ROLLANS *Soil & Environmental Services, Inc.*

470 N Broad Street, Suite D, Mooresville, NC 28115 Phone: (704) 658-1723 Fax: (704) 658-1724

Ashley Rollans, NC Licensed Soil Scientist
Mobile: (704) 746-5046
Email: rollans.ashley@yahoo.com

Brady Freeman, Registered Sanitarian
Mobile: (704) 746-6497
Email: bfree209@yahoo.com

Attached is a proposed design for a PPBPS Septic System with low pressure distribution for a 4 bedroom single family residence on Lot # 91 in WATERTREE LANDING Subdivision, Iredell County, North Carolina.

Contents:

	Page
Information for the Installer	1
Design Information	
Design Specifications	2-3
Layout Specifications	4
System Tapsheet	5
Site Plan/System Plan	6-7
Calculations	8
Profile Descriptions	9

May 22, 2008
Project #: 01-1430
Design By: Rollans Soil & Environmental Services

LP PPBPS SYSTEM
FOR WASTEWATER TREATMENT

Owner/Applicant:	MID-ATLANTIC CUSTOM BUILDERS
Address:	P.O. BOX 3792 Mooresville, NC 28117
Phone:	704-202-5568
County:	Iredell
Location:	WATERTREE LANDING LOT 91
Source of Wastewater Flow:	4 Bedroom Single Family Residence
Estimated Gallons Per Day Flow:	480
System Flow:	25.83

Design Specifications

Drainfield Size:	270
Loading Rate (gpd/ft.^{2}):	0.3
Depth of Gravel in Trench:	NA (PPBPS)
Gravel Size:	NA (PPBPS)
Trench Depth:	36 in.
Trench Width:	36 in.
Septic Tank Size:	1000
Pump Tank Size:	1000
Estimated Supply Line Length:	170
Supply Line Diameter:	2 in. SCH 40 PVC
Supply Line Volume:	29.58
Dosing Volume:	151.96
Supply Manifold:	N/A
Supply Manifold Length:	N/A
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:	3.03
Elevation Head:	15.70
Total Dynamic Head:	23.83
Threaded Union:	In Tank
Gate Valves:	1 in Tank 1 per lateral
Check Valves:	In Tank
Anti-Siphon Hole:	NA
Additional Comments:	Soil suitability was performed by Rollans Soil & Environmental Services

WATERTREE LANDING LOT 91
LP PPBPS

DESIGN FLOW (gpd):	480
SOIL APPLICATION RATE (gpd/ft.^{2}):	0.3
TOTAL AREA TRENCH BOTTOM:	810
TOTAL LATERAL LENGTH:	270
NUMBER OF FIELDS:	1
LATERAL LENGTH REQUIRED PER FIELD:	266.6666667
SUPPLY LINE LENGTH:	170
TOTAL DYNAMIC HEAD:	23.83
MANIFOLD SIZE:	N/A
DOSING VOLUME:	151.96
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.*

WATERTREE LANDING LOT 91

Project #: 01-1430

LAYOUT FOR 4 BEDROOM HOME

May 22, 2008

LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH	DESIGN LINE LENGTH
TBM		16.3			100.00		
INSTR. 1			116.30				
HOUSE CNR				10.80	105.50		
P. TANK				16.30	100.00		
1	PINK			2.00	114.30	65	65
2	DARK PINK			2.70	113.60	73	73
3	ORANGE			3.20	113.10	82	82
4	PINK			4.00	112.30	63	63
5	BLUE			4.70	111.60	88	88
6	***PINK***			***5.60***	***110.70***	***91***	***90***
7	***DARK PINK***			***6.70***	***109.60***	***92***	***90***
8	***ORANGE***			***7.70***	***108.60***	***93***	***90***
					Total	**647**	**641**

	LINE LENGTH	LTAR GPD/FT2	SYSTEM TYPE	SOIL LTAR GPD/FT2	TRENCH SYSTEM	DISTRIBUTION
****System***	***270***	***0.3***	***MOD.***	***0.300***	***PPBPS***	***LOW PRESSURE***
Repair	371	0.3	MOD.	0.300	PPBPS	LOW PRESSURE

Notes:

** TBM located top of ground at EIP at 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

LP PPBPS TAPSHEET -WATERTREE LANDING LOT# 91

SYSTEM

Line #	Color	Elevation	Length	Hole Size	Flow/hole	Trench Area	Number of Panels
6	***PINK***	110.7	***90***	0.156	**0.41**	270	21
7	***DARK PINK***	109.6	***90***	0.156	**0.41**	270	21
8	***ORANGE***	108.6	***90***	0.156	**0.41**	270	21
							63
	total	**feet =**	**270**	**gal/min =**	**25.83**		
			Des. Flow	**480**			
			Pump Run=	**5.88**			
			soil LTAR	**0.25**			
			LTAR +5%	**0.2625**			
			LTAR with mod.	**0.5**			
			LTAR with mod.. + 5%	**0.525**			

.156 equals 5/32 inch hole