



24-030289-DFS-01-RS

Hydraulics Summary Sheet

Project Information

Calculation Date: 7/11/2024 10:49 AM

KAPPA RESIDENCE

8103 SW 54TH AVE
PORTLAND, OR 97219

contract #

system ID

drawing ref

building
construction
occupancy
authority**Contractor Information**

ATI PLUMBING INC

15630 S BRADLEY RD
97741

calculated by CDJ

telephone 503-969-4788

fax

email abspipeman@gmail.com

Hydraulics Criteriadensity .05 GPM/ft²remote area 512 ft²spr coverage 256 ft²

sprs flowing 2

system type WET
design std 2019 NFPA 13D
hazard RESIDENTIALfigure
curve**Flow Test**

static pressure 47.00 psi

residual pressure 20.00 psi

quantity flowing 1,300.0 GPM

date & time of flow test
6/11/2024location of flow test
VERMONT 562 GARDEN HOME☒ REVIEWED ☐ MAKE CORRECTIONS NOTED☐ NO EXCEPTION TAKEN ☐ REVISE AND RESUBMIT☐ REJECTED ☐ SUBMIT SPECIFIED ITEM ☐ RECORD ONLY

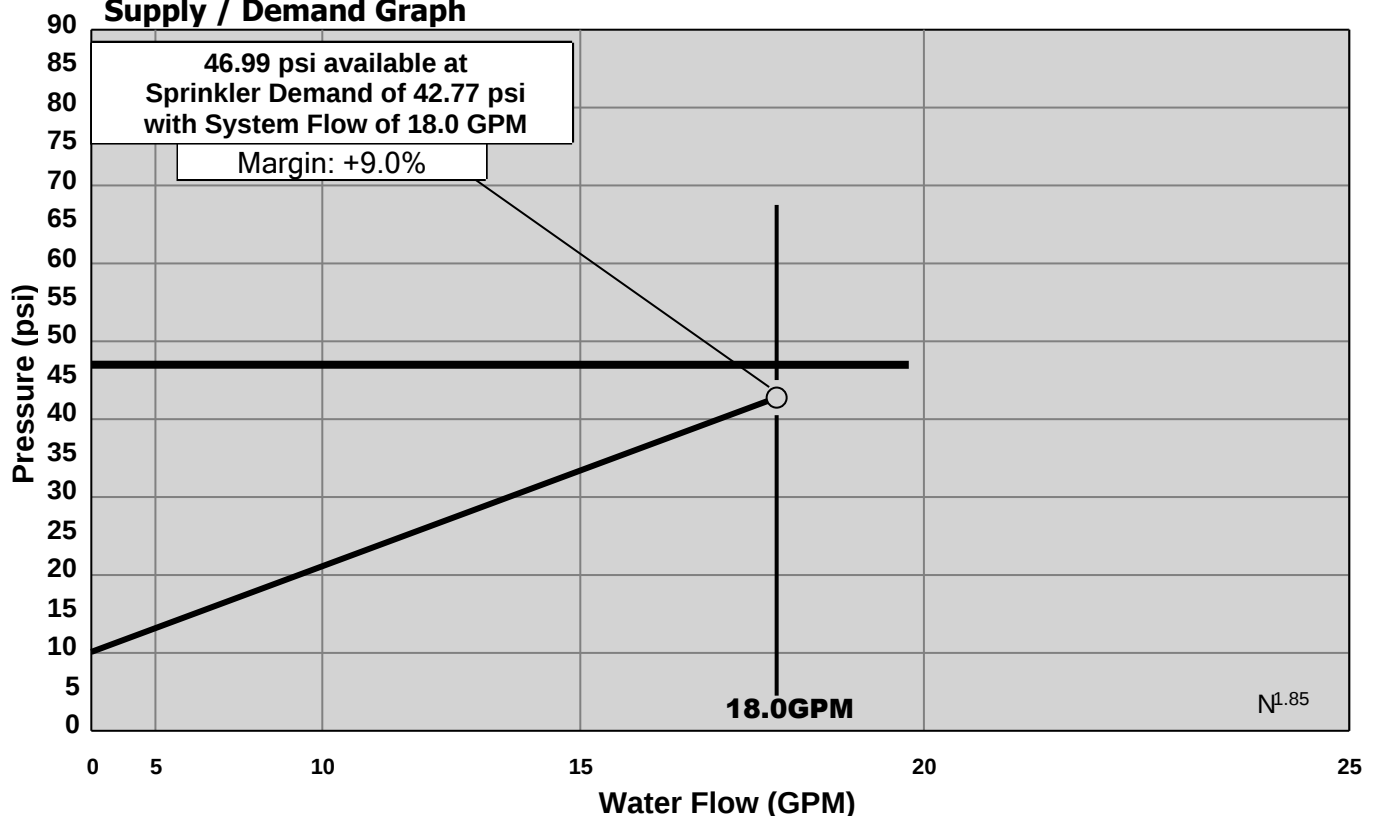
CHECKING IS ONLY FOR GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL CONFORMANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. ANY ACTION SHOWN IS SUBJECT TO THE REQUIREMENTS OF THE PLANS AND SPECIFICATIONS. CONTRACTOR IS RESPONSIBLE FOR: DIMENSIONS WHICH SHALL BE CONFIRMED AND CORRELATED AT THE JOB SITE; FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATION OF THE WORK WITH THAT OF ALL OTHER TRADES AND THE SATISFACTORY PERFORMANCE OF THE WORK.

PROJ # Kappa Res SECTION #
DATE 1/16/25 BY BEATE IOANIDE-CULI,

R&B ARCHITECTURE STUDIO

Sprinklers in Remote

No.	Mfgr	Mod	SIN#	Size	K
1	SENJU	RC-RES	SS8464	1/2"	4.90

Supply / Demand Graph

Supply Analysis

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Source Node	Static Pressure	Residual Pressure	Quantity Flowing	Pressure Available	Total System Flow	Total Pressure Required
Zero	47.00psi	20.00psi	1,300.0GPM	46.99psi	18.0GPM	42.77psi

Sprinkler Flow:	18.0GPM	Additional Flows:	None
Hose Flow at Zero:	None	Total System Flow:	18.0GPM

Maximum velocity in pipe 0-1 is 11.9 ft/sec

Nodes Analysis

Node	Elev ft	Device	K-	Minimum Flow GPM	Node Pressure psi	Actual Discharge GPM	Notes
12	23.37	Sprinkler	3.00	9.00	9.00	9.00	
11	23.37	Sprinkler	3.00	9.00	9.01	9.00	



Dashboard Hydraulics

Pipe Information

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From	Elev1 ft	$Q=k\sqrt{p}$	Pipe ID	Flows Added GPM	Inside Diameter in	Fittings	Length ft	C Value	Total (Pt)	psi	Notes
To	Elev2 ft		Type	Total			Fitting ft	Friction Loss psi/ft	Elev (Pe)	psi	
							Total ft		Frict (Pf)	psi	

4	0.00	3.8	1" FLAMEGUARD		1.1010	E	Len 9.3	C = 150	Pt 5)	17.027	
5	9.25		NR	18.0			Ftg 7.0		Pe	4.008	
							Total 16.3	0.05601	Pf	0.910	

Total Pressure at Node 4) 21.945 psi

8	23.37	3.0	1 1/2" FLAMEGUARD		1.5980	E	Len 8.2	C = 150	Pt 12)	9.000	
12	23.37		FM	9.0			Ftg 9.0		Pe	0.000	
							Total 17.2	0.00253	Pf	0.043	

Total Pressure at Node 8) 9.043 psi

8	23.37	3.0	1 1/2" FLAMEGUARD		1.5980	E	Len 5.8	C = 150	Pt 11)	9.006	
11	23.37		FM	9.0			Ftg 9.0		Pe	0.000	
							Total 14.8	0.00253	Pf	0.038	

7	22.08	5.7	1 1/2" FLAMEGUARD	9.0	1.5980	2E	Len 16.3	C = 150	Pt 8)	9.043	
8	23.37		FM	18.0			Ftg 18.0		Pe	0.560	
							Total 34.3	0.00913	Pf	0.313	

6	9.25	4.5	1 1/2" FLAMEGUARD		1.5980	E	Len 12.8	C = 150	Pt 7)	9.916	
7	22.08		FM	18.0			Ftg 9.0		Pe	5.561	
							Total 21.8	0.00913	Pf	0.199	

5	9.25	4.4	1 1/2" FLAMEGUARD		1.5980	8E	Len 76.1	C = 150	Pt 6)	15.676	
6	9.25		FM	18.0			Ftg 72.0		Pe	0.000	
							Total 148.1	0.00913	Pf	1.352	

Total Pressure at Node 5) 17.027 psi

3	0.00	3.8	1 1/2" FLAMEGUARD		1.5980	2E	Len 2.5	C = 150	Pt 4)	21.945	
4	0.00		FM	18.0			Ftg 18.0		Pe	0.000	
							Total 20.5	0.00913	Pf	0.187	

2	0.00	3.5	1" FLAMEGUARD		1.1010	E,DCVA	Len 2.0	C = 150	Pt 3)	22.132	Watts 1" Double Check Valve Assembly 007: Loss = 3.10
3	0.00		FR	18.0			Ftg 7.0		Pe	0.000	
							Total 9.0	0.05601	Pf	0.504	

1	-2.00	3.2	1 1/4" FLAMEGUARD		1.3940	E	Len 276.0	C = 150	Pt 2)	25.732	Finish Floor Node (2)
2	0.00		UN2	18.0			Ftg 8.0		Pe	0.867	
							Total 284.0	0.01775	Pf	5.041	

0	-2.00	2.8	3/4" Type L		0.7850	T,RFM	Len 22.3	C = 150	Pt 1)	31.639	Hersey 3/4" Residential Fire Meter Model RFM30: Loss = 2.90
1	-2.00		UN	18.0			Ftg 6.0		Pe	0.000	
							Total 28.3	0.29091	Pf	8.230	

Total Pressure at Node 0) 42.768 psi