ROLLANS *SOIL & ENVIRONMENTAL SERVICES*

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Attached is a design proposal for a gravity 25% reduction Septic System for a 3 bedroom single family residence on lot 8 of the Fairhaven Subdivision in Iredell County, North Carolina.

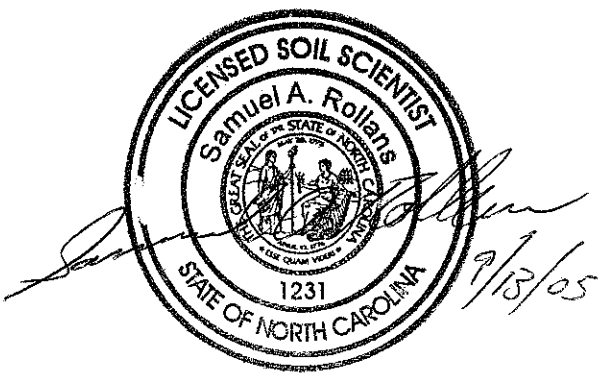
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September 12, 2005
Project No. 01-1128
Design By: Rollans Soil and Environmental Services

GRAVITY 3-BEDROOM SYSTEM
FOR WASTEWATER TREATMENT

Owner: Gray Wagner

Address: PO Box 62
Sherrills Ford, NC 28673
Phone: 828-478-9699
County: Iredell
Location: Fairhaven lot 8

Source of Wastewater Flow: 3 Bedroom Single Family Residence
Estimated Daily Wastewater Production: 360 gpd
System Flow: Gravity/On-Demand

Design Specifications

System Type: 25% Reduction
Drainfield Size: 365 Linear feet
Loading Rate: 0.25 gpd/ft.^{2}
Depth of Gravel in Trench: NA
Gravel Size: NA
Trench Depth: 36 in.
Trench Width: 36 in.
Septic Tank Size: 1000 min.
Pump Tank Size: NA

Estimated Supply Line Length: 40
Supply Line Diameter: 3 in. SCH 40 PVC
Supply Line Volume: NA
Dosing Volume: NA
Supply Manifold: NA
Supply Manifold Length: NA
Supply Manifold Volume: NA

Recommended Float Controls: NA

Recommended Control Panel:

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

Recommended Pump: NA

NA
NA

Additional Comments: Soil suitability was performed by Rollans Soil & Environmental Services

Fairhaven LOT#8
DESIGN INFORMATION

DESIGN FLOW:	360
SOIL APPLICATION RATE:	~~0.3~~ 0.25 gpd/ft.^{2}
TOTAL AREA TRENCH BOTTOM:	1085sf
TOTAL LATERAL LENGTH:	365
NUMBER OF FIELDS:	1
LATERAL LENGTH REQUIRED PER FIELD:	360
DISTRIBUTION METHOD	Drop boxes
SUPPLY LINE LENGTH:	45'
TOTAL DYNAMIC HEAD:	NA
MANIFOLD SIZE:	NA
DOSING VOLUME:	NA
PUMP TANK DRAW DOWN*:	NA
SEPTIC TANK SIZE:	1000min
PUMP TANK SIZE:	NA
RECOMMENDED PUMP:	NA

FAIRHAVEN LOT 8

Project #: 01-1128

LAYOUT FOR 3 BEDROOM HOME

9/12/2005

LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH	DESIGN LINE LENGTH
TBM		1.3			100.00		
INSTR. 1			101.30				
HOUSE CNR				8.00	93.30		
S. TANK				6.80	94.50		
1	***PINK***			***8.90***	***92.40***	***70***	***70***
2	***ORANGE***			***10.00***	***91.30***	***101***	***100***
3	***BLUE***			***11.10***	***90.20***	***100***	***100***
4	***PINK***			***12.30***	***89.00***	***98***	***95***
5	ORANGE			13.30	88.00	83	83
6	BLUE			14.80	86.50	84	84
7	PINK			16.10	85.20	80	80
8	ORANGE			17.70	83.60	40	40
					Total	**656**	**652**

	LINE LENGTH	LTAR GPD/FT^2	SYSTEM TYPE	SOIL LTAR GPD/FT^2	INNOVATIVE SYSTEM	DISTRIBUTION
**** System***	***365***	***0.25***	***ACCEPT.***	***0.25***	***25% RED.***	***GRAVITY***
Repair	287	0.25	*MOD.*	0.25	PPBPS	LOW PRESSURE

Notes:

** TBM located on EIP (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