberglass

PUMP CHAMBER CAPACITY (GALLONS): N/A

NUMBER OF BEDROOMS: 3

SQUARE FEET PER BEDROOM: 180

LINEAR FEET OF TRENCH REQUIRED: 90-100 connected to existing 1977 pit/drywell.

TRENCHES:	Trench to be <u>3</u> feet wide. Inlet <u>4</u> feet below original grade. Bottom maximum depth <u>6</u> feet below original grade. Effective area begins at <u>4</u> feet below original grade. <u>2</u> feet of stone below distribution pipe.
LOCATION:	<u>Install trench down hill of deck</u>
PURPOSE:	Existing septic system has failed. Call for inspection when ground is opened so sanitarian can recommend repair.

PLANS APPROVED: MR/KG DATE: 1/25/02

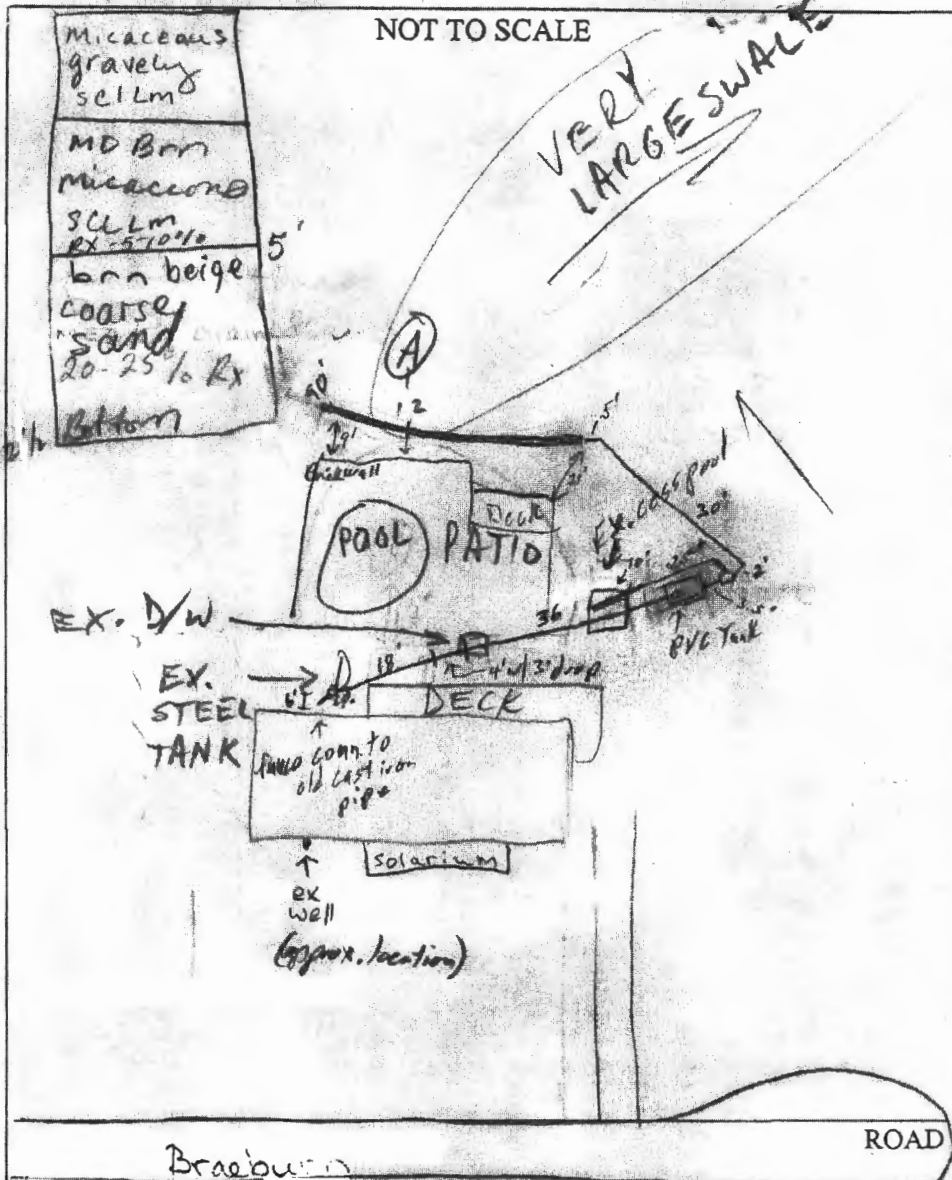
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BUILDING PERMIT SIGNED AND RETURNED
3/25/03 800140508 ENLARGE DECK + ENCLOSE W/ SUNROOM

484919d

Soil Profile "A"



TRENCH/DRAINFIELD DATA		
WIDTH	INLET	BOTTOM
3'	4'	6'
NUMBER OF TRENCHES		1'
TOTAL LENGTH		90
ABSORPTION AREA		180
DISTRIBUTION BOX LEVEL		YES
DISTRIBUTION BOX BAFFLE		
DISTRIBUTION BOX PORT		No

SEPTIC TANK DATA	
SEPTIC TANK 1 LEVEL	YES
CAPACITY	1500 GAL
SEAM LOC	PVC Tank
TANK LID DEPTH	1-2'
BAFFLES	YES
BAFFLE FILTER	No
MANHOLE LOC	Back-Buried
6" PORT LOC	Front
WATERTIGHT TEST	N/A
SEPTIC TANK 2 LEVEL	
CAPACITY	GAL
SEAM LOC	
TANK LID DEPTH	
BAFFLES	
BAFFLE FILTER	
MANHOLE LOC	
6" PORT LOC	
WATERTIGHT TEST	

PRE-CONSTRUCTION 1/25/02 Replace S.T. with a fiberglass septic tank. Keep one dry well, and add 1-100' trench (MELK)

INSTALLATION 2/11/02 Ex. D/W & Steel tank abandoned. Inlet to Ex cess pool ∴ 1' lower than previously. OK to cover all wells

BUILDING PERMIT SIGNED

FINAL INSPECTOR

DATE OF APPROVAL

2/11/02



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

NORWECO CERTIFICATION

PROPERTY OWNER: ANGELA YOLCY	INSTALLATION COMPANY: SOUTH CARROLL
ADDRESS: 10865 BRAEBURN DR	CERTIFIED INSTALLER: KEN SCHISSLER
CITY, ZIPCODE & COUNTY: COLUMBIA, 21044, HOWARD	PERMIT#
SIZE OF SYSTEM INSTALLED:	DATE INSTALLED: 07-05-19
600 GPD CONCRETE	START-UP DATE: 07-19-19
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: 45"	BURIAL DEPTH OF TANK: 14"
SYSTEM WIRED ON A 15-AMP DEDICATED CIRCUIT WITH STD. BREAKER: YES	RISERS 4" - 6" ABOVE GRADE: YES
LENGTH(S) OF UF WIRE PAST LAST AERATION RISER(S): 30"	VENTED LID(S) ON AERATION CHAMBER(S): YES
FEMALE PLUG(S) WIRED TO UF WIRE: YES	ANY GROUND SETTLING AROUND TANK: 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 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.

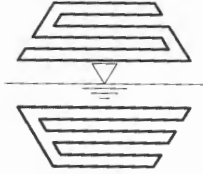
Matthew Geckle

July 19, 2019

Signature of BRP Representative

Vice-President

Date



11130 Dovedale Court, Suite 200
 Marriottsville, MD 21104
 Website: www.sillengineering.com

Office: 443-325-5076
 Fax: 410-696-2022
 Email: info@sillengineering.com

Civil Engineering for Land Development

Letter of Transmittal

SILL ENGINEERING GROUP, LLC

To: Mr. Jeff Williams
 Howard County Health Department
 Bureau of Environmental Health
 8930 Stanford Boulevard
 Columbia, MD 21045

Date:	October 25, 2018
Attention:	Hank Oswald
Re:	10865 Braeburn Drive Braeburn, Lot 13 Site Plan for BAT installation
Project #:	18-001

We are sending you

<input checked="" type="checkbox"/> Attached	Under Separate Cover Via Mail the following:	
Letter	Originals	Other:
<input checked="" type="checkbox"/> Plans	Computations	

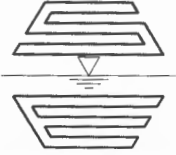
Quantity	Description	Quantity	Description
3	Site Plan for BAT installation		
1	Report		
1	Response Letter		

These are transmitted as checked below

<input checked="" type="checkbox"/> For Approval	As Requested	Please Return After Using
<input checked="" type="checkbox"/> For Review	For Your Use	As Approved

Comments:

Copy To:	Signed: Anita E. Allen
Received by:	
Date Received:	



11130 Dovedale Court, Suite 200
Marriottsville, MD 21104
Website: www.sillengineering.com

Office: 443-325-5076
Fax: 410-696-2022
Email: info@sillengineering.com
Civil Engineering for Land Development

SILL ENGINEERING GROUP, LLC

October 24, 2018

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

Attn: Mr. Hank Oswald

Re: 10865 Braeburn Drive
Braeburn Property, Lot 13
Site Plan for BAT Installation

Dear Mr. Oswald:

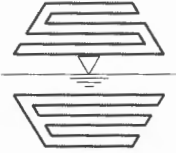
Please find a point by point response to your email comments dated October 24, 2018 below:

1. The pump size has been reduced to a 1/3 HP.
2. The flow rate has been changed to 1.63'. The GPM has been updated as well as appropriate notes and charts.

Please find attached three copies of the revised plan. 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



11130 Dovedale Court, Suite 200
Marriottsville, MD 21104
Website: www.sillengineering.com

Office: 443-325-5076
Fax: 410-696-2022
Email: info@sillengineering.com
Civil Engineering for Land Development

SILL ENGINEERING GROUP, LLC

**Braeburn
Lot 13
10865 Braeburn Road**

**BAT Plan
Low Pressure Dosing Report
10865 Braeburn Road
Columbia, MD 21044**

October 16, 2018
Revised October 24, 2018

Prepared For:

Craftmark Homes
1355 Beverly Road, Suite 330
McLean, Virginia 22101



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 #18-001

Pressure Network Design

- Design Flow: 600 gpd
- The absorption beds in the Initial System total 135' and are divided into two beds. The distribution network is an End Feed Network.
- For Perforation Size, Number, and Spacing see Pressure Distribution table.
- Diameter of lateral = 1.5"
- Spacing between laterals = 13'
- Number of laterals = 3
- Diameter of force main = 2.0"
- Diameter of manifold = 2.0"
- Diameter of laterals = 1.5"
- Material: Schedule 40 PVC

Septic System Trench Design Specifications

Initial System:

- Design Flow:
 - 4 Bedrooms at 150 gpd
 - $4 \times 150 \text{ gpd} = 600 \text{ gpd}$
- Square Footage of Drain Field Required:
 - Design Flow (600 gpd) / Application Rate (0.8) = 750 sf

The initial system will utilize the existing trench on-site. The existing trench will provide 432 square feet of the required 750 square feet of drain field. The remaining 318 square feet will be treated in a second trench.

Trench I1 (Existing trench)

- 90' Long X 3' Wide X 6' Deep, with a 2' effective sidewall
- Sidewall Reduction Credit:
 - Trench Width (W) = 3'
 - Trench Effective Depth (D) = 2'
 - $(W+2) / (W+1+2D) \times 100 = 62.5\%$
- Existing Drain field square footage:
$$90 = \frac{\text{drain field square footage} \times 0.625}{3}$$

Existing Drain field square footage = 432 square feet

Trench I2

- Application Rate: 0.8
 - Effective Area Beginning Depth: 3'
 - Bottom Maximum Depth: 7.5'
- Sidewall Reduction Credit:
 - Trench Width (W) = 3'
 - Trench Effective Depth (D) = 4.5'
 - $(W+2) / (W+1+2D) \times 100 = 38\%$

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- Linear Length of Trench Required:
$$\frac{\text{Remaining Drain Field Square Footage (318)} \times \text{Sidewall Reduction Credit (0.38)}}{\text{Trench Width (3')}}$$
$$\text{Liner Length of Trench Required} = 40.28'$$
- Linear Length of Trench Provided = 45'
-One trench at 45'

Pumping System Design

- Dose Calculations:
 - Design Flow: 600 gpd
 - Length of force main, manifold, and leaders
 - 2.0" force main = 73.93'
 - 2.0" manifold = 7.5'
 - 1.5" leaders to laterals = 20.5'
 - Volume of force main:
 - 73.93 x 17.4 gallons per 100' = 12.86gallons
 - Volume of manifold:
 - 7.5 x 17.4 gallons per 100' = 1.31 gallons
 - Volume of leaders:
 - 58.54 x 10.6 gallons per 100' = 6.21 gallons
 - Volume of laterals:
 - 115.8 x 10.6 gallons per 100' = 12.27 gallons
 - Minimum dose is the greater of:
 - Volume of force main manifold and leaders + (5 x Volume of the laterals):
 $12.86 \text{ gals.} + 1.31 \text{ gals.} + 6.21 \text{ gals.} + 61.37 \text{ gals. (5 x 12.27 gals.)} = 81.75 \text{ gallons}$
 - Or
 - 1/6th the design flow:
 $1/6 \times 600 \text{ gallons} = 100.0 \text{ gallons}$
- Minimum Dose = 100 gallons
- Pump Design:
 - Pump flow required: 34 gpm (see Pressure Distribution table for initial system)
 - Dose amount: 100 gallons
 - Pump run time: 2.9 minutes
 - Static head (see profile for detail): 10.42

- Friction head calculation (Table 4.3):

Pipe	2" Force Main	2" Manifold	1.5" Leader to Lateral
1/4 Bend (90°)	1 @ 7' = 7'	2 @ 7' = 14'	4 @ 5' = 20'
1/8 Bend (45°)	2 @ 4' = 8'	-	1 @ 3' = 3'
1/16 Bend (22.5°)	1 @ 2' = 2'	-	
1/32 Bend (11.25°)	-	-	1 @ 1.3' = 1.3'
Gate Valve	-	-	-
Standard Tee	-	1 @ 2' = 2'	-
Run Tee	-	-	-
Cross	-	-	-
Reducer	-	-	3 @ 2.5' = 7.5'
Couplings	2 @ 2' = 4'	-	
Quick Connect/Disconnect	1 @ 4.5' = 4.5'	-	
Total Equivalent Length of pipe	25.5'	16'	31.8'

- Flow at 2.0" pipe = 30 gpm

- Friction loss per 100' (Table 4.4) of 2.0" schedule 40 plastic pipe: 1.54

- Total equivalent length of 2.0" FM and appurtenances =

$$73.93' + 25.5' = 99.43/100 = 0.99 * 1.54 = \mathbf{1.53'}$$

- Flow at 2.0" pipe = 30 gpm

- Friction loss per 100' (Table 4.4) of 2.0" schedule 40 plastic pipe: 1.54

- Total equivalent length of 2.0" manifold and appurtenances =

$$6' + 16' = 22'/100 = 0.22 * 1.54 = \mathbf{0.34'}$$

- Flow at 1.5" pipe = 10 gpm

- Friction loss per 100' (Table 4.4) of 1.5" schedule 40 plastic pipe: 0.7

- Total equivalent length of 1.5" leader and appurtenances =

$$58.54 + 31.8 = 90.34/100 = 0.90 * .7 = \mathbf{0.63'}$$

- Total Dynamic Head = Static head + Distal Head + Friction head + Lateral friction head safety factor

$$10.42 + 2.0 + 2.5 + 1.5 = 16.42 \text{ use } \mathbf{16'}$$

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- Pump Chamber Design:
 - For pump tank dimensions and detail, see plans.
 - Pump chamber elevations:
 - Proposed grade at top of tank (at inlet): 303.00'
 - Top of pump tank(interior): 301.00'
 - Pump chamber invert in: 300.25'
 - High Water Alarm: 298.43'
 - Pump On: 297.93'
 - Pump Off: 297.66'
 - Bottom inside slab of tank: 296.08'
 - Pump Chamber volumes:
 - Invert In to Pump On: 13.73 cf or 102.68 gallons
 - Pump On to Pump Off: 117.95 cf or 882.32 gallons
 - Design based on:
 - Norweco 500 GPD or equivalent
 - Myers ME3 series pump or equivalent

Replacement system specifications on the next sheet.

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Replacement System:

- Application Rate: 0.8'
 - Effective Area Beginning Depth: 3'
 - Bottom Maximum Depth: 7.5'
- Design Flow:
 - 4 Bedrooms at 150 gpd
 - $4 \times 150 \text{ gpd} = 600 \text{ gpd}$
- Square Footage of Drain Field Required:
 - Design Flow (600 gpd) / Application Rate (0.8) = 750 sf
- Sidewall Reduction Credit:
 - Trench Width (W) = 3'
 - Trench Effective Depth (D) = 4.5'
- $(W+2) / (W+1+2D) \times 100 = 38\%$
- Linear Length of Trench Required:
 - $$\frac{\text{Remaining Drain Field Square Footage (750)} \times \text{Sidewall Reduction Credit (0.38)}}{\text{Trench Width (3')}}$$
 - Liner Length of Trench Required = 95'
- Linear Length of Trench Provided = 96'
 - Three trenches at 32'

PRESSURE DISTRIBUTION ON SLOPING SITES

BRAEBURN, LOT 13 - 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)
L1	309.50	307.0	303.50	38.6	2.0	5/16	1.63	6.4	7	11.41
L2	309.50	307.0	303.50	38.6	2.0	5/16	1.63	6.4	7	11.41
L3	309.25	307.0	303.25	38.6	2.0	5/16	1.63	6.4	7	11.41
										ZONE 1

115.8

34.23

TOTAL

Trench I1

Effective area beginning depth = 4

Trench depth = 2

Trench I2

Effective area beginning depth = 3

Trench depth = 4.5

34

HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Division of Land Development

DATE: August 2, 2018

DPZ File No. WP-19-011

Department of Planning and Zoning

- 1 Research
- 1 Resource Conservation (Historic/Ag Pres)
- Public Service and Zoning Administration
- Address Coordinator

- 1 Comprehensive & Community Planning
- 2 Development Engineering Division
- Other
- 1 File

See:

Agencies

- 1 Soil Conservation District
- 1 Department of Inspections, Licenses & Permits
- 1 Department of Fire and Rescue Services
- 1 State Highway Administration
- 1 Health Department
- 1 Public School System
- 1 Recreation and Parks
- 1 Office of Transportation
- MD Aviation Administration
- WSSC (Non-Residential Only)

- _____ Tax Assessment
- _____ Verizon
- _____ BGE
- _____ Cable TV
- _____ Police
- _____ MTA
- _____ Finance
- 1 DPW, Real Estate Services
- _____ DPW, Construction and Inspection
- _____ DPW, Bureau of Utilities

RE: Braeburn Lot 13

ENCLOSED FOR YOUR _____ Signature Approval Review & Comments _____ Files

THE ENCLOSED = _____ Original _____ Pre-Packaged Plan Set

Plans	# of Plans	Supplemental Documents
_____ Sketch Plan	_____	_____ Wetlands Report
_____ Prel Equiv Sketch Plan	_____	_____ Soils/Topo Map/Drain Area Map
_____ Preliminary Plan	_____	_____ FSD/FCP/Worksheet and Application
_____ Final Plat/Plat of Easement/RE Plat	_____	_____ Declaration of Intent (Forest Cons)
_____ Final Constr Plans (RDS)	_____	_____ Drainage and/or Computation/Pond Safety Comps
_____ Final Development Plan	_____	_____ Preliminary Road Profiles
_____ Site Development Plan	_____	_____ APFO Roads Test/Mitigation Plan/Traffic Study
_____ Landscape Plan/Supplemental Plan	_____	_____ Noise Study
_____ Grading Plan	_____	_____ Sight Distance Analysis/Speed Flow Study
_____ House Type Revision/Walk-Thru Red-Line	_____	_____ Floodplain Study
_____ Water and Sewer Plan	_____	_____ Stormwater Management Comps/Geo-Tech Report
		_____ Industrial Waste Survey (DPW)
		_____ Road Poster Form Letter
		_____ Justification Letter
		_____ Perc Plat
		_____ Scenic Road Exhibits
		_____ Deeds
		_____ Photographs
		_____ Retaining Wall Comps/Details
		_____ Poster/Community or HDC Meeting Information
		_____ Route 1 Details/Summary

Applications	# of Plans
<u>15</u> Alternative Compliance Application	<u>15</u>
_____ Planning Board Application	_____
_____ ASDP/CSDP Application	_____
_____ DED Application/Checklist	_____
_____ DED Fee Receipt/Deeds/Cost Estimate	_____
_____ Overall Scaled Composite	_____
_____ Water & Sewer Plans	_____
_____ List of Street Names	_____

WAS: Received _____ Tentatively Approved _____ Recorded
 Received and Revised _____ Approved _____ On August 2, 2018

COMMENTS: _____ Due- 17 Working Days: 8/24/18

H.O.
Check, initial and return to the Department of Planning and Zoning if plan is approved with no comments.
Note: All storm water devices must meet well & septic setbacks on OSDS Plan.

DPZ STAFF INITIALS:

Oswald, Hank

From: Oswald, Hank
Sent: Friday, October 26, 2018 8:48 AM
To: 'Anita Allen'
Cc: guerdy_angela@hotmail.com; dpastva@CraftmarkHomes.com
Subject: RE: Braeburn, Lot 13 LPDS manifold design

Hi Anita:

Good morning. The LPD Design Plan has been approved.

Hi Owner/Developer:

There appears to be some remaining issues with old and new well that need to be resolved prior to B.P. approval. Also, I do not see a building permit or floor plans in the file.

Should you have any questions about the well, please contact my coworkers Joseph Cabahug or Kevin Wolf at 410.313.1771.

Respectfully,

Hank

From: Anita Allen [<mailto:anita@sillengineering.com>]
Sent: Wednesday, October 24, 2018 9:50 AM
To: Oswald, Hank
Subject: RE: Braeburn, Lot 13 LPDS manifold design

Good Morning Hank,
Just checking in to see how this one is coming along. Let me know if you have any questions.
Thanks,
Anita

From: Oswald, Hank <hoswald@howardcountymd.gov>
Sent: Wednesday, October 17, 2018 7:05 AM
To: Anita Allen <anita@sillengineering.com>
Subject: RE: Braeburn, Lot 13 LPDS manifold design

Hi Anita. Thank you.

From: Anita Allen [<mailto:anita@sillengineering.com>]
Sent: Tuesday, October 16, 2018 2:19 PM
To: Oswald, Hank
Subject: RE: Braeburn, Lot 13 LPDS manifold design

Hi Hank,
I removed the valves and moved the manifold to be more central between the two trenches. I have sent the BAT in to your office. Looking forward to your comments.
Thank you,

Anita

From: Oswald, Hank <hoswald@howardcountymd.gov>
Sent: Thursday, October 11, 2018 2:54 PM
To: Anita Allen <anita@sillengineering.com>
Subject: RE: Braeburn, Lot 13 LPDS manifold design

Hi Anita:

I don't know about the using the valves to control the dose. I've posed the question to Jeff but I haven't heard back. Has this been done on other LPD designs in this County? We would like to see a set of installation instructions placed on the plan for this particular system since an existing trench is being utilized.

Please contact me with any questions.

Thanks,

Hank

From: Anita Allen [<mailto:anita@sillengineering.com>]
Sent: Tuesday, October 09, 2018 8:18 AM
To: Oswald, Hank
Subject: FW: Braeburn, Lot 13 LPDS manifold design

Hi Hank,
Did you get a chance to look at this?
Thanks,
Anita

From: Anita Allen
Sent: Wednesday, October 03, 2018 2:57 PM
To: 'Oswald, Hank' <hoswald@howardcountymd.gov>
Subject: Braeburn, Lot 13 LPDS manifold design

Good Afternoon Hank,
As we discussed, I'm sending you the basic layout of the LPDS. This system utilizes the existing 90' septic trench and a new 45' trench.
The design as shown on the attached Plan View will pump up into a manifold at 307.00'. The manifold will feed two laterals in the existing trench and one lateral in the proposed trench. Dose to each lateral will be controlled by valves on the manifold. (The dose will be divided by three)
The laterals will be at the same elevation as the manifold. (307.00') Which is at the max 2.5' below grade.
Please let me know if you would like to see an alternative or if you have any questions.
Thank you,
Anita

Anita E. Allen
Sill Engineering Group, LLC
11130 Dovedale Court, Suite 200
Marriottsville, MD 21104
443-325-5076 Ext. 104

To: Anita Allen <anita@sillengineering.com>
Subject: RE: Braeburn, Lot 13 LPDS manifold design

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Anita E. Allen
Sill Engineering Group, LLC
11130 Dovedale Court, Suite 200
Marriottsville, MD 21104
443-325-5076 Ext. 104

Oswald, Hank

From: Oswald, Hank
Sent: Wednesday, October 24, 2018 11:20 AM
To: 'Anita Allen'
Subject: RE: Braeburn, Lot 13 LPDS manifold design

Hi Anita:

Good morning. I just have a couple of things regarding the LPD Plan for Braeburn, Lot 13.

- 1.) Reduce pump size. Choose a pump that's closer to your design head and gpm. Perhaps a 1/3 HP pump. Change note #11 to match.
- 2.) Flow rate on a 5/16" hole at 2 foot of head should be 1.63 (not 1.41) according to the LPD Design manual.

Thanks,

Hank

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To: Oswald, Hank
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To: Anita Allen <anita@sillengineering.com>
Subject: RE: Braeburn, Lot 13 LPDS manifold design

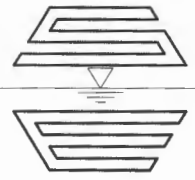
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Anita

From: Oswald, Hank <hoswald@howardcountymd.gov>
Sent: Thursday, October 11, 2018 2:54 PM

Letter of Transmittal



11130 Dovedale Court, Suite 200
 Marriottsville, MD 21104
 Website: www.sillengineering.com

Office: 443-325-5076
 Fax: 410-696-2022
 Email: info@sillengineering.com
 Civil Engineering for Land Development

SILL ENGINEERING GROUP, LLC

To: Mr. Jeff Williams
 Howard County Health Department
 Bureau of Environmental Health
 8930 Stanford Boulevard
 Columbia, MD 21045

Date:	October 16, 2018
Attention:	Hank Oswald
Re:	10865 Braeburn Drive Braeburn, Lot 13 Site Plan for BAT installation
Project #:	18-001

We are sending you

<input checked="" type="checkbox"/> Attached	Under Separate Cover Via Mail the following:	
Letter	Originals	Other:
<input checked="" type="checkbox"/> Plans	Computations	

Quantity	Description	Quantity	Description
3	Site Plan for BAT installation		
1	Report		

These are transmitted as checked below

<input checked="" type="checkbox"/> For Approval	As Requested	Please Return After Using
<input checked="" type="checkbox"/> For Review	For Your Use	As Approved

Comments:

Copy To:

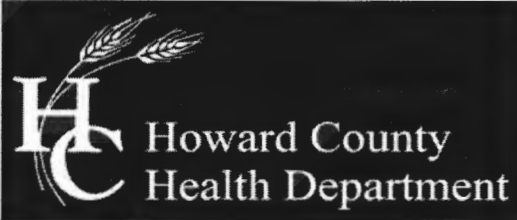
Signed:

Anita E. Allen

Received by:

Date Received:

2



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: 10865 Braeburn Road

Subdivision: Lot:

Initial system:	Application rate: 0.8	Effective area beginning depth: 3'	Bottom maximum depth: 7.5	} 1st Area
1st Replacement:	Application rate: 0.8	Effective area beginning depth: 3'	Bottom maximum depth: 7.5	
2nd Replacement:	Application rate: 0.8	Effective area beginning depth: 2.5	Bottom maximum depth: 4	} 2nd Area

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:

- The existing 1500 gallon tank is good for 5 bedrooms.
- The existing trench 96' L x 3' W x 6' H has an inlet at 4'.

Approved: Hank Oswald

Date: 5/2/18