



**... Fire Protection by Computer Design**

DEAN AND ALLYN, INC.  
116 LEWISTON ROAD  
GRAY MAINE  
207 657 5646

Job Name : 30 PAMELA ROAD  
Building :  
Location : 30 PAMELA ROAD PORTLAND MAINE  
System :  
Contract : 1370  
Data File : 30 Pamela Drive.WXF

HYDRAULIC DESIGN INFORMATION SHEET

Name - 30 PAMELA ROAD Date - 9-14-16  
Location - 30 PAMELA ROAD PORTLAND MAINE  
Building - System No. -  
Contractor - DEAN AND ALLYN, INC. Contract No. - 1370  
Calculated By - H. KING Drawing No. - 1 OF 1  
Construction: (X) Combustible ( ) Non-Combustible Ceiling Height 8'  
OCCUPANCY - RESIDENCE

S Type of Calculation: ( )NFPA 13 Residential ( )NFPA 13R (X)NFPA 13D  
Y Number of Sprinklers Flowing: ( )1 (X)2 ( )4 ( )  
S ( )Other  
T ( )Specific Ruling Made by Date  
E  
M Listed Flow at Start Point - 13 Gpm System Type  
Listed Pres. at Start Point - 9.1 Psi (X) Wet ( ) Dry  
D MAXIMUM LISTED SPACING 16 x 16 ( ) Deluge ( ) PreAction  
E Domestic Flow Added - Gpm Sprinkler or Nozzle  
S Additional Flow Added - Gpm Make RELIABLE Model RFC43  
I Elevation at Highest Outlet - 10' Feet Size 7/16" K-Factor 4.3  
G Note:CUSHION 14.1 PSI Temperature Rating 155  
N

Calculation Gpm Required 26.3 Psi Required 45.4 At Test  
Summary C-Factor Used: Overhead 120 Underground 120

W Water Flow Test: Pump Data: Tank or Reservoir:  
A Date of Test - 1-20-16 Rated Cap. Cap.  
T Time of Test - @ Psi Elev.  
E Static (Psi) - 60 Elev.  
R Residual (Psi) - 55 Other Well  
Flow (Gpm) - 100 Proof Flow Gpm  
S Elevation - 0

P Location: ON PAMELA ROAD AT SITE

P  
L Source of Information: PWD STATIC PRESSURE READING ON AN 8" CITY MAIN  
Y

# Final Calculations - Hazen-Williams

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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	12.97	1.049		0.0	8.200	9.100				
to		120.0		0.0	0.0	0.0			K Factor = 4.30	
2	12.97	0.0584		0.0	8.200	0.479			Vel = 4.81	
2	13.31	1.049	E	2.0	13.500	9.579			K Factor = 4.30	
to		120.0		0.0	2.000	0.0				
10	26.28	0.2157		0.0	15.500	3.343			Vel = 9.76	
10	0.0	1.049	T	5.0	10.500	12.922				
to		120.0		0.0	5.000	0.0				
11	26.28	0.2157		0.0	15.500	3.343			Vel = 9.76	
11	0.0	1.049	E	2.0	9.000	16.265				
to		120.0		0.0	2.000	4.331				
12	26.28	0.2156		0.0	11.000	2.372			Vel = 9.76	
12	0.0	1.049	E	2.0	7.200	22.968				
to		120.0	T	5.0	7.000	0.0				
13	26.28	0.2156		0.0	14.200	3.062			Vel = 9.76	
13	0.0	1.049	T	5.0	14.800	26.030				
to		120.0		0.0	5.000	0.0				
14	26.28	0.2157		0.0	19.800	4.270			Vel = 9.76	
14	0.0	1.049	T	5.0	6.000	30.300				
to		120.0	E	2.0	7.000	0.0				
TR	26.28	0.2157		0.0	13.000	2.804			Vel = 9.76	
TR	0.0	1.049	S	5.0	8.000	33.104				
to		120.0		0.0	5.000	7.599			** Fixed Loss = 5	
FF	26.28	0.2156		0.0	13.000	2.803			Vel = 9.76	
FF	0.0	1.314	T	2.974	60.000	43.506				
to		120.0		0.0	2.974	-2.599				
CTY	26.28	0.0720		0.0	62.974	4.535			Vel = 6.22	
	0.0									
	26.28					45.442			K Factor = 3.90	

# Pressure / Flow Summary - STANDARD

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Node No.	Elevation	K-Fact	Pt Actual	Pn	Flow Actual	Density	Area	Press Req.
1	10.0	4.3	9.1	na	12.97	0.05	256	9.1
2	10.0	4.3	9.58	na	13.31	0.05	256	9.1
10	10.0		12.92	na				
11	10.0		16.26	na				
12	0.0		22.97	na				
13	0.0		26.03	na				
14	0.0		30.3	na				
TR	0.0		33.1	na				
FF	-6.0		43.51	na				
CTY	0.0		45.44	na				

The maximum velocity is 9.76 and it occurs in the pipe between nodes 2 and 10

# Water Supply Curve C

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City Water Supply:  
C1 - Static Pressure : 60  
C2 - Residual Pressure: 55  
C2 - Residual Flow : 100

Demand:  
D1 - Elevation : 4.331  
D2 - System Flow : 26.28  
D2 - System Pressure : 45.442  
Hose ( Demand ) : \_\_\_\_\_  
D3 - System Demand : 26.28  
Safety Margin : 14.136

