ROLLANS *SOIL & ENVIRONMENTAL SERVICES*

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Attached is a proposed design for an Accepted (25% reduction) Septic System with Pressure Manifold distribution for a 3 bedroom single family residence on Lot 13 in Oak Ridge Subdivision, Iredell County, North Carolina.

Contents: **Page**

Information for the Installer---------- 1

Design Information
- Design Specifications---------- 2-3
- Layout Specifications---------- 4
- System Tapsheet---------- 5
- Pressure Manifold Diagram---------- 6

Site Plan/System Plan---------- 7

Calculations---------- 8

Profile Descriptions---------- 9

December 12, 2006
Project #: 01-1296
Design By: Rollans Soil and Environmental Services

PRESSURE MANIFOLD SYSTEM
FOR WASTEWATER TREATMENT

Owner: Corinthian Development LTD

Address: P.O. Box 3421
Mooresville, NC 28117
Phone: 704-664-4822
County: Iredell
Location: Oak Ridge Subdivision Lot #13

Source of Wastewater Flow: 3 Bedroom Single Family Residence
Estimated Daily Wastewater Production: 360 gpd
System Flow: 21.33

Design Specifications

Drainfield Size: 330
Loading Rate: 0.275
Depth of Gravel in Trench: NA (25% reduction)
Gravel Size: NA (25% reduction)
Trench Depth: 30 in.
Trench Width: 36 in.
Septic Tank Size: 1000
Pump Tank Size: 1000

Estimated Supply Line Length: 140
Supply Line Diameter: 2 in. SCH 40 PVC
Supply Line Volume: 24.36
Dosing Volume: 150.84
Supply Manifold: 4 in. SCH 80 PVC
Supply Manifold Length: 4 ft. (minimum)
Supply Manifold Volume: N/A

Recommended Float Controls: SJE Sensor Float Control Switches as Required for Control Panel or County Approved Equivalents
Recommended Control Panel: SJE-Rhombus Model 112 (NEMA 4x) Control Panel or County Approved Control Panel.

Pressure Head: 2 ft.
Friction Head: 1.78
Elevation Head: 12.00
Total Dynamic Head: 18.14

Threaded Union: In Tank
Gate Valves: 1 in Tank
1 at Pressure Manifold
Check Valves: In Tank
Anti-Siphon Hole: NA
Additional Comments: Soil suitability was performed by Rollans Soil & Environmental Services.

Oak Ridge Subdivision Lot #13
PRESSURE MANIFOLD DESIGN

DESIGN FLOW:	360	
SOIL APPLICATION RATE:	0.275	
TOTAL AREA TRENCH BOTTOM:	990	
TOTAL LATERAL LENGTH:	330	
NUMBER OF FIELDS:	1	
LATERAL LENGTH REQUIRED PER FIELD:	327.2727273	
SUPPLY LINE LENGTH:	140	
TOTAL DYNAMIC HEAD:	18.14	
MANIFOLD SIZE:	4 in.SCH 80 PVC	
DOSING VOLUME:	150.84	
PUMP TANK DRAW DOWN*:	7.2	
SEPTIC TANK SIZE:		1000
PUMP TANK SIZE:		1000

**Pump tank draw down based on a volume basis of 21 gallons per inch. Draw down may vary among pump tank manufacturers.*

OAK RIDGE LOT #13

Project #: 01-1296

LAYOUT FOR 3 BEDROOM HOME — December 12, 2006

LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH	DESIGN LINE LENGTH
TBM		12.9			100.00		
INSTR. 1			112.90				
HOUSE CNR				10.80	102.10		
P. TANK				12.30	100.60		
1	BLUE			2.90	110.00	41	41
2	PINK			3.80	109.10	67	67
3	ORANGE			4.50	108.40	94	94
4	***DARK PINK***			***5.30***	***107.60***	***114***	***110***
5	***BLUE***			***6.00***	***106.90***	***138***	***110***
6	DARK PINK			6.70	106.20	50	50
7	***PINK***			***7.60***	***105.30***	***124***	***110***
8	ORANGE			9.00	***103.90***	91	91
					Total	**719**	**673**

	LINE LENGTH	LTAR GPD/FT^2	SYSTEM TYPE	SOIL LTAR GPD/FT^2	TRENCH SYSTEM	DISTRIBUTION
**** System***	***330***	***0.275***	***ACCEPT.***	***0.275***	***25% RED.***	**PRESSURE MANIFOLD**
Repair	343	0.275	*MOD.*	0.275	PPBPS	LOW PRESSURE

Notes:

** TBM located st property corner. (see site plan)
**TBM is assumed to be 100'
**All measures in feet
**Nitrification lines are demonstrated on contour via colored pin flags
**BS, HI, and FS indicate rod readings

PRESSURE MANIFOLD TAPSHEET - OAK RIDGE LOT #13

SYSTEM

Line #	Color	Elevation	Length	Hole Size	Flow/Tap	Trench Area
4	*DARK PINK*	107.6	*110*	SCH 40 1/2	7.11	330
5	*BLUE*	106.9	*110*	SCH 40 1/2	7.11	330
7	*PINK*	105.3	*110*	SCH 40 1/2	7.11	330

total	**feet =**	**330**	**gal/min =**	**21.33**
		Des. Flow	**360**
		Pump Run=	**7.07**
		soil LTAR	**0.275**
		LTAR +5%	**0.28875**
		LTAR with ACCEPTED	**0.366666667**
		LTAR with ACCEPTED + 5%	**0.385**