DAMMON ENGINEERING, INC

Date: 10-12-21 Project: Boyd Funeral Home
Reviewed: X
Reviewed as noted:
Revise and ReSubmit:
Rejected:
Other:

Correction or comments made on the shop drawings during this review do not relieve the contractor from compliance with requirements of the drawings and specifications. This check is only for review of the general conformance with the design concept of the project and general compliance with the information given in the contract documents. This contractor is responsible for: confirming and correlating all quantities and dimensions, selecting fabrication processes and techniques of construction; coordinating his or her work with that of all other trades and performing all in a safe and satisfactory manner.

Submittal item: Sprinkler drawings
Comments:

Hydraulic Calculations by HydraCALC

Jefferson Sprinkler, Inc
P.O. Box 129
Gretna, LA 70054
504-362-0198

Job Name	:	BOYD FUNERAL HOME
Drawing	:	SHEET 1
Location	:	4800 DOWNMAN RD, NEW ORLEANS, LA 70126
Remote Area	:	1
Contract	:	16228
Data File	:	Boyd Funeral Home Sprinkler Plans Area 1.WXF

HYDRAULIC CALCULATIONS
for

JOB NAME BOYD FUNERAL HOME
Location 4800 DOWNMAN RD, NEW ORLEANS, LA 70126
Drawing # SHEET 1
Contract # 16228
Date 04/22/2021

DESIGN

Remote area # 1
Remote area location ATTIC
Occupancy classification LIGHT HAZARD
Density 0.10 - Gpm/SqFt
Area of application 2535 (MIN.) - SqFt
Coverage/sprinkler 120 - SqFt
Type of sprinkler calculated VK3001 QR UPRIGHT K5.6 1/2"NPT 200F BRASS
 # Sprinklers calculated 24
In-rack demand N/A - GPM
Hose streams 100 - GPM
Total water required (including hose streams) 480.693 - GPM @ 47.694 - Psi
Type of system DRY
Volume of system (dry or pre-action) 171 - Gal

WATER SUPPLY INFORMATION

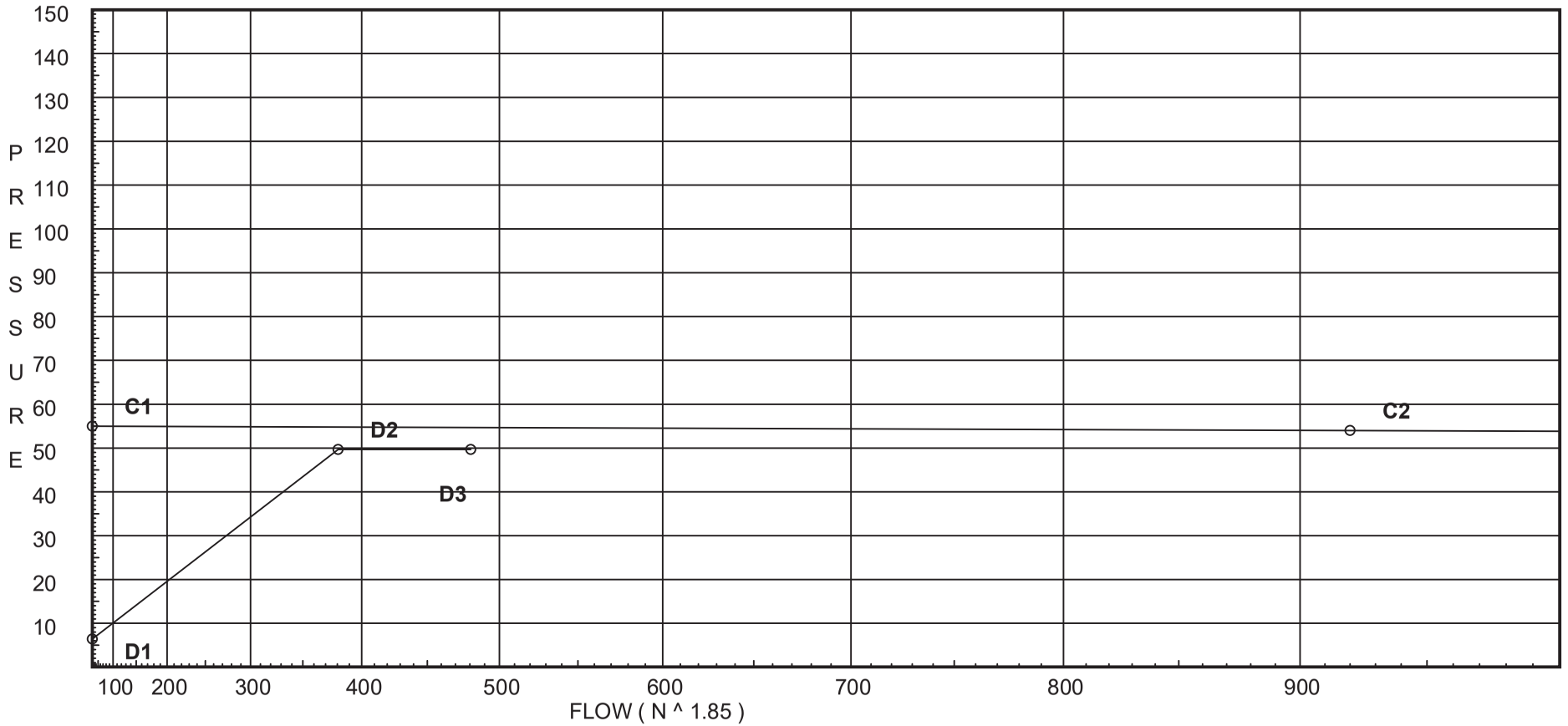
Test date 01/28/2021
Location DOWNMAN RD @ BABYLON ST
Source of info JSI

CONTRACTOR INFO JEFFERSON SPRINKLER
Address 1903 HANCOCK ST
Phone # (504) 393-7699
Name of designer BLAKE MICKLER
Authority having jurisdiction LASFM
NOTES:

text1(35) - invisible

City Water Supply:
- C1 - Static Pressure : 55
- C2 - Residual Pressure: 54
- C2 - Residual Flow : 920

Demand:
- D1 - Elevation : 6.423
- D2 - System Flow : 380.639
- D2 - System Pressure : 49.694
- Hose (Demand) : 100
- D3 - System Demand : 480.639
- Safety Margin : 5.005



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
B	NFPA 13 Butterfly Valve	0	0	0	0	0	6	7	10	0	12	9	10	12	19	21	0	0	0	0	0
Dvk	Dry Viking F1								3		5		49								
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
G	NFPA 13 Gate Valve	0	0	0	0	0	1	1	1	1	2	2	3	4	5	6	7	8	10	11	13
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
Zcd	Colt C300 Horz Butt	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.

SUPPLY ANALYSIS

Node at Source	Static Pressure	Residual Pressure	Flow	Available Pressure	Total Demand	Required Pressure
TEST	55.0	54	920.0	54.699	480.64	49.694

NODE ANALYSIS

Node Tag	Elevation	Node Type	Pressure at Node	Discharge at Node	Notes	
1	11.79	5.6	8.02	15.86	0.1	120
2	11.79	5.6	8.06	15.9	0.1	120
3	11.79	5.6	8.14	15.98	0.1	120
4	11.79	5.6	8.31	16.15	0.1	120
5	11.79	5.6	8.62	16.44	0.1	120
6	11.79	5.6	9.09	16.88	0.1	120
7	11.79		23.63			
8	11.79		23.95			
9	11.79		26.18			
10	11.79		28.46			
TOR1	11.79		31.64			
DPV	5.0		35.73			
BOR	1.0		39.94			
TEST	1.0		49.69	100.0		
13	11.79	5.6	8.02	15.86	0.1	120
14	11.79	5.6	8.05	15.89	0.1	120
15	11.79	5.6	8.16	16.0	0.1	120
16	11.79	5.6	8.38	16.21	0.1	120
17	11.79	5.6	8.75	16.56	0.1	120
18	11.79	5.6	9.31	17.08	0.1	120
19	19.92	5.6	9.77	17.51	0.1	120
20	19.92	5.6	9.81	17.54	0.1	120
21	15.83		13.03			
22	15.83		14.38			
23	15.83	5.6	7.76	15.6	0.1	120
24	15.83	5.6	7.43	15.26	0.1	120
25	15.83	5.6	7.23	15.06	0.1	120
26	15.83	5.6	7.03	14.85	0.1	120
27	15.83	5.6	7.0	14.82	0.1	120
28	15.83	5.6	7.0	14.82	0.1	120
29	15.83	5.6	7.01	14.83	0.1	120
30	15.83	5.6	7.07	14.89	0.1	120
31	15.83	5.6	7.37	15.2	0.1	120
32	15.83	5.6	7.64	15.48	0.1	120

Node1 to Node2	Elev1 Elev2	K Fact	Qa Qt	Nom Act	Fitting or Eqiv	Len	Pipe Ftngs Total	CFact Pf/Ft	Pt Pe Pf	******* Notes ******
1	11.79	5.60	14.15	2	E	4.392	10.000	100	8.020	
to							4.391		0.0	
2	11.79		14.15	2.157			14.391	0.0028	0.041	Vel = 1.24
2	11.79	5.60	15.90	2			6.820	100	8.061	
to									0.0	
3	11.79		30.05	2.157			6.820	0.0116	0.079	Vel = 2.64
3	11.79	5.60	15.98	2			6.830	100	8.140	
to									0.0	
4	11.79		46.03	2.157			6.830	0.0255	0.174	Vel = 4.04
4	11.79	5.60	16.14	2			6.830	100	8.314	
to									0.0	
5	11.79		62.17	2.157			6.830	0.0444	0.303	Vel = 5.46
5	11.79	5.60	16.44	2			6.830	100	8.617	
to									0.0	
6	11.79		78.61	2.157			6.830	0.0687	0.469	Vel = 6.90
6	11.79	5.60	16.88	2	4E	17.567	121.740	100	9.086	
to					T	8.783	26.350		0.0	
7	11.79		95.49	2.157			148.090	0.0982	14.546	Vel = 8.38
7	11.79		0.0	3			24.120	100	23.632	
to									0.0	
8	11.79		95.49	3.26			24.120	0.0131	0.317	Vel = 3.67
8	11.79		185.84	3			22.990	100	23.949	
to									0.0	
9	11.79		281.33	3.26			22.990	0.0970	2.230	Vel = 10.81
9	11.79		99.31	3	E	6.714	6.750	100	26.179	
to							6.714		0.0	
10	11.79		380.64	3.26			13.464	0.1697	2.285	Vel = 14.63
10	11.79		0.0	3	E	6.714	12.000	100	28.464	
to							6.714		0.0	
TOR1	11.79		380.64	3.26			18.714	0.1697	3.176	Vel = 14.63
TOR1	11.79		0.0	4	E	9.397	10.790	100	31.640	
to					Dvk	4.699	14.095		2.941	
DPV	5		380.64	4.26			24.885	0.0461	1.148	Vel = 8.57
DPV	5		0.0	4	2T	52.668	6.790	120	35.729	
to					B	15.8	68.468		1.732	
BOR	1		380.64	4.26			75.258	0.0329	2.477	Vel = 8.57
BOR	1		0.0	4	2E	31.864	106.000	150	39.938	
to					G	3.186	35.050		5.919	* * Fixed Loss = 5.919
TEST	1		380.64	4.07	Zcd	0.0	141.050	0.0272	3.837	Vel = 9.39
			100.00							Qa = 100.00
TEST			480.64						49.694	K Factor = 68.18
1	11.79		1.71	2			7.500	100	8.020	
to									0.0	
13	11.79		1.71	2.157			7.500	0	0.0	Vel = 0.15
13	11.79	5.60	15.86	2			7.510	100	8.020	
to									0.0	
14	11.79		17.57	2.157			7.510	0.0044	0.033	Vel = 1.54
14	11.79	5.60	15.89	2			7.510	100	8.053	
to									0.0	
15	11.79		33.46	2.157			7.510	0.0141	0.106	Vel = 2.94

Node1 to Node2	Elev1 Elev2	K Fact	Qa Qt	Nom Act	Fitting or Eqiv	Len	Pipe Ftngs Total	CFact Pf/Ft	Pt Pe Pf	******* Notes ******
15	11.79	5.60	16.00	2			7.510	100	8.159	
to									0.0	
16	11.79		49.46	2.157			7.510	0.0290	0.218	Vel = 4.34
16	11.79	5.60	16.20	2			7.510	100	8.377	
to									0.0	
17	11.79		65.66	2.157			7.510	0.0491	0.369	Vel = 5.76
17	11.79	5.60	16.56	2			7.510	100	8.746	
to									0.0	
18	11.79		82.22	2.157			7.510	0.0744	0.559	Vel = 7.22
18	11.79	5.60	17.09	2	3E	13.175	137.820	100	9.305	
to					T	8.783	21.957		0.0	
9	11.79		99.31	2.157			159.777	0.1056	16.874	Vel = 8.72
			0.0							
9			99.31						26.179	K Factor = 19.41
19	19.920	5.60	17.51	2			7.950	100	9.773	
to									0.0	
20	19.920		17.51	2.157			7.950	0.0043	0.034	Vel = 1.54
20	19.920	5.60	17.53	2	3E	13.175	72.540	100	9.807	
to					T	8.783	21.957		1.771	
21	15.83		35.04	2.157			94.497	0.0154	1.453	Vel = 3.08
21	15.83		78.96	2	T	8.783	1.120	100	13.031	
to							8.783		0.0	
22	15.83		114.0	2.157			9.903	0.1363	1.350	Vel = 10.01
22	15.83		71.84	2	T	8.783	14.440	100	14.381	
to							8.783		1.750	
8	11.79		185.84	2.157			23.223	0.3366	7.818	Vel = 16.32
			0.0							
8			185.84						23.949	K Factor = 37.97
21	15.83		-78.96	2	E	4.392	71.900	100	13.031	
to							4.391		0.0	
23	15.83		-78.96	2.157			76.291	-0.0691	-5.272	Vel = 6.93
23	15.83	5.60	15.60	2			7.220	100	7.759	
to									0.0	
24	15.83		-63.36	2.157			7.220	-0.0460	-0.332	Vel = 5.56
24	15.83	5.60	15.26	2			7.200	100	7.427	
to									0.0	
25	15.83		-48.1	2.157			7.200	-0.0276	-0.199	Vel = 4.22
25	15.83	5.60	15.05	2	E	4.392	10.000	100	7.228	
to							4.391		0.0	
26	15.83		-33.05	2.157			14.391	-0.0138	-0.198	Vel = 2.90
26	15.83	5.60	14.85	2			6.200	100	7.030	
to									0.0	
27	15.83		-18.2	2.157			6.200	-0.0047	-0.029	Vel = 1.60
27	15.83	5.60	14.82	2			6.200	100	7.001	
to									0.0	
28	15.83		-3.38	2.157			6.200	-0.0002	-0.001	Vel = 0.30
28	15.83	5.60	14.82	2			6.200	100	7.000	
to									0.0	
29	15.83		11.44	2.157			6.200	0.0019	0.012	Vel = 1.00

Node1 to Node2	Elev1 Elev2	K Fact	Qa Qt	Nom Act	Fitting or Eqiv	Len	Pipe Ftngs Total	CFact Pf/Ft	Pt Pe Pf	*******	Notes	******
29	15.83	5.60	14.82	2			6.240	100	7.012			
to									0.0			
30	15.83		26.26	2.157			6.240	0.0090	0.056	Vel = 2.31		
30	15.83	5.60	14.89	2	E	4.392	10.210	100	7.068			
to							4.391		0.0			
31	15.83		41.15	2.157			14.601	0.0207	0.302	Vel = 3.61		
31	15.83	5.60	15.21	2			7.260	100	7.370			
to									0.0			
32	15.83		56.36	2.157			7.260	0.0371	0.269	Vel = 4.95		
32	15.83	5.60	15.47	2	3E	13.175	94.260	100	7.639			
to					T	8.783	21.957		0.0			
22	15.83		71.83	2.157			116.217	0.0580	6.742	Vel = 6.31		
			0.0									
22			71.83						14.381	K Factor = 18.94		