Final

LPP-LOW PRESSURE PIPE SEPTIC SYSTEM DESIGN

RE: LOT 446, SECTION 8, TWEED PLACE, OFF GRASSHOPPER CIRCLE, IREDELL COUNTY, NC.

PLAN SPECIFICATIONS- (3) BEDROOM DESIGN

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Lot 446, Tweed Place

DESIGN SPECIFICATIONS

Daily waste flow		360	gal.
Septic tank size		1,000	gal.
Pumping tank size		1,000	gal.
Effluent loading rate		.10	gal/ft²/day
Absorption area		3,600+	ft.
Total length of laterals		720	ft.
Lateral diameter		1½	in. 1¼"
Lateral configuration		12 ~~VARIES~~	No. and length of lines
Supply line length		VARIES	ft. 20'-C, 40'-B, 65'-A
Supply line diameter		2	in.
Manifold placement		END	
Hole size*		VARIES	in.
Hole spacing		VARIES	ft.
Number of holes		~~102~~ 114	
Flow per hole		VARIES	gpm
Total flow		70.71	gpm
Elevation head		11.2	ft. TOTAL
Friction head		1.9	ft. 20% INCLUDED
Pressure head	(3)	VARIES	ft.
Total head		16.1	ft.
Pump requirements 1.5 h.p.		70.71	gpm @ 16.1 ft. of head
Storage volume in laterals		66.24	gal. ✓
Storage volume in supply lines		20.25	gal. ~25.1
Total storage volume		86.49	gal.
Dosing volume		351	gal. ~356.3
Dosing depth		16	in.
Check valve needed ?		not REQUIRED by Rules	

If check valve is used, reduce dosing volume by 25 gal (1 supply line).

NEED Elev. on PT.

* Pump Option - Gould model WE1S 1.5 H.P.

8K DRIP

LINE	#HOLES PER LINE	HOLE SIZE	HOLE SPACE sp.	HOLE START st.	LINE HEAD	LINE LENGTH	HOLE FLOW	PER MIN. LINE FLOW	LOAD. PER. FT.^{2}
L 1	6	3/16	6	4'	3	40'	.72	4.32	.108
L 2	10	5/32	5.5	2'	3.4	55'	.532	5.32	.096
L 3 (C)	9	5/32	5.7	3'	3.8	55'	.564	5.64	.092
L 4 (C)	9	5/32	6.2	4'	4.2	60'	.592	5.92	.089
L 5	9	3/16	6.4	2'	3	60'	.72	6.48	.108
L 6	11	5/32	5.2	2'	3.6	60'	.548	6.03	.100
L 7 (B)	11	5/32	5.7	2'	4.1	65'	.586	6.45	.099
L 8 (B)	10	5/32	6	5'	4.5	65'	.61	6.71	.094
L 9	10	3/16	6.5	5'	3	70'	.72	7.2	.102
L 10	12	5/32	5.6	2'	3.6	70'	.548	6.58	.094
L 11 (A)	10	5/32	6.4	6'	4.2	70'	.592	5.92	.085
L 12 (A)	7	5/32	6.4	5'	3.6 (Figure 4.2)	50'	.592	4.14	.083
Totals	~~102~~ 114					720' ✓		70.71 g.p.m. ✓	

Lot 446 & Seed B

from plan Approx 15' 2" sch 40 to valve box
20' " Lowest subfield
45' " 2nd "
75' " upper subfield
155' 2" sch 40

Dosing Volume = $V_{supply} + 5(V_{laterals})$

$= (155)(16.2) + (5)(7.2)(9.2)$

$= 25.1 + 331.2$

$= 356.3$

Approx 1 dose per day

CHK VALVE $.25 \times 356.3 = 89.1$

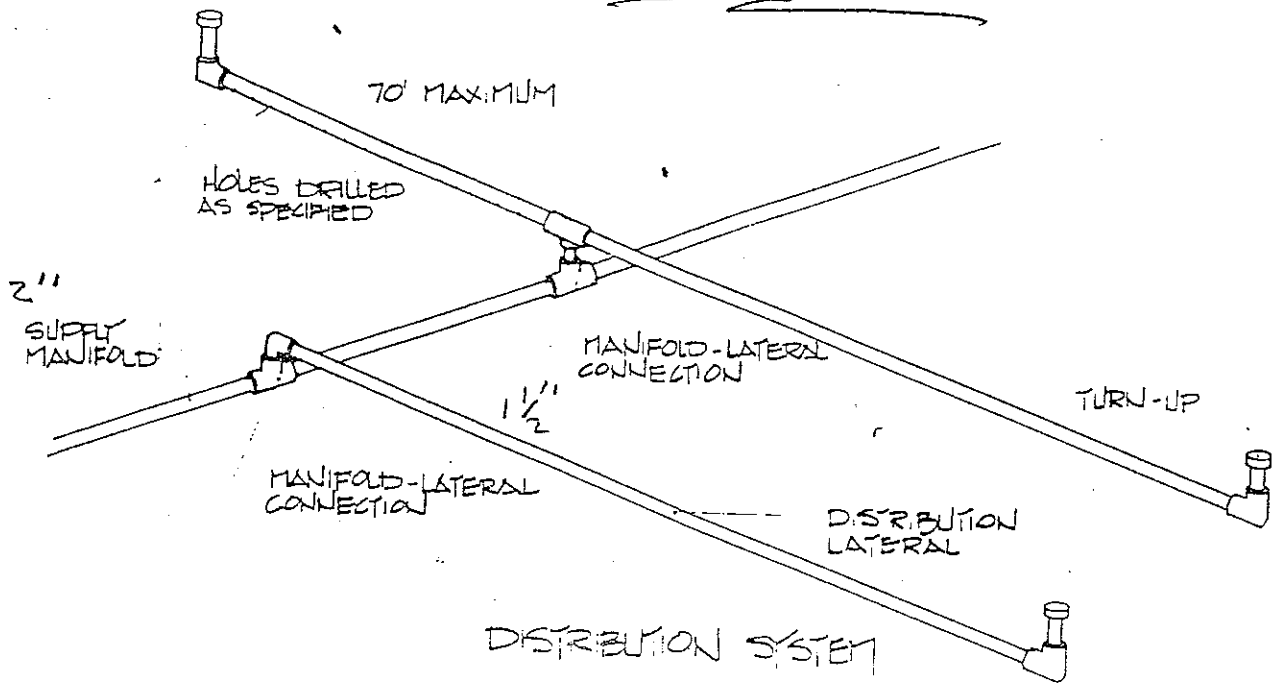
(V_s) $25.1 < 89.1$ no chk valve required

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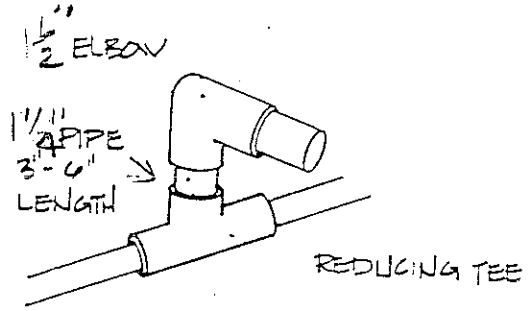
① For future, include calculation sheet
② Also start w/ 2' ph - this will help to keep pumping to a minimum

OK on this system to use 2' wide trenches vs 1' wide if owner & installer desire to do so (still on 5' centers) This would significantly increase system life expectancy and work in favor of the owner since there is no repair area!

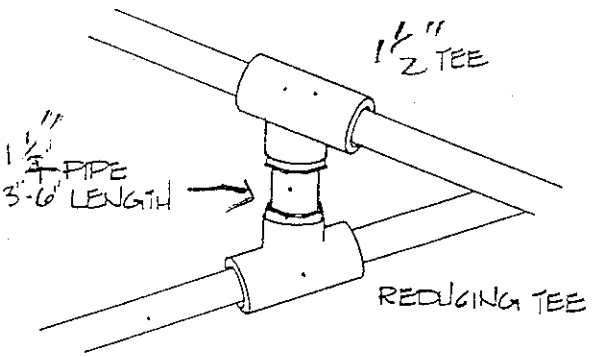
Piping Specs



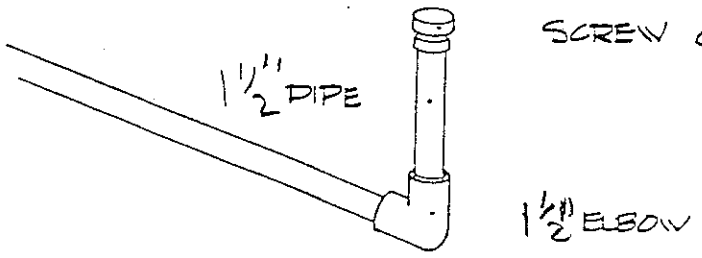
DISTRIBUTION SYSTEM



SIDE MANIFOLD-LATERAL CONNECTION



CENTER MANIFOLD-LATERAL CONNECTION



TURN-UP

Figure 6. Details of distribution system - UNC-SG-82-03 May 1982

Lot AA6