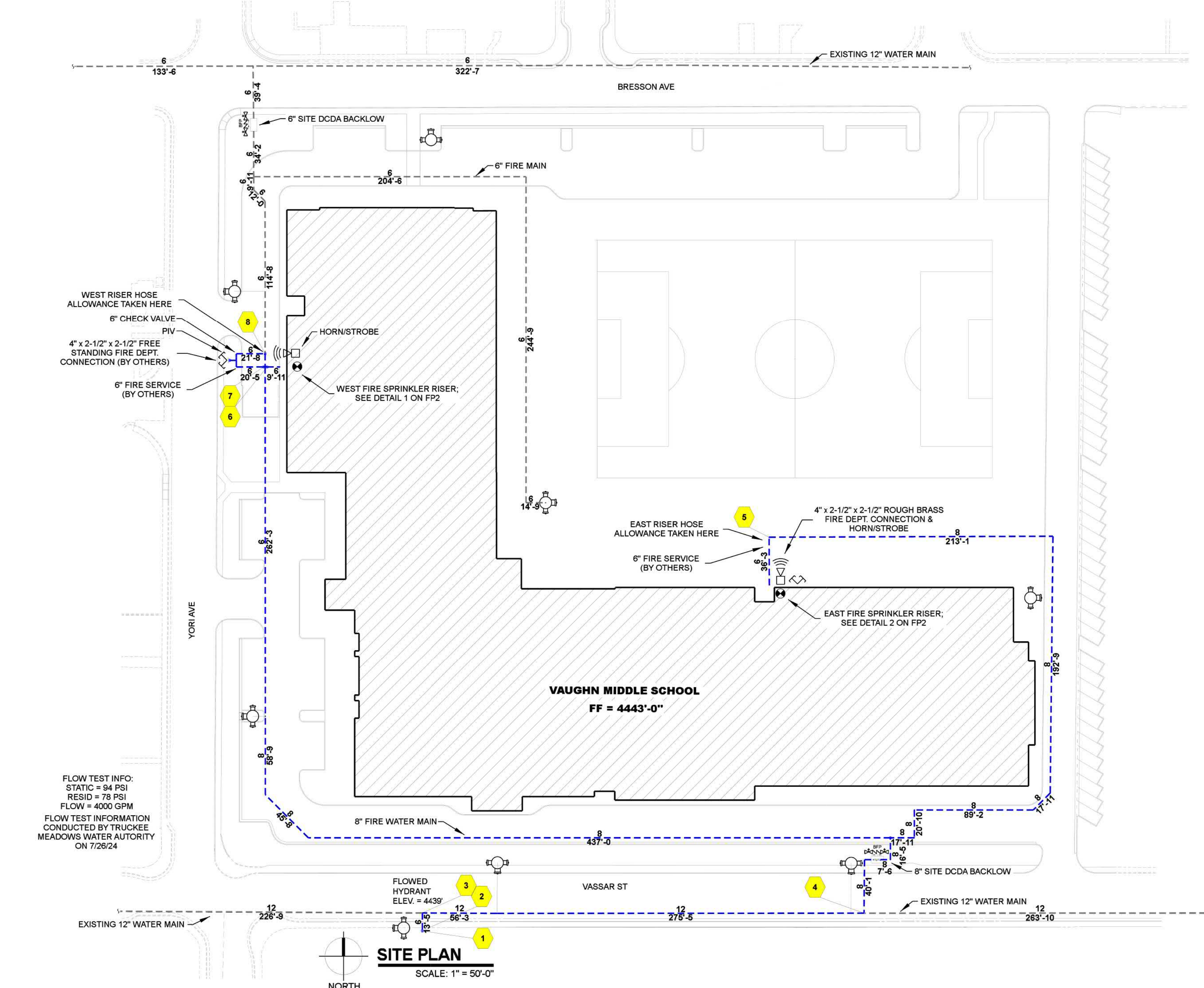


GENERAL INFORMATION

1. INTERNATIONAL BUILDING CODE (2018)
- 1.1 OCCUPANCY: TYPE B, E, A-3, A
- 1.2 TYPE OF CONSTRUCTION: I-B
- 1.3 SPRINKLER AREAS (APPROXIMATE - SEE ARCHITECTURAL PLANS FOR ACTUAL)
- EAST RISER
- AREA C LEVEL 1 (ZONE 1) = 47,022 S.F.
- AREA C LEVEL 2 (ZONE 2) = 44,072 S.F.
- AREA C LEVEL 3 (ZONE 3) = 28,512 S.F.
- WEST RISER
- AREA D & A LEVEL 1 (ZONE 1) = 43,732 S.F.
- AREA B LEVEL 1 (ZONE 2) = 28,813 S.F.
- 1.4 DESIGN & INSTALLATION STANDARDS: NFPA-13 (2022), NFPA-14 (2022)
2. SPRINKLER PIPE TYPES:
- WET-
- 2.1 1" PIPE TO BE SCHEDULE 40 BLACK STEEL W/ THREADED FITTINGS
- 2.2 1-1/4" THROUGH 6" MAINS & BRANCH LINES TO BE BLK SCHEDULE 10 W/ GROOVED FITTINGS
- 2.3 MAINS & BRANCH LINES TO BE ROLL-GROOVED BLK SCHEDULE 10
- 2.4 2" AND LARGER TO USE GROOVED SHORT RADIUS FITTINGS
3. DESIGN CRITERIA:
- 3.1 LIGHT HAZARD AREAS INCLUDE OFFICE/ADMINISTRATIVE, RESTROOMS, CLASSROOMS, & CORRIDORS
- 3.2 ORDINARY HAZARD GROUP I AREAS INCLUDE MECHANICAL, ELECTRICAL, & JANITOR ROOMS
- 3.3 REMOTE AREA REDUCTIONS HAVE BEEN TAKEN WHERE APPLICABLE PER NFPA 13 SEC. 19.2.3.2.3
- 3.4 REMOTE AREA INCREASED BY 30% FOR SLOPED CEILINGS PER NFPA 13 SEC. 19.2.3.2.4
4. NOTES:
- 4.1 ALL MATERIAL TO BE NEW AND MEET U.L. STANDARDS
- 4.2 HANGERS TO BE INSTALLED IN ACCORDANCE WITH NFPA 13 - SEE PLAN FOR HANGING
5. SYMBOLS USED ON DRAWINGS:
- *x*FF PIPE ELEVATION ABOVE FINISH FLOOR
- *x*TS PIPE ELEVATION BELOW TOP OF STEEL
- OH1 ROOM HAZARD CLASSIFICATION (ALL ROOMS ARE CONSIDERED LIGHT HAZARD U.O.)
- HYDRAULIC CALCULATION JUNCTION POINT
- 9'-0" CEILING HEIGHT
- FIRE RATED WALL
- WET BLACK STEEL PIPE
6. SCOPE OF WORK:
- 6.1 BUILDING WILL BE PROTECTED FROM TWO FIRE PROTECTION RISERS; ONE WEST AND ONE EAST.
- 6.2 WEST RISER CONSISTS OF 2 WET ZONES.
- 6.3 EAST RISER CONSISTS OF STANDPIPE SYSTEM IN THE 3 STAIRWAYS. STAIR #2 IS A COMBINATION STANDPIPE ZONED PER FLOOR WITH 1ST FLOOR ZONE IN FIRE RISER ROOM.
- 6.4 ALL AREAS OF THE BUILDING TO BE INSTALLED AND COVERED IN ACCORDANCE WITH THE LOCAL AUTHORITY HAVING JURISDICTION AND PER NFPA 13.

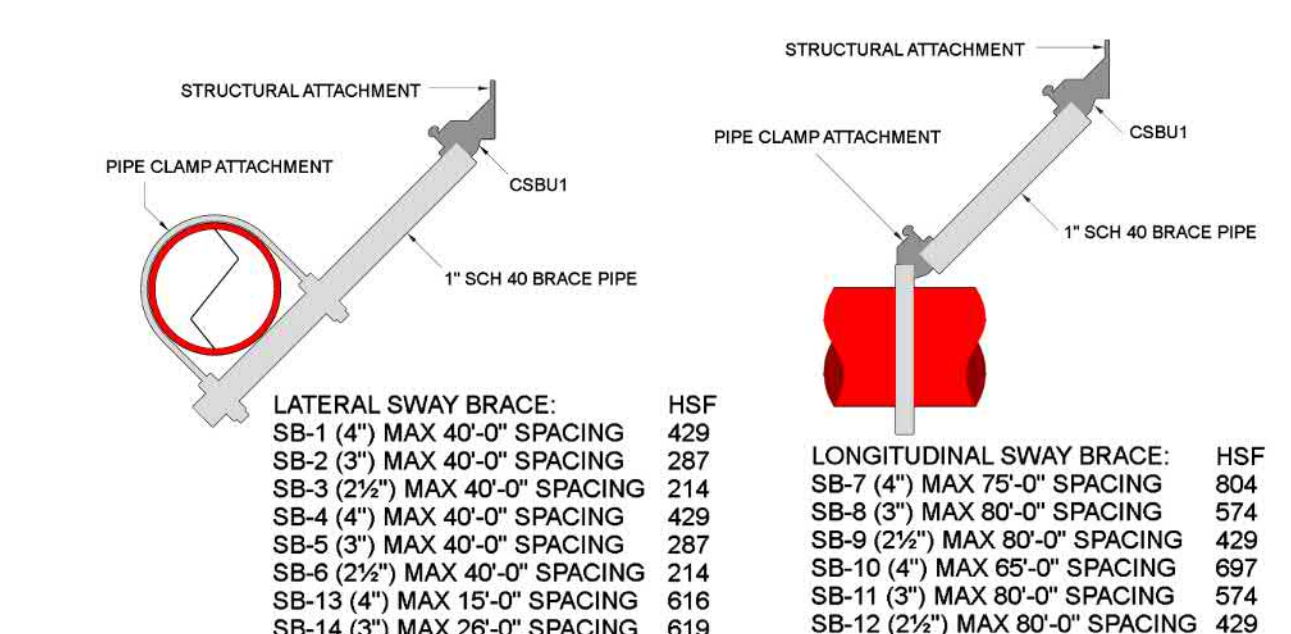
SHEET INDEX

- FP1 SITE PLAN/DETAILS
- FP2 BUILDING SECTIONS/DETAILS
- FP3 PIPING PLAN AREA A
- FP4 SEISMIC PLAN AREA A
- FP5 RCP PLAN AREA A
- FP6 PIPING PLAN AREA B
- FP7 SEISMIC PLAN AREA B
- FP8 RCP PLAN AREA B
- FP9 PIPING PLAN AREA C1 EAST
- FP10 SEISMIC PLAN AREA C1 EAST
- FP11 RCP PLAN AREA C1 EAST
- FP12 PIPING PLAN AREA C1 WEST
- FP13 SEISMIC PLAN AREA C1 WEST
- FP14 RCP PLAN AREA C1 WEST
- FP15 PIPING PLAN AREA C2 EAST
- FP16 SEISMIC PLAN AREA C2 EAST
- FP17 RCP PLAN AREA C2 EAST
- FP18 PIPING PLAN AREA C2 WEST
- FP19 SEISMIC PLAN AREA C2 WEST
- FP20 RCP PLAN AREA C2 WEST
- FP21 PIPING PLAN AREA C3 EAST
- FP22 SEISMIC PLAN AREA C3 EAST
- FP23 RCP PLAN AREA C3 EAST
- FP24 PIPING PLAN AREA D
- FP25 SEISMIC PLAN AREA D
- FP26 RCP PLAN AREA D
- FP27 ROOF PLAN/STANDPIPE DETAILS



MANUAL WET
STANDPIPE

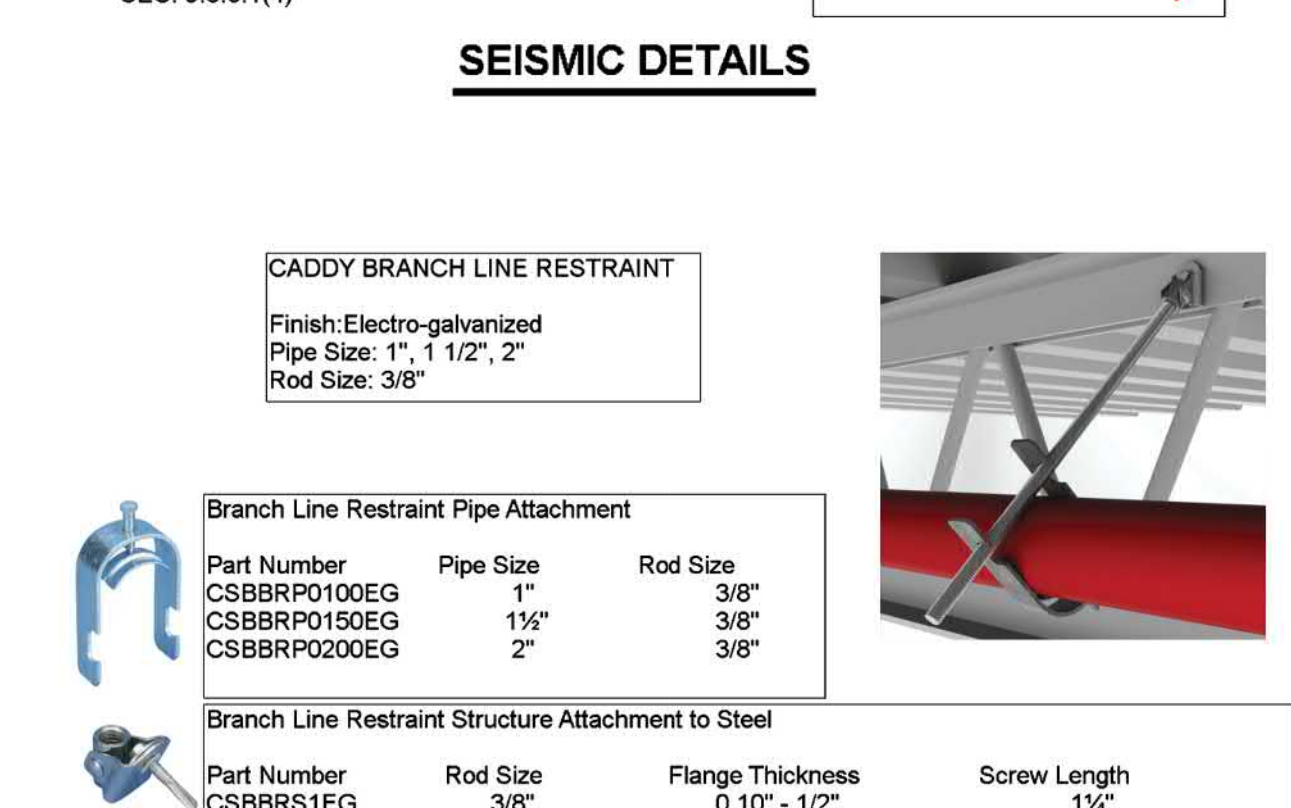
LOCATION: STAIR #1,2,3
REQUIRED FLOW: 1000 GPM
OUTLET PSI: 100
REQUIRED INLET PSI: 175



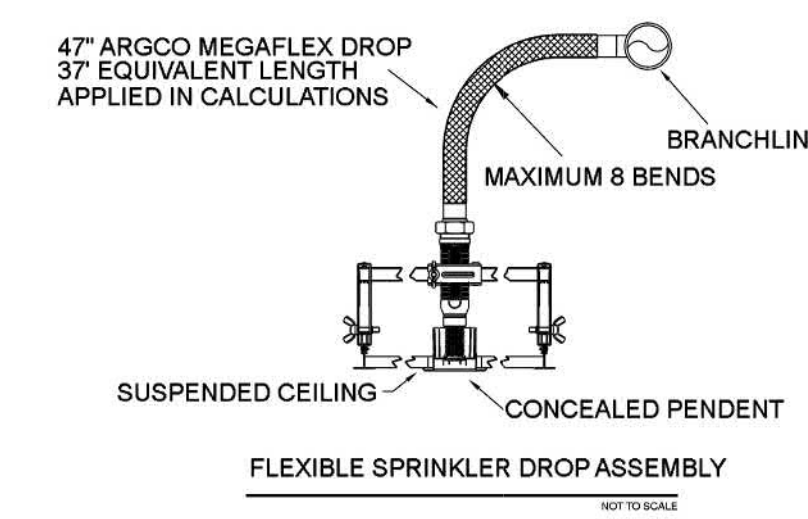
BRACE	SIZE	MAX SPACING	SEISMIC KEY
SB-1 (4")	MAX 40'-0"	SPACING 429	SB-1
SB-2 (3")	MAX 40'-0"	SPACING 287	SB-2
SB-3 (2 1/2")	MAX 40'-0"	SPACING 214	SB-3
SB-4 (4")	MAX 40'-0"	SPACING 429	SB-4
SB-5 (3")	MAX 40'-0"	SPACING 287	SB-5
SB-6 (2 1/2")	MAX 40'-0"	SPACING 214	SB-6
SB-7 (4")	MAX 15'-0"	SPACING 616	SB-7
SB-8 (3")	MAX 20'-0"	SPACING 619	SB-8
SB-9 (2 1/2")	MAX 20'-0"	SPACING 623	SB-9
SB-10 (4")	MAX 10'-0"	SPACING 898	SB-10
SB-11 (3")	MAX 12'-0"	SPACING 658	SB-11
SB-12 (2 1/2")	MAX 22'-0"	SPACING 608	SB-12
SB-13 (4")	MAX 40'-0"	SPACING 429	SB-13
SB-14 (3")	MAX 15'-0"	SPACING 764	SB-14
SB-15 (2 1/2")	MAX 8'-0"	SPACING 366	SB-15
SB-16 (4")	MAX 15'-0"	SPACING 549	SB-16

- FLEXIBLE COUPLINGS SHALL BE INSTALLED AS FOLLOWS:
- (1) WITHIN 24" OF TOP AND BOTTOM OF ALL RISERS
- (2) ONLY ONE FLEXIBLE COUPLING ON RISERS LESS THAN 3'-0" IN LENGTH
- (3) ONLY ONE FLEXIBLE COUPLING ON RISERS 3'-0" TO 7'-0" IN LENGTH
- (4) WITHIN 12" ABOVE AND WITHIN 24" BELOW THE FLOOR IN MULTISTORY BUILDINGS
- (5) RISERS UP TO 7'-0" IN LENGTH TERMINATING ABOVE A ROOF ASSEMBLY OR TOP LANDING MAY OMIT FLEXIBLE COUPLING ABOVE LANDING OR ROOF
- (6) ON BOTH SIDES OF CONCRETE OR MASONRY WALLS WITHIN 1'-0" OF THE WALL SURFACE, UNLESS CLEARANCE IS PROVIDED
- (7) WITHIN 24" OF BUILDING EXPANSION JOINTS (MORE FLEXIBILITY IS REQUIRED FOR SEISMIC JOINTS)
- (8) WITHIN 24" OF THE TOP OF DROPS EXCEEDING 15'-0" IN LENGTH TO PORTIONS OF SYSTEMS SUPPLYING MORE THAN ONE SPRINKLER, REGARDLESS OF PIPE SIZE
- (9) WITHIN 24" ABOVE AND 24" BELOW ANY INTERMEDIATE POINTS OF SUPPORT FOR A RISER OR OTHER VERTICAL PIPE

SEISMIC BRANCH LINE RESTRAINT (CSBU1)	SEISMIC KEY:
1" PIPE = 26'-0" MAX SPACING	LATERAL BRACE
1-1/4" PIPE = 27'-0" MAX SPACING	LONGITUDINAL BRACE
1-1/2" PIPE = 28'-0" MAX SPACING	BRANCH LINE RESTRAINT
2" PIPE = 31'-0" MAX SPACING	4-WAY BRACE

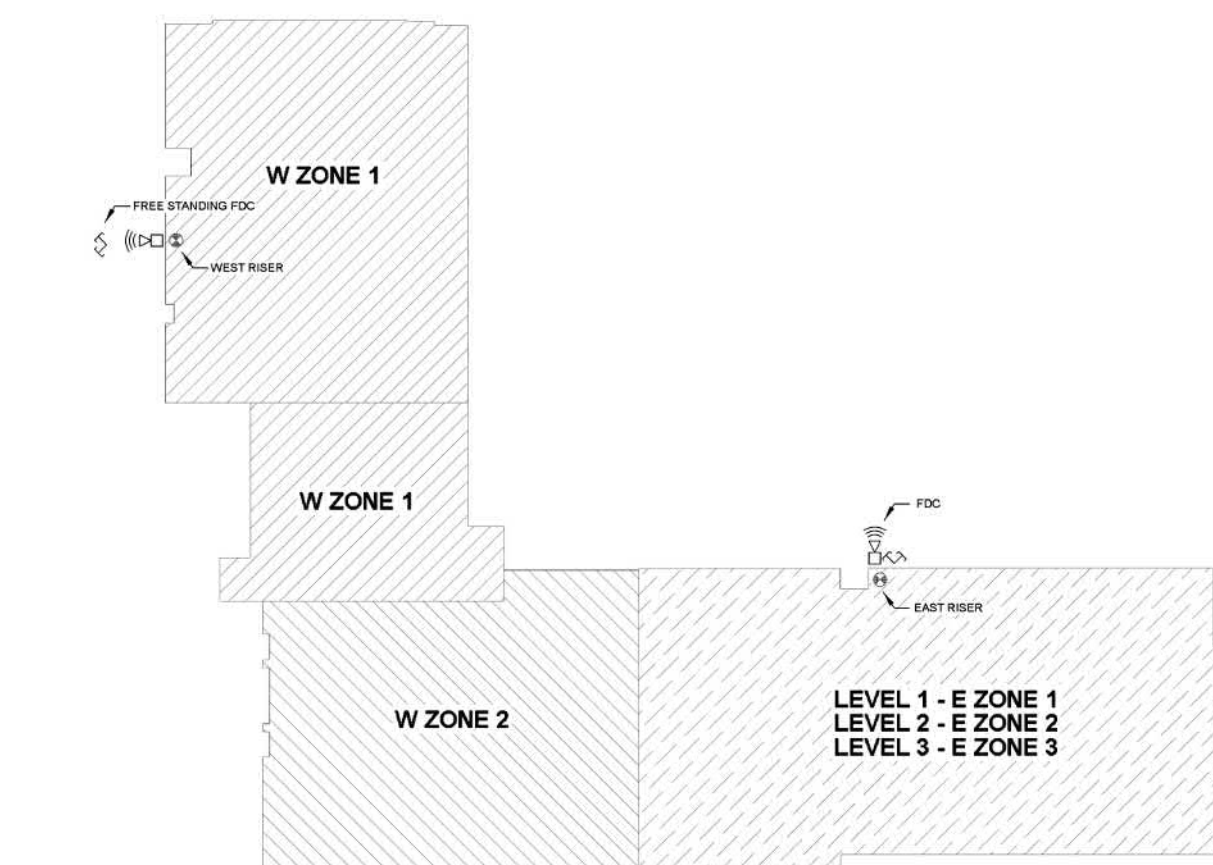


Symbol	Manufacturer	SIN	Model	Quantity	K-Factor	Type	Size	Response	Finish	Temp	Note
●	Tyco	TY3531	Royal Flush II	475	5.6	Concealed Pendant	1/2"	Quick	Brass	200°F	WHITE PLATE CONCEALED
●	Tyco	TY5222	ELOC	431	11.2	Concealed Pendant	1/2"	Quick	Brass	212°F	WHITE PLATE CONCEALED
●	Tyco	TY3235	DS-1	2	5.6	Pendant	1/2"	Quick	Chrome	200°F	DRY STANDARD
●	Tyco	TY3133	TY-FRB	349	5.6	Upright	1/2"	Quick	Brass	155°F	N/A
●	Tyco	TY3131	TY-FRB	2	5.6	Upright	1/2"	Quick	Natural Brass	286°F	N/A
●	Tyco	TY3331	TY-FRB	1	5.6	Horizontal Sidewall	1/2"	Quick	Natural Brass	200°F	N/A
Total = 1260											



HANGER DETAILS

MAXIMUM DISTANCE BETWEEN HANGERS (FT.-IN.)									
	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	8"
STEEL PIPE EXCEPT THREADED LIGHTWALL	NA	12-0	12-0	15-0	15-0	15-0	15-0	15-0	15-0



ZONE PLAN

NO SCALE



KEY PLAN

NO SCALE

AIR VENT NOTE:

AS STATED IN 16.7:

AT THE DISCRETION OF THE INSTALLER, AUTOMATIC AIR VENTS ARE TO BE INSTALLED BY ONE OF THE FOLLOWING METHODS

(1) MANUAL VALVE, MIN 1/2"

(2) AUTOMATIC AIR VENT

(3) REMOTE INSPECTOR TEST VALVE

(4) OTHER APPROVED MEANS

FIRE SPRINKLER PLANS

SITE PLAN/DETAILS

VAUGHN MIDDLE SCHOOL REPLACEMENT

1115 VASSAR STREET

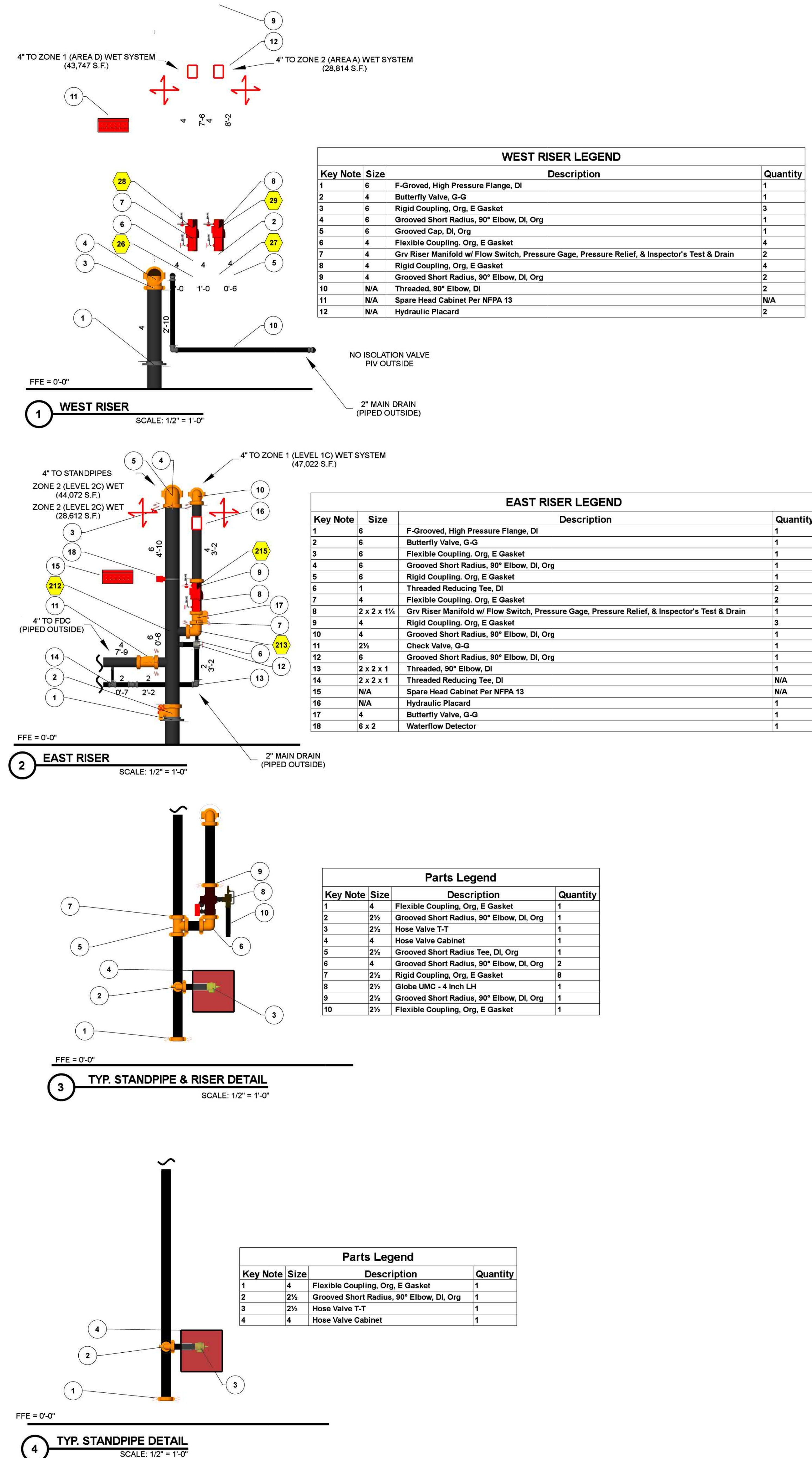
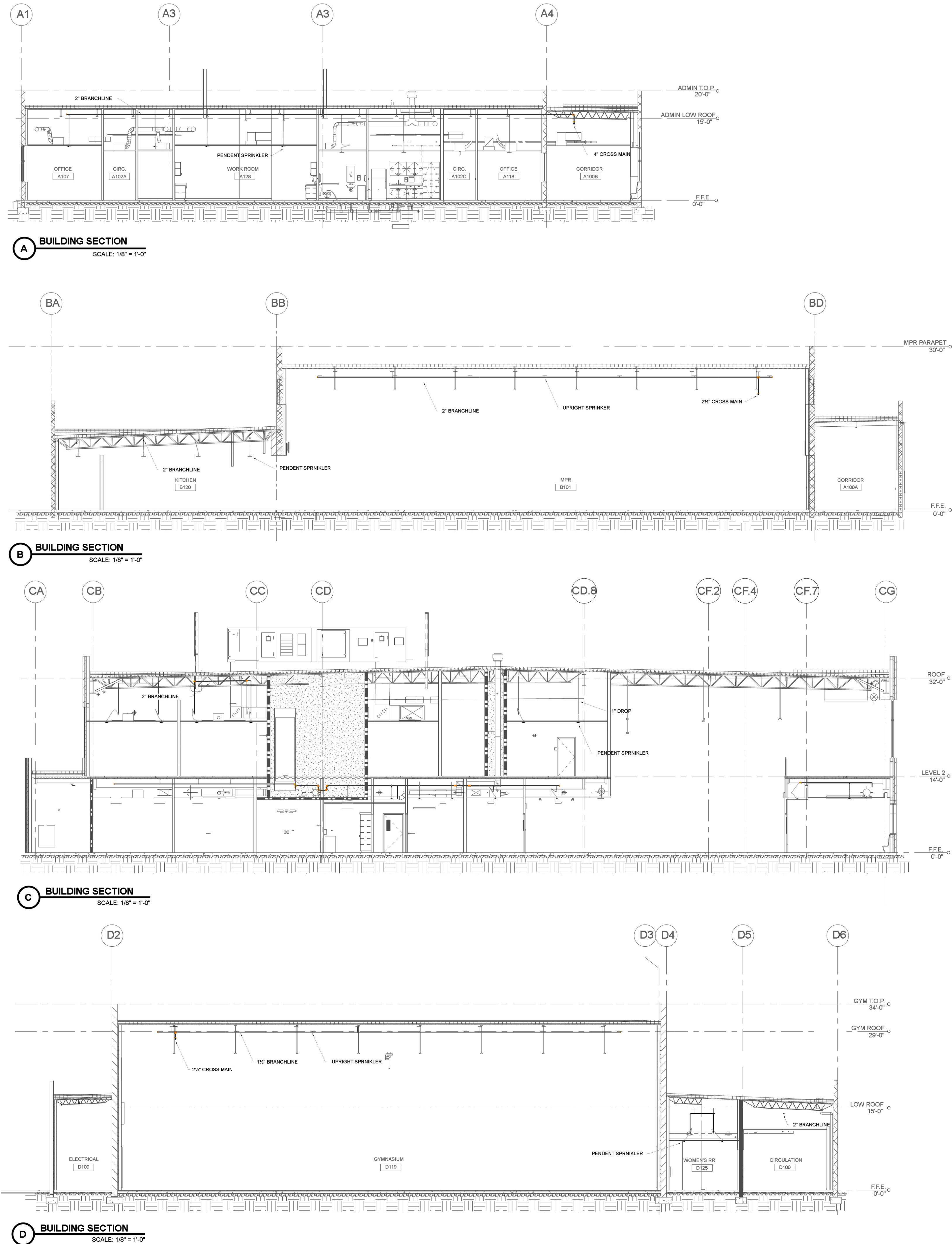
RENO, NEVADA 89502

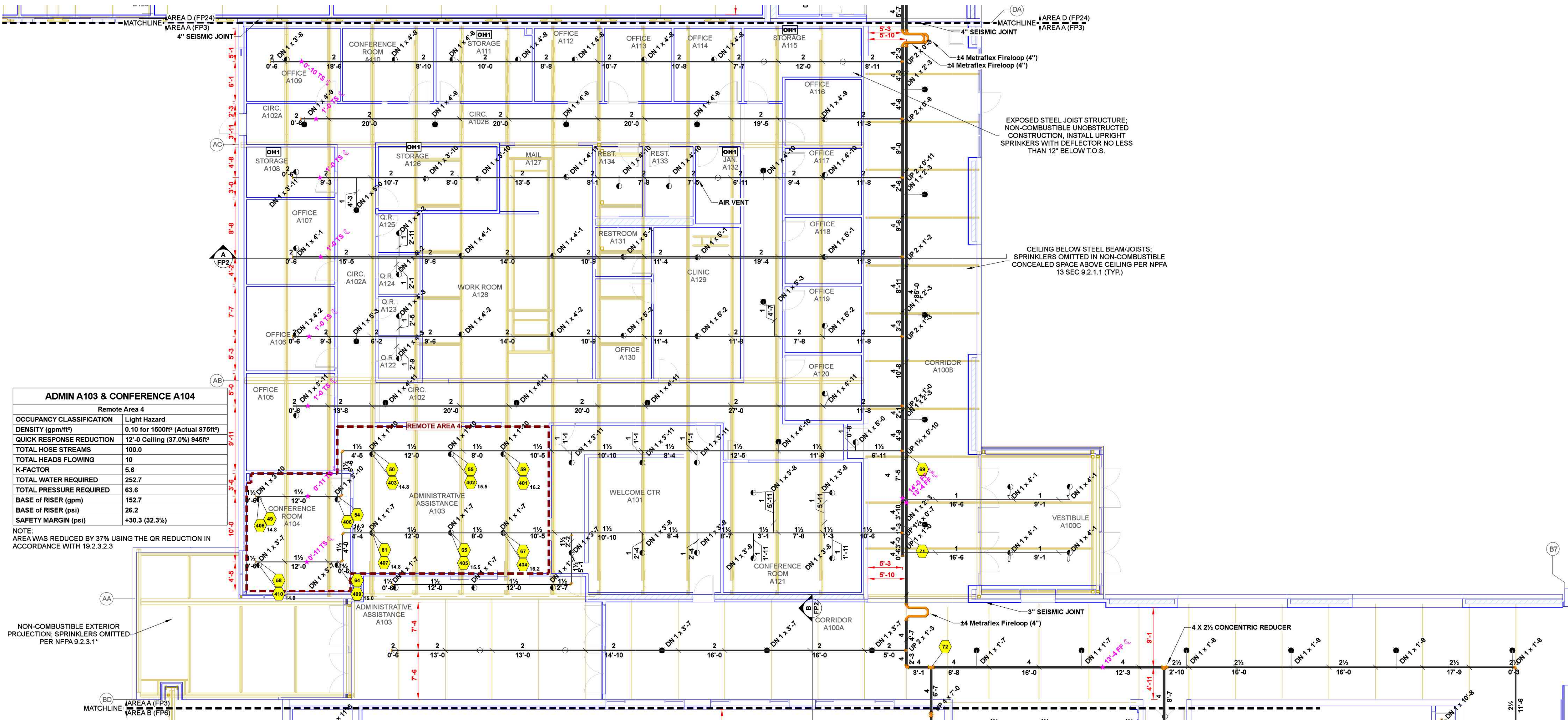
APN 013-251-01

DRAWN BY:	MAS
CHECKED BY:	ADK
DATE:	11-11-2024
PROJECT NO.	

SCALE: AS NOTED

Sheet No:



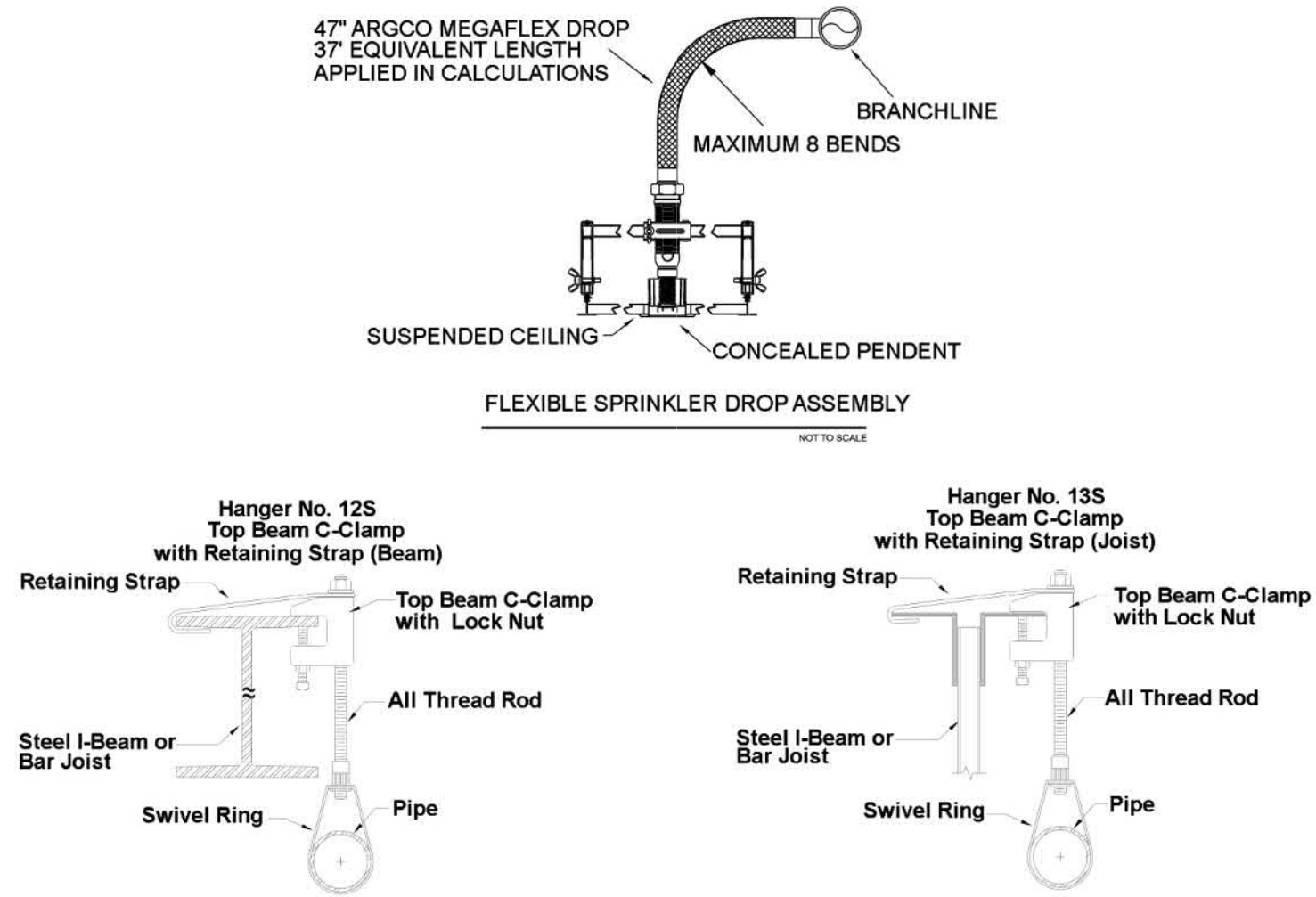


ADMIN A103 & CONFERENCE A104	
Remote Area 4	
OCCUPANCY CLASSIFICATION	Light Hazard
DENSITY (gpm/ft²)	0.10 for 1500ft² (Actual 976ft²)
QUICK RESPONSE REDUCTION	12'-0" Ceiling (37.0%) 945ft²
TOTAL HOSE STREAMS	100.0
TOTAL HEADS FLOWING	10
K-FACTOR	5.6
TOTAL WATER REQUIRED	262.7
TOTAL PRESSURE REQUIRED	63.6
BASE OF RISER (gpm)	152.7
BASE OF RISER (psi)	26.2
SAFETY MARGIN (psi)	+30.3 (32.3%)
NOTE: AREA WAS REDUCED BY 37% USING THE QR REDUCTION IN ACCORDANCE WITH 19.2.3.2.3	

LEVEL 1 FIRE PROTECTION PIPING PLAN - AREA A
SCALE: 1/8" = 1'-0"

Sprinkler Legend - Vaughn Middle School Replacement											
Symbol	Manufacturer	SIN	Model	Quantity	K-Factor	Type	Size	Response	Finish	Temp	Note
●	Tyco	TY3531	Royal Flush II	475	5.6	Concealed Pendant	1/2"	Quick	Brass	200°F	WHITE PLATE CONCEALED
●	Tyco	TY5522	ELOC	431	11.2	Concealed Pendant	3/4"	Quick	Brass	212°F	WHITE PLATE CONCEALED
●	Tyco	TY3235	DS-1	2	5.6	Pendant	1"	Quick	Chrome	200°F	DRY STANDARD
○	Tyco	TY3131	TY-FRB	349	5.6	Upright	1/2"	Quick	Brass	155°F	N/A
○	Tyco	TY3131	TY-FRB	2	5.6	Upright	1/2"	Quick	Natural Brass	286°F	N/A
△	Tyco	TY3331	TY-FRB	1	5.6	Horizontal Sidewall	1/2"	Quick	Natural Brass	200°F	N/A
				Total = 1280							

AIR VENT NOTE:
AS STATED IN 16.7.7:
AT THE DISCRETION OF THE
INSTALLER, AUTOMATIC AIR VENTS
ARE TO BE INSTALLED BY ONE OF
THE FOLLOWING METHODS
(1) MANUAL VALVE, MIN 1/2"
(2) AUTOMATIC AIR VENT
(3) REMOTE INSPECTOR TEST VALVE
(4) OTHER APPROVED MEANS



MAXIMUM DISTANCE BETWEEN HANGERS (FT.-IN.)									
STEEL PIPE EXCEPT THREADED LIGHTWALL	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	8"
	NA	12-0	12-0	15-0	15-0	15-0	15-0	15-0	15-0



FIRE SPRINKLER PLANS

FIRE PROTECTION PIPING PLAN - AREA A

VAUGHN MIDDLE SCHOOL REPLACEMENT

1115 VASSAR STREET

RENO, NEVADA 89502

APN 013-251-01

Sheet Title

Project

DRAWN BY: MAS

CHECKED BY: ADK

DATE: 11-11-2024

PROJECT NO.

Sheet No:

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

PRINTED ON 11/13/24 AT 15:06:15 VAUGHN MS FIRST FLOOR_Sprinkler_A02.dwg

FP3 of 27

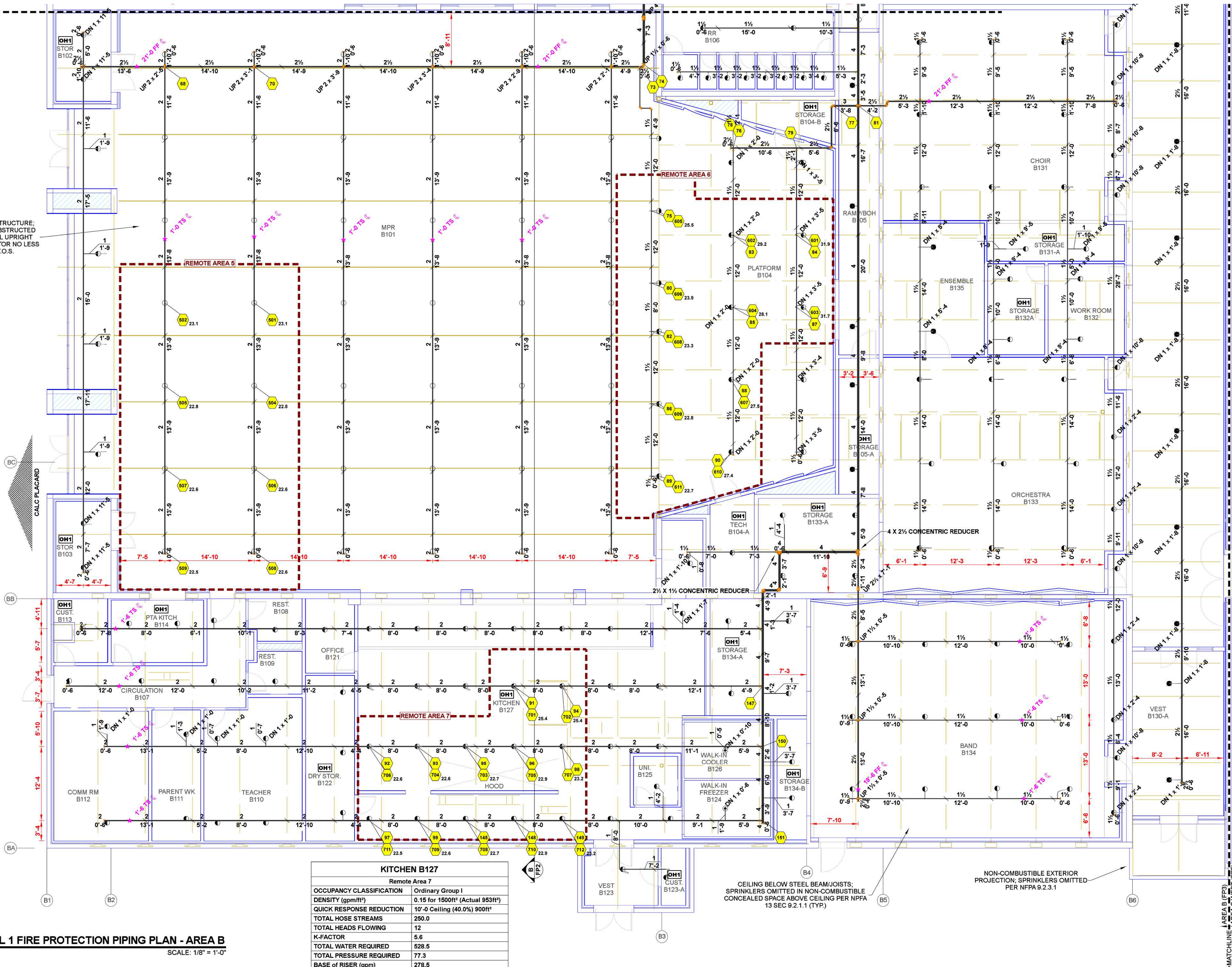
AIR VENT NOTE:
AS STATED IN 16.7*:
AT THE DISCRETION OF THE
INSTALLER, AUTOMATIC AIR VENTS
ARE TO BE INSTALLED BY ONE OF
THE FOLLOWING METHODS
(1) MANUAL VALVE, MIN 1/2"
(2) AUTOMATIC AIR VENT
(3) REMOTE INSPECTOR TEST VALVE
(4) OTHER APPROVED MEANS

MPR B101	
Remote Area 5	
OCCUPANCY CLASSIFICATION	Light Hazard
DENSITY (gpm/ft ²)	0.10 for 1500ft ² (Actual 1599ft ²)
TOTAL HOSE STREAMS	100.0
TOTAL HEADS FLOWING	8
K-FACTOR	5.6
TOTAL WATER REQUIRED	282.1
TOTAL PRESSURE REQUIRED	78.6
BASE OF RISER (gpm)	182.1
BASE OF RISER (psi)	41.0
SAFETY MARGIN (psi)	+15.3 (16.3%)

NOTE:
AREA WAS CALCULATED USING THE DENSITY AREA METHOD IN
ACCORDANCE WITH SECTION 19.2.3.2

PLATFORM B104		
Remote Area 6		
OCCUPANCY CLASSIFICATION	Light Hazard	
DENSITY (upm/ft)	0.10 for 1500ft ² (Actual 1552ft ²)	
TOTAL HOSE STREAMS	100.0	
TOTAL HEADS FLOWING	11	
K-FACTOR	5.6	
TOTAL WATER REQUIRED	295.3	
TOTAL PRESSURE REQUIRED	66.9	
BASE of RISER (gpm)	195.3	
BASE of RISER (psi)	29.2	
SAFETY MARGIN (psi)	+27.0 (28.7%)	

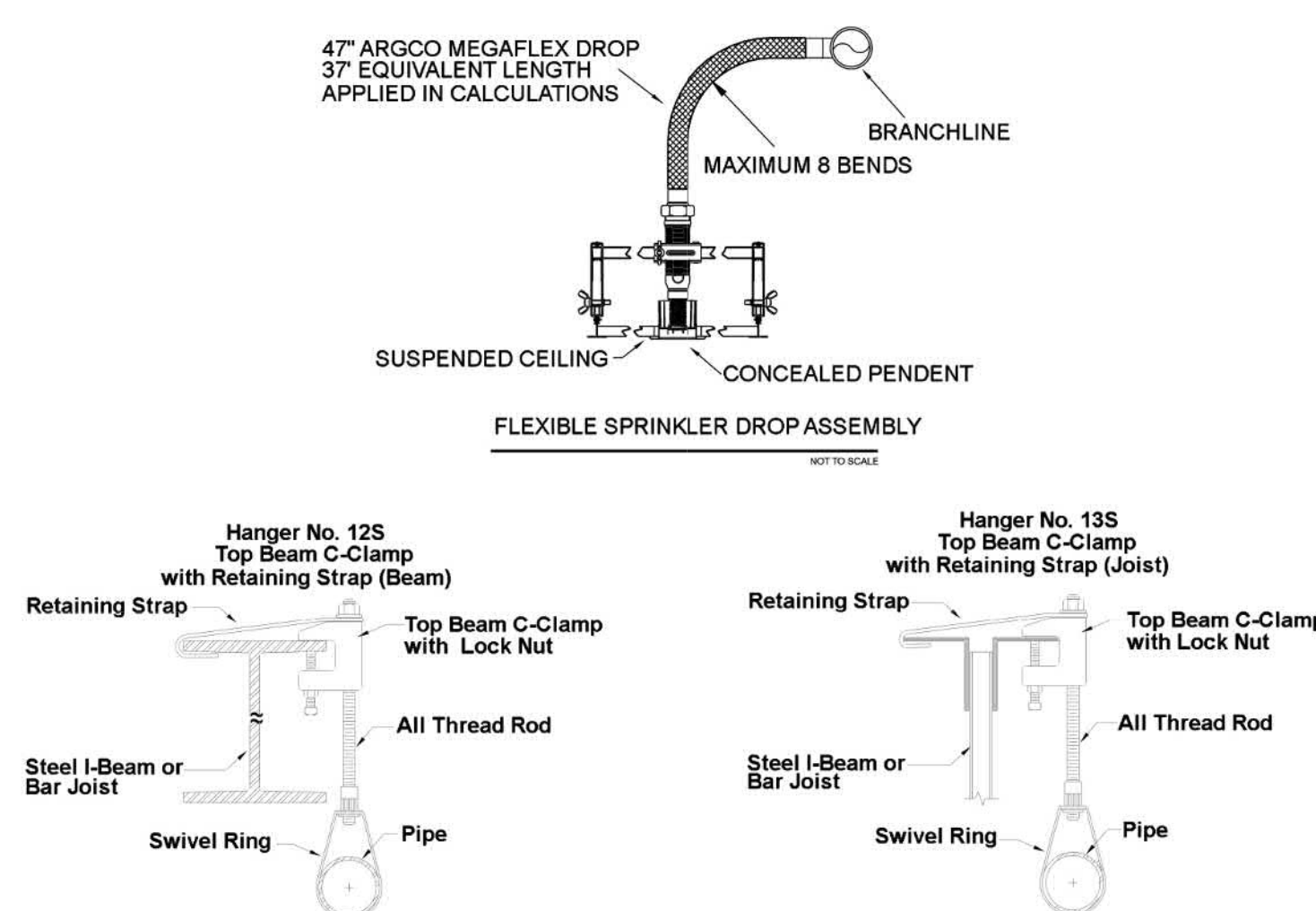
NOTE:
AREA WAS CALCULATED USING THE DENSITY AREA METHOD IN
ACCORDANCE WITH SECTION 19.2.3.2



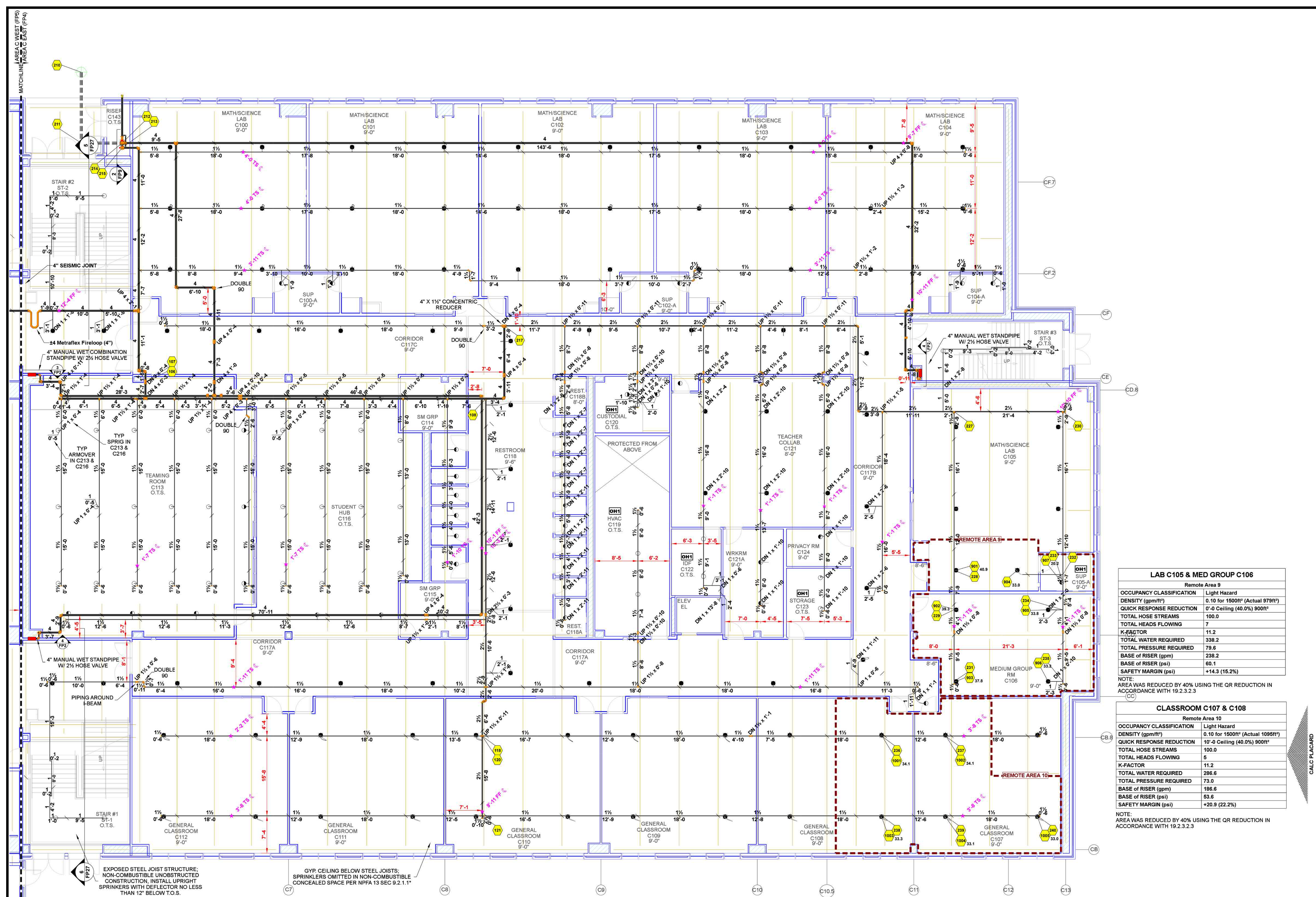
KITCHEN B127	
Remote Area 7	
OCCUPANCY CLASSIFICATION	Ordinary Group I
DENSITY (gpm/ft ²)	0.15 for 1500ft ² (Actual 953ft ²)
QUICK RESPONSE REDUCTION	10.0' Ceiling (40.0%) 900ft ²
TOTAL HOSE STREAMS	250.0
TOTAL HEADS FLOWING	12.0
K-FACTOR	5.6
TOTAL WATER REQUIRED	528.5
TOTAL PRESSURE REQUIRED	77.3
BASE OF RISER (gpm)	278.5
BASE OF RISER (psi)	39.3
SAFETY MARGIN (psi)	+16.3 (17.4%)

NOTE:
AREA WAS REDUCED BY 40% USING THE QR REDUCTION IN
ACCORDANCE WITH 19.2.3.2.3

Sprinkler Legend - Vaughn Middle School Replacement										
Symbol	Manufacturer	SIN	Model	K-Factor	Type	Size	Response	Finish	Temp	Note
	Tyco	TY3531	Royal Flush II	475	5.6 Concealed Pendent	1/2"	Quick	Brass	200°F	WHITE PLATE CONCEALED
	Tyco	TY2532	ELOC	431	11.2 Concealed Pendent	3/4"	Quick	Brass	212°F	WHITE PLATE CONCEALED
	Tyco	TY3235	DS-I	2	5.6 Pendent	1"	Quick	Chrome	200°F	DRY STANDARD
	Tyco	TY3131	TY-FRB	349	5.6 Upright	1/2"	Quick	Brass	155°F	N/A
	Tyco	TY3131	TY-FRB	2	5.6 Upright	1/2"	Quick	Natural Brass	268°F	N/A
	Tyco	TY3331	TY-FRB	1	5.6 Horizontal Sidewall	3/4"	Quick	Natural Brass	200°F	N/A
				Total = 1290						

[illegible]

AIR VENT NOTE:
AS STATED IN 16.7:
AT THE DISCRETION OF THE
INSTALLER, AUTOMATIC AIR VENTS
ARE TO BE INSTALLED BY ONE OF
THE FOLLOWING METHODS
(1) MANUAL VALVE, MIN 1/2"
(2) AUTOMATIC AIR VENT
(3) REMOTE INSPECTOR TEST VALVE
(4) OTHER APPROVED MEANS



LAB C105 & MED GROUP C106	
Remote Area 9	
OCCUPANCY CLASSIFICATION	Light Hazard
DENSITY (gpm/ft²)	0.10 for 1500ft² (Actual 979ft²)
QUICK RESPONSE REDUCTION	0'-0" Ceiling (40.0%) 900ft²
TOTAL HOSE STREAMS	100.0
TOTAL HEADS FLOWING	7
K-FACTOR	11.2
TOTAL WATER REQUIRED	338.2
TOTAL PRESSURE REQUIRED	79.6
BASE OF RISER (gpm)	238.2
BASE OF RISER (psi)	60.1
SAFETY MARGIN (psi)	+14.3 (15.2%)

CLASSROOM C107 & C108	
Remote Area 10	
OCCUPANCY CLASSIFICATION	Light Hazard
DENSITY (gpm/ft²)	0.10 for 1500ft² (Actual 1095ft²)
QUICK RESPONSE REDUCTION	10'-0" Ceiling (40.0%) 900ft²
TOTAL HOSE STREAMS	100.0
TOTAL HEADS FLOWING	5
K-FACTOR	11.2
TOTAL WATER REQUIRED	286.6
TOTAL PRESSURE REQUIRED	73.0
BASE OF RISER (gpm)	186.6
BASE OF RISER (psi)	53.6
SAFETY MARGIN (psi)	+20.9 (22.2%)

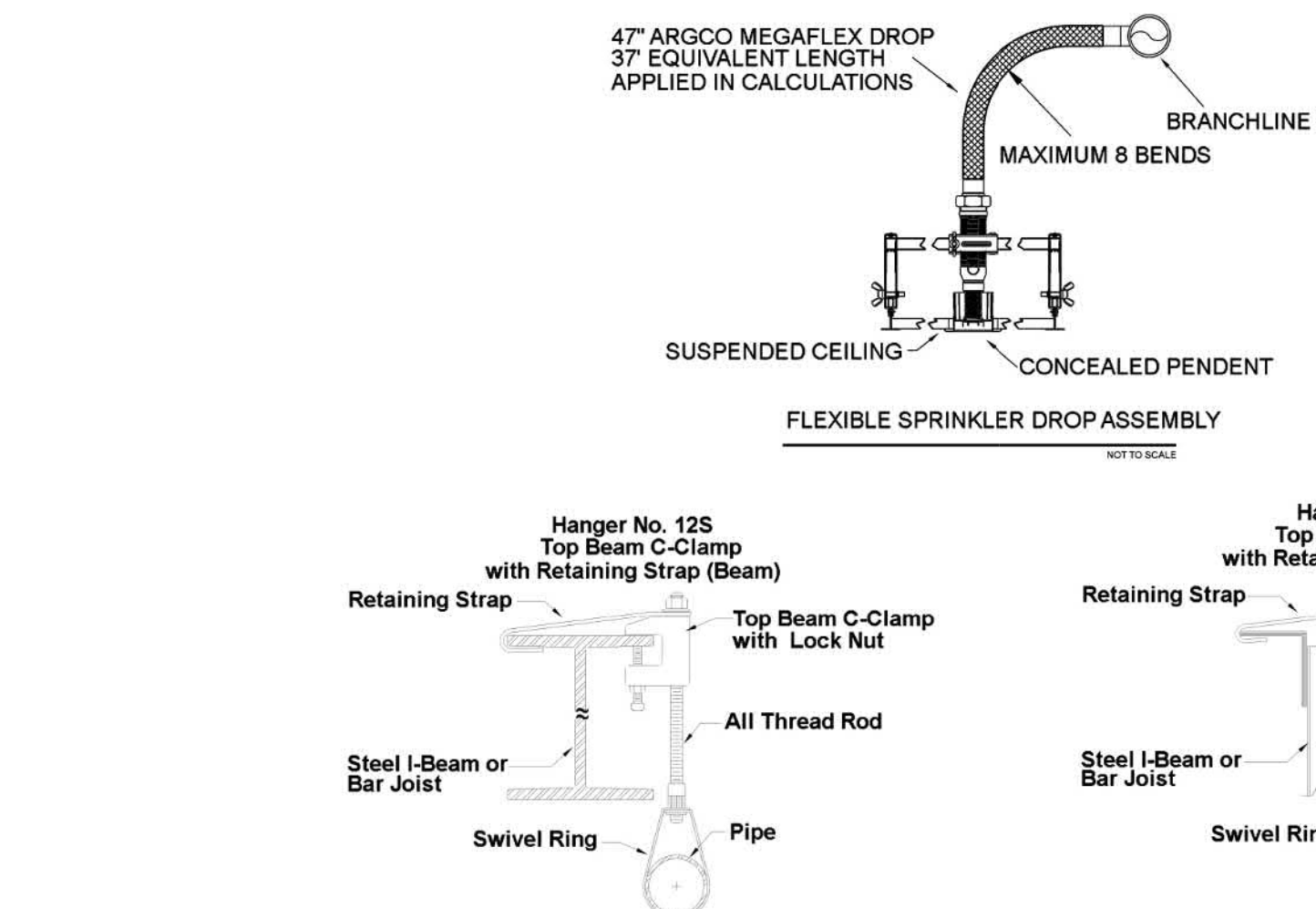
NOTE:
AREA WAS REDUCED BY 40% USING THE QR REDUCTION IN
ACCORDANCE WITH 19.2.3.2.3

CALC PLACARD

LEVEL 1 FIRE PROTECTION PIPING PLAN - AREA C EAST
SCALE: 1/8" = 1'-0"

Sprinkler Legend - Vaughn Middle School Replacement

Symbol	Manufacturer	SIN	Model	Quantity	K-Factor	Type	Size	Response	Finish	Temp	Note
●	TYCO	TY3531	Royal Flush II	475	5.6	Concealed Pendant	1/2"	Quick	Brass	200°F	WHITE PLATE CONCEALED
●	TYCO	TY5522	ELOC	431	11.2	Concealed Pendant	1/2"	Quick	Brass	212°F	WHITE PLATE CONCEALED
●	TYCO	TY3235	DS-1	2	5.6	Pendant	1"	Quick	Chrome	200°F	DRY STANDARD
●	TYCO	TY3131	TY-FRB	349	5.6	Upright	1/2"	Quick	Brass	155°F	N/A
●	TYCO	TY3131	TY-FRB	2	5.6	Upright	1/2"	Quick	Natural Brass	288°F	N/A
●	TYCO	TY3331	TY-FRB	1	5.6	Horizontal Sidewall	1/2"	Quick	Natural Brass	200°F	N/A
Total = 1260											



HANGER DETAILS

MAXIMUM DISTANCE BETWEEN HANGERS (FT.-IN.)		3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	6"	8"
STEEL PIPE EXCEPT THREADED LIGHTWALL		NA	12-0	12-0	15-0	15-0	15-0	15-0	15-0	15-0	15-0

KEY PLAN

NO SCALE

FIRE SPRINKLER PLANS

LEVEL 1 - FIRE PROTECTION PIPING PLAN - AREA C
VAUGHN MIDDLE SCHOOL REPLACEMENT
1115 VASSAR STREET
RENO, NEVADA 89502
APN 013-251-01

DRAWN BY: MAS
CHECKED BY: ADK
DATE: 11-11-2024
PROJECT NO.

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

Sheet No: