PRESSURE MANIFOLD SYSTEM FOR WASTEWATER TREATMENT

Owner: Annistion LLC

Address: 17824 Statesville Rd STE 112
Conover, NC 28031
Phone:
County: Iredell
Location: Anniston Subdivision Lot 75

Source of Wastewater Flow: 4 Bedroom Single Family Residence
Estimated Daily Wastewater Production: 480 gpd
System Flow: 38.36

Design Specifications

Drainfield Size: 490
Loading Rate: 0.25
Depth of Gravel in Trench: NA (25% reduction)
Gravel Size: NA (25% reduction)
Trench Depth: 18 in.
Trench Width: 36 in.
Septic Tank Size: 1000
Pump Tank Size: 1000

Estimated Supply Line Length: 140
Supply Line Diameter: 2 in. SCH 40 PVC
Supply Line Volume: 24.36
Dosing Volume: 223.98
Supply Manifold: 4 in. SCH 80 PVC
Supply Manifold Length: 4 ft. (minimum)
Supply Manifold Volume: N/A

Recommended Float Controls: SJE Sensor Float Control Switches as Required for Control Panel or County Approved Equivalents
Recommended Control Panel: SJE-Rhombus Model 112 (NEMA 4x) Control Panel or County Approved Control Panel.

Pressure Head: 2 ft.
Friction Head: 6.41
Elevation Head: 18.40
Total Dynamic Head: 30.83

Threaded Union: In Tank
Gate Valves: 1 in Tank
1 at Pressure Manifold
Check Valves: In Tank
Anti-Siphon Hole: NA
Additional Comments: Soil suitability was performed by Rollans Soil & Environmental Services.

Anniston Subdivision Lot 75
PRESSURE MANIFOLD DESIGN

DESIGN FLOW:	480
SOIL APPLICATION RATE:	0.25
TOTAL AREA TRENCH BOTTOM:	1470
TOTAL LATERAL LENGTH:	490
NUMBER OF FIELDS:	1
LATERAL LENGTH REQUIRED PER FIELD:	480
SUPPLY LINE LENGTH:	140
TOTAL DYNAMIC HEAD:	30.83
MANIFOLD SIZE:	4 in.SCH 80 PVC
DOSING VOLUME:	223.98
PUMP TANK DRAW DOWN*:	10.7
SEPTIC TANK SIZE:	1000
PUMP TANK SIZE:	1000

**Pump tank draw down based on a volume basis of 21 gallons per inch. Draw down may vary among pump tank manufacturers.*

ANNISTON LOT #75

Project #: 01-1005

LAYOUT FOR 4 BEDROOM HOME

August 17, 2006

LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH	DESIGN LINE LENGTH
TBM		1.3			100.00		
TANK				15.00	86.30		
HOUSE				13.50	87.80		
INSTR. 1			101.30				
1	***RED***			***1.60***	***99.70***	*75*	*70*
2	***ORANGE***			***2.60***	***98.70***	*82*	*70*
3	***BLUE***			***3.70***	***97.60***	*80*	*70*
4	***PINK***			***4.70***	***96.60***	*75*	*70*
5	***RED***			***5.60***	***95.70***	*73*	*70*
6	***ORANGE***			***7.00***	***94.30***	*71*	*70*
7	***BLUE***			***7.90***	***93.40***	*70*	*70*
8	PINK			9.00	92.30	69	69
9	RED			10.00	91.30	66	66
10	ORANGE			10.90	90.40	66	66
11	BLUE			11.90	89.40	66	66
12	PINK			12.90	88.40	66	66
					Total	**859**	**823**

	LINE LENGTH	LTAR GPD/FT²	SYSTEM TYPE	SOIL LTAR GPD/FT²	TRENCH SYSTEM	DISTRIBUTION
** System*	*490*	*0.25*	*ACCEPT.*	*0.25*	*25% RED.*	**PRESSURE**
Repair	333	0.25	*MOD.*	0.25	PPBPS	**MANIFOLD** LOW PRESSURE

Notes:

** TBM located at top of ground. (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

PRESSURE MANIFOLD TAPSHEET - ANNISTON LOT#75

SYSTEM

Line #	Color	Elevation	Length	Hole Size	Flow/Tap	Trench Area
1	RED	99.7	70	SCH 80 1/2	5.48	210
2	ORANGE	98.7	70	SCH 80 1/2	5.48	210
3	BLUE	97.6	70	SCH 80 1/2	5.48	210
4	PINK	96.6	70	SCH 80 1/2	5.48	210
5	RED	95.7	70	SCH 80 1/2	5.48	210
6	ORANGE	94.3	70	SCH 80 1/2	5.48	210
7	BLUE	93.4	70	SCH 80 1/2	5.48	210

total	feet =	490	gal/min = 38.36
		Des. Flow	480
		Pump Run=	5.84
		soil LTAR	0.25
		LTAR +5%	0.2625
		LTAR with ACCEPTED	0.333333333
		LTAR with ACCEPTED + 5%	0.35

CALCULATIONS

Location ANNISTON SUBDIVISION

Project Number 01-1005

Lot No: Lot 75

No. of Bedrooms 4

Design Flow 480 $^{gal}/_{day}$

LTAR 0.25 $^{gpd/ft^2}$

25% RED.? (YES OR NO) YES

Supply Line Length 140 ft.

Supply Line Volume 24.36 gal.

Required Feet of Line 480 ft.
Amount of Line from Layout 490 ft.

Gallons per Minute 38.36 $^{gal}/_{min}$

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

Lateral Line Volume 319.97 gal.

Dosing Volume 223.98 gal.

Note: Dosing Volume based on70% of lateral line volume

Tank Draw Down 10.7 *Generic Draw Down of 21 gal.per in.*

Pump Run Time 5.84 minutes

Elevation Head 18.4 ft.
Pressure Head 2 ft.
Friction Factor 4.58 ft./100 ft. *(From the interpolater.)*
Friction Head 6.41 ft.

Total Dynamic Head (+15%) 30.83 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