Department of Environment, Health and Natural Resources
Division of Environmental Health
On-Site Wastewater Section

Sheet:
Property ID:
Lot #:
File #:
Code:

SOIL/SITE EVALUATION for ON-SITE WASTEWATER SYSTEM

Owner: Applicant:
Address:
Proposed Facility: 3 BED 800 MS Date Evaluated: 3/12/12
Location of Site: Design Flow (.1949): 360 GPD
Water Supply: ☒ Public ☐ Individual ☐ Well Property Recorded: Property Size:
Evaluation Method: ☒ Auger Boring ☐ Pit ☐ Cut ☐ Spring ☐ Other
Type of Wastewater: ☒ Sewage ☐ Industrial Process ☐ Mixed

PROFILE #	.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	LS 5-7%	0-22	GS	VFR NS/NP					
		22-32"	SBK SCL	FR SS/SP	10YR 7/2 @ 30"				PS .4
2		0-14	GS	VFR NS/NP					
		14-31"	SBK SCL	FR SS/SP	10YR 8/1 @ 28"				PS .3
3		0-11"	GLS	VFR NS/NP					
		11-24"	SBK SCL	FR S/P	10YR 7/2 @ 20"				LS
4		0-11	GS	VFR NS/NP					
		11-40"	SBK SCL	FR SS/SP					PS .3
5		0-14"	GS						
		14-26"	SBK SCL						PS .3

Description	Initial System	Repair System
Available Space (.1945)	✓	✓
System Type(s)	PUMP 25%	DRIP
Site LTAR	.3	

Other Factors (.1946):
Site Classification (.1948): ES
Evaluated By: OS
Others Present: —

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March 21, 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), Gwen Oaks Subdivision, Lot 8, Tactical Drive, 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 10 inches of a friable loamy sand underlain by a firm sandy clay loam to 22 or more inches. Below 20 inches is a firm sandy clay loam BC horizon to 30 inches. Below 30 inches is a firm to very firm mixed mottled sandy clay loam to sandy clay C horizon that extends to at least 48 inches.

Three compact constant head permeameter (CCHP) measurements were made to determine a Ksat rate at depths of 27 to 35 inches (BC and C horizons). Measured Ksat rates were 0.19, 0.19 and 0.23 cm/hr (see attached chart). This equates to 1.19, 1.19 and 1.33 gpd/sq. ft. Using 10% of the lowest Ksat measured (C horizon) equates to 0.119 gpd/sq. ft. (typical for domestic disposal without pretreatment). Using pretreatment typically allows application rates to be increased up to 100 percent (or 0.238 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

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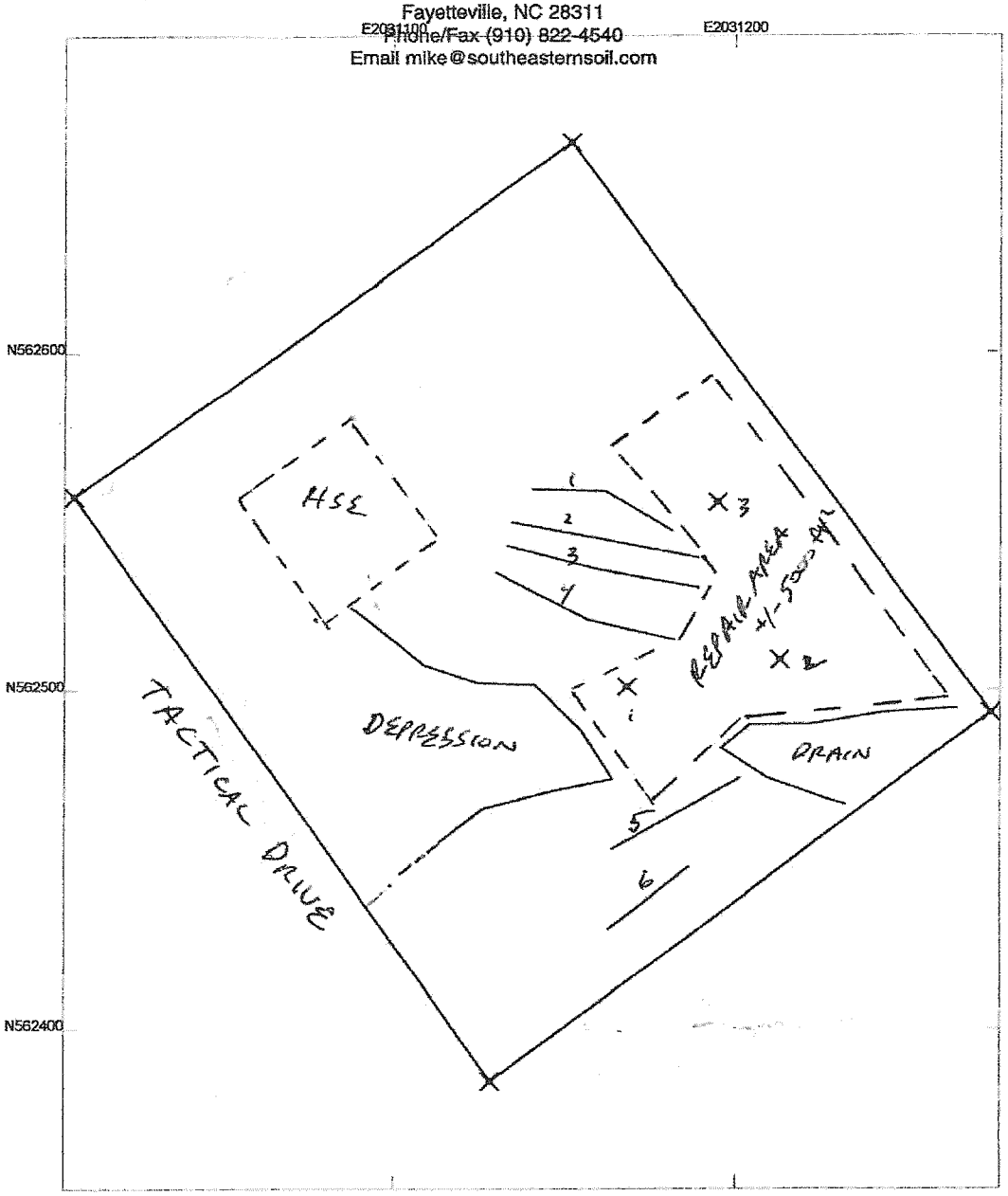

Gwen Oaks Lot 8 - Drip Irrigation Repair Area
Tactical Drive, Harnett County, NC

X = KSAT LOCATION

= DRAINLINES DESIGNED BY LOCAL HEALTH DEPT

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

Scale 1:600

GO-8.cor

3/21/2012

N

0 70.00

US Survey Feet

1" = 59'

GPS Pathfinder® Office

Trimble.

* ILLUSTRATION ONLY

* NOT A SURVEY

* NOT TO BE USED FOR CONVEYANCE