## HAL VEN & ASSOCIATES, IT'C.

#### SOIL & ENVIRONMENTAL SCIENTISTS

P. O. Box 400, 266 Old Coats Road Lillington, NC 27546 Phone (910) 893-8743 / Fax (910) 893-3594 E-mail: halowen@intrstar.net

#### October 4, 2000

Harnett County Health Department Environmental Health P.O. Box 9 Lillington, NC 27546

Attn: Mr. Graham Byrd

Reference:

Northport Subdivision – Lot 1

Dear Mr. Byrd,

A site visit was conducted at the above referenced property on September 27, 2000 to design a septic system for the initial system and the repair system. The site is located on the south side Old US 210 Highway, Harnett County, North Carolina. The initial system was designed with a low-pressure pipe system utilizing 480ft of drain line on 5ft centers. The initial septic system is loaded on a 0.15gpd/sqft application rate. A 12in trench depth is suggested with an 18in trench width. Lot 1's repair area is also utilizing a low-pressure pipe system to equally distribute wastewater to each drain line. The repair system is proposed with a pretreatment system. A 50% reduction is utilized in the drain lines in the repair area due to limited useable soil area.

Attached are the system layouts and the supporting information for the system designs. The supporting information is in a table form that has each component needed for low-pressure pipe systems. I trust that this is all the information that you may need at this time. If you have questions, you may contact us at your convenience.

Sincerely,

Brianna Roberts

Branie Roberts

## HAI WEN & ASSOCIATES, MC.

#### SULL & ENVIRONMENTAL SCIENTIS.

P. O. Box 400, 266 Old Coats Road Lillington, NC 27546 Phone (910) 893-8743 / Fax (910) 893-3594 E-mail: halowen@intrstar.net

November 2, 2000

Harnett County Health Department Environmental Health P.O. Box 9 Lillington, NC 27546

Attn: Mr. Graham Byrd

Reference: Northport Subdivision – Lot 1

Dear Mr. Byrd,

A site visit was conducted at the above referenced property on October 31, 2000 to meet with you to discuss the design of a proposed septic system for the initial system and the repair system. The site is located on the south side Old US 210 Highway, Harnett County, North Carolina. The initial system was designed with a low-pressure pipe system utilizing 480ft of drain line on 5ft centers. The initial septic system is loaded on a 0.15gpd/sqft application rate. A 12in trench depth is suggested with an 18in trench width. Lot 1's repair area is also utilizing a low-pressure pipe system to equally distribute wastewater to each drain line. The repair system is proposed with **Puroflow's Peat filter biosystem** to pretreat this area. A 50% reduction is utilized in the drain lines in the repair area due to limited useable soil area. A schematic of the trench has been included as well to indicate the trench width and depth and lateral line placement.

The supporting information has been sent prior to this letter, please include this information in the design packet. I trust that this is all the information that you may need at this time. If you have questions, you may contact us at your convenience.

Sincerely,

Brania Ish

**Brianna Roberts** 

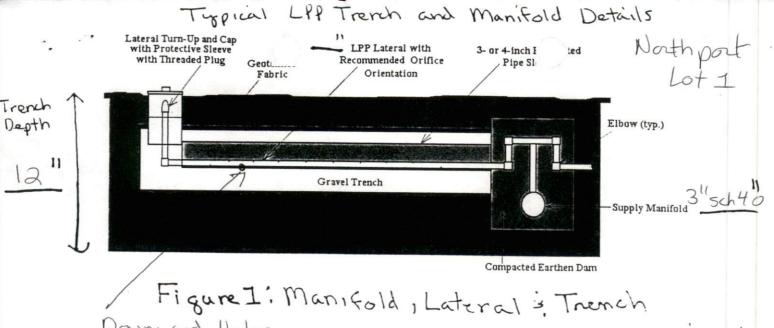


Figure I: Manifold, Lateral 3: Thench Downward Holes \$\frac{1}{3} + \frac{3}{3} \texample: 9 holes total - #3 \frac{3}{6} would be drilled down,

all others drilled up.

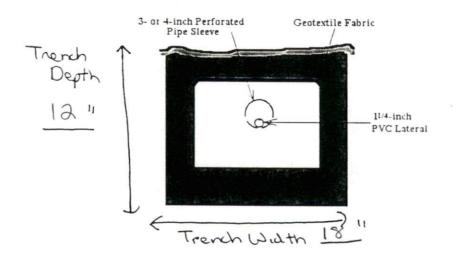


Figure 2: Cross Section of Trunch Detail

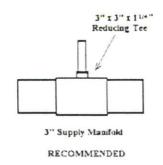


Figure 3: Manifold - Side Profile

# Low Pressure Pipe Materials List

## Lot I North port Subdivision

Supply Line 51 ft., 2 in diameter Sch 40 pvc (add extra to connect pump to supply In)

Manifold: 25 ft., 3 in diameter Sch 10 pvc

Lateral Lines: 480 total ft, 1 4 in diameter Sch 40 pvc(add extra for turn-ups)

Corrugated Pipe: 4 80 ft, 3 to 4 in diameter with perforated holes

Gate Valves: 2, 3 in

Clean-outs with Caps:  $\lambda$ , 3 in

Screw Caps and Adapters: 5, 14 in. diameter Sch 40 pvc for turn-up sleeves

Reducing Tees: 5 , 3 in to 1 1/4in Sch 40 pvc

Washed Gravel for trenches: Gravel Size more than or equal to 1in

Value boxes = 7

Lillington, NC 27504 Phone 910(893-8743 Fax(910)893-3594 Client Name: Mike Hamilton \_ Subdivision: Northport P.I.N.#: Lot #: Bedrooms#: 360 Daily Flow: q/d LTAR(gpd/sqft): 0.15 Lateral Lines on 5 ft. centers 2400 Area(sq ft): Septic Tank: 1000 gal Pump Tank: 1000 Control Panel: Rhombus \*\* Alarm, Elapse meter, and cycle counter required. Floats determined by type of pump. 112 model g/m Trench Length chart ft Total Linear feet: 480 Total Flow: Trench Depth(in): Manifold Diameter + Length: 3"sch 40, 25 ++ Supply Line Length(ft): Supply Line Diameter 2 in Sch40pvc Lateral Lines Diameter: in Sch40pvc Lateral Line Lengths: See chart Hole Sizes: Friction Loss(ft): 2.3 Fittings Loss(ft): 0,46 Design Head(ft): Elevation Head(ft): 4,35 Flush Head(ft)= Total Dyn Head(ft): 13.01 Dose PRT: 5,50 min at ft head 250.55 Drawdown(in): 13.36" Dosing Volume (gal): waste-mate Pump Selection: Goulds, Myers. Hydromatic, 50H Zoeller Joeller 170-58 Effluent Filter Selection: Pump Tank Elev 98.09 Pump Elev 93.09 Manifold Elev 77,3 \*\*Hal Owen and Associates assumes no responsibility for alterations/modifications made to prescribed system design by installers or other parties involved. Actual First/ Length Rel Press Flow / Flow/ Hole Last Sub-Color Line# used(ft) Elev. Elev. (ft) Hole Lateral #Holes Spacing Holes Field LS 105 B 97.3 157 11.97 21 4.5 7,5 ١ 49 100 97.1 4.2 158 11.02 5 5 19 R 100 LIO 5 96.9 4.4 ,60 10,2 17 10 1 LII W 92 96.8 .57 9.69 5 2 17 6 LIA R જર 96.6 4.2 158 5.5 8.12 14 5.25

98.09

100'

\*\*Lines flagged in field may be longer, shorten lines to lengths suggested above (Actual Length Column)

Design Summary Hal Owen and Associates, Inc

Soil Environmental Scientists

P.O.Box 400

Low Pressure lipe

Pump Tank

EIP/Fixed Point