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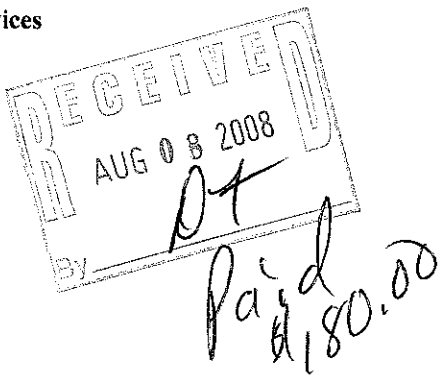
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Attached is a proposed design for an Accepted (25% reduction) Septic System with Pressure Manifold distribution for a 4 bedroom single family residence on Lot # 40 WATERTREE LANDING Subdivision, Iredell County, North Carolina.

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August 8, 2008
Project #: 01-1430
Design By: Rollans Soil and Environmental Services



Paid $180.00

PRESSURE MANIFOLD SYSTEM
FOR WASTEWATER TREATMENT

Owner:	MID-ATLANTIC CUSTOM BUILDERS
Address:	P.O. BOX 3792 Mooresville, NC 28117
Phone:	704-202-5568
County:	Iredell
Location:	WATERTREE LANDING LOT 40
Source of Wastewater Flow:	4 Bedroom Single Family Residence
Estimated Gallons Per Day Flow:	480
System Flow:	28.44

Design Specifications

Drainfield Size:	480
Loading Rate (gpd/ft.^{2}):	0.25
Depth of Gravel in Trench:	NA (25% reduction)
Gravel Size:	NA (25% reduction)
Trench Depth:	36 in.
Trench Width:	36 in.
Septic Tank Size:	1000
Pump Tank Size:	1000
Estimated Supply Line Length:	219
Supply Line Diameter:	2 in. SCH 40 PVC
Supply Line Volume:	38.11
Dosing Volume:	235.08
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:	3.90
Elevation Head:	16.80
Total Dynamic Head:	26.10
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.

WATERTREE LANDING LOT 40
PRESSURE MANIFOLD DESIGN

DESIGN FLOW (gpd):	480
SOIL APPLICATION RATE (gpd/ft.^{2}):	0.25
TOTAL AREA TRENCH BOTTOM:	1440
TOTAL LATERAL LENGTH:	480
NUMBER OF FIELDS:	1
LATERAL LENGTH REQUIRED PER FIELD:	480
SUPPLY LINE LENGTH:	219
TOTAL DYNAMIC HEAD:	26.10
MANIFOLD SIZE:	4 in.SCH 80 PVC
DOSING VOLUME:	235.08
PUMP TANK DRAW DOWN*:	11.2
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.*

WATERTREE LANDING LOT 40

Project #: 01-1430

LAYOUT FOR 4 BEDROOM HOME

August 8, 2008

LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH	DESIGN LINE LENGTH
TBM		3.0			100.00		
INSTR. 1			103.00				
HOUSE			89.00	14.00			
TANK			86.50	16.50			
1	PINK			3.00	100.00	32	32
2	RED			3.30	99.70	74	74
3	BLUE			3.60	99.40	93	93
4	ORANGE			4.00	99.00	112	112
5	***PINK***			***4.70***	***98.30***	***120***	***120***
6	***RED***			***5.20***	***97.80***	***120***	***120***
7	***BLUE***			***5.70***	***97.30***	***133***	***120***
8	***ORANGE***			***6.10***	***96.90***	***134***	***120***
9	PINK			6.60	96.40	33	33
					Total	**851**	**824**

	LINE LENGTH	LTAR GPD/FT^2	SYSTEM TYPE	SOIL LTAR GPD/FT^2	TRENCH SYSTEM	DISTRIBUTION
** System*	*480*	*0.25*	*ACCEPT.*	*0.25*	*25% RED.*	**PRESSURE**
Repair	344	0.25	MOD.	0.25	PPBPS	**MANIFOLD** LOW PRESSURE

Notes:

** TBM located on right rear corner of lot (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 - WATERTREE LANDING LOT# 40

SYSTEM

Line #	Color	Elevation	Length	Hole Size	Flow/Tap	Trench Area	Line LTAR
5	***PINK***	98.3	***120***	SCH 40 1/2	**7.11**	360	0.16
6	***RED***	97.8	***120***	SCH 40 1/2	**7.11**	360	0.16
7	***BLUE***	97.3	***120***	SCH 40 1/2	**7.11**	360	0.16
8	***ORANGE***	96.9	***120***	SCH 40 1/2	**7.11**	360	0.16
	total	**feet =**	**480**	**gal/min =**	**28.44**		
			Des. Flow	**480**			
			Pump Run=	**8.27**			
			soil LTAR	**0.250**			
			LTAR +5%	**0.2625**			
			LTAR with ACCEPTED	**0.275625**			
			LTAR with ACCEPTED + 5%	**0.28940625**			