

117-02 204ST. Fire Sprinkler Reports

for

GABRIEL MALKA
216-04 JAMAICA AVE
QUEENS , 11428

Prepared By:

JEON CONSULTING
80-15 LEFFERTS BLVD #2F
KEW GARDENS,NY,11415
718-718-1200
05/29/2019





General Project Data Report

General Data

Project Title:	117-02 204ST.	Project File Name:	117-02 204ST_052919.fiw
Designed By:		Date:	05/29/2019
Code Reference:	NFPA-13D	Approving Agency:	DEPARTMENT OF BUILDINGS
Client Name:	GABRIEL MALKA	Phone:	347-499-2599
Address:	216-04 JAMAICA AVE	City, State Zip Code:	QUEENS , 11428
Company Name:	JEON CONSULTING	Representative:	
Company Address:	80-15 LEFFERTS BLVD #2F	City And State:	KEW GARDENS,NY,11415
Phone:	718-718-1200		
Building Name:		Building Owner:	GABRIEL MALKA
Contact at Building:		Phone at Building:	
Address Of Building:	117-02 204ST	City, State Zip Code:	QUEENS , 11367

Project Data

Description Of Hazard:	Light Hazard	Sprinkler System Type:	Wet
Design Area Of Water Application:	0 ft ² ±	Maximum Area Per Sprinkler:	0 ft ² ±
Default Sprinkler K-Factor:	5.65 K	Default Pipe Material:	SCHED 40 WET STEEL
Inside Hose Stream Allowance:	50.00 gpm	Outside Hose Stream Allowance:	250.00 gpm
In Rack Sprinkler Allowance:	0.00 gpm		
Sprinkler Specifications			
Make:	VIKING	Model:	VK100
Size:	1/2	Temperature Rating:	135 F

Water Supply Test Data

Source Of Information:	DEP (CITY WIDE HYDRAULIC TESTING UNIT)		
Test Hydrant ID:	NORTH SIDE OF LINDEN BLVD 1ST HYDRANT	Date Of Test:	9/13/2018 9:58AM
Hydrant Elevation:	0 ft	Static Pressure:	41.00 psi
Test Flow Rate:	500.00 gpm	Test Residual Pressure:	40.00 psi

Calculation Project Data

Calculation Mode:	Supply		
System Inflow Number:	1.00	Specified Inflow Node Residual Pressure:	40.00 psi
Number Of Active Nodes:	9		
Number Of Active Pipes:	8	Number Of Inactive Pipes:	0
Number Of Active Sprinklers:	4	Number Of Inactive Sprinklers:	0



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	No Discharge ----	---- 0.000	N/A 0.0	40.00 ----	0.00 0.0	0.00 0.00
2	No Discharge ----	---- 0.000	N/A 0.0	38.14 ----	0.00 0.0	0.00 0.00
3	No Discharge ----	---- 0.000	N/A 0.0	24.11 ----	31.50 0.0	0.00 0.00
4	No Discharge ----	---- 0.000	N/A 0.0	21.96 ----	31.50 0.0	0.00 0.00
5	No Discharge ----	---- 0.000	N/A 0.0	18.02 ----	31.50 0.0	0.00 0.00
6	Sprinkler ----	---- 0.000	5.65 0.0	14.18 ----	31.50 0.0	0.00 0.00
7	Sprinkler ----	---- 0.000	5.65 0.0	12.19 ----	31.50 0.0	0.00 0.00
8	Sprinkler ----	---- 0.000	5.65 0.0	11.63 ----	31.50 0.0	0.00 0.00
9	Sprinkler ----	---- 0.000	5.65 0.0	9.98 ----	31.50 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/inc h-psi)
1	2	SCHED 40 WET STEEL	2.000	0	E	24.58	5.00	29.58	120
2	3	SCHED 40 WET STEEL	2.000	0	E	1.58	5.00	6.58	120
3	4	SCHED 40 WET STEEL	2.000	0	E	31.50	5.00	36.50	120
4	5	SCHED 40 WET STEEL	1.500	0	T	11.75	8.00	19.75	120
5	6	SCHED 40 WET STEEL	1.000	0	T	2.92	5.00	7.92	120
6	7	SCHED 40 WET STEEL	1.000	0	E	13.75	2.00	15.75	120
5	8	SCHED 40 WET STEEL	1.000	0	T	10.75	5.00	15.75	120
8	9	SCHED 40 WET STEEL	1.000	0	E	13.75	2.00	15.75	120



Fire Sprinkler Output Data

Overall Node Groupings Output Data

Pipe Segment Beg. Node	End. Node	Pipe Type Group	Pipe Flow Rate (gpm)	Sprinkler Flow At Beg. Node (gpm)	Non-Sprinkler Flow Out (+) (gpm)	In (-) (gpm)	Beg. Node Residual Pressure (psi)	Imbalance Flow At Beg. Node (gpm)
1	2	0	80.46	0.00	0.00	-80.46	40.00	
2	1	0	-80.46	0.00	0.00	0.00	38.14	-2.72401
2	3	0	77.73					
3	2	0	-77.73	0.00	0.00	0.00	24.11	-0.00047
3	4	0	77.73					
4	3	0	-77.73	0.00	0.00	0.00	21.96	-0.00022
4	5	0	77.73					
5	4	0	-77.73	0.00	0.00	0.00	18.02	-0.00024
5	6	0	40.75					
5	8	0	36.98					
6	5	0	-40.75	21.27	0.00	0.00	14.18	0.16733
6	7	0	19.65					
7	6	0	-19.65	19.73	0.00	0.00	12.19	0.08326
8	5	0	-36.98	19.27	0.00	0.00	11.63	0.10071
8	9	0	17.81					
9	8	0	-17.81	17.85	0.00	0.00	9.98	0.03643



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	0.00	0.00	0.00	40.00	2.00	0.00	0.06288	24.58	1.860
2	0.00	0.00	0.00	38.14	2.067	80.46	E	5.00	0.000
	SCHD 40 WET STEEL				120	7.69	0	29.58	1.860
2	0.00	0.00	0.00	38.14	2.00	0.00	0.05900	1.58	0.388
3	0.00	31.50	0.00	24.11	2.067	77.73	E	5.00	13.640
	SCHD 40 WET STEEL				120	7.43	0	6.58	14.028
3	0.00	31.50	0.00	24.11	2.00	0.00	0.05900	31.50	2.153
4	0.00	31.50	0.00	21.96	2.067	77.73	E	5.00	0.000
	SCHD 40 WET STEEL				120	7.43	0	36.50	2.153
4	0.00	31.50	0.00	21.96	1.50	0.00	0.19920	11.75	3.934
5	0.00	31.50	0.00	18.02	1.610	77.73	T	8.00	0.000
	SCHD 40 WET STEEL				120	12.25	0	19.75	3.934
5	0.00	31.50	0.00	18.02	1.00	21.27	0.48583	2.92	3.848
6	5.65	31.50	21.27	14.18	1.049	40.75	T	5.00	0.000
	SCHD 40 WET STEEL				120	15.13	0	7.92	3.848
5	0.00	31.50	0.00	18.02	1.00	19.27	0.40590	10.75	6.393
8	5.65	31.50	19.27	11.63	1.049	36.98	T	5.00	0.000
	SCHD 40 WET STEEL				120	13.73	0	15.75	6.393
6	5.65	31.50	21.27	14.18	1.00	19.73	0.12595	13.75	1.984
7	5.65	31.50	19.73	12.19	1.049	19.65	E	2.00	0.000
	SCHD 40 WET STEEL				120	7.29	0	15.75	1.984
8	5.65	31.50	19.27	11.63	1.00	17.85	0.10505	13.75	1.655
9	5.65	31.50	17.85	9.98	1.049	17.81	E	2.00	0.000
	SCHD 40 WET STEEL				120	6.61	0	15.75	1.655



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 (ft ² ±)	Flowing Density (gpm/ft ² ±)	Sprinkler Discharge (gpm)
6		5.65	31.50	14.18	0.00	0.000	21.27
Sub Totals For Non-Group					0.00	0.000	21.27
7		5.65	31.50	12.19	0.00	0.000	19.73
Sub Totals For Non-Group					0.00	0.000	19.73
8		5.65	31.50	11.63	0.00	0.000	19.27
Sub Totals For Non-Group					0.00	0.000	19.27
9		5.65	31.50	9.98	0.00	0.000	17.85
Sub Totals For Non-Group					0.00	0.000	17.85
Totals For All Groups					0.00	0.000	78.12



Fire Sprinkler Output Summary

Hydraulically Most Demanding Sprinkler Node

HMD Sprinkler Node Number:	9
HMD Actual Residual Pressure:	9.98 psi
HMD Actual GPM:	17.85 gpm

Sprinkler Summary

Sprinkler System Type:	Wet
Specified Area Of Application:	0.00 ft ² ±
Minimum Desired Density:	0.100 gpm/ft ² ±
Application Average Density:	0.000 gpm/ft ² ±
Application Average Area Per Sprinkler:	0.00 ft ² ±
Sprinkler Flow:	78.12 gpm
Average Sprinkler Flow:	19.53 gpm

Flow Velocity And Imbalance Summary

Maximum Flow Velocity (In Pipe 5 - 6)	15.13 ft/sec
Maximum Velocity Pressure (In Pipe 5 - 6)	1.54 psi
Allowable Maximum Nodal Pressure Imbalance:	0.1000 psi
Actual Maximum Nodal Pressure Imbalance:	0.1000 psi
Actual Average Nodal Pressure Imbalance:	0.0388 psi
Actual Maximum Nodal Flow Imbalance:	-2.7240 gpm
Actual Average Nodal Flow Imbalance:	0.3459 gpm

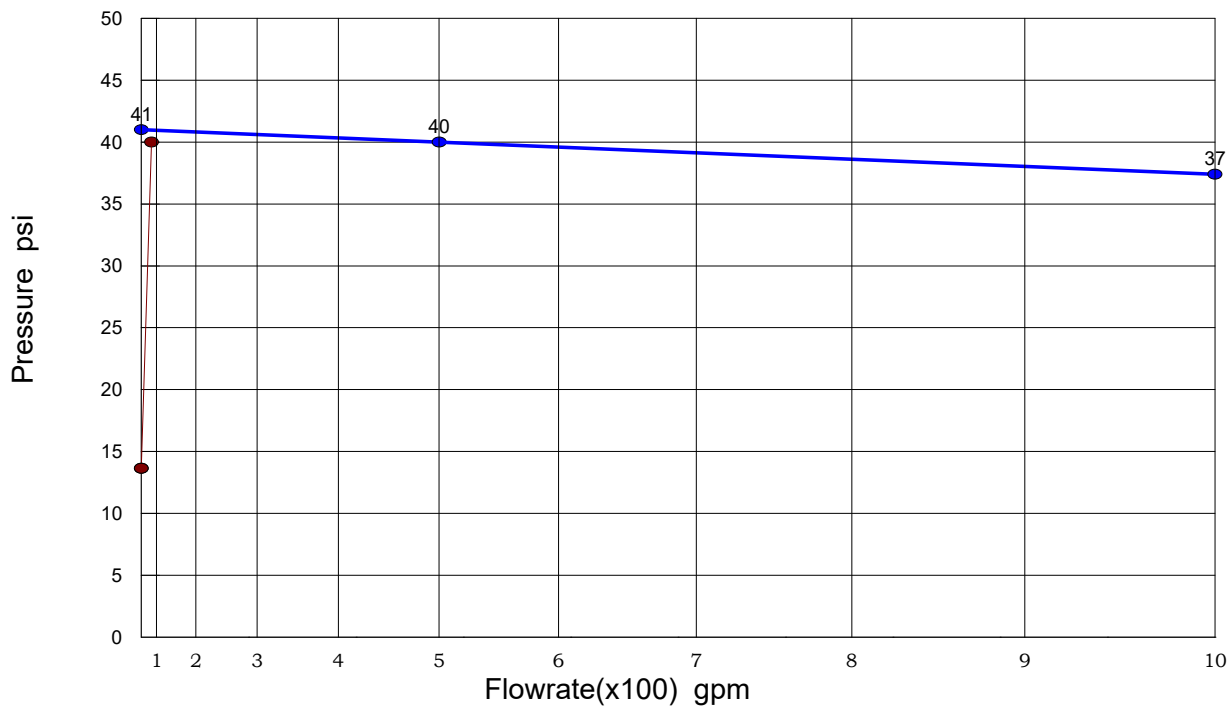
Overall Network Summary

Number Of Unique Pipe Sections:	8
Number Of Flowing Sprinklers:	4
Pipe System Water Volume:	13.14 gal
Sprinkler Flow:	78.12 gpm
Non-Sprinkler Flow:	0.00 gpm
Specified Residual Pressure At System Inflow Node:	40.00 psi
Demand Flow At System Inflow Node:	80.46 gpm



Fire Sprinkler Output Data

Hydraulic Supply/Demand Graph



Supply Curve Data

Static Pressure: 41 psi
Test Residual Pressure: 40 psi
Test Flow Rate: 500 gpm

Demand Curve Data

Calculated Residual Pressure: 40.00 psi
Calculated Flow Rate: 80.46 gpm
Excess Available Residual Pressure At Calculated Flow: 0.97 psi
Pressure Required For First Sprinkler Downstream From Inflow Node To Flow: 13.64 psi