

**SOIL/SITE EVALUATION  
 for ON-SITE WASTEWATER SYSTEM**

Owner:                      Applicant:  
 Address:                      Date Evaluated:  
 Proposed Facility: 3860000      Design Flow (.1949): 500 gpd  
 Location of Site:                      Property Recorded:      Property Size:  
 Water Supply:                       Public  Individual  Well       Spring       Other  
 Evaluation Method:  Auger Boring       Pit       Cut  
 Type of Wastewater:                       Sewage       Industrial Process       Mixed

P R O F I L E #	.1940 Landscape Position/ Slope %	Horizon Depth (in.)	SOIL MORPHOLOGY .1941		OTHER PROFILE FACTORS				Profile Class & LTAR
			.1941 Structure/ Texture	.1941 Consistence Mineralogy	.1942 Soil Wetness/ Color	.1943 Soil Depth (IN.)	.1956 Sapro Class	.1944 Restr Horiz	
1	L5 5-7 1/2	0-29	G S	VFA 15/18					
		29-31	SX SL	Fa SS/SF	10-12 7/16/18"				US PS .4
2		0-19	G S	VFA 15/18					
		19-27	SX SL	Fa SS/SF	10-12 7/16/18"				PS .4
3		0-24	G S	VFA 15/18					
		24-32	SX SL	Fa SS/SF					PS .4
4		0-19	G S	VFA 15/18					
		19-30	SX SL	Fa SS/SF					

Description	Initial System <input checked="" type="checkbox"/>	Repair System <input checked="" type="checkbox"/>	Other Factors (.1946): Site Classification (.1948): CS Evaluated By: [Signature] Others Present: [Signature]
Available Space (.1945)			
System Type(s)	2.5 2.9 2.0	PS 2.5 2.9 2.0	
Site LTAR	2	4	

COMMENTS: \_\_\_\_\_

<u>LANDSCAPE POSITIONS</u>	<u>GROUP</u>	<u>TEXTURES</u>	<u>.1955 LTAR</u>	<u>CONSISTENCE MOIST</u>	<u>WET</u>
R-RIDGE	I	S-SAND	1.2 - 0.8	VFR-VERY FRIABLE FR-FRIABLE	NS-NON-STICKY SS-SLIGHTY STICKY
S-SHOULDER SLOPE		LS-LOAMY SAND			
L-LINEAR SLOPE	II	SL-SANDY LOAM	0.8 - 0.6	FI-FIRM VFI-VERY FIRM EFI-EXTREMELY FIRM	S-STICKY VS-VERY STICKY NP-NON-PLASTIC SP-SLIGHTLY STICKY
FS-FOOT SLOPE		L-LOAM			
N-NOSE SLOPE	III	SI-SILT	0.6 - 0.3		P-PLASTIC VP-VERY PLASTIC
H-HEAD SLOPE		SIL-SILT LOAM			
CC-CONCLAVE SLOPE		CL-CLAY LOAM			
CV-CONVEX SLOPE		SCL-SANDY CLAY LOAM			
T-TERRACE	IV	SIC-SILTY CLAY	0.4 - 0.1		
FP-FLOOD PLAN		C-CLAY SC-SANDY CLAY			

STRUCTURE  
 SG-SINGLE GRAIN  
 M- MASSIVE  
 CR-CRUMB  
 GR-GRANULAR  
 SBK-SUBANGULAR BLOCKY  
 ABK-ANGULAR BLOCKY  
 PL-PLATY  
 PR-PRISMATIC

MINERALOGY  
 SLIGHTLY EXPANSIVE  
 EXPANSIVE

Show profile locations and other site features (dimensions, references or benchmark, and North)

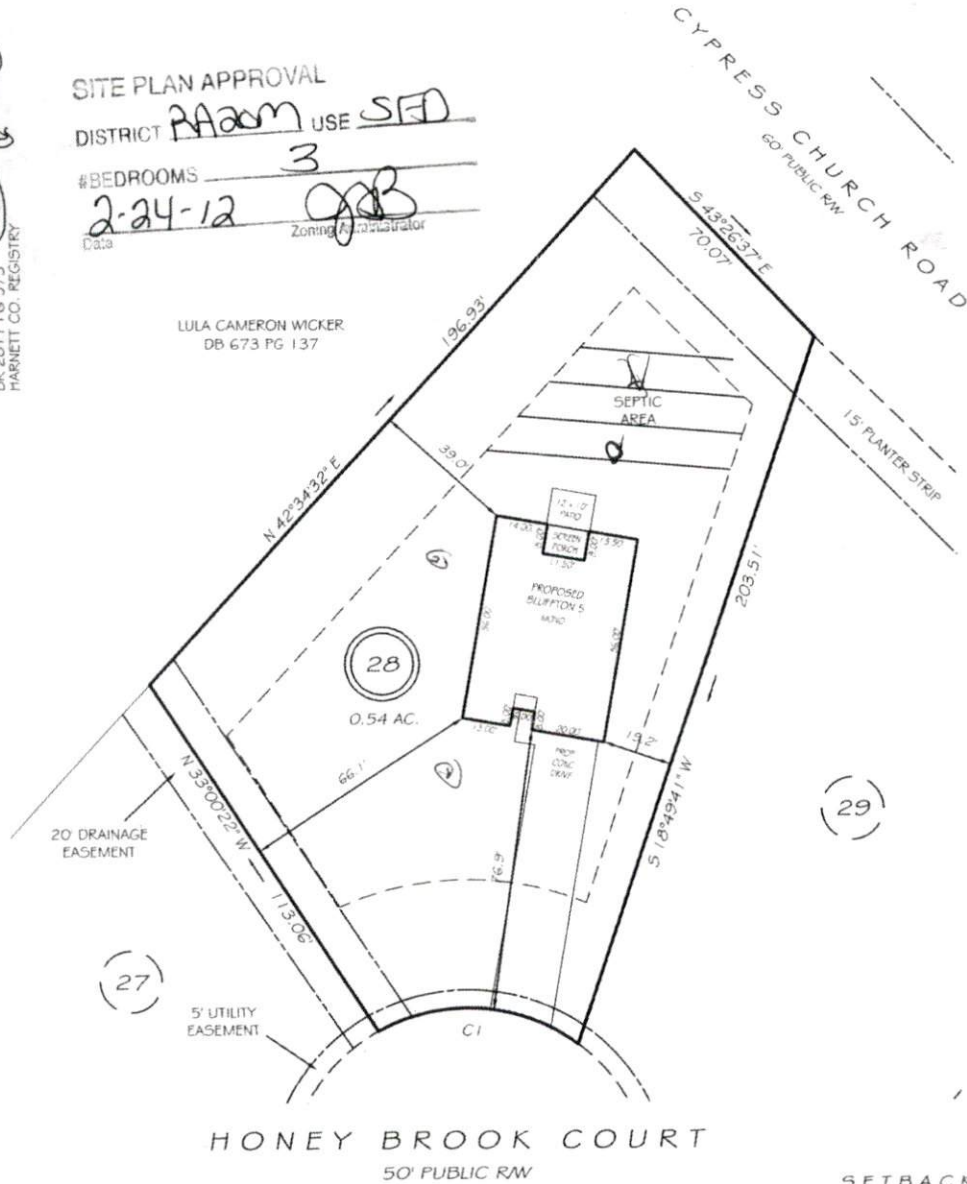
A large grid for recording profile locations and site features. The grid consists of 20 columns and 20 rows of squares. The top row is intended for profile locations and other site features, including dimensions, references, benchmarks, and North.

I, MICHAEL P. GRIFFIN, certify that under my direction and supervision this map was drawn from an actual field survey; that the error of closure of the survey as calculated by coordinates is 1:10,000+; that the area shown hereon was calculated by coordinates.  
 Witness my hand and seal this day of MONTH 2012.

BK 2011 PG 575  
 HARNETT CO. REGISTRY

SITE PLAN APPROVAL  
 DISTRICT RAA00M USE SED  
 #BEDROOMS 3  
2-24-12 Zoning Administrator  
 Data

LULA CAMERON WICKER  
 DB 673 PG 137



SETBACKS

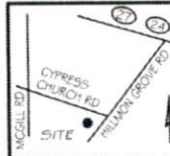
FRONT	35'
REAR	25'
SIDE	10'
CORNER SIDE	20'

CI R=50.00' L=57.37' N86°07'54"W 54.28'

**PRELIMINARY**  
 NOT FOR RECORDATION,  
 SALES OR CONVEYANCE

LEGEND

EIP	EXISTING IRON PIPE	FES	FLARED END SECTION
IPS	IRON PIPE SET	WM	WATER METER
RW	RIGHT OF WAY	CO	CLEAN OUT
N/F	NOW OR FORMERLY	FH	FIRE HYDRANT
EIS	EXISTING IRON STAKE	CB	CATCH BASIN



**GRIFFIN LAND SURVEYING, INC.**  
 P.O. BOX 148  
 FUQUAY-VARINA, NC 27526  
 (919) - 567 - 1963

**PLOT PLAN**  
 FOR  
**D.R. HORTON**

**CYPRESS POINTE**  
**LOT 28**  
 HONEY BROOK COURT  
 CAMERON, N.C.  
 CUMBERLAND CO. JOHNSONVILLE TOWNSHIP

DRAWN BY <u>NMF</u>	DATE _____
CHECKED BY <u>MPG</u>	SCALE <u>1" = 40'</u>

# Southeastern Soil & Environmental Associates, Inc.

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Fayetteville, NC 28311  
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Email mike@southeasternsoil.com

March 14, 2012

Harnett County Health Dept.  
307 Cornelius Harnett Blvd.  
Lillington, NC 27546

Re: Hydraulic conductivity (Ksat) analysis for pretreatment/drip irrigation subsurface waste disposal system (repair area), Cypress Pointe Subdivision, Lot 28, Honey Brook Ct., Harnett County, North Carolina

To whom it may concern,

An evaluation of soil and hydraulic conductivity (Ksat) has been conducted on the aforementioned property. The purpose of the investigation was to determine soil absorption rates for a proposed pretreatment/drip irrigation repair septic system to serve a 3 bedroom single family residence. All ratings and determinations were made in accordance with "Laws and Rules for Sanitary Sewage Collection, Treatment, and Disposal, 15A NCAC 18A .1900".

Soils in the proposed repair area consist of 8 to 16 inches of a friable loamy sand (2.5Y 5/3) underlain by a firm sandy clay loam to 19 inches (2.5Y 6/4). Below 19 inches is a firm sandy clay loam BC horizon [2.5Y 6/4 with many prominent mottles (2.5Y 6/3)]. This horizon extends to 23 inches. Below 23 inches is a firm to very firm mixed mottled sandy clay loam to sandy clay C horizon (2.5Y 6/4, 2.5YR 5/8 and 10YR 6/2) that extends to at least 48 inches. [Note: Some chroma 2 mottling was noted at 18 inches in other borings.]

Three compact constant head permeameter (CCHP) measurements were made to determine a Ksat rate at depths of 23 to 39 inches (BC and C horizons). Measured Ksat rates were 0.302, 0.447 and 0.223 cm/hr (see attached chart). This equates to 1.779, 2.633 and 1.31 gpd/sq. ft. Using 10% of the lowest Ksat measured (C horizon) equates to 0.131 gpd/sq. ft. (typical for domestic disposal without pretreatment). Using pretreatment typically allows application rates to be increased up to 100 percent (or 0.262 gpd/sq. ft.).

The proposed repair system (drip irrigation with pretreatment) is based on a 0.10 gpd/sq. ft. (drip rate; equates to 0.2 gpd/sq. ft. conventional rate) application rate which is considerably less than the measured rate. In fact, the proposed rate is only about 8% of the slowest measured rate and should easily allow for sufficient drainage from the

proposed repair system. The Ksat measurements support a higher application rate if needed, however, for the purposes of a preliminary proposal we will use the more conservative figure.

The system sizing is as follows:

360 gpd @ 0.10 gpd/sq. ft. = 3600 sqft

3600 sqft / 2 = 1800 linear feet of drip line spaced on 2 foot centers.

Area available for drip field = +/- 7000 sqft.

It is imperative that no grading, rutting, etc. occur in the area of the proposed drip field (see map). I trust this is the information required at this time. Please call if you have any questions.

Sincerely,

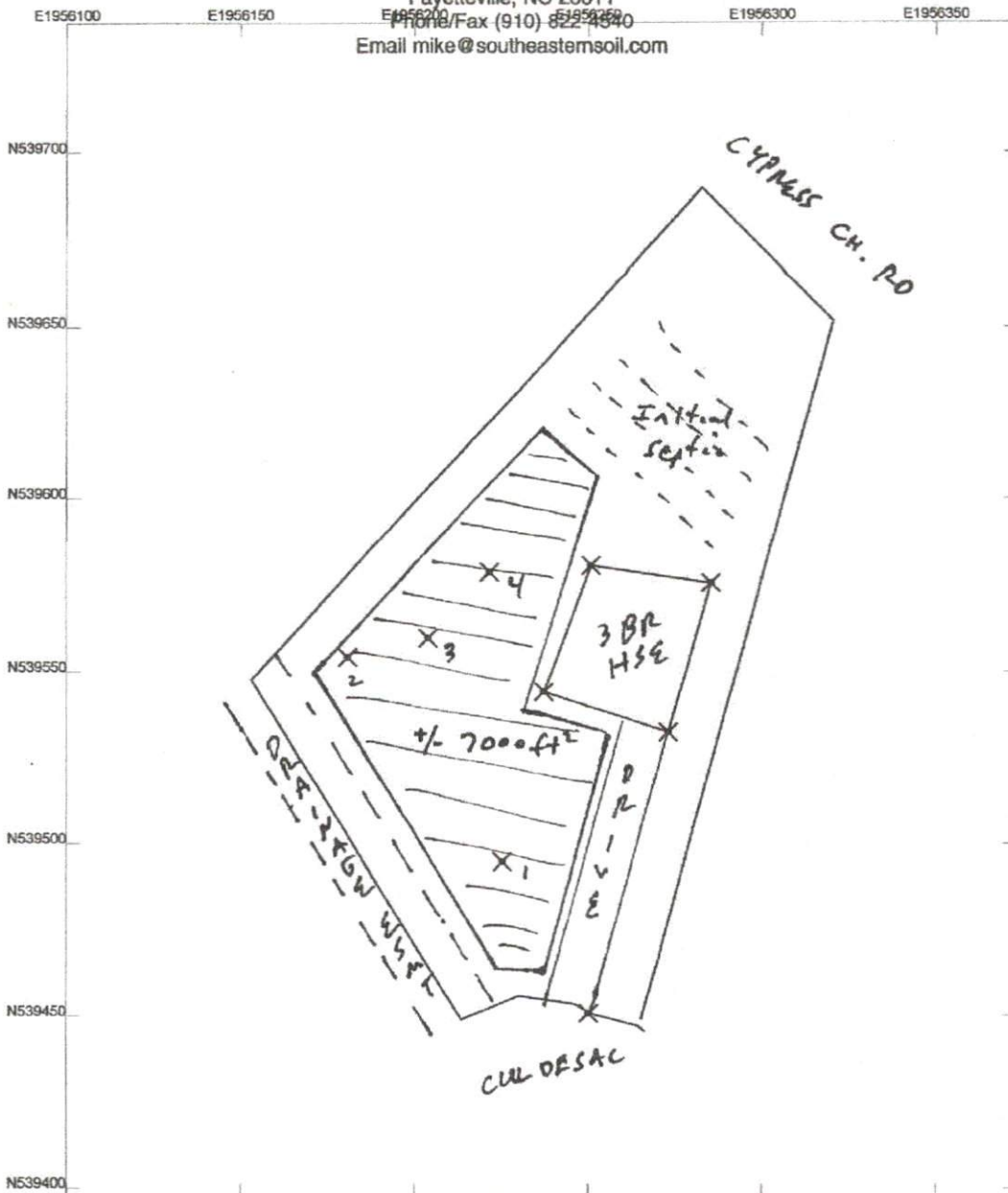


Mike Eaker  
President




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X = BOREHOLE / KSAT

## Cypress Pointe (Lot 28) - Proposed Septic Repair Detail Honey Brook Ct., Harnett County, NC

 = Area available for DRIP / PRETREAT REPAIR AREA  
 +/- 7000 ft<sup>2</sup>

US State Plane 1983  
 North Carolina 3200  
 NAD 1983 (Conus)

Scale 1:600

CYPRESS 28.cor  
 3/7/2012

ILLUSTRATION ONLY

NOT A SURVEY

NOT FOR CONVEYANCE



US Survey Feet

1" = 50'

GPS Pathfinder<sup>®</sup> Office  


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## Measured Ksat Rates, Cypress Pointe, Lot 28, Harnett County, NC

<u>Location</u>	<u>Depth (in)</u>	<u>Ksat cm/hr</u>	<u>Ksat gpd/sqft</u>
1	24	0.302	1.779
3	38	0.447	2.633
4	39	0.223	1.313