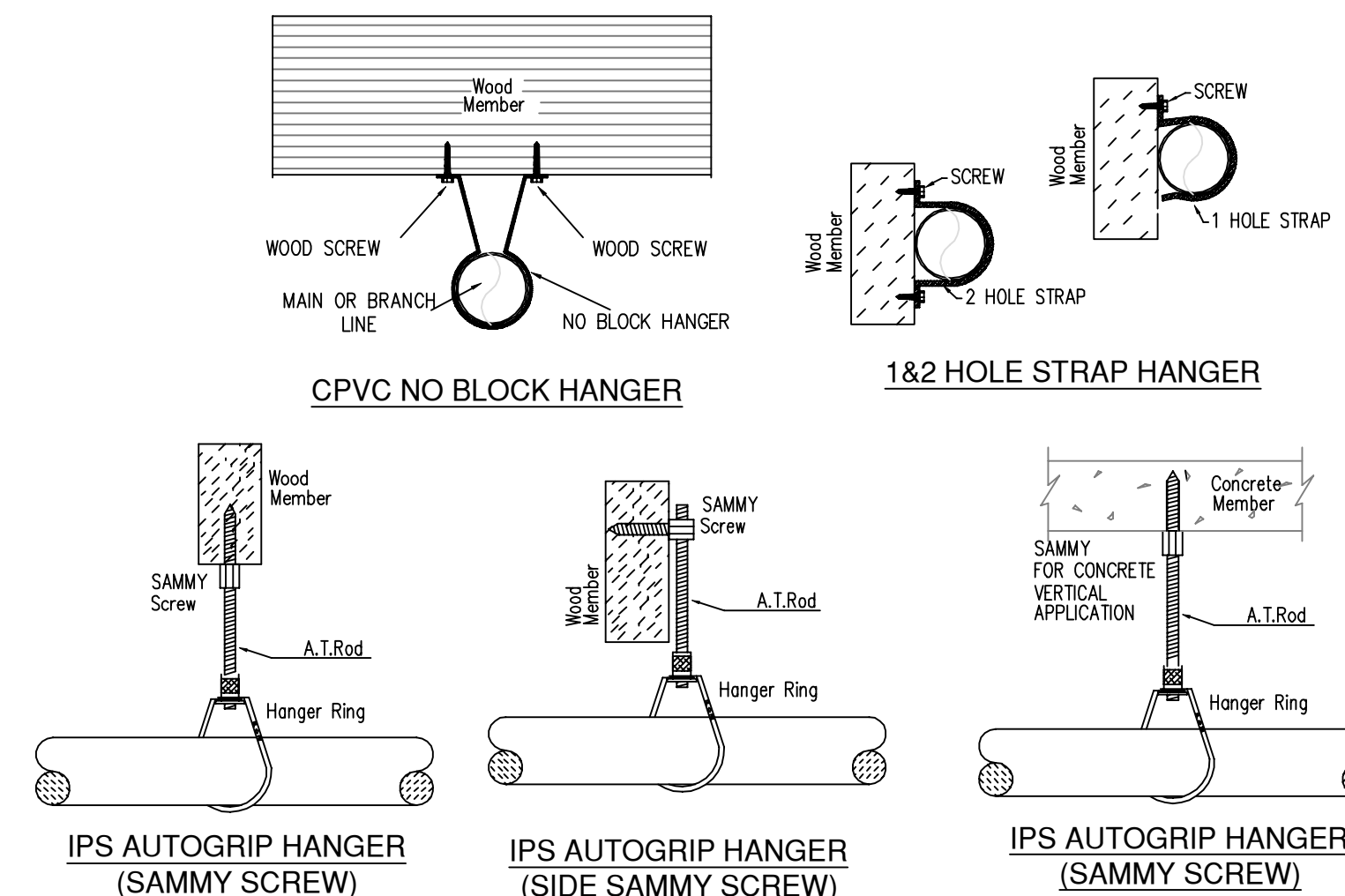


A BUILDING SECTION
SCALE= 1/8" : 1'-0"

MAXIMUM DISTANCE BETWEEN HANGERS (FT.-IN.)	NOMINAL PIPE SIZE (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
BLAZEMASTER CPVC	5-6	6-0	6-6	7-0	8-0	9-0	10-0	NA	NA	NA

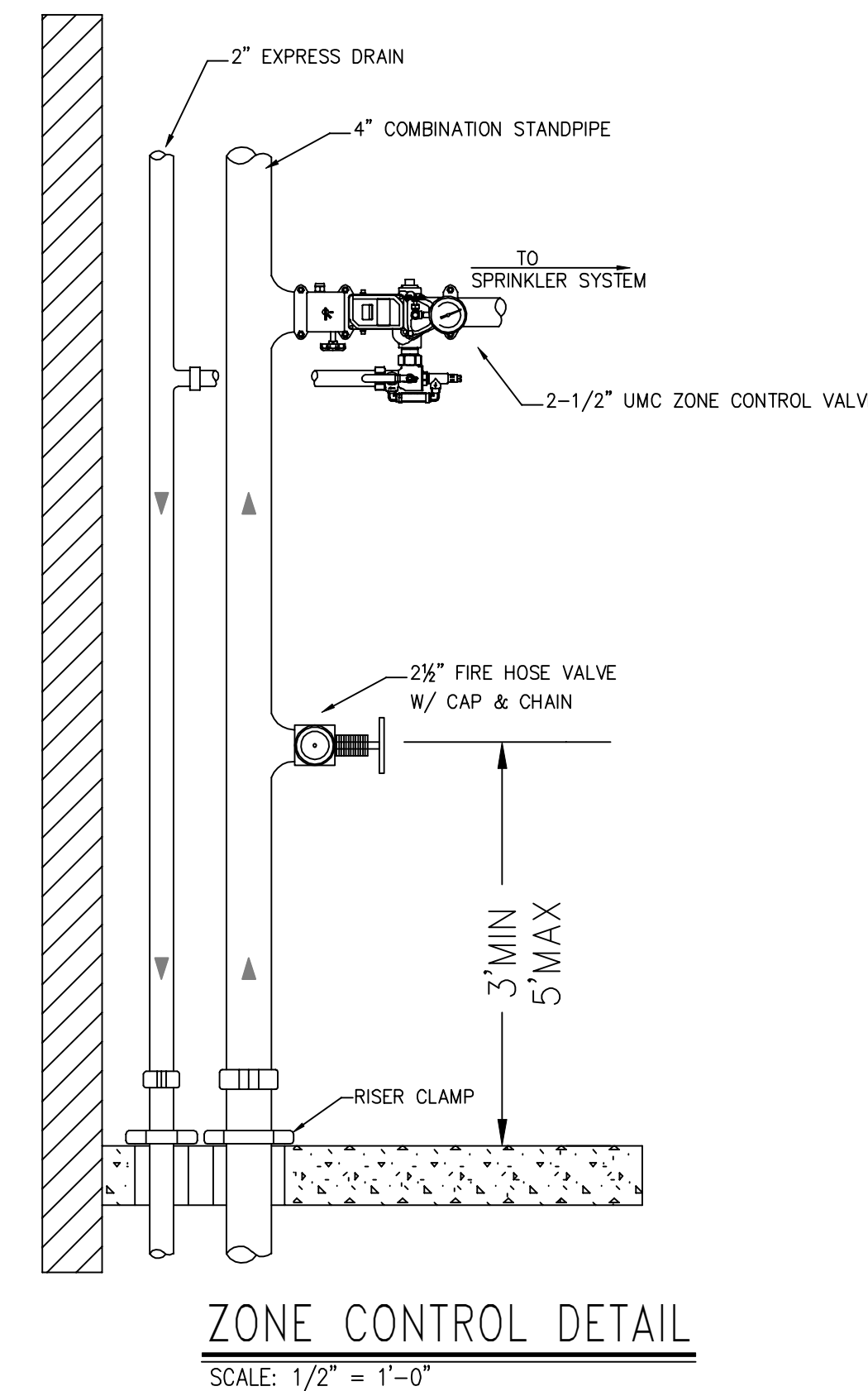
NFPA 13 HANGER SPACING



HANGER DETAILS

MANUAL WET STANDPIPE
LOCATION: STAIR B 4TH & 5TH FLOORS.
REQUIRED FLOW: 500 GPM
OUTLET PSI: 100
REQUIRED INLET PSI: 149.7

- GENERAL NOTES**
- INTERNATIONAL BUILDING CODE (2012)
 - OCCUPANCY: TYPE R-2, MIXED USE
 - TYPE OF CONSTRUCTION: III-B
 - SPRINKLERED AREAS (APPROXIMATE - SEE ARCHITECTURAL PLANS FOR ACTUAL)
 - PARKING GARAGE = 21,400 S.F. (ZONE 1)
 - 1ST FLOOR = 21,620 S.F. (ZONE 2)
 - 2ND FLOOR = 21,620 S.F. (ZONE 2)
 - 3RD FLOOR = 21,642 S.F. (ZONE 3)
 - 4TH FLOOR = 21,642 S.F. (ZONE 3)
 - 5TH FLOOR = 21,642 S.F. (ZONE 4)
 - TOTAL = 129,266 S.F.
 - INSTALLATION STANDARDS:
 - SPRINKLER SYSTEM DESIGNED AND INSTALLED PER NFPA-13, NFPA-14 (2016)
 - SPRINKLER PIPE TYPES:
 - 1" BRANCH LINES TO BE BLAZEMASTER CPVC PIPING WITH CEMENTED FITTINGS
 - 1 1/2" THROUGH 2" MAIN & BRANCH LINES TO BE BLAZEMASTER CPVC PIPING WITH CEMENTED FITTINGS
 - 2" BRANCH LINES TO BE BLK SCHED 40 THREAD PIPING WITH THREADED FITTINGS
 - 2.4 1 1/2" THROUGH 6" MAIN & BRANCH LINES TO BE BLK SCHED 40 PIPING WITH SHORT RADIUS GROOVED FITTINGS
 - DESIGN CRITERIA
 - PARKING LEVEL, RISER ROOM, TRASH ROOMS, STORAGE CLOSETS, ELECTRICAL CLOSETS, & HVAC CLOSETS ARE DESIGNED TO ORDINARY HAZARD GROUP 1 PER NFPA 13
 - 1st-5th FLOOR UNITS, OFFICES, MAIL ROOM, & ELEVATOR LOBBYS ARE DESIGNED TO LIGHT HAZARD AND RESIDENTIAL OCCUPANCY CRITERIA PER NFPA 13
 - 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 REQUIREMENTS
 - SYMBOLS USED ON DRAWINGS:
 - PIPE ELEVATION A.F.F.
 - PIPE ELEVATION BELOW B.O.D.
 - ROOM HAZARD CLASSIFICATION (ALL ROOMS ARE CONSIDERED LIGHT HAZARD UNLESS NOTED)
 - HYDRAULIC CALCULATION JUNCTION POINT
 - SCOPE OF WORK:
 - TO INSTALL 1 WET ZONE FOR THE PARKING GARAGE, 1 WET ZONE FOR LEVELS 1 & 2 (COMBINED), 1 WET ZONE FOR LEVEL 3, & 1 WET ZONE FOR LEVEL 4 & 5 (COMBINED) AS SHOWN ON THESE DRAWINGS
 - ALL AREAS OF THE BUILDING TO BE INSTALLED AND COVERED IN ACCORDANCE WITH THE LOCAL AUTHORITY HAVING JURISDICTION AND PER NFPA 13 (2016)



ZONE CONTROL DETAIL
SCALE: 1/2" = 1'-0"

PIPE LEGEND

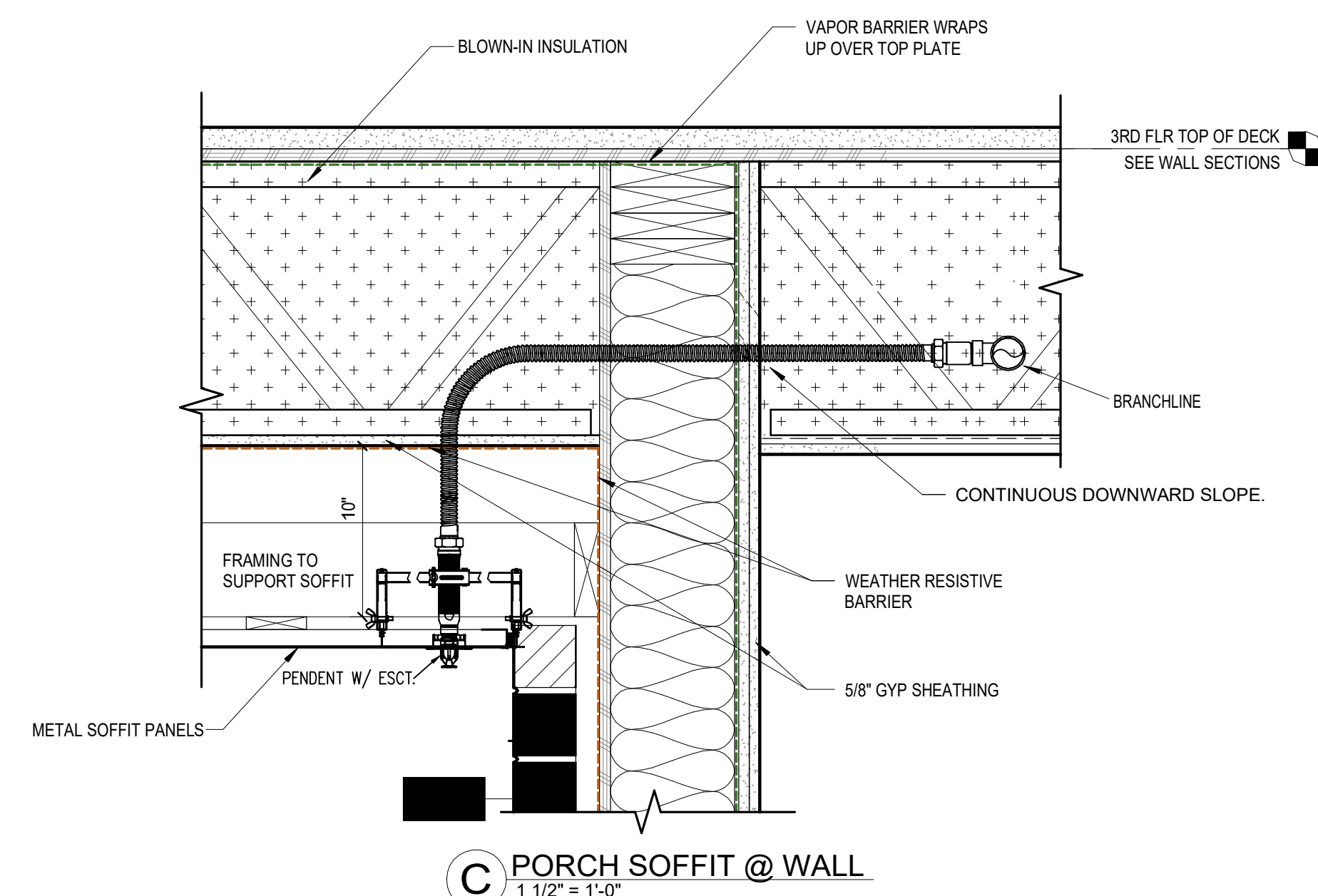
—	BLACK STEEL SPRINKLER PIPING
- - -	CPVC BLAZEMASTER SPRINKLER PIPING

SYM	QTY	POSITION	FINISH	TEMP	K	RPT	SR	MFG	MODEL#	ESCUTCHEON	HEAD BOX
700	PENDENT	WHITE	155°	4.90	1/2"	TY2236	TYCO	LFPI		SEMI-RESSESSED	2
26	PENDENT	WHITE	155°	5.60	1/2"	TY3531	TYCO	RFPI		CONCEALED	2
143	PENDENT	WHITE	200°	5.60	1/2"	TY3231	TYCO	TY-FRB		SEMI-RESSESSED	2
219	SIDEWALL	WHITE	155°	4.40	1/2"	TY2334	TYCO	LFPI		SEMI-RESSESSED	2
46	SIDEWALL	WHITE	200°	5.60	1/2"	TY3331	TYCO	TY-FRB		SEMI-RESSESSED	2
31	SIDEWALL	WHITE	155°	5.60	1/2"	TY3331	TYCO	TY-FRB		SEMI-RESSESSED	2
56	SIDEWALL	WHITE	155°	5.60	1/2"	RA1564	RELIABLE	DH56		SEMI-RESSESSED	2
2	SIDEWALL	WHITE	200°	11.20	3/4"	TY3332	TYCO	SW-20		SEMI-RESSESSED	2
10	SIDEWALL	WHITE	155°	8.00	3/4"	TY4332	TYCO	TY-FRB		SEMI-RESSESSED	2
93	UPRIGHT	BRASS	200°	14.00	3/4"	TY8137	TYCO	EC-14		N/A	2
2	UPRIGHT	BRASS	200°	14.00	3/4"	TY8137	TYCO	EC-14		N/A	2
3	PENDENT	CHROME	200°	5.60	1"	V3506	METCALIC	VSI		SEMI-RESSESSED	2
14	UPRIGHT	BRASS	200°	5.60	1/2"	TY313	TYCO	TY-FRB		N/A	2
2	SPRIG	BRASS	200°	14.00	3/4"	TY8137	TYCO	EC-14		N/A	2

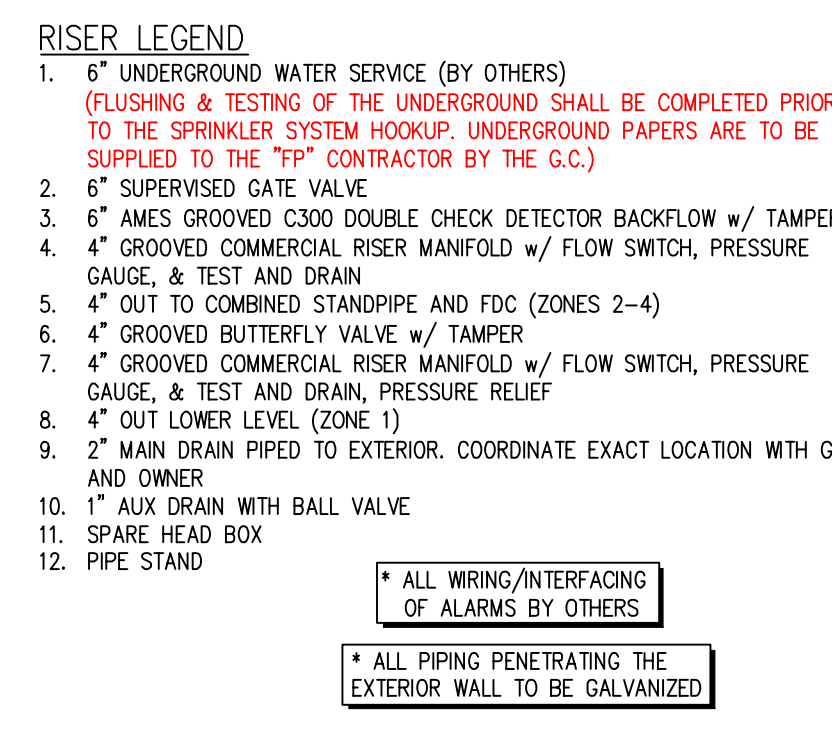
1,347 TOTAL SPRINKLERS

SPRINKLER SPACING DETAILS

<p>LFPI RESIDENTIAL SIDEWALL SPRINKLER TY2334 4.4K</p> <p>TYPICAL RES SIDE DETAIL MAX DISTANCE OFF WALL: 8'-0" U.N.O. MAX DISTANCE BETWEEN HEAD: 16'-0" U.N.O. MAX DISTANCE FROM DECK: 0'-4" - 1'-0" MAX SPRAY DISTANCE: 16'-0" U.N.O. (CALCULATED TO 16'x16' U.N.O.)</p> <p>SYMBOLS ON PLAN</p>	<p>TY-FRB SIDEWALL SPRINKLER TY3331 5.6K</p> <p>TYP. SIDEWALL DETAIL (LH) MAX DISTANCE OFF WALL: 7'-0" MAX DISTANCE BETWEEN HEAD: 14'-0" MAX DISTANCE FROM DECK: 0'-4" - 1'-0" MAX SPRAY DISTANCE: 14'-0" 1/2" NPT</p> <p>SYMBOLS ON PLAN</p>	<p>DH56 SIDEWALL SPRINKLER RA1564 5.6K</p> <p>TYPICAL DH56 DETAIL MAX DISTANCE OFF WALL: 14'-0" MAX DISTANCE BETWEEN HEAD: 28'-0" MAX DISTANCE FROM DECK: 0'-4" - 1'-0" MAX SPRAY DISTANCE: 28'-0"x8'-0" (CALCULATED TO 28'x8')</p> <p>SYMBOLS ON PLAN</p>	<p>SW-20 SIDEWALL SPRINKLER TY5332 11.2K</p> <p>TYP. SW-20 SIDE DETAIL MAX DISTANCE OFF WALL: 8'-0" MAX DISTANCE BETWEEN HEAD: 16'-0" MAX DISTANCE FROM DECK: 0'-4" - 1'-0" MAX SPRAY DISTANCE: 16' x 20' (WAT) 3/4" NPT</p> <p>SYMBOLS ON PLAN</p>
<p>TY-FRB SIDEWALL SPRINKLER TY4332 8.0K</p> <p>TYP. SIDEWALL DETAIL (LH) MAX DISTANCE OFF WALL: 8'-0" MAX DISTANCE BETWEEN HEAD: 16'-0" MAX DISTANCE FROM DECK: 0'-4" - 1'-0" MAX SPRAY DISTANCE: 16'-0" x 20'-0" 3/4" NPT</p> <p>SYMBOLS ON PLAN</p>	<p>RFPI PENDENT SPRINKLER TY3531 5.6K</p> <p>TYP. PENDENT DETAIL (LH) MAX DISTANCE OFF WALL: 7'-0" MAX DISTANCE BETWEEN HEAD: 15'-0" MAX DISTANCE FROM DECK: 0'-4" MAX SPRAY DISTANCE: 15'-0" 1/2" NPT</p> <p>SYMBOLS ON PLAN</p>	<p>LFPI RESIDENTIAL SPRINKLER TY2336 4.9K</p> <p>TYPICAL RES PEND DETAIL MAX DISTANCE OFF WALL: 10'-0" MAX DISTANCE BETWEEN HEAD: 20'-0" MAX DISTANCE FROM DECK: 0'-4" MAX SPRAY DISTANCE: 20'-0" (CALCULATED TO 20'x20')</p> <p>SYMBOLS ON PLAN</p>	<p>TY-FRB PENDENT SPRINKLER TY3231 5.6K</p> <p>TYP. PENDENT DETAIL (LH) MAX DISTANCE OFF WALL: 7'-0" MAX DISTANCE BETWEEN HEAD: 15'-0" MAX DISTANCE FROM DECK: 1'-0" MAX SPRAY DISTANCE: 15'-0" 1/2" NPT</p> <p>SYMBOLS ON PLAN</p>
<p>EC-14 UPRIGHT SPRINKLER TY137 14.0K</p> <p>TYPICAL EC-14 DETAIL MAX DISTANCE OFF WALL: 8'-0" MAX DISTANCE BETWEEN HEAD: 16'-0" MAX DISTANCE FROM DECK: 0'-1" - 1'-0" MAX SPRAY DISTANCE: 16'-0"x16'-0" 3/4" NPT</p> <p>SYMBOLS ON PLAN</p>	<p>TY-FRB UPRIGHT SPRINKLER TY313 5.6K</p> <p>TYP. UPRIGHT DETAIL (OH) MAX DISTANCE OFF WALL: 7'-0" MAX DISTANCE BETWEEN HEAD: 15'-0" MAX DISTANCE FROM DECK: 0'-1" - 1'-0" MAX COVERAGE AREA: 130 SQ. FT. 1/2" NPT</p> <p>SYMBOLS ON PLAN</p>	<p>VIC DRY SPRINKLER V3506 5.6K</p> <p>TYPICAL PENDENT DETAIL MAX DISTANCE OFF WALL: 7'-0" MAX DISTANCE BETWEEN HEAD: 15'-0" MAX DISTANCE FROM DECK: 1'-0" MAX SPRAY DISTANCE: 15'-0" 1/2" NPT</p> <p>SYMBOLS ON PLAN</p>	

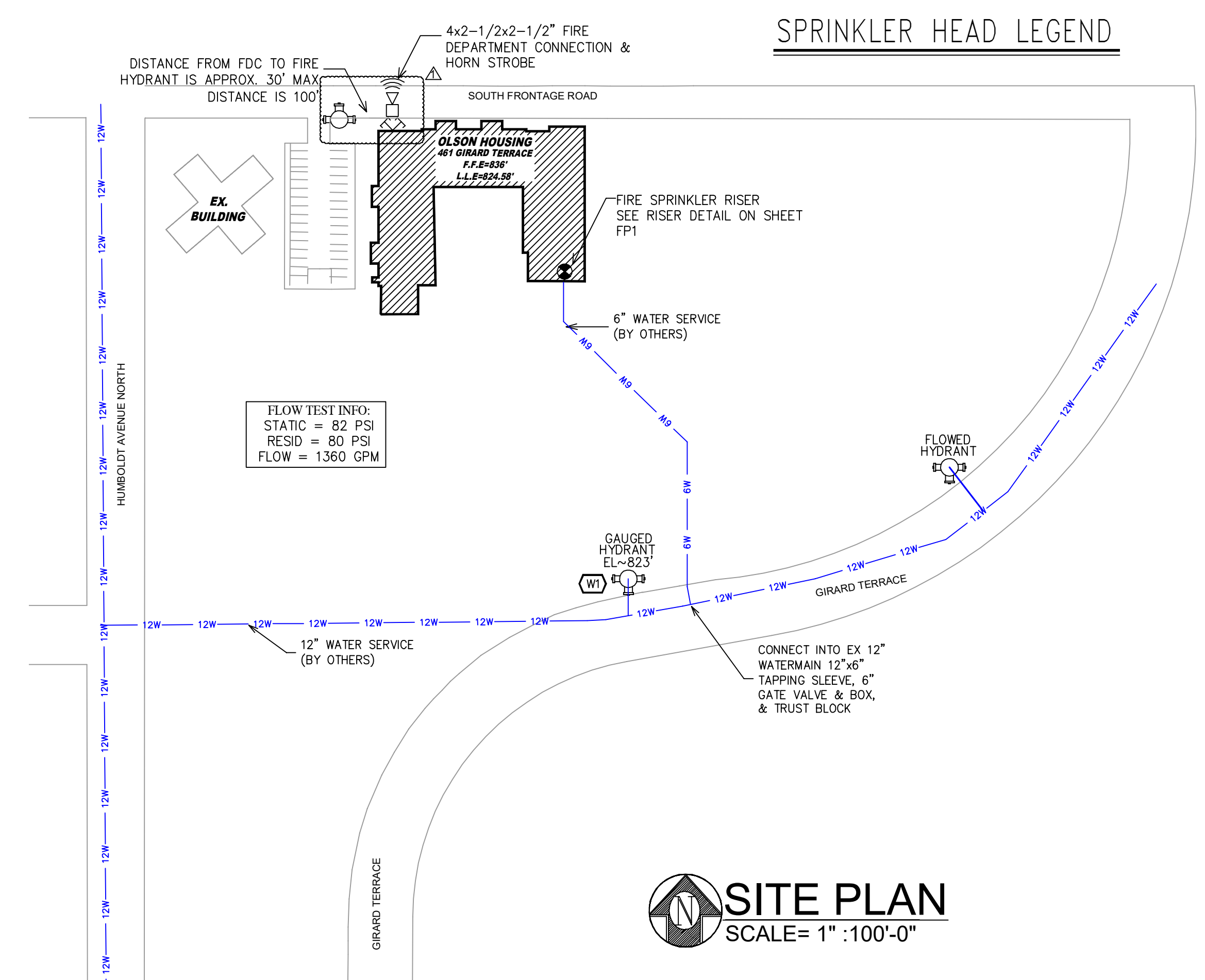


C PORCH SOFFIT @ WALL
SCALE: 1/2" = 1'-0"



B RISER DETAIL
SCALE= 1/2" : 1'-0"

- RISER LEGEND**
- UNDERGROUND WATER SERVICE (BY OTHERS) (PLUSHING & TESTING OF THE UNDERGROUND SHALL BE COMPLETED PRIOR TO THE SPRINKLER SYSTEM HOOKUP. UNDERGROUND PAPERS ARE TO BE SUPPLIED TO THE "FP" CONTRACTOR BY THE G.C.)
 - SUPERVISED GATE VALVE
 - 6" ANES GROOVED C300 DOUBLE CHECK DETECTOR BACKFLOW w/ TAMPERS
 - GROOVED COMMERCIAL RISER MANFOLD w/ FLOW SWITCH, PRESSURE GAUGE, & TEST AND DRAIN
 - OUT TO COMBINED STANDPIPE AND FDC (ZONES 2-4)
 - GROOVED BUTTERFLY VALVE w/ TAMPERS
 - GROOVED COMMERCIAL RISER MANFOLD w/ FLOW SWITCH, PRESSURE GAUGE, & TEST AND DRAIN, PRESSURE RELIEF
 - OUT LOWER LEVEL (ZONE 1)
 - 2" MAIN DRAIN PIPED TO EXTERIOR. COORDINATE EXACT LOCATION WITH G.C. AND OWNER
 - AUX DRAIN WITH BALL VALVE
 - SPARE HEAD BOX
 - PIPE STAND
- * ALL WIRING/INTERFACING OF ALARMS BY OTHERS
* ALL PIPING PENETRATING THE EXTERIOR WALL TO BE GALVANIZED



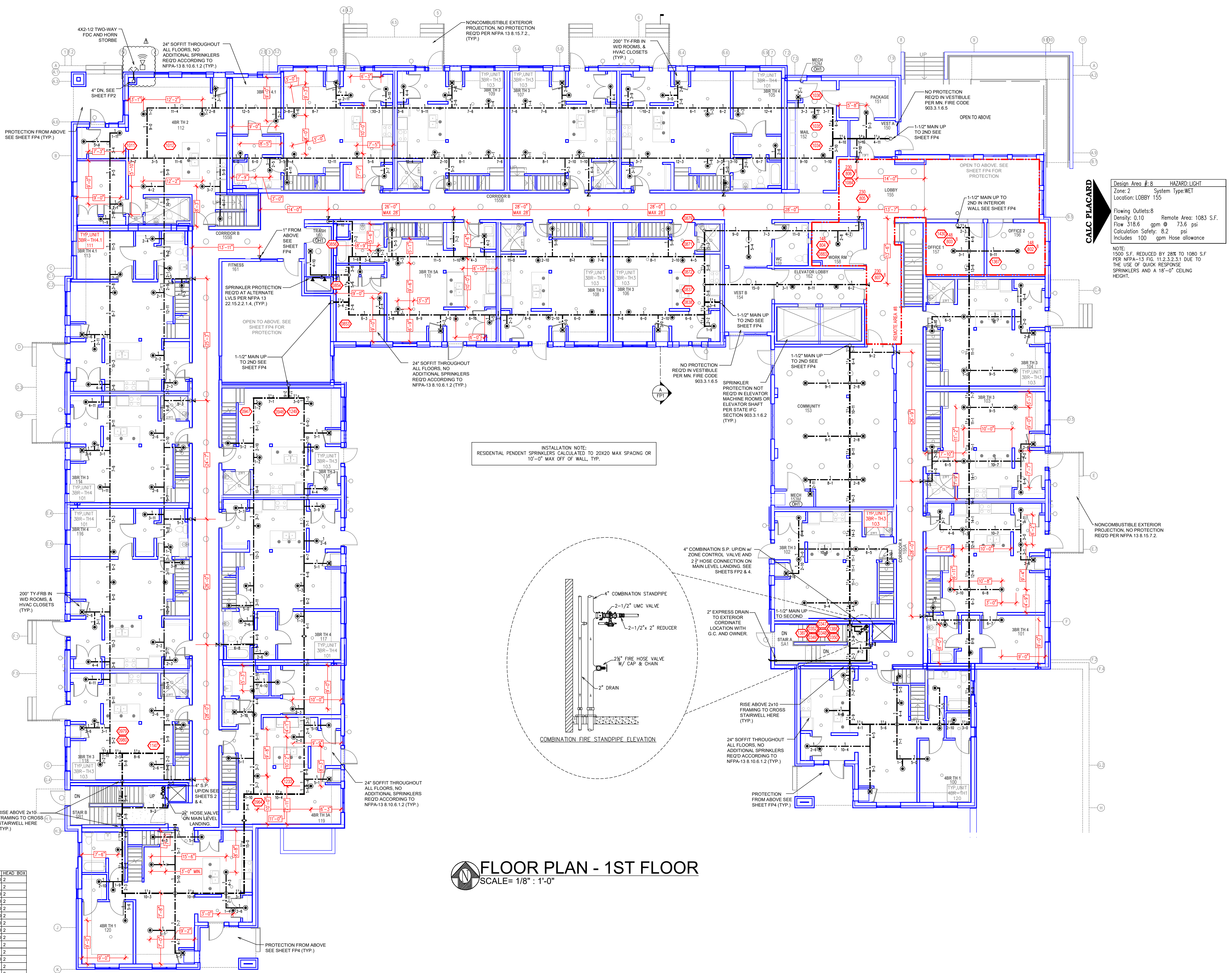
SPRINKLER HEAD LEGEND

SITE PLAN
SCALE= 1" : 100'-0"

	<p>General Notes</p> <ol style="list-style-type: none"> System installed per NFPA-13 (2016 Edition) and State Fire Marshal. All equipment for this system shall be U.L. listed Minimum pipe size shall be 1" nominal pipe. All Sch-40 & B&B Flow piping has welded outlets & grooved fittings all welding per NFPA-13 (3-82). No installation or fabrication to begin without approved shop dwgs. All Pipe Locations are to be Field Measured Prior to Fabrication and installation by Sprinkler Contractor. All Dimensions Shown are Center to Center. High Temperature Heads are to be Field Located Where Required. Provide one spare head cabinet w/ 8 hds. & one hd wrench. Hangers are to be U.L. Listed and P.M. Approved. Electrical wiring, alarm, detection and supervisory by owner. Owner's responsibility to provide adequate heating to prevent wet system piping from freezing. 	<p>REVISIONS</p> <table border="1"> <tr> <th>NO.</th> <th>DESCRIPTION</th> <th>DATE</th> </tr> <tr> <td>1</td> <td>PLAN REVIEW COMMENTS</td> <td>6/30/21</td> </tr> </table>	NO.	DESCRIPTION	DATE	1	PLAN REVIEW COMMENTS	6/30/21	<p>APPROVAL STAMPS</p>	<p>FIRE PROTECTION PLAN</p> <p>OLSON REDEVELOPMENT PHASE I</p> <p>1301 OLSON MEMORIAL HWY MINNEAPOLIS, MN 55405</p>	<p>Contract No. C21-10</p> <p>Drawing Date: 06/09/21</p> <p>Scale: 1/8" = 1'-0"</p> <p>Drawn By: JH</p> <p>Approval By: STATE FIRE MARSHAL DIV.</p> <p>SHEET NO. FP 1 of 7</p>
	NO.	DESCRIPTION	DATE								
1	PLAN REVIEW COMMENTS	6/30/21									

SPRINKLER SPACING DETAILS

<p>TY-FRB SIDEWALL SPRINKLER TY3331 5.6K</p> <p>TYP. SIDEWALL DETAIL (LH) MAX DISTANCE OFF WALL: 7'-0" MAX DISTANCE BETWEEN HEAD: 14'-0" MAX DISTANCE FROM DECK: 0'-4" - 1'-0" MAX SPRAY DISTANCE: 14'-0" 1/2" NPT</p> <p>SYMBOLS ON PLAN</p>	<p>DH56 SIDEWALL SPRINKLER RA1564 5.6K</p> <p>TYPICAL DH56 DETAIL MAX DISTANCE OFF WALL: 14'-0" MAX DISTANCE BETWEEN HEAD: 28'-0" MAX DISTANCE FROM DECK: 0'-4" - 1'-0" MAX SPRAY DISTANCE: 28'-0" (CALCULATED TO 28'x28')</p> <p>SYMBOL ON PLAN</p>
<p>TY-FRB SIDEWALL SPRINKLER TY4332 8.0K</p> <p>TYP. SIDEWALL DETAIL (LH) MAX DISTANCE OFF WALL: 8'-0" MAX DISTANCE BETWEEN HEAD: 16'-0" MAX DISTANCE FROM DECK: 0'-4" - 1'-0" MAX SPRAY DISTANCE: 16'-0" x 20'-0" 3/4" NPT</p> <p>SYMBOLS ON PLAN</p>	<p>RFI PENDENT SPRINKLER TY3331 5.6K</p> <p>TYP. PENDENT DETAIL (LH) MAX DISTANCE OFF WALL: 7'-0" MAX DISTANCE BETWEEN HEAD: 15'-0" MAX DISTANCE FROM DECK: 1'-0" MAX SPRAY DISTANCE: 15'-0"</p> <p>SYMBOLS ON PLAN</p>
<p>LFII RESIDENTIAL SPRINKLER TY2236 4.5K</p> <p>TYPICAL RES PEND DETAIL MAX DISTANCE OFF WALL: 10'-0" MAX DISTANCE BETWEEN HEAD: 20'-0" MAX DISTANCE FROM DECK: 0'-4" (CALCULATED TO 20'x20')</p> <p>SYMBOLS ON PLAN</p>	<p>TY-FRB PENDENT SPRINKLER TY3231 5.6K</p> <p>TYP. PENDANT DETAIL (LH) MAX DISTANCE OFF WALL: 7'-0" MAX DISTANCE BETWEEN HEAD: 15'-0" MAX DISTANCE FROM DECK: 1'-0" MAX SPRAY DISTANCE: 15'-0" 1/2" NPT</p> <p>SYMBOLS ON PLAN</p>



HAZARD: LIGHT
Zone: 2 System Type: WET
Location: LOBBY 155

Flowing Outlets: 8
Density: 0.10 Remote Area: 1083 S.F.
Flow 318.6 gpm @ 73.6 psi
Calculation Safety: 8.2 psi
Includes: 100 gpm Hose allowance

NOTE: 1500 S.F. REDUCED BY 28% TO 1083 S.F. PER NFPA-13 FIG. 11.2.3.2.3.1 DUE TO THE USE OF QUICK RESPONSE SPRINKLERS AND A 18'-0" CEILING HEIGHT.

PIPE LEGEND

	BLACK STEEL SPRINKLER PIPING
	CVC BLAZEMASTER SPRINKLER PIPING

SYM	QTY	POSITION	FINISH	TEMP	K	NPT	SN	MPG.	MODEL#	ESCU/COGN.	HEAD BOX
700	1	PENDENT	WHITE	155°	4.90	1/2"	TY2236	TYCO	LFII	SEM-RESSES	2
143	1	PENDENT	WHITE	200°	5.60	1/2"	TY3231	TYCO	RFI	CONCEALED	2
219	1	SIDEWALL	WHITE	155°	4.40	1/2"	TY2334	TYCO	LFII	SEM-RESSES	2
46	1	SIDEWALL	WHITE	200°	5.60	1/2"	TY3331	TYCO	TY-FRB	SEM-RESSES	2
31	1	SIDEWALL	WHITE	155°	5.60	1/2"	TY3331	TYCO	TY-FRB	SEM-RESSES	2
58	1	SIDEWALL	WHITE	155°	5.60	1/2"	RA1564	RELIABLE	DH56	SEM-RESSES	2
2	1	SIDEWALL	WHITE	200°	11.20	3/4"	TY3332	TYCO	SIF-20	SEM-RESSES	2
10	1	SIDEWALL	WHITE	155°	8.00	3/4"	TY4332	TYCO	TY-FRB	SEM-RESSES	2
93	1	UPRIGHT	BRASS	200°	14.00	3/4"	TY6137	TYCO	EC-14	N/A	2
2	1	UPRIGHT	BRASS	286°	14.00	3/4"	TY6137	TYCO	EC-14	N/A	2
3	1	PENDENT	CHROME	200°	5.60	1"	V3506	VICTAULIC	VSI	SEM-RESSES	2
14	1	UPRIGHT	BRASS	200°	5.60	1/2"	TY313	TYCO	TY-FRB	N/A	2
2	1	SPRIG	BRASS	200°	14.00	3/4"	TY6137	TYCO	EC-14	N/A	2

1,347 TOTAL SPRINKLERS

SPRINKLER HEAD LEGEND

FLOOR PLAN - 1ST FLOOR

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

General Notes

- System installed per NFPA-13 (2016 Edition) and State Fire Marshal.
- All equipment for this system shall be U.L. listed.
- Minimum pipe size shall be 1" nominal pipe.
- All Sch-40 & Extra Strong piping has welded outlets & grooved fittings all welding per NFPA-13 (3-8-2).
- No installation or fabrication to begin without approved shop dwgs.
- All Pipe Locations are to be Field Measured Prior to Fabrication and Installation by Sprinkler Contractor.
- All Dimensions Shown are Center to Center.
- High Temperature Heads are to be Field Located Where Required.
- Provide one spare head cabinet w/ 8 hds. & one hd wrench.
- Hangers are to be U.L. Listed and P.M. Approved.
- Electrical wiring, alarm, detection and supervisory by owner.
- Owner's responsibility to provide adequate heating to prevent wet system piping from freezing.

REVISIONS	DATE	APPROVAL STAMPS
1. PLAN REVIEW COMMENTS	6/30/21	

REVISIONS

DATE 6/30/21

APPROVAL STAMPS

FIRE PROTECTION PLAN

OLSON REDEVELOPMENT PHASE I

1301 OLSON MEMORIAL HWY
MINNEAPOLIS, MN 55405

Contract No: **C21-10**
Drawing Date: 06/09/21
Scale: 1/8" = 1'-0"
Drawn By: JH
Approval By: STATE FIRE MARSHAL DIV.
SHEET NO: **FP 3 of 7**

SPRINKLER SPACING DETAILS

<p>TY-FRB SIDEWALL SPRINKLER TY3331 5.6K</p> <p>TYP. SIDEWALL DETAIL (LH) MAX DISTANCE OFF WALL: 7'-0" MAX DISTANCE BETWEEN HEAD: 14'-0" MAX DISTANCE FROM DECK: 0'-4" - 1'-0" MAX SPRAY DISTANCE: 14'-0" - 1'-0" 1/2" NPT</p> <p>SYMBOLS ON PLAN</p>	<p>DH56 SIDEWALL SPRINKLER RA1564 5.6K</p> <p>TYPICAL DH56 DETAIL MAX DISTANCE OFF WALL: 14'-0" MAX DISTANCE BETWEEN HEAD: 28'-0" MAX DISTANCE FROM DECK: 0'-4" - 1'-0" MAX SPRAY DISTANCE: 28'-0"x28'-0" (CALCULATED TO 28x28)</p> <p>SYMBOL ON PLAN</p>
<p>TY-FRB SIDEWALL SPRINKLER TY4332 8.0K</p> <p>TYP. SIDEWALL DETAIL (LH) MAX DISTANCE OFF WALL: 8'-0" MAX DISTANCE BETWEEN HEAD: 16'-0" MAX DISTANCE FROM DECK: 0'-4" - 1'-0" MAX SPRAY DISTANCE: 16'-0" x 20'-0" 3/4" NPT</p> <p>SYMBOLS ON PLAN</p>	<p>RFII PENDENT SPRINKLER TY3531 5.6K</p> <p>TYP. PENDENT DETAIL (LH) MAX DISTANCE OFF WALL: 7'-0" MAX DISTANCE BETWEEN HEAD: 15'-0" MAX DISTANCE FROM DECK: 1'-0" MAX SPRAY DISTANCE: 15'-0"</p> <p>SYMBOLS ON PLAN</p>
<p>LFII RESIDENTIAL SPRINKLER TY2236 4.9K</p> <p>TYPICAL RES PEND DETAIL MAX DISTANCE OFF WALL: 10'-0" MAX DISTANCE BETWEEN HEAD: 20'-0" MAX DISTANCE FROM DECK: 0'-4"</p> <p>SYMBOLS ON PLAN</p>	<p>TY-FRB PENDENT SPRINKLER TY3231 5.6K</p> <p>TYP. PENDANT DETAIL (LH) MAX DISTANCE OFF WALL: 7'-0" MAX DISTANCE BETWEEN HEAD: 15'-0" MAX DISTANCE FROM DECK: 1'-0" MAX SPRAY DISTANCE: 15'-0" 1/2" NPT</p> <p>SYMBOLS ON PLAN</p>

CALC PLACARD

Design Area #5 HAZARD:OHI
Zone: 4 System Type:WET
Location: STORAGE 462

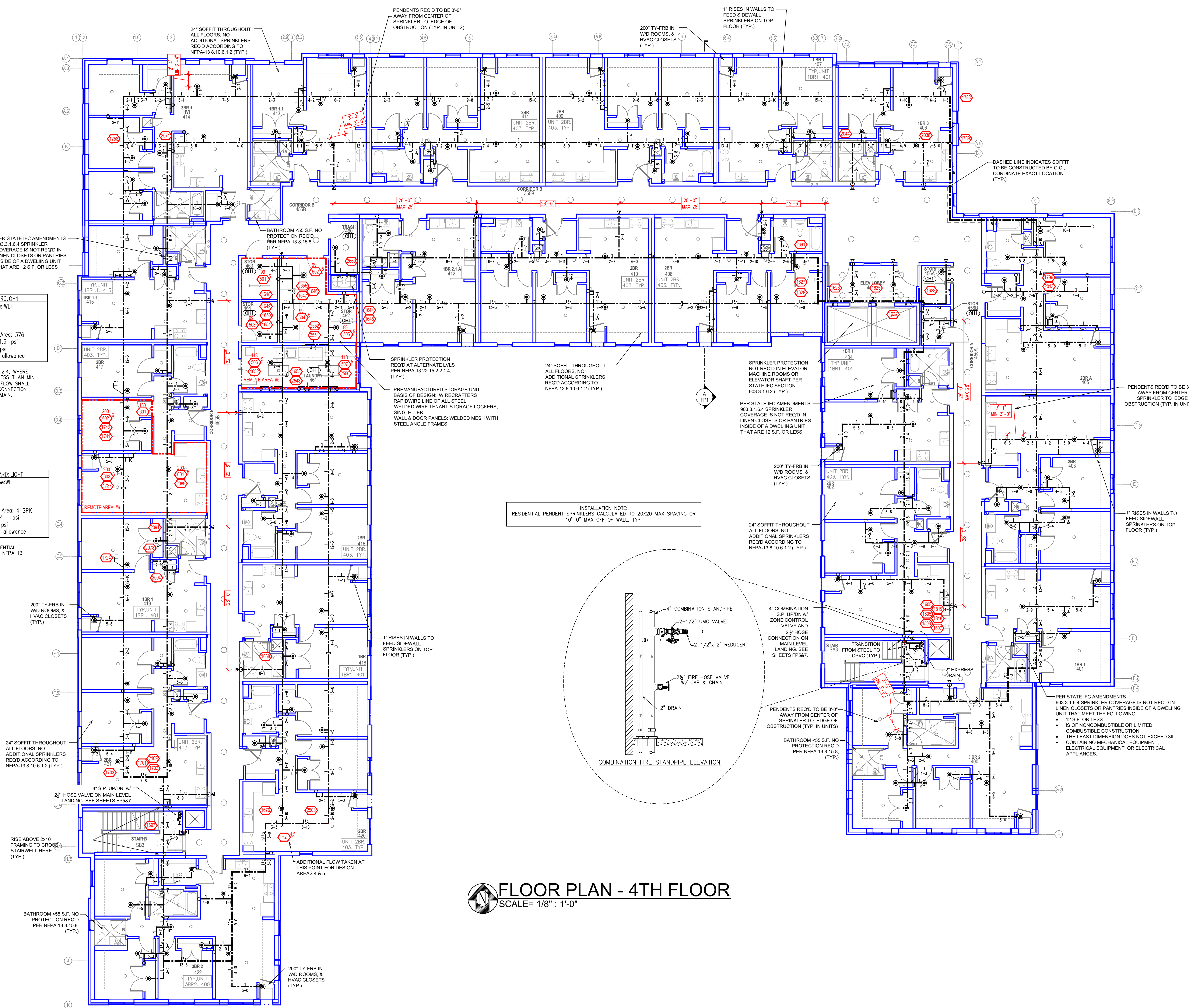
Flowing Outlets: 7 Remote Area: 376
Density: 0.15 Flow: 386.6 gpm @ 74.6 psi
Calculation Safety: 7.2 psi
Includes: 250 gpm Hose allowance

NOTE:
CALCULATED PER NFPA 23.4.4.2.4, WHERE TOTAL DESIGN DISCHARGE IS LESS THAN MIN REQ'D DISCHARGE ADDITIONAL FLOW SHALL BE ADDED AT THE POINT OF CONNECTION OF BRANCH LINE AND CROSS MAIN.

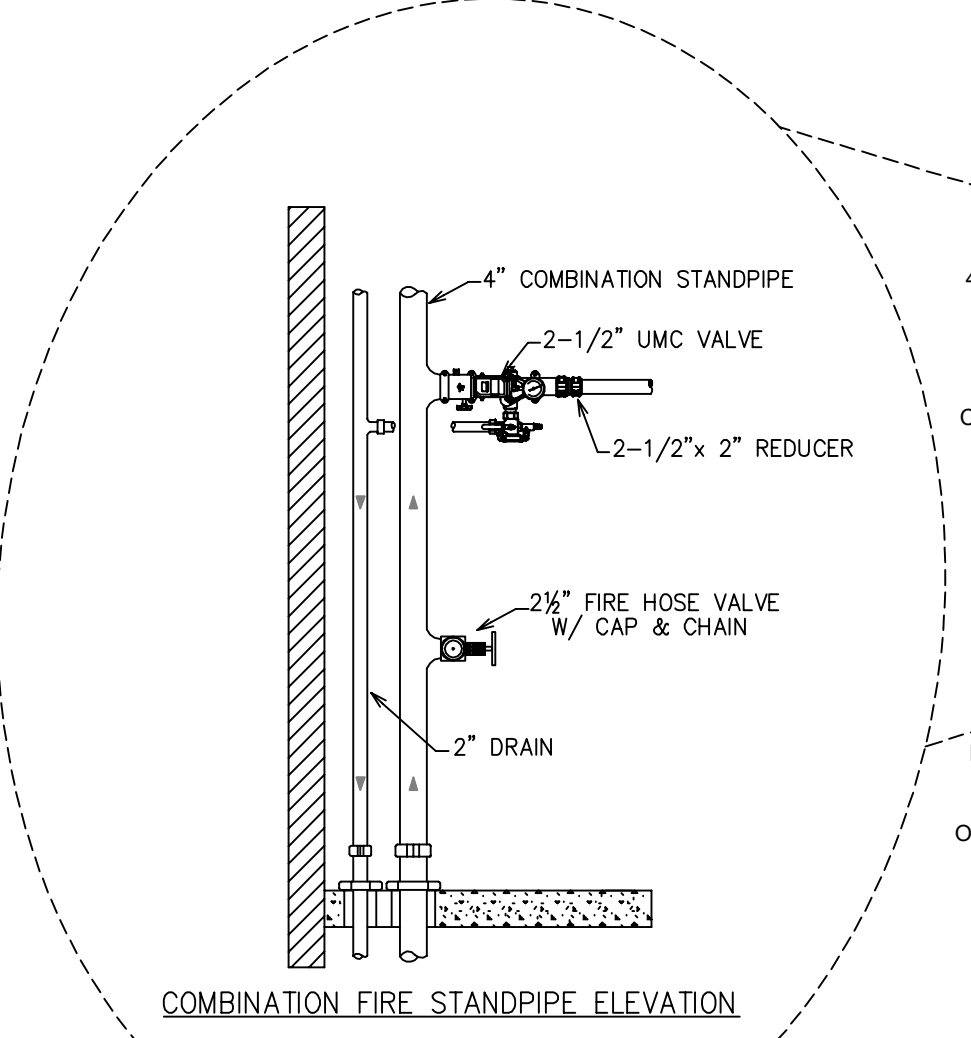
Design Area #6 HAZARD:LIGHT
Zone: 4 System Type:WET
Location: UNIT 417

Flowing Outlets: 4 Remote Area: 4 SPK
Density: 0.10 Flow: 183.5 gpm @ 74 psi
Calculation Safety: 8 psi
Includes: 100 gpm Hose allowance

NOTE:
FOUR MOST DEMANDING RESIDENTIAL SPRINKLERS CALCULATED PER NFPA 13 11.3.1.1.



INSTALLATION NOTE:
RESIDENTIAL PENDENT SPRINKLERS CALCULATED TO 20X20 MAX SPACING OR 10'-0" MAX OFF OF WALL TYP.



PIPE LEGEND

	BLACK STEEL SPRINKLER PIPING
	CPVC BLAZEMASTER SPRINKLER PIPING

SYM	QTY	POSITION	FINISH	TEMP	K	NPT	SRN	MFG.	MODEL#	ES&D/CHORON	HEAD BOX
1700	1	PENDENT	WHITE	155	4.90	1/2"	TY2236	TYCO	LFII	SEMI-RESSESSED 2	
26	1	PENDENT	WHITE	155	5.60	1/2"	TY3531	TYCO	RFII	CONCEALED 2	
143	1	PENDENT	WHITE	200	5.60	1/2"	TY3231	TYCO	TY-FRB	SEMI-RESSESSED 2	
219	1	SIDEWALL	WHITE	155	4.40	1/2"	TY2334	TYCO	LFII	SEMI-RESSESSED 2	
146	1	SIDEWALL	WHITE	200	5.60	1/2"	TY3331	TYCO	TY-FRB	SEMI-RESSESSED 2	
31	1	SIDEWALL	WHITE	155	5.60	1/2"	TY3331	TYCO	TY-FRB	SEMI-RESSESSED 2	
56	1	SIDEWALL	WHITE	155	5.60	1/2"	RA1564	RELIABLE	DH56	SEMI-RESSESSED 2	
202	1	SIDEWALL	WHITE	200	11.20	3/4"	TY5332	TYCO	SW-20	SEMI-RESSESSED 2	
110	1	SIDEWALL	WHITE	155	8.00	3/4"	TY4332	TYCO	TY-FRB	SEMI-RESSESSED 2	
193	1	UPRIGHT	BRASS	200	14.00	3/4"	T9137	TYCO	EC-14	N/A	2
12	1	UPRIGHT	BRASS	285	14.00	3/4"	T9137	TYCO	EC-14	N/A	2
13	1	PENDENT	CHROME	200	5.60	1"	V3506	VICTALUC	VSI	SEMI-RESSESSED 2	
14	1	UPRIGHT	BRASS	200	5.60	1/2"	TY313	TYCO	TY-FRB	N/A	2
2	1	SPRIG	BRASS	200	14.00	3/4"	T9137	TYCO	EC-14	N/A	2
1,347 TOTAL SPRINKLERS											

SPRINKLER HEAD LEGEND

- General Notes**
- System installed per NFPA-13 (2016 Edition) and State Fire Marshal.
 - All equipment for this system shall be U.L. listed.
 - Minimum pipe size shall be 1" nominal pipe.
 - All Mega Flow piping has welded outlets & grooved fittings all welding per NFPA-13 (3-8.2).
 - No installation or fabrication to begin without approved shop dwgs.
 - All Pipe Locations are to be Field Measured Prior to Fabrication and Installation by Sprinkler Contractor.
 - All Dimensions Shown are Center to Center.
 - High Temperature Heads are to be Field Located Where Required.
 - Provide one spare head cabinet w/ 8 hds. & one hd wrench.
 - Hangers are to be U.L. Listed and P.M. Approved.
 - Owner's responsibility to provide adequate heating to prevent wet system piping from freezing.

REVISIONS	DATE	APPROVAL STAMPS
1. PLAN REVIEW COMMENTS	6/30/21	

FLOOR PLAN - 4TH FLOOR

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

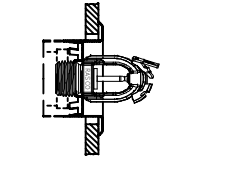
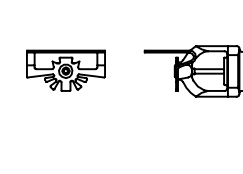

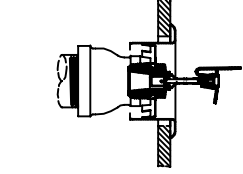

FIRE PROTECTION PLAN

OLSON REDEVELOPMENT PHASE I

1301 OLSON MEMORIAL HWY
MINNEAPOLIS, MN 55405

Contract No: **C21-10**
Drawing Date: **06/09/21**
Scale: **1/8" = 1'-0"**
Drawn By: **JH**
Approval By: **STATE FIRE MARSHAL DIV.**
SHEET NO: **FP 6 of 7**

SPRINKLER SPACING DETAILS

<p>DH5G SIDEWALL SPRINKLER RA1564 5.6K</p>  <p>TYPICAL DH5G DETAIL MAX DISTANCE OFF WALL: 14'-0" MAX DISTANCE BETWEEN HEAD: 28'-0" MAX DISTANCE FROM DECK: 0'-4" - 1'-0" MAX SPRAY DISTANCE: 28'-0"x8'-0" (CALCULATED TO 28x8)</p> <p>SYMBOLS ON PLAN</p>	<p>SW-20 SIDEWALL SPRINKLER TY5332 11.2K</p>  <p>TYP. SW-20 SIDE DETAIL MAX DISTANCE OFF WALL: 8'-0" MAX DISTANCE BETWEEN HEAD: 16'-0" MAX DISTANCE FROM DECK: 0'-0" - 1'-0" MAX SPRAY DISTANCE: 16'-0" x 20' (WV) 3/4" NPT</p> <p>SYMBOLS ON PLAN</p>
<p>TY-FRB SIDEWALL SPRINKLER TY3331 5.6K</p>  <p>TYP. SIDEWALL DETAIL (LH) MAX DISTANCE OFF WALL: 7'-0" MAX DISTANCE BETWEEN HEAD: 14'-0" MAX DISTANCE FROM DECK: 0'-4" - 1'-0" MAX SPRAY DISTANCE: 14'-0" 1/2" NPT</p> <p>SYMBOLS ON PLAN</p>	<p>LFII RESIDENTIAL SIDEWALL SPRINKLER TY2334 4.4K</p>  <p>TYPICAL RES SIDE DETAIL MAX DISTANCE OFF WALL: 8'-0" U.N.O. MAX DISTANCE BETWEEN HEAD: 16'-0" U.N.O. MAX DISTANCE FROM DECK: 0'-0" - 1'-0" MAX SPRAY DISTANCE: 16'-0" U.N.O. (CALCULATED TO 16x16 U.N.O.)</p> <p>SYMBOLS ON PLAN</p>
<p>TY-FRB SIDEWALL SPRINKLER TY4332 8.0K</p>  <p>TYP. SIDEWALL DETAIL (LH) MAX DISTANCE OFF WALL: 8'-0" MAX DISTANCE BETWEEN HEAD: 16'-0" MAX DISTANCE FROM DECK: 0'-4" - 1'-0" MAX SPRAY DISTANCE: 16'-0" x 20'-0" 3/4" NPT</p> <p>SYMBOLS ON PLAN</p>	

Design Area # 4 HAZARD: OH1
Zone: 4 System Type: WET
Location: STORAGE 562

Flowing Outlets: 8 Remote Area: 531
Density: 0.15 Remote Area: 531
Flow 386 gpm @ 74.4 psi
Calculation Safety: 7.4 psi
Includes 250 gpm Hose allowance

NOTE:
CALCULATED PER NFPA 23.4.4.2.4, WHERE TOTAL DESIGN DISCHARGE IS LESS THAN MIN REQ'D DISCHARGE ADDITIONAL FLOW SHALL BE ADDED AT THE POINT OF CONNECTION OF BRANCH LINE AND CROSS MAIN.

Design Area # 1 HAZARD: LIGHT
Zone: 4 System Type: WET
Location: UNIT 519

Flowing Outlets: 4 Remote Area: 4 SPK
Density: 0.10 Remote Area: 4 SPK
Flow 173.8 gpm @ 74.5 psi
Calculation Safety: 7.5 psi
Includes 100 gpm Hose allowance

NOTE:
FOUR MOST DEMANDING RESIDENTIAL SPRINKLERS CALCULATED PER NFPA 13 11.3.1.1.

Design Area # 2 HAZARD: LIGHT
Zone: 4 System Type: WET
Location: CORRIDOR 555B

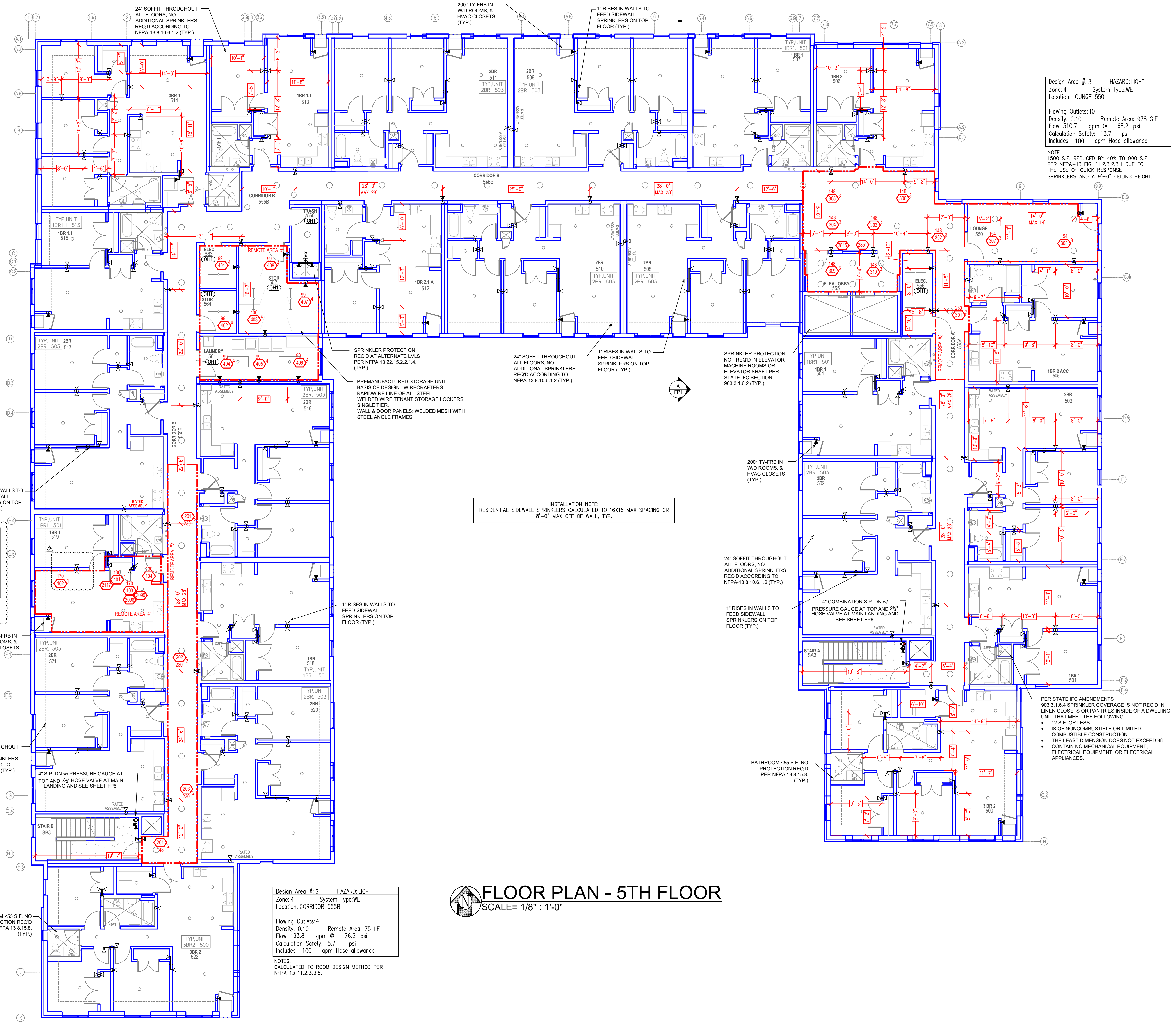
Flowing Outlets: 4 Remote Area: 75 LF
Density: 0.10 Remote Area: 75 LF
Flow 193.8 gpm @ 76.2 psi
Calculation Safety: 5.7 psi
Includes 100 gpm Hose allowance

NOTE:
CALCULATED TO ROOM DESIGN METHOD PER NFPA 13 11.2.3.3.6.

Design Area # 3 HAZARD: LIGHT
Zone: 4 System Type: WET
Location: LOUNGE 550

Flowing Outlets: 10 Remote Area: 978 S.F.
Density: 0.10 Remote Area: 978 S.F.
Flow 310.7 gpm @ 68.2 psi
Calculation Safety: 13.7 psi
Includes 100 gpm Hose allowance

NOTE:
1500 S.F. REDUCED BY 40% TO 900 S.F PER NFPA-13 FIG. 11.2.3.2.3.1 DUE TO THE USE OF QUICK RESPONSE SPRINKLERS AND A 9'-0" CEILING HEIGHT.



PIPE LEGEND

	BLACK STEEL SPRINKLER PIPING
	CPCV BLAZEMASTER SPRINKLER PIPING

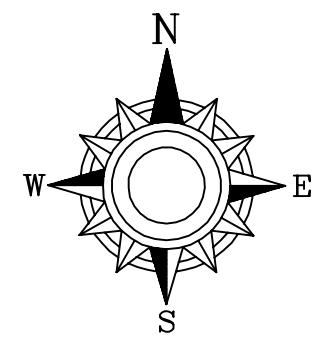
SYM	QTY	POSITION	FINISH	TEMP	K	NPT	SR	W/G	MODEL#	DESCRIPTION	HEAD BOX
700	2	PENDENT	WHITE	155'	4.90	1/2"	TY2236	TYCO	LFII	SEMI-RECESSED	2
26	2	PENDENT	WHITE	155'	5.60	1/2"	TY3531	TYCO	RFII	CONCEALED	2
143	2	PENDENT	WHITE	200'	5.60	1/2"	TY3231	TYCO	TY-FRB	SEMI-RECESSED	2
219	2	SIDEWALL	WHITE	155'	4.40	1/2"	TY2334	TYCO	LFII	SEMI-RECESSED	2
146	2	SIDEWALL	WHITE	200'	5.60	1/2"	TY3331	TYCO	TY-FRB	SEMI-RECESSED	2
31	2	SIDEWALL	WHITE	155'	5.60	1/2"	TY3331	TYCO	TY-FRB	SEMI-RECESSED	2
56	2	SIDEWALL	WHITE	155'	5.60	1/2"	RA1564	RELIABLE	DH56	SEMI-RECESSED	2
2	2	SIDEWALL	WHITE	200'	11.20	3/4"	TY5332	TYCO	SW-20	SEMI-RECESSED	2
10	2	SIDEWALL	WHITE	155'	8.00	3/4"	TY4332	TYCO	TY-FRB	SEMI-RECESSED	2
93	2	UPRIGHT	BRASS	200'	14.00	3/4"	TY6137	TYCO	EC-14	N/A	2
12	2	UPRIGHT	BRASS	200'	14.00	3/4"	TY6137	TYCO	EC-14	N/A	2
3	2	PENDENT	CHROME	200'	5.60	1"	V3506	WCTALUC	VSI	SEMI-RECESSED	2
14	2	UPRIGHT	BRASS	200'	5.60	1/2"	TY313	TYCO	TY-FRB	N/A	2
2	2	SPRIG	BRASS	200'	14.00	3/4"	TY6137	TYCO	EC-14	N/A	2

1,347 TOTAL SPRINKLERS

SPRINKLER HEAD LEGEND

FLOOR PLAN - 5TH FLOOR

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

	<p>General Notes</p> <ol style="list-style-type: none"> System installed per NFPA-13 (2016 Edition) and State Fire Marshal. All equipment for this system shall be U.L. listed. Minimum pipe size shall be 1" nominal pipe. All Sch-10 & Bdry Flow piping has welded outlets & grooved fittings all welding per NFPA-13 (3-82). No installation or fabrication to begin without approved shop dwgs. All Pipe Locations are to be Field Measured Prior to Fabrication and installation by Sprinkler Contractor. All Dimensions Shown are Center to Center. High Temperature Heads are to be Field Located Where Required. Provide one spare head cabinet w/ 8 hds. & one hd wrench. Hangers are to be U.L. Listed and P.M. Approved. Electrical wiring, alarm, detection and supervisory by owner. Owner's responsibility to provide adequate heating to prevent wet system piping from freezing. 	<p>REVISIONS</p> <table border="1"> <tr> <th>NO.</th> <th>DESCRIPTION</th> <th>DATE</th> </tr> <tr> <td>1</td> <td>PLAN REVIEW COMMENTS - FDC REVISED</td> <td>6/30/21</td> </tr> <tr> <td>2</td> <td>PLAN REVIEW COMMENTS - RA #1 REVISED</td> <td>7/27/21</td> </tr> </table>	NO.	DESCRIPTION	DATE	1	PLAN REVIEW COMMENTS - FDC REVISED	6/30/21	2	PLAN REVIEW COMMENTS - RA #1 REVISED	7/27/21	<p>APPROVAL STAMPS</p>	<p>FIRE PROTECTION PLAN</p> <p>OLSON REDEVELOPMENT PHASE I</p> <p>1301 OLSON MEMORIAL HWY MINNEAPOLIS, MN 55405</p>	<p>Contract No. C21-10</p> <p>Drawing Title: FIRE PROTECTION PLAN</p> <p>Drawing Date: 06/09/21</p> <p>Scale: 1/8" = 1'-0"</p> <p>Drawn By: JH</p> <p>Approval By: STATE FIRE MARSHAL DIV.</p> <p>SHEET NO. FP 7 of 7</p>
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