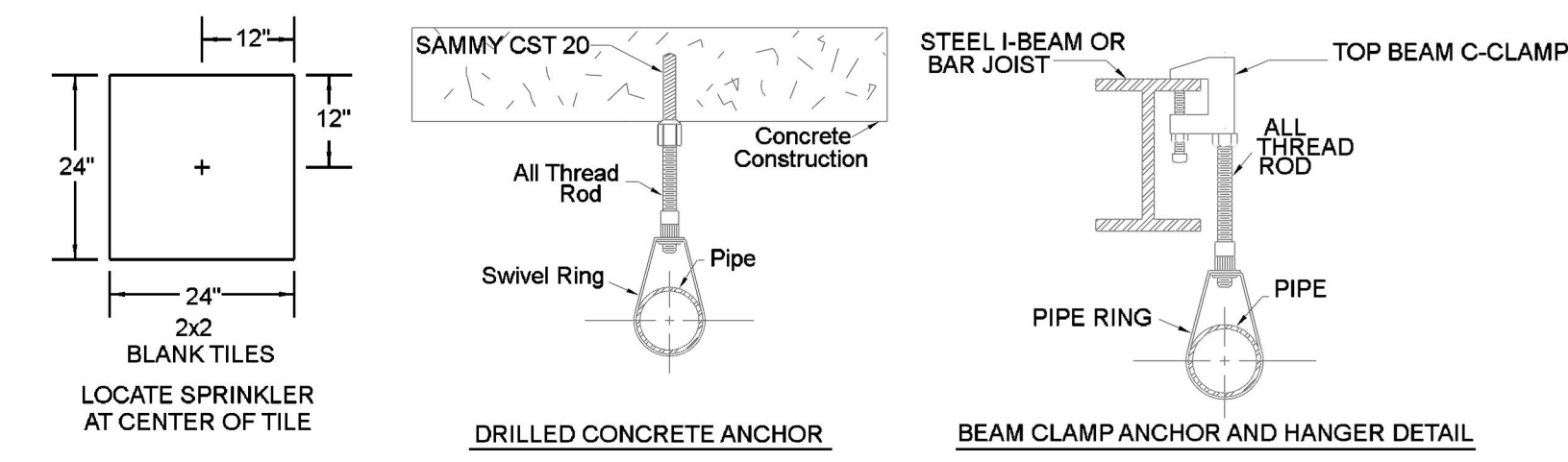
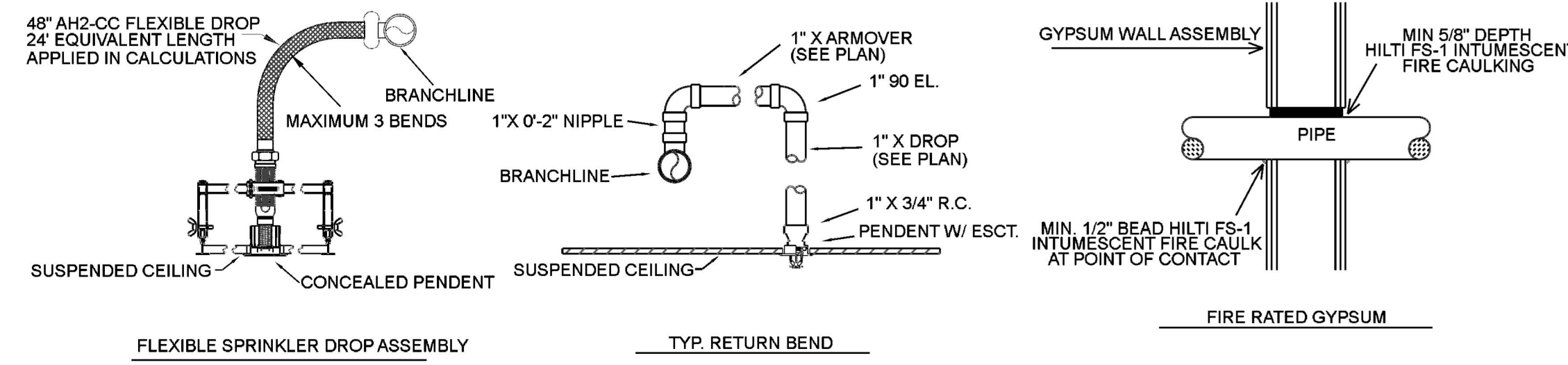


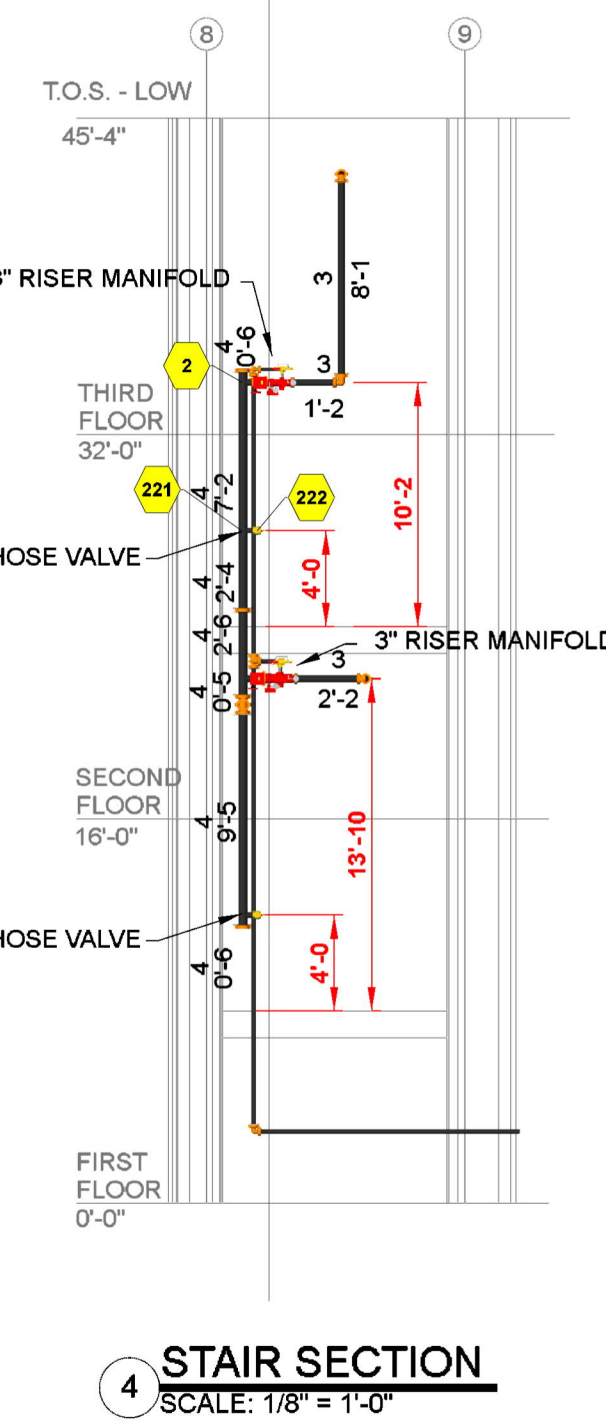
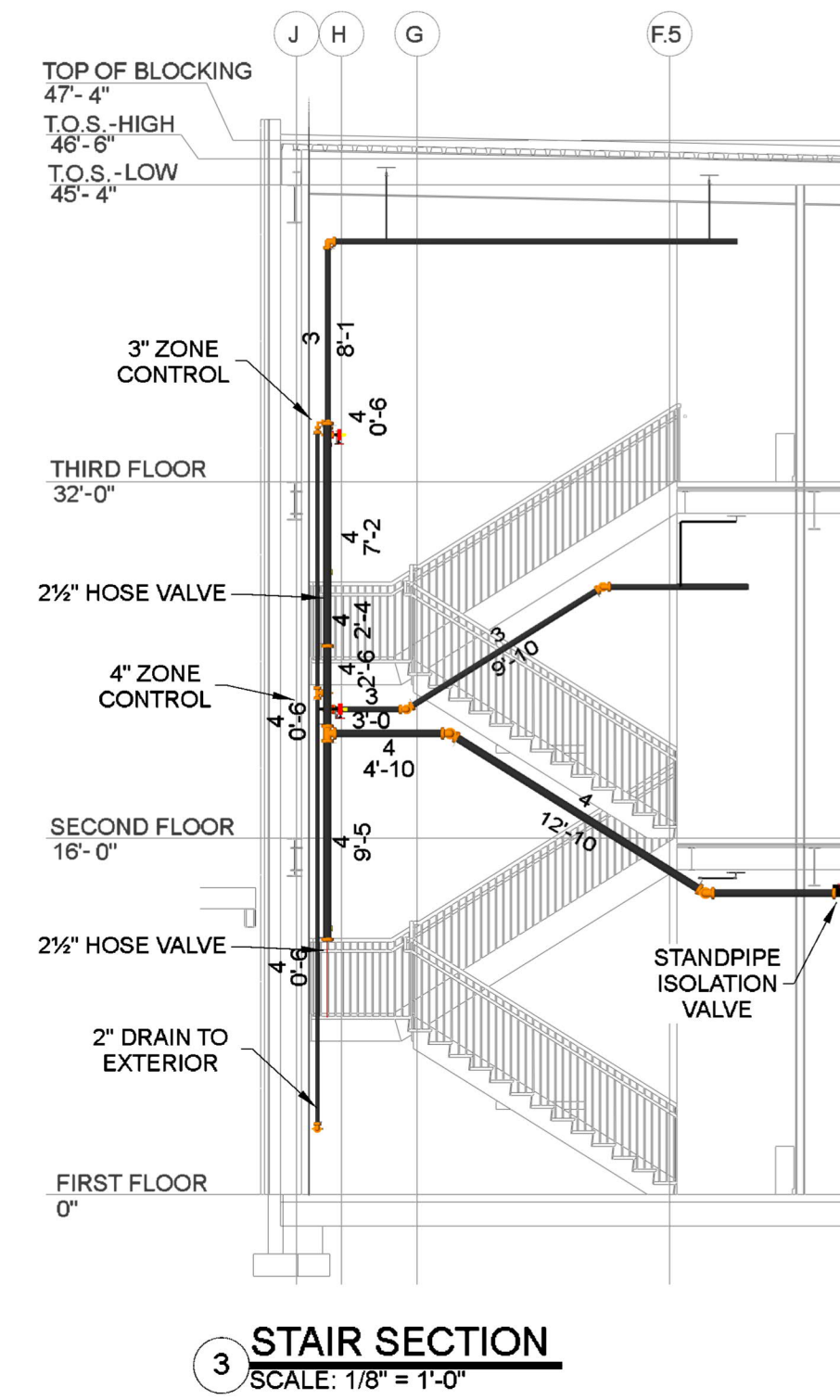
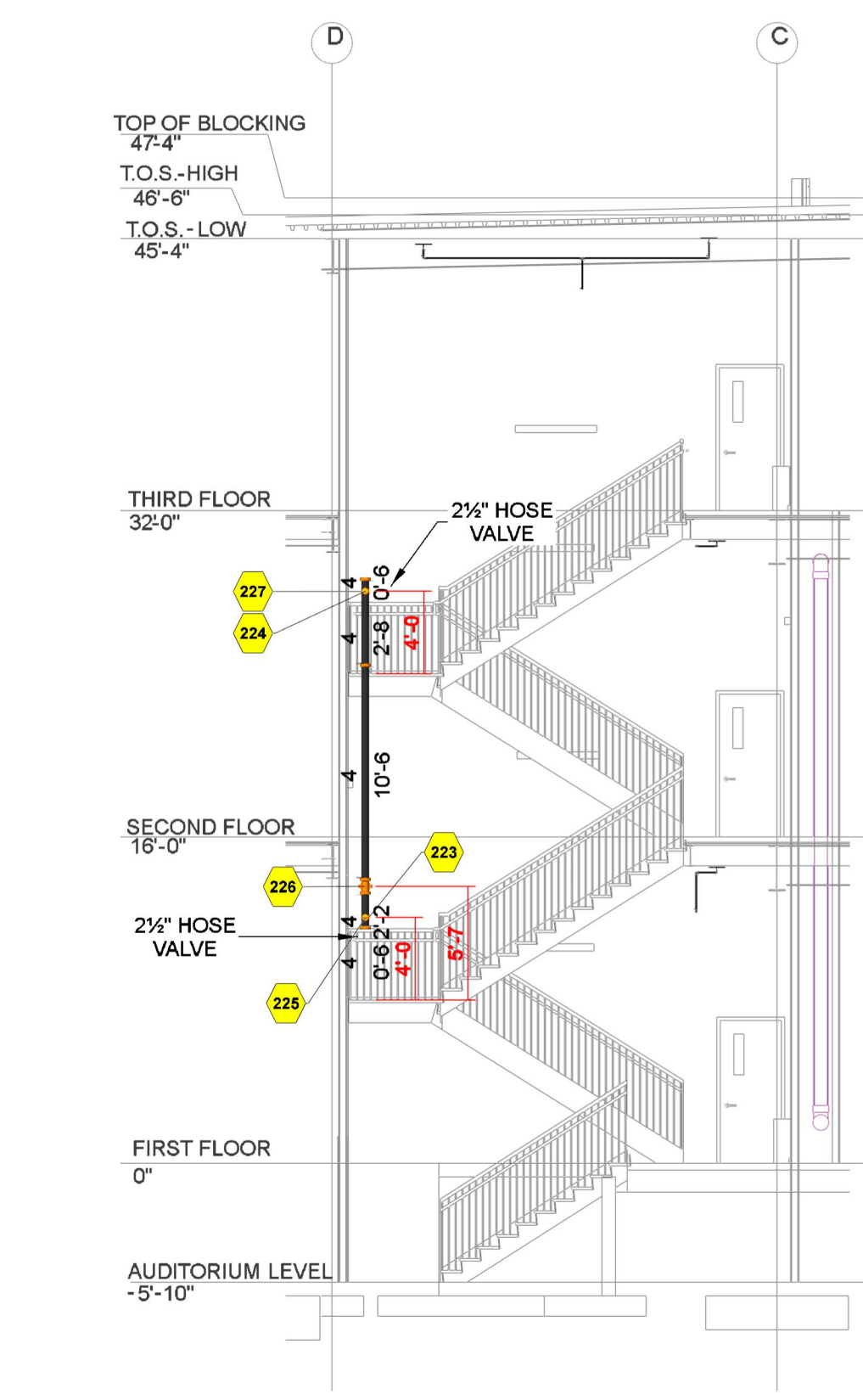
GENERAL INFORMATION

- 1) INTERNATIONAL BUILDING CODE (2018)
 1.1) OCCUPANCY CLASS: B
 1.2) TYPE OF CONSTRUCTION: II-B (NON-COMBUSTIBLE CONSTRUCTION)
 1.3) SPRINKLERED AREAS (APPROXIMATE - SEE ARCHITECTURAL PLANS FOR ACTUAL)
 FIRST FLOOR = 22,400 S.F.
 SECOND FLOOR = 22,600 S.F.
 THIRD FLOOR = 21,800 S.F.
 TOTAL = 66,800 S.F.
- 1.4) INSTALLATION STANDARDS:
 FM GLOBAL DS 2-0 (2021); DS 3-0 (2010); DS 3-28 (2021); DS 4-4N (2001); DS 8-1 (2021); DS 8-9 (2022); NFPA-13 (2013); NFPA 14 (2015)
- 2) SPRINKLER PIPE TYPES:
 WET:
 2.1) 1" OUTLETS CONNECTED DIRECTLY TO FLEX DROPS TO BE IGS ALL OTHER 1" TO BE THREADED
 2.2) 1" ARM-OVERS AND OUTLETS TO BE SCHEDULE 40 THREADED
 2.3) 1-1/2" THROUGH 4" MAIN & BRANCH LINES TO BE BLK SCHEDULE 10 PIPING WITH SHORT RADIUS GROOVED FITTINGS
- 3) DESIGN CRITERIA
 3.1) HC-1 AREAS DESIGNED TO DELIVER 0.10 GPM/S.F. OVER THE MOST DEMANDING 1500 S.F.
 3.2) HC-2 AREAS DESIGNED TO DELIVER 0.20 GPM/S.F. OVER THE MOST DEMANDING 2500 S.F.
 3.3) HC-3 AREAS DESIGNED TO DELIVER 0.30 GPM/S.F. OVER THE MOST DEMANDING 2500 S.F.
 3.4) STORAGE AREAS INDIVIDUALLY EVALUATED AND DESIGNED TO DS 8-9 REQUIREMENTS.
- 4) NOTES:
 4.1) ALL MATERIAL TO BE NEW AND MEET U.L. AND FM GLOBAL STANDARDS
 4.2) HANGERS TO BE INSTALLED IN ACCORDANCE WITH FM GLOBAL AND NFPA 13 - SEE PLAN FOR HANGING REQUIREMENTS
- 5) SYMBOLS USED ON DRAWINGS:
 *xkff PIPE ELEVATION A.F.F.
 [HC-1] ROOM HAZARD CLASSIFICATION (ALL ROOMS ARE CONSIDERED HC-1 UNLESS NOTED)
 [HJ] HYDRAULIC CALCULATION JUNCTION POINT
 9'-0" CEILING HEIGHT
- 6) SCOPE OF WORK:
 6.1) INSTALL A COMPLETE 3 ZONE WET FIRE SPRINKLER SYSTEM AND 2 STANDPIPES IN NEW THREE STORY EDUCATIONAL BUILDING TO COVER ALL AREAS OF BUILDING PER FM GLOBAL AND NFPA 13. SYSTEM WILL BE ZONED PER FLOOR FED BY COMBINATION STANDPIPE.
 6.2) ALL AREAS OF THE BUILDING TO BE INSTALLED AND COVERED IN ACCORDANCE WITH THE LOCAL AUTHORITY HAVING JURISDICTION AS WELL AS PER FM GLOBAL AND NFPA 13 REQUIREMENTS.

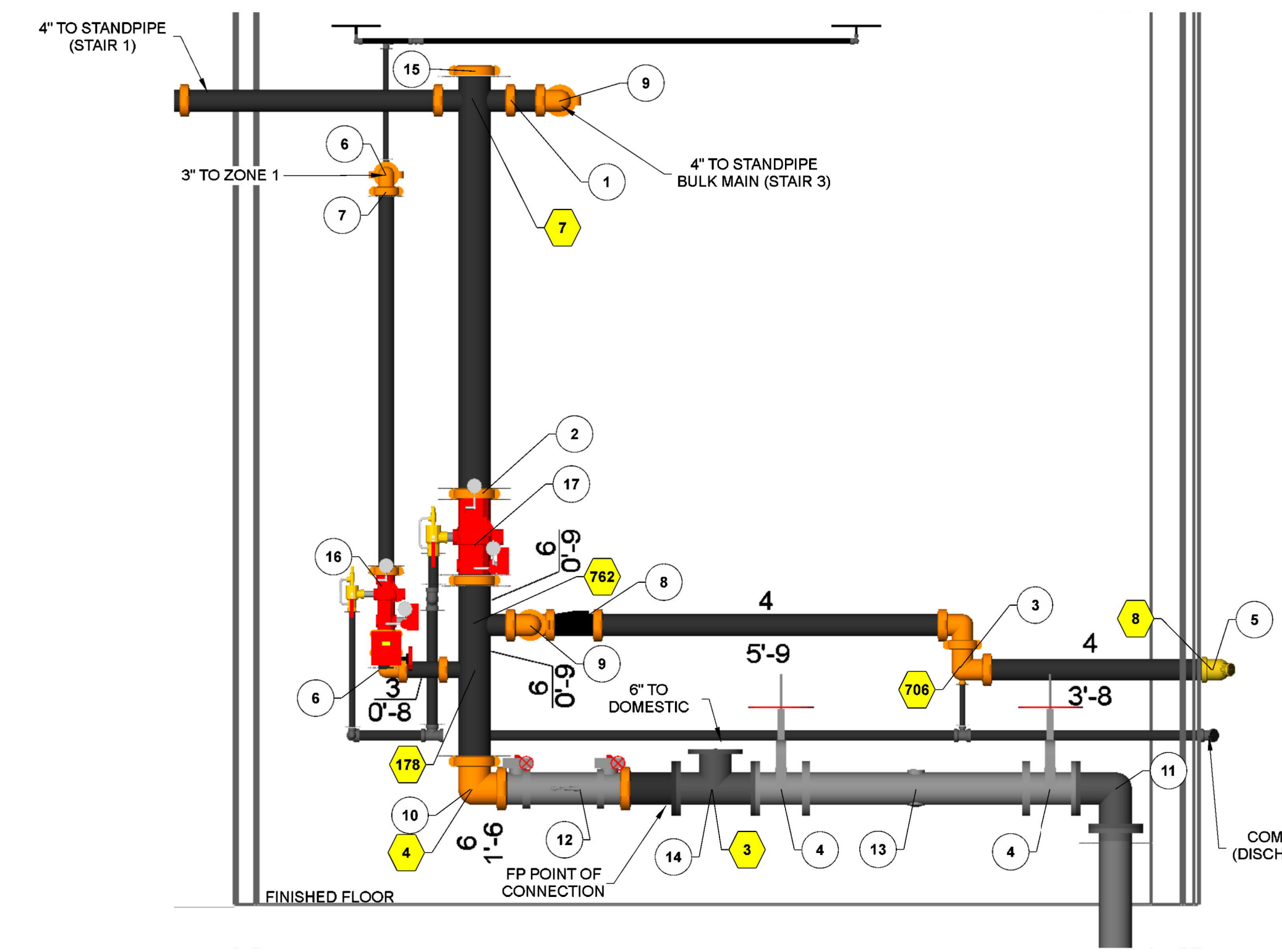
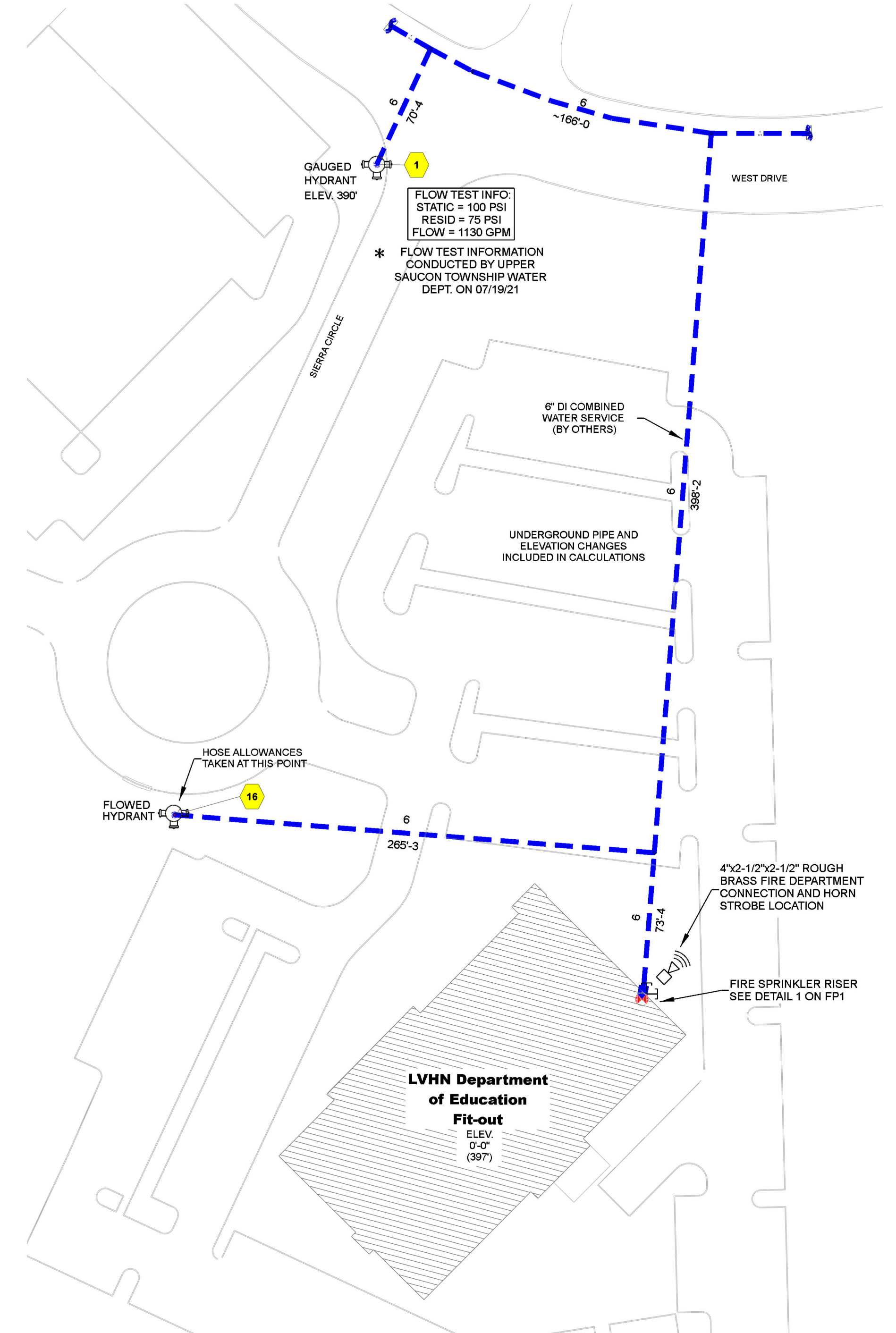
MAXIMUM DISTANCE BETWEEN HANGERS (FT.-IN.)					
PIPE SIZE	1"	1 1/2"	2"	3"	4"
STEEL PIPE EXCEPT THREADED LIGHTWALL	12-0	15-0	15-0	15-0	15-0



INSTALLATION DETAILS



MANUAL WET STANDPIPE
 LOCATION: STAIR #1,3
 REQUIRED FLOW: 750GPM
 OUTLET PSI: 100
 REQUIRED INLET PSI: 146



Riser Legend				
Key Note	Size	Description	Quantity	
1	4	Victaulic Installation Ready Coupling 009N Org	11	
2	6	Victaulic Installation Ready Coupling 009N Org	5	
3	4 x 1 x 4	Victaulic 90° Drain Elbow #10-DR Org	1	
4	6	Valve, F-F OS&Y, 175lb	2	
5	4 x 2 1/2 x 2 1/2	FDC, Exposed Slamase	1	
6	3	Victaulic FireLock 90° Elbow #001 Org	2	
7	3	Victaulic Installation Ready Coupling 009N Org	8	
8	4	Check, Victaulic FireLock 71T	1	
9	4	Victaulic FireLock 90° Elbow #001 Org	4	
10	6	Victaulic FireLock 90° Elbow #001 Org	1	
11	6	Flanged 90° Elbow, CI	1	
12	6	Valve, Deringer 30 DCCA Backflow (B-Fly)	1	
13	6	Water Meter, Flanged, Fireline	1	
14	6	Flanged Test, CI	1	
15	6	Victaulic FireLock Cap #008 Org	1	
16	3	Grv UMC Riser Manifold with Check Valve	1	
17	6	Grv UMC Riser Manifold with Check Valve	1	

GRAPHIC SCALE - 1/8"=1'-0"

OWNER TO SUPPLY ADEQUATE HEAT IN ALL AREAS WHERE SPRINKLER PIPING MAY FREEZE.

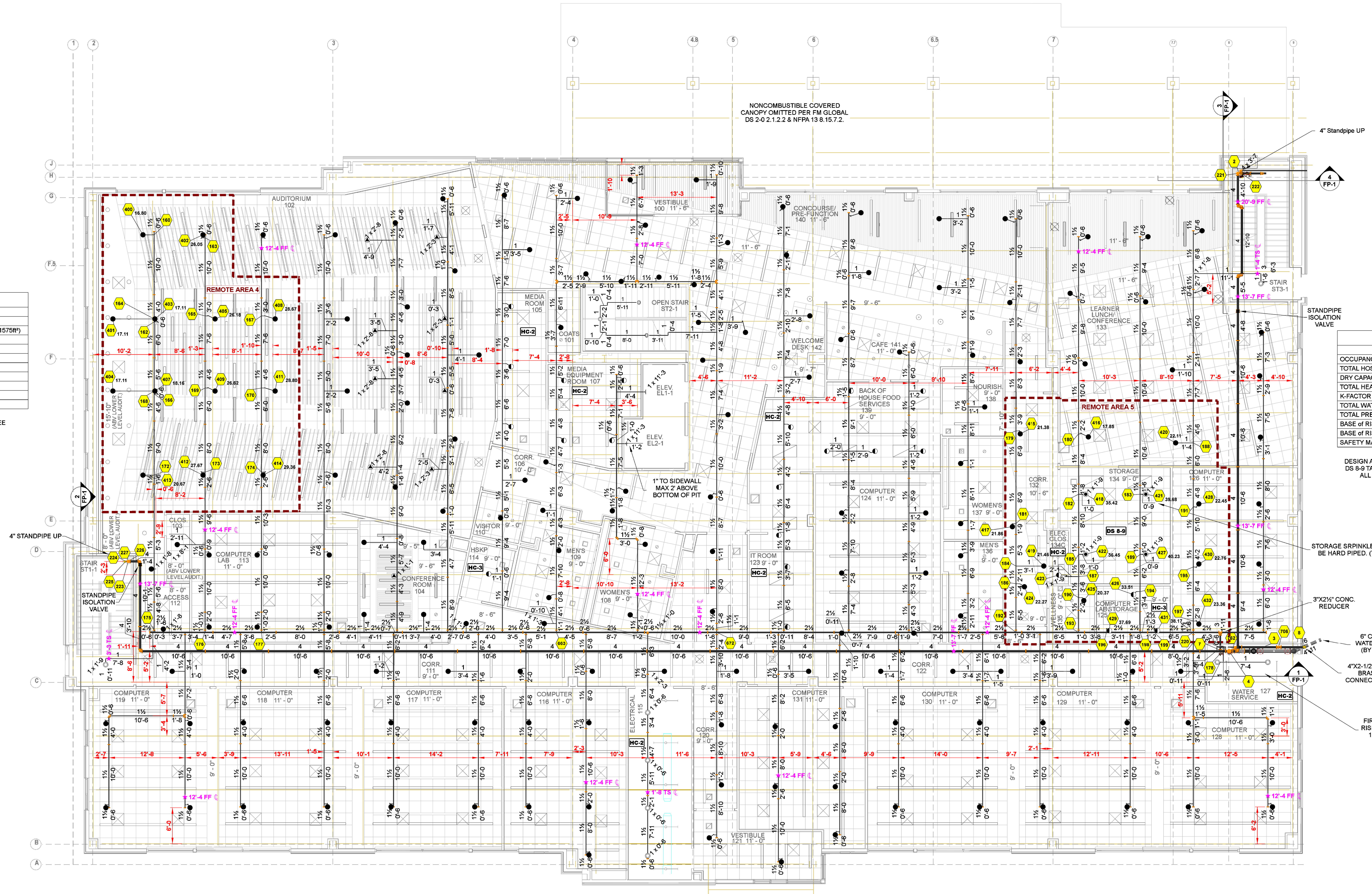
REVISIONS				SPRINKLER LEGEND											
NO.	DATE	JOB NO.	DESCRIPTION	SYMBOL	MANUF.	MODEL	SIN	THREAD	K-FACT	TEMP	FINISH	ESCU.	TYPE	QTY.	QTY IN HEAD BOX
0	3/28/22	22-5490	RELEASED FOR APPROVAL												
1	04/05/22	22-5490	SPRINKLER CORRECTION												
SEE SHEET															
															TOTAL (THIS SHEET):

Hydraulic Information	
Remote Area 4	
OCCUPANCY CLASSIFICATION	FM HC-1
DENSITY (gpm/ft ²)	0.10 for 1507ft ² (Actual 1575ft ²)
TOTAL HOSE STREAMS	250.00
TOTAL HEADS FLOWING	13
K-FACTOR	5.6
TOTAL WATER REQUIRED	506.66
TOTAL PRESSURE REQUIRED	74.584
BASE OF RISER (gpm)	256.66
BASE OF RISER (psi)	65.903
SAFETY MARGIN (psi)	+19.748 (20.9%)

CALCULATION NOTE:
AREA CALCULATED PER FM GLOBAL 3-0 AS HC-1 SEE GENERAL INFO.

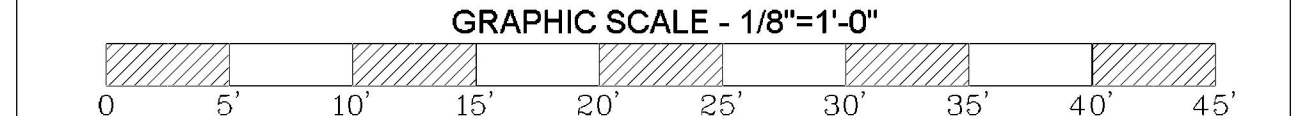
Hydraulic Information	
Remote Area 5	
OCCUPANCY CLASSIFICATION	FM Storage
TOTAL HOSE STREAMS	250.00
DRY CAPACITY	0.00gal
TOTAL HEADS FLOWING	18
K-FACTOR	11.2
TOTAL WATER REQUIRED	780.81
TOTAL PRESSURE REQUIRED	77.290
BASE OF RISER (gpm)	510.81
BASE OF RISER (psi)	62.107
SAFETY MARGIN (psi)	+10.684 (12.1%)

CALCULATION NOTE:
DESIGN AREA 5 CALCULATED PER FM GLOBAL DS 9-9 TABLE 5.11 2K 12 SPRINKLERS @ 10PSI. ALL STORAGE SPRINKLERS IN AREA INCLUDED.



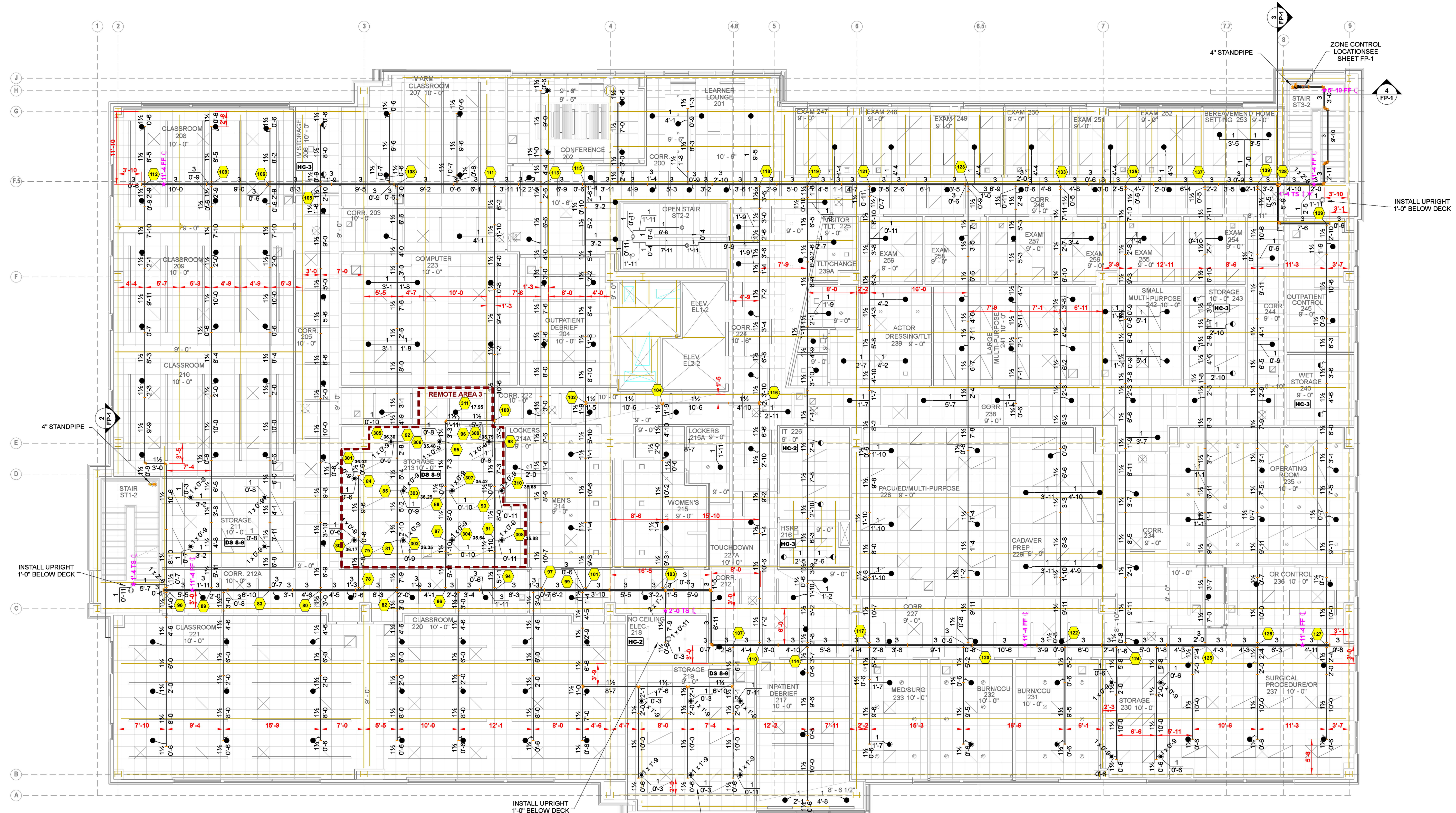
Sprinkler Legend											
Symbol	Manufacturer	SIN	Model	Quantity	K-Factor	Type	Size	Response	Finish	Temperature	Note
●	Viking	VK482	Mirage	176	5.6	Pendant	1/2"	Quick	Brass	155°F	CONCEALED
●	Viking	VK300	Microfast	17	5.6	Upright	1/2"	Quick	Brass	155°F	N/A
●	Reliable	RA3417	GS-80F	22	8	Pendant	3/4"	Standard	White	165°F	CONCEALED
●	Viking	VK305	Microfast	2	5.6	Sidewall	1/2"	Quick	White Polyester	155°F	N/A
●	Viking	VK302	Microfast	9	5.6	Pendant	1/2"	Quick	White Polyester	155°F	N/A
●	Viking	VK377	ELO 3/4"	4	11.2	Pendant	3/4"	Quick	White Polyester	155°F	SEMI-RECESSED
				Total = 229							

*HARD PIPE, NO FLEX ALLOWED



OWNER TO SUPPLY ADEQUATE HEAT IN ALL AREAS WHERE SPRINKLER PIPING MAY FREEZE.

REVISIONS			SPRINKLER LEGEND												
NO.	DATE	JOB NO.	DESCRIPTION	SYMBOL	MANUF.	MODEL	SIN	THREAD	K-FACT	TEMP	FINISH	ESCU	TYPE	QTY.	QTY IN HEAD BOX
0	3/28/22	22-5490	RELEASED FOR APPROVAL												
1	04/05/22	22-5490	SPRINKLER CORRECTION												
SEE SHEET															
TOTAL (THIS SHEET):															



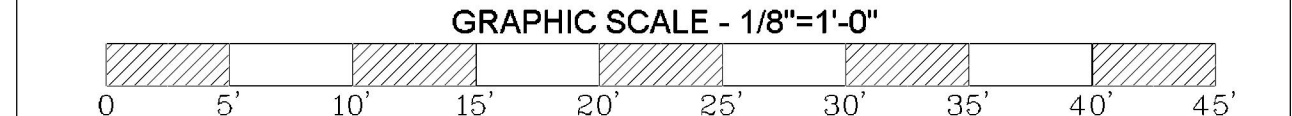
Hydraulic Information	
Remote Area 3	
OCCUPANCY CLASSIFICATION	FM Storage
TOTAL HOSE STREAMS	250.00
DRY CAPACITY	0.00gal
TOTAL HEADS FLOWING	12
K-FACTOR	11.2
TOTAL WATER REQUIRED	872.92
TOTAL PRESSURE REQUIRED	78.480
BASE OF RISER (gpm)	422.92
BASE OF RISER (psi)	63.703
SAFETY MARGIN (psi)	+13.937 (15.4%)

CALCULATION NOTE:
DESIGN AREA IS CALCULATED PER FM GLOBAL DS 6-9 TABLE 5.11.2K (3 SPRINKLERS @ 10PSI). ALL STORAGE SPRINKLERS IN AREA INCLUDED.

2ND FLOOR FIRE SPRINKLER PLAN
SCALE: 1/8" = 1'-0"

NORTH

Sprinkler Legend											
Symbol	Manufacturer	SIN	Model	Quantity	K-Factor	Type	Size	Response	Finish	Temperature	Note
●	Viking	VK462	Mirage	5	5.6	Pendent	1/2"	Quick	Brass	175°F	CONCEALED
●	Viking	VK462	Mirage	194	5.6	Pendent	1/2"	Quick	Brass	155°F	CONCEALED
●	Reliable	RA3417	G5-80F	12	8	Pendent	1/2"	Standard	White	165°F	CONCEALED
●	Viking	VK300	Microfast	6	5.6	Upright	1/2"	Quick	Brass	155°F	N/A
●	Viking	VK377	ELO 3/4	25	11.2	Pendent	1/2"	Quick	White Polyester	155°F	SEMI-RECESSED *HARD PIPE, NO FLEX ALLOWED
				Total = 242							

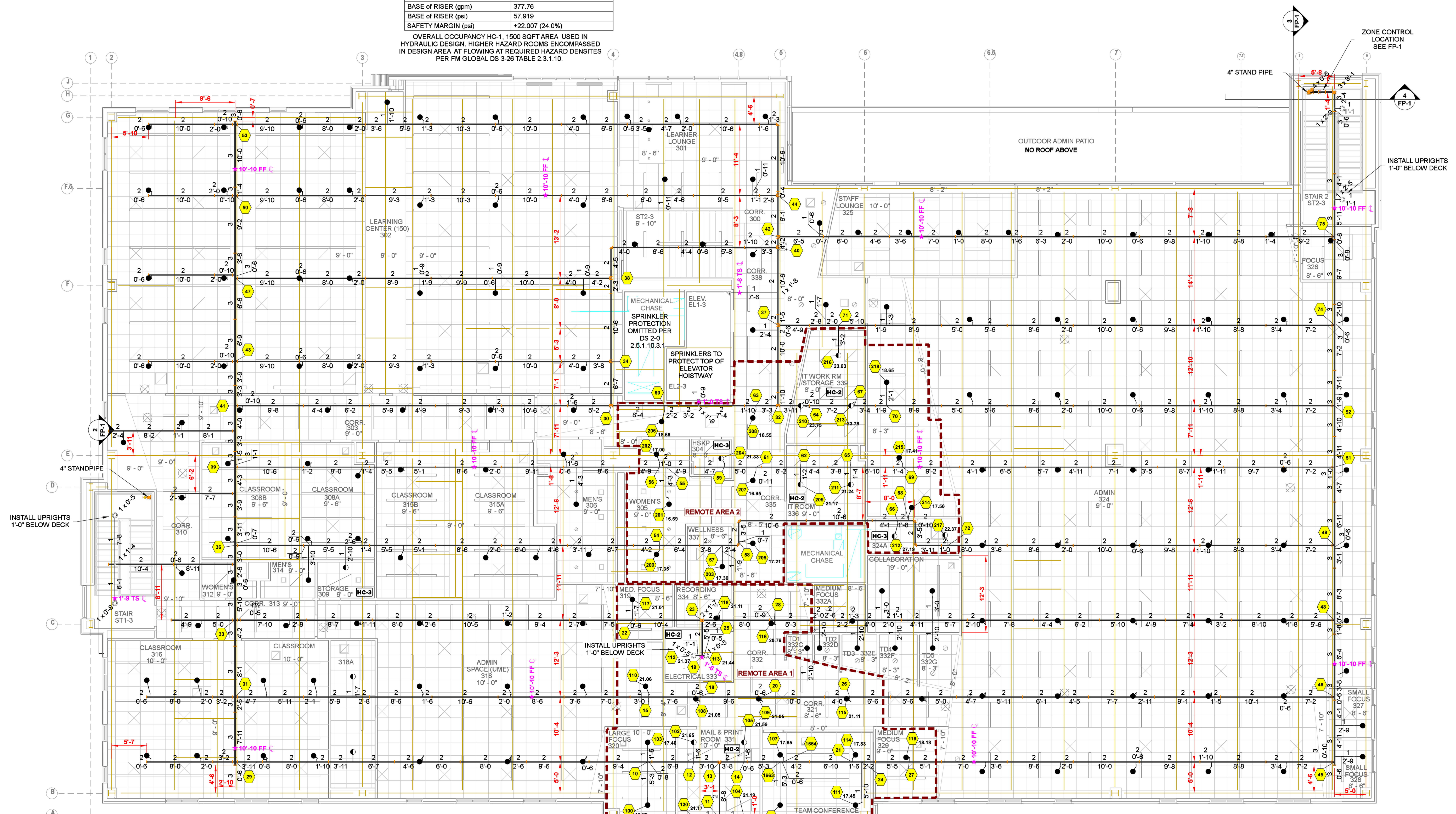


OWNER TO SUPPLY ADEQUATE HEAT IN ALL AREAS WHERE SPRINKLER PIPING MAY FREEZE.

REVISIONS			SPRINKLER LEGEND												
NO.	DATE	JOB NO.	DESCRIPTION	SYMBOL	MANUF.	MODEL	SIN	THREAD	K-FACT	TEMP	FINISH	ESCU.	TYPE	QTY.	QTY IN HEAD BOX
0	03/28/22	22-5490	RELEASED FOR APPROVAL												
1	04/05/22	22-5490	SPRINKLER CORRECTION												
SEE SHEET															
TOTAL (THIS SHEET):															

Hydraulic Information	
Remote Area 2	
OCCUPANCY CLASSIFICATION	FM HC-1
DENSITY (gpm/ft ²)	0.10 for 1507ft ² (Actual 1554ft ²)
TOTAL HOSE STREAMS	250.00
TOTAL HEADS FLOWING	19
K-FACTOR	8
TOTAL WATER REQUIRED	627.76
TOTAL PRESSURE REQUIRED	89.566
BASE OF RISER (gpm)	377.76
BASE OF RISER (psi)	57.916
SAFETY MARGIN (psi)	+22.007 (24.0%)

OVERALL OCCUPANCY HC-1, 1500 SQFT AREA USED IN HYDRAULIC DESIGN. HIGHER HAZARD ROOMS ENCOMPASSED IN DESIGN AREA AT FLOWING AT REQUIRED HAZARD DENSITIES PER FM GLOBAL DS 3-26 TABLE 2.3.1.10.



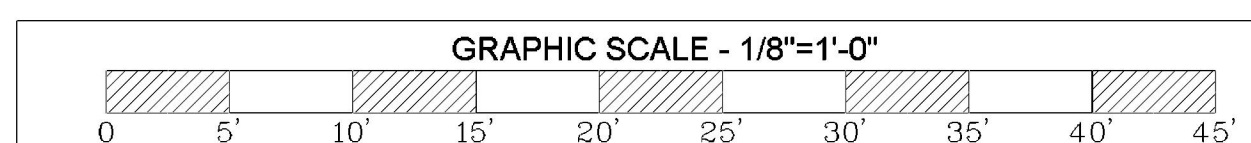
Hydraulic Information	
Remote Area 1	
OCCUPANCY CLASSIFICATION	FM HC-1
DENSITY (gpm/ft ²)	0.10 for 1507ft ² (Actual 1581ft ²)
TOTAL HOSE STREAMS	250.00
TOTAL HEADS FLOWING	20
K-FACTOR	8
TOTAL WATER REQUIRED	648.83
TOTAL PRESSURE REQUIRED	79.117
BASE OF RISER (gpm)	386.63
BASE OF RISER (psi)	66.956
SAFETY MARGIN (psi)	+11.931 (13.1%)

OVERALL OCCUPANCY HC-1, 1500 SQFT AREA USED IN HYDRAULIC DESIGN. HIGHER HAZARD ROOMS ENCOMPASSED IN DESIGN AREA AT FLOWING AT REQUIRED HAZARD DENSITIES PER FM GLOBAL DS 3-26 TABLE 2.3.1.10.

3RD FLOOR FIRE SPRINKLER PLAN
SCALE: 1/8" = 1'-0"

NORTH

Sprinkler Legend											
Symbol	Manufacturer	SIN	Model	Quantity	K-Factor	Type	Size	Response	Finish	Temperature	Note
●	Viking	VK462	Mirage	173	5.6	Pendent	1/2"	Quick	Brass	156°F	CONCEALED
○	Viking	VK300	Microfast	6	5.6	Upright	1/2"	Quick	Brass	156°F	N/A
●	Reliable	RA3417	G5-80F	15	8	Pendent	1/2"	Standard	White	165°F	CONCEALED
▸	Viking	VK305	Microfast	2	5.6	Sidewall	1/2"	Quick	Brass	156°F	N/A
				Total = 196							



OWNER TO SUPPLY ADEQUATE HEAT IN ALL AREAS WHERE SPRINKLER PIPING MAY FREEZE.

REVISIONS				SPRINKLER LEGEND											
NO.	DATE	JOB NO.	DESCRIPTION	SYMBOL	MANUF.	MODEL	SIN	THREAD	K-FACT	TEMP	FINISH	ESCUOT	TYPE	QTY.	QTY IN HEADBOX
0	03/28/22	22-5490	RELEASED FOR APPROVAL												
1	04/05/22	22-5490	SPRINKLER CORRECTION												
SEE SHEET															
TOTAL (THIS SHEET):															