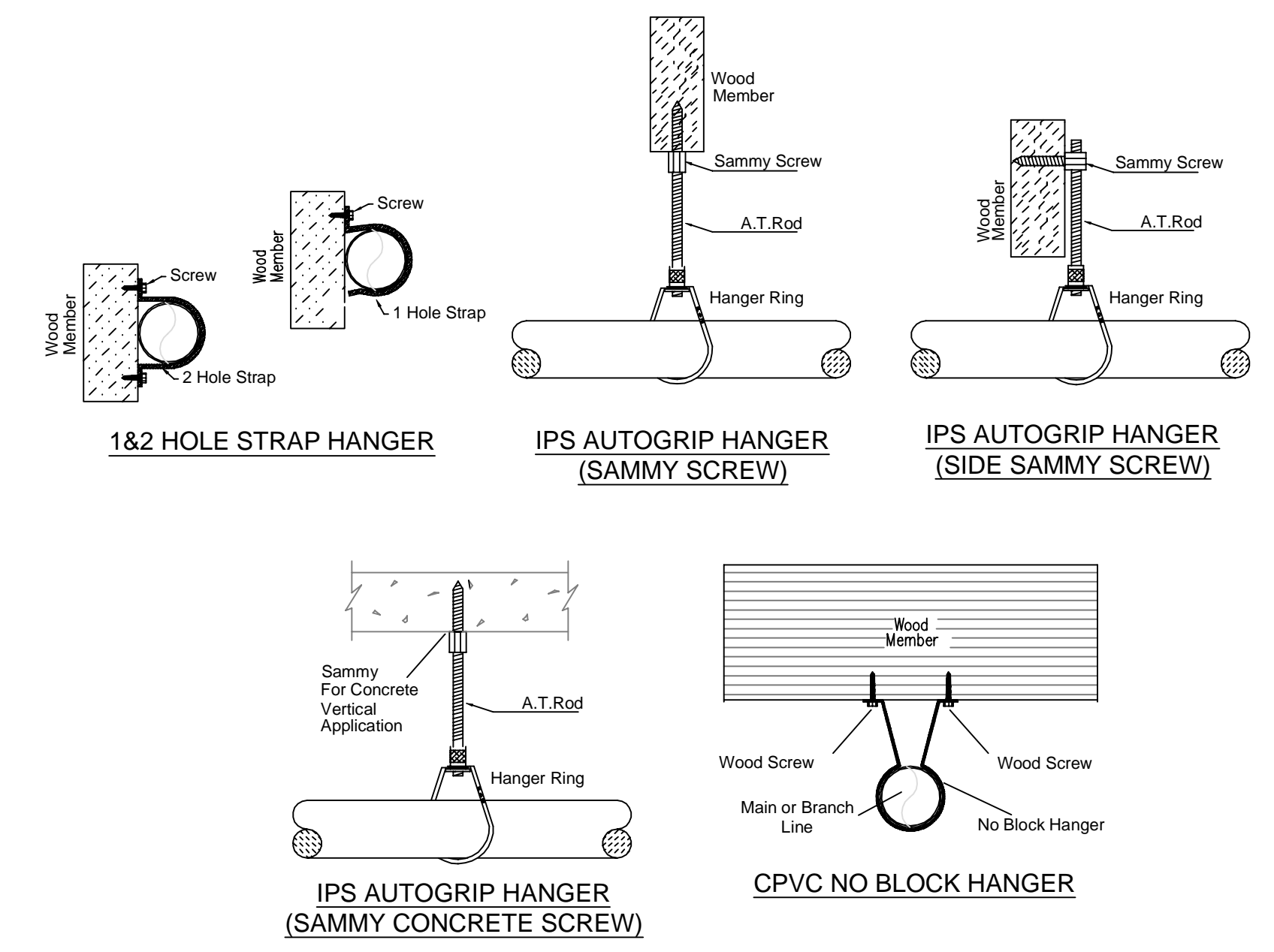


**FIRE STOPPING DETAIL**

**MAXIMUM DISTANCE BETWEEN HANGERS (FT.-IN.)**

	NOMINAL PIPE SIZE (IN.)									
	1/2"	3/4"	1"	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
THREADED LIGHTWALL STEEL PIPE	NA	12-0	12-0	12-0	12-0	NA	NA	NA	NA	NA
BLAZEMASTER CPVC	5-6	6-0	6-6	7-0	8-0	9-0	10-0	10-0	NA	NA

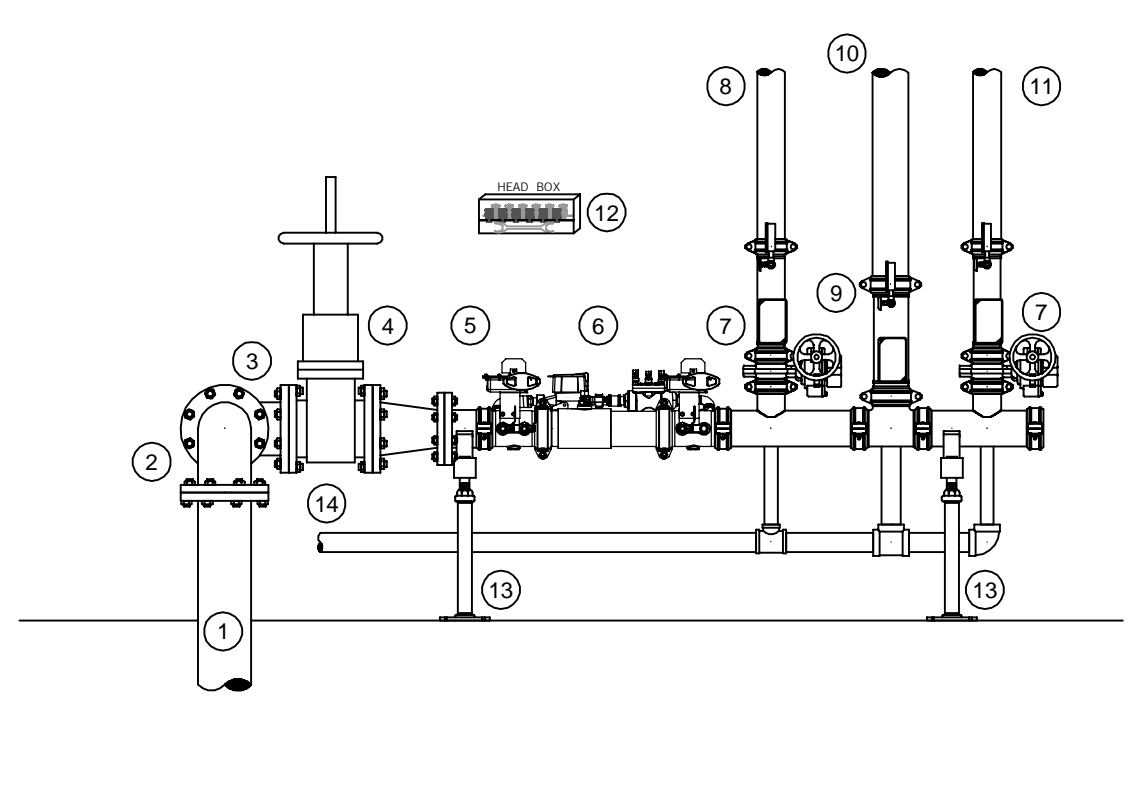
**NFPA 13 HANGER SPACING**



**HANGER DETAILS**

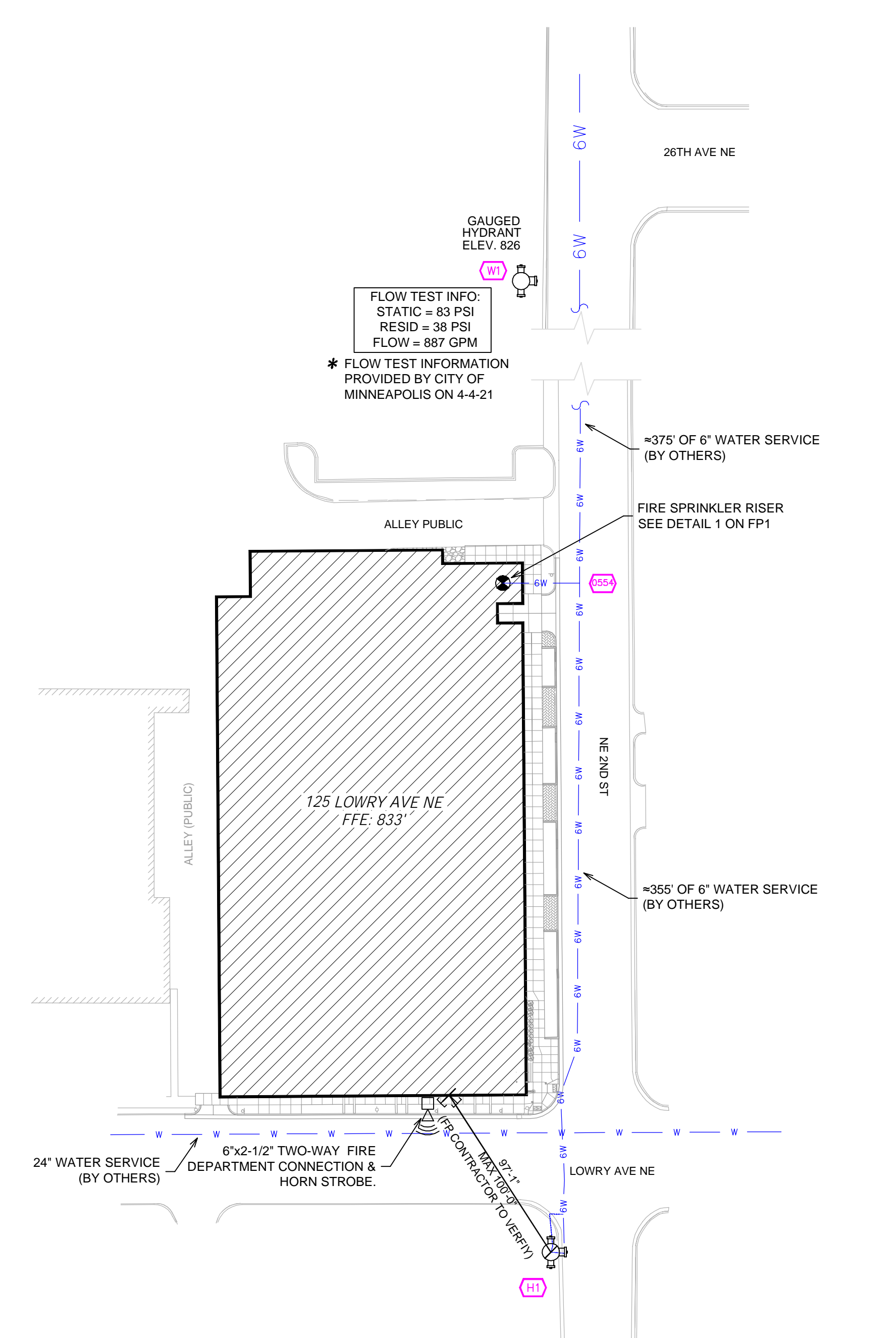
**RISER LEGEND**

- 6" UNDERGROUND WATER SERVICE (BY OTHERS) (ELEVATION & 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.)
- 6" FLANGED 90 ELL
- 6" FLANGED OS&Y GATE VALVE w/TAMPERS
- 6" X 4" CONCENTRIC REDUCER
- 4" GROOVED FLANGE ADAPTER NIPPLE
- 4" AMER. CS&B BACKFLOW GAG BRY w/TAMPERS
- 3" GROOVED VICTALIC UNIVERSAL MANIFOLD ASSEMBLY w/SUPERVISED BUTTERFLY VALVE, FLOW SWITCH, PRESSURE GAUGE, TEST & DRAIN AND PRESSURE RELIEF VALVE.
- 3" OUT TO LEVEL 2 (ZONE 2)
- 4" GROOVED VICTALIC UNIVERSAL MANIFOLD ASSEMBLY w/ FLOW SWITCH, PRESSURE GAUGE, TEST & DRAIN AND PRESSURE RELIEF VALVE.
- OUT TO STANDPIPE SYSTEM (ZONES 3-6)
- 3" OUT TO LEVEL 1 (ZONE 1)
- SPIRNE HEAD BOX
- PIPE STANDS
- 2" MAIN DRAIN PIPED TO OUTSIDE



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

- GENERAL NOTES**
- MINNESOTA STATE BUILDING CODE (2020)
  - OCCUPANCY: R-2 (APARTMENTS), S-2 (PARKING), S-1 (STORAGE), A-3 (ASSEMBLY), B (OFFICE)
  - TYPE OF CONSTRUCTION: I-A (PARKING), III-A (APARTMENTS)
  - SPRINKLER AREAS (APPROXIMATE - SEE ARCHITECTURAL PLANS FOR ACTUAL)
    - LEVEL 1 PARKING = 38,063 S.F. (ZONE 1)
    - LEVEL 2 PARKING = 38,375 S.F. (ZONE 2)
    - LEVEL 3 = 29,027 S.F. (ZONE 3)
    - LEVEL 4 = 29,027 S.F. (ZONE 4)
    - LEVEL 5 = 29,028 S.F. (ZONE 5)
    - LEVEL 6 = 29,028 S.F. (ZONE 6)
    - LEVEL 7 = 27,914 S.F. (ZONE 6)
  - INSTALLATION STANDARDS: SPRINKLER SYSTEM DESIGNED AND INSTALLED PER NFPA-13 (2016), NFPA-14 (2016)
  - SPRINKLER PIPE TYPES:
    - WET:
    - 2.1 1" BRANCH LINES TO BE BLAZEMASTER CPVC PIPING WITH CEMENTED FITTINGS
    - 2.2 1 1/2" THROUGH 2" MAIN & BRANCH LINES TO BE BLAZEMASTER CPVC PIPING WITH CEMENTED FITTINGS
    - 2.3 1" BRANCH LINES TO BE BLK MEGA THREAD PIPING WITH THREADED FITTINGS
    - 2.4 1 1/2" THROUGH 6" MAIN & BRANCH LINES TO BE BLK MEGA FLOW PIPING WITH SHORT RADIUS GROOVED FITTINGS
  - DESIGN CRITERIA:
    - 3.1 APARTMENT UNITS, CORRIDORS, OFFICES AND SIMILAR AREAS DESIGNED TO LIGHT HAZARD.
    - 3.2 PARKING, MECHANICAL ROOMS, STORAGE ROOM AND SIMILAR AREAS DESIGNED TO ORDINARY HAZARD GROUP 1
    - 3.3 REMOTE AREA REDUCTIONS HAVE BEEN TAKEN WHERE APPLICABLE PER NFPA 13 SEC. 11.2.3.2.3
  - NOTES:
    - 4.1 ALL MATERIAL TO BE NEW AND MEET U.L. STANDARDS
    - 4.2 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
    - CEILING HEIGHT
  - SCOPE OF WORK:
    - 6.1 TO INSTALL NEW SPRINKLER SYSTEMS IN NEW 125 LOWRY APARTMENT BUILDING. PARKING LEVELS WILL BE FED FROM RISER ROOM LOCATED ON LEVEL 1 AND LEVELS 3 THROUGH 7 WILL BE FED FROM COMBINED STAND PIPE LOCATED IN STAIR A.
    - 6.2 ALL AREAS OF THE BUILDING TO BE INSTALLED AND COVERED IN ACCORDANCE WITH THE LOCAL AUTHORITY HAVING JURISDICTION AND PER NFPA 13 (2016)



**SITE PLAN**  
1" = 50'-0"

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

**B SECTION**  
SCALE= 1/8" : 1'-0"

**C SECTION**  
SCALE= 1/8" : 1'-0"

**MANUAL WET STANDPIPE**

LOCATION: STAIR B 6TH & 7TH FLOOR  
REQUIRED FLOW: 500 GPM  
OUTLET PSI: 100  
REQUIRED INLET PSI: 149.9

**PIPE LEGEND**

- BLACK STEEL SPRINKLER PIPING
- CPVC BLAZEMASTER SPRINKLER PIPING

**SPRINKLER HEAD LEGEND**

SYM	CNT	POSITION	FINISH	TEMP	K	NPT	SIN	MFG	MODEL#	ESCALATION	MAX SPACING
79	SPRING	BRASS	200	11.20	3/4"	TY5137	TYCO	EC-11	N/A	N/A	14X14 U.N.O.
286	SPRING	BRASS	200	11.20	3/4"	TY5137	TYCO	EC-11	N/A	N/A	14X14 U.N.O.
223	UPRIGHT	BRASS	200	11.20	3/4"	TY5137	TYCO	EC-11	N/A	N/A	14X14 U.N.O.
286	UPRIGHT	BRASS	200	11.20	3/4"	TY5137	TYCO	EC-11	N/A	N/A	14X14 U.N.O.
28	UPRIGHT	BRASS	200	5.60	1/2"	TY3131	TYCO	TY-FRB	N/A	N/A	130 S.F. U.N.O.
286	UPRIGHT	BRASS	200	5.60	1/2"	TY3131	TYCO	TY-FRB	N/A	N/A	130 S.F. U.N.O.
180	PENDENT	WHITE	200	5.60	1/2"	TY3231	TYCO	TY-FRB	SEMI-RECESS	N/A	130 S.F. U.N.O.
286	PENDENT	WHITE	200	5.60	1/2"	TY3231	TYCO	TY-FRB	SEMI-RECESS	N/A	15X15
7	PENDENT	WHITE	212	11.20	3/4"	TY5522	TYCO	ELOC	CONCEALED	N/A	16X16 U.N.O.
85	PENDENT	WHITE	200	5.60	1/2"	TY3531	TYCO	RFH	CONCEALED	N/A	15X15
4	PENDENT	BRASS	200	5.60	1/2"	TY3231	TYCO	TY-FRB	N/A	N/A	14X14 U.N.O.
8	PENDENT	BRASS	200	11.20	3/4"	TY5227	TYCO	EC-11	N/A	N/A	14X14 U.N.O.
47	SIDEWALL	BRASS	200	5.60	1/2"	TY3331	TYCO	TY-FRB	N/A	N/A	100 S.F. U.N.O.
3	SIDEWALL	BRASS	200	11.20	3/4"	TY5332	TYCO	ELOS200	N/A	N/A	16X16 U.N.O.
23	SIDEWALL	WHITE	200	5.60	1/2"	TY3331	TYCO	TY-FRB	SEMI-RECESS	N/A	14X14
896	PENDENT	WHITE	155	4.90	1/2"	TY2234	TYCO	LFI	SEMI-RECESS	N/A	16X16 U.N.O.
6	SIDEWALL	WHITE	135	8.00	3/4"	TY4332	TYCO	TY-FRB	SEMI-RECESS	N/A	16X20 U.N.O.
391	SIDEWALL	WHITE	155	4.40	1/2"	TY2334	TYCO	LFI	SEMI-RECESS	N/A	14X14 U.N.O.
47	SIDEWALL	WHITE	200	5.60	1/2"	TY3331	TYCO	TY-FRB	SEMI-RECESS	N/A	100 S.F. U.N.O.
3	SIDEWALL	WHITE	200	11.20	3/4"	TY5332	TYCO	ELOS200	SEMI-RECESS	N/A	16X16 U.N.O.
2	PENDENT	WHITE	200	4.20	1/2"	TY2231	TYCO	TY-FRB	SEMI-RECESS	N/A	15X15

2118 TOTAL SPRINKLERS

**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-10 & MEGA FLOW PIPING HAS WELDED OUTLEST & GROOVED SHORT RADIUS FITTINGS. ALL WELDING PER NFPA 5 (16.2)
- NO INSTALLATION OR FABRICATION TO BEGIN WITHOUT APPROVED SHOP DRAWINGS.
- ALL PIPE LOCATIONS ARE TO BE FIELD MEASURED PRIOR TO FABRICATION AND INSTALLED 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 HEADS & ONE HEAD WRENCH.
- HANGERS ARE TO BE U.L. LISTED AND FM APPROVED.
- ELECTRICAL WIRING, ALARM, DETECTION AND SUPERVISORY BY OWNER.
- OWNER'S RESPONSIBILITY TO PROVIDE ADEQUATE HEATING TO PREVENT WET SYSTEM FRING FROM FREEZING.

**REVISIONS**

NO.	DESCRIPTION	DATE
1	ASI 04 REVISIONS - POOL EQUIPMENT ROOM CHANGED TO STORAGE ROOM ON LEVEL 1, POOL EQUIPMENT ROOM ADDED ON LEVEL 2, ADDED VERTICAL VENT SHIFTS AND REVISED BATHROOMS.	5/6/2022

**APPROVAL STAMPS**

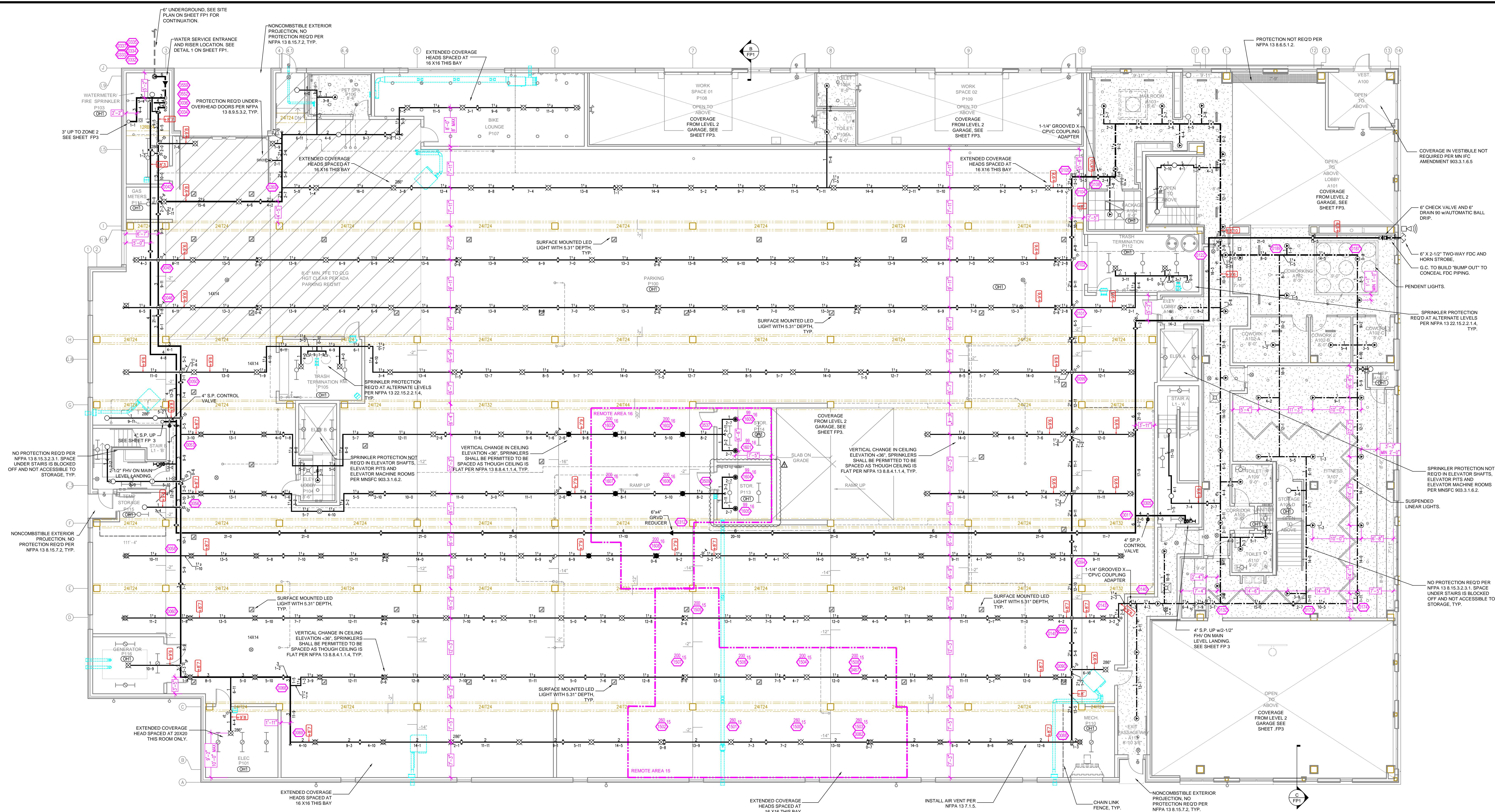


Drawing: **FIRE PROTECTION PLAN**

**125 LOWRY APARTMENTS**  
2500 2ND STREET NE  
MINNEAPOLIS, MN 55418

Contract No.: **C21-145**  
Drawing Date: 04/12/2022  
Scale: 1/8" = 1'-0"  
Drawn By: JH  
Approval By: STATE FIRE MARSHAL DIV.  
SHEET NO.: 1 of 8





**Design Area # 15 HAZARD: OH1**  
 Zone: 1 System Type: WET  
 Location: LEVEL 1 PARKING-SOUTH

Flowing Outlets: 9  
 Density: 0.15 Remote Area: 1619  
 Flow 607.1 gpm @ 53.8 psi  
 Calculation Safety: 6.8 psi  
 Includes 250 gpm Hose allowance

**Design Area # 16 HAZARD: OH1**  
 Zone: 1 System Type: WET  
 Location: LEVEL 1 PARKING MIDDLE

Flowing Outlets: 9  
 Density: 0.15 Remote Area: 1115  
 Flow 510.30 gpm @ 60.3 psi  
 Calculation Safety: 6.5 psi  
 Includes 250 gpm Hose allowance

**NOTES:**  
 1. CALCULATED PER AREA/DENSITY METHOD WITH A MINIMUM REMOTE AREA OF 1500 S.F.

**NOTES:**  
 1. CALCULATED PER AREA/DENSITY METHOD WITH A MINIMUM REMOTE AREA OF 1500 S.F.

**LEVEL 1 FIRE SPRINKLER PLAN**  
 SCALE= 1/8" = 1'-0"

**PIPE LEGEND**

- BLACK STEEL SPRINKLER PIPING
- CPVC BLAZEMASTER SPRINKLER PIPING

**SPRINKLER HEAD LEGEND**

SYM	QTY	POSITION	FINISH	TEMP	K	NPT	SN	MPG	MODEL#	ESCUTCHEON	MAX SPACING
79	3	SPRIG	BRASS	200	11.20	3/4"	TY5137	TYCO	EC-11	NA	14X14 U.N.O.
286	3	SPRIG	BRASS	286	11.20	3/4"	TY5137	TYCO	EC-11	NA	14X14 U.N.O.
286	8	UPRIGHT	BRASS	286	11.20	3/4"	TY5137	TYCO	EC-11	NA	14X14 U.N.O.
286	5	UPRIGHT	BRASS	200	5.60	1/2"	TY3131	TYCO	TY-FRB	NA	130 S.F. U.N.O.
4	4	SPRIG	BRASS	200	5.60	1/2"	TY3131	TYCO	TY-FRB	NA	130 S.F. U.N.O.
180	1	PENDENT	WHITE	200	5.60	1/2"	TY3231	TYCO	TY-FRB	SEM-RECESS	130 S.F. U.N.O.
286	1	PENDENT	WHITE	286	5.60	1/2"	TY3231	TYCO	TY-FRB	SEM-RECESS	15X15
95	1	PENDENT	WHITE	200	5.60	1/2"	TY3231	TYCO	PHI	CONCEALED	15X15
4	4	PENDENT	BRASS	200	5.60	1/2"	TY3231	TYCO	TY-FRB	NA	14X14 U.N.O.
4	4	PENDENT	BRASS	200	11.20	3/4"	TY5237	TYCO	EC-11	NA	14X14 U.N.O.
4	4	PENDENT	BRASS	200	5.60	1/2"	TY3331	TYCO	TY-FRB	NA	100 S.F. U.N.O.
12W20	3	SIDEWALL	BRASS	200	11.20	3/4"	TY5332	TYCO	ELOS20	NA	16X16 U.N.O.
23	23	SIDEWALL	WHITE	200	5.60	1/2"	TY3331	TYCO	TY-FRB	SEM-RECESS	14X4
286	1	PENDENT	WHITE	155	4.50	1/2"	TY2334	TYCO	LFPI	SEM-RECESS	18X18 U.N.O.
6	6	SIDEWALL	WHITE	155	8.00	3/4"	TY4332	TYCO	TY-FRB	SEM-RECESS	16X20 U.N.O.
391	1	SIDEWALL	WHITE	155	4.50	1/2"	TY2334	TYCO	LFPI	SEM-RECESS	14X14 U.N.O.
47	1	SIDEWALL	WHITE	200	5.60	1/2"	TY3331	TYCO	TY-FRB	SEM-RECESS	100 S.F. U.N.O.
12W20	1	SIDEWALL	WHITE	200	11.20	3/4"	TY5332	TYCO	ELOS20	NA	16X16 U.N.O.
2	2	PENDENT	WHITE	200	4.20	1/2"	TY2331	TYCO	TY-FRB	SEM-RECESS	15X15
2118 TOTAL SPRINKLERS											

**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-10 & MEGA FLOW PIPING HAS WELDED OUTLET & GROOVED SHORT RADIUS FITTINGS. ALL WELDING PER NFPA-13 (9.6.2).
- NO INSTALLATION OR FABRICATION TO BEGIN WITHOUT APPROVED SHOP DRAWINGS.
- ALL PIPE LOCATIONS ARE TO BE FIELD MEASURED PRIOR TO FABRICATION AND INSTALLED 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 HEADS & ONE HEAD WRENCH.
- HANGERS ARE TO BE U.L. LISTED AND FM APPROVED.
- ELECTRICAL WIRING, ALARM, DETECTION AND SUPERVISORY BY OWNER.
- OWNER'S RESPONSIBILITY TO PROVIDE ADEQUATE HEATING TO PREVENT WET SYSTEM PIPING FROM FREEZING.

**REVISIONS**

NO.	DESCRIPTION	DATE
1	ASI 04 REVISIONS - POOL EQUIPMENT ROOM CHANGED TO STORAGE ROOM ON LEVEL 1, POOL EQUIPMENT ROOM ADDED ON LEVEL 2, ADDED VERTICAL VENT SHAFTS AND REVISED BATHROOMS.	5/8/2022

**APPROVAL STAMPS**

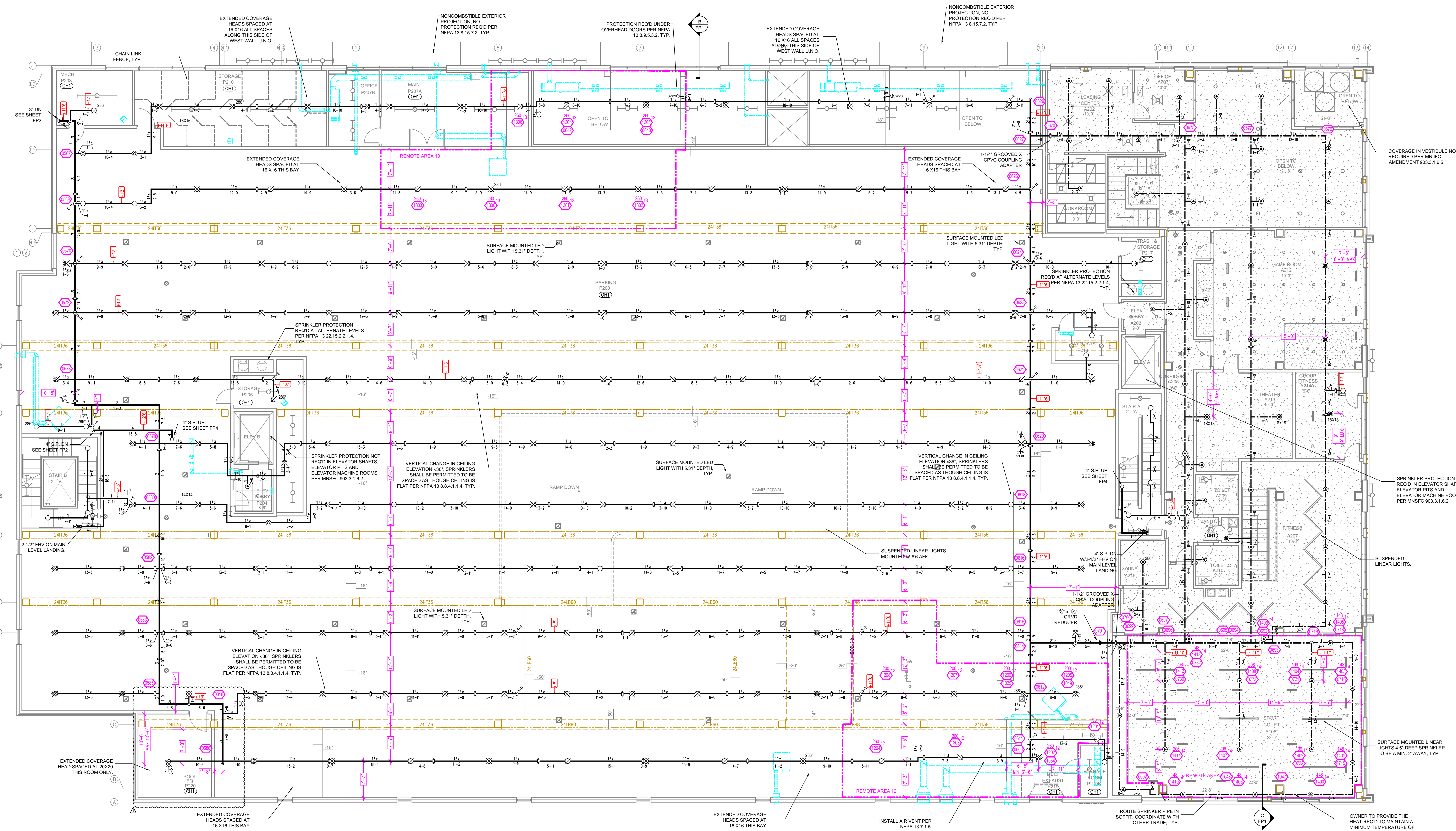
DATE	DESCRIPTION

**DRIVEN**  
 FIRE CONSULTANTS  
 910 N. SYCAMORE AVENUE, STOUX FALLS, SD 57110 PHONE: (605)-444-9290

Contract No. **C21-145**  
 Drawing Date: 04/12/2022  
 Scale: 1/8" = 1'-0"  
 Drawn By: JH  
 Approval By: STATE FIRE MARSHAL DIV.  
 SHEET NO. **2 of 8**

**125 LOWRY APARTMENTS**  
 2500 2ND STREET NE  
 MINNEAPOLIS, MN 55418





**LEVEL 2 FIRE SPRINKLER PLAN**  
SCALE: 1/8" = 1'-0"

**Design Area # 12, HAZARD: OH1**  
Zone: 2 System Type: WET  
Location: LEVEL 2 PARKING SOUTH  
Flowing Outlets: 8  
Density: 0.15 Remote Area: 1560  
Flow 556.1 gpm @ 55.3 psi  
Calculation Safety: 8.8 psi  
Includes 250 gpm Hose allowance

**Design Area # 13, HAZARD: OH1**  
Zone: 2 System Type: WET  
Location: LEVEL 2 PARKING NORTH  
Flowing Outlets: 7  
Density: 0.15 Remote Area: 1557  
Flow 538.3 gpm @ 57.5 psi  
Calculation Safety: 7.7 psi  
Includes 250 gpm Hose allowance

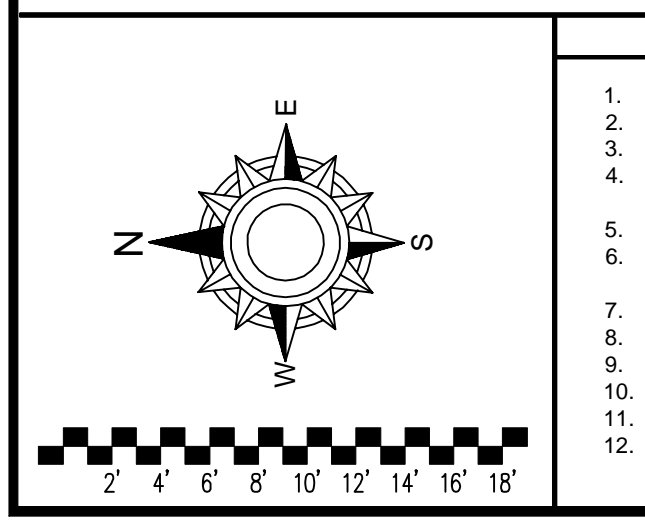
**Design Area # 14, HAZARD: LIGHT**  
Zone: 2 System Type: WET  
Location: SPORT COURT 208  
Flowing Outlets: 14  
Density: 0.10 Remote Area: 1501  
Flow 376.0 gpm @ 66.5 psi  
Calculation Safety: 7.3 psi  
Includes 250 gpm Hose allowance

**PIPE LEGEND**

- BLACK STEEL SPRINKLER PIPING
- CPVC BLAZEMASTER SPRINKLER PIPING

**SPRINKLER HEAD LEGEND**

SYM	QTY	POSITION	FINISH	TEMP	K	NPT	SN	MFG.	MODEL#	ESCU/CHCOEN	MAX SPACING
79	SPRIG	BRASS	200	11.20	3/4"	TYE137	TYCO	EC-11	NA	NA	14X14 U.O.
286	3	SPRIG	BRASS	286	11.20	3/4"	TYE137	TYCO	EC-11	NA	14X14 U.O.
223	UPRIGHT	BRASS	200	11.20	3/4"	TYE137	TYCO	EC-11	NA	NA	14X14 U.O.
286	8	UPRIGHT	BRASS	286	11.20	3/4"	TYE137	TYCO	EC-11	NA	14X14 U.O.
28	UPRIGHT	BRASS	200	5.60	1/2"	TY3131	TYCO	TY-FRB	NA	130 S.F. U.O.	
286	5	UPRIGHT	BRASS	286	5.60	1/2"	TY3131	TYCO	TY-FRB	NA	130 S.F. U.O.
4	SPRIG	BRASS	200	5.60	1/2"	TY3131	TYCO	TY-FRB	NA	130 S.F. U.O.	
180	PENDENT	WHITE	200	5.60	1/2"	TY3231	TYCO	TY-FRB	SEM-RECESS	130 S.F. U.O.	
286	1	PENDENT	WHITE	286	5.60	1/2"	TY3231	TYCO	TY-FRB	SEM-RECESS	15X15
7	PENDENT	WHITE	212	11.20	3/4"	TYE022	TYCO	BLDC	CONCEALED	16X16 U.O.	
95	PENDENT	WHITE	200	5.60	1/2"	TY3631	TYCO	BFPI	CONCEALED	15X15	
4	PENDENT	BRASS	200	5.60	1/2"	TY3231	TYCO	TY-FRB	NA	14X14 U.O.	
8	PENDENT	BRASS	200	11.20	3/4"	TYE237	TYCO	EC-11	NA	14X14 U.O.	
4	SIDEWALL	BRASS	200	5.60	1/2"	TY3331	TYCO	TY-FRB	NA	100 S.F. U.O.	
3	SIDEWALL	BRASS	200	11.20	3/4"	TY3332	TYCO	ELOS020	NA	16X16 U.O.	
23	SIDEWALL	WHITE	200	5.60	1/2"	TY3331	TYCO	TY-FRB	SEM-RECESS	16X16	
996	PENDENT	WHITE	155	4.90	1/2"	TY2224	TYCO	LPI	SEM-RECESS	18X18 U.O.	
6	SIDEWALL	WHITE	135	8.00	3/4"	TY4332	TYCO	TY-FRB	SEM-RECESS	16X20 U.O.	
381	SIDEWALL	WHITE	155	4.40	1/2"	TY2334	TYCO	LPI	SEM-RECESS	14X14 U.O.	
47	SIDEWALL	WHITE	200	5.60	1/2"	TY3331	TYCO	TY-FRB	SEM-RECESS	100 S.F. U.O.	
1	SIDEWALL	WHITE	200	11.20	3/4"	TY3332	TYCO	ELOS020	SEM-RECESS	16X16 U.O.	
2	PENDENT	WHITE	200	4.20	1/2"	TY2331	TYCO	TY-FRB	SEM-RECESS	15X15	
2118 TOTAL SPRINKLERS											



**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-10 8" MEGA FLOW PIPING HAS WELDED OUTLET & GROOVED SHORT RADIUS FITTINGS. ALL WELDING PER NFPA-13 (8.6.2).
- NO INSTALLATION OR FABRICATION TO BEGIN WITHOUT APPROVED SHOP DRAWINGS.
- ALL PIPE LOCATIONS ARE TO BE FIELD MEASURED PRIOR TO FABRICATION AND INSTALLED 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 HEADS & ONE HEAD WRENCH.
- HANGERS ARE TO BE U.L. LISTED AND FM APPROVED.
- ELECTRICAL WIRING, ALARM, DETECTION AND SUPERVISORY BY OWNER.
- OWNER'S RESPONSIBILITY TO PROVIDE ADEQUATE HEATING TO PREVENT WET SYSTEM PIPING FROM FREEZING.

**REVISIONS**

NO.	DESCRIPTION	DATE
1	ASI 04 REVISIONS - POOL EQUIPMENT ROOM CHANGED TO STORAGE ROOM ON LEVEL 1, POOL EQUIPMENT ROOM ADDED ON LEVEL 2, ADDED VERTICAL VENT SHAFTS AND REVISED BATHROOMS.	5/8/2022

**APPROVAL STAMPS**

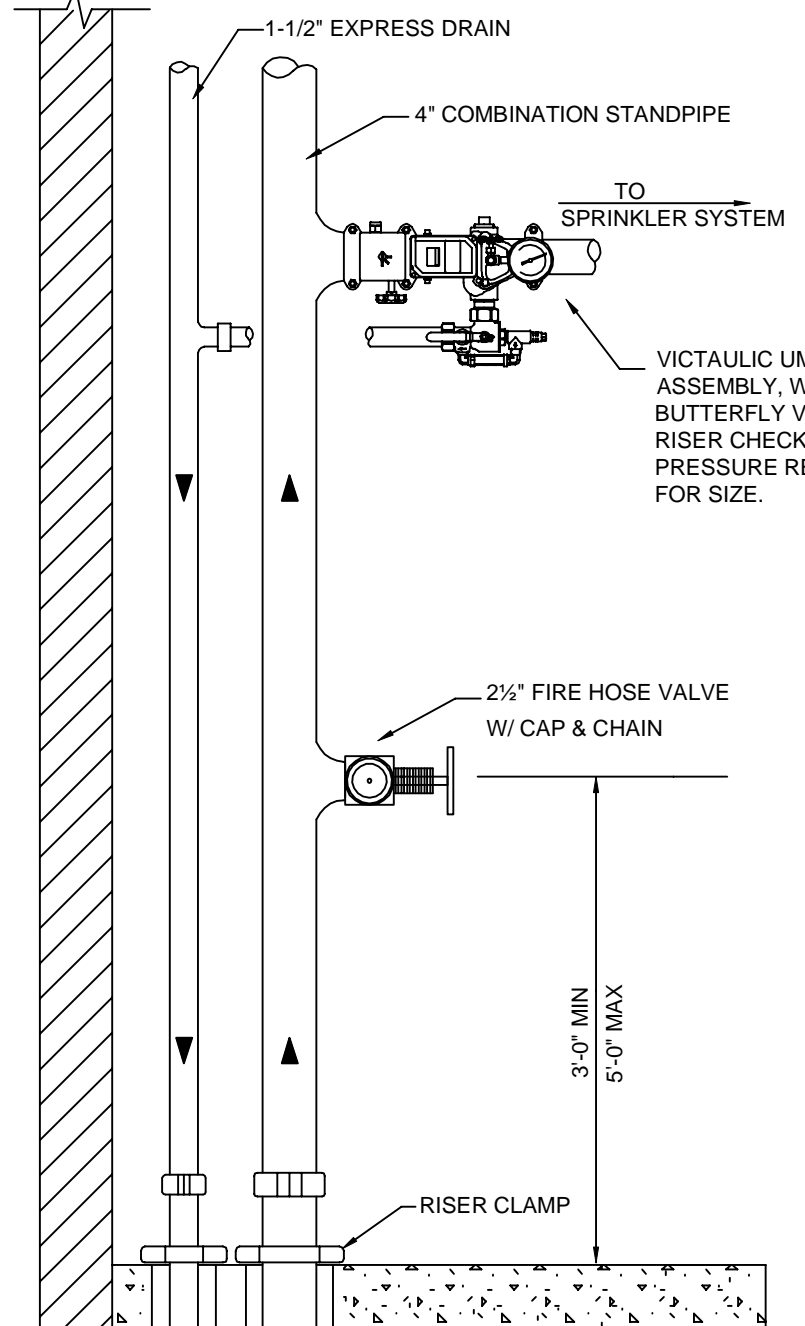
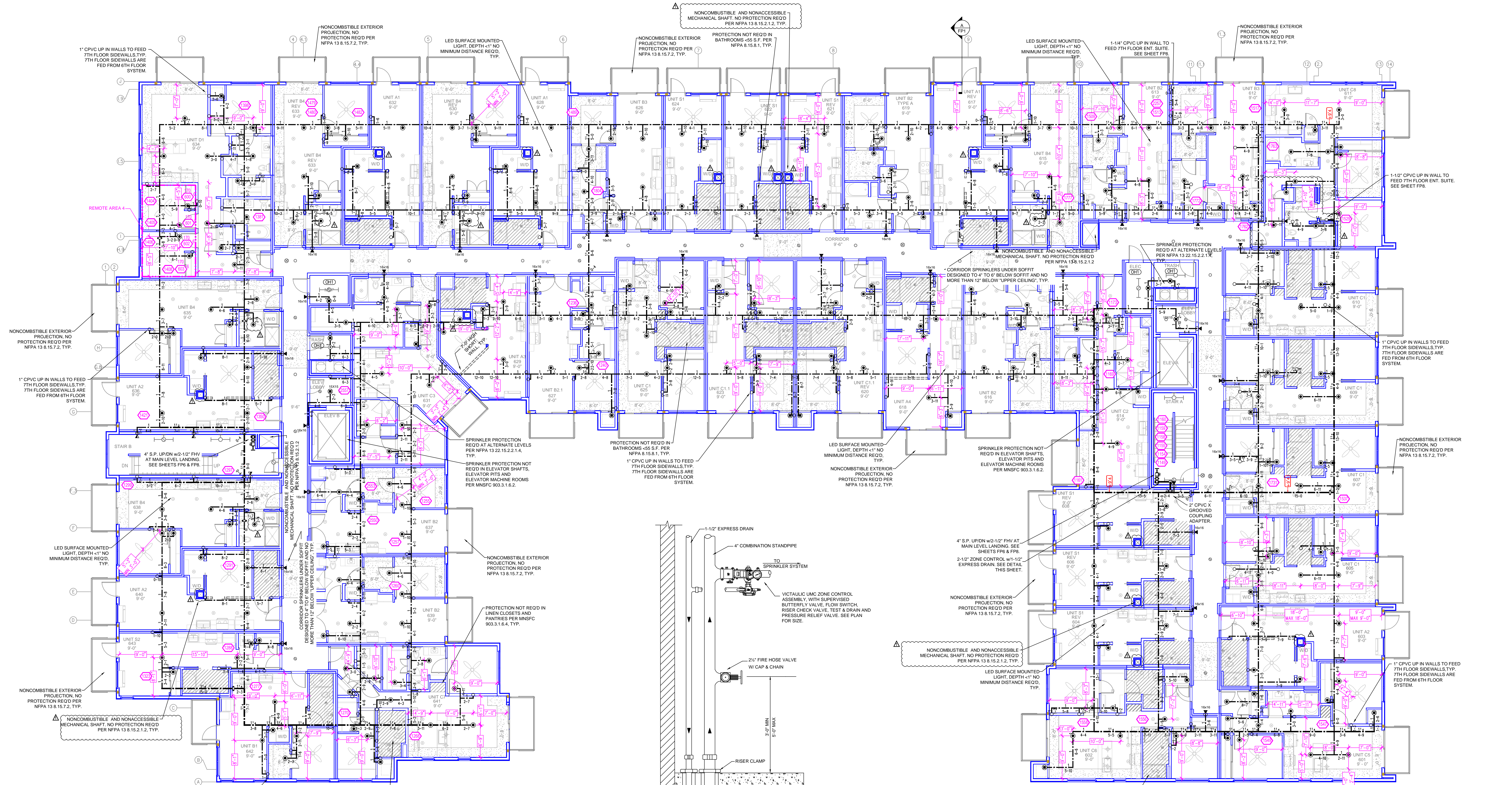


Drawing: FIRE PROTECTION PLAN

**125 LOWRY APARTMENTS**  
2500 2ND STREET NE  
MINNEAPOLIS, MN 55418

Contract No: **C21-145**  
Drawing Date: 04/12/2022  
Scale: 1/8" = 1'-0"  
Drawn By: JH  
Approval By: STATE FIRE MARSHAL DIV.  
SHEET NO: **3 of 8**





**LEVEL 6 FIRE SPRINKLER PLAN**  
SCALE: 1/8" = 1'-0"

**PIPE LEGEND**

---	BLACK STEEL SPRINKLER PIPING
---	CPVC GLAZEMASTER SPRINKLER PIPING

**SPRINKLER HEAD LEGEND**

SYM	QTY	POSITION	FINISH	TEMP	K	NPT	SIN	MFG.	MODEL#	ESD/CUT/CHRON	MAX SPACING
79	3	SPRING	BRASS	200	11.20	3/4"	TY9137	TYCO	EC-11	NA	14X14 U.N.O.
223	3	SPRING	BRASS	286	11.20	3/4"	TY9137	TYCO	EC-11	NA	14X14 U.N.O.
286	8	UPRIGHT	BRASS	200	5.60	1/2"	TY3131	TYCO	TY-FRB	NA	130 S.F. U.N.O.
286	5	UPRIGHT	BRASS	286	5.60	1/2"	TY3131	TYCO	TY-FRB	NA	130 S.F. U.N.O.
4	4	SPRING	BRASS	200	5.60	1/2"	TY3231	TYCO	TY-FRB	SEM-RECESS	14X14 U.N.O.
180	1	PENDENT	WHITE	200	5.60	1/2"	TY3231	TYCO	TY-FRB	SEM-RECESS	14X14 U.N.O.
286	1	PENDENT	WHITE	286	5.60	1/2"	TY3231	TYCO	TY-FRB	SEM-RECESS	14X14 U.N.O.
7	7	PENDENT	WHITE	212	11.20	3/4"	TY8222	TYCO	ELOC	CONCEALED	16X16 U.N.O.
95	7	PENDENT	WHITE	200	5.60	1/2"	TY3231	TYCO	RFII	CONCEALED	14X14 U.N.O.
4	4	PENDENT	BRASS	200	5.60	1/2"	TY3231	TYCO	TY-FRB	NA	14X14 U.N.O.
8	8	PENDENT	BRASS	200	11.20	3/4"	TY9237	TYCO	EC-11	NA	14X14 U.N.O.
4	4	SIDEWALL	BRASS	200	5.60	1/2"	TY3231	TYCO	TY-FRB	NA	100 S.F. U.N.O.
SW20	3	SIDEWALL	BRASS	200	11.20	3/4"	TY6332	TYCO	ELOS20	NA	16X16 U.N.O.
23	23	SIDEWALL	WHITE	200	5.60	1/2"	TY3231	TYCO	TY-FRB	SEM-RECESS	14X14 U.N.O.
96	96	PENDENT	WHITE	155	4.90	1/2"	TY2234	TYCO	LFPI	SEM-RECESS	18X18 U.N.O.
6	6	SIDEWALL	WHITE	155	4.90	1/2"	TY4332	TYCO	TY-FRB	SEM-RECESS	16X20 U.N.O.
39	39	SIDEWALL	WHITE	155	4.90	1/2"	TY2334	TYCO	LFPI	SEM-RECESS	14X14 U.N.O.
47	47	SIDEWALL	WHITE	200	5.60	1/2"	TY3231	TYCO	TY-FRB	SEM-RECESS	100 S.F. U.N.O.
SW20	1	SIDEWALL	WHITE	200	11.20	3/4"	TY6332	TYCO	ELOS20	SEM-RECESS	16X16 U.N.O.
2	2	PENDENT	WHITE	200	4.20	1/2"	TY2231	TYCO	TY-FRB	SEM-RECESS	14X14 U.N.O.
218 TOTAL SPRINKLERS											

Design Area # 6 HAZARD: LIGHT  
Zone: 6 System Type: WET  
Location: UNIT 634

Flowing Outlets: 4  
Density: 0.10 Remote Area: 4 SPK  
Flow 168.1 gpm @ 75.8 psi  
Calculation Safety: 5.1 psig  
Includes 100 gpm Hose allowance

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

**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-10 & MEGA FLOW PIPING HAS WELDED OUTLETS & GROOVED SHORT RADIUS FITTINGS. ALL WELDING PER NFPA-514 (8.2.2).
- NO INSTALLATION OR FABRICATION TO BEGIN WITHOUT APPROVED SHOP DRAWINGS.
- ALL PIPE LOCATIONS ARE TO BE FIELD MEASURED PRIOR TO FABRICATION AND INSTALLED 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 HEADS & ONE HEAD WRENCH.
- HANGERS ARE TO BE U.L. LISTED AND FM APPROVED.
- ELECTRICAL WIRING, ALARM, DETECTION AND SUPERVISORY BY OWNER.
- OWNER'S RESPONSIBILITY TO PROVIDE ADEQUATE HEATING TO PREVENT WET SYSTEM PIPING FROM FREEZING.

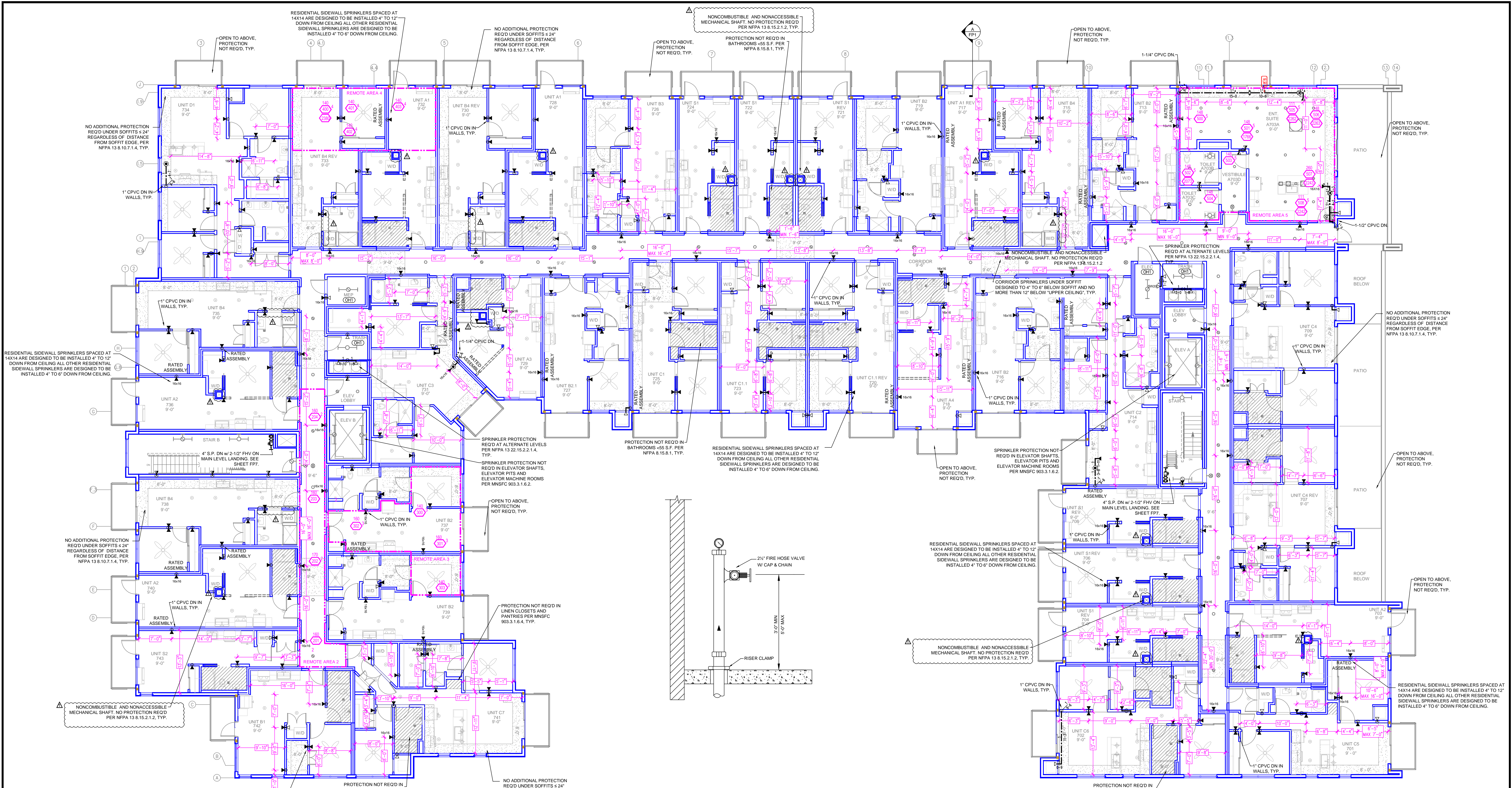
NO.	REVISIONS	DATE
1	AS1 04 REVISIONS - POOL EQUIPMENT ROOM CHANGED TO STORAGE ROOM ON LEVEL 1, POOL EQUIPMENT ROOM ADDED ON LEVEL 5, ADDED VERTICAL VENT SHAFTS AND REVISED BATHROOMS.	5/8/2022

APPROVAL STAMPS



Contract No. **C21-145**  
Drawing Date: 04/12/2022  
Scale: 1/8" = 1'-0"  
Drawing: **FIRE PROTECTION PLAN**  
**125 LOWRY APARTMENTS**  
2500 2ND STREET NE  
MINNEAPOLIS, MN 55418  
Approval By: STATE FIRE MARSHAL DIV.  
SHEET NO. **7 of 8**





**LEVEL 7 FIRE SPRINKLER PLAN**  
SCALE: 1/8" = 1'-0"

Design Area #	HAZARD	System Type	Location	Flowing Outlets	Density	Remote Area	Flow	Calculation Safety	Includes
2	HAZARD: LIGHT	WET	LEVEL 7 CORRIDOR	4	0.10	4 SPK	166.7 gpm @ 75.8 psi	5.2 psi	100 gpm Hose allowance
3	HAZARD: LIGHT	WET	UNIT 737	4	0.10	4 SPK	166.7 gpm @ 74.7 psi	6.3 psi	100 gpm Hose allowance
4	HAZARD: LIGHT	WET	UNIT 733	4	0.10	4 SPK	159.1 gpm @ 71.0 psi	10.2 psi	100 gpm Hose allowance
5	HAZARD: LIGHT	WET	ENT SUITE 703	9	0.10	921	246.9 gpm @ 72.7 psi	6.1 psi	100 gpm Hose allowance

**CALC PLACARD**

**PIPE LEGEND**

	BLACK STEEL SPRINKLER PIPING
	CPVC BLAZEMASTER SPRINKLER PIPING

**SPRINKLER HEAD LEGEND**

SYM	CNT	POSITION	FINISH	TEMP	K	NPT	SIN	MPG	MODEL#	ESCU/CHCON	MAX SPACING
⊗	78	SPRIG	BRASS	200	11.20	3/4"	TY5137	TYCO	EC-11	N/A	14X14 U.N.O.
⊗	223	SPRIG	BRASS	286	11.20	3/4"	TY5137	TYCO	EC-11	N/A	14X14 U.N.O.
⊗	286	UPRIGHT	BRASS	286	11.20	3/4"	TY5137	TYCO	EC-11	N/A	14X14 U.N.O.
⊗	286	UPRIGHT	BRASS	200	5.60	1/2"	TY3131	TYCO	TY-FRB	N/A	130 S.F. U.N.O.
⊗	286	UPRIGHT	BRASS	286	5.60	1/2"	TY3131	TYCO	TY-FRB	N/A	130 S.F. U.N.O.
⊗	4	SPRIG	BRASS	200	5.60	1/2"	TY3131	TYCO	TY-FRB	N/A	130 S.F. U.N.O.
⊗	180	PENDENT	WHITE	200	5.60	1/2"	TY3231	TYCO	TY-FRB	SEM-RECESS	100 S.F. U.N.O.
⊗	286	PENDENT	WHITE	286	5.60	1/2"	TY3231	TYCO	TY-FRB	SEM-RECESS	16X16 U.N.O.
⊗	7	PENDENT	WHITE	212	11.20	3/4"	TY3622	TYCO	ELOC	CONCEALED	16X16 U.N.O.
⊗	95	PENDENT	WHITE	200	5.60	1/2"	TY3631	TYCO	FRFI	CONCEALED	16X16 U.N.O.
⊗	4	PENDENT	BRASS	200	5.60	1/2"	TY3231	TYCO	TY-FRB	N/A	14X14 U.N.O.
⊗	8	PENDENT	BRASS	200	11.20	3/4"	TY5237	TYCO	EC-11	N/A	14X14 U.N.O.
⊗	4	SIDEWALL	BRASS	200	5.60	1/2"	TY3331	TYCO	TY-FRB	N/A	100 S.F. U.N.O.
⊗	3	SIDEWALL	BRASS	200	11.20	3/4"	TY3332	TYCO	ELOC/20	N/A	16X16 U.N.O.
⊗	23	SIDEWALL	WHITE	200	5.60	1/2"	TY3331	TYCO	TY-FRB	SEM-RECESS	14X14
⊗	996	PENDENT	WHITE	155	4.90	1/2"	TY2234	TYCO	LFPI	SEM-RECESS	18X18 U.N.O.
⊗	6	SIDEWALL	WHITE	155	8.00	3/4"	TY4332	TYCO	TY-FRB	SEM-RECESS	16X20 U.N.O.
⊗	391	SIDEWALL	WHITE	155	4.40	1/2"	TY2334	TYCO	LFPI	SEM-RECESS	14X14 U.N.O.
⊗	47	SIDEWALL	WHITE	200	5.60	1/2"	TY3331	TYCO	TY-FRB	SEM-RECESS	100 S.F. U.N.O.
⊗	350/0	1	SIDEWALL	200	11.20	3/4"	TY3332	TYCO	ELOC/20	SEM-RECESS	16X16 U.N.O.
⊗	2	PENDENT	WHITE	200	4.30	1/2"	TY2231	TYCO	TY-FRB	SEM-RECESS	16X16
2118 TOTAL SPRINKLERS											

**General Notes**

- SYSTEM INSTALLED PER NFPA-13 (2016 EDITION) AND STATE FIRE MARSHAL.
- ALL EQUIPMENT FOR THIS SYSTEM SHALL BE UL LISTED.
- MINIMUM PIPE SIZE SHALL BE 1" NOMINAL PIPE.
- ALL SCH-10 & MEGA FLOW PIPING HAS WELDED OUTLET & GROOVED SHORT RADIUS FITTINGS. ALL WELDING PER NFPA 54 (2012).
- NO INSTALLATION OR FABRICATION TO BEGIN WITHOUT APPROVED SHOP DRAWINGS.
- ALL PIPE LOCATIONS ARE TO BE FIELD MEASURED PRIOR TO FABRICATION AND INSTALLED 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 HEADS & ONE HEAD WRENCH.
- HANGERS ARE TO BE UL LISTED AND FM APPROVED.
- ELECTRICAL WIRING, ALARM, DETECTION AND SUPERVISORY BY OWNER.
- OWNER'S RESPONSIBILITY TO PROVIDE ADEQUATE HEATING TO PREVENT WET SYSTEM PIPING FROM FREEZING.

NO.	REVISIONS	DATE	APPROVAL STAMPS
1	ASI 04 REVISIONS - POOL EQUIPMENT ROOM CHANGED TO STORAGE ROOM ON LEVEL 1, POOL EQUIPMENT ROOM ADDED ON LEVEL 5, ADDED VERTICAL VENT SHIFTS AND REVISED BATHROOMS.	5/6/2022	

**DRIVEN**  
FIRE CONSULTANTS  
910 N. SYCAMORE AVENUE, SIOUX FALLS, SD 57110 PHONE: (605)-444-9290

Contract No. **C21-145**  
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**125 LOWRY APARTMENTS**  
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Drawn By: JH  
Approval By: STATE FIRE MARSHAL DIV.  
SHEET NO. **8 of 8**