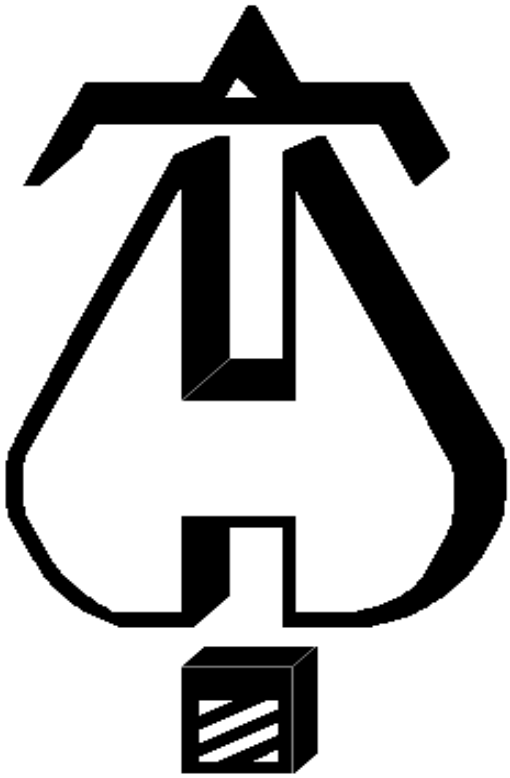


. . . Fire Protection by Computer Design

Maine Fire Protection Systems
6 Dowd Road
Bangor, Maine 04401
(207) 942-8809

Job Name : 780 calc file
Building :
Location :
System :
Contract :
Data File : 780 calc file AREA 1.wxf

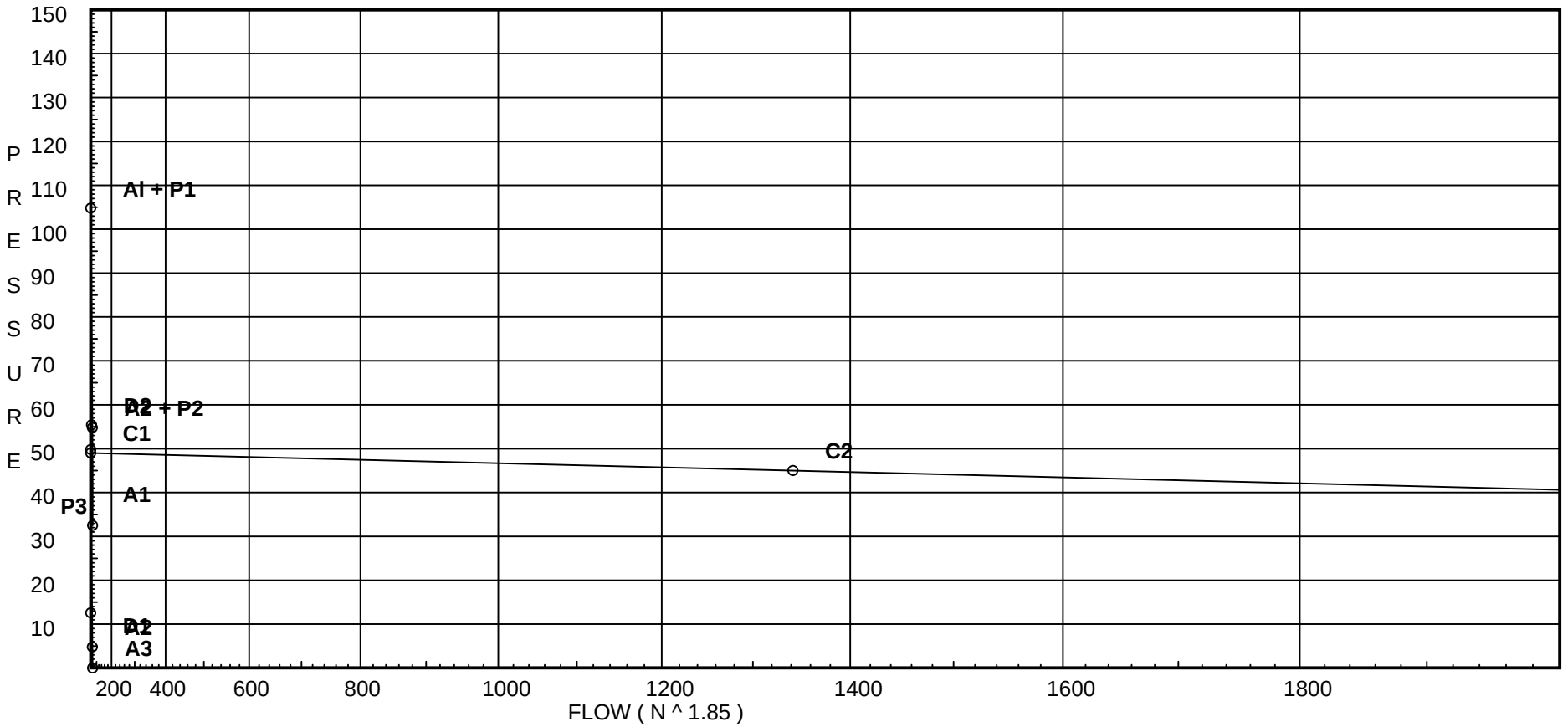
City Water Supply:
- C1 - Static Pressure : 49
- C2 - Residual Pressure: 45
- C2 - Residual Flow : 1342

City Water Adjusted to Pump Inlet for Pf - Elev - Hose Flow
- A1 - Adjusted Static: 49.797
- A2 - Adj Resid : 4.79 @ 50
- A3 - Adj Resid : 0 @ 54.44

Pump Data:
- P1 - Pump Churn Pressure : 55
- P2 - Pump Rated Pressure : 50
- P2 - Pump Rated Flow : 50
- P3 - Pump Pressure @ Max Flow : 32.5
- P3 - Pump Max Flow : 54.44
- City Residual Flow @ 0 = 5199.17
- City Residual Flow @ 20 = 3915.62
- City Water @ 150% of Pump = 48.99

Pump flow terminated at adjusted curve 0 psi

Demand:
- D1 - Elevation : 12.560
- D2 - System Flow : 34.651
- D2 - System Pressure : 55.404
- Hose (Demand) : _____
- D3 - System Demand : 34.651
- Hose (Adj City) : 150
- Safety Margin : 24.947



Fitting Legend

Abbrev.	Name	½	¾	1	1¼	1½	2	2½	3	3½	4	5	6	8	10	12	14	16	18	20	24
E	NFPA 13 90' Standard Elbow	1	2	2	3	4	5	6	7	8	10	12	14	18	22	27	35	40	45	50	61
Fsp	Flow Switch Potter VSR	Fitting generates a Fixed Loss Based on Flow																			
T	NFPA 13 90' Flow thru Tee	3	4	5	6	8	10	12	15	17	20	25	30	35	50	60	71	81	91	101	121
Zik	Wilkins 950XL	Fitting generates a Fixed Loss Based on Flow																			

Units Summary

Diameter Units	Inches
Length Units	Feet
Flow Units	US Gallons per Minute
Pressure Units	Pounds per Square Inch

Note: Fitting Legend provides equivalent pipe lengths for fittings types of various diameters. Equivalent lengths shown are standard for actual diameters of Sched 40 pipe and CFactors of 120 except as noted with *. The fittings marked with a * show equivalent lengths values supplied by manufacturers based on specific pipe diameters and CFactors and they require no adjustment. All values for fittings not marked with a * will be adjusted in the calculation for CFactors of other than 120 and diameters other than Sched 40 per NFPA.

Pressure / Flow Summary - STANDARD

Node No.	Elevation	K-Fact	Pt Actual	Pn	Flow Actual	Density	Area	Press Req.
1	31.0	4.9	12.5	na	17.33	0.1	96	12.5
2	31.0		13.33	na				
3	31.0		17.06	na				
3F	31.0		17.64	na				
2F	14.0		26.71	na				
GF	14.0		30.97	na				
BSMT	8.0		34.98	na				
TOR	8.0		44.71	na				
PO	0.0		55.4	na				
PI	0.0		26.95	na				
4	1.0		27.44	na				
5	1.0		49.31	na				
6	1.0		49.31	na				
TEST	2.0		48.9	na	150.0			
7	31.0	4.9	12.5	na	17.32	0.1	96	12.5

The maximum velocity is 22.97 and it occurs in the pipe between nodes 4 and 5

Hyd. Ref. Point	Qa Qt	Dia. "C" Pf/Ft	Fitting or Eqv.	Ln.	Pipe Ftng's Total	Pt Pe Pf	Pt Pv Pn	******* Notes ******
1	17.33	1.049	2E	4.0	4.270	12.505		K Factor = 4.90
to		120.0		0.0	4.000	0.0		
2	17.33	0.0998		0.0	8.270	0.825		Vel = 6.43
2	17.32	1.049	1E	2.0	8.380	13.330		
to		120.0		0.0	2.000	0.0		
3	34.65	0.3597		0.0	10.380	3.734		Vel = 12.86
3	0.0	1.097		0.0	2.000	17.064		
to		120.0		0.0	0.0	0.0		
3F	34.65	0.2890		0.0	2.000	0.578		Vel = 11.76
3F	0.0	1.38	2E	6.0	12.000	17.642		
to		120.0		0.0	6.000	7.363		
2F	34.65	0.0946		0.0	18.000	1.703		Vel = 7.43
2F	0.0	1.38	3E	9.0	12.000	26.708		
to		120.0	4T	24.0	33.000	0.0		
GF	34.65	0.0946		0.0	45.000	4.258		Vel = 7.43
GF	0.0	1.38	1E	3.0	12.000	30.966		
to		120.0		0.0	3.000	2.599		
BSMT	34.65	0.0945		0.0	15.000	1.418		Vel = 7.43
BSMT	0.0	1.38	5E	15.0	44.080	34.983		
to		120.0	2T	12.0	27.000	3.000		* * Fixed Loss = 3
TOR	34.65	0.0946	1Fsp	0.0	71.080	6.725		Vel = 7.43
TOR	0.0	1.61	2E	8.0	8.000	44.708		
to		120.0	1Zik	0.0	8.000	9.982		* * Fixed Loss = 6.517
PO	34.65	0.0446		0.0	16.000	0.714		Vel = 5.46
	0.0							
	34.65					55.404		K Factor = 4.66
System Demand Pressure						55.404		
Safety Margin						24.947		
Continuation Pressure						80.351		
Pressure @ Pump Outlet						80.351		
Pressure From Pump Curve						-53.401		
Pressure @ Pump Inlet						26.950		
PI	0.0	1.598		0.0	30.120	26.950		
to		150.0		0.0	0.0	-0.433		
4	34.65	0.0306		0.0	30.120	0.923		Vel = 5.54
4	0.0	0.785	1E	2.387	20.000	27.440		
to		150.0		0.0	2.386	0.0		
5	34.65	0.9769		0.0	22.386	21.869		Vel = 22.97
5	0.0	12.34		0.0	750.000	49.309		
to		120.0		0.0	0.0	0.0		
6	34.65	0.0		0.0	750.000	0.001		Vel = 0.09
6	0.0	6.16	1E	15.101	300.000	49.310		
to		120.0		0.0	15.101	-0.433		
TEST	34.65	0.0001		0.0	315.101	0.021		Vel = 0.37
	150.00							Qa = 150.00
	184.65					48.898		K Factor = 26.41
7	17.32	1.049	1T	5.0	3.320	12.500		K Factor = 4.90
to		120.0		0.0	5.000	0.0		
2	17.32	0.0998		0.0	8.320	0.830		Vel = 6.43

Hyd. Ref. Point	Qa Qt	Dia. "C" Pf/Ft	Fitting or Eqv.	Ln.	Pipe Ftng's Total	Pt Pe Pf	Pt Pv Pn	*******	Notes	******
	0.0									
	17.32					13.330		K Factor =	4.74	