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 4 bedroom single family residence on Lot #57 Walden Ridge Subdivision, Iredell County, North Carolina.

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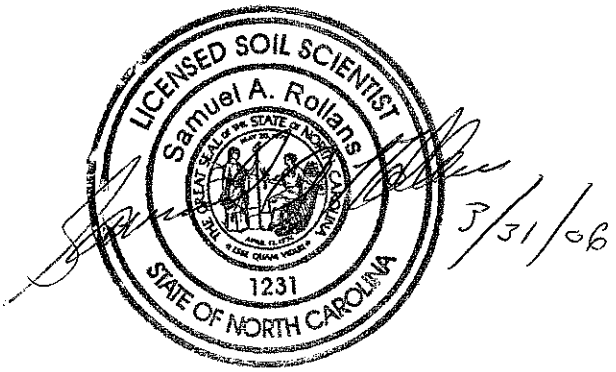
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March 15, 2006
Project No. 01-1069
Design By: Rollans Soil and Environmental Services



3/31/06

Gravity 25% Reduction
FOR WASTEWATER TREATMENT

Owner:	IREDELL GROUP
Address:	109-C Williamson Road Mooresville, NC 28115
Phone:	704-663-4050
County:	Iredell
Location:	Walden Ridge Subdivision Lot #57
Source of Wastewater Flow:	4 Bedroom Single Family Residence
Estimated Daily Wastewater Production:	480 gpd
System Flow:	NA

Design Specifications

Drainfield Size:	550
Loading Rate:	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:	NA
Estimated Supply Line Length:	10
Supply Line Diameter:	3 in. SCH 40 PVC
Supply Line Volume:	1.74
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.

WALDEN RIDGE SUBDIVISION LOT 57

DESIGN FLOW:	480
SOIL APPLICATION RATE:	0.25
TOTAL AREA TRENCH BOTTOM:	1650
TOTAL LATERAL LENGTH:	550
NUMBER OF FIELDS:	1
LATERAL LENGTH REQUIRED PER FIELD:	480
SUPPLY LINE LENGTH:	10
TOTAL DYNAMIC HEAD:	NA
MANIFOLD SIZE:	NA
DOSING VOLUME:	NA
PUMP TANK DRAW DOWN*:	NA
SEPTIC TANK SIZE:	1000
PUMP TANK SIZE:	NA

WALDEN RIDGE LOT #57

Project #: 01-1069

LAYOUT FOR 4 BEDROOM HOME — March 23, 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	RED			N/A	N/A	50	50
2	***BLUE***			***N/A***	***N/A***	***70***	***70***
3	***ORANGE***			***N/A***	***N/A***	***85***	***85***
4	***PINK***			***N/A***	***N/A***	***105***	***105***
5	***RED***			***N/A***	***N/A***	***135***	***135***
6	***BLUE***			***N/A***	***N/A***	***155***	***155***
7	PINK			N/A	N/A	47	47
8	ORANGE			N/A	N/A	96	96
9	PINK			N/A	N/A	90	90
10	RED			N/A	N/A	85	85
					Total	**918**	**918**

	LINE LENGTH	LTAR GPD/FT^2	SYSTEM TYPE	SOIL LTAR GPD/FT^2	TRENCH SYSTEM	DISTRIBUTION
** System*	***550***	***0.250***	***ACCEPT.***	***0.250***	***25% RED.***	**GRAVITY DISTRIBUTION**
Repair	368	0.250	*MOD.*	0.250	PPBPS	LOW PRESSURE

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 WALDEN RIDGE SUBDIVISION

Project Number 01-1069

Lot No: Lot 57

No. of Bedrooms	4	
Design Flow	480	$^{gal}/_{day}$
LTAR	0.25	$^{gal}/_{ft^2\ day}$
25% RED.? (YES OR NO)	YES	
Supply Line Length	10	ft.
Supply Line Volume	1.74	gal.
Required Feet of Line	480	ft.
Amount of Line from Layout	550	ft.
Gallons per Minute	NA	$^{gal}/_{min}$
Required Septic Tank Capacity	1000	gal.
Minimum Standard Tank Size	1000	
Lateral Line Volume	359.15	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