PRESSURE MANIFOLD SYSTEM
FOR WASTEWATER TREATMENT

Owner: Ken Wilcox

Address: 289 Seven Springs Loop
Statesville, NC 28625
Phone: 70-4-873-7593
County: Iredell
Location: 686 Mills Garden Road

Source of Wastewater Flow: 4 Bedroom Single Family Residence
Estimated Daily Wastewater Production: 480 gpd
System Flow: 28.44

Design Specifications

Drainfield Size: 480
Loading Rate: .25 gpd/ft²
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: 1000

Estimated Supply Line Length: 574
Supply Line Diameter: 2 in. SCH 40 PVC
Supply Line Volume: 99.88
Dosing Volume: 219.41
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: 10.22
Elevation Head: 15.20
Total Dynamic Head: 31.53

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.

686 MILLS GARDEN ROAD
PRESSURE MANIFOLD DESIGN

DESIGN FLOW:	480	
SOIL APPLICATION RATE:	.25 gpd/ft²	
TOTAL AREA TRENCH BOTTOM:	1440	
TOTAL LATERAL LENGTH:	480	
NUMBER OF FIELDS:	1	
LATERAL LENGTH REQUIRED PER FIELD:	480	
SUPPLY LINE LENGTH:	574	
TOTAL DYNAMIC HEAD:	31.53	
MANIFOLD SIZE:	4 in.SCH 80 PVC	
DOSING VOLUME:	219.41	
PUMP TANK DRAW DOWN*:	10.4	
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.*

686 Mills Garden Road

Project #: 01-1165

LAYOUT FOR 4 BEDROOM HOME — November 4, 2005

LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH	DESIGN LINE LENGTH
TBM		6.4			100.00		
TANK		14.70	91.70				
HOUSE		5.30	101.10				
INSTR. 1			106.40				
1	PINK			4.30	102.10	100	100
2	ORANGE			5.10	101.30	120	120
3	BLUE			5.80	100.60	130	130
4	***RED***			***6.50***	***99.90***	***120***	***120***
5	***PINK***			***6.90***	***99.50***	***120***	***120***
6	***ORANGE***			***7.80***	***98.60***	***120***	***120***
7	***BLUE***			***8.40***	***98.00***	***120***	***120***
					Total	**830**	**830**

	LINE LENGTH	LTAR GPD/FT^2	SYSTEM TYPE	SOIL LTAR GPD/FT^2	TRENCH SYSTEM	DISTRIBUTION
****System***	***480***	***0.25***	***ACCEPT.***	***0.25***	***25% RED.***	**PRESSURE MANIFOLD**
Repair	350	0.25	*MOD.*	0.25	PPBPS	LOW PRESSURE

Notes:

** TBM located on corner of lot (see site plan)

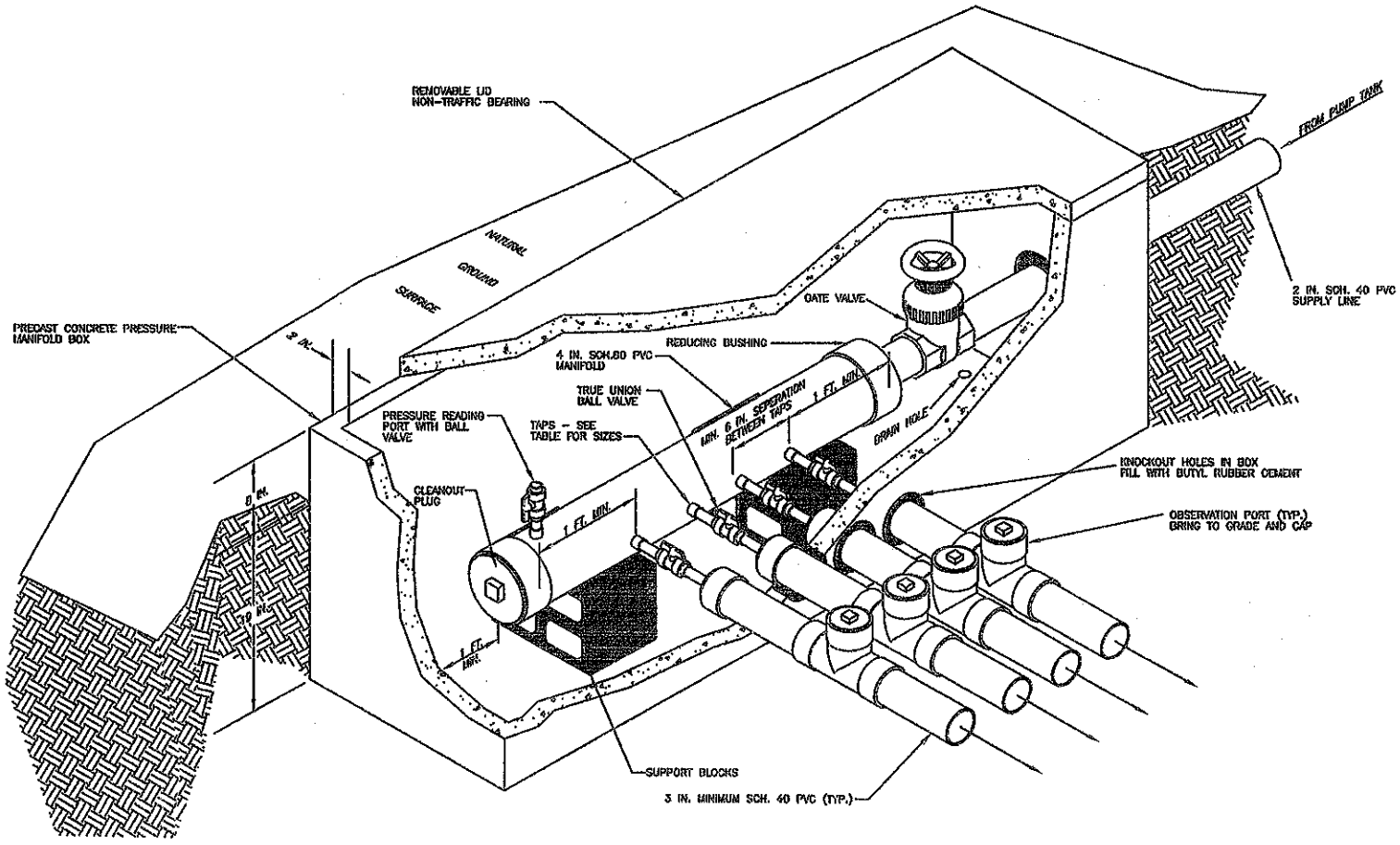
**TBM is assumed to be 100'

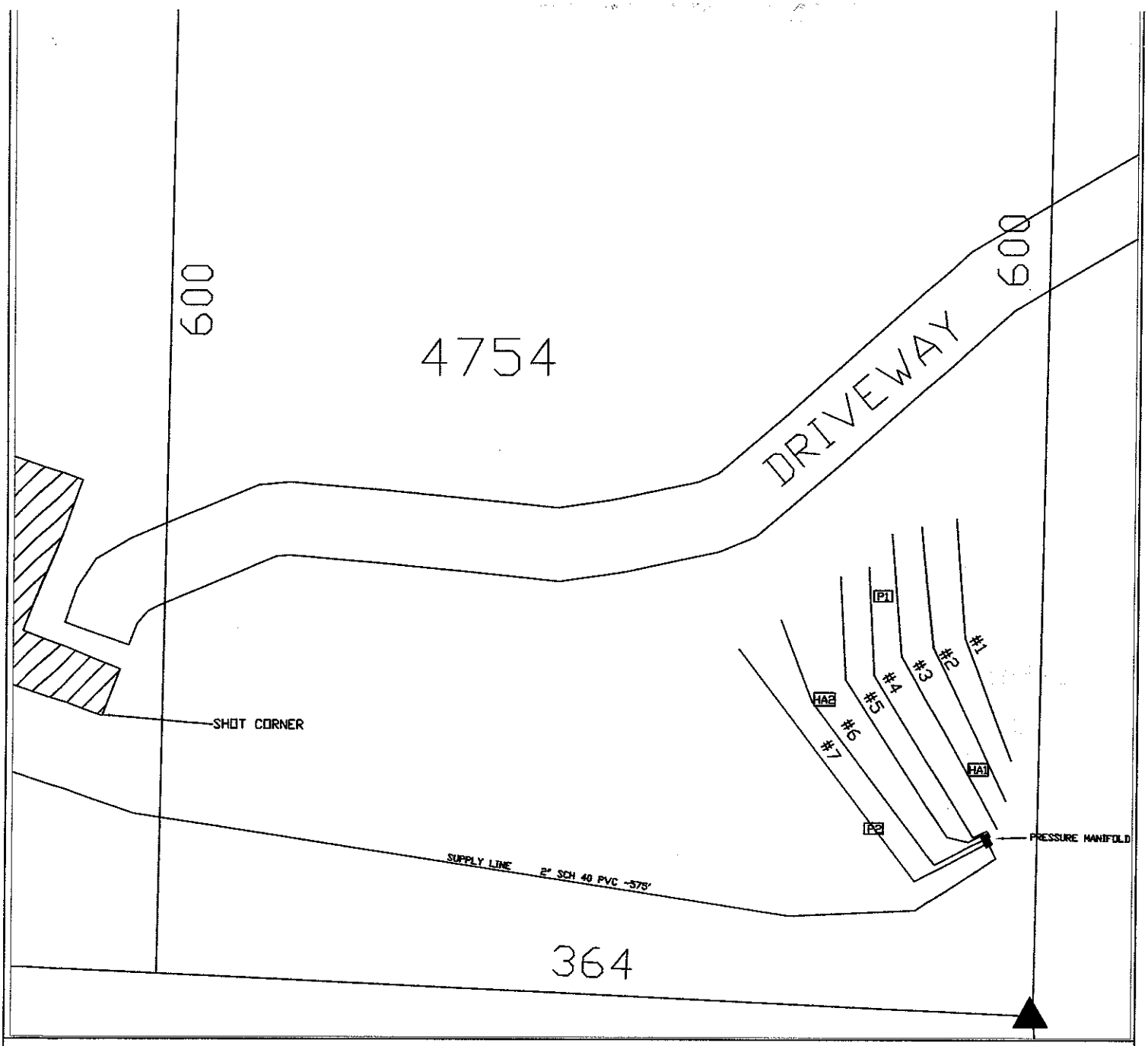
**All measures in feet

**Nitrification lines are demonstrated on contour via colored pin flags

**BS, HI, and FS indicate rod readings

PRESSURE MANIFOLD DETAILS





LEGEND

- Areas contain soils with 24 inches or more of useable material and have potential for conventional, modified conventional and low-pressure pipe (lpp) septic systems.
- Unsuitable areas.
- System lines.
- Repair lines.
- Temporary Bench Mark (TBM)
- Well Location.

GRAPHIC SCALE

1" = 60'

60 0 60 120

FOR PRELIMINARY PLANNING PURPOSES ONLY. ALL LOTS WILL REQUIRE FINAL APPROVAL BY THE COUNTY HEALTH DEPARTMENT ON A LOT BY LOT BASIS. THIS MAP SHOULD BY USED AS A GENERAL GUIDE, SOME ADJUSTMENTS WILL BE NECESSARY IN THE FIELD DUE TO SOIL VARIABILITY AND COMPLEX TOPOGRAPHIC FEATURES. THIS MAP ONLY REFLECTS EXISTING SOIL SUITABILITY FOR ON-SITE SEPTIC TANK SYSTEMS.

PLEASE REFER TO ATTACHED SOIL REPORT FOR ADDITIONAL SITE SPECIFIC INFORMATION

ROLLANS SOIL & ENVIRONMENTAL SERVICES
2120 GRAHAM ROAD
MOUNT ULLA, NC 28125
PHONE/FAX: (704) 278 - 0989
ASHLEY ROLLANS, NC LICENSED SOIL SCIENTIST
MOBILE (704) 746 - 5046
EMAIL: ROLLANSFORTCJ@AOL.COM

MAP TITLE: SITE PLAN & DRAINFIELD AREAS

PROJECT NAME: KEN WILCOX

LOCATION/DATE: 686 MILLS GARDEN ROAD, IREDELL COUNTY, NORTH CAROLINA, NOVEMBER 2005

JOB # : 01-1165
FILE: C:\JOBS\01-1165
PROJECT MGR.: S.A.R.
FIELD WORK: S.A.R. and C.B.F.
DRAWN BY: S.A.R.

CALCULATIONS

Location 686 Mills Garden Road

Project Number 01-1165

Lot No: N/A

No. of Bedrooms	4	
Design Flow	480	$^{gal}/_{day}$
LTAR	.25	gpd/ft²
25% RED.? (YES OR NO)	YES	
Supply Line Length	574	ft.
Supply Line Volume	99.876	gal.
Required Feet of Line	480	ft.
Amount of Line from Layout	480	ft.
Gallons per Minute	28.44	$^{gal}/_{min}$
Required Septic Tank Capacity	1000	gal.
Minimum Standard Tank Size	1000	
Lateral Line Volume	313.44	gal.
Dosing Volume	219.41	gal.

Note: Dosing Volume based on70% of lateral line volume

Tank Draw Down	10.4	*Generic Draw Down of 21 gal.per in.*
Pump Run Time	7.71	minutes
Elevation Head	15.2	ft.
Pressure Head	2	ft.
Friction Factor	1.78	ft./100 ft. *(From the interpolater.)*
Friction Head	10.22	ft.
Total Dynamic Head (+15%)	31.53	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

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL HEALTH
ON-SITE WASTEWATER SECTION

Sheet 1 *of* ___
PROPERTY ID #: _____
COUNTY: IREDELL

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM

OWNER: KEN WILCOX _____ APPLICATION DATE 11/05
ADDRESS: 289 SEVEN SPRINGS LOOP STATESVILLE _____ DATE EVALUATED: 11/05
PROPOSED FACILITY: RES _____ PROPOSED DESIGN FLOW (.1949): 480 _____ PROPERTY SIZE: 15AC
LOCATION OF SITE: 686 MILLS GARDEN ROAD _____ PROPERTY RECORDED: Y
WATER SUPPLY: ☐ Private ☒ Public ☐ Well ☐ Spring ☐ Other _____
EVALUATION METHOD: ☒ Auger Boring ☒ Pit ☐ Cut TYPE OF WASTEWATER: ☒ Sewage ☐ Industrial Process ☐ Mixed

PROFILE #	.1940 LANDSCAPE POSITION/ SLOPE %	HORIZON DEPTH (IN.)	SOIL MORPHOLOGY (.1941)		OTHER PROFILE FACTORS				PROFILE CLASS & LTAR
			.1941 STRUCTURE/ TEXTURE	.1941 CONSISTENCE/ MINERALOGY	.1942 SOIL WETNESS/ COLOR	.1943 SOIL DEPTH	.1956 SAPRO CLASS	.1944 RESTR HORIZ	
AH 1	LINEAR 5-6%	0-30	RC SBK/ABK	FRI SP SEXP	FEW YB'S AND RELIC	48"	N/A	N/A	PS .25 GPD/FTSQ
		30-48	RC MFSBK	FRI SP SEXP					
AH 2	LINEAR 5-6%	0-36	RC SBK/ABK	FRI SP SEXP	FEW YB'S AND RELIC	48"	N/A	N/A	PS .25 GPD/FTSQ
		36-48	RC MFSBK	FRI SP SEXP					
P1 3	LINEAR 5-6%	0-30	RC ABK	FRI SP SEXP	FEW YB'S AND RELIC	50"	N/A	N/A	PS .25 GPD/FTSQ
		30-50	RC/CL SBK/ABK	FRI SP SEXP					
P2 4	LINEAR 5-6%	0-24	RC SBK/ABK	FRI SP SEXP	FEW YB'S AND RELIC	50"	N/A	N/A	PS .25 GPD/FTSQ
		24-50	RC MFSBK	FRI SP SEXP					

DESCRIPTION	INITIAL SYSTEM	REPAIR SYSTEM
Available Space (.1945)	1440 SQFT	640 SQFT
System Type(s)	ACCEPT.	PPBPS
Site LTAR	.25 GPD/FTSQ	.25 GPD/FTSQ

OTHER FACTORS (.1946): _____
SITE CLASSIFICATION (.1948): _____ PS _____

EVALUATED BY: FREEMAN/ROLLANS _____
OTHER(S) PRESENT: MATT MULLET _____

COMMENTS: _____