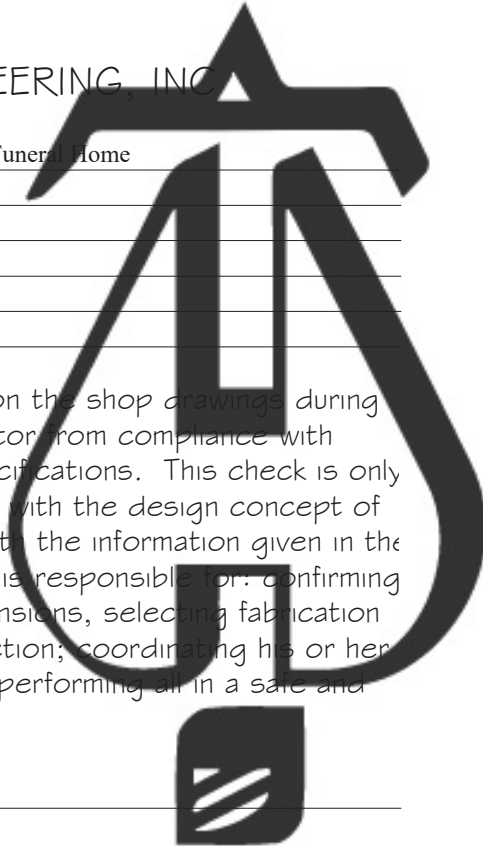


DAMMON ENGINEERING, INC.

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 : 2
Contract : 16228
Data File : Boyd Funeral Home Sprinkler Plans Area 2.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 # 2
Remote area location MERCHANDISE
Occupancy classification ORDINARY HAZARD GROUP 2 (MERCANTILE)
Density 0.20 - Gpm/SqFt
Area of application 900 (MIN) - SqFt
Coverage/sprinkler 130 (MAX) - SqFt
Type of sprinkler calculated VK3021 QR PEND K5.6 1/2"NPT 175F BRASS
Sprinklers calculated 8
In-rack demand N/A - GPM
Hose streams 250 - GPM
Total water required (including hose streams) 468.846 - GPM @ 51.272 - Psi
Type of system WET
Volume of system (dry or pre-action) N/A - 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:

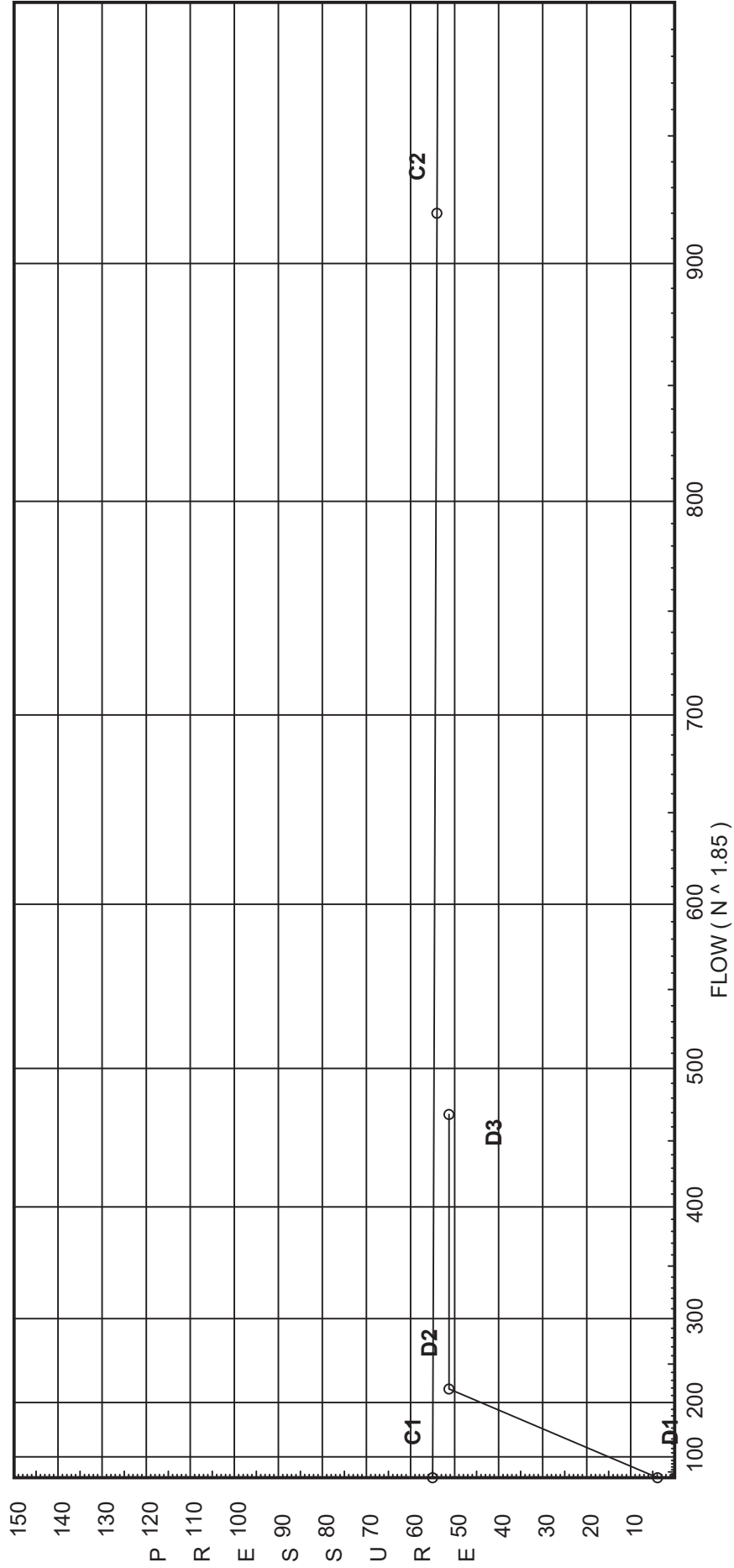
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Water Supply Curve

Jefferson Sprinkler, Inc
BOYD FUNERAL HOME

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

Demand:
D1 - Elevation : 3.898
D2 - System Flow : 218.846
D2 - System Pressure : 51.272
Hose (Demand) : 250
D3 - System Demand : 468.846
Safety Margin : 3.441



Fittings Used Summary

Jefferson Sprinkler, Inc
BOYD FUNERAL HOME

Fitting Legend Abbrev. Name	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	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
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
S NFPA 13 Swing Check	0	0	5	7	9	11	14	16	19	22	27	32	45	55	65					
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

<i>Node at Source</i>	<i>Static Pressure</i>	<i>Residual Pressure</i>	<i>Flow</i>	<i>Available Pressure</i>	<i>Total Demand</i>	<i>Required Pressure</i>
TEST	55.0	54	920.0	54.713	468.85	51.272

NODE ANALYSIS

<i>Node Tag</i>	<i>Elevation</i>	<i>Node Type</i>	<i>Pressure at Node</i>	<i>Discharge at Node</i>	<i>Notes</i>
11	10.0	5.6	21.56	26.0	0.2
12	11.25		21.7		130
33	11.25		23.26		
34	11.25		23.72		
35	11.25		23.87		
36	11.25		23.91		
37	11.25		24.75		
38	11.25		26.3		
39	11.25		31.05		
TOR2	11.25		40.79		
BOR	1.0		46.04		
TEST	1.0		51.27	250.0	
42	10.0	5.6	22.29	26.44	0.2
43	11.25		22.46		130
44	11.25		23.7		
45	10.0	5.6	21.95	26.24	0.2
46	11.25		22.11		130
47	11.25		23.34		
48	10.0	5.6	22.48	26.55	0.2
49	11.25		22.65		130
50	10.0	5.6	23.25	27.0	0.2
51	11.25		23.45		130
52	10.0	5.6	24.41	27.67	0.2
53	11.25		24.64		130
54	10.0	5.6	27.63	29.43	0.2
55	11.25		27.95		130
56	11.25		29.81		
57	11.25		29.93		
58	11.25		30.77		
59	10.0	5.6	27.77	29.51	0.2
60	11.25		28.09		130

Final Calculations : Hazen-Williams

Jefferson Sprinkler, Inc
BOYD FUNERAL HOME

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Date

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	*****
11 to 12	10 11.25	5.60	26.00 26.0	1 1.049	E	2.0	1.250 2.000 3.250	120	21.556 -0.541 0.687			Vel = 9.65
12 to 33	11.25 11.25		0.0 26.0	1 1.049	T	5.0	2.370 5.000 7.370	120	21.702 0.0 1.558			Vel = 9.65
33 to 34	11.25 11.25		0.0 26.0	1.5 1.682	T	9.9	11.790 9.900 21.690	120	23.260 0.0 0.460			Vel = 3.75
34 to 35	11.25 11.25		26.44 52.44	2 2.157			6.490 6.490	120	23.720 0.0 0.150			Vel = 4.60
35 to 36	11.25 11.25		26.24 78.68	2 2.157			0.730 0.730	120	23.870 0.0 0.036			Vel = 6.91
36 to 37	11.25 11.25		26.55 105.23	2 2.157			10.000 10.000	120	23.906 0.0 0.839			Vel = 9.24
37 to 38	11.25 11.25		27.00 132.23	2 2.157			12.180 12.180	120	24.745 0.0 1.559			Vel = 11.61
38 to 39	11.25 11.25		27.67 159.9	2 2.157	T	12.307	13.790 12.307 26.097	120	26.304 0.0 4.749			Vel = 14.04
39 to TOR2	11.25 11.25		58.95 218.85	2 2.157	3E	18.46	11.500 18.460 29.960	120	31.053 0.0 9.741			Vel = 19.21
TOR2 to BOR	11.25 1		0.0 218.85	4 4.26	B S E	15.8	10.250 28.968 13.167 68.185	120	40.794 4.439 0.806			Vel = 4.93
BOR to TEST	1 1		0.0 218.85	4 4.07	2E G Zcd	31.864	106.000 3.186 141.050	150	46.039 3.855 1.378			** Fixed Loss = 3.855 Vel = 5.40
TEST			250.00 468.85						51.272			Qa = 250.00 K Factor = 65.48
42 to 43	10 11.25	5.60	26.44 26.44	1 1.049	E	2.0	1.250 2.000 3.250	120	22.292 -0.541 0.709			Vel = 9.82
43 to 44	11.25 11.25		0.0 26.44	1 1.049	T	5.0	0.710 5.000 5.710	120	22.460 0.0 1.245			Vel = 9.82
44 to 34	11.25 11.25		0.0 26.44	2 2.157			2.370 2.370	120	23.705 0.0 0.015			Vel = 2.32
34			0.0 26.44						23.720			K Factor = 5.43
45 to 46	10 11.25	5.60	26.24 26.24	1 1.049	E	2.0	1.250 2.000 3.250	120	21.952 -0.541 0.699			Vel = 9.74

Final Calculations : Hazen-Williams

Jefferson Sprinkler, Inc
BOYD FUNERAL HOME

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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	*****
46 to 47	11.25 11.25		0.0 26.24	1 1.049	T	5.0	0.730 5.000 5.730	120	22.110 0.0 1.232	Vel = 9.74	
47 to 35	11.25 11.25		0.0 26.24	1.5 1.61	T	8.0	11.790 8.000 19.790	120	23.342 0.0 0.528	Vel = 4.14	
35			0.0 26.24						23.870	K Factor = 5.37	
48 to 49	10 11.25	5.60	26.55 26.55	1 1.049	E	2.0	1.250 2.000 3.250	120	22.478 -0.541 0.714	Vel = 9.86	
49 to 36	11.25 11.25		0.0 26.55	1 1.049	T	5.0	0.710 5.000 5.710	120	22.651 0.0 1.255	Vel = 9.86	
36			0.0 26.55						23.906	K Factor = 5.43	
50 to 51	10 11.25	5.60	27.00 27.0	1 1.049	E	2.0	1.250 2.000 3.250	120	23.254 -0.541 0.737	Vel = 10.02	
51 to 37	11.25 11.25		0.0 27.0	1 1.049	T	5.0	0.710 5.000 5.710	120	23.450 0.0 1.295	Vel = 10.02	
37			0.0 27.00						24.745	K Factor = 5.43	
52 to 53	10 11.25	5.60	27.67 27.67	1 1.049	E	2.0	1.250 2.000 3.250	120	24.414 -0.541 0.771	Vel = 10.27	
53 to 38	11.25 11.25		0.0 27.67	1 1.049	T	5.0	2.000 5.000 7.000	120	24.644 0.0 1.660	Vel = 10.27	
38			0.0 27.67						26.304	K Factor = 5.40	
54 to 55	10 11.25	5.60	29.43 29.43	1 1.049	E	2.0	1.250 2.000 3.250	120	27.627 -0.541 0.864	Vel = 10.93	
55 to 56	11.25 11.25		0.0 29.43	1 1.049	T	5.0	2.000 5.000 7.000	120	27.950 0.0 1.862	Vel = 10.93	
56 to 57	11.25 11.25		0.0 29.43	2 2.067			12.180 12.180	120	29.812 0.0 0.119	Vel = 2.81	
57 to 58	11.25 11.25		29.51 58.94	2 2.067	T	10.0	13.790 10.000 23.790	120	29.931 0.0 0.841	Vel = 5.64	
58 to 39	11.25 11.25		0.0 58.94	2 2.157			9.790 9.790	120	30.772 0.0 0.281	Vel = 5.17	
			0.0								

Final Calculations : Hazen-Williams

Jefferson Sprinkler, Inc
BOYD FUNERAL HOME

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Date

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	*****
39			58.94						31.053		K Factor = 10.58	
59 to 60	10 11.25	5.60	29.51	1	E	2.0	1.250 2.000 3.250	120	27.768 -0.541 0.868		Vel = 10.95	
60 to 57	11.25 11.25		0.0 29.51	1	T	5.0	1.870 5.000 6.870	120	28.095 0.0 1.836		Vel = 10.95	
57			0.0 29.51						29.931		K Factor = 5.39	