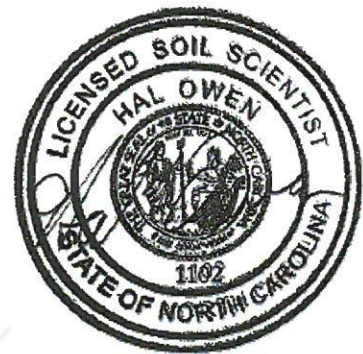
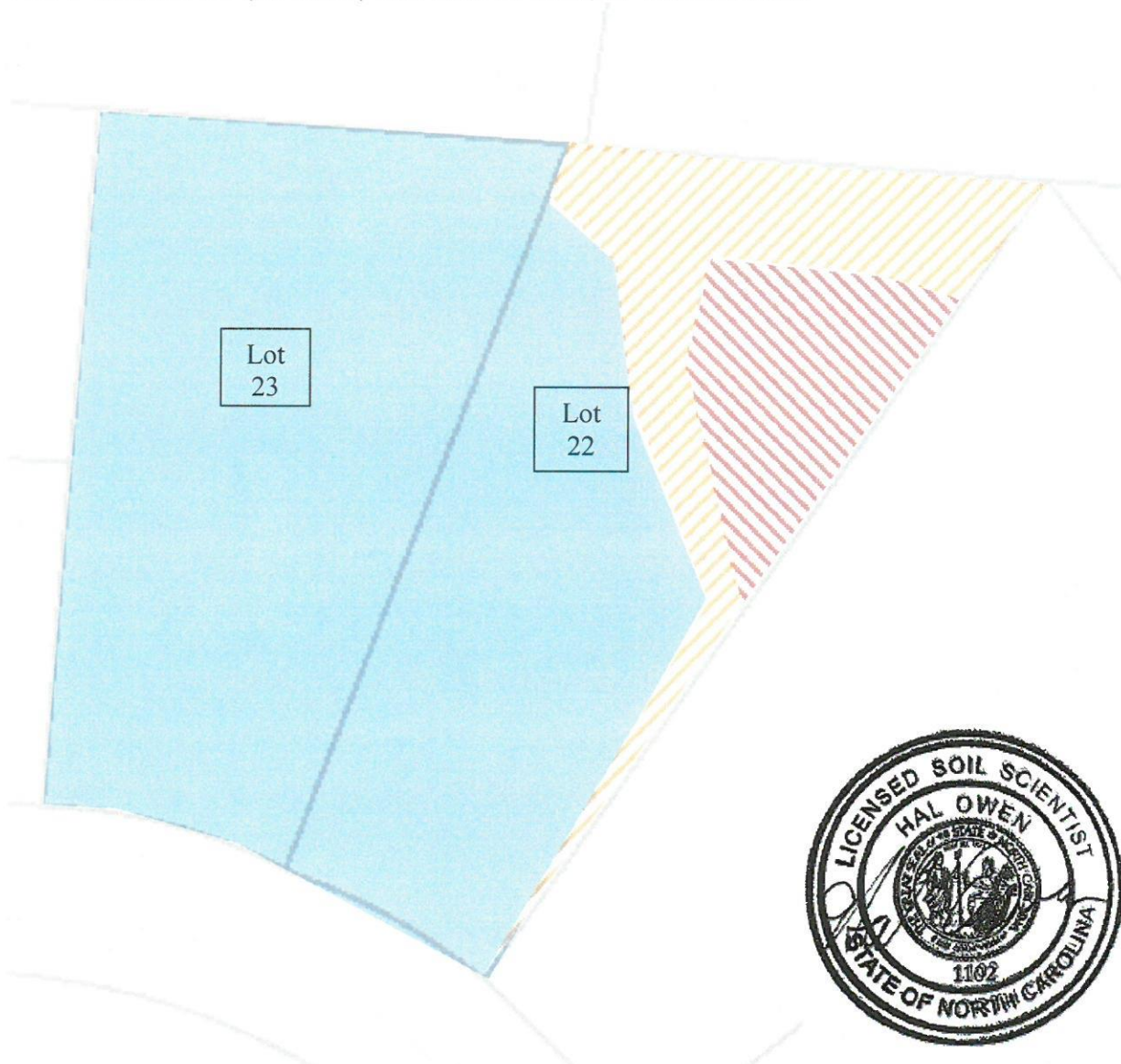





Soil Investigation and Septic System Design


Lot 22 Wexford SD (0.58 Acres) PIN 0665-60-0918; 57 Wexford Drive

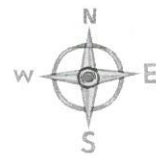
Lot 23 Wexford SD (0.5 Acres) PIN 0665-51-9010; 47 Wexford Drive



Soil Map Legend

	Provisionally Suitable Soils
	Provisionally Suitable for Innovative or Experimental Systems
	Unsuitable Soils

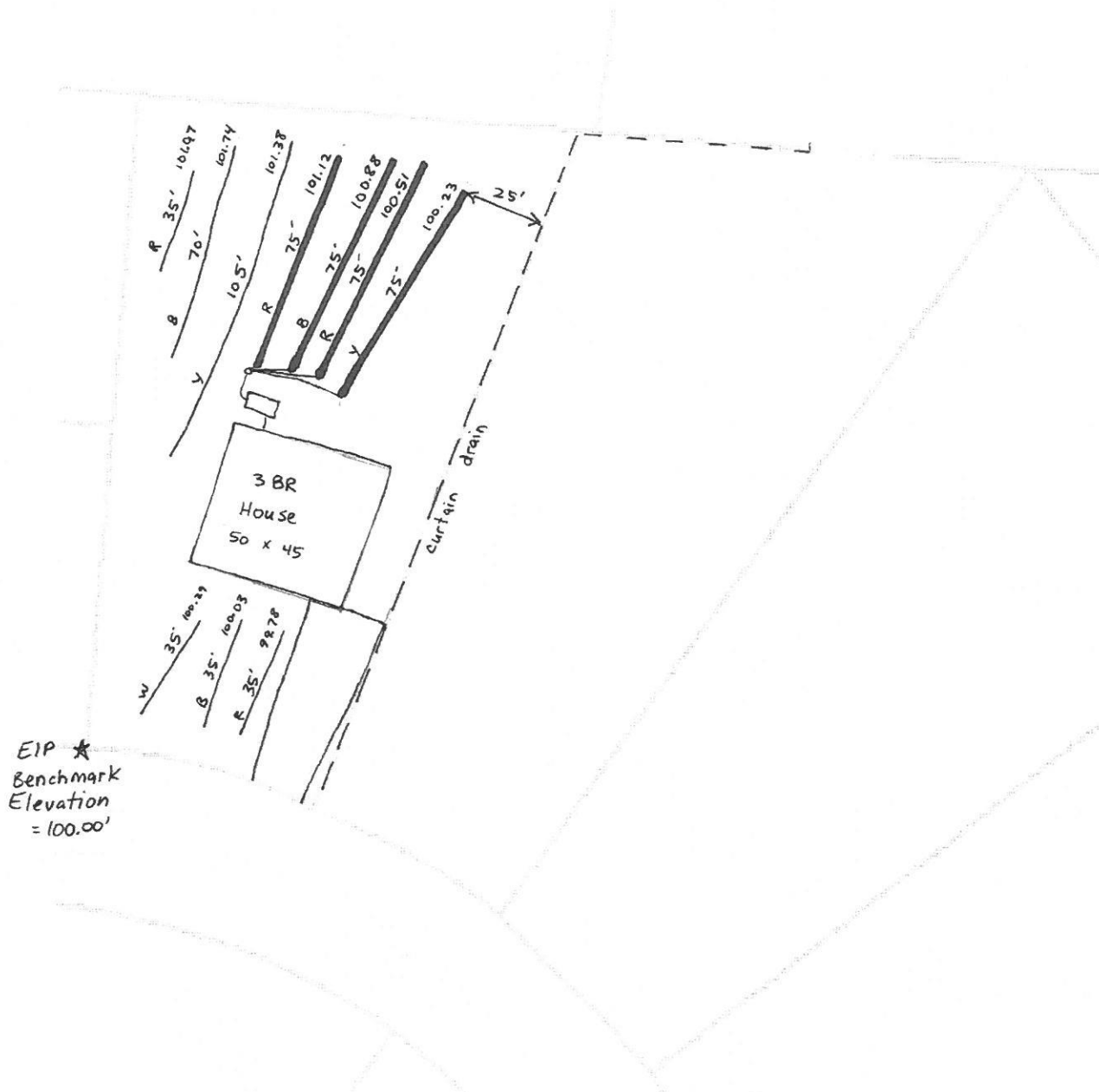
Scale 1 in = 50 ft

Distances are paced and approximate



Soil Investigation and Septic System Design

Lot 23 Wexford SD (0.5 Acres) PIN 0665-51-9010; 47 Wexford Drive 22 July 2016

22 July 2016



Lot 23 Wexford Subdivision

Pressure Manifold Design Criteria

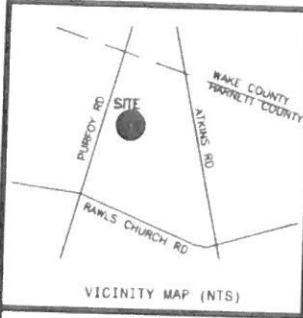
Repair System

Line Number	Line Color	Elevation	Drainline Length(ft)	Tap Size/Schedule	Flow/tap (gpm)	gpd/ft	LTAR (gpd/sqft)
1	R	101.97	35	1/2"sch 80	5.48	1.155	0.385
2	B	101.74	70	3/4"sch 80	10.10	1.064	0.355
3	Y	101.38	105	1"sch 80	16.80	1.180	0.393
4	W	100.29	35	1/2"sch 80	5.48	1.155	0.385
5	B	100.03	35	1/2"sch 80	5.48	1.155	0.385
6	R	99.78	35	1/2"sch 80	5.48	1.155	0.385

Total Drainline= 315 Total Flow= 48.82

Pressure Head (ft)= 2 Target LTAR* (gpd/sf)= 0.4 LTAR + 5% 0.42
 Daily Flow= 360 Total Flow (gpm)= 48.82 Daily PRT(min)= 7.37
 Dose Vol= 154.27 gallons w/ Pipe Vol @% 75 Dose PRT (min)= 3.16

38934

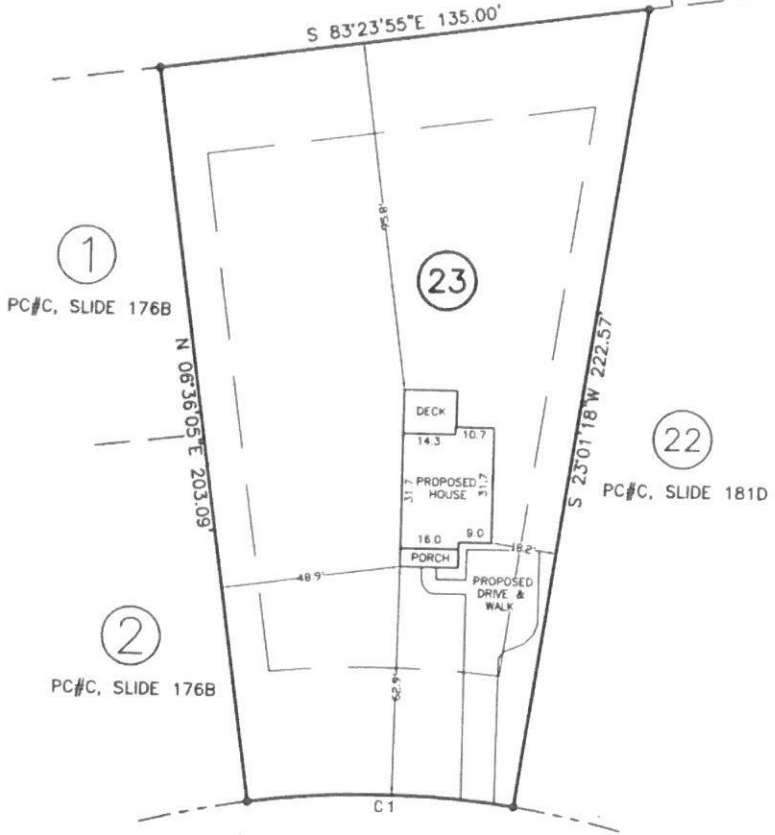


- LEGEND**
- NTS NOT TO SCALE
 - EIP EXISTING IRON PIPE
 - PP POWER POLE
 - W/M WATER METER
 - TB TELEPHONE BOX
 - IPS IRON PIPE SET
 - CP&L TRANSFORMER
 - CATV CABLE TV BOX
 - L POLE LIGHT POLE
 - OHP/L OVERHEAD POWER LINE
 - F.E.S. FLARED END SECTION (PIPE)
 - RCP REINFORCED CONC. PIPE
 - B.O.C. BACK OF CURB
 - F.H. FIRE HYDRANT
 - C/O SEWER CLEAN OUT
 - ES EXISTING IRON STAKE
 - M.H. MANHOLE
 - ECM EXISTING CONCRETE MONUMENT
 - P.K. PARKER KALON NAIL

Curve	Radius	Length	Chord	Chord Bear.
C1	265.00'	73.06'	72.85'	N 75°11'19" W

RICHARD R. JONES, JR.
LINDA J. HESTER
D.B.1316, PG.735
PC#F, SLIDE 672A

ENRIQUE REYES
D.B.1856, PG.819
PC#F, SLIDE 672A



①
PC#C, SLIDE 176B

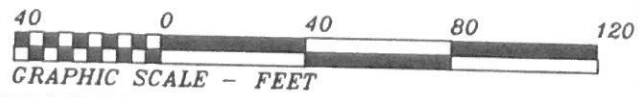
②
PC#C, SLIDE 176B

②
PC#C, SLIDE 181D

47 WEXFORD DRIVE
(50' PUBLIC R/W)

NOTE: SHOWN IS LOT 23 OF
WEXFORD S/D - SECTION 2
REF: PC#C, SLIDE 181D

AREA = 0.495 ACRES
47 WEXFORD ROAD



THIS IS TO CERTIFY THAT THIS MAP WAS PREPARED FROM AN ACTUAL SURVEY OF THE PREMISES, MADE UNDER MY SUPERVISION, AND THAT THERE ARE NOT ANY ENCROACHMENTS, EXCEPT AS NOTED TO THE BEST OF MY KNOWLEDGE. THAT THE RATIO OF PRECISION AS CALCULATED BY LATITUDES AND DEPARTURES IS 1:10,000. THIS MAP WAS PREPARED FOR TITLE COMPANY USE AND IS NOT INTENDED FOR RECORDATION OR CONVEYANCES WITHOUT WRITTEN AUTHORIZATION OF THE SURVEYOR AND OTHER APPROPRIATE OFFICIALS.

PROFESSIONAL LAND SURVEYOR
L-3247

PRELIMINARY PLAT
NOT FOR RECORDATION

PRELIMINARY PLOT PLAN FOR:
CB PUGH ENTERPRISES, LLC

BLACK RIVER TWP., HARNETT CO., N.C.
SCALE 1" = 40' JUNE 7, 2016
REVISED: AUGUST 4, 2016 (HOUSE MOVED)

MAULDIN - WATKINS SURVEYING, P.A.
P.O. BOX 444 / 1301 W. BROAD ST.
FUQUAY VARINA, NORTH CAROLINA 27526
(919) 552-9326

2480-23

HAL OWEN & ASSOCIATES, INC.

SOIL & ENVIRONMENTAL SCIENTISTS

P.O. Box 400, Lillington NC 27546-0400
Phone (910) 893-8743 / Fax (910) 893-3594
www.halowensoil.com

28 July 2016

Mr. Chris Pugh
Pughbuilders21@gmail.com

Reference: Soil Investigation and Septic System Design (Revised)
Lot 22 Wexford SD (0.58 Acres) PIN 0665-60-0918; 57 Wexford Drive
Lot 23 Wexford SD (0.5 Acres) PIN 0665-51-9010; 47 Wexford Drive

Dear Mr. Pugh,

A site investigation has been conducted for the above referenced lots, located on the northern side of Wexford Drive in 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. Public water will be utilized for both lots. A foundation drain will not be possible for either lot. This report represents my professional opinion but does not guarantee or represent permit approval for any lot by the local Health Department. The permit you receive from the Health Department may contain some modifications or amendments to our submitted design. Please carefully review your permit and adhere to all prescribed requirements.

SOIL INVESTIGATION

A portion of each lot was observed to be underlain by soils rated as provisionally suitable soils for subsurface sewage waste disposal (see attached map). These provisionally suitable soils were observed to be firm clays to greater than 26 inches and will support long term acceptance rates of 0.3 gal/day/sqft. Except at the rear of Lot 23, the provisionally suitable soils are limited in usable depth to the extent that ultra shallow drainlines will likely be required. This requirement will necessitate the addition of approximately six inches of topsoil to cover the system.

LOT 22 (57 WEXFORD DRIVE) SEPTIC DESIGN

The initial septic system is proposed as 300-feet of 25% reduction status (EZ Flow or chamber) drainlines utilizing a long term application rate of 0.3 gal/day/ft². A pump will be needed to lift effluent to a distribution box where it will flow by gravity into three unequal length drainlines (100, 180, and 20 feet respectively) using serial distribution. The drainlines should be installed on contour with trench bottom depths at 12 inches below surface.

The repair septic system is proposed as 300-feet of 25% reduction status (EZ Flow or chamber) drainlines utilizing a long term application rate of 0.3 gal/day/ft². A pump will be needed to lift effluent to the drainfield where it will be distributed to four unequal length drainlines using serial distribution. The drainlines should be installed on contour with trench bottom depths at 12 inches below surface.

A curtain drain should be installed along the left side property line with Lot 23, above the initial system, to intercept water coming onto the lot. **This proposed curtain drain has very limited slope and must be installed with great care using a one foot wide bucket.** It should begin near the road at 18 inches below surface, deepen to 30 inches at the left rear corner, where it turns down the back of the lot until it reaches daylight.

The proposed home is located in a depressional area and will require a significant amount of fill material to provide adequate drainage around the foundation. As you can see on the sketch, the left front corner of the home cannot move left or forward unless the house size is reduced. The proposed home is 50 feet wide and could be reduced to allow it to be moved forward a few feet. A garage is not possible except behind the home. If you choose to try to move the home forward, you must get concurrence from the health department. **I feel the need to re-emphasize that you must get the house sited and curtain drain installed properly or this permit will likely be voided and a much more expensive alternative needed.**

LOT 23 (47 WEXFORD DRIVE) SEPTIC DESIGN

The initial septic system is proposed as four 75-foot long 25% reduction status (EZ Flow or chamber) drainlines utilizing a long term application rate of 0.3 gal/day/ft². The drainlines should be installed on contour with trench bottom depths at 18 inches below surface.

The repair septic system is proposed as 315-feet of 25% reduction status (EZ Flow or chamber) drainlines utilizing a long term application rate of 0.3 gal/day/ft². A pump will be needed to lift effluent to the drainfield where it will be distributed to six unequal length drainlines using a pressure manifold. The drainlines should be installed on contour with trench bottom depths at 18 inches below surface for the three drainlines behind the proposed home and at 12 inches below surface for the three drainlines in front of the home.

Note that the regulatory setback for the septic system is 25ft upslope of a curtain drain. For this reason, all of the proposed septic drainlines are concentrated on the left side of the lot. The driveway of the home should be sited along and within 25 feet of the right side property line to avoid interference with the septic system layout.

HAL OWEN & ASSOCIATES, INC.

Potential septic system drainlines have been demonstrated with various colored pin flags that are located on the lot. It is important that you do not disturb the septic system area. It is recommended that a staked line or protective fence be placed around the system prior to construction to eliminate any potential damage to the soil or the layout of the system.

This report and the attached septic system design information will need to be submitted to the County Health Department for review and the permitting process. 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,

A handwritten signature in black ink that reads "Hal Owen". The signature is written in a cursive style with a large, prominent "H" and "O".

Hal Owen
Licensed Soil Scientist