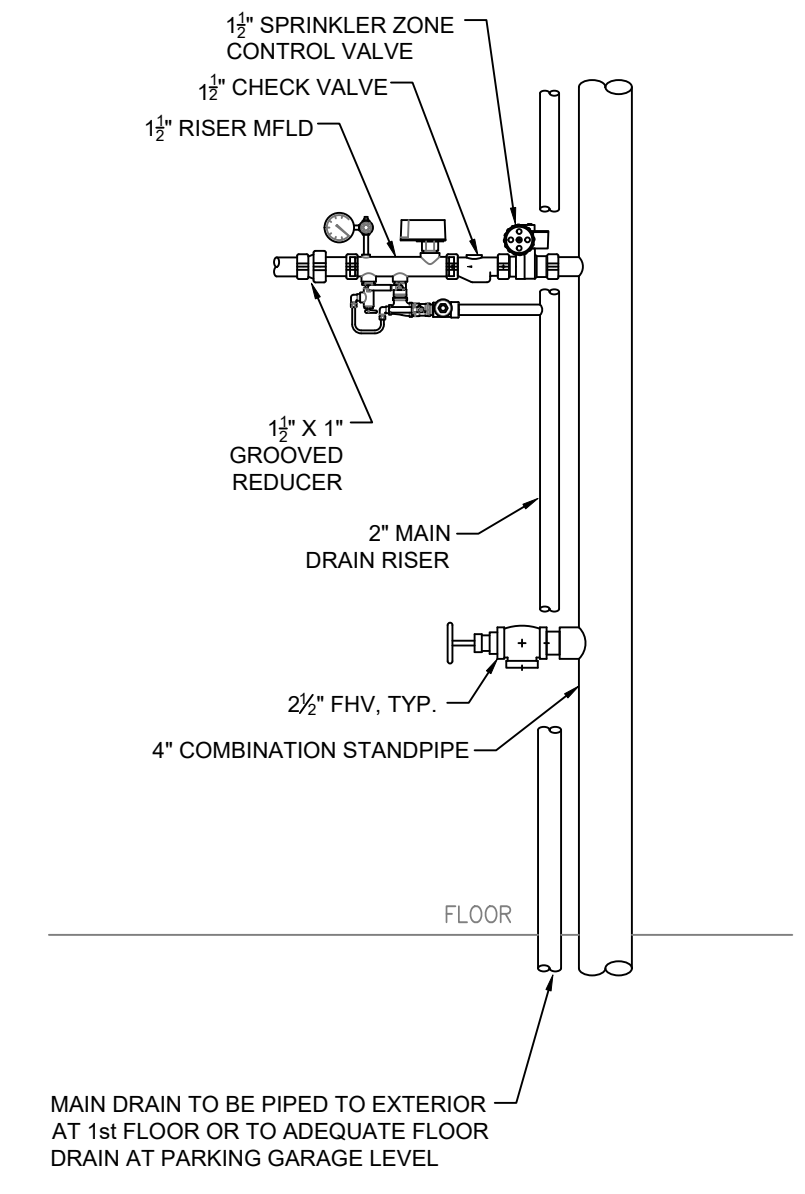


GENERAL NOTES

- INTERNATIONAL BUILDING CODE (2009)
 - OCCUPANCY: R-2, S-2, B
 - TYPE OF CONSTRUCTION: 1-A (1HR RATED PROTECTED, COMBUSTIBLE CONSTRUCTION)
 - SPRINKLERED AREAS (APPROXIMATE - SEE ARCHITECTURAL PLANS FOR ACTUAL)
 - LOWER LEVEL (S-2) = 33,972 S.F. (ZONE 1)
 - FIRST FLOOR (B) = 10,502 S.F. (ZONE 2)
 - FIRST FLOOR (S-2) = 11,625 S.F. (ZONE 3)
 - FIRST FLOOR (R-2) = 10,160 S.F. (ZONE 2)
 - SECOND FLOOR (R-2) = 25,870 S.F. (ZONE 4)
 - THIRD FLOOR (R-2) = 25,870 S.F. (ZONE 4)
 - FOURTH FLOOR (R-2) = 25,870 S.F. (ZONE 5)
 - FIFTH FLOOR (R-2) = 24,480 S.F. (ZONE 5)
 - TOTAL = 168,359 S.F.
- INSTALLATION STANDARDS:
 - SPRINKLER SYSTEM DESIGNED AND INSTALLED PER NFPA-13, NFPA-14, NFPA-20 (2016)
- SPRINKLER PIPE TYPES:
 - WET:
 - 1" - 1 1/2" PIPING TO BE BLAZEMASTER CPVC PIPING WITH CEMENTED FITTINGS
 - 1" BRANCH LINES TO BE BLK THREADED LIGHTWALL PIPING WITH THREADED FITTINGS
 - 1 1/2" THROUGH 6" MAIN & BRANCH LINES TO BE BLK LIGHTWALL PIPING WITH GROOVED FITTINGS
- DESIGN CRITERIA
 - ROOMS, CORRIDORS, LOBBIES, AND SIMILAR AREAS CLASSIFIED LIGHT HAZARD AREAS. DESIGNED TO DELIVER 0.10 GPM/S.F. OVER THE MOST DEMANDING 1500 S.F.
 - PARKING GARAGE, STORAGE UNITS, AND MECHANICAL ROOMS CLASSIFIED ORDINARY HAZARD GROUP 1 AREAS. DESIGNED TO DELIVER 0.15 GPM/S.F. OVER THE MOST DEMANDING 1500 S.F.
 - FUTURE TENANT AREAS CLASSIFIED ORDINARY HAZARD GROUP 2 AREAS. DESIGNED TO DELIVER 0.20 GPM/S.F. OVER THE MOST DEMANDING 1500 S.F.
 - REMOTE AREA REDUCTIONS HAVE BEEN TAKEN WHERE APPLICABLE PER NFPA 13 SEC. 11.2.3.2.3
- NOTES:
 - ALL MATERIAL TO BE NEW AND MEET U.L. STANDARDS
 - HANGERS TO BE INSTALLED IN ACCORDANCE WITH NFPA 13 (2016) - SEE PLAN FOR HANGING REQ.
- SYMBOLS USED ON DRAWINGS:
 - 10' PIPE ELEVATION A.F.F.
 - 12' PIPE ELEVATION BELOW B.O.D.
 - ROOM HAZARD CLASSIFICATION (ALL ROOMS ARE CONSIDERED LIGHT HAZARD UNLESS NOTED)
 - HYDRAULIC CALCULATION JUNCTION POINT
 - 8'-0" CEILING HEIGHT
 - CALL-OUTS (SEE PLAN)
- SCOPE OF WORK:
 - NEW APARTMENT BUILDING INSTALLED BY PER THE 2018 IBC, 2018 ND STATE BUILDING CODE AND 2016 NFPA 13. TO BE ZONED BY FLOOR. FLOOR 4 AND FLOOR 5 ARE COMBINED TO ONE ZONE. PARKING GARAGE IS PROTECTED TO ORDINARY HAZARD GROUP 1. RESIDENTIAL AREAS ARE PROTECTED TO LIGHT HAZARD AND RESIDENTIAL CRITERIA PER NFPA 13. COMMERCIAL AREAS ARE PROTECTED TO ORDINARY HAZARD GROUP 2.
 - ALL AREAS OF THE BUILDING TO BE INSTALLED AND COVERED IN ACCORDANCE WITH THE LOCAL AUTHORITY HAVING JURISDICTION AND PER NFPA 13 (2016).

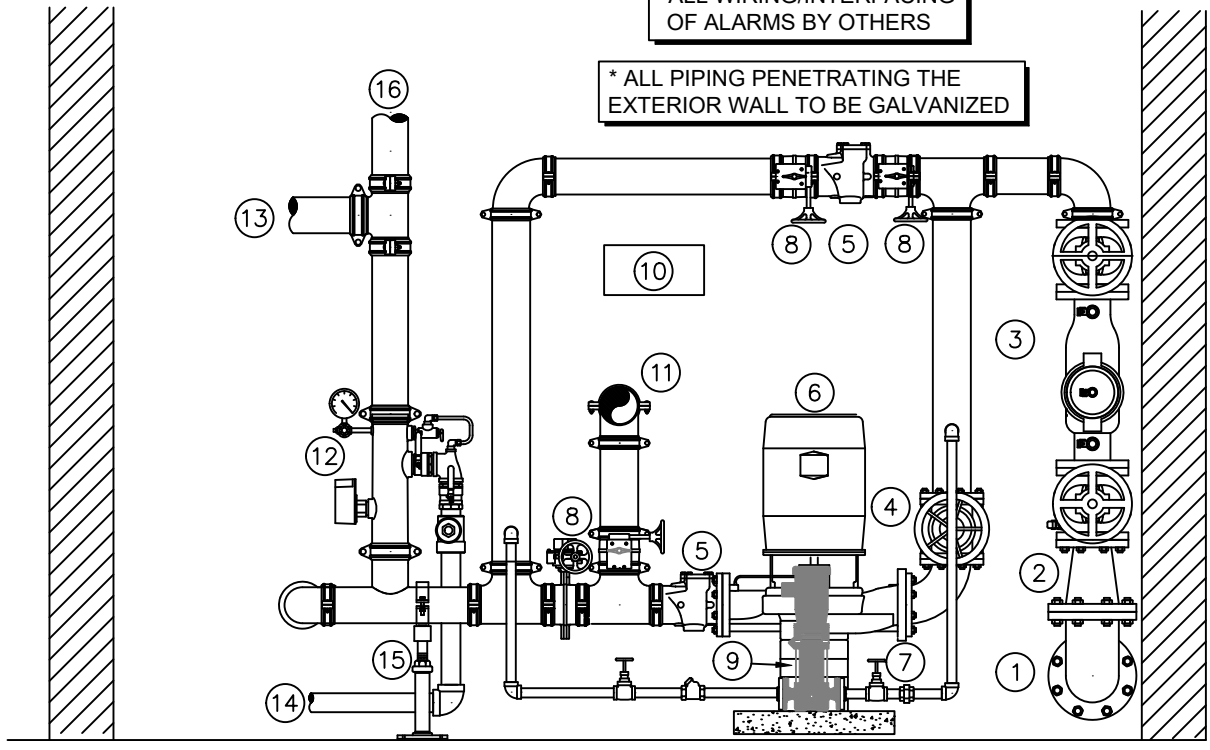


COMBINATION STANDPIPE
N.T.S.

MANUAL WET STANDPIPE
LOCATION: STAIR S-1 & S-2
REQUIRED FLOW: 750
OUTLET PSI: 100
REQUIRED INLET PSI: 168.8

RISER & FIRE PUMP LEGEND

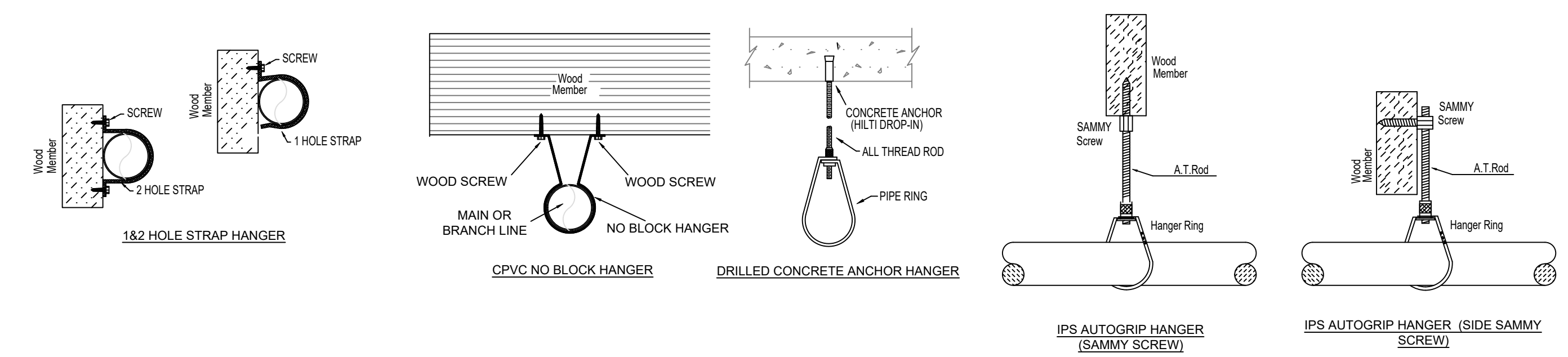
- 6" UNDERGROUND WATER SERVICE (BY OTHERS)
- 6"x4" REDUCER
- 4" DERINGER 20G BACKFLOW w/ SUPERVISED GATE VALVES
- 4" GATE VALVE w/TAMPER
- 4" GROOVED CHECK VALVE
- 6" SSFS @ 400 GPM FIRE PUMP
- FLANGED CONCENTRIC INCREASER
- 4" GROOVED BUTTERFLY VALVE w/ TAMPER
- JOCKEY PUMP
- SPARE HEAD BOX
- 4" OUT TO PUMP TEST HEADER
- 4" GROOVED COMMERCIAL RISER MANIFOLD w/ SUPERVISED BUTTERFLY VALVE, FLOW SWITCH, TEST & DRAIN, PRESSURE RELIEF, & PRESSURE GAUGE
- 4" OUT TO COMBINED STANDPIPE & FIRE DEPARTMENT CONNECTION
- 2" MAIN DRAIN PIPED TO EXTERIOR COORDINATE EXACT LOCATION w/ G.C. AND OWNER
- PIPES STANDS
- 4" TO FFC



FIRE SPRINKLER RISER
SCALE: 1/2" = 1'-0"

	MAXIMUM DISTANCE BETWEEN HANGERS (FT.-IN.)							
	3/4"	1"	1 1/2"	1 3/4"	2"	2 1/2"	3"	4"
STEEL PIPE EXCEPT THREADED LIGHTWALL	NA	12-0	12-0	15-0	15-0	15-0	15-0	15-0
THREADED LIGHTWALL STEEL PIPE	NA	12-0	12-0	12-0	12-0	NA	NA	NA
BLAZEMASTER CPVC	5-6	6-0	6-6	7-0	8-0	9-0	10-0	NA

NFPA 13 HANGER SPACING



HANGER DETAILS

PIPE LEGEND

- WET SYSTEM FIRE SPRINKLER PIPING
- CPVC BLAZEMASTER SPRINKLER PIPING
- UNDERGROUND PIPING

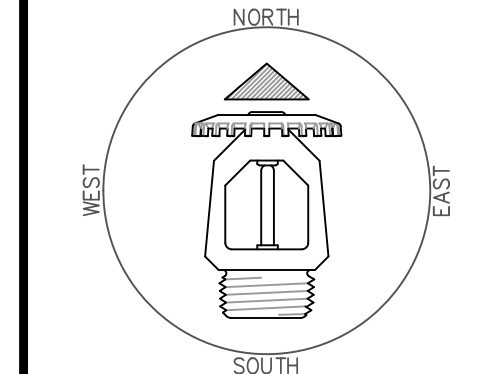
SYM	CNT	POSITION	FINISH	TEMP	K	NPT	SIN	MFG	MODEL#	ESCUTCHEON
○	416	UPRIGHT	BRASS	200	5.60	1/2"	VK300	VIKING	VK300	N/A
◐	16	SIDEWALL	WHITE	175	8.00	1/2"	VK630	VIKING	VK630	SEMI-RECESSED
◑	678	PENDENT	WHITE	155	4.90	1/2"	VK468	VIKING	VK468	SEMI-RECESSED
◒	136	PENDENT	WHITE	200	5.60	1/2"	VK302	VIKING	VK302	SEMI-RECESSED
◓	229	SIDEWALL	WHITE	155	4.00	1/2"	VK486	VIKING	VK486	SEMI-RECESSED
◔	74	UPRIGHT	BRASS	200	5.60	1/2"	VK300	VIKING	VK300	N/A
◕	52	SIDEWALL	WHITE	200	5.60	1"	VK178	VIKING	VK178	SEMI-RECESSED
◖	35	SIDEWALL	WHITE	200	5.60	1/2"	VK305	VIKING	VK305	N/A
◗	8	PENDENT	WHITE	200	5.60	1/2"	VK960	VIKING	VK960	N/A
◘	1	UPRIGHT	BRASS	286	5.60	1/2"	VK300	VIKING	VK300	N/A
◙	2	UPRIGHT	BRASS	200	11.20	3/4"	VK532	VIKING	VK532	N/A

1647 TOTAL SPRINKLERS HEAD CABINET AND WRENCHES PROVIDED

SPRINKLER HEAD LEGEND

SYMBOLS

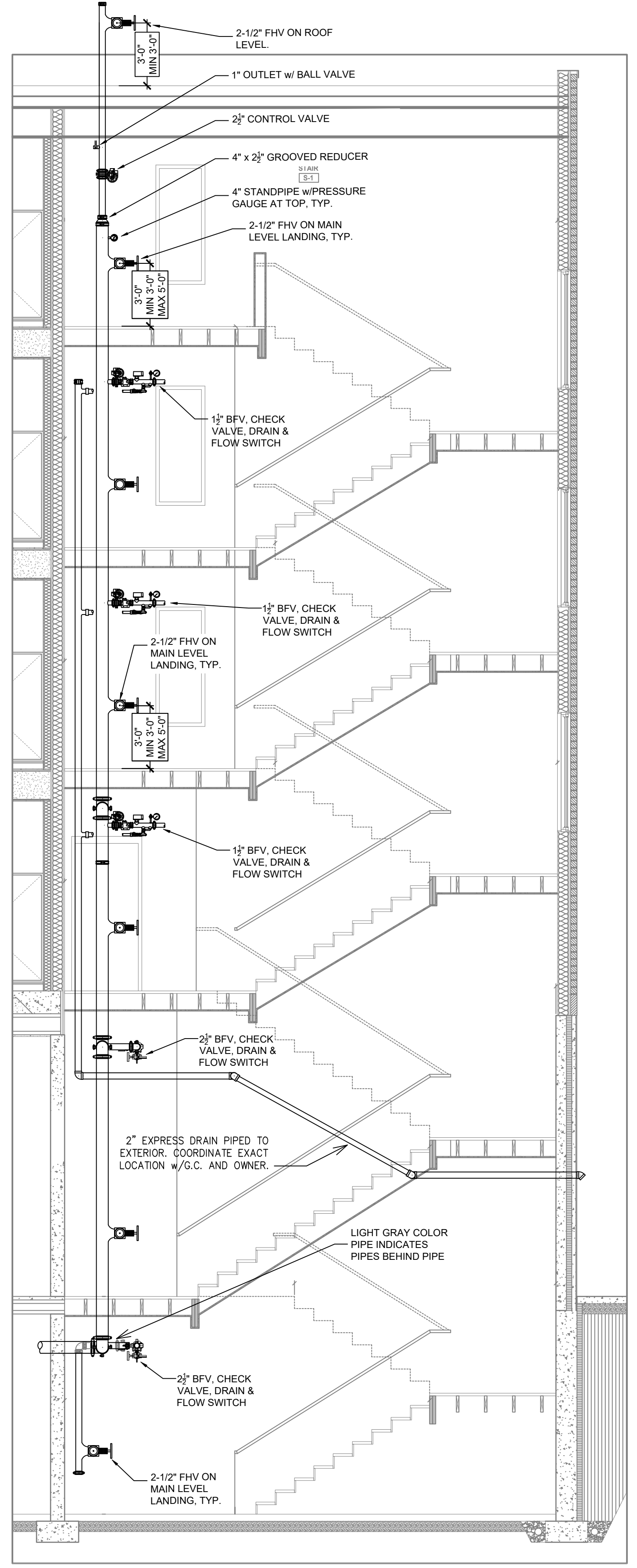
Symbol	Description
8'-0"	Ceiling Height
10'-0"	Exc. Below Top of Steel
12'-0"	Exc. Above Finished Floor
○	Hydraulic Reference Point
○	Control Connection Point
○	Detector Header Location
○	Fire up or down
○	Electrical Light
○	Room Hazard Classification
○	Sprinkler Head Code



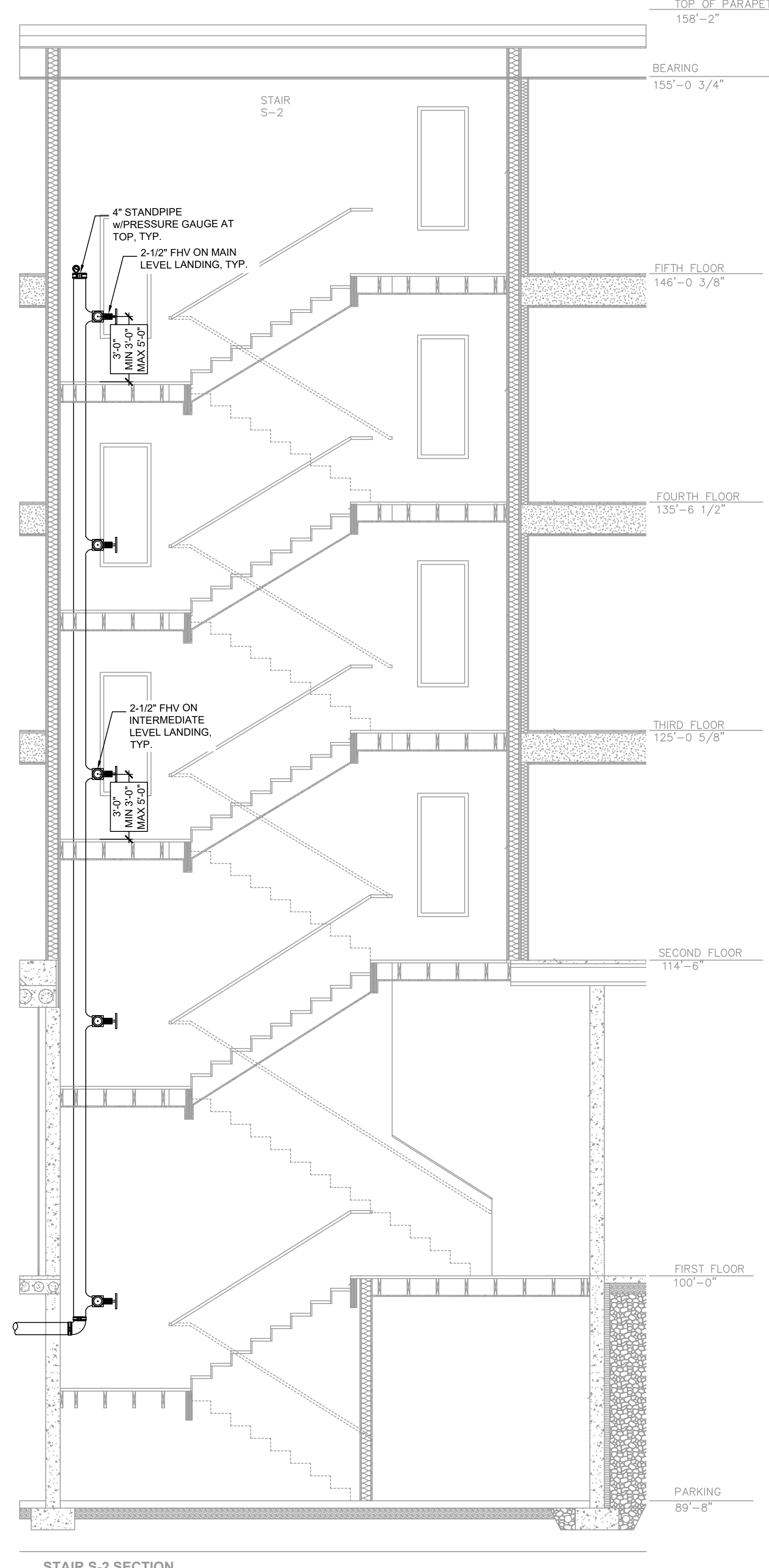
REVISIONS

No.	Description

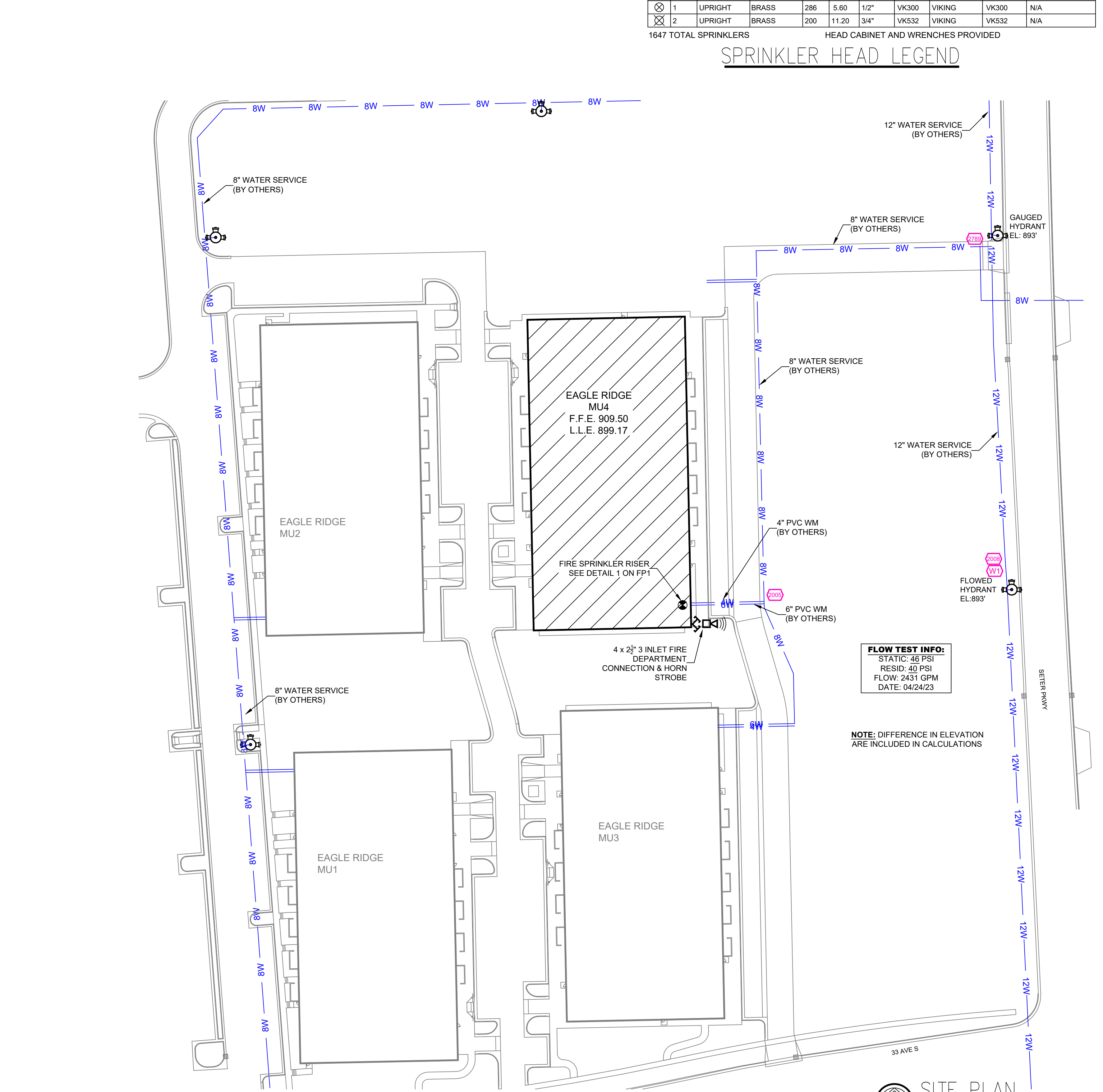
Drawing Title: **FIRE PROTECTION PLAN**
Project No.: 22-20-005
Drawn By: BCJ
Scale: 1/8" = 1'
Date: 11-22-23
DWG Type: SUBMITTAL DWG



STAIR SECTION S-1
SCALE: 1/4" = 1'-0"



STAIR SECTION S-2
SCALE: 1/4" = 1'-0"

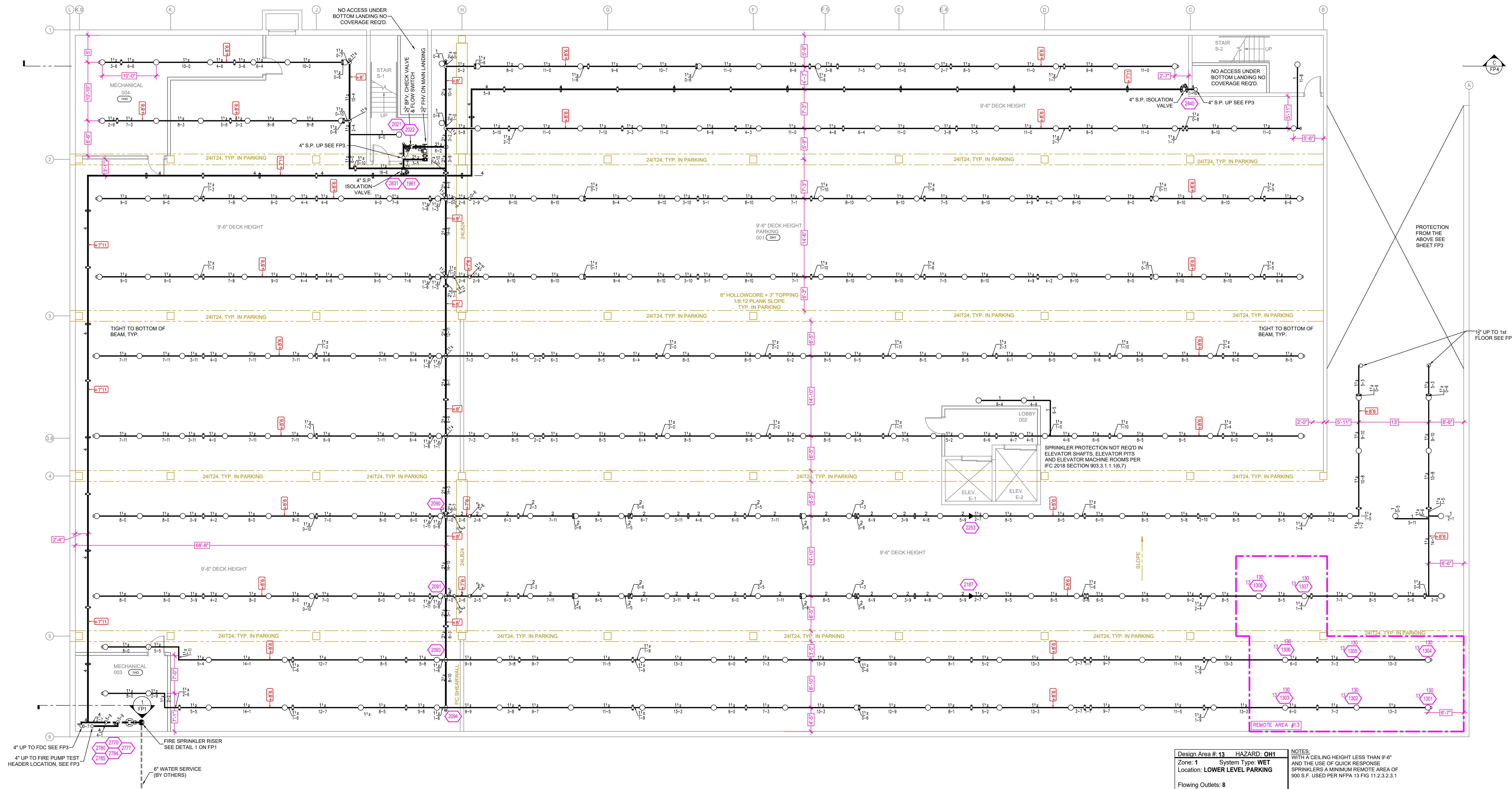


FLOW TEST INFO:
STATIC: 46 PSI
RESID: 40 PSI
FLOW: 2431 GPM
DATE: 04/24/23

NOTE: DIFFERENCE IN ELEVATION ARE INCLUDED IN CALCULATIONS

SITE PLAN
SCALE: 1" = 50'-0"

EAGLE RIDGE MU-4
EAGLE RIDGE DEVELOPMENT FARGO, NORTH DAKOTA



4" UP TO FDC SEE FP3
 4" UP TO FIRE PUMP TEST HEADER LOCATION, SEE FP3
 FIRE SPRINKLER RISER SEE DETAIL 1 ON FP1
 6" WATER SERVICE (BY OTHERS)

Design Area #: 13 HAZARD: OH1
 Zone: 1 System Type: WET
 Location: LOWER LEVEL PARKING
 Flowing Outlets: 8
 Density: 0.15 Remote Area: 952
 Flow: 420.6 gpm @ -50.9 psi
 Calculation Safety: 96.7 psi
 Includes 250 gpm Hose allowance

NOTES:
 WITH A CEILING HEIGHT LESS THAN 9'-6"
 AND THE USE OF QUICK RESPONSE
 SPRINKLERS A MINIMUM REMOTE AREA OF
 900 S.F. USED PER NFPA 13 FIG 11.2.3.2.3.1

PARKING GARAGE FLOOR PLAN
 SCALE: 1/8" = 1'-0"

PIPE LEGEND

WET SYSTEM FIRE SPRINKLER PIPING
 CPVC BLAZEMASTER SPRINKLER PIPING
 UNDERGROUND PIPING

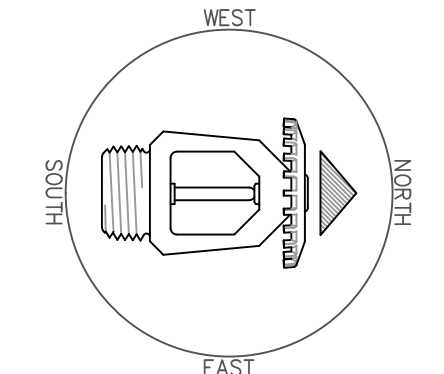
SYM	CONT	POSITION	FINISH	TEMP	K	NPT	SIN	MFG	MODEL#	ESCUTCHEON
○	416	UPRIGHT	BRASS	200	5.60	1/2"	VK300	VIKING	VK300	N/A
◄	16	SIDEWALL	WHITE	175	8.00	1/2"	VK630	VIKING	VK630	SEM-RECESSED
◉	678	PENDENT	WHITE	155	4.90	1/2"	VK468	VIKING	VK468	SEM-RECESSED
◉	136	PENDENT	WHITE	200	5.60	1/2"	VK302	VIKING	VK302	SEM-RECESSED
◉	229	SIDEWALL	WHITE	155	4.00	1/2"	VK486	VIKING	VK486	SEM-RECESSED
◉	74	UPRIGHT	BRASS	200	5.60	1/2"	VK300	VIKING	VK300	N/A
◄	52	SIDEWALL	WHITE	200	5.60	1"	VK178	VIKING	VK178	SEM-RECESSED
◄	35	SIDEWALL	WHITE	200	5.60	1/2"	VK305	VIKING	VK305	N/A
◉	8	PENDENT	WHITE	200	5.60	1/2"	VK960	VIKING	VK960	N/A
◉	1	UPRIGHT	BRASS	286	5.60	1/2"	VK300	VIKING	VK300	N/A
◉	2	UPRIGHT	BRASS	200	11.20	3/4"	VK532	VIKING	VK532	N/A

1647 TOTAL SPRINKLERS HEAD CABINET AND WRENCHES PROVIDED

SPRINKLER HEAD LEGEND

SYMBOLS

Symbol	Description
9'-0"	Ceiling Height
◄	Exc. Below Top of Steel
◄	Exc. Above Finished Floor
○	Hydraulic Reference Point
○	Common Connection Point
○	Detector Header Location
○	Fire up or down
○	Electrical Light
○	Room Hazard Classification
○	Sprinkler Head Code

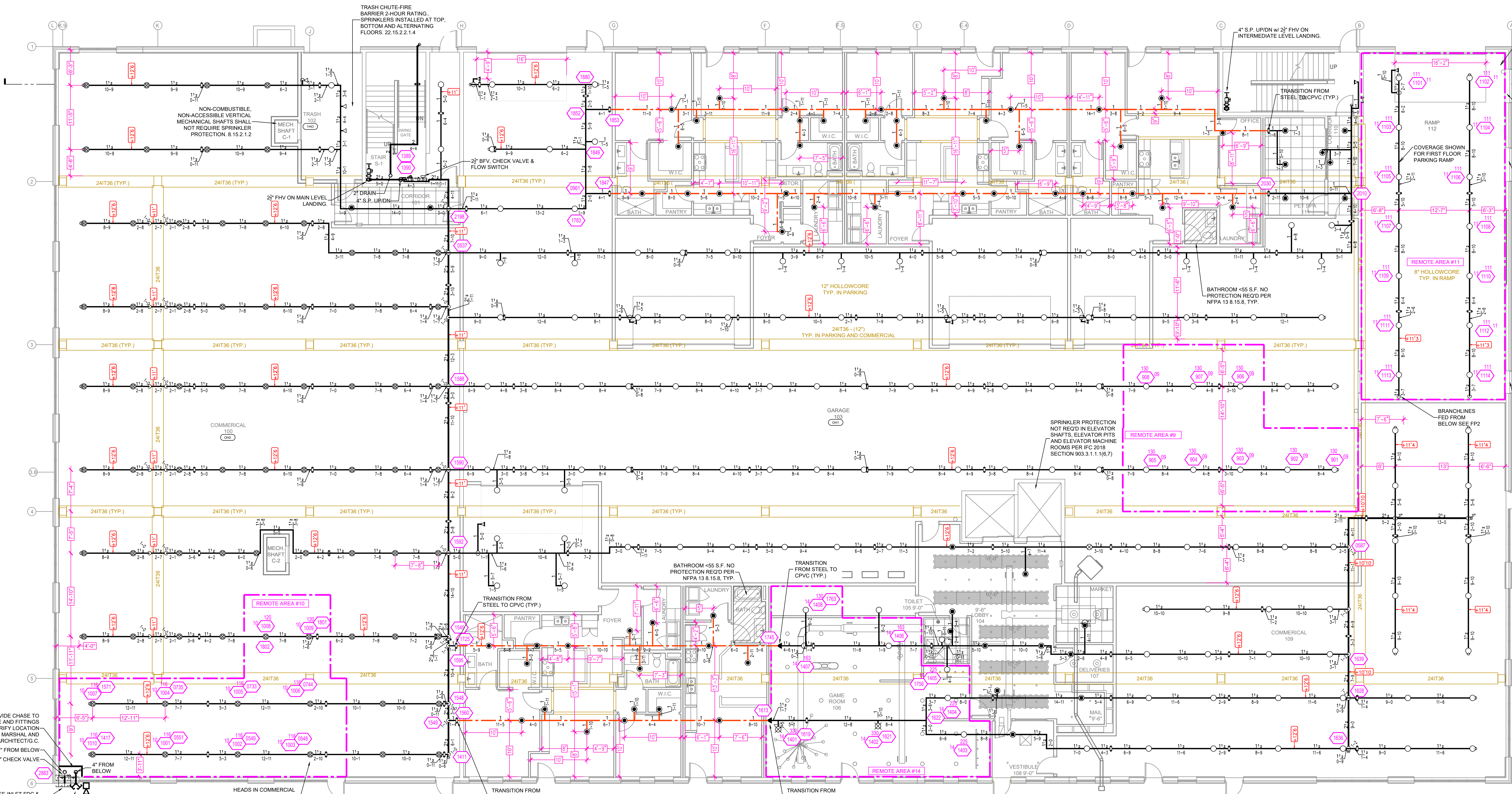


REVISIONS

No.	Description

Drawing Title: FIRE PROTECTION PLAN
 Project No.: 22-20-005
 Drawn By: BCJ
 Scale: 1/8" = 1'
 Date: 11-22-23
 DWG Type: SUBMITTAL DWG

EAGLE RIDGE MU-4
 EAGLE RIDGE DEVELOPMENT FARGO, NORTH DAKOTA



Design Area # 10 HAZARD: OH1
 Zone: 2 System Type: WET
 Location: 1ST FLOOR COMMERCIAL
 Flowing Outlets: 9
 Density: 0.15 Remote Area: 1120
 Flow: 486.9 gpm @ -25.5psi
 Calculation Safety: 71.2psi
 Includes 250 gpm Hose allowance

NOTES:
 WITH A CEILING HEIGHT LESS THAN 13'-4"
 AND THE USE OF QUICK RESPONSE
 SPRINKLERS A MINIMUM REMOTE AREA OF
 975 S.F. USED PER NFPA 13 FIG 11.2.3.2.3.1

CALC PLACARD

Design Area # 14 HAZARD: LIGHT
 Zone: 2 System Type: WET
 Location: 1ST FLOOR GAME ROOM/CLOSET
 Flowing Outlets: 8
 Density: 0.10 Remote Area: 1041
 Flow: 321 gpm @ -2.8 psi
 Calculation Safety: 48.8psi
 Includes 100 gpm Hose allowance

NOTES:
 WITH A CEILING HEIGHT LESS THAN 13'-4"
 AND THE USE OF QUICK RESPONSE
 SPRINKLERS A MINIMUM REMOTE AREA OF
 975 S.F. USED PER NFPA 13 FIG 11.2.3.2.3.1

Design Area # 09 HAZARD: OH1
 Zone: 2 System Type: WET
 Location: 1ST FLOOR PARKING
 Flowing Outlets: 9
 Density: 0.15 Remote Area: 1046
 Flow: 433.5 gpm @ -26.6psi
 Calculation Safety: 72.4psi
 Includes 250 gpm Hose allowance

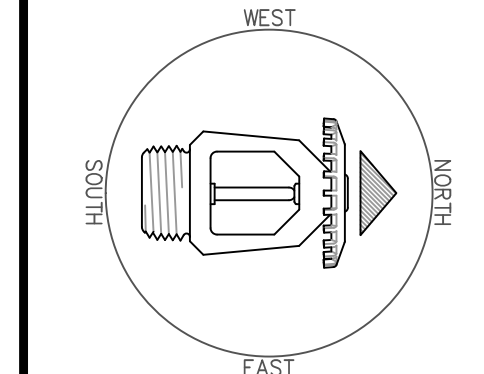
NOTES:
 WITH A CEILING HEIGHT LESS THAN 13'-4"
 AND THE USE OF QUICK RESPONSE
 SPRINKLERS A MINIMUM REMOTE AREA OF
 975 S.F. USED PER NFPA 13 FIG 11.2.3.2.3.1

Design Area # 11 HAZARD: OH1
 Zone: 1 System Type: WET
 Location: PARKING RAMP
 Flowing Outlets: 14
 Density: 0.15 Remote Area: 1571
 Flow: 513.8 gpm @ 38.1 psi
 Calculation Safety: 7.6 psi
 Includes 250 gpm Hose allowance

NOTES:
 WITH A CEILING HEIGHT OVER 20' A
 MINIMUM REMOTE AREA OF 1500 S.F. USED
 PER NFPA 13 FIG 11.2.3.2.3.1

SYMBOLS

9'-0"	Ceiling Height
1'-0"	Exc. Below Top of Steel
1'-0"	Exc. Above Finished Floor
1'-0"	Hydraulic Reference Point
1'-0"	Common Connection Point
1'-0"	Detector Hoop Location
1'-0"	Fire up or down
1'-0"	Electrical Light
1'-0"	Room Hazard Classification
1'-0"	Sprinkler Head Code



REVISIONS

No.	Description

Drawing Title: FIRE PROTECTION PLAN
 Project No.: 22-20-005
 Drawn By: BCJ
 Scale: 1/8" = 1'
 Date: 11-22-23
 DWG Type: SUBMITTAL DWG

FIRST FLOOR PLAN
 SCALE: 1/8" = 1'-0"

PIPE LEGEND
 WET SYSTEM FIRE SPRINKLER PIPING
 CPVC BLAZEMASTER SPRINKLER PIPING
 UNDERGROUND PIPING

SYM	CONT	POSITION	FINISH	TEMP	K	NPT	SIN	MFG	MODEL#	ESCUTCHEON
416	UPRIGHT	BRASS	200	5.60	1/2"	VK300	VKING	VK300	N/A	
16	SIDEWALL	WHITE	175	8.00	1/2"	VK630	VKING	VK630	SEM-RECESSED	
678	PENDENT	WHITE	155	4.90	1/2"	VK468	VKING	VK468	SEM-RECESSED	
136	PENDENT	WHITE	200	5.60	1/2"	VK302	VKING	VK302	SEM-RECESSED	
229	SIDEWALL	WHITE	155	4.00	1/2"	VK466	VKING	VK466	SEM-RECESSED	
74	UPRIGHT	BRASS	200	5.60	1/2"	VK300	VKING	VK300	N/A	
52	SIDEWALL	WHITE	200	5.60	1"	VK178	VKING	VK178	SEM-RECESSED	
35	SIDEWALL	WHITE	200	5.60	1/2"	VK305	VKING	VK305	N/A	
8	PENDENT	WHITE	200	5.60	1/2"	VK960	VKING	VK960	N/A	
1	UPRIGHT	BRASS	286	5.60	1/2"	VK300	VKING	VK300	N/A	
2	UPRIGHT	BRASS	200	11.20	3/4"	VK532	VKING	VK532	N/A	

1647 TOTAL SPRINKLERS HEAD CABINET AND WRENCHES PROVIDED

SPRINKLER HEAD LEGEND

EAGLE RIDGE MU-4
 EAGLE RIDGE DEVELOPMENT FARGO, NORTH DAKOTA

FP3 OF 7

Design Area # 1 HAZARD: LIGHT
 Zone: 5 System Type: WET
 Location: 5TH FLOOR CORRIDOR
 Flowing Outlets: 4
 Density: 0.10 Remote Area: 614
 Flow: 197.2 gpm @ 30.2 psi
 Calculation Safety: 15.8 psi
 Includes 100 gpm Hose allowance

NOTES:
 CALCULATED 4 ADJACENT SPRINKLERS THAT PRODUCE THE GREATEST HYDRAULIC DEMAND PER NFPA 13 11.3.1. HALLWAY HEADS CALCULATED AT 20X20 MAX SPACING.

Design Area # 2 HAZARD: LIGHT
 Zone: 5 System Type: WET
 Location: 5TH FLOOR UNIT G
 Flowing Outlets: 4
 Density: 0.10 Remote Area: 679
 Flow: 203.6 gpm @ 27.2 psi
 Calculation Safety: 18.8 psi
 Includes 100 gpm Hose allowance

NOTES:
 CALCULATED 4 ADJACENT SPRINKLERS THAT PRODUCE THE GREATEST HYDRAULIC DEMAND PER NFPA 13 11.3.1.

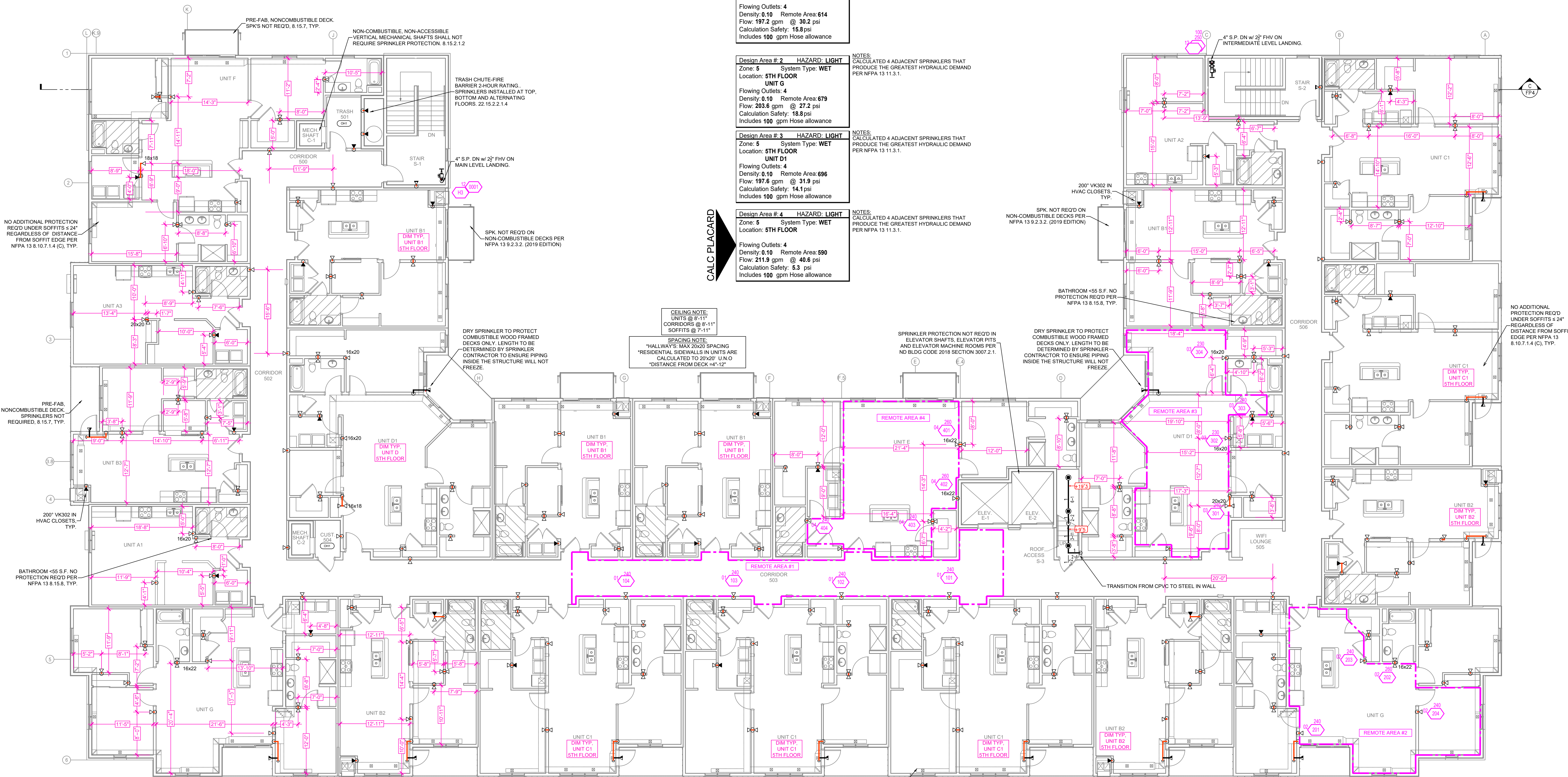
Design Area # 3 HAZARD: LIGHT
 Zone: 5 System Type: WET
 Location: 5TH FLOOR UNIT D1
 Flowing Outlets: 4
 Density: 0.10 Remote Area: 696
 Flow: 197.6 gpm @ 31.9 psi
 Calculation Safety: 14.1 psi
 Includes 100 gpm Hose allowance

NOTES:
 CALCULATED 4 ADJACENT SPRINKLERS THAT PRODUCE THE GREATEST HYDRAULIC DEMAND PER NFPA 13 11.3.1.

Design Area # 4 HAZARD: LIGHT
 Zone: 5 System Type: WET
 Location: 5TH FLOOR
 Flowing Outlets: 4
 Density: 0.10 Remote Area: 590
 Flow: 211.9 gpm @ 40.6 psi
 Calculation Safety: 5.3 psi
 Includes 100 gpm Hose allowance

NOTES:
 CALCULATED 4 ADJACENT SPRINKLERS THAT PRODUCE THE GREATEST HYDRAULIC DEMAND PER NFPA 13 11.3.1.

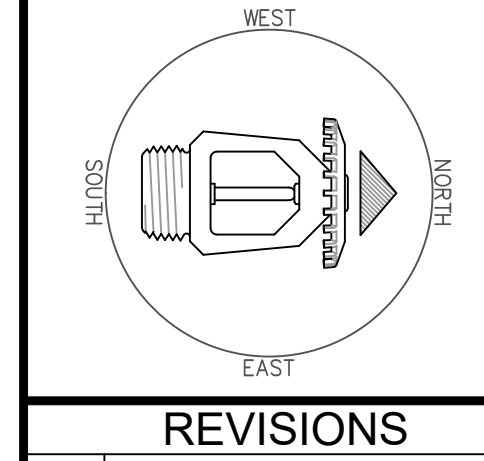
CALC PLACARD



FIFTH FLOOR PLAN
 SCALE: 1/8" = 1'-0"

SYMBOLS

Symbol	Description
9'-0"	Ceiling Height
1'-0"	Exc. Below Top of Steel
1'-0"	Exc. Above Finished Floor
○	Hydraulic Reference Point
○	Common Connection Point
○	Device Hoop Location
○	File up or down
○	Electrical Light
○	Room Hazard Classification
○	Sprinkler Head Code



REVISIONS

No.	Description

Drawing Title
 FIRE PROTECTION PLAN

Project No. 22-20-005

Drawn By BCJ

Scale 1/8" = 1'

Date 11-22-23

DWG Type SUBMITTAL DWG

PIPE LEGEND

WET SYSTEM FIRE SPRINKLER PIPING
 CPVC BLAZEMASTER SPRINKLER PIPING
 UNDERGROUND PIPING

SYM	CNT	POSITION	FINISH	TEMP	K	NPT	SIN	MPG	MODEL#	ESCUTCHEON
○	416	UPRIGHT	BRASS	200	5.60	1/2"	VK300	VKING	VK300	N/A
○	16	SIDEWALL	WHITE	175	8.00	1/2"	VK630	VKING	VK630	SEMI-RECESSED
○	678	PENDENT	WHITE	155	4.90	1/2"	VK486	VKING	VK486	SEMI-RECESSED
○	136	PENDENT	WHITE	200	5.60	1/2"	VK302	VKING	VK302	SEMI-RECESSED
○	229	SIDEWALL	WHITE	155	4.00	1/2"	VK486	VKING	VK486	SEMI-RECESSED
○	74	UPRIGHT	BRASS	200	5.60	1/2"	VK300	VKING	VK300	N/A
○	52	SIDEWALL	WHITE	200	5.60	1"	VK178	VKING	VK178	SEMI-RECESSED
○	35	SIDEWALL	WHITE	200	5.60	1/2"	VK305	VKING	VK305	N/A
○	8	PENDENT	WHITE	200	5.60	1/2"	VK960	VKING	VK960	N/A
○	1	UPRIGHT	BRASS	286	5.60	1/2"	VK300	VKING	VK300	N/A
○	2	UPRIGHT	BRASS	200	11.20	3/4"	VK532	VKING	VK532	N/A

1647 TOTAL SPRINKLERS HEAD CABINET AND WRENCHES PROVIDED

EAGLE RIDGE MU-4
 EAGLE RIDGE DEVELOPMENT FARGO, NORTH DAKOTA