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Attached is a proposed design for an upgrade of an existing 2 bedroom bed system to accommodate a 3 bedroom single family residence on a 1.07 ac. Lot at 134 Southpoint Drive off Brawley School Road, Iredell County, North Carolina.

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May 18, 2010
Project: Southpoint Drive
Design By: Rollans Soil and Environmental Services

Gravity 25% Reduction
FOR WASTEWATER TREATMENT

Owner: RONNIE THOMPSON

Address: 134 Southpoint Drive
Mooresville, NC 28117
Phone: 704-905-7582
County: Iredell
Location: 134 Southpoint Drive

Source of Wastewater Flow: 3 Bedroom Single Family Residence
Estimated Gallons Per Day Flow: 360
System Flow: NA

Design Specifications

Drainfield Size: 100
Loading Rate (gpd/ft.^{2}): 0.3
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: N/A

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.

134 Southpoint Drive

DESIGN FLOW (gpd):	360
SOIL APPLICATION RATE (gpd/ft.^{2}):	0.3
TOTAL AREA TRENCH BOTTOM:	300
TOTAL LATERAL LENGTH:	100
NUMBER OF FIELDS:	1
LATERAL LENGTH REQUIRED PER FIELD:	300
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:	N/A

134 Southpoint Drive

Project: Southpoint Drive

LAYOUT FOR 3 BEDROOM HOME

May 18, 2010

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	100	100
2	***ORANGE (existing bed)***			***N/A***	***N/A***	***100***	***100***
3	***BLUE***			***N/A***	***N/A***	***100***	***100***
					Total	**300**	**300**

	LINE LENGTH	LTAR GPD/FT^2	SYSTEM TYPE	SOIL LTAR GPD/FT^2	TRENCH SYSTEM	DISTRIBUTION
****System***	***100***	***0.30***	***ACCEPT.***	***0.30***	***25% RED.***	**GRAVITY DISTRIBUTION**
Repair	100	0.30	*ACCEPT.*	0.30	25% RED.	GRAVITY DISTRIBUTION

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

** ADDING ONE BEDROOM OF ACCEPTED TO EXISTING 2 BEDROOM BED SYSTEM

** LOT NEEDED ONLY ONE BEDROOM OF REPAIR DEMONSTRATED BUT MORE EXISTS

CALCULATIONS

Location 134 Southpoint Drive

Project Number NA

Lot No: NA

No. of Bedrooms 3

Design Flow 360 $^{gal}/_{day}$

LTAR 0.30 $^{gal}/_{ft^2\,day}$

25% RED.? (YES OR NO) YES

Supply Line Length 10 ft.

Supply Line Volume 1.74 gal.

Required Feet of Line 300 ft.
Amount of Line from Layout 100 ft.

Gallons per Minute NA $^{gal}/_{min}$

Required Septic Tank Capacity 1000 gal.
Minimum Standard Tank Size 1000

Lateral Line Volume 65.3 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