

MAOSE REPORT FOR SUBDIVISION SITE CERTIFICATION

JULY 7, 2022

Location of Property:

Take Route 229 N to left on Black Hill Rd. Go 8/10 mile to right on Quail Ridge Dr. Follow to end, turn left onto Holly Springs Road. Go 5/10 mile and property is on left just before Holly Dr.

County of: Culpeper

Tax Map # (lot 2 off tm 6-33)

Proposed 5.0542 acre parcel Drainfield Site C

Owner or Applicant and information:

Printz Brothers LC 46448 Montgomery Place Sterling, VA 20165

cell phone David Printz: (703)-969-8255

email: dprintz@bciva.com

Prepared by MAOSE:

Ann B. Walker, MAOSE # 1940 0001045 Cedar Mountain Soils, LLC 11189 Winston Road Culpeper, VA 22701

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Certification Statement:

I hereby certify that the evaluations and/or designs contained herein were conducted in accordance with the Sewage Handling and Disposal Regulations (12 VAC5-610), the Private Well Regulations (12 VAC5-630-10), and other applicable policies of the Virginia Department of Health. Furthermore, I certify that my evaluation and/or design contained herein complies with all applicable laws, regulations, and policies implemented by the Virginia Department of Health.

I recommend a land division or site certification be approved.

ABUJE 122



Page 1 of 7 SOIL SUMMARY REPORT "Drainfield Site C" (Lot 2) **General Information** Culpeper County Health Department Date: March 21, 2022 Owner: Printz Brothers LC c/o David Printz Owner's Address: 46448 Montgomery Place, Sterling, VA 20165 Location: Holly Springs Road approximately ½ mile past intersection with Quail Ridge Drive Tax Map: Lot 2 off tm 6-33 Subdivision: Block/Sec: Lot: 2 Acreage: 5.0542. SOIL INFORMATION SUMMARY 1. Position in landscape satisfactory Yes x Description and vegetation: upland slightly convex backslope, mixed species and sizes of trees, some undergrowth . Slope *13 % on upper half of site (reserve area), *21% on lower half of site (primary install area). Depth to rock or impervious strata: Max. Min. None x Depth to seasonal or perched water table No x Yes _____ Inches _____ range in inches Free water present No x Yes Soil percolation rate estimated No _____ Yes x ___ Texture group IIB Estimated rate mpi 40-45 . Permeability test performed No x Yes Observation Methods: SP Name, title and signature of evaluator: Ann B. Walker, MAOSE, LPSS Cedar Mountain Soils, L.L.C. 11189 Winston Road, Culpeper, VA 22701 (540)-825-4706 Site approved: Both upper half (reserve) and lower half (primary) of site to be used at 24" deep *dry weather tree clearing Site disapproved Reasons for rejection: Position in landscape subject to flooding or periodic saturation 1. Insufficient depth of suitable soil over hard rock 2. Insufficient depth of suitable soil to seasonal water table 3. _____Rates of absorption too slow 4. Insufficient area of acceptable soil for required drainfield, and/or reserve area 5. Proposed system too close to well 6. ___ Other ___



SOIL PROFILE DESCRIPTION REPORT (upper half/reserve) Pg 2 of 7

Date of evaluation: March 21, 2022 LOT 2, DRAINFIELD SITE C

Tax Map#/Location: T.M. #, Holly Springs Road approximately ½ mile past intersection w/ Quail Ridge Dr

Ann B. Walker, MAOSE, LPSS, Cedar Mountain Soils, L.L.C. 11189 Winston Road Culpeper, VA 22701 (540)-825-4706

Hole	Horizon	Depth Inches	Description of color, texture, etc.	Texture Group
1	A	0-3	10YR 3/2 very dark grayish brown sandy loam	IIB
	Е	3-11	10YR 4/4 dark yellowish brown sandy loam	IIB
	Bt	11-31	7.5YR 4/6 strong brown heavy, gritty loam with few 2.5YR 4/6 red clay films	IIB
	С	31-64	2.5YR 4/6 red sandy loam with red clay films throughout, few 7.5YR 6/1 gray,	IIB
			10YR 6/4 light yellowish brown, and 10YR 7/6 yellow channers, few intermittent	
			slightly dense areas-discontinuous	
2	A	0-3	7.5YR 3/2 dark brown loam, many fine, medium, course and very course roots	IIB
	Е	3-8	7.5YR 5/3 brown loam, many variable sized roots, few fine quartz gravels	IIB
	BA	8-17	7.5YR 5/6 strong brown heavy loam, few fine, medium and course roots	IIB
	Bt	17-31	2.5YR 5/8 red gritty heavy loam, few fine quartz gravels, few fine & medium roots	IIB
	C1	31-46	Multi-colored heavy sandy loam: 2.5YR 6/8 light red, 2.5YR 5/8 red, 10YR 6/6	IIB
			and 6/8 brownish yellow, 10YR 7/8 yellow, few red clay flows, fine quartz gravels	
			throughout	
	C2	46-67	Multi-colored sandy loam, few discontinuous slightly dense pockets, 10YR 6/4	IIB
			light yellowish brown, 10YR 5/4 yellowish brown, 10YR 6/8 brownish yellow,	
			white (mineral), few red clay films, few medium roots, few fine quartz gravels	
3	A	0-4	10YR 3/3 dark brown loam, many fine, medium, course and very course roots	IIB
-	BA	4-16	10YR 5/6 yellowish brown gritty loam with fine quartz gravels, common medium,	IIB
			course and very course roots	
	Bt	16-34	7.5YR 5/6 strong brown light sandy clay loam, common fine quartz gravels, few	IIB
			very fine mica flakes, few fine, medium and course roots	
	С	34-61	Multi-colored loose sandy loam, many very fine mica flakes, few fine, medium and	IIB
			course roots to depth, few fine and medium subangular quartz gravels, parent colors:	
			7.5YR 4/6 and 5/6 strong brown, 7.5YR 7/6 reddish yellow, 10YR 4/2 dark	
			grayish brown (few channers also), 5YR 7/6 reddish yellow and few 5YR 4/6	
			yellowish red clay films	
			(Note: All Gray colors are parent/lithochromic)	



SOIL PROFILE DESCRIPTION REPORT (lower half/install)

Pg 3 of 7

Date of evaluation: March 21, 2022

LOT 2, DRAINFIELD SITE C

Tax Map#/Location: T.M. # Holly Springs Road approximately ½ mile past intersection w/ Quail Ridge Dr

Ann B. Walker, MAOSE, LPSS, Cedar Mountain Soils, L.L.C. 11189 Winston Road Culpeper, VA 22701 (540)-825-4706

Hole	Horizon	Depth Inches	Description of color, texture, etc.	Texture Group
4	A	0-4	10YR 3/3 dark brown loam	IIB
	Е	4-8	10YR 5/4 yellowish brown loam	IIB
	BA	8-17	10YR 5/8 yellowish brown heavy loam, common very fine quartz gravels	IIB
	Bt	17-31	7.5YR 4/6 strong brown heavy loam, numerous angular quartz fragments	IIB
	С	31-60	Multi-colored loam with common fine mica flakes: 10YR 6/6 brownish yellow,	IIB
			5YR 5/8 yellowish red and 2.5Y 3/3 dark olive brown parent colors & few channers	
5	A	0-3	10YR 3/2 very dark grayish brown sandy loam	IIB
	Е	3-8	10YR 6/4 light yellowish brown sandy loam	IIB
	BA	8-15	5YR 4/6 yellowish red light clay loam	III
	Bt	15-41	2.5YR 4/6 red light clay loam with common 7.5YR 5/6 strong brown and 10YR 6/8	III
			brownish yellow parent colors	
30.350/Ma 390/Ma 200 Her	С	41-63	2.5Y 4/3 and 4/4 olive brown with white (mineral) and 2.5Y 6/1 gray lithochromic	IIB
			sandy loam, few 2.5YR 4/6 red clay films, few fine and medium roots to depth	
6	A	0-4	10YR 3/2 very dark grayish brown sandy loam	IIB
	Е	4-7	10YR 5/4 yellowish brown loam	IIB
	BA	7-19	7.5YR 5/6 strong brown heavy loam	IIB
	Bt	19-36	7.5YR 5/8 strong brown gritty heavy loam	IIB
	С	36-61	7.5YR 5/8 strong brown course sandy loam with 2.5Y 4/3 and 4/4 olive brown and	IIB
			2.5Y 6/1 gray lithochromic colors, few discontinuous slightly dense pockets	
		-		
			(Note: All Gray colors are parent/lithochromic)	



DESIGN CALCULATIONS – Conventional lower half/install Page 4 of 7

	40-45
A.a. Estimated Percolation Rate (minutes per inch)	24"
b Recommended trench bottom (inches)	60"
c. Depth to restrictive feature or to <u>limit of evaluation</u> if none encountered	18"
d. Minimum separation distance required	36"
e. Separation distance in inches provided in design (Ac-Ab) f. Minimum trench bottom due to slope (for primary installation area/lower half)	24"
- 1 1 100/: ' ' 11-t' /leven helf of site?	yes
h. If Ag is Yes, does greater than 24 inches to rock exist below Ab?	yes
i. If yes to Ah, add 1 foot to the minimum center to center spacing beginning at 20% slope and continue	+1' required,
for each 10% slope increase above 20%	+2'recommended
If no to Ah, add 1 ft, to the minimum center-to-center spacing beginning at 10% slope and continue	n/a
for each 10% slope increase above 10%. (Report the value, in feet, of the increase in center to center	
spacing above the minimum)	314-344 sq ft per
	bedroom X 4BR
B. Trench bottom sq. feet required: (Designed for 4 bedroom system)	1256-1376 sq ft
Per bedroom (or 100 gals.) from Table 4.6 based on gravity chart from Regs	1230 1370 34 10
C. Marianan de ile Carrier calleng non day (and) years proposed	600 gpd
C. Maximum daily flow in gallons per day (gpd) usage proposed.	81
D. Sq. footage reduction allowed when using Gravelless Absorption System per GMP # 135	N/A
	90'
E. Length of trench	90'
F. Width of trench.	3'
G. Number of trenches.	5
H. Center-to-center spacing	11 feet
I. a. Width required $(H(G-1) + F)$	47'
b.Width of available area	48'
	1350 sq ft
J. Square footage in design (E * F * G)	
W. C. TL. MID MID MID DIV	
K. Soil texture group:	100%
Is a reserve area required? Yes No Percent required:	100% with upper
Pretreatment required? yes no	half of site
Type of use	residential
Number of septic tanks.	1
Minimum size of septic tank required (600 gallons per day x 2 days)	1200 minimum
Class of well	IIIB
	шь

NOTES:



DESIGN CALCULATIONS – Conventional upper half/reserve $\,$ Page 5 of 7

Recommended trench bottom (inches) Depth to restrictive feature or to limit of evaluation if none encountered. Minimum separation distance required. Esparation distance in inches provided in design (Ac-Ab). Minimum trench bottom due to slope (for reserve area/upper half of site). Esparation distance required. Esparation distance required. Esparation distance required. Minimum trench bottom due to slope (for reserve area/upper half of site). Esparation distance required. Minimum trench bottom due to slope (for reserve area/upper half of site). Esparation distance required reserve area/upper half of site). Esparation distance required reserve area/upper half of site. Esparation distance required reaction and lower area/upper half of site. Esparation distance required reserve area/upper half of site. Esparation distance reaction distance reactive reserve area/upper half of site. Esparation distance reaction dista		
b Recommended trench bottom (inches). c. Depth to restrictive feature or to limit of evaluation if none encountered. d. Minimum separation distance required. e. Separation distance in inches provided in design (Ac-Ab). f. Minimum trench bottom due to slope (for reserve area/upper half of site). g. Is the slope greater than 10% in reserve area/upper half of site). g. Is the slope greater than 10% in reserve area/upper half of site?. h. If Ag is Yes, does greater than 24 inches to rock exist below Ab?. i. If yes to Ah, add 1 foot to the minimum center to center spacing beginning at 20% slope and continue for each 10% slope increase above 20%. If no to Ah, add 1 ft. to the minimum center-to-center spacing beginning at 10% slope and continue for each 10% slope increase above 10%. (Report the value, in feet, of the increase in center to center spacing above the minimum). B. Trench bottom sq. feet required: (Designed for 4 bedroom house) Per bedroom (or 100 gals.) from Table 4.6 based on	A.a. Estimated Percolation Rate (minutes per inch)	40-45
d. Minimum separation distance required e. Separation distance in inches provided in design (Ac-Ab)		
d. Minimum separation distance required	c. Depth to restrictive feature or to limit of evaluation if none encountered	
f. Minimum trench bottom due to slope (for reserve area/upper half of site)		
g. Is the slope greater than 10% in reserve area/upper half of site?		
h. If Ag is Yes, does greater than 24 inches to rock exist below Ab?		
i. If yes to Ah, add I foot to the minimum center to center spacing beginning at 20% slope and continue for each 10% slope increase above 20%		
for each 10% slope increase above 20% If no to Ah, add 1 ft. to the minimum center-to-center spacing beginning at 10% slope and continue for each 10% slope increase above 10%. (Report the value, in feet, of the increase in center to center spacing above the minimum). B. Trench bottom sq. feet required: (Designed for 4 bedroom house) Per bedroom (or 100 gals.) from Table 4.6 based on		
for each 10% slope increase above 10%. (Report the value, in feet, of the increase in center to center spacing above the minimum). B. Trench bottom sq. feet required: (Designed for 4 bedroom house) Per bedroom (or 100 gals.) from Table 4.6 based on ☑ gravity chart from Regs. C. Maximum daily flow in gallons per day (gpd) usage proposed. D. Sq. footage reduction allowed when using Gravelless Absorption System per GMP # 135 E. Length of trench. Length of available area. F. Width of trench. G. Number of trenches. H. Center-to-center spacing J. Square footage in design (E * F * G). K. Soil texture group: ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐		
spacing above the minimum)	If no to Ah, add 1 ft. to the minimum center-to-center spacing beginning at 10% slope and continue	n/a
B. Trench bottom sq. feet required: (Designed for 4 bedroom house) Per bedroom (or 100 gals.) from Table 4.6 based on gravity chart from Regs. C. Maximum daily flow in gallons per day (gpd) usage proposed. D. Sq. footage reduction allowed when using Gravelless Absorption System per GMP # 135 E. Length of trench. Length of available area. F. Width of trench. Sq. Number of trenches. H. Center-to-center spacing I. a. Width required (H(G-1) + F). b. Width of available area. 46° I. Square footage in design (E * F * G). K. Soil texture group:	for each 10% slope increase above 10%. (Report the value, in feet, of the increase in center to center	
B. Trench bottom sq. feet required: (Designed for 4 bedroom house) Per bedroom (or 100 gals.) from Table 4.6 based on	spacing above the minimum)	314-344 sq ft per
B. Trench bottom sq. feet required: (Designed for 4 bedroom house) Per bedroom (or 100 gals.) from Table 4.6 based on gravity chart from Regs. C. Maximum daily flow in gallons per day (gpd) usage proposed. D. Sq. footage reduction allowed when using Gravelless Absorption System per GMP # 135 E. Length of trench. Length of available area. F. Width of trench. G. Number of trenches. H. Center-to-center spacing I. a. Width required (H(G-1) + F). b. Width of available area. J. Square footage in design (E * F * G). K. Soil texture group:		
C. Maximum daily flow in gallons per day (gpd) usage proposed		
D. Sq. footage reduction allowed when using Gravelless Absorption System per GMP # 135 E. Length of trench. Length of available area. F. Width of trench. G. Number of trenches. H. Center-to-center spacing. I. a. Width required (H(G-1) + F) b. Width of available area. J. Square footage in design (E * F * G). K. Soil texture group:	Per bedroom (or 100 gals.) from Table 4.6 based on 🖂 gravity chart from Regs	
E. Length of trench. Length of available area. F. Width of trench. G. Number of trenches. I. a. Width required (H(G-1) + F). b. Width of available area. J. Square footage in design (E * F * G). K. Soil texture group:	C. Maximum daily flow in gallons per day (gpd) usage proposed	600 gpd
E. Length of trench. Length of available area. F. Width of trench. G. Number of trenches. H. Center-to-center spacing. J. Width required (H(G-1) + F). J. Square footage in design (E * F * G). K. Soil texture group: I I IIIA IIIB III IIV Is a reserve area required? Yes No Percent required: 100% Pretreatment required? Yes No Percent available. Pretreatment required? Yes No Percent available Percent available Tesidential Number of septic tanks. Minimum size of septic tank required (600 gallons per day x 2 days).		N/A
E. Length of trench. Length of available area. F. Width of trench. G. Number of trenches. H. Center-to-center spacing J. Square footage in design (E * F * G). K. Soil texture group:	D. Sq. footage reduction allowed when using Gravelless Absorption System per GMP # 135	
Length of available area. F. Width of trench. G. Number of trenches. H. Center-to-center spacing. J. Square footage in design (E * F * G). K. Soil texture group:	F. Length of trench	85'
F. Width of trench		85'
G. Number of trenches. 5 H. Center-to-center spacing 9 feet I. a. Width required (H(G-1) + F). 39' b. Width of available area. 46' I. Square footage in design (E * F * G). 1275 sq ft K. Soil texture group:	Delign of available area.	
G. Number of trenches	F. Width of trench.	3'
H. Center-to-center spacing 9 feet I. a. Width required (H(G-1) + F) 39? b. Width of available area 46? J. Square footage in design (E * F * G) 1275 sq ft K. Soil texture group:		480
I. a. Width required (H(G-1) + F)	G. Number of trenches.	5
I. a. Width required (H(G-1) + F)	II Contanto contanto academana	0 foot
b.Width of available area	H. Center-to-center spacing	FICCE
b.Width of available area	I a Width required $(H(G_{-}1) + F)$	30,
J. Square footage in design (E * F * G)	1. a. widen required (11(0-1) + 1)	39
J. Square footage in design (E * F * G)	b. Width of available area	46'
J. Square footage in design (E * F * G) K. Soil texture group:		
Is a reserve area required?	J. Square footage in design (E * F * G).	1273 34 10
Is a reserve area required?		
Percent required: Percent available. Pretreatment required? Type of use. Number of septic tanks. Minimum size of septic tank required (600 gallons per day x 2 days). 100% residential 1200 minimum		100%
Pretreatment required? yes no Type of use residential Number of septic tanks. 1 Minimum size of septic tank required (600 gallons per day x 2 days). 1200 minimum		
Type of use	Percent available	100/0
Number of septic tanks		
Minimum size of septic tank required (600 gallons per day x 2 days)	Type of use.	residential
Class of well 1200 minimum	Number of septic tanks.	1
	Class of well	
Class of well	Class of well	IIIB

NOTES:

Site Sketch/Sanitary Survey

