

DESIGN TABLE FOR SUBSURFACE DRAINAGE

Project: Problem #4 - Main #2 Location: _____
 Designed by: _____ Date: _____ Checked by: _____ Date: _____
 Drainage Coefficient, DC: 3/8 in/day Lateral Diameter: 9 inch ver 1/10/2013

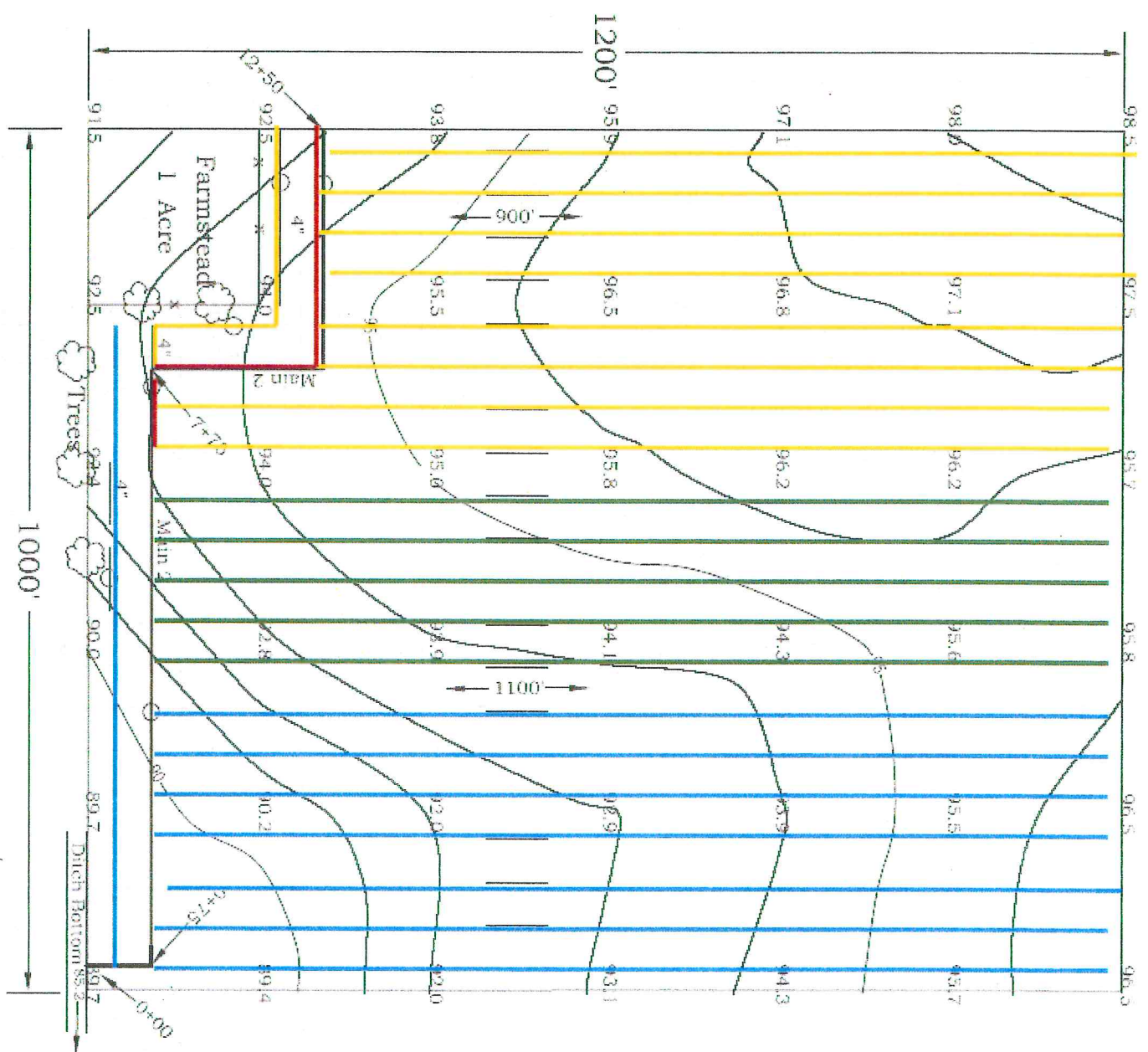
Lateral Design									
Main Connect Station ft	Lateral ID or Group ID	Number of Laterals in Group	Grade %	Spacing (S) ft	Lateral Length (L) ft	Drained Length (S+L) ft	Drained Area per Lateral* ac	Drained Area per Group ac	Accum. Drained Area ac
9+75	A	6		50	900	950	1.09	6.54	6.54
7+75	B	1	MAIN	50	200	200	0.23	0.23	6.77
7+75	C	1		50	350	400	0.46	0.46	7.23
6+75	D	2		50	1100	1150	1.32	2.64	9.87
4+25	E	5		50	1100	1150	1.32	6.60	16.47
3+25	F	2		50	1100	1150	1.32	2.64	19.11
0+75	G	5		50	1100	1150	1.32	6.60	25.71
0+25	H	1		50	750	800	0.92	0.92	26.63

* Includes area drained by main and upper end of lateral = $S \times (S + L) \div 43,560$

Main ID: Main #2 Pipe Material: CPT

Main Design									
Main Reach					Main Reach Capacity			Drained Area	
From Station ft	To Station ft	Length ft	Grade %	Main Dia. in	Maximum Flow Volume (Q _{max}) cfs	Maximum Flow Velocity (V _{max}) fps	Maximum Drained Area (DA _{max}) ac	Lateral Accum. Drained Area ac	Unused Main Capacity ac
12+25	9+75	250	0.3	5		1.25	10.5	6.54	3.96
9+75	7+75	200	0.3	5			10.5	7.23	3.27
7+75	6+75	100	0.3	5			10.5	9.87	0.63
6+75	4+25	250	0.3	6		1.38	17.0	16.47	0.53
4+25	3+15	110	0.3	8		1.65	36.5	19.11	17.33
3+15	0+100	315	0.25	8		1.50	33.0	26.63	6.37

Comments: _____
Outlet Size: _____ in Material: _____ 1 acre = 43,560 square feet
 Length: _____ feet Animal Guard (Y/N): _____ $Q_{req} = 0.0421 \times DC \times DA$



5" Main
9.9 ac

6" Main
16.5 ac

8" Main
26.6 ac