ROLLANS *SOIL & ENVIRONMENTAL SERVICES*

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Attached is a proposed design for an Accepted (25% reduction) Septic System with Gravity distribution for a 3 bedroom single family residence on Lot #53 Shepherds Bluff Subdivision, Iredell County, North Carolina.

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August 7, 2006
Project No. 01-1064
Design By: Rollans Soil and Environmental Services

Gravity 25% Reduction
FOR WASTEWATER TREATMENT

Owner:	Billy Allen
Address:	111-B Raceway Drive Mooresville, NC 28117
Phone:	704-664-7029
County:	Iredell
Location:	Shepherds Bluff Subdivision Lot #53
Source of Wastewater Flow:	3 Bedroom Single Family Residence
Estimated Daily Wastewater Production:	360 gpd
System Flow:	NA

Design Specifications

Drainfield Size:	300
Loading Rate:	.3GPD/FTSQ
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:	22
Supply Line Diameter:	3 in. SCH 40 PVC
Supply Line Volume:	3.83
Dosing Volume:	NA
Supply Manifold:	4 Drop Boxes
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.

SHEPHERDS BLUFF SUBDIVISION LOT 53

DESIGN FLOW:	360
SOIL APPLICATION RATE:	.3 GPD/FTSQ
TOTAL AREA TRENCH BOTTOM:	900
TOTAL LATERAL LENGTH:	300
NUMBER OF FIELDS:	1
LATERAL LENGTH REQUIRED PER FIELD:	300
SUPPLY LINE LENGTH:	22
TOTAL DYNAMIC HEAD:	NA
MANIFOLD SIZE:	NA
DOSING VOLUME:	NA
PUMP TANK DRAW DOWN*:	NA
SEPTIC TANK SIZE:	1000
PUMP TANK SIZE:	1000

SHEPHERDS BLUFF LOT #53

Project #: 01-1064

LAYOUT FOR 3 BEDROOM HOME — August 7, 2006

LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH	DESIGN LINE LENGTH
TBM		N/A			N/A		
TANK			N/A				
HOUSE			N/A				
INSTR. 1			N/A				
1	YELLOW			N/A	N/A	21	21
2	ORANGE			N/A	N/A	55	55
3	PINK			N/A	N/A	82	82
4	BLUE			N/A	N/A	81	81
5	YELLOW			N/A	N/A	81	81
6	***RED***			***N/A***	***N/A***	***80***	***75***
7	***PINK***			***N/A***	***N/A***	***81***	***75***
8	***BLUE***			***N/A***	***N/A***	***80***	***75***
9	***YELLOW***			***N/A***	***N/A***	***80***	***75***
					Total	**641**	**620**

	LINE LENGTH	LTAR GPD/FT^2	SYSTEM TYPE	SOIL LTAR GPD/FT^2	TRENCH SYSTEM	DISTRIBUTION
**** System***	***300***	***0.30***	***ACCEPT.***	*0.30*	***25% RED.***	**GRAVITY DISTRIBUTION**
Repair	320	0.30	*MOD.*	0.30	PPBPS	LOW PRESSURE

Notes:

**No Elevations Required
**All measures in feet
**Nitrification lines are demonstrated on contour via colored pin flags
**BS, HI, and FS indicate rod readings

CALCULATIONS

Location SHEPHERDS BLUFF SUBDIVISION

Project Number 01-1064

Lot No: Lot 53

No. of Bedrooms	3	
Design Flow	360	$^{gal}/_{day}$
LTAR	0.3	$^{gal}/_{ft^2\ day}$
25% RED.? (YES OR NO)	YES	
Supply Line Length	22	ft.
Supply Line Volume	3.828	gal.
Required Feet of Line	300	ft.
Amount of Line from Layout	300	ft.
Gallons per Minute	NA	$^{gal}/_{min}$
Required Septic Tank Capacity	1000	gal.
Minimum Standard Tank Size	1000	
Lateral Line Volume	195.9	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