



**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](http://www.hchealth.org)  
 Facebook: [www.facebook.com/hocohealth](http://www.facebook.com/hocohealth)

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

RECEIPT DATE: 4-26-16 **ONSITE SEWAGE DISPOSAL SYSTEM** P 558095

APPROVAL DATE: 11/9/16 **PERMIT: SANDMOUND** A \_\_\_\_\_

PROPERTY ADDRESS: 11011 Blevins Drive

SUBDIVISION: Blevins Property LOT: 2 TAX ID: 05-597767

CONTRACTOR: Hatfield's Equipment EMAIL: ken@hatfieldsequipment.com

CONTRACTOR ADDRESS: P.O. Box 519, Annapolis Junction, MD 20701 PHONE: 301-480-4289

CONTRACTOR CERTIFIED FOR BAT INSTALLATION:  MDE  MANUFACTURER:

PROPERTY OWNER: Williamsburg Group LLC EMAIL: marinamorris@williamsburgllc.com

OWNER ADDRESS: 5485 Harpers Farm Road, Columbia, MD 21044 PHONE: 410-997-8800

BAT UNIT MODEL: NORWECO TNTLP-500 PUMP SIZE: 0.4HP PUMP TANK CAPACITY: 1500

OPERATION & MAINTENANCE AGREEMENT DATE SIGNED: 2/23/15 DATE RECORDED: 10/1/15

DISTRIBUTION SYSTEM:  GRAVITY  PRESSURE DOSED BEDROOMS: 5 APPLICATION RATE: \_\_\_\_\_

LOCATION:	PER APPROVED SANDMOUND DESIGN PLAN. SANDMOUND AREA AND 25' DOWNSLOPE ARE MUST BE FENCED AT ALL TIMES DURING CONSTRUCTION AND GRADING. HEAVY EQUIPMENT MUST BE KEPT OFF OF SANDMOUND AREA OR AREA MAY BE RENDERED UNSUITABLE FOR INSTALLATION. SEWAGE DISPOSAL AREA AND BAT UNIT LOCATION MUST BE STAKED BY LICENSED SURVEYOR PRIOR TO PRE-CONSTRUCTION INSPECTION.
NOTES:	SANDMOUND AREA MUST BE INSPECTED AND APPROVED FOR MOISTURE CONTENT BEFORE ANY PREPARATION IS BEGUN. CONTRACTOR MUST SCHEDULE INSPECTION FOLLOWING BED PREPARATION PRIOR TO APPLYING SAND. MDE CERTIFIED SANDMOUND INSTALLER MUST BE ONSITE AT ALL TIMES DURING INSTALLATION. SAND MUST MEET HOWARD COUNTY SPECIFICATIONS AND MUST BE APPROVED BY ENVIRONMENTAL HEALTH SPECIALIST. SAND MUST BE SAMPLED BY ENVIRONMENTAL HEALTH SPECIALIST UPON DELIVERY. SAND MUST BE ANALYSED FOR COMPLIANCE. SAND TICKET MUST BE RETAINED FOR INSPECTION.

ISSUED BY: Robert Bricker ISSUE DATE: 4/26/16 EXPIRATION DATE: 4/26/17

- NOTE: CONTRACTOR MUST SCHEDULE A PRE-CONSTRUCTION INSPECTION PRIOR TO BEGINNING ANY INSTALLATION
- NOTE: CONTRACTOR MUST SCHEDULE AN INSPECTION AND GAIN APPROVAL OF ALL COMPONENTS PRIOR TO COVERING
- NOTE: STONE MUST BE APPROVED BY HEALTH DEPARTMENT AND GRAVEL TICKET MUST BE AVAILABLE FOR REVIEW.
- NOTE: WATERTIGHT SEPTIC TANKS REQUIRED
- NOTE: ALL PARTS OF SEPTIC SYSTEM SHALL BE AT LEAST 100 FEET 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 \_\_\_\_\_
- 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

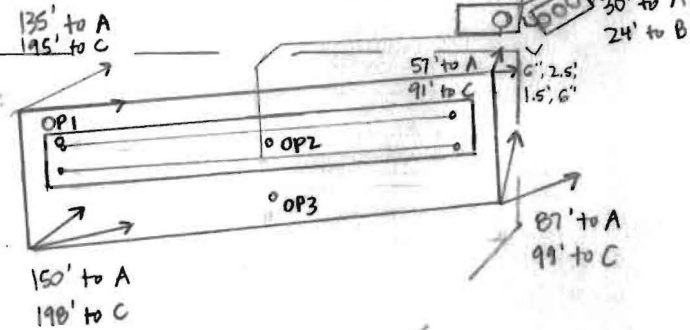
**NEITHER THE HOWARD COUNTY COUNCIL NOR THE HEALTH DEPARTMENT IS RESPONSIBLE FOR THE SUCCESSFUL OPERATION OF ANY SYSTEM.  
 PERMITTEE RESPONSIBLE FOR OBTAINING FINAL APPROVAL ON THIS PERMIT.  
 CALL 410-313-1771 TO SCHEDULE INSPECTIONS.**

1" ≈ 40'

11/1/16 On site for startup. NOT TO SCALE

Alarm sounds, Norweco alarm sounds + aerator runs. Head 3'+ at all turnups with check valve 1/2 closed. Mound and toe look good. Drainage diverted away from mound. Control box at pump tank needs to be raised, currently at grade. Hatfield's will fix (SC/PP)

↳ Also need 0.4 hp pump installed + 6" riser extension.



11/9/16 Risers extended. pump control panel raised. 0.4 hp pump installed - lateral head 34-36" at turnups with check valve 1/2 closed. (SC)

OP2: to sand  
OP1, OP3: to plowed soil

ROAD NAME

TRENCH/DRAINFIELD DATA		
WIDTH	INLET	BOTTOM
_____	_____	_____
NUMBER OF TRENCHES _____		
TOTAL LENGTH _____		
ABSORPTION AREA _____		
DISTRIBUTION BOX LEVEL _____		
DISTRIBUTION BOX BAFFLE _____		
DISTRIBUTION BOX PORT _____		

SEPTIC TANK DATA	
SEPTIC TANK I LEVEL	YES _____
MANUFACTURER	BACKRIVER / NORWECO
CAPACITY	1300 GAL
SEAM LOC	TOP
TANK LID DEPTH	3'
BAFFLES	NO
BAFFLE FILTER	NO
MANHOLE LOC	FRONT, MID, REAR
6" PORT LOC	NONE
WATERTIGHT TEST	NO
SLOTTED	NO
DATE ON LID	5-20-16
PUMP/SEPTIC TANK LEVEL YES _____	
MANUFACTURER	BACKRIVER
CAPACITY	1500 GAL
SEAM LOC	TOP
TANK LID DEPTH	2.5-3'
BAFFLES	NO
BAFFLE FILTER	NO
MANHOLE LOC	FRONT
6" PORT LOC	NONE
WATERTIGHT TEST	NO
SLOTTED	NO
DATE ON LID	7-27-15

PRE-CONSTRUCTION:

6/27/16 Met Hatfield's on site for layout. Sandmound areas all protected with snow fencing. Area has tall weeds that must be cut. Mound #3 staked. BAT and pump tank not staked - must stake prior to install. (SC) 6/29/16 BAT and pump tank staked - Hatfield's may set tanks. Mound area partially moved. (SC) 6/30/16 Met Hatfield's on site for layout. Weeds cut, all mound, bed, + bed offset stakes present for mound #3. Shot elevations at toe and corners are within 3". Marked center top of bed for force main entry.

INSTALLATION:

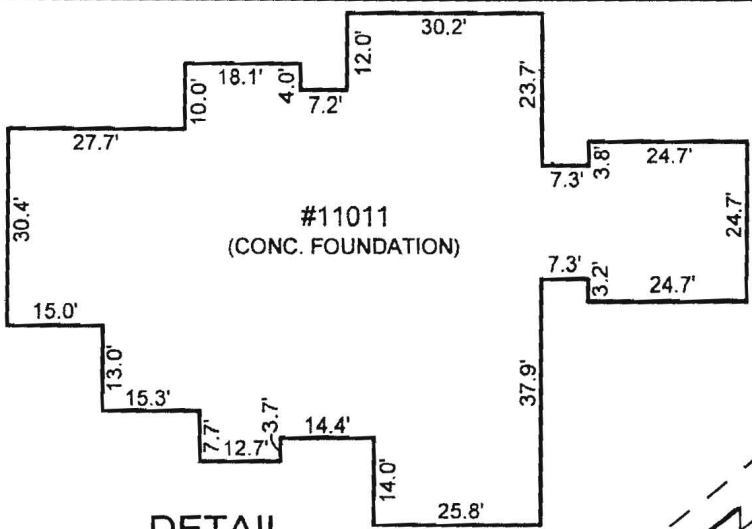
Hatfield's will start to plow site when ground is dry. (SC) 6/30/16 Tanks set and house connection made. (SC) 7/5/16 BAT startup certification received. (SC) 7/6/16 Checked soil moisture. Too wet to plow. (SC) 7/7/16 Soil is drier - okay to plow. Force main run to mound + stubbed out. On site during plowing - using small track machine with bucket + 2x 16" teeth. Plowing along contour in a single pass. Bottom third of mound plowed while on site. (SC) 7/7/16 Hatfield's adding sand to mound. Will carve bed tomorrow. Sand depth measured with transit. (SC) 7/8/16 Bed area outlined. Need more sand to build up downslope of mound. (SC) 7/11/16 On site for perforation test. Gravel bed level, hole spacing correct in laterals. Head is 27-28" in turnups. Need bed shaped + pump + alarm. (SC)

FINAL INSPECTOR Sarah Collins DATE OF APPROVAL 11/9/16

7/11/16 Bed finished, geotextile fabric covering. (SC) 7/12/16 Mound shaped + cap added. Hatfield's putting on top soil. (SC) 7/13/16 Mound seeded + strawed. (SC)

NOTES:

1. THIS PLAT IS A BENEFIT TO THE CONSUMER ONLY INSOFAR AS IT IS REQUIRED BY A LENDER OR A TITLE INSURANCE COMPANY OR ITS AGENTS IN CONNECTION WITH CONTEMPLATED TRANSFER, FINANCING OR REFINANCING PURPOSES. THIS PLAT IS NOT TO BE RELIED UPON FOR THE ESTABLISHMENT OR LOCATION OF FENCES, GARAGES, BUILDINGS OR OTHER EXISTING OR FUTURE STRUCTURES. THIS PLAT DOES NOT PROVIDE FOR THE ACCURATE IDENTIFICATION OF PROPERTY BOUNDARY LINES, BUT SUCH IDENTIFICATION MAY NOT BE REQUIRED FOR THE TRANSFER OF TITLE OR FOR SECURING FINANCING OR REFINANCING.
2. THE +/- SETBACK ACCURACY IS 1 FOOT.
3. THIS PLAN OR PLAT IS NOT INTENDED TO SHOW ALL MATTERS RELATED TO THE PROPERTY SHOWN HEREON.
4. B.R.L. = BUILDING RESTRICTION LINE



**DETAIL**  
SCALE: 1"=30'

WALL CHECK: 02-10-2016  
TOP OF WALL ELEV. = 489.3'

N/F MILTON W. IGLEHART,  
MILTON HAROLD IGLEHART  
& JAMES ROBERT IGLEHART  
L 5776 F. 540  
PARCEL 159  
ZONED RR-DEO

N/F ELIZABETH T. MILLSTEIN  
& CARY D. MILLSTEIN  
L 3379 F. 614  
PARCEL 208  
ZONED RR-DEO

10' PUBLIC TREE  
MAINTENANCE  
EASEMENT

PUBLIC FOREST  
CONSERVATION  
EASEMENT 4

PUBLIC FOREST  
CONSERVATION  
EASEMENT 5

EX. WELL TAG  
#95-2274



THIS LOT DOES NOT APPEAR TO LIE WITHIN THE 100 YEAR FLOOD PLAIN AS SHOWN ON THE F.E.M.A. FLOOD HAZARD MAP 24015C-0152-E AS REVISED MAY 4, 2015.

*4/26/16 - wall  
check okay  
-H.O.*

**LOCATION DRAWING**  
**11011 BLEVINS DRIVE**  
**LOT 2**  
**BLEVINS PROPERTY**  
LOTS 1 THRU 8  
& NON-BUILDABLE PARCEL 'A'  
ELECTION DISTRICT NO. 5  
HOWARD COUNTY, MARYLAND

**CERTIFICATION**  
I HEREBY CERTIFY THAT I WAS IN RESPONSIBLE CHARGE OVER THE PREPARATION OF THIS LOCATION DRAWING AND THE SURVEY WORK REFLECTED IN IT IS IN COMPLIANCE WITH REQUIREMENTS SET FORTH IN THE CODE OF MARYLAND TITLE 9, SUBTITLE 19, CHAPTER 06, REGULATION 12, AND THE POSITION OF EXISTING IMPROVEMENTS AS SHOWN HEREON, ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

*Michael D. Adcock*  
MICHAEL D. ADCOCK  
PROFESSIONAL LAND SURVEYOR  
NO. 21257  
EXPIRATION DATE: 06-16-2017

**Adcock & Associates · LLC**  
Engineers · Surveyors · Planners  
3300 North Ridge Road, Suite 160  
Ellicott City, Maryland 21043  
Phone: 443.325.7682 Fax: 443.325.7685  
Email: mike@saaland.com

REFERENCE:	PLAT NO. 23200
DATE:	FEBRUARY 16, 2016
SCALE:	1"=100'
FILE NO.:	11-054

*Sand Mand*

# Back River Pre-Cast, LLC

PO BOX 329  
Glyndon, MD 21071  
Phone # 410-833-3394  
Fax # 410-833-4116

## Letter of Certification

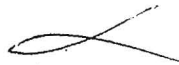
This is to certify that the Norweco Singulair TNT 600 GPD Septic Tank installed at 11011 Blevins Dr., Clarksville, MD 21029 June 30, 2016 was installed according to the manufacture's specifications.

Installer: Ken Hatfield Jr.

Property Owner: Williamsburg Group

Permit #

**THIS CERTIFICATION IS FOR INSTALLATION ONLY. THE 5-YEAR OPERATIONS & MAINTENANCE AGREEMENT FROM DATE OF INSTALLATION WILL ONLY GO INTO EFFECT AFTER BACK RIVER PRE-CAST, LLC RECEIVES FINAL AND FULL PAYMENT FOR THE SYSTEM.**



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MATTHEW GECKLE

Vice-President

PLEVIN'S LOT 2  
SAND MOUND #2

**TABLE 3.1**  
**EQUATIONS FOR CALCULATING SAND MOUND DIMENSIONS**

$$\text{Absorption bed ft.}^2 (A \times B) = \frac{\text{Design flow}}{1.2 \text{ gpd/ft.}^2} = \frac{750 \text{ GPD}}{1.2 \text{ gpd/ft.}^2} = \underline{625} \text{ ft.}^2$$

$$\text{Bed length (B)} = \underline{75} \text{ ft. (42 ft. to 104 ft. dependent on site)}$$

$$\text{Bed width (A)} = \frac{\text{Bed area } 625 \text{ ft.}^2}{\text{Bed length } 75 \text{ ft.}} = \underline{8.3} \text{ ft. (12 ft. or less)}$$

$$\text{Upslope sand fill depth (D)} = 48 \text{ in.} - Z \text{ in.} = \underline{12} \text{ in. (12 in. min.)}$$

*NO ROCK OR WATER WITHIN 4'*

$$\text{Downslope sand fill depth (E)} = [12A \times \% \text{ slope}] + D \text{ in.} = \underline{22} \text{ in. } 1.8'$$

$[(12)(8.3) \times 10\%] + 12 =$

$$\text{Cap + topsoil at bed center (H)} = \underline{18} \text{ in.}$$

$$\text{Cap + topsoil at bed edge (G)} = \underline{12} \text{ in.}$$

$$\text{Total bed depth (F)} = \underline{10} \text{ in.}$$

$$\text{Sideslope setback (K)} = [(D + E) + 28 \text{ in.}] \times 3 = \underline{135} \text{ in. } 11.3'$$

$$\text{Upslope setback (J)} = \left[ \frac{(12 + 22)^2}{2} + 28 \right] \times 3 =$$
$$\text{Upslope setback (J)} = (22 \text{ in.} + D) \times 3 \times \text{upslope corr. factor} = \underline{78.5} \text{ in. } 6.5'$$

$(22 + 12) \times 3 \times 0.77 =$

$$\text{Downslope setback (I)} = (22 \text{ in.} + E) \times 3 \times \text{downslope corr. factor} = \underline{190.1} \text{ in. } 15.8'$$

$$\text{Total width of mound (W)} = 12A + J + I = \underline{368.2} \text{ in. } 30.7'$$

$(22 + 22) \times 3 \times 1.44 =$

$$\text{Total length of mound (L)} = 12B + K + K = \underline{1170} \text{ in. } 97.5'$$

$(12)(75) + 135 + 135 =$

BUEVINS LOT 2  
SAND MOUND #1

**TABLE 3.1**  
**EQUATIONS FOR CALCULATING SAND MOUND DIMENSIONS**

$$\text{Absorption bed ft.}^2 (A \times B) = \frac{7500 \text{ GPD}}{1.2 \text{ gpd/ft.}^2} = \underline{625} \text{ ft.}^2$$

$$\text{Bed length (B)} = \underline{104} \text{ ft. (42 ft. to 104 ft. dependent on site)}$$

L.R. 7.29' / ft.

$$\text{Bed width (A)} = \frac{\text{Bed area } 625 \text{ ft.}^2}{\text{Bed length } 104 \text{ ft.}} = \underline{6.0} \text{ ft. (12 ft. or less)}$$

$$\text{Upslope sand fill depth (D)} = 48 \text{ in.} - Z \text{ in.} = \underline{12} \text{ in. (12 in. min.)}$$

NO WATER OR ROCK WITHIN 4'

$$\text{Downslope sand fill depth (E)} = [12A \times \% \text{ slope}] + D \text{ in.} = \underline{13.45} \text{ in. } 1.1'$$

$(12)(6.0)(2.0\%) + 12$

$$\text{Cap + topsoil at bed center (H)} = \underline{18} \text{ in.}$$

$$\text{Cap + topsoil at bed edge (G)} = \underline{12} \text{ in.}$$

$$\text{Total bed depth (F)} = \underline{10} \text{ in.}$$

$$\text{Sideslope setback (K)} = [(D + E) + 28 \text{ in.}] \times 3 = \underline{122.2} \text{ in. } 10.2'$$

$$\left[ \frac{(12 + 13.45)^2}{2} + 28 \right] \times 3 =$$

$$\text{Upslope setback (J)} = (22 \text{ in.} + D) \times 3 \times \text{upslope corr. factor} = \underline{34.8} \text{ in. } 2.9'$$

$$(22 + 12) \times 3 \times 0.94 =$$

$$\text{Downslope setback (I)} = (22 \text{ in.} + E) \times 3 \times \text{downslope corr. factor} = \underline{112.7} \text{ in. } 9.4'$$

$$(22 + 13.45) \times 3 \times 1.06 =$$

$$\text{Total width of mound (W)} = 12A + J + I = \underline{219.5} \text{ in. } 18.3'$$

$$(12 \times 6) + 34.8 + 112.7 =$$

$$\text{Total length of mound (L)} = 12B + K + K = \underline{1492.4} \text{ in. } 124.4'$$

$$(12 \times 104) + 122.2 + 122.2 =$$

BUEVINS LOT 2  
SAND MOUND #3

**TABLE 3.1**  
**EQUATIONS FOR CALCULATING SAND MOUND DIMENSIONS**

$$\text{Absorption bed ft.}^2 (A \times B) = \frac{\text{Design flow}}{1.2 \text{ gpd/ft.}^2} = \frac{750 \text{ GPD}}{1.2} = \underline{625} \text{ ft.}^2$$

$$\text{Bed length (B)} = \underline{75'} \text{ ft. (42 ft. to 104 ft. dependent on site)}$$

L.L.R.  
10 gpd/ft

$$\text{Bed width (A)} = \frac{\text{Bed area } 625 \text{ ft.}^2}{\text{Bed length } 75 \text{ ft.}} = \underline{8.3} \text{ ft. (12 ft. or less)}$$

$$\text{Upslope sand fill depth (D)} = 48 \text{ in.} - Z \text{ in.} = \underline{16} \text{ in. (12 in. min.)}$$

$$\text{Downslope sand fill depth (E)} = [12A \times \% \text{ slope}] + D \text{ in.} = \underline{24} \text{ in. } 2'$$

RESTRICTIVE LAYER AT 32"

$$\text{Cap + topsoil at bed center (H)} = \underline{18} \text{ in.}$$

$$\text{Cap + topsoil at bed edge (G)} = \underline{12} \text{ in.}$$

$$\text{Total bed depth (F)} = \underline{10} \text{ in.}$$

$$\text{Sideslope setback (K)} = [(D + E) + 28 \text{ in.}] \times 3 = \underline{144} \text{ in. } 12'$$

$$\text{Upslope setback (J)} = \left[ \frac{16 + 24}{2} + 28 \right] \times 3 = \underline{91.2} \text{ in. } 7.6'$$

$$\text{Downslope setback (I)} = (22 \text{ in.} + E) \times 3 \times \text{downslope corr. factor} = \underline{182.2} \text{ in. } 15.2'$$

$$\text{Total width of mound (W)} = 12A + J + I = \underline{373} \text{ in. } 31.1'$$

$$\text{Total length of mound (L)} = 12B + K + K = \underline{1158} \text{ in. } 99'$$

$$(12)(75) + 144 + 144 =$$



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Facebook: www.facebook.com/hocohealth
Twitter: HowardCoHealthDep

000133

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 23rd day of July 2013, among Dipin - Namrata Gupta, 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 Lot 2 11011 Blevins Dr., Clarksville, in the Election District of Howard County, Maryland, and the deed to same is recorded or shall be recorded among the Land Records of Howard County, Maryland in Liber 15765 Folio 325.

WHEREAS, The Lot is suitable for the installation of a conventional on-site sewage disposal system with an advanced pre-treatment system, utilizing best available technology to perform nitrogen reduction, in accordance with the Code of Maryland Regulations 26.04.02.07, effective January 1, 2013. The pre-treatment device being installed is NORWECO.

NOW, THEREFORE, the parties hereto agree as follows:

A. Owner hereby grants to the County the right to enter upon the Lot at any reasonable time for access to the system to make periodic inspections and the Owner agrees to provide any information and data in Owner's possession reasonably requested and needed by the County to develop accurate and thorough test results.

21
40

B. Owner acknowledges and agrees that neither the County nor any of its agents or employees, either officially or individually, underwrites the operation of any system approved by them.

C. The Owner will devote reasonable care and effort to the operation and maintenance of the system in perpetuity or until a public sewer connection is made so that a system malfunction is not the result of poor maintenance, faulty operation, or neglect.

D. The Owner agrees to enter into a contract reasonably acceptable to the Owner and the County with a private entity to operate and maintain on a regularly scheduled basis an approved advanced pre-treatment system. The owner shall supply a copy of the contract to the County when it is renewed or altered.

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

Handwritten signature

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maintenance or other attention. Upon taking title to the Lot, the Owner agrees to cause this agreement to be recorded in the Land Records of Howard County and assure that it becomes part of the Deed for the subject property in order that prospective buyers may be aware of the special conditions affecting this property.

F. This agreement shall not be construed to limit any authority of the County to protect the public health, safety or comfort or to issue any other orders to take any other action which is now or may hereafter be within its authority.

G. This agreement may be voided at any time at the discretion of the County.

H. This agreement contains the entire agreement and understanding between the County and the Owner. There are no additional terms other than as contained in this agreement. This agreement may not be modified, except in writing signed by each of the parties or by their authorized representatives.

I. The laws of the State of Maryland govern the provisions of all transactions pursuant to this agreement.

J. Owner acknowledges and agrees that interior renovations to increase the number of bedrooms or an increase in living space shall not be permitted without approval from the County.

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

Best Ryan 7/23/2015  
Howard County Health Department

[Signature] 2-23-15  
Owner #1 Signature Date  
BOB CORBETT  
Williamsburg Group LLC  
Owner #1 Print Name

[Signature] 7/19/15  
Buyer #1 Signature Date  
NAMRATA GUPTA  
NAMRATA GUPTA  
Buyer #1 Print Name

\_\_\_\_\_  
Owner #2 Signature Date  
\_\_\_\_\_  
Owner #2 Print Name

[Signature]  
Buyer #2 Signature Date  
DIPAN GUPTA  
GUPTA  
Buyer #2 Print Name

LR - Agreement  
Recording Fee 20.00  
Grantor/Grantee Name:  
GUPTA  
Reference/Control #:  
133  
LR - Agreement  
Surcharge 40.00  
Subtotal: 60.00  
Total: 240.00  
07/23/2015 01:41  
CO13-ES  
4581424 CO0502 -  
Howard Co  
101umb18/CO05\_03\_09 -  
Register 08



## Wolf, Kevin

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**From:** Steven Krieg -MDE- <steven.krieg@maryland.gov>  
**Sent:** Wednesday, June 29, 2016 6:31 PM  
**To:** Wolf, Kevin  
**Cc:** Ken  
**Subject:** Re: Sand Mound Certification

Kevin

Kenny and his son are good to go for the remainder of this season.

They will retake the full sand mound course in 2017.

Thanks

On Wed, Jun 29, 2016 at 4:23 PM, Wolf, Kevin <[KWolf@howardcountymd.gov](mailto:KWolf@howardcountymd.gov)> wrote:

Kenny,

Do you, Todd, or Jr. have an updated Sand Mound Certification? According to the current list, I only see Jeff Reiter's name. If you have proof of certification, please forward this to us ASAP. I cannot let Kenny Jr. proceed with the mound install at Blevins if certifications are not current.

**COMAR sec 26.04.02.05 U.(7)** states

- (a) A sand mound system may only be installed by a certified installer.
- (b) The Maryland Department of the Environment may award a sand mound installer certification if the applicant has successfully completed a course of study and examination in the practice of construction of mound systems. The course and examination shall be approved by the Department of the Environment.
- (c) The course of study and examination shall be given at least once each year by the Department of the Environment or the Department's designee.
- (d) The certification is valid for a period of 3(5 yrs currently with refresher) years and may be renewed if the installer has complied with all the applicable laws and regulations.
- (e) The Maryland Department of the Environment may withdraw certification at any time for violation of these regulations.

Thanks,

Kevin M. Wolf, LEHS, REHS/RS

Groundwater Mgmt. Sec. Supervisor

Well & Septic Program

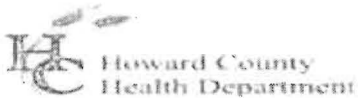
Bureau of Environmental Health

8930 Stanford Blvd.

Columbia, MD 21045

(o) [410-313-2645](tel:410-313-2645)

(f) [410-313-2648](tel:410-313-2648)



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

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--

**Steven R. Krieg, LEHS, REHS/RS**  
**Regional Consultant for Mid and Western Maryland**

**On-site Systems Division**  
**Wastewater Permits Program**

**Water Management Administration  
Maryland Department of the Environment  
1800 Washington Boulevard, Suite 455  
Baltimore, MD 21230-1708**

**(410) 537-3680 (Direct)**

**(410) 537-3163 (FAX)**

**On-site Systems Division Webpage**

BQ

We are an Equal Opportunity Employer  
**S.W. Barrick & Sons**  
WOODSBORO, MARYLAND

CUSTOMER'S COPY

Barrick Dispatch 301-845-6343  
Barrick Sale 301-845-6341

BILLING INQUIRIES  
1-800-762-2294

Mailing Address:  
P.O. Box 1504  
Laurel, Maryland 20725

TICKET #01215235

STATION B

DATE 07/11/16 TIME 08:55:55

CUSTOMER KENHAT  
KEN HATFIELDS BACKHOE RENTAL  
PO BOX 519  
ANNAPOLIS JUNC., MD 20701

JOB BLEVIN : 11011 BLEVINS ROAD  
P.O. # PROJECT #:  
70E-32S-R 108-L GUILFORD RD-R HALL  
SHOP RD-R BLEVINS DR.

TRUCK 780A LICENSE 3 AXLES  
DRIVER: SLICK TRUCKING

GROSS	SCALE B	68860 lb
TARE	IN (STORED)	23700 lb
NET		45160 lb
NET		22.58 t

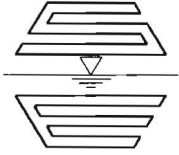
	Loads	Tons
DAILY	1	22.58
TOTAL	1	22.58
TIME IN 08:55:55		TIME OUT 08:55:55

MAT'L 02S : WASHED (COMAR SPEC. SAND)  
HAUL ZONE L-11

WEIGHMASTER \_\_\_\_\_  
Tom Silance

RECEIVED BY \_\_\_\_\_  
KEN 240-444-0115

Have a Nice Day!



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

# Blevins Property

Lot 2

**BAT Plan**  
**Sand Mound System Report**  
**11011 Blevins Drive**  
**Clarksville, MD 21029**

December 8, 2015

Approved Septic System Plan  
Howard County Health Department  
Report approved for Sand Mound  
NORWECO TNT-500  
& Sewer 1500-gal Pump Tank  
with 0.4hp pump  
*[Signature]*  
Signature  
12/10/2015  
Date

Prepared For:

Williamsburg Group, LLC  
5485 Harpers Farm Road  
Columbia, Maryland 21044

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, 2017

Project #14-040

### Pressure Network Design

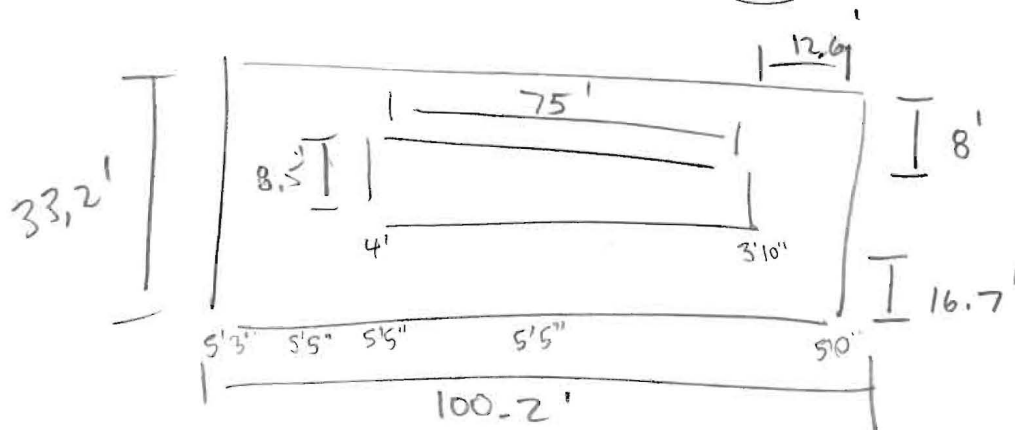
- Design Flow: 750 gpd
- The absorption bed in the Initial System is 75' long and the distribution network is a Center Feed Network.
- For Perforation Size, Number, and Spacing see Pressure Distribution table.
- Diameter of lateral = 2"
- Spacing between laterals = 4.25'
- Number of laterals = 4'
- Diameter of force main = 2.0"
- Diameter of manifold = 2.0"
- Material: Schedule 40 PVC

### Septic System Trench Design Specifications

- Initial System And Replacements:
- Slope = 8.7%
- Depth to Water Table = 30"
- Design Flow:
  - 5 Bedrooms at 150 gpd
  - 5x150 gpd = 750 gpd
- Square Footage of Drain field Required:
  - Design Flow (750 gpd) / Application Rate (1.2) = 625 sf
- B = Bed Length = 75'
- A = Bed Width = 8.3' USE 8.5'
- D = Upslope sand fill depth = 18"
- E = Downslope sand fill depth:
  - $[12(8.5) \times 0.087] + 18'' = 26.9'$  USE 27"
- H = Cap + topsoil at bed center = 18"
- G = Cap + topsoil at bed edge = 12"
- F = Total bed depth = 10"
- Side slope setback =
  - $[18'' + 27''/2 + 28''] \times 3 = 151.5''$  or 12.6'
- Upslope setback =  $(22'' + 18'') \times 3 \times 0.7955 \text{ in} = 95.46$  USE 95.5" or 8'
- Downslope setback =  $(22'' + 27'') \times 3 \times 1.362 = 200.21$  USE 200.5" or 16.7'
- Total Width of Mound =  $12(8.5) + 95.5 + 200.5 = 398''$  or 33.2'
- Total Length of Mound =  $12(75) + 151.5 + 151.5 = 1,203''$  or 100.2'

Approved Septic System Plan  
 Howard County Health Department  
 1101 Blevins Drive

*[Signature]*  
 2/10/2015



### Pumping System Design

- Dose Calculations:
  - Design Flow: 750 gpd
  - Length of force main and manifold
    - 2.0" force main = 61.1 (horizontal run) + 4.4 (vertical run) = 65.5'
    - 2.0" manifold = 4.25'
  - Volume of force main:
    - 65.5 x 17.4 gallons per 100' = 11.4 gallons
  - Volume of manifold:
    - 4.25' x 17.4 gallons per 100' = 0.7 gallons
  - Length of 2" laterals:
    - 1/2 Bed length - 1/2 perforation spacing
    - 37.5' - 3.75' = 33.75'
    - 33.75' x 4 = 135' ✓
  - Volume of laterals:
    - 135' x 17.4 gallons per 100' = 23.49 USE 23.5 gallons
  - Minimum dose is the greater of:
    - Volume of force main and manifold + (5 x Volume of the laterals):  
 11.4 + 0.7 gallons + (5 x 23.5 gallons) = 129.6 gallons USE 130
    - Or
    - 1/6<sup>th</sup> the design flow:
    - 1/6 x 750 gallons = 125.0 gallons

Approved Septic System Plan  
 Howard County Health Department  
 11011 Blevins Drive  
 12/10/2015  
 Date  
 Signature

Use 130 gallons for dose

- Pump Design:
  - Pump flow required: 33 gpm (see Pressure Distribution table for initial system)
  - Dose amount: 130 gallons
  - Pump run time: 3.9 minutes
  - Static head (see profile for detail): 8.6'
  - Friction head calculation (Table 4.3):

Pipe size		2.0" Force Main
1/4 Bend (90°)	-	2 @ 7.0' = 14.0'
1/8 Bend (45°)	-	2 @ 4.0' = 8.0'
1/16 Bend (22.5°)	-	-
1/32 Bend (11.25°)	-	-
Gate Valve	-	1 @ 1.3' = 1.3'
Standard Tee	-	-
Run Tee	-	1 @ 2.0' = 2.0'
Cross	-	1 @ 4.0' = 4.0'
Reducer	-	-
Quick Connect/Disconnect		1 @ 4.5' = 4.5'
Couplings		2 @ 2.0' = 4.0'
Total Equivalent Length of pipe		37.8

Blevins Property  
Lot 2  
November 17, 2015

- Flow at 2.0" pipe = 33 gpm
  - Friction loss per 100' (Table 4.4) of 2.0" schedule 40 plastic pipe: 1.85
  - Total equivalent length of 2.0" FM, manifold and appurtenances =  
 $65.5 + 4.3' + 37.8 = 107.6$
  - Friction loss in 2.0" pipe =  $107.6/100 \times 1.85 = 1.99'$  use 2.0'
- Total Friction Head = 2.0'
- Total Dynamic Head = Static head + Distal Head + Friction head
  - $8.6' + 2.0' + 2.0' = 12.6'$

- Pump Chamber Design:

- For pump tank dimensions and detail, see plans.
- Pump chamber elevations:
  - Proposed grade at top of tank (at inlet): 477.8'
  - Top of pump tank: 475.53'
  - Pump chamber invert in: 474.45'
  - High Water Alarm: 471.98'
  - Pump On: 471.48'
  - Pump Off: 471.09'
  - Bottom inside slab of tank: 469.36'
- Pump Chamber volumes:
  - Invert In to High Water Alarm: 113.16 cf or 846.52 gallons
  - Pump On to Pump Off: 17.87 cf or 133.66 gallons
- Design based on:
  - Norweco Low Profile Singulair Bio-Kinetic-500 GPD or equivalent
  - Meyers SRM4 series pump or equivalent

Approved Septic System Plan  
Howard County Health Department  
11011 Blevins Drive

*R. Bialer*  
Signature

12/10/2015  
Date

**SAND MOUND  
SEWAGE DISPOSAL SYSTEM  
INSPECTION CHECKLIST**

**I. Site Preparation**

Date and Inspector's Name: \_\_\_\_\_

- A. MDE Certified Installer Name \_\_\_\_\_
- B. MDE Certified Installer Present \_\_\_\_\_
- C. Mound perimeter and absorption bed properly  
staked out on contour (field verified) ✓
- D. No compaction by heavy equipment:
  - 1. Within mound perimeter ✓
  - 2. Downslope from mound by 25 ft ✓
  - 3. Within sewage disposal area ✓
- E. Vegetation cut and properly removed ✓
- F. Trees, if present, cut off at ground level  
and stumps left in place ✓
- G. Soil moisture level low enough to permit  
construction and soils are not frozen ✓
- H. Soil plowed or scarified within mound  
perimeter, on contour & to a suitable depth ✓
- I. Location of BAT unit(s) or septic tank(s) and  
pump chamber properly staked out ✓

**II. Construction**

- 1. Septic Tank(s) or BAT units ✓
- 2. Number of tanks 2
- 3. Tank type and construction meets  
specifications (i.e., top-seam, baffled, etc.) ✓
- 4. Capacity requirements met ✓
- 5. Proper installation, bedded and level \_\_\_\_\_
- 6. Inlet and outlet pipes at proper elevations  
and water tight at tank pipe connections \_\_\_\_\_
- 7. Baffles and/or tees properly installed ✓
- 8. Manhole access & risers 6 inches above finished grade \_\_\_\_\_

D. Distribution System

Date: \_\_\_\_\_

- 1. Pressure fittings used at joints
- 2. Fittings adequately bonded
- 3. Proper diameter of manifold
- 4. Proper diameter of lateral piping
- 5. Proper diameter of lateral perforations
- 6. Proper spacing of lateral perforations
- 7. Perforations oriented downward
- 8. End perforation suitable (sleeved/in end cap/  
on turn-up radius)
- 9. Two-inch gravel to cover laterals
- 10. Check of distribution system under pressure

E. Final Placement of Fill and Topsoil

Date: \_\_\_\_\_

- 1. Spun Geotextile fabric in place  
above gravel bed
- 2. Tapered cap present:
  - A. Twelve-inch depth at center
  - B. Six-inch depth at edges
- 3. Six-inch topsoil cover:
  - A. Present and graded
  - B. Seeded/Sod
  - C. Mulched / *Straw*
- 4. Sides of mound no steeper than  
3:1 slope

F. Monitoring Appurtenances

Date: \_\_\_\_\_

- 1. Observation ports:
  - A. Proper location and number
  - B. Installed to proper depth and stable
- 2. Lateral turn-ups in place and protected with  
Pipe sleeves or turf boxes

G. Site Drainage and proper grading (if required) Date: \_\_\_\_\_

- 1. Surface water diversion \_\_\_\_\_
- 2. Curtain drain properly installed \_\_\_\_\_
- 3. Vertical drain \_\_\_\_\_

**III. Pumping System Test** Date: \_\_\_\_\_

- A. Pump-on switch is operational \_\_\_\_\_
- B. Pump-off switch is operational \_\_\_\_\_
- C. High level alarm switch is operational \_\_\_\_\_
- D. Volume of drawdown corresponds with specified dose \_\_\_\_\_
- E. System achieves specified pressure \_\_\_\_\_

**IV. Comments and As Built Drawing:**

## SECTION FIVE CONSTRUCTION PROCEDURES

### 5.1 GENERAL

Proper construction is extremely important if the sand mound is to function as designed. Installation of a sand mound system is prohibited when soils are frozen. Construction of the mound should also not occur if the soils are wet. Compaction and smearing of the soil in the location of the mound and downslope should be avoided. Soil is too wet for construction of the mound if a sample, taken anywhere within the uppermost eight inches, when rolled between the hands forms a wire. If the sample crumbles, the soil is dry enough for construction to proceed.

### 5.2 EQUIPMENT

The following special equipment is recommended:

1. A small track machine (low ground pressure) with blade for placing and spreading the sand fill.
2. A cordless drill with a sharp drill bit for drilling holes in the pipe on-site.
3. A chisel plow or chisel plow attachment mounted to a small tracked machine with low ground pressure tracks for plowing the soil within the perimeter of the mound is preferred over a moldboard plow. Other scarification equipment (preferably on tracks) may be used but must be approved in advance by the inspector.
4. A rod and level for determining bed elevations, slope on pipes, outlet elevation of the septic tank or BAT units, slope of site, etc.

### 5.3 MATERIALS

The following specifications are required:

1. Sand fill material must be approved by the local Approving Authority prior to hauling to the site. Sand fill shall have an effective size between 0.25 mm and 0.5 mm with a uniformity coefficient of 3.5 or less or an effective size between 0.15 and 0.3 mm and have a uniformity coefficient between 4 and 6 and contain less than 20 percent of material larger than 2.0 mm and less than 5 percent of material less than 0.053 mm. A copy of the receipt and the material certification from the sand supplier showing

areas with stumps, roughening the surface to a depth of four to six inches with bucket teeth with extensions may be satisfactory. However, all work should be done from the upslope or sides of the mound if at all possible. After plowing, all foot and vehicular traffic shall be kept off the plowed area. **Call for inspection.**

## 5.5 FILL PLACEMENT

- 5.5.1 Relocate and extend the force main several feet above the ground surface.
- 5.5.2 Place the approved sand fill material on the upslope edge(s) of the plowed area. Keep delivery trucks off the plowed area. No traffic on the downslope side. Fill should be placed and spread immediately after plowing. Move the fill material into place using a small track-type tractor with a blade. Work from the end and upslope side. Always keep a minimum of six inches of sand beneath the tracks of the machine to minimize compaction of the natural soil. The fill material should be worked in this manner until the height of the fill reaches the elevation of the top of the absorption bed.
- 5.5.3 With the blade of a machine, form the absorption bed. Hand level the bottom of the bed and check it for proper elevation. The bed must be level for proper functioning of the mound. **Call for inspection.**
- 5.5.4 Shape the sides of the sand fill to design slope (i.e., 3:1 or flatter).

## 5.6 BED AND DISTRIBUTION NETWORK

- 5.6.1 Carefully place the washed coarse river gravel aggregate in the bed. Do not create ruts in the bottom of the bed. Level the aggregate to a minimum depth of six inches.
- 5.6.2 The distribution network is assembled in place setting the manifold to ensure draining the laterals between doses. The laterals should be laid level with the holes directed downward. **Call for inspection.** Test the pumping chamber and distribution network with clean water.
- 5.6.3 Place additional aggregate to a depth of at least two inches over the crown of the pipe.
- 5.6.4 Place the spun filter fabric over the aggregate bed. The fabric may extend beyond the bed over the sand fill by a few inches. Do not use woven fabric.

## 5.7 COVER MATERIAL

- 5.7.1 Place a finer textured soil material such as sandy clay loam, clay loam, silt loam or loam on top of the fabric over the bed. The minimum depth of this cap shall be six inches at the

the company name, address, phone number, date and product name will be required.

2. Washed river gravel aggregate shall be clean and free off fines and between  $\frac{3}{4}$  and 2 inches in diameter. Crushed limestone must not be used.
3. Geotextile fabric shall be spun filter fabric, not woven.
4. Cap material shall be soil relatively free of coarse fragments and preferably a loam, silt loam or finer texture. Clay texture should not be used for the cap.
5. Topsoil shall be of good quality, and free of debris such as rocks and trash. A silt loam or other medium textured soil is recommended.

## 5.4 TANK INSTALLATION AND SITE PREPARATION

- 5.4.1 Locate, fence or rope-off the entire sewage disposal area to prevent damage to the area during other construction activity on the site. Vehicular traffic over the disposal area and directly downslope of the disposal area is prohibited to avoid soil compaction.
- 5.4.2 Install septic tank or BAT unit treatment tanks with pumping chamber and pumps as shown on the approved design plan and drawings. Access risers should terminate 6 inches above finished grade. **Call for inspection.**
- 5.4.3 Stake out the initial and recovery mound perimeters in their proper orientation as shown in the drawings. Reference stakes offset from the mound corner stakes are recommended. Locate the upslope edge of the absorption bed within the mound and determine the ground elevation at the highest location. Reference this elevation to a benchmark for future use. This is necessary to determine the bottom elevation of the absorption bed.
- 5.4.4 Excess vegetation should be cut and removed with minimal machine disturbance. Trees should be cut at ground level and stumps left in place.
- 5.4.5 Determine the location where the force main from the pumping chamber will connect to the distribution network manifold within the mound.
- 5.4.6 Install the force main from the pumping chamber to the proper location within the mound. Pipe should be laid with uniform slope back to the chamber so that it drains after dosing. Cut and stub off pipe one foot below existing grade within the proposed perimeter of the initial mound. Backfill trench and compact to prevent seepage along the trench.
- 5.4.7 Plow or scarify the soil within the perimeter of the mound to a depth of about eight inches, if the soil is not too wet. Chisel plows are preferred. Plowing should be done along the contour. If using a moldboard plow use a two bottom or larger plow and throw the soil upslope leaving a dead furrow at the bottom. Rototilling may not be used. In wooded

outer edges of the bed and 12 inches along the center.

- 5.7.2 Place a minimum of six inches of good quality topsoil over the entire mound surface including sideslopes. Final grading should divert surface water away from the site.

**Call for final inspection.**

## 5.8 VEGETATION

- 5.8.1 Fertilize, lime, seed and mulch the entire surface of the mound. Grass mixtures adapted to the area should be used. Consult the county extension agent or Soil Conservation Service for recommendations.
- 5.8.2 Irrigate the seeded mound sufficient to establish growth in a timely manner.



S.W. Barrick  
& Sons

# Sieve Analysis Data Sheet

ASTM C-33



S.W. Barrick  
& Sons

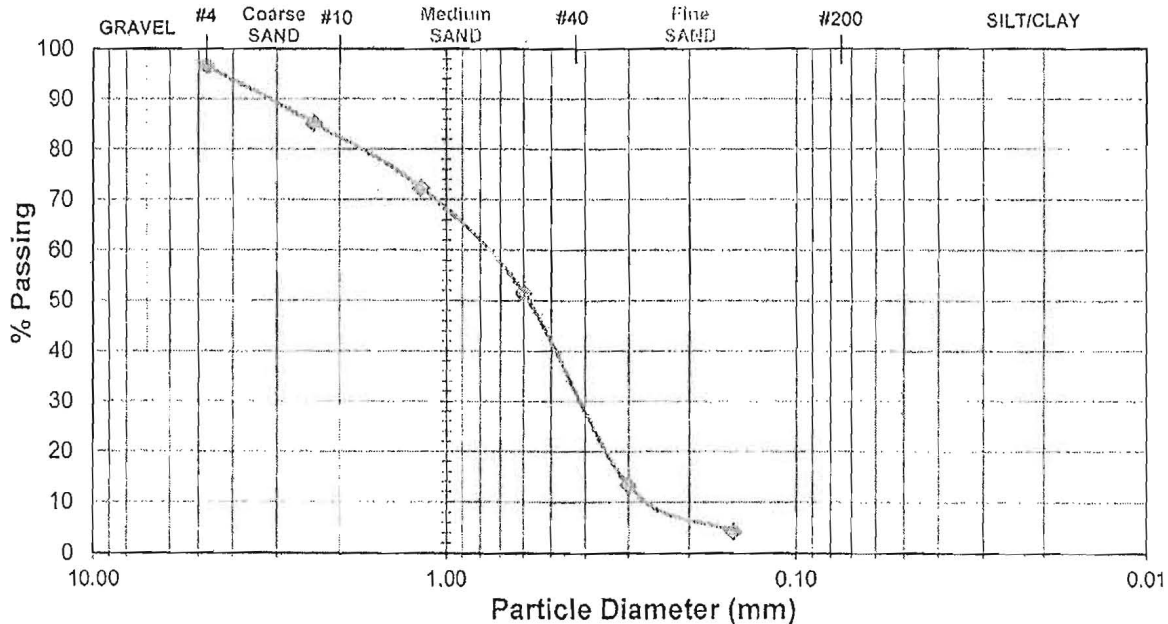
Material: ASTM C33 Sand Tested By: J Hyde  
 Location: Woodsboro Date Tested: June Average  
 Source: All Material

Date: 6/24/2016

USCS Soil Classification: Concrete Sand  
 AASHTO Soil Classification: ASTM C-33

Weight of Container (g): 0.0 Weight of Container & Soil (g): 962.4  
 Weight of Dry Sample (g): 962.4

Sieve Number	Diameter (mm)	Mass of Sieve (g)	Mass of Sieve & Soil (g)	Soil Retained (g)	Soil Retained (%)	Soil Passing (%)
#4	4.75	0	32.9	32.9	3.4	96.6
#8	2.36	0	142.4	142.4	14.8	85.2
#16	1.18	0	266.7	266.7	27.7	72.3
#30	0.60	0	467.2	467.2	48.5	51.5
#50	0.30	0	835.1	835.1	86.8	13.2
#100	0.150	0	921.3	921.3	95.7	4.3
Pan		0	962.4	962.4	100.0	0.0
<b>TOTAL:</b>				<b>3628</b>	<b>377.0</b>	



Grain Size Distribution Curve Results:

% Gravel: \_\_\_\_\_  $D_{10}$ : 0.28  $C_u$ : 2.770  
 % Sand: \_\_\_\_\_  $D_{60}$ : 0.78  $C_c$ : \_\_\_\_\_  
 % Fines: \_\_\_\_\_ FM: 2.786

LAUREL SAND & GRAVEL, INC. T/A  
**S.W. Barrick & Sons**



**Barrick Quarry**

Address: P.O. Box 86  
Woodsboro, MD 21798  
Sales Office: (301) 845-6341  
Fax Number: (301) 845-2396  
Orders & Dispatch: (301) 845-6343  
Toll Free: (800) 546-6343

**Finksburg Terminal**

Address: 2700 Emory Road  
Finksburg, MD 21048  
Sales/Dispatch: (410) 833-4400  
Fax Number: (410) 833-4909

June 24<sup>th</sup> 2016

Howard County Health Department,  
Bureau of Environmental Health,  
7178 Columbia Gateway Drive,  
Columbia,  
MD 21046

RE: Washed Natural Sand for proposed use in new sand mound septic treatment system at 11011 Blevins Drive, Clarksville, MD – Blevins Lot #2

Attn: Kevin Wolf

This letter certifies that the COMAR – Natural Washed Concrete Sand extracted from the sand and gravel processing facility located in Maryland and shipped by S.W. Barrick & Sons through our Woodsboro facility as a resale product meets the material specifications for ASTM C-33, the Maryland Department of Transport – State Highway Administration Standard Specification for Construction Materials §901 and the Uniformity Coefficient of less than or equal to 3.50 and effective particle size of between 0.25 – 0.5mm requirements presented in COMAR 26.04.02.05 §U(4) (k) (i)

The following sieve analysis is an average gradation for the month of June 2016 of this COMAR – Natural Washed Concrete Sand distributed through our Woodsboro facility

Sieve Size	Percent Passing	ASTM C-33 Spec
3/8"	100	100
#4	96.6	95-100
#8	85.2	80-100
#16	72.3	50-85
#30	51.5	25-60
#50	13.2	5-30
#100	4.3	0-10
Uniformity Coefficient	2.770	
Effective Particle Size	0.28	

Sincerely

Thomas F Flanagan  
Quality Control Manager  
Laurel Sand & Gravel t/a S.W. Barrick & Sons