

GENERAL NOTES:

SPRINKLER NOTES

SPRINKLER SPECIFICATIONS

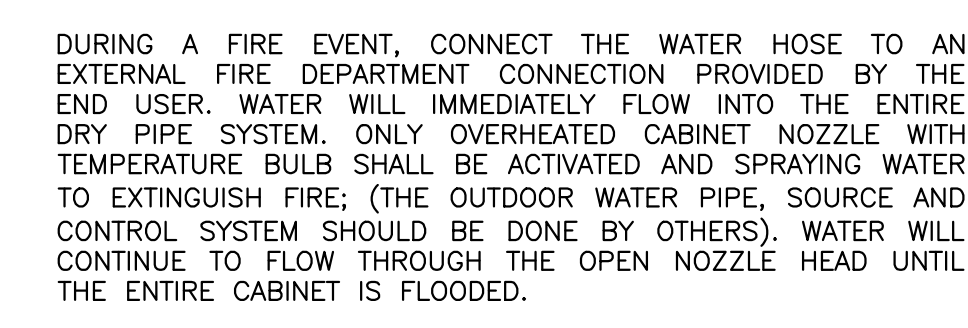
FIRE NARRATIVE

- 1. ALL SPRINKLER WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF N.F.P.A.-13, N.F.P.A.-855 AND ALL LOCAL AUTHORITIES.
2. ALL SPRINKLER WORK SHALL COMPLY WITH FIRE PROTECTION STANDARDS AND REQUIREMENTS.
3. DRAWING INDICATES SPRINKLER SYSTEM DESIGN ONLY. CONTRACTOR RESPONSIBLE FOR OFFSETS, DROPS AND RISES FOR COORDINATION WITH OTHER TRADES.
...
17. COMPOSITE DRAWINGS

- 1. THE COMPONENTS INSTALLATION, SIZING, SPACING, CLEARANCES, POSITION AND TYPE OF SYSTEMS SHALL CONFORM TO THE MASSACHUSETTS BUILDING CODE 2015 CHAPTER 9, MASSACHUSETTS FIRE CODE 2015 CHAPTER 9, MASSACHUSETTS FIRE SPRINKLER CODE 2013 / NFPA 13, 2013 AND NFPA 855.
2. ONLY APPROVED MATERIALS SHALL BE USED AS PER NFPA 13 CHAPTER 6 & CHAPTER 10.
...
24. THIS APPLICATION IS MADE ONLY FOR WORK INDICATED ON THE SPECIFICATION SHEET. ALL OTHER MATTERS SHOWN ARE NOT TO BE RELIED UPON OR TO BE CONSIDERED AS EITHER BEING APPROVED OR IN ACCORDANCE WITH APPLICABLE CODES.

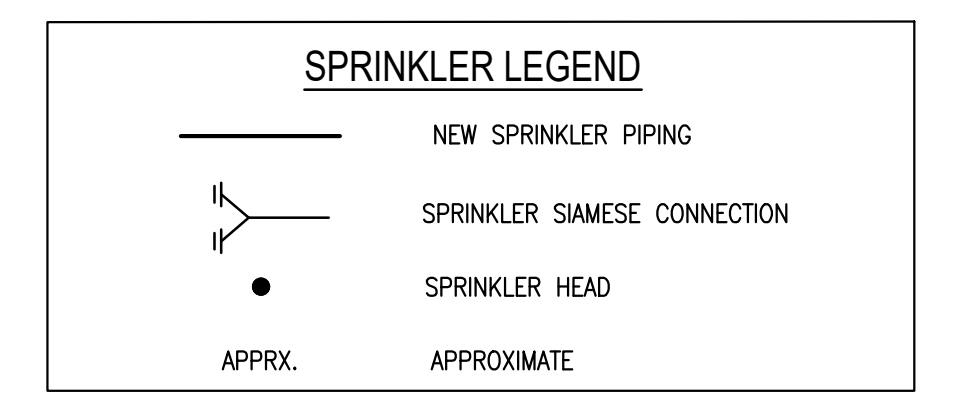
- PART 1 - GENERAL
1.01 REQUIREMENTS
A. THE SPRINKLER CONTRACTOR SHALL BE A LICENSED, AUTHORIZED INSTALLER OF SPRINKLER SYSTEMS AND SHALL HAVE HAD A MINIMUM OF FIVE YEARS EXPERIENCE IN THE INSTALLATION OF SPRINKLER SYSTEMS IN THE STATE OF MASSACHUSETTS.
...
2.06 ALTERNATES/SUBSTITUTIONS
CONTRACTOR SHALL STATE IN THEIR PROPOSAL ANY CONTRACTOR PROPOSED SUBSTITUTIONS OF THE MATERIALS OR METHODS OF INSTALLATION FROM THAT SPECIFIED. THESE ALTERATIONS SHALL BE LISTED ON THE PROPOSAL AS CONTRACTOR ALTERNATIVE.

- 2.08 INSERTS, HANGERS, ETC.
F. ALL SPRINKLER PIPING SHALL BE SUBSTANTIALLY SUPPORTED AND SHALL COMPLY WITH THE STANDARDS FOR THE NATIONAL FIRE PROTECTION ASSOCIATION FOR THE INSTALLATION OF SPRINKLER SYSTEMS AND AS REQUIRED BY THE MASSACHUSETTS BUILDING CODE.
...
2.05 PHASING
PHASING SHALL BE COORDINATED BETWEEN THE SPRINKLER CONTRACTOR AND GENERAL CONTRACTOR. SPRINKLER INSTALLATION SHALL BE PHASED IN A MANNER WHICH WILL ALLOW FULL OCCUPANCY OF THE EXISTING FACILITY WHILE THE INSTALLATION IS IN PROGRESS.



FIRE DETECTION AND EXTINGUISH GENERAL FLOW DIAGRAM

CONTRACTOR SHALL BE GIVEN A SEPIA TRANSPARENCIES TO IMPOSE THEIR WORK FOR A COORDINATED ALLOCATION OF SPACE. PROCEDURE SHALL INCLUDE PIPING, ELECTRICAL, STRUCTURAL AND ARCHITECTURAL DETAILS. SEPIAS SHALL BE GIVEN TO ALL TRADES WHO WILL DRAW HIS WORK ON DRAWINGS. G.C. SHALL HOLD A COORDINATION MEETING WITH ALL CONTRACTORS TO ELIMINATE INTERFERENCE OR CONFLICTS IN INSTALLING WORK. IF UNABLE TO EACH AGREEMENT ISSUE, G.C. SHALL MAKE BINDING DECISION.



SPRINKLER DRAWING LIST
Table with 2 columns: Drawing ID and Description.
SP-001.00 SPRINKLER GENERAL NOTE, SYMBOLS, ABBREVIATIONS AND SPECIFICATIONS.
SP-101.00 SPRINKLER OVERALL PLAN, DETAILED SPRINKLER PLAN & SPRINKLER RISER DIAGRAM.

DESIGN CRITERIA SUMMARY
Table with 2 columns: Criteria and Value.
HYDRAULIC CALCULATIONS BASED ON THE FOLLOWING:
OCCUPANCY: EXTRA HAZARD 1
MINIMUM DESIGN DENSITY: 0.30 GPM/SQ. FT.

SPACING BETWEEN SPRINKLER HEADS
EXTRA HAZARD 1: 10' MAX. COVERAGE PER SPRINKLER HEAD
NOTE: MAXIMUM DISTANCE BETWEEN SPRINKLER HEADS & WALLS IS 1/2 THE DISTANCE BETWEEN HEADS.

SPECIAL INSPECTION SPRINKLER NOTE:
1. SPECIAL INSPECTION OF SPRINKLER SYSTEM TO BE PERFORMED IN ACCORDANCE WITH MASSACHUSETTS BUILDING CODE SECTION BC 1704.2 & 1704.3
2. FINAL INSPECTION IN ACCORDANCE WITH MASSACHUSETTS BUILDING CODE 2015 BC 110.3.10 AND AUTHORITY HAVING JURISDICTION.

HYDRAULIC CALCULATION SUMMARY
Table with 2 columns: Parameter and Value.
HYDRAULIC CALCULATIONS FOR COMMERCIAL AREA BASED ON NFPA 13-2013 SECTION 11.2.3 FOLLOWING:
OCCUPANCY: EXTRA HAZARD 1
MINIMUM DESIGN DENSITY: 0.30 GPM/SQ. FT.
DESIGN AREA OF APPLICATION: AS PER NFPA 13
HYDRAULICALLY REMOTE AREA (100 SQ.FT. AREA)
NUMBER OF HEADS CALCULATED: 4
K-FACTOR: 5.6

PROTECTION AREA OF SPRINKLER HEADS
EXTRA HAZARD 1 : 100 SQ. FT. MAX PER SPRINKLER HEAD

SPRINKLER SCHEDULE
Table with 11 columns: SYMBOL, NAME, COVERAGE, METAL, TEMPERATURE (°F), RESPONSE, K-FACTOR, NPT, MFG, MODEL#, APPROVALS.
Row 1: ●, PENDENT, STANDARD, BRASS, 155, STANDARD, 5.6, 1/2", TYCO, TY325, cULus

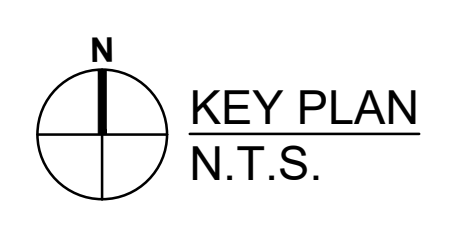
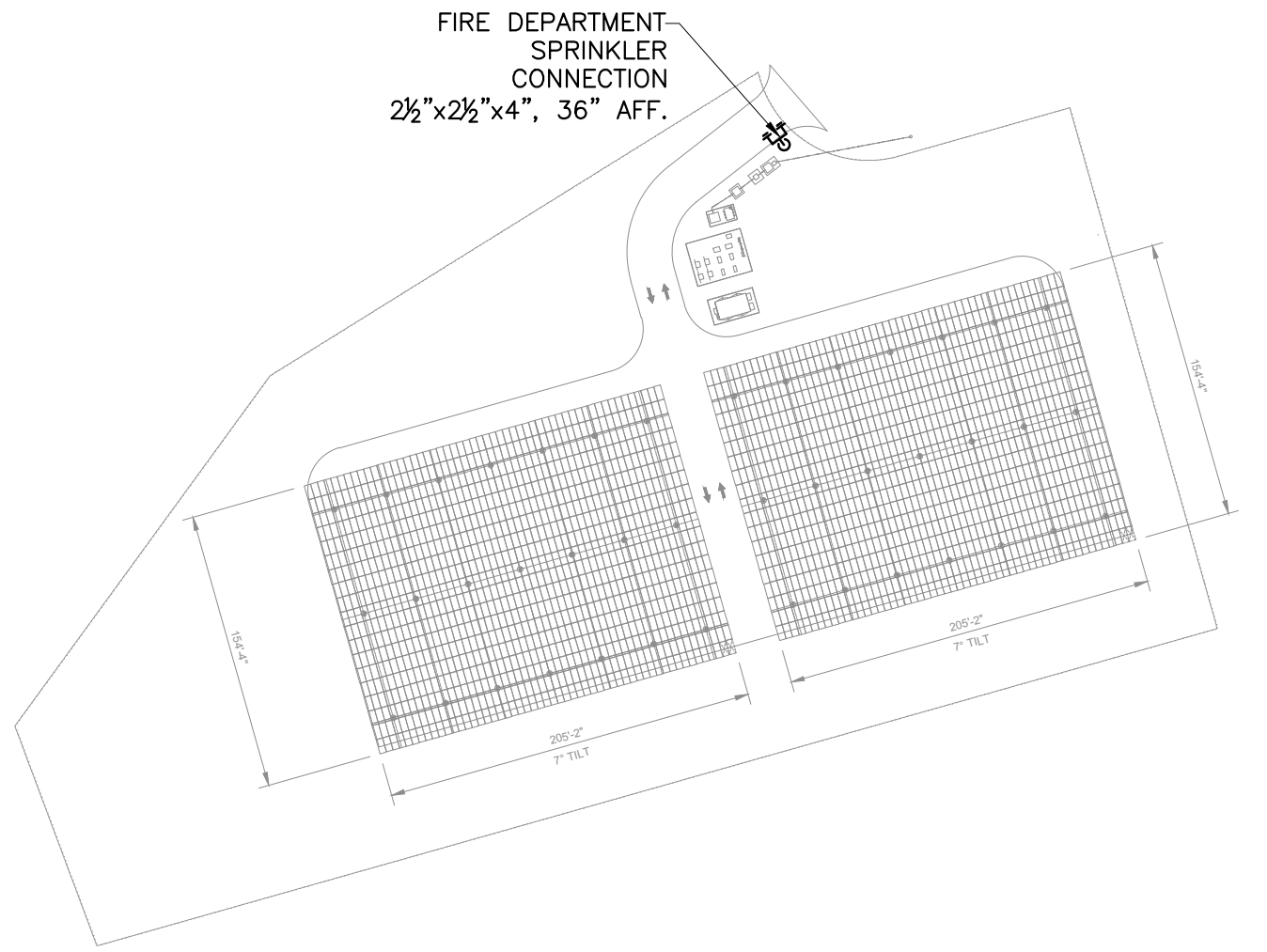
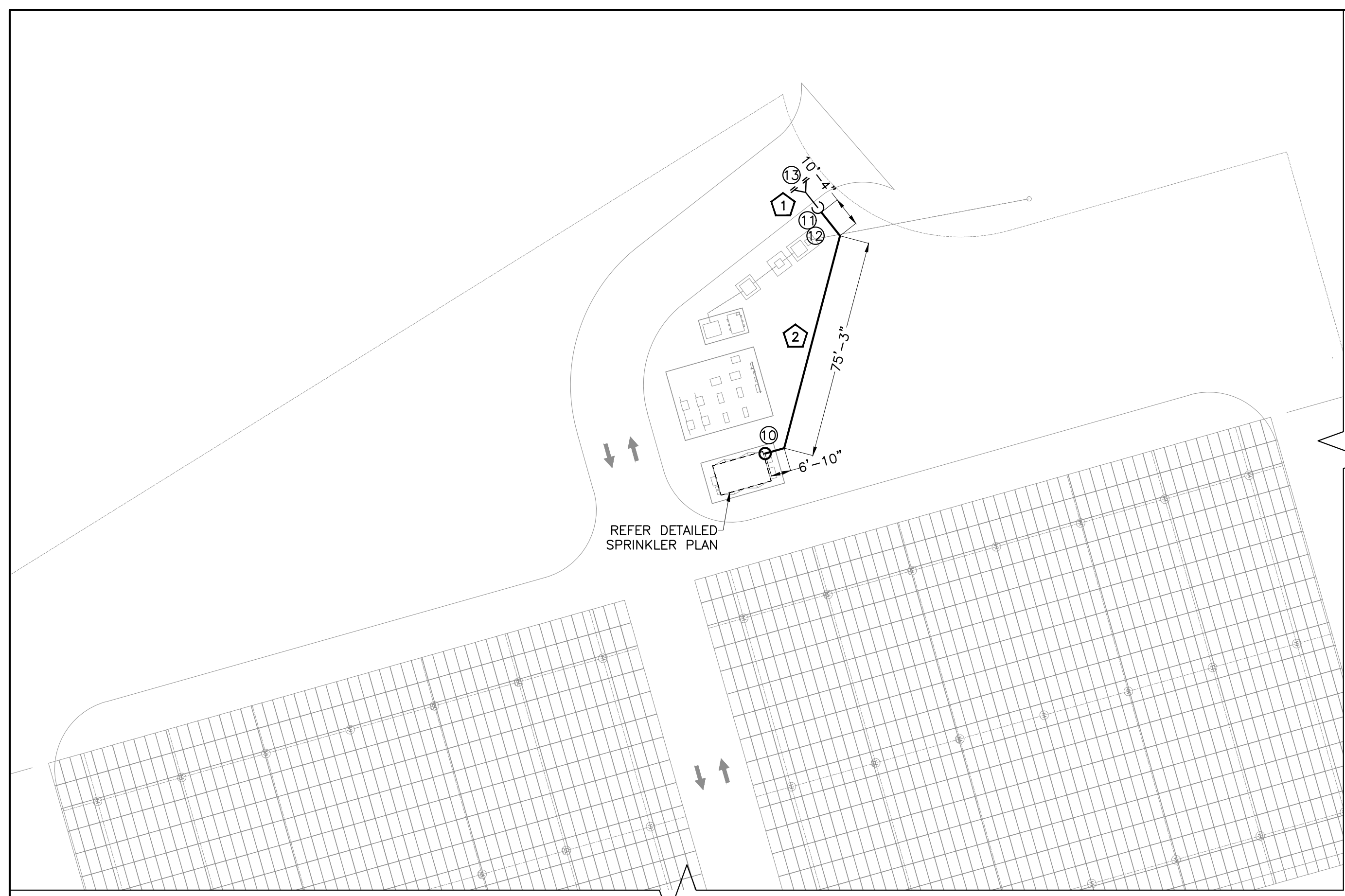


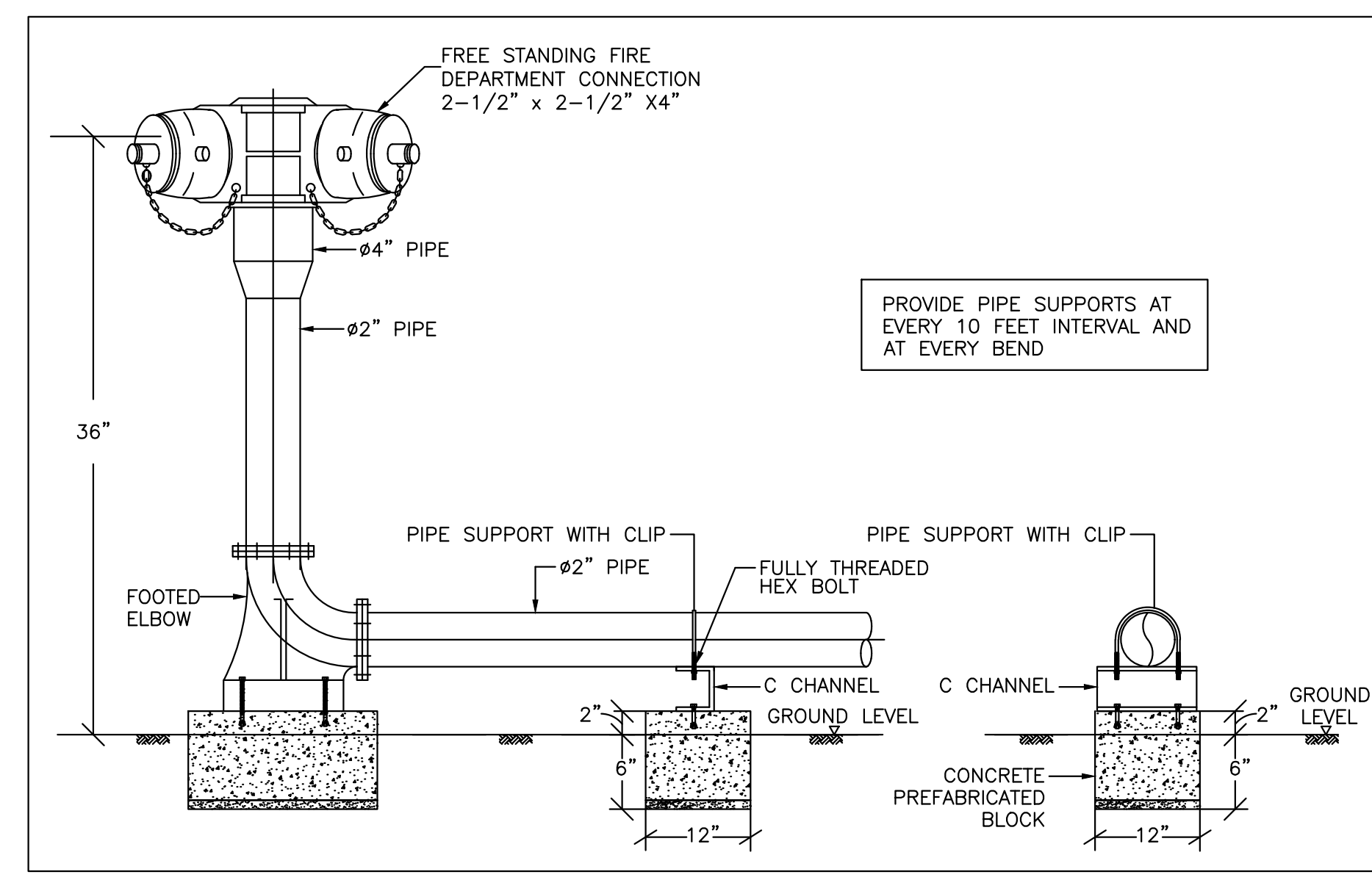
Table with 3 columns: NO., DATE, ISSUE DESCRIPTION.
Below the table is the logo for 'NY ENGINEERS NEARBY ENGINEERS' and contact information: 382 NE 191ST STREET SUITE 49674, MIAMI, FL 33179, PH-914.257.3455, WWW.NY-ENGINEERS.COM

PROJECT NAME
PHYSICAL LOCATION
DRAWING TITLE: SPRINKLER GENERAL NOTES, SYMBOLS, ABBREVIATIONS AND SPECIFICATIONS
GRAPHIC SCALE

Table with 2 columns: SEAL and PROJECT NO./SCALE/DATE/SHEET NUMBER.
SEAL:
PROJECT NO.:
SCALE: AS NOTED
DRAWN BY: NYE
CHECKED BY: NYE
DATE: 01/19/2024
SHEET NUMBER: SP-001.00



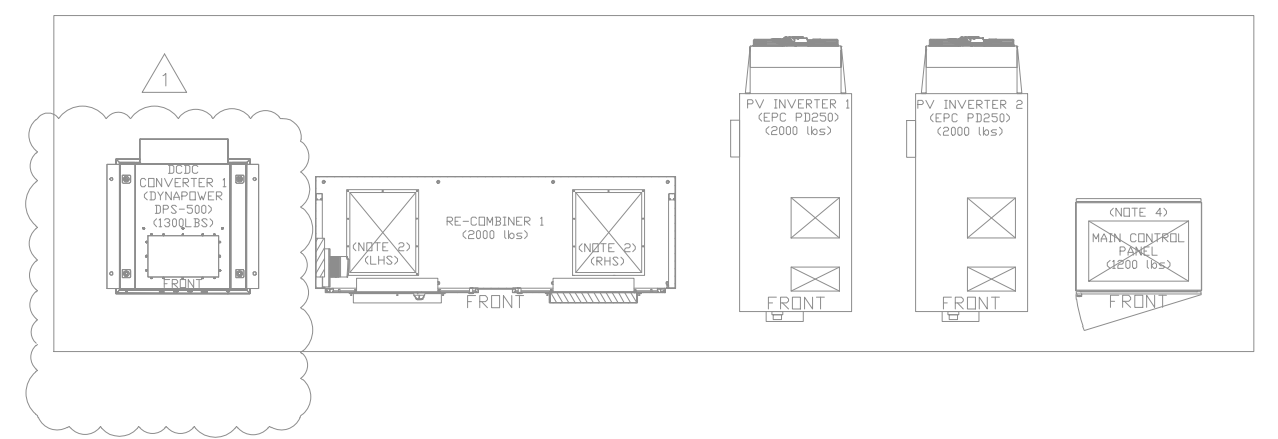
1 SPRINKLER OVERALL PLAN
SCALE: 1/32" = 1'-0"



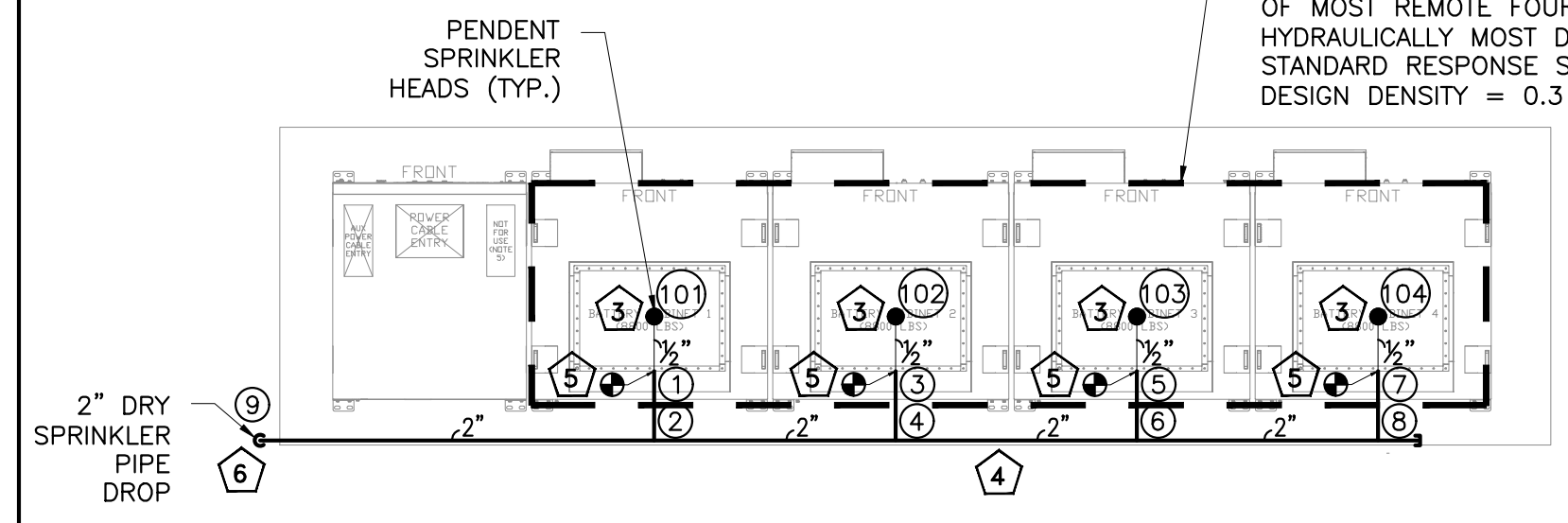
3 FIRE DEPARTMENT CONNECTION DETAIL
NTS

HAZARD CLASSIFICATION AND DESIGN DENSITY:
AREA : BATTERY CABINET

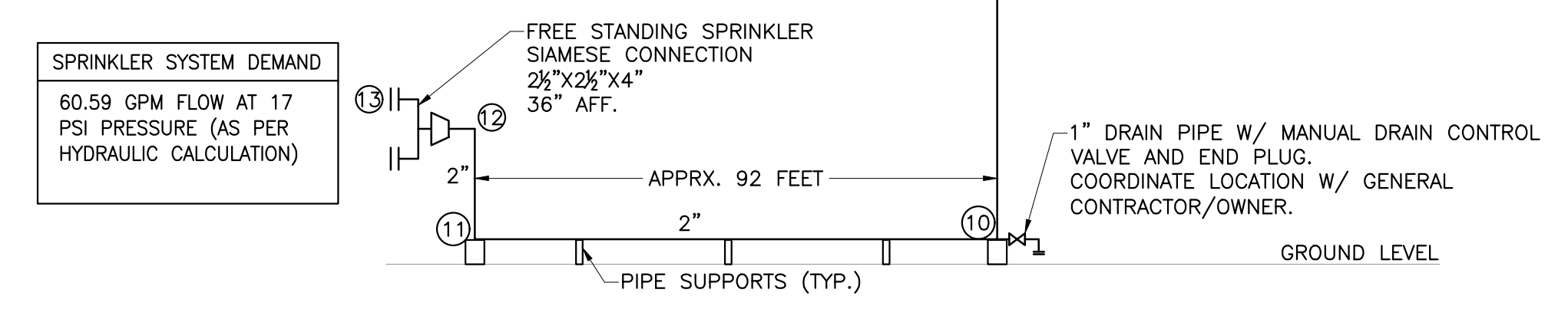
OCCUPANCY: EXTRA HAZARDS-1
MINIMUM DESIGN DENSITY: 0.30 GPM/SQ. FT.



DESIGN AS PER NFPA 13 FOR EXTRA HAZARD-1 OCCUPANCY. DESIGN BASED ON DRY PIPE SPRINKLER CONSISTING OF MOST REMOTE FOUR (4) HYDRAULICALLY MOST DEMANDING STANDARD RESPONSE SPRINKLERS. DESIGN DENSITY = 0.3 GPM/SQ.FT.



2 DETAILED SPRINKLER PLAN
SCALE: 1/4" = 1'-0"



4 SPRINKLER RISER DIAGRAM
SCALE: NTS

- SPRINKLER LEGEND:**
- 1 FIRE DEPARTMENT SPRINKLER CONNECTION 2½"x2½"x4", 36" AFF. MAINTAIN MINIMUM 10' EXPOSURE CLEARANCE BETWEEN FIRE DEPARTMENT CONNECTION & THE BESS CABINET BODY. MAINTAIN MINIMUM 3' CONNECTION CLEARANCE ON FRONT SIDE OF FIRE DEPARTMENT CONNECTION. (PROVIDE SOLID BRONZE MATERIAL FOR FIRE DEPARTMENT CONNECTION). REFER KEY PLAN ON SHEET SP-001 FOR EXACT LOCATION.
 - 2 NEW 2" DRY SPRINKLER PIPE RUNNING ABOVE GROUND. COORDINATE PIPING LAYOUT W/ SOLAR CONSULTANT & OTHER TRADES.
 - 3 COORDINATE SPRINKLER LOCATION & PIPING W/ EQUIPMENT CONTRACTOR.
 - 4 COORDINATE WITH CABINET MANUFACTURER AND GC FOR SPRINKLER PIPING SUPPORT FROM THE CABINET. PROVIDE ADD ALTERNATE FOR ANY ADDITIONAL PIPING SUPPORTS IF REQUIRED.
 - 5 SPRINKLER PIPING AND SPRINKLER HEAD BY CABINET MANUFACTURER. COORDINATE PIPING CONNECTION WITH CABINET MANUFACTURER.
 - 6 1" DRAIN PIPE W/ MANUAL DRAIN CONTROL VALVE INSTALL VERTICALLY (SEE SPRINKLER RISER DIAGRAM FOR DETAILS). COORDINATE LOCATION W/ GENERAL CONTRACTOR/OWNER.

NO. DATE ISSUE DESCRIPTION

NY ENGINEERS
NEARBY ENGINEERS
382 NE 191ST STREET SUITE
49674, MIAMI, FL 33179
PH-914.257.3455
WWW.NY-ENGINEERS.COM

PROJECT NAME

PHYSICAL LOCATION

DRAWING TITLE
**SPRINKLER OVERALL PLAN,
DETAILED SPRINKLER PLAN &
SPRINKLER RISER DIAGRAM**

GRAPHIC SCALE

SEAL	PROJECT NO.
	SCALE AS NOTED
	DRAWN BY NYE
	CHECKED BY NYE
	DATE 01/19/2024
	SHEET NUMBER SP-101.00

Fire Sprinkler Reports

Prepared By:

NY ENGINEERS

01/17/2024

General Project Data Report

General Data

Project Title:	Project File Name:
Designed By:	Date:
Code Reference:	Approving Agency:
Client Name:	Phone:
Address:	City, State Zip Code:
Company Name:	Representative:
Company Address:	City And State:
Phone:	
Building Name:	Building Owner:
Contact at Building:	Phone at Building:
Address Of Building:	City, State Zip Code:

Project Data

Description Of Hazard:	Ex. Haz. Gp. 1	Sprinkler System Type:	Dry
Design Area Of Water Application:	100 ft ²	Maximum Area Per Sprinkler:	50 ft ²
Default Sprinkler K-Factor:	5.60 K	Default Pipe Material:	SCHE 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:	TYCO	Model:	TY325
Size:	0.50	Temperature Rating:	155 F

Water Supply Test Data

Source Of Information:		Date Of Test:	
Test Hydrant ID:			
Hydrant Elevation:	0 ft	Static Pressure:	0.00 psi
Test Flow Rate:	0.00 gpm	Test Residual Pressure:	0.00 psi
Calculated System Flow Rate:	60.59 gpm	Calculated Inflow Residual Pressure:	17.19 psi

Calculation Project Data

Calculation Mode:	Demand	Minimum Desired Flow Density:	0.30 gpm/ft ²
HMD Minimum Residual Pressure:	7.00 psi	Number Of Inactive Pipes:	0
Number Of Active Nodes:	17	Number Of Inactive Sprinklers:	0
Number Of Active Pipes:	16		
Number Of Active Sprinklers:	4		

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 Stnd 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	9.41 ----	8.00 0.0	0.00 0.00
2	No Discharge ----	---- 0.000	N/A 0.0	9.54 ----	8.00 0.0	0.00 0.00
3	No Discharge ----	---- 0.000	N/A 0.0	9.08 ----	8.00 0.0	0.00 0.00
4	No Discharge ----	---- 0.000	N/A 0.0	9.21 ----	8.00 0.0	0.00 0.00
5	No Discharge ----	---- 0.000	N/A 0.0	8.93 ----	8.00 0.0	0.00 0.00
6	No Discharge ----	---- 0.000	N/A 0.0	9.06 ----	8.00 0.0	0.00 0.00
7	No Discharge ----	---- 0.000	N/A 0.0	8.88 ----	8.00 0.0	0.00 0.00
8	No Discharge ----	---- 0.000	N/A 0.0	9.01 ----	8.00 0.0	0.00 0.00
9	No Discharge ----	---- 0.000	N/A 0.0	10.25 ----	8.00 0.0	0.00 0.00
10	No Discharge ----	---- 0.000	N/A 0.0	13.76 ----	1.00 0.0	0.00 0.00
11	No Discharge ----	---- 0.000	N/A 0.0	17.37 ----	1.00 0.0	0.00 0.00
12	No Discharge ----	---- 0.000	N/A 0.0	16.98 ----	2.50 0.0	0.00 0.00
13	No Discharge ----	---- 0.000	N/A 0.0	17.19 ----	2.50 0.0	0.00 0.00
101	Sprinkler ----	---- 0.000	5.60 0.0	7.58 ----	7.00 0.0	0.00 0.00
102	Sprinkler ----	---- 0.000	5.60 0.0	7.33 ----	7.00 0.0	0.00 0.00
103	Sprinkler ----	---- 0.000	5.60 0.0	7.21 ----	7.00 0.0	0.00 0.00
104	Sprinkler ----	---- 0.000	5.60 0.0	7.17 ----	7.00 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/inc h-psi)
104	7	SCHED 40 WET STEEL	0.500	0	E	1.20	1.00	2.20	120
7	8	SCHED 40 WET STEEL	1.000	0		1.70	0.00	1.70	120
8	6	SCHED 40 WET STEEL	2.000	0	T	5.30	10.00	15.30	120
103	5	SCHED 40 WET STEEL	0.500	0	E	1.20	1.00	2.20	120
5	6	SCHED 40 WET STEEL	1.000	0		1.70	0.00	1.70	120
6	4	SCHED 40 WET STEEL	2.000	0	T	5.30	10.00	15.30	120
102	3	SCHED 40 WET STEEL	0.500	0	E	1.20	1.00	2.20	120
3	4	SCHED 40 WET STEEL	1.000	0		1.70	0.00	1.70	120
4	2	SCHED 40 WET STEEL	2.000	0	T	5.30	10.00	15.30	120
101	1	SCHED 40 WET STEEL	0.500	0	E	1.20	1.00	2.20	120
1	2	SCHED 40 WET STEEL	1.000	0		1.70	0.00	1.70	120
2	9	SCHED 40 WET STEEL	2.000	0	T	8.90	10.00	18.90	120
9	10	SCHED 40 WET STEEL	2.000	0	E	8.00	5.00	13.00	120
10	11	SCHED 40 WET STEEL	2.000	0	E	92.00	5.00	97.00	120
11	12	SCHED 40 WET STEEL	2.000	0	E	2.00	5.00	7.00	120
12	13	SCHED 40 WET STEEL	2.000	0	E	0.50	5.00	5.50	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	101	0	15.41	0.00	0.00	0.00	9.41	0.00002
1	2	0	-15.41					
2	1	0	15.41	0.00	0.00	0.00	9.54	0.00000
2	4	0	45.18					
2	9	0	-60.59					
3	102	0	15.15	0.00	0.00	0.00	9.08	0.00000
3	4	0	-15.15					
4	2	0	-45.18	0.00	0.00	0.00	9.21	0.00000
4	3	0	15.15					
4	6	0	30.03					
5	103	0	15.03	0.00	0.00	0.00	8.93	0.00000
5	6	0	-15.03					
6	4	0	-30.03	0.00	0.00	0.00	9.06	-0.00001
6	5	0	15.03					
6	8	0	15.00					
7	104	0	14.99	0.00	0.00	0.00	8.88	-0.00648
7	8	0	-15.00					
8	6	0	-15.00	0.00	0.00	0.00	9.01	0.00000
8	7	0	15.00					
9	2	0	60.59	0.00	0.00	0.00	10.25	0.00000
9	10	0	-60.59					
10	9	0	60.59	0.00	0.00	0.00	13.76	0.00000
10	11	0	-60.59					
11	10	0	60.59	0.00	0.00	0.00	17.37	0.00000
11	12	0	-60.59					
12	11	0	60.59	0.00	0.00	0.00	16.98	0.00000
12	13	0	-60.59					
13	12	0	60.59	0.00	0.00	-60.59	17.19	
101	1	0	-15.41	15.42	0.00	0.00	7.58	0.00779
102	3	0	-15.15	15.16	0.00	0.00	7.33	0.00732
103	5	0	-15.03	15.03	0.00	0.00	7.21	0.00714
104	7	0	-14.99	15.00	0.00	0.00	7.17	0.00808

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)
101	5.60	7.00	15.42	7.58	0.50	15.42	1.02497	1.20	2.255
1	0.00	8.00	0.00	9.41	0.622	15.41	E	1.00	-0.433
	SCHED 40 WET STEEL				120	16.28	0	2.20	1.822
1	0.00	8.00	0.00	9.41	1.00	0.00	0.08041	1.70	0.137
2	0.00	8.00	0.00	9.54	1.049	15.41	----	0.00	0.000
	SCHED 40 WET STEEL				120	5.72	0	1.70	0.137
4	0.00	8.00	0.00	9.21	2.00	0.00	0.02162	5.30	0.331
2	0.00	8.00	0.00	9.54	2.067	45.18	T	10.00	0.000
	SCHED 40 WET STEEL				120	4.32	0	15.30	0.331
102	5.60	7.00	15.16	7.33	0.50	15.16	0.99296	1.20	2.185
3	0.00	8.00	0.00	9.08	0.622	15.15	E	1.00	-0.433
	SCHED 40 WET STEEL				120	16.00	0	2.20	1.752
3	0.00	8.00	0.00	9.08	1.00	0.00	0.07790	1.70	0.132
4	0.00	8.00	0.00	9.21	1.049	15.15	----	0.00	0.000
	SCHED 40 WET STEEL				120	5.62	0	1.70	0.132
6	0.00	8.00	0.00	9.06	2.00	0.00	0.01015	5.30	0.155
4	0.00	8.00	0.00	9.21	2.067	30.03	T	10.00	0.000
	SCHED 40 WET STEEL				120	2.87	0	15.30	0.155
103	5.60	7.00	15.03	7.21	0.50	15.03	0.97790	1.20	2.151
5	0.00	8.00	0.00	8.93	0.622	15.03	E	1.00	-0.433
	SCHED 40 WET STEEL				120	15.87	0	2.20	1.718
5	0.00	8.00	0.00	8.93	1.00	0.00	0.07671	1.70	0.130
6	0.00	8.00	0.00	9.06	1.049	15.03	----	0.00	0.000
	SCHED 40 WET STEEL				120	5.58	0	1.70	0.130
8	0.00	8.00	0.00	9.01	2.00	0.00	0.00281	5.30	0.043
6	0.00	8.00	0.00	9.06	2.067	15.00	T	10.00	0.000
	SCHED 40 WET STEEL				120	1.43	0	15.30	0.043
104	5.60	7.00	15.00	7.17	0.50	15.00	0.97363	1.20	2.142
7	0.00	8.00	0.00	8.88	0.622	14.99	E	1.00	-0.433
	SCHED 40 WET STEEL				120	15.83	0	2.20	1.709
7	0.00	8.00	0.00	8.88	1.00	0.00	0.07644	1.70	0.130
8	0.00	8.00	0.00	9.01	1.049	15.00	----	0.00	0.000
	SCHED 40 WET STEEL				120	5.57	0	1.70	0.130
2	0.00	8.00	0.00	9.54	2.00	0.00	0.03721	8.90	0.703
9	0.00	8.00	0.00	10.25	2.067	60.59	T	10.00	0.000
	SCHED 40 WET STEEL				120	5.79	0	18.90	0.703
9	0.00	8.00	0.00	10.25	2.00	0.00	0.03721	8.00	0.484
10	0.00	1.00	0.00	13.76	2.067	60.59	E	5.00	3.031
	SCHED 40 WET STEEL				120	5.79	0	13.00	3.515

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)
10	0.00	1.00	0.00	13.76	2.00	0.00	0.03721	92.00	3.609
11	0.00	1.00	0.00	17.37	2.067	60.59	E	5.00	0.000
	SCHED 40 WET STEEL				120	5.79	0	97.00	3.609
11	0.00	1.00	0.00	17.37	2.00	0.00	0.03721	2.00	0.260
12	0.00	2.50	0.00	16.98	2.067	60.59	E	5.00	-0.650
	SCHED 40 WET STEEL				120	5.79	0	7.00	-0.389
12	0.00	2.50	0.00	16.98	2.00	0.00	0.03721	0.50	0.205
13	0.00	2.50	0.00	17.19	2.067	60.59	E	5.00	0.000
	SCHED 40 WET STEEL				120	5.79	0	5.50	0.205

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)
101		5.60	7.00	7.58	50.00	0.308	15.42
Sub Totals For Non-Group					50.00	0.308	15.42
102		5.60	7.00	7.33	50.00	0.303	15.16
Sub Totals For Non-Group					50.00	0.303	15.16
103		5.60	7.00	7.21	50.00	0.301	15.03
Sub Totals For Non-Group					50.00	0.301	15.03
104		5.60	7.00	7.17	50.00	0.300	15.00
Sub Totals For Non-Group					50.00	0.300	15.00
Totals For All Groups					200.00	0.303	60.62

Fire Sprinkler Output Summary

Hydraulically Most Demanding Sprinkler Node

HMD Sprinkler Node Number:	104
HMD Actual Residual Pressure:	7.17 psi
HMD Actual GPM:	15.00 gpm

Sprinkler Summary

Sprinkler System Type:	Dry
Specified Area Of Application:	100.00 ft ²
Adjusted Area Of Application:	130.00 ft ²
Minimum Desired Density:	0.300 gpm/ft ²
Application Average Density:	0.606 gpm/ft ²
Application Adjusted Density (not required by NFPA 13):	0.466 gpm/ft ²
Application Average Area Per Sprinkler:	25.00 ft ²
Adjusted Area Per Sprinkler (not required by NFPA 13):	32.50 ft ²
Sprinkler Flow:	60.62 gpm
Average Sprinkler Flow:	15.15 gpm

Flow Velocity And Imbalance Summary

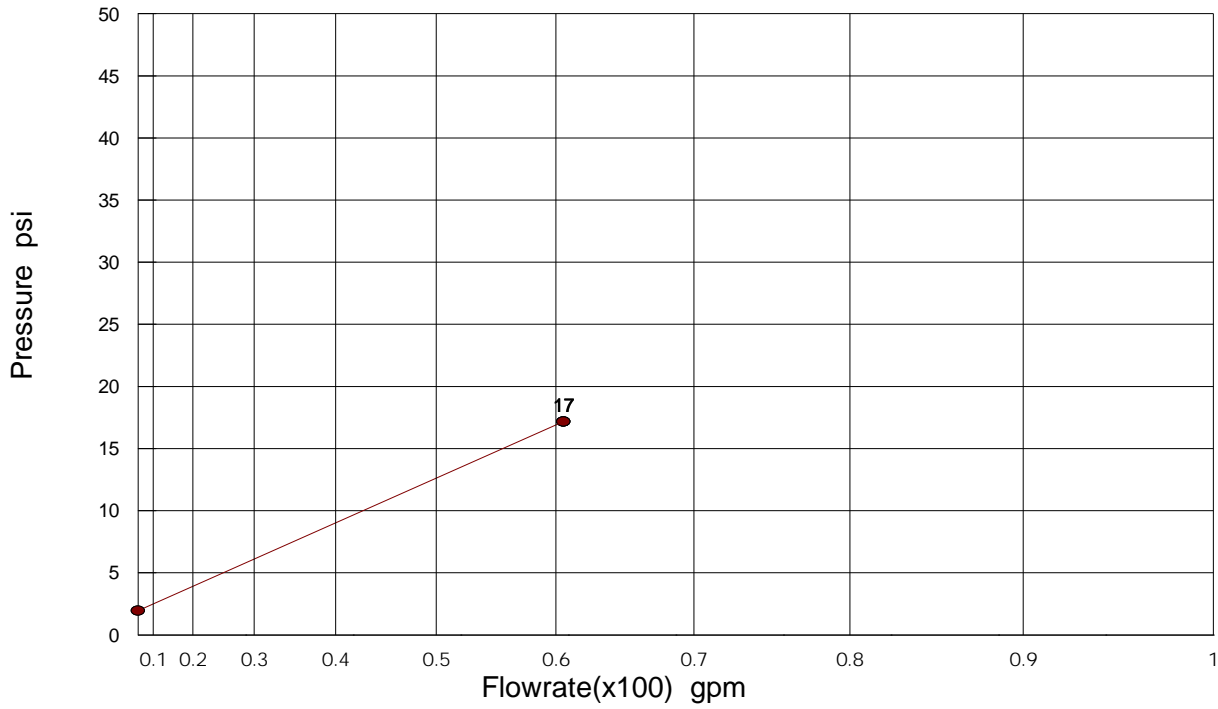
Maximum Flow Velocity (In Pipe 1 - 101)	16.28 ft/sec
Maximum Velocity Pressure (In Pipe 1 - 101)	1.78 psi
Allowable Maximum Nodal Pressure Imbalance:	0.0100 psi
Actual Maximum Nodal Pressure Imbalance:	0.0063 psi
Actual Average Nodal Pressure Imbalance:	0.0025 psi
Actual Maximum Nodal Flow Imbalance:	0.0081 gpm
Actual Average Nodal Flow Imbalance:	0.0022 gpm

Overall Network Summary

Number Of Unique Pipe Sections:	16
Number Of Flowing Sprinklers:	4
Pipe System Water Volume:	22.57 gal
Sprinkler Flow:	60.62 gpm
Non-Sprinkler Flow:	0.00 gpm
Minimum Required Residual Pressure At System Inflow Node:	17.19 psi
Demand Flow At System Inflow Node:	60.59 gpm

Fire Sprinkler Output Data

Hydraulic Supply/Demand Graph



Demand Curve Data

Calculated Residual Pressure: 17.19 psi

Calculated Flow Rate: 60.59 gpm

Pressure Required For First Sprinkler Downstream From Inflow Node To Flow: 1.95 psi