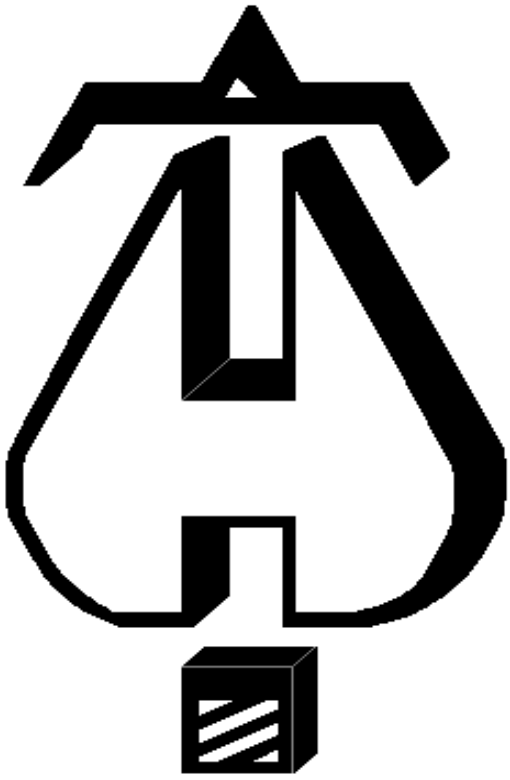


. . . Fire Protection by Computer Design

Residential Fire Protection
64 Daggett Hill Rd.
Greene, ME 04236
(207)946-343

Job Name	:	48 WILOT STREET APT
Building	:	WOOD STRUCTURE
Location	:	OUTSIDE DECK
System	:	WET
Contract	:	16025
Data File	:	48 WILMOT ST APT-HYD CALC-AFLWXF.WXF

Hydraulic Design Information Sheet

Name - 48 WILMOT STREET APT
Date - 9/2/16
Location - OUTSIDE DECK
Building - WOOD STRUCTURE
System No. - WET
Contractor - RESIDENTIAL FIRE PROTECTION
Contract No. - 16025
Calculated By -
Drawing No. - 1 OF 2
Construction: (X) Combustible ( ) Non-Combustible
Ceiling Height - 7'-9"
Occupancy - DECK

SYSTEM DESIGN

(X) NFPA 13 (X) Lt. Haz. Ord.Haz.Gp. ( ) 1 ( ) 2 ( ) 3 ( ) Ex.Haz.
( ) NFPA 231 ( ) NFPA 231C ( ) Figure Curve
Other
Specific Ruling | Made By | Date

Area of Sprinkler Operation	- 1 HEAD	System Type	Sprinkler/Nozzle
Density	- .1	( ) Wet	Make VIKING
Area Per Sprinkler	- 149	( ) Dry	Model VK305
Elevation at Highest Outlet	-	( ) Deluge	Size 1/2"
Hose Allowance - Inside	-	( ) Preaction	K-Factor 5.6
Rack Sprinkler Allowance	-	( ) Other	Temp.Rat.155
Hose Allowance - Outside	- 100		

Note

Calculation Summary: Flow Required - 114.9 Press Required - 29.54 AT TEST
C-Factor Used: 120 Overhead 150 Underground

WATER SUPPLY

Water Flow Test:		Pump Data:		Tank or Reservoir:
Date of Test	- 6/20/2012			Cap. -
Time of Test	- N/A	Rated Cap.-		Elev.-
Static Press	- 96	@ Press	-	
Residual Press	- 94	Elev.	-	Well
Flow	- 1352			Proof Flow
Elevation	- 99.0			

Location - HYDRANTS ARE LOCATED ON WILMOT STREET, SEE PLOT PLAN

Source of Information - PORTLAND WATER DISTRICT

COMMODITY STORAGE

Commodity | Class | Location
Storage Ht. | Area | Aisle W.
Storage Method: Solid Piled % Palletized % Rack

( ) Single Row	( ) Conven. Pallet	( ) Auto. Storage	( ) Encap.	
R ( ) Double Row	( ) Slave Pallet	( ) Solid Shelf	( ) Non	
A ( ) Mult. Row		( ) Open Shelf		
C K				

Flue Spacing
Longitudinal
Clearance:Storage to Ceiling
Transverse

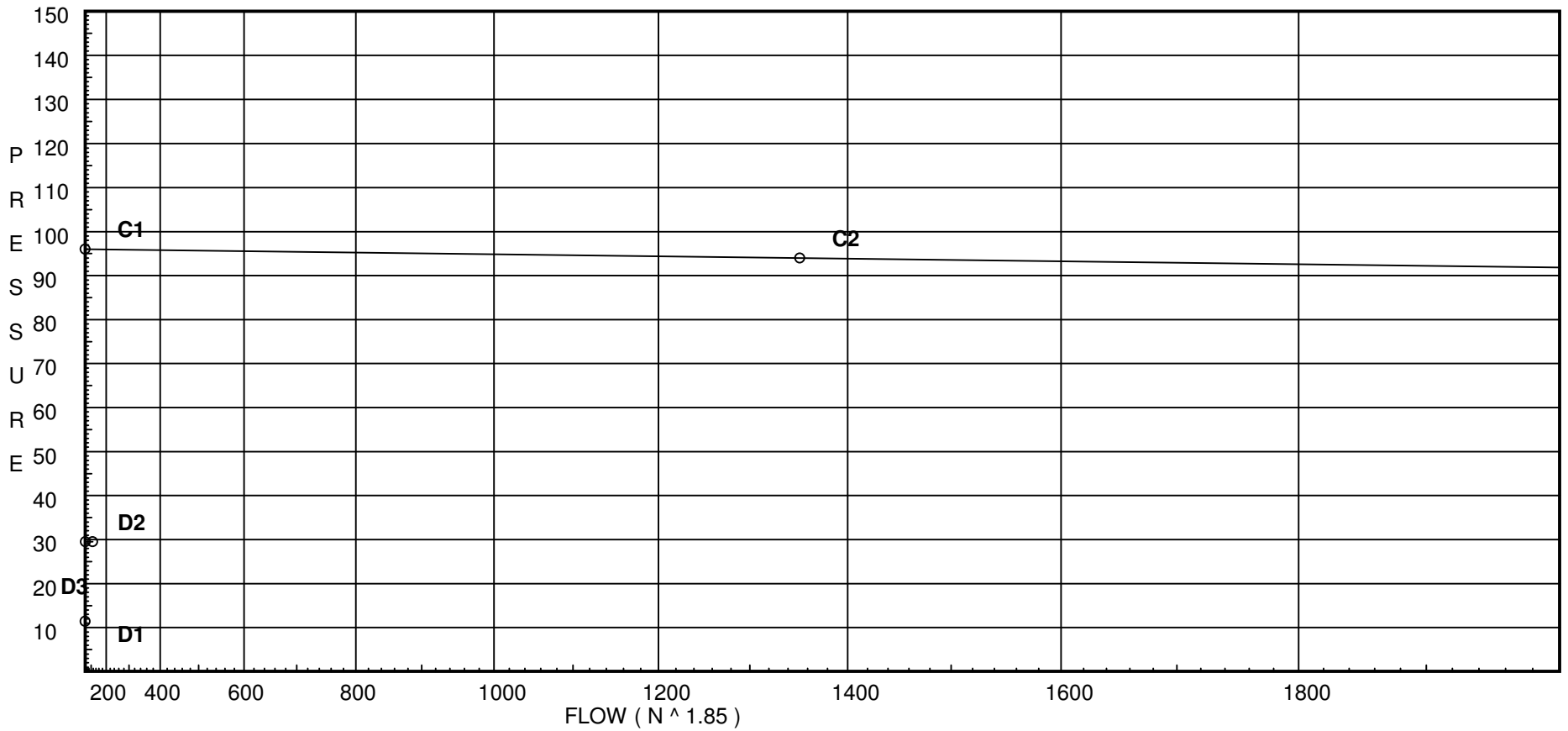
Horizontal Barriers Provided:

Water Supply Curve (C)

Residential Fire Protection
48 WILOT STREET APT

City Water Supply:
- C1 - Static Pressure : 96
- C2 - Residual Pressure: 94
- C2 - Residual Flow : 1352

Demand:
- D1 - Elevation : 11.425
- D2 - System Flow : 14.9
- D2 - System Pressure : 29.543
- Hose (Adj City) : _____
- Hose (Demand) : 100
- D3 - System Demand : 114.9
- Safety Margin : 66.436



Fittings Used Summary

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	90' Standard Elbow	2	2	2	3	4	5	6	7	8	10	12	14	18	22	27	35	40	45	50	61
G	Generic Gate Valve	0	0	0	0	0	1	1	1	1	2	2	3	4	5	6	7	8	10	11	13
S	Generic Swing Check Valve	4	5	5	7	9	11	14	16	19	22	27	32	45	55	65	76	87	98	109	130
T	90' Flow thru Tee	3	4	5	6	8	10	12	15	17	20	25	30	35	50	60	71	81	91	101	121
Z	Generic Flow Switch	2	2	2	3	4	5	6	7	8	10	12	14	18	22	27	35	40	45	50	61

Pressure / Flow Summary - STANDARD

Node No.	Elevation	K-Fact	Pt Actual	Pn	Flow Actual	Density	Area	Press Req.
100	125.38	5.6	7.08	na	14.9	0.1	149	7.0
101	125.38		10.16	na				
102	125.38		17.63	na				
57	98.62		29.23	na				
58	98.62		29.42	na				
59	98.62		29.48	na				
TOR	98.62		29.5	na				
BFP	94.62		31.28	na				
BOR	94.62		31.3	na				
TEST	99.0		29.54	na	100.0			

The maximum velocity is 5.53 and it occurs in the pipe between nodes 100 and 101

Final Calculations - Hazen-Williams

Residential Fire Protection
48 WILOT STREET APT

Hyd. Ref. Point	Qa Qt	Dia. "C" Pf/Ft	Fitting or Eqv.	Ln.	Pipe Ftng's Total	Pt Pe Pf	Pt Pv Pn	******* Notes ******
100	14.90	1.049	5E	10.0	30.750	7.079		K Factor = 5.60
to		120		0.0	10.000	0.0		
101	14.9	0.0755		0.0	40.750	3.077		Vel = 5.53
101	0.0	1.049	2T	10.0	76.040	10.156		
to		120	4E	8.0	23.000	0.0		
102	14.9	0.0755	1S	5.0	99.040	7.476		Vel = 5.53
102	0.0	1.61		0.0	0.580	17.632		
to		150		0.0	0.0	11.590		
57	14.9	0.0052		0.0	0.580	0.003		Vel = 2.35
57	0.0	1.61	1E	4.0	16.580	29.225		
to		120		0.0	4.000	0.0		
58	14.9	0.0094		0.0	20.580	0.193		Vel = 2.35
58	0.0	2.067	2E	10.0	13.960	29.418		
to		120		0.0	10.000	0.0		
59	14.9	0.0028		0.0	23.960	0.066		Vel = 1.42
59	0.0	2.067	1E	5.0	1.830	29.484		
to		120		0.0	5.000	0.0		
TOR	14.9	0.0028		0.0	6.830	0.019		Vel = 1.42
TOR	0.0	2.067	1Z	5.0	5.000	29.503		
to		120	1E	5.0	10.000	1.732		
BFP	14.9	0.0028		0.0	15.000	0.042		Vel = 1.42
BFP	0.0	2.067	1E	5.0	2.000	31.277		
to		120		0.0	5.000	0.0		
BOR	14.9	0.0029		0.0	7.000	0.020		Vel = 1.42
BOR	0.0	1.72	1G	0.617	25.000	31.297		
to		150	1T	6.174	6.792	-1.897		
TEST	14.9	0.0045		0.0	31.792	0.143		Vel = 2.06
	100.00							Qa = 100.00
	114.90					29.543		K Factor = 21.14