ROLLANS *SOIL & ENVIRONMENTAL SERVICES*

2120 Graham Road, Mount Ulla, NC 28125 *Phone/Fax (704) 278 – 0989*

Ashley Rollans, NC Licensed Soil Scientist
Mobile: (704) 746-5046
E-mail: Rollansfortcj@aol.com

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

Attached is a proposed design for an ACCEPTED (25% RED.) Septic System with Gravity distribution for a 4 bedroom single family residence on Lot #10 Norman Woods Subdivision, Iredell County, North Carolina.

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July 6, 2006
Design By: Rollans Soil and Environmental Services

Gravity PPBPS
FOR WASTEWATER TREATMENT

Owner:	PRIDE HOMES
Address:	578 NORMANDY RD. Mooresville, NC 28117
Phone:	704-664-71808
County:	Iredell
Location:	Norman Woods Subdivision Lot #10
Source of Wastewater Flow:	4 Bedroom Single Family Residence
Estimated Daily Wastewater Production:	480 gpd
System Flow:	NA

Design Specifications

Drainfield Size:	420
Loading Rate:	0.3
Depth of Gravel in Trench:	NA (25% RED.)
Gravel Size:	N/A
Trench Depth:	36 in.
Trench Width:	36 in.
Septic Tank Size:	1000
Pump Tank Size:	NA
Estimated Supply Line Length:	5
Supply Line Diameter:	3 in. SCH 40 PVC
Supply Line Volume:	0.87
Dosing Volume:	NA
Supply Manifold:	DROP BOX
Supply Manifold Length:	NA
Supply Manifold Volume:	N/A
Recommended Float Controls:	NA
Recommended Control Panel:	NA
Pressure Head:	NA
Friction Head:	NA
Elevation Head:	NA
Total Dynamic Head:	NA
Threaded Union:	NA
Gate Valves:	NA NA
Check Valves:	NA
Anti-Siphon Hole:	NA
Additional Comments:	Soil suitability was performed by Rollans Soil & Environmental Services.

NORMAN WOODS SUBDIVISION LOT 10

DESIGN FLOW:	480
SOIL APPLICATION RATE:	0.3
TOTAL AREA TRENCH BOTTOM:	1260
TOTAL LATERAL LENGTH:	420
NUMBER OF FIELDS:	1
LATERAL LENGTH REQUIRED PER FIELD:	400
SUPPLY LINE LENGTH:	5
TOTAL DYNAMIC HEAD:	NA
MANIFOLD SIZE:	NA
DOSING VOLUME:	NA
PUMP TANK DRAW DOWN*:	NA
SEPTIC TANK SIZE:	1000
PUMP TANK SIZE:	NA

NORMAN WOODS LOT 10

LAYOUT FOR 4 BEDROOM HOME

July 6, 2006

LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH	DESIGN LINE LENGTH
TBM		N/A			100.00		
TANK		N/A	N/A				
HOUSE		N/A	N/A				
INSTR. 1			N/A				
1	***ORANGE***			*N/A*	*N/A*	*38*	*30*
2	***PINK***			*N/A*	*N/A*	*62*	*60*
3	***RED***			*N/A*	*N/A*	*79*	*60*
4	***BLUE***			*N/A*	*N/A*	*82*	*60*
5	***ORANGE***			*N/A*	*N/A*	*75*	*60*
6	***PINK***			*N/A*	*N/A*	*81*	*60*
7	***RED***			*N/A*	*N/A*	*60*	*60*
8	***BLUE***			*N/A*	*N/A*	*37*	*30*
					Total	**514**	**420**

	LINE LENGTH	LTAR GPD/FT^2	SYSTEM TYPE	SOIL LTAR GPD/FT^2	TRENCH SYSTEM	DISTRIBUTION
** System*	*420*	*0.30*	*ACCEPT.*	*0.30*	*25% RED.*	GRAVITY
Repair	0	0.30	*N/A*	0.30	N/A	DISTRIBUTION NOT REQUIRED

Notes:
** TBM NOT REQUIRED
**All measures in feet
**Nitrification lines are demonstrated on contour via colored pin flags
**BS, HI, and FS indicate rod readings

CALCULATIONS

Location NORMAN WOODS

Project Number

Lot No: Lot 10

No. of Bedrooms	4	
Design Flow	480	$^{gal}/_{day}$
LTAR	0.3	$^{gal}/_{ft^2\ day}$
25% RED.? (YES OR NO)	YES	
Supply Line Length	5	ft.
Supply Line Volume	0.87	gal.
Required Feet of Line	400	ft.
Amount of Line from Layout	420	ft.
Gallons per Minute	NA	$^{gal}/_{min}$
Required Septic Tank Capacity	1000	gal.
Minimum Standard Tank Size	1000	
Lateral Line Volume	274.26	gal.
Dosing Volume	NA	gal.

Note: Dosing Volume based on70% of lateral line volume

Tank Draw Down	NA	*Generic Draw Down of 21 gal.per in.*
Pump Run Time	NA	minutes
Elevation Head	NA	ft.
Pressure Head	NA	ft.
Friction Factor	NA	ft./100 ft. *(From the interpolater.)*
Friction Head	NA	ft.
Total Dynamic Head (+15%)	NA	ft.

FRICTION FACTOR INTERPOLATER
2" SCH 40 PVC

GPM	*f*
20	0.84
	-0.88
25	1.27
	-1.28
30	1.78
	-1.76
35	2.37
	-2.25
40	3.03
43.07	3.48
45	3.77
48.14	4.28
50	4.58
57.11	5.89
60	6.42