Paid $180.00 07 Fast Track

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

Adrian Pruett, NC Licensed Soil Scientist
Mobile: (704) 202-5791
Email: adrianpruett@yahoo.com

Attached is a proposed design for an Accepted (25% reduction) Septic System with Gravity distribution for a 3 bedroom single family residence on Lot # 24 & 25 Wheatfield Subdivision, Iredell County, North Carolina.

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August 9, 2010
Project #: 01-1612
Design By: Rollans Soil and Environmental Services

Gravity 25% Reduction
FOR WASTEWATER TREATMENT

Owner:	Brazos Development LLC
Address:	PO Box 1159 Troutman, NC 28166
Phone:	704-528-0021
County:	Iredell
Location:	Wheatfield lot 24 & 25
Source of Wastewater Flow:	3 Bedroom Single Family Residence
Estimated Gallons Per Day Flow:	360
System Flow:	NA

Design Specifications

Drainfield Size:	360
Loading Rate (gpd/ft.^{2}):	0.25
Depth of Gravel in Trench:	NA (25% reduction)
Gravel Size:	NA (25% reduction)
Trench Depth:	28 in.
Trench Width:	36 in.
Septic Tank Size:	1000
Pump Tank Size:	N/A
Estimated Supply Line Length:	14
Supply Line Diameter:	3 in. SCH 40 PVC
Supply Line Volume:	5.04
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.

Wheatfield lot 24 & 25

DESIGN FLOW (gpd):	360
SOIL APPLICATION RATE (gpd/ft.^{2}):	0.25
TOTAL AREA TRENCH BOTTOM:	1080
TOTAL LATERAL LENGTH:	360
NUMBER OF FIELDS:	1
LATERAL LENGTH REQUIRED PER FIELD:	360
SUPPLY LINE LENGTH:	14
TOTAL DYNAMIC HEAD:	NA
MANIFOLD SIZE:	NA
DOSING VOLUME:	NA
PUMP TANK DRAW DOWN*:	NA
SEPTIC TANK SIZE:	1000
PUMP TANK SIZE:	NA

WHEATFIELD LOT 24 & 25

Project #: 01-1612

LAYOUT FOR 3 BEDROOM HOME — August 9, 2010

LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH	DESIGN LINE LENGTH
TBM		NA			NA		
INSTR. 1			NA				
HOUSE CRN				NA	NA		
P. TANK				NA	NA		
1	PINK			NA	NA	28	28
2	RED			NA	NA	37	37
3	ORANGE			NA	NA	48	48
4	BLUE			NA	NA	55	55
5	PINK			NA	NA	63	63
6	**RED**			**NA**	**NA**	**128**	**125**
7	***ORANGE***			***NA***	***NA***	***155***	***150***
8	***BLUE***			***NA***	***NA***	***85***	***85***
					Total	**599**	**591**

	LINE LENGTH	LTAR GPD/FT^2	SYSTEM TYPE	SOIL LTAR GPD/FT^2	TRENCH SYSTEM	DISTRIBUTION
** System*	***360***	***0.25***	***ACCEPT.***	*0.25*	***25% RED.***	**GRAVITY DISTRIBUTION**
Repair	231	0.30	*MOD.*	0.30	PPBPS	LOW PRESSURE

Notes:

** TBM Is 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 WHEATFIELD

Project Number 01-1612

Lot No: 24 & 25

No. of Bedrooms	3	
Design Flow	360	$^{gal}/_{day}$
LTAR	0.25	$^{gal}/_{ft^2\,day}$
25% RED.? (YES OR NO)	YES	
Supply Line Length	14	ft.
Supply Line Volume	5.04	gal.
Required Feet of Line	360	ft.
Amount of Line from Layout	360	ft.
Gallons per Minute NA		$^{gal}/_{min}$
Required Septic Tank Capacity	1000	gal.
Minimum Standard Tank Size	1000	
Lateral Line Volume	235.08	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