

LOS ANGELES COUNTY FIRE DEPARTMENT
LA COUNTY FIRE STATION 46 - FIRE CALCS
Fire Sprinkler Reports

for

FIRE STATION 46

26720 Bombero Lane
Valencia, CA 91381

Prepared By:

JK

Khalifeh & Associates
1625 W Olympic Blvd #791
Los Angeles, CA 90015
3103051555
12/18/25

ADDENDUM #2 - APRIL 24, 2026



General Project Data Report

General Data

Project Title:	LA COUNTY FIRE STATION 46 - FIRE CALCS	Project File Name:	FIRE STATION 46 - AREA 1..fiw
Designed By:	JK	Date:	12/18/25
Code Reference:	NFPA 13	Approving Agency:	
Client Name:	FIRE STATION 46	Phone:	
Address:	26720 Bombero Lane	City, State Zip Code:	Valencia, CA 91381
Company Name:	Khalifeh & Associates	Representative:	Jack Khalifeh
Company Address:	1625 W Olympic Blvd #791	City And State:	Los Angeles, CA 90015
Phone:	3103051555		
Building Name:	FIRE STATION 46	Building Owner:	Newhall Land
Contact at Building:	David Wong	Phone at Building:	
Address Of Building:	26720 Bombero Lane	City, State Zip Code:	Valencia, CA 91381

Project Data

Description Of Hazard:	Ordinary 2	Sprinkler System Type:	Wet
Design Area Of Water Application:	1950 ft ²	Maximum Area Per Sprinkler:	130 ft ²
Default Sprinkler K-Factor:	5.60 K	Default Pipe Material:	SCHED 40 WET STEEL
Inside Hose Stream Allowance:	0.00 gpm	Outside Hose Stream Allowance:	0.00 gpm
In Rack Sprinkler Allowance:	0.00 gpm		

Sprinkler Specifications

Make:	VIKING	Model:	VK300
Size:	1/2"	Temperature Rating:	155 F

Water Supply Test Data

Source Of Information:	SANTA CLARITA WATER AGENCY		
Test Hydrant ID:	V-ZONE IIA-N(1441)	Date Of Test:	4/16/2025
Hydrant Elevation:	1263 ft	Static Pressure:	77.10 psi
Test Flow Rate:	4855.00 gpm	Test Residual Pressure:	67.90 psi
Calculated System Flow Rate:	838.21 gpm	Calculated Inflow Residual Pressure:	65.08 psi
Available Residual Pressure At System Flow:	76.74 psi		

Calculation Project Data

Calculation Mode:	Demand		
HMD Minimum Residual Pressure:	7.05 psi	Minimum Desired Flow Density:	0.20 gpm/ft ²
Number Of Active Nodes:	38		
Number Of Active Pipes:	37	Number Of Inactive Pipes:	0
Number Of Active Sprinklers:	20	Number Of Inactive Sprinklers:	0

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Fire Sprinkler Input Data

Node Input Data

Node No.	Node Description Branch Description	Area Group Branch Dia. (in)	Sprinkler KFactor (K) Branch Len. (ft)	Pressure Estimate (psi) Branch Std Fittings	Node Elev (ft) Branch Non- Std Fittings (ft)	Non-Sprinkler Flow (gpm) Branch Sprk KFactor (K)
1	Sprinkler ----	---- 0.000	8.00 0.0	9.55 ----	1294.00 0.0	0.00 0.00
2	Sprinkler ----	---- 0.000	8.00 0.0	10.15 ----	1294.00 0.0	0.00 0.00
3	Sprinkler ----	---- 0.000	8.00 0.0	12.41 ----	1294.00 0.0	0.00 0.00
4	Sprinkler ----	---- 0.000	8.00 0.0	17.55 ----	1294.00 0.0	0.00 0.00
5	Sprinkler ----	---- 0.000	8.00 0.0	21.07 ----	1294.00 0.0	0.00 0.00
6	Sprinkler ----	---- 0.000	8.00 0.0	9.00 ----	1298.00 0.0	0.00 0.00
7	Sprinkler ----	---- 0.000	8.00 0.0	9.58 ----	1298.00 0.0	0.00 0.00
8	Sprinkler ----	---- 0.000	8.00 0.0	11.71 ----	1298.00 0.0	0.00 0.00
9	Sprinkler ----	---- 0.000	8.00 0.0	16.59 ----	1298.00 0.0	0.00 0.00
10	Sprinkler ----	---- 0.000	8.00 0.0	19.92 ----	1298.00 0.0	0.00 0.00
11	Sprinkler ----	---- 0.000	8.00 0.0	9.06 ----	1298.00 0.0	0.00 0.00
12	Sprinkler ----	---- 0.000	8.00 0.0	9.64 ----	1298.00 0.0	0.00 0.00
13	Sprinkler ----	---- 0.000	8.00 0.0	11.79 ----	1298.00 0.0	0.00 0.00
14	Sprinkler ----	---- 0.000	8.00 0.0	16.69 ----	1298.00 0.0	0.00 0.00
15	Sprinkler ----	---- 0.000	8.00 0.0	20.04 ----	1298.00 0.0	0.00 0.00
16	Sprinkler ----	---- 0.000	8.00 0.0	9.76 ----	1294.00 0.0	0.00 0.00
17	Sprinkler ----	---- 0.000	8.00 0.0	10.38 ----	1294.00 0.0	0.00 0.00
18	Sprinkler ----	---- 0.000	8.00 0.0	12.69 ----	1294.00 0.0	0.00 0.00

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Fire Sprinkler Input Data

Node Input Data (cont'd)

Node No.	Node Description Branch Description	Area Group Branch Dia. (in)	Sprinkler KFactor (K) Branch Len. (ft)	Pressure Estimate (psi) Branch Std Fittings	Node Elev (ft) Branch Non- Std Fittings (ft)	Non-Sprinkler Flow (gpm) Branch Sprk KFactor (K)
19	Sprinkler ----	---- 0.000	8.00 0.0	17.94 ----	1294.00 0.0	0.00 0.00
20	Sprinkler ----	---- 0.000	8.00 0.0	21.53 ----	1294.00 0.0	0.00 0.00
100	No Discharge ----	---- 0.000	N/A 0.0	28.80 ----	1294.00 0.0	0.00 0.00
101	No Discharge ----	---- 0.000	N/A 0.0	27.25 ----	1298.00 0.0	0.00 0.00
102	No Discharge ----	---- 0.000	N/A 0.0	27.42 ----	1298.00 0.0	0.00 0.00
103	No Discharge ----	---- 0.000	N/A 0.0	29.42 ----	1294.00 0.0	0.00 0.00
120	No Discharge ----	---- 0.000	N/A 0.0	32.02 ----	1292.00 0.0	0.00 0.00
121	No Discharge ----	---- 0.000	N/A 0.0	32.08 ----	1292.00 0.0	0.00 0.00
122	No Discharge ----	---- 0.000	N/A 0.0	32.26 ----	1292.00 0.0	0.00 0.00
123	No Discharge ----	---- 0.000	N/A 0.0	32.68 ----	1292.00 0.0	0.00 0.00
150	No Discharge ----	---- 0.000	N/A 0.0	32.94 ----	1292.00 0.0	0.00 0.00
155	No Discharge ----	---- 0.000	N/A 0.0	42.26 ----	1279.00 0.0	0.00 0.00
160	No Discharge ----	---- 0.000	N/A 0.0	46.03 ----	1279.00 0.0	0.00 0.00
200	No Discharge ----	---- 0.000	N/A 0.0	55.43 ----	1267.00 0.0	0.00 0.00
310	No Discharge ----	---- 0.000	N/A 0.0	58.11 ----	1261.00 0.0	0.00 0.00
320	No Discharge ----	---- 0.000	N/A 0.0	58.42 ----	1261.00 0.0	0.00 0.00
325	No Discharge ----	---- 0.000	N/A 0.0	56.33 ----	1266.00 0.0	0.00 0.00
330	No Discharge ----	---- 0.000	N/A 0.0	62.33 ----	1266.00 0.0	0.00 0.00
335	No Discharge ----	---- 0.000	N/A 0.0	64.58 ----	1261.00 0.0	0.00 0.00

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Fire Sprinkler Input Data

Node Input Data (cont'd)

Node No.	Node Description Branch Description	Area Group Branch Dia. (in)	Sprinkler KFactor (K) Branch Len. (ft)	Pressure Estimate (psi) Branch Std Fittings	Node Elev (ft) Branch Non- Std Fittings (ft)	Non-Sprinkler Flow (gpm) Branch Sprk KFactor (K)
340	No Discharge ----	---- 0.000	N/A 0.0	65.08 ----	1261.00 0.0	0.00 0.00

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Fire Sprinkler Input Data

Pipe Input Data

Beg. Node	End. Node	Pipe Description	Nominal Diameter (inch)	Type Group	Fitting Data	Nominal Length (feet)	Fitting Length (feet)	Total Length (feet)	CFactor (gpm/inch-psi)
1	2	SCHED 40 WET STEEL	1.250	0		12.00	0.00	12.00	120
2	3	SCHED 40 WET STEEL	1.250	0		12.00	0.00	12.00	120
3	4	SCHED 40 WET STEEL	1.250	0		12.00	0.00	12.00	120
4	5	SCHED 40 WET STEEL	1.500	0		9.00	0.00	9.00	120
5	100	SCHED 40 WET STEEL	2.000	0	T	29.50	10.00	39.50	120
6	7	SCHED 40 WET STEEL	1.250	0		12.00	0.00	12.00	120
7	8	SCHED 40 WET STEEL	1.250	0		12.00	0.00	12.00	120
8	9	SCHED 40 WET STEEL	1.250	0		12.00	0.00	12.00	120
9	10	SCHED 40 WET STEEL	1.500	0		9.00	0.00	9.00	120
10	101	SCHED 40 WET STEEL	2.000	0	T	29.50	10.00	39.50	120
11	12	SCHED 40 WET STEEL	1.250	0		12.00	0.00	12.00	120
12	13	SCHED 40 WET STEEL	1.250	0		12.00	0.00	12.00	120
13	14	SCHED 40 WET STEEL	1.250	0		12.00	0.00	12.00	120
14	15	SCHED 40 WET STEEL	1.500	0		9.00	0.00	9.00	120
15	102	SCHED 40 WET STEEL	2.000	0	T	29.50	10.00	39.50	120
16	17	SCHED 40 WET STEEL	1.250	0		12.00	0.00	12.00	120
17	18	SCHED 40 WET STEEL	1.250	0		12.00	0.00	12.00	120
18	19	SCHED 40 WET STEEL	1.250	0		12.00	0.00	12.00	120
19	20	SCHED 40 WET STEEL	1.500	0		9.00	0.00	9.00	120
20	103	SCHED 40 WET STEEL	2.000	0	T	29.50	10.00	39.50	120
100	120	SCHED 40 WET STEEL	2.000	0	T	2.00	10.00	12.00	120
101	121	SCHED 40 WET STEEL	2.000	0	T	2.00	10.00	12.00	120
102	122	SCHED 40 WET STEEL	2.000	0	T	2.00	10.00	12.00	120
103	123	SCHED 40 WET STEEL	2.000	0	T	2.00	10.00	12.00	120
120	121	SCHED 10 WET STEEL	4.000	0		10.00	0.00	10.00	120
121	122	SCHED 10 WET STEEL	4.000	0		8.90	0.00	8.90	120
122	123	SCHED 10 WET STEEL	4.000	0		10.00	0.00	10.00	120
123	150	SCHED 10 WET STEEL	4.000	0		3.50	0.00	3.50	120



Fire Sprinkler Input Data

Pipe Input Data (cont'd)

Beg. Node	End. Node	Pipe Description	Nominal Diameter (inch)	Type Group	Fitting Data	Nominal Length (feet)	Fitting Length (feet)	Total Length (feet)	CFactor (gpm/inch-psi)
150	155	SCHED 10 WET STEEL	4.000	0	ET	11.00	39.00	50.00	120
155	160	SCHED 10 WET STEEL	4.000	0	2E	25.20	26.00	51.20	120
160	200	SCHED 10 WET STEEL	4.000	0	EGC	12.00	45.00	57.00	120
200	310	C900 PVC	8.000	0	E	22.00	24.20	46.20	150
310	320	C900 PVC	8.000	0	2E	112.00	48.40	160.40	150
320	325	SCHED 40 WET STEEL	8.000	0	E	5.00	18.00	23.00	120
325	330	Backflo Prev	6.000	Loss					
330	335	SCHED 40 WET STEEL	8.000	0	E	5.00	18.00	23.00	120
335	340	C900 PVC	8.000	0	3E3TG	26.00	234.87	260.87	150

Fitting Legend: F = 45 Degree Elbow, E = 90 Degree Elbow, L = Long Turn Elbow, T = Tee or Cross, B = Butterfly Valve, G = Gate Valve, C = Check Valve

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Fire Sprinkler Output Data

Overall Pipe Output Data

Beg. End. Node	Nodal KFactor (K)	Elevation (feet)	Spk/Hose Discharge (gpm)	Residual Pressure (psi)	Nom. Dia. Inside Dia. C-Value	q (gpm) Q (gpm) Velocity (fps)	F. L./ft (psi/ft) Fittings Type-Grp	Pipe-Len. Fit-Len. Tot-Len. (ft)	PF-(psi) PE-(psi) PT-(psi)
1	8.00	1294.00	24.72	9.55	1.25	24.72	0.05066	12.00	0.608
2	8.00	1294.00	25.49	10.15	1.380	24.72	-----	0.00	0.000
	SCHED 40 WET STEEL				120	5.30	0	12.00	0.608
2	8.00	1294.00	25.49	10.15	1.25	25.49	0.18799	12.00	2.256
3	8.00	1294.00	28.18	12.41	1.380	50.21	-----	0.00	0.000
	SCHED 40 WET STEEL				120	10.77	0	12.00	2.256
3	8.00	1294.00	28.18	12.41	1.25	28.18	0.42865	12.00	5.144
4	8.00	1294.00	33.52	17.55	1.380	78.39	-----	0.00	0.000
	SCHED 40 WET STEEL				120	16.82	0	12.00	5.144
4	8.00	1294.00	33.52	17.55	1.50	33.52	0.39093	9.00	3.518
5	8.00	1294.00	36.72	21.07	1.610	111.91	-----	0.00	0.000
	SCHED 40 WET STEEL				120	17.64	0	9.00	3.518
6	8.00	1298.00	24.00	9.00	1.25	24.00	0.04798	12.00	0.576
7	8.00	1298.00	24.76	9.58	1.380	24.00	-----	0.00	0.000
	SCHED 40 WET STEEL				120	5.15	0	12.00	0.576
7	8.00	1298.00	24.76	9.58	1.25	24.76	0.17804	12.00	2.137
8	8.00	1298.00	27.38	11.71	1.380	48.76	-----	0.00	0.000
	SCHED 40 WET STEEL				120	10.46	0	12.00	2.137
8	8.00	1298.00	27.38	11.71	1.25	27.38	0.40609	12.00	4.873
9	8.00	1298.00	32.58	16.59	1.380	76.13	-----	0.00	0.000
	SCHED 40 WET STEEL				120	16.33	0	12.00	4.873
9	8.00	1298.00	32.58	16.59	1.50	32.58	0.37053	9.00	3.335
10	8.00	1298.00	35.71	19.92	1.610	108.71	-----	0.00	0.000
	SCHED 40 WET STEEL				120	17.13	0	9.00	3.335
11	8.00	1298.00	24.08	9.06	1.25	24.08	0.04827	12.00	0.579
12	8.00	1298.00	24.84	9.64	1.380	24.08	-----	0.00	0.000
	SCHED 40 WET STEEL				120	5.16	0	12.00	0.579
12	8.00	1298.00	24.84	9.64	1.25	24.84	0.17912	12.00	2.149
13	8.00	1298.00	27.47	11.79	1.380	48.91	-----	0.00	0.000
	SCHED 40 WET STEEL				120	10.49	0	12.00	2.149
13	8.00	1298.00	27.47	11.79	1.25	27.47	0.40853	12.00	4.902
14	8.00	1298.00	32.68	16.69	1.380	76.38	-----	0.00	0.000
	SCHED 40 WET STEEL				120	16.38	0	12.00	4.902
14	8.00	1298.00	32.68	16.69	1.50	32.68	0.37273	9.00	3.355
15	8.00	1298.00	35.82	20.04	1.610	109.06	-----	0.00	0.000
	SCHED 40 WET STEEL				120	17.19	0	9.00	3.355
16	8.00	1294.00	25.00	9.76	1.25	25.00	0.05173	12.00	0.621
17	8.00	1294.00	25.78	10.38	1.380	25.00	-----	0.00	0.000
	SCHED 40 WET STEEL				120	5.36	0	12.00	0.621

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Fire Sprinkler Output Data

Overall Pipe Output Data (cont'd)

Beg. End. Node	Nodal KFactor (K)	Elevation (feet)	Spk/Hose Discharge (gpm)	Residual Pressure (psi)	Nom. Dia. Inside Dia. C-Value	q (gpm) Q (gpm) Velocity (fps)	F. L./ft (psi/ft) Fittings Type-Grp	Pipe-Len. Fit-Len. Tot-Len. (ft)	PF-(psi) PE-(psi) PT-(psi)
17	8.00	1294.00	25.78	10.38	1.25	25.78	0.19194	12.00	2.303
18	8.00	1294.00	28.50	12.69	1.380	50.78	-----	0.00	0.000
	SCHED 40 WET STEEL				120	10.89	0	12.00	2.303
18	8.00	1294.00	28.50	12.69	1.25	28.50	0.43761	12.00	5.251
19	8.00	1294.00	33.88	17.94	1.380	79.27	-----	0.00	0.000
	SCHED 40 WET STEEL				120	17.00	0	12.00	5.251
19	8.00	1294.00	33.88	17.94	1.50	33.88	0.39903	9.00	3.591
20	8.00	1294.00	37.12	21.53	1.610	113.16	-----	0.00	0.000
	SCHED 40 WET STEEL				120	17.83	0	9.00	3.591
5	8.00	1294.00	36.72	21.07	2.00	36.72	0.19573	29.50	7.731
100	0.00	1294.00	0.00	28.80	2.067	148.63	T	10.00	0.000
	SCHED 40 WET STEEL				120	14.21	0	39.50	7.731
10	8.00	1298.00	35.71	19.92	2.00	35.71	0.18559	29.50	7.331
101	0.00	1298.00	0.00	27.25	2.067	144.42	T	10.00	0.000
	SCHED 40 WET STEEL				120	13.81	0	39.50	7.331
15	8.00	1298.00	35.82	20.04	2.00	35.82	0.18669	29.50	7.374
102	0.00	1298.00	0.00	27.42	2.067	144.88	T	10.00	0.000
	SCHED 40 WET STEEL				120	13.85	0	39.50	7.374
20	8.00	1294.00	37.12	21.53	2.00	37.12	0.19976	29.50	7.890
103	0.00	1294.00	0.00	29.42	2.067	150.28	T	10.00	0.000
	SCHED 40 WET STEEL				120	14.37	0	39.50	7.890
100	0.00	1294.00	0.00	28.80	2.00	0.00	0.19573	2.00	2.349
120	0.00	1292.00	0.00	32.02	2.067	148.63	T	10.00	0.866
	SCHED 40 WET STEEL				120	14.21	0	12.00	3.215
101	0.00	1298.00	0.00	27.25	2.00	0.00	0.18559	2.00	2.227
121	0.00	1292.00	0.00	32.08	2.067	144.42	T	10.00	2.598
	SCHED 40 WET STEEL				120	13.81	0	12.00	4.825
120	0.00	1292.00	0.00	32.02	4.00	0.00	0.00578	10.00	0.058
121	0.00	1292.00	0.00	32.08	4.260	148.63	-----	0.00	0.000
	SCHED 10 WET STEEL				120	3.35	0	10.00	0.058
102	0.00	1298.00	0.00	27.42	2.00	0.00	0.18669	2.00	2.240
122	0.00	1292.00	0.00	32.26	2.067	144.88	T	10.00	2.598
	SCHED 40 WET STEEL				120	13.85	0	12.00	4.838
121	0.00	1292.00	0.00	32.08	4.00	0.00	0.02031	8.90	0.181
122	0.00	1292.00	0.00	32.26	4.260	293.05	-----	0.00	0.000
	SCHED 10 WET STEEL				120	6.60	0	8.90	0.181
103	0.00	1294.00	0.00	29.42	2.00	0.00	0.19976	2.00	2.397
123	0.00	1292.00	0.00	32.68	2.067	150.28	T	10.00	0.866
	SCHED 40 WET STEEL				120	14.37	0	12.00	3.263

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Fire Sprinkler Output Data

Overall Pipe Output Data (cont'd)

Beg. End. Node	Nodal KFactor (K)	Elevation (feet)	Spk/Hose Discharge (gpm)	Residual Pressure (psi)	Nom. Dia. Inside Dia. C-Value	q (gpm) Q (gpm) Velocity (fps)	F. L./ft (psi/ft) Fittings Type-Grp	Pipe-Len. Fit-Len. Tot-Len. (ft)	PF-(psi) PE-(psi) PT-(psi)
122	0.00	1292.00	0.00	32.26	4.00	0.00	0.04270	10.00	0.427
123	0.00	1292.00	0.00	32.68	4.260	437.93	-----	0.00	0.000
SCHD 10 WET STEEL					120	9.86	0	10.00	0.427
123	0.00	1292.00	0.00	32.68	4.00	0.00	0.07370	3.50	0.258
150	0.00	1292.00	0.00	32.94	4.260	588.21	-----	0.00	0.000
SCHD 10 WET STEEL					120	13.24	0	3.50	0.258
150	0.00	1292.00	0.00	32.94	4.00	0.00	0.07370	11.00	3.685
155	0.00	1279.00	0.00	42.26	4.260	588.21	ET	39.00	5.629
SCHD 10 WET STEEL					120	13.24	0	50.00	9.314
155	0.00	1279.00	0.00	42.26	4.00	0.00	0.07370	25.20	3.773
160	0.00	1279.00	0.00	46.03	4.260	588.21	2E	26.00	0.000
SCHD 10 WET STEEL					120	13.24	0	51.20	3.773
160	0.00	1279.00	0.00	46.03	4.00	0.00	0.07370	12.00	4.201
200	0.00	1267.00	0.00	55.43	4.260	588.21	EGC	45.00	5.196
SCHD 10 WET STEEL					120	13.24	0	57.00	9.397
200	0.00	1267.00	0.00	55.43	8.00	0.00	0.00192	22.00	0.089
310	0.00	1261.00	0.00	58.11	8.280	588.21	E	24.20	2.598
C900 PVC					150	3.50	0	46.20	2.687
310	0.00	1261.00	0.00	58.11	8.00	0.00	0.00192	112.00	0.307
320	0.00	1261.00	0.00	58.42	8.280	588.21	2E	48.40	0.000
C900 PVC					150	3.50	0	160.40	0.307
320	0.00	1261.00	0.00	58.42	8.00	0.00	0.00346	5.00	0.080
325	0.00	1266.00	0.00	56.33	7.981	588.21	E	18.00	-2.165
SCHD 40 WET STEEL					120	3.77	0	23.00	-2.085
325	Backflo Prev	1266.00		56.33		588.21			
330	6.00 psi	1266.00		62.33					
330	0.00	1266.00	0.00	62.33	8.00	0.00	0.00346	5.00	0.080
335	0.00	1261.00	0.00	64.58	7.981	588.21	E	18.00	2.165
SCHD 40 WET STEEL					120	3.77	0	23.00	2.245
335	0.00	1261.00	0.00	64.58	8.00	0.00	0.00192	26.00	0.500
340	0.00	1261.00	0.00	65.08	8.280	588.21	3E3TG	234.87	0.000
C900 PVC					150	3.50	0	260.87	0.500

Fitting Legend: F = 45 Degree Elbow, E = 90 Degree Elbow, L = Long Turn Elbow, T = Tee or Cross, B = Butterfly Valve, G = Gate Valve, C = Check Valve

ADDENDUM #2 - APRIL 24, 2026



Fire Sprinkler Output Data

Overall Sprinkler Output Data

Flowing Sprinkler Node No.	Area Group Code	Sprinkler KFactor (K)	Sprinkler Elevation (feet)	Residual Pressure (psi)	Flowing Area (ft²)	Flowing Density (gpm/ft²)	Sprinkler Discharge (gpm)
1		8.00	1294.00	9.55	120.00	0.206	24.72
Sub Totals For Non-Group					120.00	0.206	24.72
2		8.00	1294.00	10.15	120.00	0.212	25.49
Sub Totals For Non-Group					120.00	0.212	25.49
3		8.00	1294.00	12.41	120.00	0.235	28.18
Sub Totals For Non-Group					120.00	0.235	28.18
4		8.00	1294.00	17.55	120.00	0.279	33.52
Sub Totals For Non-Group					120.00	0.279	33.52
5		8.00	1294.00	21.07	120.00	0.306	36.72
Sub Totals For Non-Group					120.00	0.306	36.72
6		8.00	1298.00	9.00	120.00	0.200	24.00
Sub Totals For Non-Group					120.00	0.200	24.00
7		8.00	1298.00	9.58	120.00	0.206	24.76
Sub Totals For Non-Group					120.00	0.206	24.76
8		8.00	1298.00	11.71	120.00	0.228	27.38
Sub Totals For Non-Group					120.00	0.228	27.38
9		8.00	1298.00	16.59	120.00	0.272	32.58
Sub Totals For Non-Group					120.00	0.272	32.58
10		8.00	1298.00	19.92	120.00	0.298	35.71
Sub Totals For Non-Group					120.00	0.298	35.71
11		8.00	1298.00	9.06	120.00	0.201	24.08
Sub Totals For Non-Group					120.00	0.201	24.08
12		8.00	1298.00	9.64	120.00	0.207	24.84
Sub Totals For Non-Group					120.00	0.207	24.84
13		8.00	1298.00	11.79	120.00	0.229	27.47
Sub Totals For Non-Group					120.00	0.229	27.47
14		8.00	1298.00	16.69	120.00	0.272	32.68
Sub Totals For Non-Group					120.00	0.272	32.68
15		8.00	1298.00	20.04	120.00	0.298	35.82
Sub Totals For Non-Group					120.00	0.298	35.82
16		8.00	1294.00	9.76	120.00	0.208	25.00
Sub Totals For Non-Group					120.00	0.208	25.00
17		8.00	1294.00	10.38	120.00	0.215	25.78
Sub Totals For Non-Group					120.00	0.215	25.78
18		8.00	1294.00	12.69	120.00	0.237	28.50
Sub Totals For Non-Group					120.00	0.237	28.50
19		8.00	1294.00	17.94	120.00	0.282	33.88
Sub Totals For Non-Group					120.00	0.282	33.88

ADDENDUM #2 - APRIL 24, 2026



Fire Sprinkler Output Data

Overall Sprinkler Output Data (cont'd)

Flowing Sprinkler Node No.	Area Group Code	Sprinkler KFactor (K)	Sprinkler Elevation (feet)	Residual Pressure (psi)	Flowing Area (ft²)	Flowing Density (gpm/ft²)	Sprinkler Discharge (gpm)
20		8.00	1294.00	21.53	120.00	0.309	37.12
Sub Totals For Non-Group					120.00	0.309	37.12
Totals For All Groups					2400.00	0.245	588.21

ADDENDUM #2 - APRIL 24, 2026



Fire Sprinkler Output Summary

Hydraulically Most Demanding Sprinkler Node

HMD Sprinkler Node Number: 6
HMD Actual Residual Pressure: 9.00 psi
HMD Actual Flow: 24.00 gpm

Sprinkler Summary

Sprinkler System Type: Wet
Specified Area Of Application: 1950.00 ft²
Minimum Desired Density: 0.200 gpm/ft²
Application Average Density: 0.302 gpm/ft²
Application Average Area Per Sprinkler: 97.50 ft²
Sprinkler Flow: 588.21 gpm
Average Sprinkler Flow: 29.41 gpm

Flow Velocity And Imbalance Summary

Maximum Flow Velocity (In Pipe 19 - 20) 17.83 ft/sec
Maximum Velocity Pressure (In Pipe 19 - 20) 2.14 psi
Allowable Maximum Nodal Pressure Imbalance: 0.0001 psi
Actual Maximum Nodal Pressure Imbalance: 0.0001 psi
Actual Average Nodal Pressure Imbalance: 0.0000 psi
Actual Maximum Nodal Flow Imbalance: -0.0033 gpm
Actual Average Nodal Flow Imbalance: 0.0002 gpm

Overall Network Summary

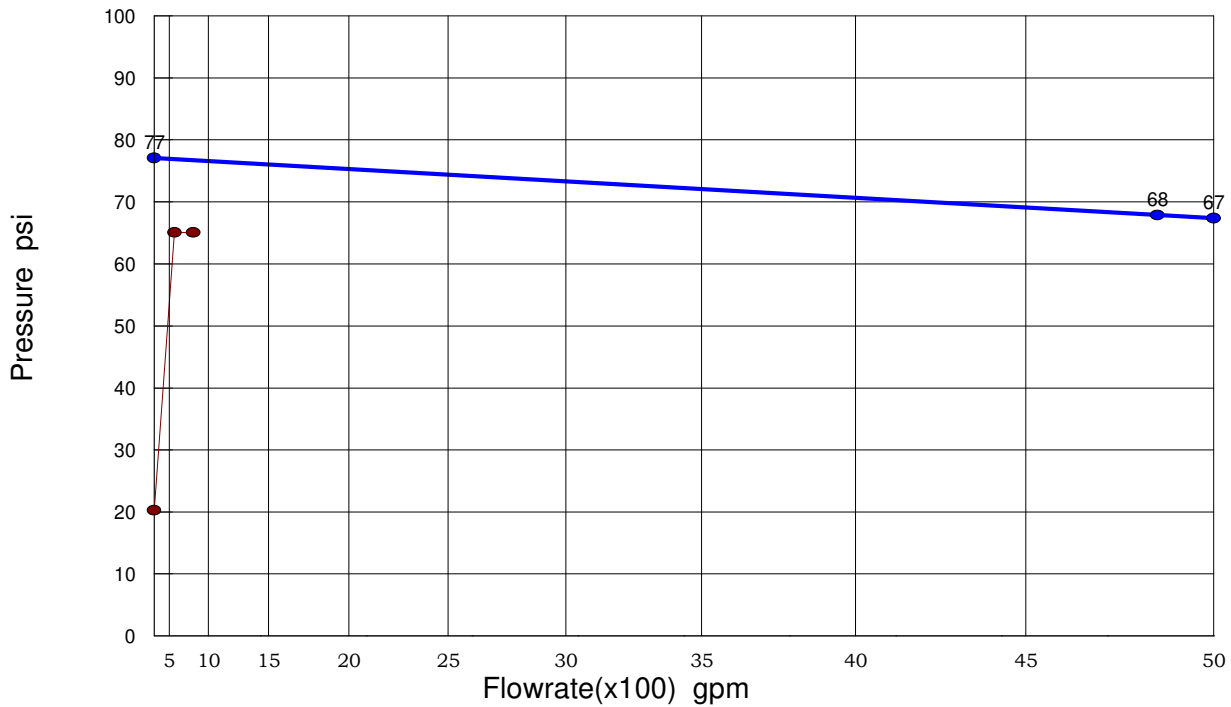
Number Of Unique Pipe Sections: 37
Number Of Flowing Sprinklers: 20
Pipe System Water Volume: 570.17 gal
Sprinkler Flow: 588.21 gpm
Non-Sprinkler Flow: 0.00 gpm
Demand Flow Excluding Exterior Hose Flow: 588.21 gpm
Exterior Hose Flow: 250.00 gpm
Minimum Required Residual Pressure At System Inflow Node: 65.08 psi
Demand Flow At System Inflow Node: 838.21 gpm

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Fire Sprinkler Output Data

Hydraulic Supply/Demand Graph



Supply Curve Data

Static Pressure: 77.1 psi
Test Residual Pressure: 67.9 psi
Test Flow Rate: 4855 gpm

Demand Curve Data

Calculated Residual Pressure: 65.08 psi
Calculated Flow Rate: 838.21 gpm
Exterior Hose Flow: 250.00 gpm
Excess Available Residual Pressure At Calculated Flow: 11.66 psi
Pressure Required For First Sprinkler Downstream From Inflow Node To Flow: 20.29 psi

LA COUNTY FIRE STATION 46 - FIRE CALCS

Fire Sprinkler Reports

for

FIRE STATION 46

26720 Bombero Lane
Valencia, CA 91381

Prepared By:

JK

Khalifeh & Associates
1625 W Olympic Blvd #791
Los Angeles, CA 90015
3103051555
12/18/25

ADDENDUM #2 - APRIL 24, 2026



General Project Data Report

General Data

Project Title:	LA COUNTY FIRE STATION 46 - FIRE CALCS	Project File Name:	FIRE STATION 46 - AREA 2..fiw
Designed By:	JK	Date:	12/18/25
Code Reference:	NFPA 13	Approving Agency:	
Client Name:	FIRE STATION 46	Phone:	
Address:	26720 Bombero Lane	City, State Zip Code:	Valencia, CA 91381
Company Name:	Khalifeh & Associates	Representative:	Jack Khalifeh
Company Address:	1625 W Olympic Blvd #791	City And State:	Los Angeles, CA 90015
Phone:	3103051555		
Building Name:	FIRE STATION 46	Building Owner:	Newhall Land
Contact at Building:	David Wong	Phone at Building:	
Address Of Building:	26720 Bombero Lane	City, State Zip Code:	Valencia, CA 91381

Project Data

Description Of Hazard:	Ordinary 2	Sprinkler System Type:	Wet
Design Area Of Water Application:	1950 ft ²	Maximum Area Per Sprinkler:	130 ft ²
Default Sprinkler K-Factor:	5.60 K	Default Pipe Material:	SCHED 40 WET STEEL
Inside Hose Stream Allowance:	0.00 gpm	Outside Hose Stream Allowance:	0.00 gpm
In Rack Sprinkler Allowance:	0.00 gpm		

Sprinkler Specifications

Make:	VIKING	Model:	VK300
Size:	1/2"	Temperature Rating:	155 F

Water Supply Test Data

Source Of Information:	SANTA CLARITA WATER AGENCY		
Test Hydrant ID:	V-ZONE IIA-N(1441)	Date Of Test:	4/16/2025
Hydrant Elevation:	1263 ft	Static Pressure:	77.10 psi
Test Flow Rate:	4855.00 gpm	Test Residual Pressure:	67.90 psi
Calculated System Flow Rate:	801.93 gpm	Calculated Inflow Residual Pressure:	54.93 psi
Available Residual Pressure At System Flow:	76.77 psi		

Calculation Project Data

Calculation Mode:	Demand		
HMD Minimum Residual Pressure:	7.05 psi	Minimum Desired Flow Density:	0.20 gpm/ft ²
Number Of Active Nodes:	45		
Number Of Active Pipes:	44	Number Of Inactive Pipes:	0
Number Of Active Sprinklers:	27	Number Of Inactive Sprinklers:	0

ADDENDUM #2 - APRIL 24, 2026



Fire Sprinkler Input Data

Node Input Data

Node No.	Node Description Branch Description	Area Group Branch Dia. (in)	Sprinkler KFactor (K) Branch Len. (ft)	Pressure Estimate (psi) Branch Std Fittings	Node Elev (ft) Branch Non- Std Fittings (ft)	Non-Sprinkler Flow (gpm) Branch Sprk KFactor (K)
20	Sprinkler ----	---- 0.000	5.60 0.0	10.37 ----	1291.00 0.0	0.00 0.00
21	Sprinkler ----	---- 0.000	5.60 0.0	10.60 ----	1291.00 0.0	0.00 0.00
22	Sprinkler ----	---- 0.000	5.60 0.0	11.42 ----	1291.00 0.0	0.00 0.00
23	Sprinkler ----	---- 0.000	5.60 0.0	13.21 ----	1291.00 0.0	0.00 0.00
24	Sprinkler ----	---- 0.000	5.60 0.0	14.72 ----	1291.00 0.0	0.00 0.00
25	Sprinkler ----	---- 0.000	5.60 0.0	16.76 ----	1291.00 0.0	0.00 0.00
26	Sprinkler ----	---- 0.000	5.60 0.0	17.12 ----	1291.00 0.0	0.00 0.00
27	Sprinkler ----	---- 0.000	5.60 0.0	9.88 ----	1291.00 0.0	0.00 0.00
28	Sprinkler ----	---- 0.000	5.60 0.0	10.09 ----	1291.00 0.0	0.00 0.00
29	Sprinkler ----	---- 0.000	5.60 0.0	10.88 ----	1291.00 0.0	0.00 0.00
30	Sprinkler ----	---- 0.000	5.60 0.0	12.59 ----	1291.00 0.0	0.00 0.00
31	Sprinkler ----	---- 0.000	5.60 0.0	14.04 ----	1291.00 0.0	0.00 0.00
32	Sprinkler ----	---- 0.000	5.60 0.0	15.99 ----	1291.00 0.0	0.00 0.00
33	Sprinkler ----	---- 0.000	5.60 0.0	16.33 ----	1291.00 0.0	0.00 0.00
34	Sprinkler ----	---- 0.000	5.60 0.0	9.93 ----	1291.00 0.0	0.00 0.00
35	Sprinkler ----	---- 0.000	5.60 0.0	10.15 ----	1291.00 0.0	0.00 0.00
36	Sprinkler ----	---- 0.000	5.60 0.0	10.94 ----	1291.00 0.0	0.00 0.00
37	Sprinkler ----	---- 0.000	5.60 0.0	12.66 ----	1291.00 0.0	0.00 0.00

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Fire Sprinkler Input Data

Node Input Data (cont'd)

Node No.	Node Description Branch Description	Area Group Branch Dia. (in)	Sprinkler KFactor (K) Branch Len. (ft)	Pressure Estimate (psi) Branch Std Fittings	Node Elev (ft) Branch Non- Std Fittings (ft)	Non-Sprinkler Flow (gpm) Branch Sprk KFactor (K)
38	Sprinkler ----	---- 0.000	5.60 0.0	14.12 ----	1291.00 0.0	0.00 0.00
39	Sprinkler ----	---- 0.000	5.60 0.0	16.08 ----	1291.00 0.0	0.00 0.00
40	Sprinkler ----	---- 0.000	5.60 0.0	16.42 ----	1291.00 0.0	0.00 0.00
41	Sprinkler ----	---- 0.000	5.60 0.0	12.73 ----	1291.00 0.0	0.00 0.00
42	Sprinkler ----	---- 0.000	5.60 0.0	12.86 ----	1291.00 0.0	0.00 0.00
43	Sprinkler ----	---- 0.000	5.60 0.0	13.33 ----	1291.00 0.0	0.00 0.00
44	Sprinkler ----	---- 0.000	5.60 0.0	14.33 ----	1291.00 0.0	0.00 0.00
45	Sprinkler ----	---- 0.000	5.60 0.0	16.08 ----	1291.00 0.0	0.00 0.00
46	No Discharge ----	---- 0.000	N/A 0.0	32.55 ----	1261.00 0.0	0.00 0.00
47	Sprinkler ----	---- 0.000	5.60 0.0	19.56 ----	1291.00 0.0	0.00 0.00
170	No Discharge ----	---- 0.000	N/A 0.0	18.02 ----	1291.00 0.0	0.00 0.00
171	No Discharge ----	---- 0.000	N/A 0.0	17.20 ----	1291.00 0.0	0.00 0.00
172	No Discharge ----	---- 0.000	N/A 0.0	17.29 ----	1291.00 0.0	0.00 0.00
173	No Discharge ----	---- 0.000	N/A 0.0	19.85 ----	1291.00 0.0	0.00 0.00
175	No Discharge ----	---- 0.000	N/A 0.0	26.10 ----	1288.00 0.0	0.00 0.00
176	No Discharge ----	---- 0.000	N/A 0.0	27.03 ----	1286.00 0.0	0.00 0.00
177	No Discharge ----	---- 0.000	N/A 0.0	27.16 ----	1286.00 0.0	0.00 0.00
178	No Discharge ----	---- 0.000	N/A 0.0	27.60 ----	1286.00 0.0	0.00 0.00
179	No Discharge ----	---- 0.000	N/A 0.0	30.78 ----	1286.00 0.0	0.00 0.00

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Fire Sprinkler Input Data

Node Input Data (cont'd)

Node No.	Node Description Branch Description	Area Group Branch Dia. (in)	Sprinkler KFactor (K) Branch Len. (ft)	Pressure Estimate (psi) Branch Std Fittings	Node Elev (ft) Branch Non- Std Fittings (ft)	Non-Sprinkler Flow (gpm) Branch Sprk KFactor (K)
180	No Discharge ----	---- 0.000	N/A 0.0	44.91 ----	1267.00 0.0	0.00 0.00
305	No Discharge ----	---- 0.000	N/A 0.0	47.78 ----	1261.00 0.0	0.00 0.00
310	No Discharge ----	---- 0.000	N/A 0.0	48.28 ----	1261.00 0.0	0.00 0.00
320	No Discharge ----	---- 0.000	N/A 0.0	48.56 ----	1261.00 0.0	0.00 0.00
325	No Discharge ----	---- 0.000	N/A 0.0	46.46 ----	1266.00 0.0	0.00 0.00
330	No Discharge ----	---- 0.000	N/A 0.0	52.51 ----	1266.00 0.0	0.00 0.00
335	No Discharge ----	---- 0.000	N/A 0.0	54.74 ----	1261.00 0.0	0.00 0.00
340	No Discharge ----	---- 0.000	N/A 0.0	54.93 ----	1261.00 0.0	0.00 0.00



Fire Sprinkler Input Data

Pipe Input Data

Beg. Node	End. Node	Pipe Description	Nominal Diameter (inch)	Type Group	Fitting Data	Nominal Length (feet)	Fitting Length (feet)	Total Length (feet)	CFactor (gpm/inch-psi)
20	21	SCHED 40 WET STEEL	1.250	0		8.00	0.00	8.00	120
21	22	SCHED 40 WET STEEL	1.250	0		8.00	0.00	8.00	120
22	23	SCHED 40 WET STEEL	1.250	0		8.00	0.00	8.00	120
23	24	SCHED 40 WET STEEL	1.500	0		8.00	0.00	8.00	120
24	170	SCHED 40 WET STEEL	1.500	0	T	3.00	8.00	11.00	120
25	26	SCHED 40 WET STEEL	1.250	0		8.00	0.00	8.00	120
26	170	SCHED 40 WET STEEL	1.500	0	T	4.00	8.00	12.00	120
27	28	SCHED 40 WET STEEL	1.250	0		8.00	0.00	8.00	120
28	29	SCHED 40 WET STEEL	1.250	0		8.00	0.00	8.00	120
29	30	SCHED 40 WET STEEL	1.250	0		8.00	0.00	8.00	120
30	31	SCHED 40 WET STEEL	1.500	0		8.00	0.00	8.00	120
31	171	SCHED 40 WET STEEL	1.500	0	T	3.00	8.00	11.00	120
32	33	SCHED 40 WET STEEL	1.250	0		8.00	0.00	8.00	120
33	171	SCHED 40 WET STEEL	1.500	0	T	4.00	8.00	12.00	120
34	35	SCHED 40 WET STEEL	1.250	0		8.00	0.00	8.00	120
35	36	SCHED 40 WET STEEL	1.250	0		8.00	0.00	8.00	120
36	37	SCHED 40 WET STEEL	1.250	0		8.00	0.00	8.00	120
37	38	SCHED 40 WET STEEL	1.500	0		8.00	0.00	8.00	120
38	172	SCHED 40 WET STEEL	1.500	0	T	3.00	8.00	11.00	120
39	40	SCHED 40 WET STEEL	1.250	0		8.00	0.00	8.00	120
40	172	SCHED 40 WET STEEL	1.500	0	T	4.00	8.00	12.00	120
41	42	SCHED 40 WET STEEL	1.500	0		8.00	0.00	8.00	120
42	43	SCHED 40 WET STEEL	1.500	0		8.00	0.00	8.00	120
43	44	SCHED 40 WET STEEL	1.500	0		8.00	0.00	8.00	120
44	45	SCHED 40 WET STEEL	1.500	0		8.00	0.00	8.00	120
45	173	SCHED 40 WET STEEL	1.500	0	T	3.00	8.00	11.00	120
46	47	SCHED 40 WET STEEL	1.500	0		26.00	0.00	26.00	120
47	173	SCHED 40 WET STEEL	1.500	0	T	4.00	8.00	12.00	120

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Fire Sprinkler Input Data

Pipe Input Data (cont'd)

Beg. Node	End. Node	Pipe Description	Nominal Diameter (inch)	Type Group	Fitting Data	Nominal Length (feet)	Fitting Length (feet)	Total Length (feet)	CFactor (gpm/inch-psi)
170	175	SCHED 40 WET STEEL	1.500	0	T	3.00	8.00	11.00	120
171	176	SCHED 40 WET STEEL	1.500	0	T	5.00	8.00	13.00	120
172	177	SCHED 40 WET STEEL	1.500	0	T	5.00	8.00	13.00	120
173	178	SCHED 40 WET STEEL	1.500	0	T	3.00	8.00	11.00	120
175	176	SCHED 10 WET STEEL	4.000	0		11.00	0.00	11.00	120
176	177	SCHED 10 WET STEEL	4.000	0		7.00	0.00	7.00	120
177	178	SCHED 10 WET STEEL	4.000	0		11.00	0.00	11.00	120
178	179	SCHED 10 WET STEEL	4.000	0	2E	22.60	26.00	48.60	120
179	180	SCHED 10 WET STEEL	4.000	0	ETGC	19.00	71.00	90.00	120
180	305	C900 PVC	8.000	0	2ETG	56.00	106.49	162.49	150
305	310	C900 PVC	8.000	0	3FTG	195.00	98.89	293.89	150
310	320	C900 PVC	8.000	0	2E	112.00	48.40	160.40	150
320	325	SCHED 40 WET STEEL	8.000	0	E	5.00	18.00	23.00	120
325	330	Backflo Prev	6.000	Loss					
330	335	SCHED 40 WET STEEL	8.000	0	E	5.00	18.00	23.00	120
335	340	C900 PVC	8.000	0	ETG	26.00	82.29	108.29	150

Fitting Legend: F = 45 Degree Elbow, E = 90 Degree Elbow, L = Long Turn Elbow, T = Tee or Cross, B = Butterfly Valve, G = Gate Valve, C = Check Valve

ADDENDUM #2 - APRIL 24, 2026



Fire Sprinkler Output Data

Overall Pipe Output Data

Beg. End. Node	Nodal KFactor (K)	Elevation (feet)	Spk/Hose Discharge (gpm)	Residual Pressure (psi)	Nom. Dia. Inside Dia. C-Value	q (gpm) Q (gpm) Velocity (fps)	F. L./ft (psi/ft) Fittings Type-Grp	Pipe-Len. Fit-Len. Tot-Len. (ft)	PF-(psi) PE-(psi) PT-(psi)
20	5.60	1291.00	18.03	10.37	1.25	18.03	0.02827	8.00	0.226
21	5.60	1291.00	18.23	10.60	1.380	18.03	-----	0.00	0.000
	SCHED 40 WET STEEL				120	3.87	0	8.00	0.226
21	5.60	1291.00	18.23	10.60	1.25	18.23	0.10295	8.00	0.824
22	5.60	1291.00	18.92	11.42	1.380	36.26	-----	0.00	0.000
	SCHED 40 WET STEEL				120	7.78	0	8.00	0.824
22	5.60	1291.00	18.92	11.42	1.25	18.92	0.22390	8.00	1.791
23	5.60	1291.00	20.35	13.21	1.380	55.19	-----	0.00	0.000
	SCHED 40 WET STEEL				120	11.84	0	8.00	1.791
23	5.60	1291.00	20.35	13.21	1.50	20.35	0.18893	8.00	1.511
24	5.60	1291.00	21.49	14.72	1.610	75.54	-----	0.00	0.000
	SCHED 40 WET STEEL				120	11.90	0	8.00	1.511
25	5.60	1291.00	22.93	16.76	1.25	22.93	0.04409	8.00	0.353
26	5.60	1291.00	23.17	17.12	1.380	22.93	-----	0.00	0.000
	SCHED 40 WET STEEL				120	4.92	0	8.00	0.353
27	5.60	1291.00	17.60	9.88	1.25	17.60	0.02703	8.00	0.216
28	5.60	1291.00	17.79	10.09	1.380	17.60	-----	0.00	0.000
	SCHED 40 WET STEEL				120	3.78	0	8.00	0.216
28	5.60	1291.00	17.79	10.09	1.25	17.79	0.09843	8.00	0.787
29	5.60	1291.00	18.47	10.88	1.380	35.39	-----	0.00	0.000
	SCHED 40 WET STEEL				120	7.59	0	8.00	0.787
29	5.60	1291.00	18.47	10.88	1.25	18.47	0.21409	8.00	1.713
30	5.60	1291.00	19.87	12.59	1.380	53.86	-----	0.00	0.000
	SCHED 40 WET STEEL				120	11.55	0	8.00	1.713
30	5.60	1291.00	19.87	12.59	1.50	19.87	0.18067	8.00	1.445
31	5.60	1291.00	20.98	14.04	1.610	73.74	-----	0.00	0.000
	SCHED 40 WET STEEL				120	11.62	0	8.00	1.445
32	5.60	1291.00	22.39	15.99	1.25	22.39	0.04220	8.00	0.338
33	5.60	1291.00	22.63	16.33	1.380	22.39	-----	0.00	0.000
	SCHED 40 WET STEEL				120	4.80	0	8.00	0.338
34	5.60	1291.00	17.65	9.93	1.25	17.65	0.02717	8.00	0.217
35	5.60	1291.00	17.84	10.15	1.380	17.65	-----	0.00	0.000
	SCHED 40 WET STEEL				120	3.79	0	8.00	0.217
35	5.60	1291.00	17.84	10.15	1.25	17.84	0.09894	8.00	0.792
36	5.60	1291.00	18.52	10.94	1.380	35.49	-----	0.00	0.000
	SCHED 40 WET STEEL				120	7.61	0	8.00	0.792
36	5.60	1291.00	18.52	10.94	1.25	18.52	0.21520	8.00	1.722
37	5.60	1291.00	19.93	12.66	1.380	54.02	-----	0.00	0.000
	SCHED 40 WET STEEL				120	11.59	0	8.00	1.722

ADDENDUM #2 - APRIL 24, 2026



Fire Sprinkler Output Data

Overall Pipe Output Data (cont'd)

Beg. End. Node	Nodal KFactor (K)	Elevation (feet)	Spk/Hose Discharge (gpm)	Residual Pressure (psi)	Nom. Dia. Inside Dia. C-Value	q (gpm) Q (gpm) Velocity (fps)	F. L./ft (psi/ft) Fittings Type-Grp	Pipe-Len. Fit-Len. Tot-Len. (ft)	PF-(psi) PE-(psi) PT-(psi)
37	5.60	1291.00	19.93	12.66	1.50	19.93	0.18161	8.00	1.453
38	5.60	1291.00	21.04	14.12	1.610	73.94	-----	0.00	0.000
	SCHED 40 WET STEEL				120	11.65	0	8.00	1.453
39	5.60	1291.00	22.45	16.08	1.25	22.45	0.04242	8.00	0.339
40	5.60	1291.00	22.69	16.42	1.380	22.45	-----	0.00	0.000
	SCHED 40 WET STEEL				120	4.82	0	8.00	0.339
41	5.60	1291.00	19.98	12.73	1.50	19.98	0.01614	8.00	0.129
42	5.60	1291.00	20.08	12.86	1.610	19.98	-----	0.00	0.000
	SCHED 40 WET STEEL				120	3.15	0	8.00	0.129
42	5.60	1291.00	20.08	12.86	1.50	20.08	0.05845	8.00	0.468
43	5.60	1291.00	20.45	13.33	1.610	40.07	-----	0.00	0.000
	SCHED 40 WET STEEL				120	6.31	0	8.00	0.468
43	5.60	1291.00	20.45	13.33	1.50	20.45	0.12534	8.00	1.003
44	5.60	1291.00	21.20	14.33	1.610	60.51	-----	0.00	0.000
	SCHED 40 WET STEEL				120	9.54	0	8.00	1.003
44	5.60	1291.00	21.20	14.33	1.50	21.20	0.21849	8.00	1.748
45	5.60	1291.00	22.46	16.08	1.610	81.72	-----	0.00	0.000
	SCHED 40 WET STEEL				120	12.88	0	8.00	1.748
46	0.00	1261.00	0.00	32.55	1.50	0.00	0.00000	26.00	0.000
47	5.60	1291.00	24.77	19.56	1.610	0.00	-----	0.00	-12.990
	SCHED 40 WET STEEL				120	0.00	0	26.00	-12.990
24	5.60	1291.00	21.49	14.72	1.50	21.49	0.30022	3.00	3.302
170	0.00	1291.00	0.00	18.02	1.610	97.03	T	8.00	0.000
	SCHED 40 WET STEEL				120	15.29	0	11.00	3.302
26	5.60	1291.00	23.17	17.12	1.50	23.17	0.07575	4.00	0.909
170	0.00	1291.00	0.00	18.02	1.610	46.10	T	8.00	0.000
	SCHED 40 WET STEEL				120	7.26	0	12.00	0.909
31	5.60	1291.00	20.98	14.04	1.50	20.98	0.28715	3.00	3.159
171	0.00	1291.00	0.00	17.20	1.610	94.72	T	8.00	0.000
	SCHED 40 WET STEEL				120	14.93	0	11.00	3.159
33	5.60	1291.00	22.63	16.33	1.50	22.63	0.07252	4.00	0.870
171	0.00	1291.00	0.00	17.20	1.610	45.02	T	8.00	0.000
	SCHED 40 WET STEEL				120	7.10	0	12.00	0.870
38	5.60	1291.00	21.04	14.12	1.50	21.04	0.28863	3.00	3.175
172	0.00	1291.00	0.00	17.29	1.610	94.98	T	8.00	0.000
	SCHED 40 WET STEEL				120	14.97	0	11.00	3.175
40	5.60	1291.00	22.69	16.42	1.50	22.69	0.07289	4.00	0.875
172	0.00	1291.00	0.00	17.29	1.610	45.14	T	8.00	0.000
	SCHED 40 WET STEEL				120	7.11	0	12.00	0.875

ADDENDUM #2 - APRIL 24, 2026



Fire Sprinkler Output Data

Overall Pipe Output Data (cont'd)

Beg. End. Node	Nodal KFactor (K)	Elevation (feet)	Spk/Hose Discharge (gpm)	Residual Pressure (psi)	Nom. Dia. Inside Dia. C-Value	q (gpm) Q (gpm) Velocity (fps)	F. L./ft (psi/ft) Fittings Type-Grp	Pipe-Len. Fit-Len. Tot-Len. (ft)	PF-(psi) PE-(psi) PT-(psi)
45	5.60	1291.00	22.46	16.08	1.50	22.46	0.34240	3.00	3.766
173	0.00	1291.00	0.00	19.85	1.610	104.17	T	8.00	0.000
SCHED 40 WET STEEL					120	16.42	0	11.00	3.766
47	5.60	1291.00	24.77	19.56	1.50	24.77	0.02400	4.00	0.288
173	0.00	1291.00	0.00	19.85	1.610	24.77	T	8.00	0.000
SCHED 40 WET STEEL					120	3.90	0	12.00	0.288
170	0.00	1291.00	0.00	18.02	1.50	0.00	0.61626	3.00	6.779
175	0.00	1288.00	0.00	26.10	1.610	143.12	T	8.00	1.299
SCHED 40 WET STEEL					120	22.56	0	11.00	8.078
171	0.00	1291.00	0.00	17.20	1.50	0.00	0.58960	5.00	7.665
176	0.00	1286.00	0.00	27.03	1.610	139.74	T	8.00	2.165
SCHED 40 WET STEEL					120	22.02	0	13.00	9.830
175	0.00	1288.00	0.00	26.10	4.00	0.00	0.00539	11.00	0.059
176	0.00	1286.00	0.00	27.03	4.260	143.12	----	0.00	0.866
SCHED 10 WET STEEL					120	3.22	0	11.00	0.925
172	0.00	1291.00	0.00	17.29	1.50	0.00	0.59263	5.00	7.704
177	0.00	1286.00	0.00	27.16	1.610	140.13	T	8.00	2.165
SCHED 40 WET STEEL					120	22.08	0	13.00	9.869
176	0.00	1286.00	0.00	27.03	4.00	0.00	0.01902	7.00	0.133
177	0.00	1286.00	0.00	27.16	4.260	282.86	----	0.00	0.000
SCHED 10 WET STEEL					120	6.37	0	7.00	0.133
173	0.00	1291.00	0.00	19.85	1.50	0.00	0.50806	3.00	5.589
178	0.00	1286.00	0.00	27.60	1.610	128.94	T	8.00	2.165
SCHED 40 WET STEEL					120	20.32	0	11.00	7.754
177	0.00	1286.00	0.00	27.16	4.00	0.00	0.04004	11.00	0.440
178	0.00	1286.00	0.00	27.60	4.260	422.99	----	0.00	0.000
SCHED 10 WET STEEL					120	9.52	0	11.00	0.440
178	0.00	1286.00	0.00	27.60	4.00	0.00	0.06551	22.60	3.184
179	0.00	1286.00	0.00	30.78	4.260	551.93	2E	26.00	0.000
SCHED 10 WET STEEL					120	12.42	0	48.60	3.184
179	0.00	1286.00	0.00	30.78	4.00	0.00	0.06551	19.00	5.896
180	0.00	1267.00	0.00	44.91	4.260	551.93	ETGC	71.00	8.227
SCHED 10 WET STEEL					120	12.42	0	90.00	14.123
180	0.00	1267.00	0.00	44.91	8.00	0.00	0.00170	56.00	0.277
305	0.00	1261.00	0.00	47.78	8.280	551.93	2ETG	106.49	2.598
C900 PVC					150	3.29	0	162.49	2.875
305	0.00	1261.00	0.00	47.78	8.00	0.00	0.00170	195.00	0.501
310	0.00	1261.00	0.00	48.28	8.280	551.93	3FTG	98.89	0.000
C900 PVC					150	3.29	0	293.89	0.501

ADDENDUM #2 - APRIL 24, 2026



Fire Sprinkler Output Data

Overall Pipe Output Data (cont'd)

Beg. End. Node	Nodal KFactor (K)	Elevation (feet)	Spk/Hose Discharge (gpm)	Residual Pressure (psi)	Nom. Dia. Inside Dia. C-Value	q (gpm) Q (gpm) Velocity (fps)	F. L./ft (psi/ft) Fittings Type-Grp	Pipe-Len. Fit-Len. Tot-Len. (ft)	PF-(psi) PE-(psi) PT-(psi)
310	0.00	1261.00	0.00	48.28	8.00	0.00	0.00170	112.00	0.273
320	0.00	1261.00	0.00	48.56	8.280	551.93	2E	48.40	0.000
		C900 PVC			150	3.29	0	160.40	0.273
320	0.00	1261.00	0.00	48.56	8.00	0.00	0.00308	5.00	0.071
325	0.00	1266.00	0.00	46.46	7.981	551.93	E	18.00	-2.165
		SCHED 40 WET STEEL			120	3.54	0	23.00	-2.094
325	Backflo Prev	1266.00		46.46		551.93			
330	6.00 psi	1266.00		52.51					
330	0.00	1266.00	0.00	52.51	8.00	0.00	0.00308	5.00	0.071
335	0.00	1261.00	0.00	54.74	7.981	551.93	E	18.00	2.165
		SCHED 40 WET STEEL			120	3.54	0	23.00	2.236
335	0.00	1261.00	0.00	54.74	8.00	0.00	0.00170	26.00	0.185
340	0.00	1261.00	0.00	54.93	8.280	551.93	ETG	82.29	0.000
		C900 PVC			150	3.29	0	108.29	0.185

Fitting Legend: F = 45 Degree Elbow, E = 90 Degree Elbow, L = Long Turn Elbow, T = Tee or Cross, B = Butterfly Valve, G = Gate Valve, C = Check Valve

ADDENDUM #2 - APRIL 24, 2026



Fire Sprinkler Output Data

Overall Sprinkler Output Data

Flowing Sprinkler Node No.	Area Group Code	Sprinkler KFactor (K)	Sprinkler Elevation (feet)	Residual Pressure (psi)	Flowing Area (ft²)	Flowing Density (gpm/ft²)	Sprinkler Discharge (gpm)
20		5.60	1291.00	10.37	88.00	0.205	18.03
Sub Totals For Non-Group					88.00	0.205	18.03
21		5.60	1291.00	10.60	88.00	0.207	18.23
Sub Totals For Non-Group					88.00	0.207	18.23
22		5.60	1291.00	11.42	88.00	0.215	18.92
Sub Totals For Non-Group					88.00	0.215	18.92
23		5.60	1291.00	13.21	88.00	0.231	20.35
Sub Totals For Non-Group					88.00	0.231	20.35
24		5.60	1291.00	14.72	88.00	0.244	21.49
Sub Totals For Non-Group					88.00	0.244	21.49
25		5.60	1291.00	16.76	88.00	0.261	22.93
Sub Totals For Non-Group					88.00	0.261	22.93
26		5.60	1291.00	17.12	88.00	0.263	23.17
Sub Totals For Non-Group					88.00	0.263	23.17
27		5.60	1291.00	9.88	88.00	0.200	17.60
Sub Totals For Non-Group					88.00	0.200	17.60
28		5.60	1291.00	10.09	88.00	0.202	17.79
Sub Totals For Non-Group					88.00	0.202	17.79
29		5.60	1291.00	10.88	88.00	0.210	18.47
Sub Totals For Non-Group					88.00	0.210	18.47
30		5.60	1291.00	12.59	88.00	0.226	19.87
Sub Totals For Non-Group					88.00	0.226	19.87
31		5.60	1291.00	14.04	88.00	0.238	20.98
Sub Totals For Non-Group					88.00	0.238	20.98
32		5.60	1291.00	15.99	88.00	0.254	22.39
Sub Totals For Non-Group					88.00	0.254	22.39
33		5.60	1291.00	16.33	88.00	0.257	22.63
Sub Totals For Non-Group					88.00	0.257	22.63
34		5.60	1291.00	9.93	88.00	0.201	17.65
Sub Totals For Non-Group					88.00	0.201	17.65
35		5.60	1291.00	10.15	88.00	0.203	17.84
Sub Totals For Non-Group					88.00	0.203	17.84
36		5.60	1291.00	10.94	88.00	0.211	18.52
Sub Totals For Non-Group					88.00	0.211	18.52
37		5.60	1291.00	12.66	88.00	0.226	19.93
Sub Totals For Non-Group					88.00	0.226	19.93
38		5.60	1291.00	14.12	88.00	0.239	21.04
Sub Totals For Non-Group					88.00	0.239	21.04

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Fire Sprinkler Output Data

Overall Sprinkler Output Data (cont'd)

Flowing Sprinkler Node No.	Area Group Code	Sprinkler KFactor (K)	Sprinkler Elevation (feet)	Residual Pressure (psi)	Flowing Area (ft²)	Flowing Density (gpm/ft²)	Sprinkler Discharge (gpm)
39		5.60	1291.00	16.08	88.00	0.255	22.45
Sub Totals For Non-Group					88.00	0.255	22.45
40		5.60	1291.00	16.42	88.00	0.258	22.69
Sub Totals For Non-Group					88.00	0.258	22.69
41		5.60	1291.00	12.73	88.00	0.227	19.98
Sub Totals For Non-Group					88.00	0.227	19.98
42		5.60	1291.00	12.86	88.00	0.228	20.08
Sub Totals For Non-Group					88.00	0.228	20.08
43		5.60	1291.00	13.33	88.00	0.232	20.45
Sub Totals For Non-Group					88.00	0.232	20.45
44		5.60	1291.00	14.33	88.00	0.241	21.20
Sub Totals For Non-Group					88.00	0.241	21.20
45		5.60	1291.00	16.08	88.00	0.255	22.46
Sub Totals For Non-Group					88.00	0.255	22.46
47		5.60	1291.00	19.56	88.00	0.281	24.77
Sub Totals For Non-Group					88.00	0.281	24.77
Totals For All Groups					2376.00	0.232	551.93



Fire Sprinkler Output Summary

Hydraulically Most Demanding Sprinkler Node

HMD Sprinkler Node Number:	27
HMD Actual Residual Pressure:	9.88 psi
HMD Actual Flow:	17.60 gpm

Sprinkler Summary

Sprinkler System Type:	Wet
Specified Area Of Application:	1950.00 ft ²
Minimum Desired Density:	0.200 gpm/ft ²
Application Average Density:	0.283 gpm/ft ²
Application Average Area Per Sprinkler:	72.22 ft ²
Sprinkler Flow:	551.93 gpm
Average Sprinkler Flow:	20.44 gpm

Flow Velocity And Imbalance Summary

Maximum Flow Velocity (In Pipe 170 - 175)	22.56 ft/sec
Maximum Velocity Pressure (In Pipe 170 - 175)	3.42 psi
Allowable Maximum Nodal Pressure Imbalance:	0.0000 psi
Actual Maximum Nodal Pressure Imbalance:	0.0000 psi
Actual Average Nodal Pressure Imbalance:	0.0000 psi
Actual Maximum Nodal Flow Imbalance:	0.0000 gpm
Actual Average Nodal Flow Imbalance:	0.0000 gpm

Overall Network Summary

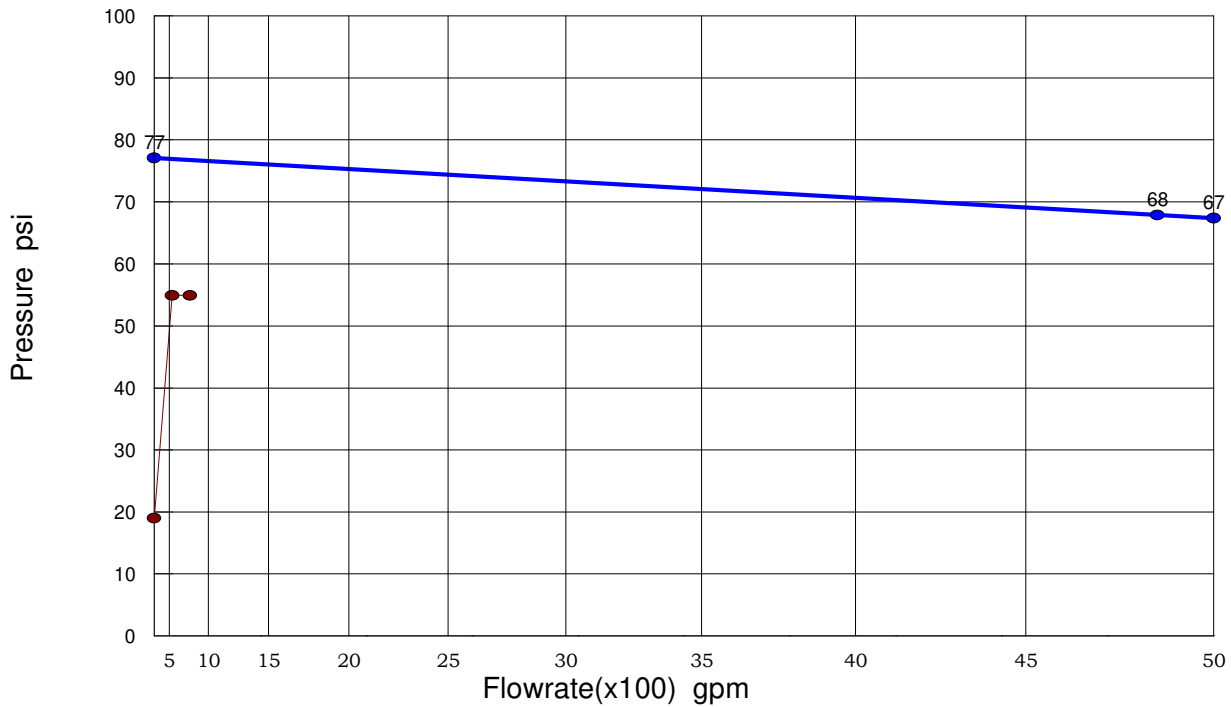
Number Of Unique Pipe Sections:	44
Number Of Flowing Sprinklers:	27
Pipe System Water Volume:	1187.15 gal
Sprinkler Flow:	551.93 gpm
Non-Sprinkler Flow:	0.00 gpm
Demand Flow Excluding Exterior Hose Flow:	551.93 gpm
Exterior Hose Flow:	250.00 gpm
Minimum Required Residual Pressure At System Inflow Node:	54.93 psi
Demand Flow At System Inflow Node:	801.93 gpm

ADDENDUM #2 - APRIL 24, 2026



Fire Sprinkler Output Data

Hydraulic Supply/Demand Graph



Supply Curve Data

Static Pressure: 77.1 psi
Test Residual Pressure: 67.9 psi
Test Flow Rate: 4855 gpm

Demand Curve Data

Calculated Residual Pressure: 54.93 psi
Calculated Flow Rate: 801.93 gpm
Exterior Hose Flow: 250.00 gpm
Excess Available Residual Pressure At Calculated Flow: 21.84 psi
Pressure Required For First Sprinkler Downstream From Inflow Node To Flow: 18.99 psi

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