

Fax

To: Oliver @ Harnett Co. +1D
Fax: 893-9371
From: Becky
Re: Forest trails Lot 13
Date: 5/12/05
CC:
Pages: 2, including cover

Hal Owen & Associates, Inc.

Soil & Environmental Scientists

266 Old Coats Road

PO Box 400

Lillington, NC 27546

Phone: 910-893-8743

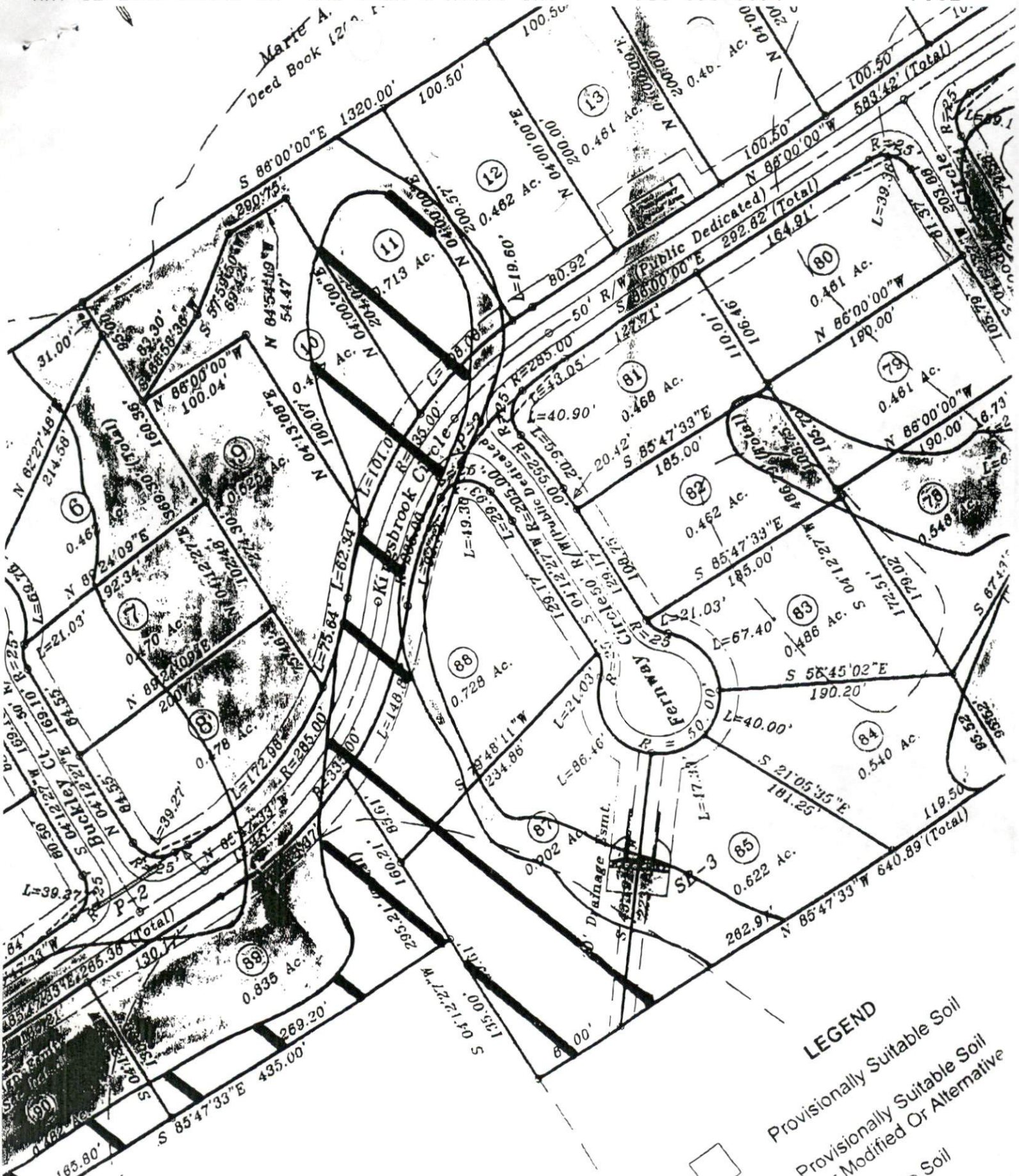
Fax: 910-893-3594

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Urgent As Requested For Review Please Comment

All provisionally suitable soils on Lot 13. The shading on the copy is a shadow from the fold. The box on the front is labeled. "Temporary spoils area" in case you can't read it.

Marie A.
Deed Book 127



LEGEND

-  Provisionally Suitable Soil
-  Provisionally Suitable Soil For Modified Or Alternative
-  Unsuitable Soil

Larry W. Ausley
Map Number 2001-823

HALLOWEN & ASSOCIATES, INC.

SOIL & ENVIRONMENTAL SCIENTISTS

P. O. Box 400, 266 Old Coats Road

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30 June 2005

Mr. Leon Anderson
A & D Properties
6212 Rawls Church Road
Fuquay-Varina, NC 27526

Reference: Site Investigation & Septic System Design
Lot 13, Forest Trails

Dear Mr. Anderson,

A site investigation was conducted for the above referenced property located on the northern side of Kingsbrook Circle, Hector's Creek Township, Harnett County, North Carolina. The purpose of the investigation was to determine the ability of this lot to support a subsurface sewage waste disposal system and 100 % repair area for a typical three-bedroom home. Community water supplies will be utilized for this lot. A foundation drain will not be possible. After several auger borings throughout the lot, it appears that the only consistent areas of useable soil are located in the rear left corner of the lot and the front quarter of the lot. A septic system design layout was conducted in these areas and it appears that there is only sufficient available space to support the septic needs for a **two-bedroom** home. The initial septic system would pump to the rear left corner of the lot using serial distribution to 200 linear feet of innovative drainline. The repair septic system is proposed in front of the home to a low-pressure pipe distribution system preceded by a pretreatment filter. This proposal will require that the proposed home move 25-ft toward the rear of the lot.

Attached are the revised site plan and septic system design that you will need to submit to the Harnett County Health Department for review and the permitting process. This report represents my professional opinion but does not guarantee or represent permit approval for this lot by the local Health Department.

I appreciate the opportunity to provide this service and hope to be allowed to assist you again in the future. If you have any questions or need additional information, please contact me at your convenience.

Sincerely,



Laura J. Fortner
Licensed Soil Scientist

Lot 13, Forest Trails Subdivision

On-Site Wastewater Design Specifications

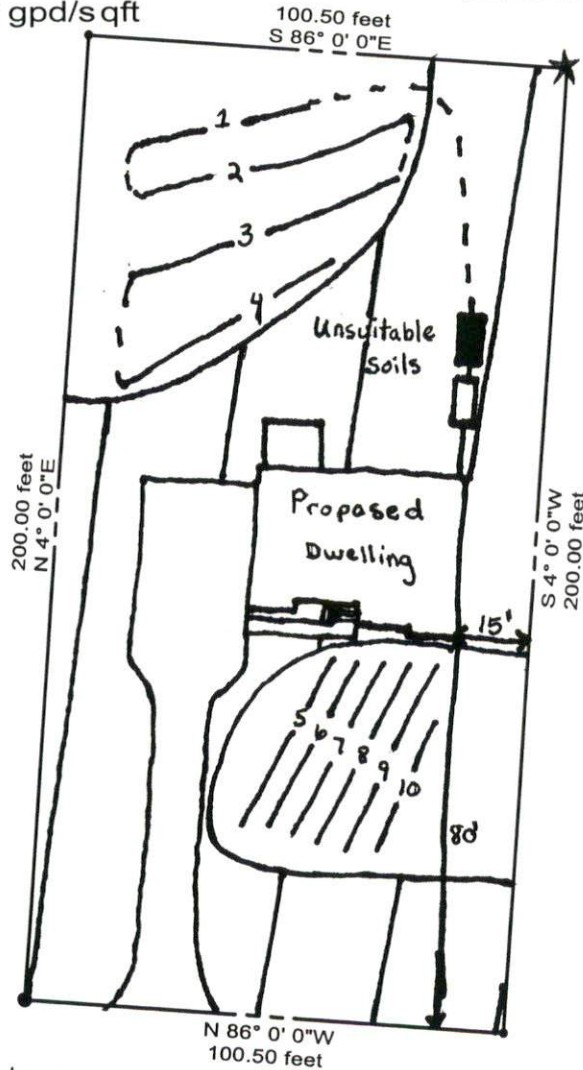
Prepared By: LJF
 Hal Owen & Associates, Inc.
 Soil & Environmental Scientists
 P.O. Box 400, 266 Old Coats Rd.
 Lillington, NC 27546-0400
 Phone: (910) 893-8743

House Footprint: 44' x 33' (No Foundation Drain)
 Bedrooms: 2 (Daily Flow 240 gallons)

Initial System: Pump Innovative Serial Distribution (200-ft)
 on contour at: 12 inches
 Soil LTAR: 0.3 gpd/sqft
 Repair System: Pretreatment Low-Pressure Pipe (236-ft)
 on contour at: 12 inches
 Effective LTAR: 0.2 gpd/sqft

LEGEND

EIP	□ Septic Tank
Step-down	■ Pump Tank
Proposed Well	○ D-Box
Existing Well	⊠ Pressure Manifold



Lines flagged at site on 9-ft centers.

Initial/Repair	Line #	Color	Drainline Length(ft)	Measured Field Line Length (ft)	Relative Elevation (ft)
Initial	1	W	35	37	100.54
Initial	2	B	55	58	100.30
Initial	3	Y	60	60	99.93
Initial	4	R	50	50	99.59
Repair	5	R	40	40	97.61
Repair	6	B	40	40	97.34
Repair	7	W	41	41	97.09
Repair	8	Y	42	42	96.87
Repair	9	B	44	44	96.50
Repair	10	R	29	29	96.31
Total:			436	441	EIP = 100

Repair System

Low Pressure Pipe Distribution Flow Sheet

Subfields	Line #	Line Color	Line Length	Relative Elev(ft)	Elevation Change	Pressure Head(ft)	Hole Size	Flow/Hole	Flow/Lateral	gpm/ft	# Holes	Hole Spacing	First/Last Holes
1	5	R	40	97.6	0.0	4.0	5/32	0.5757	5.18	0.1295	9	4	4.00
	6	B	40	97.3	0.3	4.3	9/64	0.4835	4.84	0.1209	10	3	6.50
	7	W	41	97.1	0.5	4.5	5/32	0.6106	4.88	0.1191	8	3	10.00
	8	Y	42	96.9	0.7	4.7	5/32	0.6240	4.37	0.1040	7	5	6.00
	9	B	44	96.5	1.1	5.1	9/64	0.5265	4.21	0.0957	8	5	4.50
	10	R	29	96.3	1.3	5.3	5/32	0.6627	2.65	0.0914	4	6	5.50
		Total=	236										
LPP system to be used in conjunction with a pretreatment peat filter. Total reduction of approximately 26%													
System to be installed ultra-shallow at 12 inches below the natural ground surface with a required six inch capping.													
										% Decrease of gpm/ft from top to bottom line=		29.42	

Calculations:

Flow/Hole = $11.79 d^2 h^{1/2}$ Flow/Lateral = (flow/hole) x #holes
 gp (flow /hole) x # Holes / Line Length
 Supply Ln (d)Volume = Supply Line Length /100 x Pipe Size & Volume Table
 Lateral Ln Vol (1&1/4) =Total linear footage /100 x Pipe Size & Volume Table
 Manifold Vol. = Manifold Length x Pipe Volume /100
 Dose Vol = Supply Line Vol. + Manifold Vol. + 5(Lateral Line Vol.)
 Run Time = Dose Volume /Total Flow
 Draw Down = Dose Vol /Pump Tank Vol x liquid depth of tank(inches)
 Elev Head = Manifold Elevation - (Pump Tank Elevation - 5ft)

Design Specifications

Supply Line (d)Vol=	
Lateral Line (d)Vol=	
Manifold (d)Vol=	
Dose Vol Range=	
Dose Vol=	@ x

Total Flow =	26.13
LTAR=	0.2
Run Time =	
Draw Down=	

Pressure Head (ft)=	4
Elevation Head (ft)=	
Friction Head (ft)=	
TDH (ft)=	

Friction Head = $[0.00113 \times (\text{Supply Line Length(ft)} + 70\text{ft for fittings in pump tank}) \times \text{Flow(gpm)}^{1.85}] / \text{Pipe Inside Diameter(in)}^{4.87}$ Computed by the Hazen Williams Formula

TDH = Pressure Head + Elevation Head + Friction Head