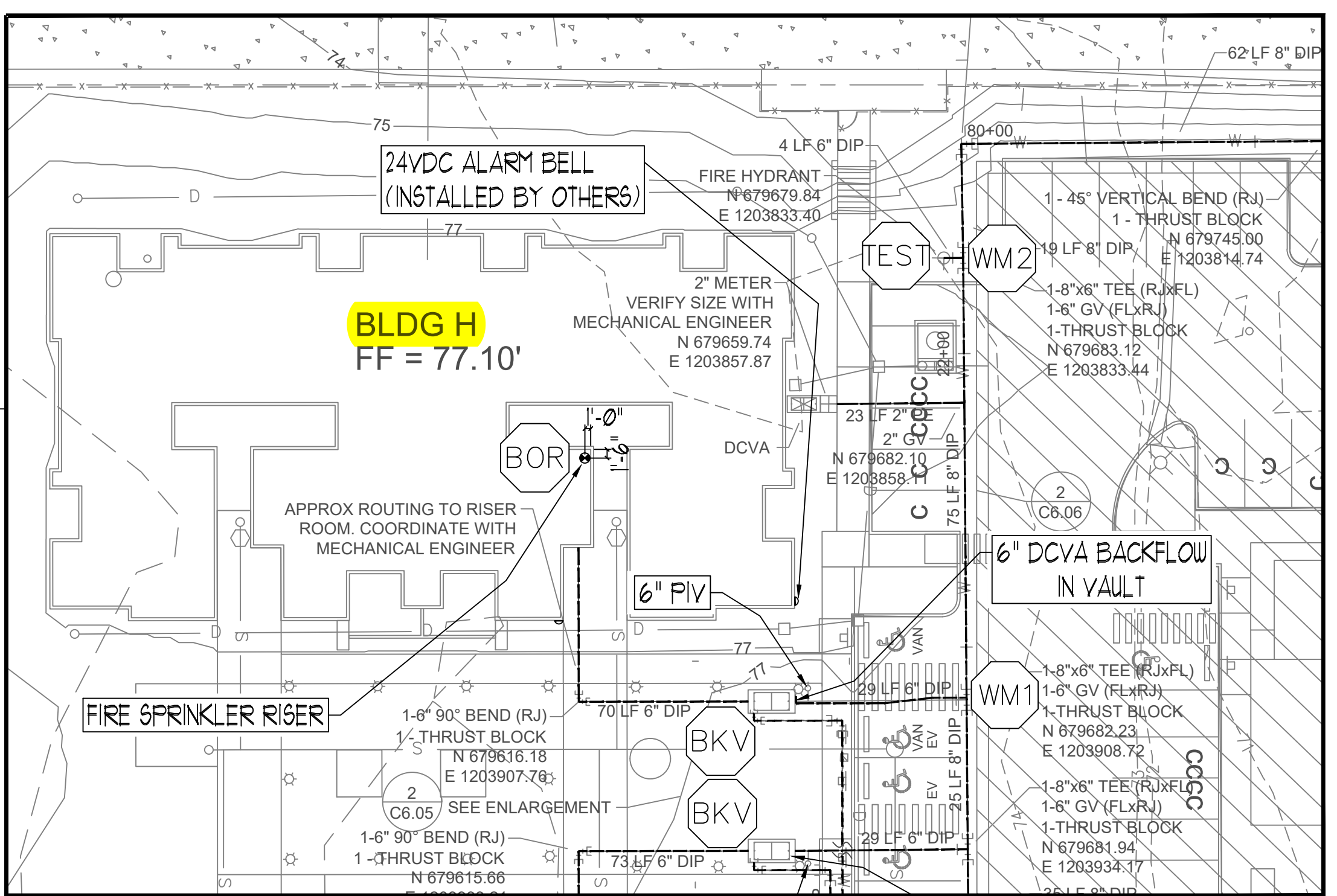


**SITE PLAN**  
SCALE: 1" = 40'-0"



**BUILDING-H SITE PLAN**  
SCALE: 1" = 20'-0"



**VICINITY MAP**  
SCALE: NTS

**FLOW TEST INFORMATION**

STATIC	40 PSI
RESIDUAL	25 PSI
FLOWING	1560 GPM
LOCATION	AT SITE
BY WHO	CITY OF PUYALLUP WATER DIVISION

**City of Puyallup**  
Development & Permitting Services  
**ISSUED PERMIT**

Building	Planning
Engineering	Public Works
Fire	Traffic

**City of Puyallup**  
**Fire REVIEWED FOR COMPLIANCE**  
DDrake  
02/19/2025  
10:45:38 AM

THE APPROVED CONSTRUCTION PLANS AND ALL ENGINEERING MUST BE POSTED ON THE JOB AT ALL INSPECTIONS IN A VISIBLE AND READILY ACCESSIBLE LOCATION.

Approval of submitted plans is not an approval of omissions or oversight by this office or noncompliance with any applicable regulations of local government. The contractor is responsible for making sure that the building complies with all applicable building codes and regulations of the local government.

**SPRINX**  
FIRE PROTECTION  
A Fire Protection Corporation  
2709 ANNA AVE NW, SUITE 102  
COVINGTON, WA 98557-7335  
EST. 1999  
Cont. Lic. # SPRINX01  
Fax: 253.853.9990

PROJECT: EAST TOWN CROSSING BUILDING H  
ADDRESS: 2902 E PIONEER  
CITY: PUYALLUP, WA 98372  
TITLE: FIRE SPRINKLER SITE PLAN DRAWING

DATE: 12/03/2024  
DRAWN: AJP  
PAGE: 1 OF 4

**REVISIONS**

NO.	DATE	DESCRIPTION

**GENERAL**

BY	
DATE	
DESCRIPTION	

**R & R CONSTRUCTION CONSULTING LLC**  
ADDRESS: 7809 PACIFIC AVE  
CITY: TACOMA, WA 98408  
SUPER: ADAM RAYGOR  
JOB PHONE: 253-961-9976  
FIELD INSPECTIONS  
CITY OF PUYALLUP  
PHONE: (253) 864-4165

**STANDARD SYMBOLS**

Pipe Coupling	
Pipe Drop	
Pipe Rise	
Pipe End Cap	
2-WAY EARTHQUAKE BRACE	
4-WAY EARTHQUAKE BRACE	
PIPE HANGER	
Hydraulic Reference Points	
Elev. Below Top of Steel	
Elev. Above Finished Floor	
ceiling Height	

WA. STATE LEVEL 3 STAMP

3 Exams WASHINGTON STATE  
15 Exams CERTIFICATE OF COMPETENCY  
FIRE SPRINKLER SYSTEMS  
Joseph G. Faulkner  
9491-0699-CEG Level 3  
Sprinx Fire Protection, Inc.  
SPRINX01115  
*Joseph G. Faulkner* 02/19/2025

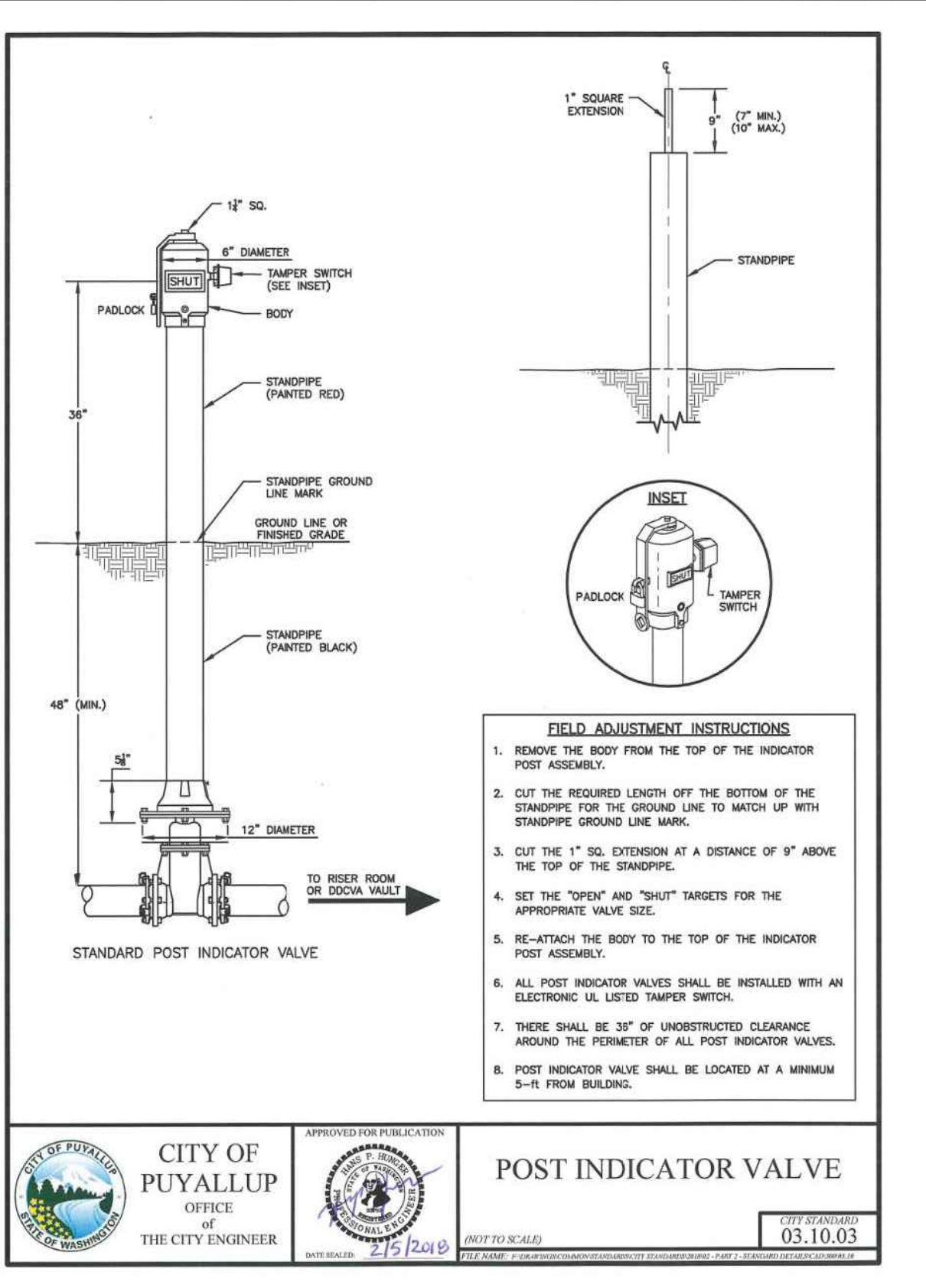
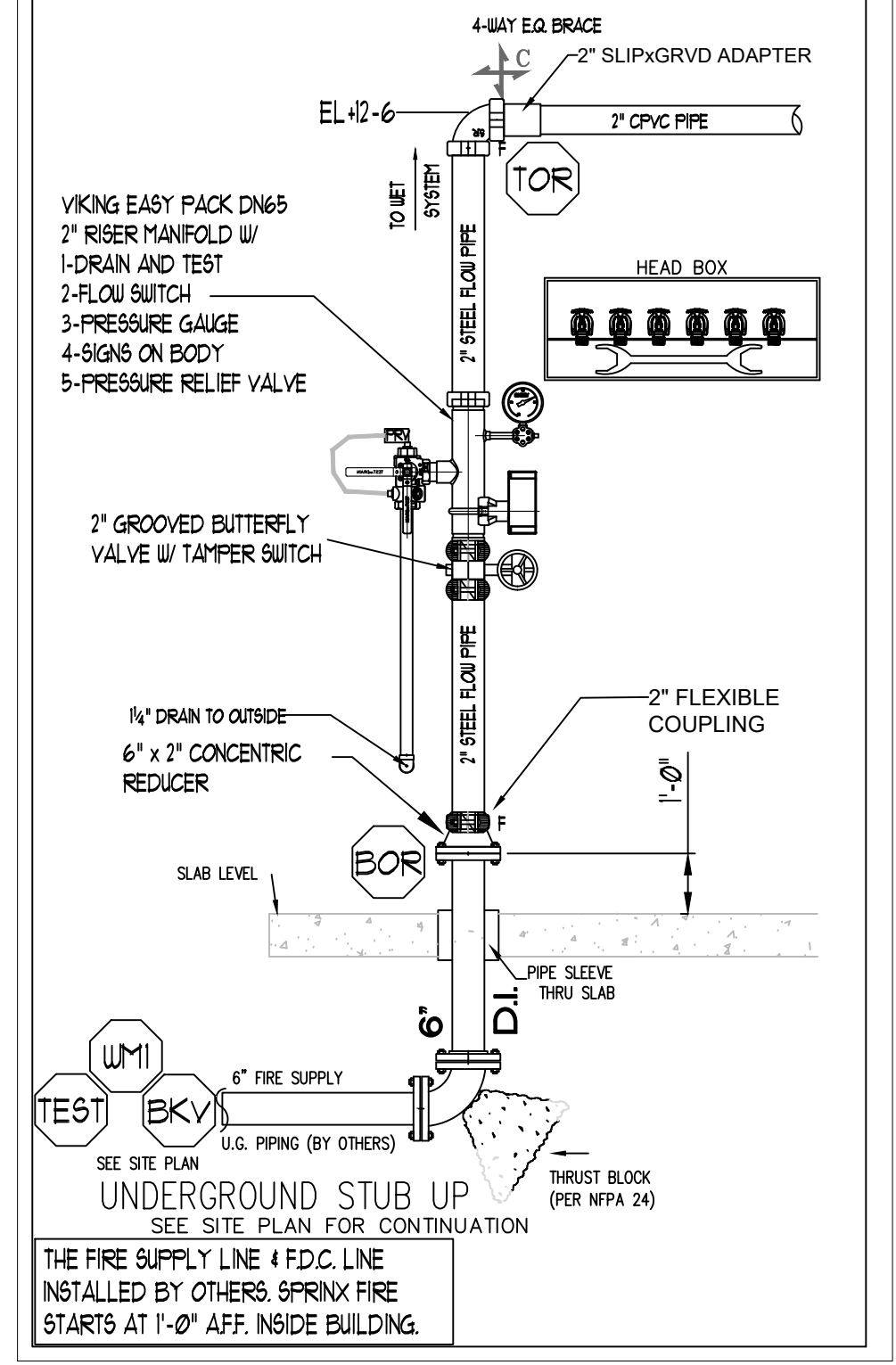
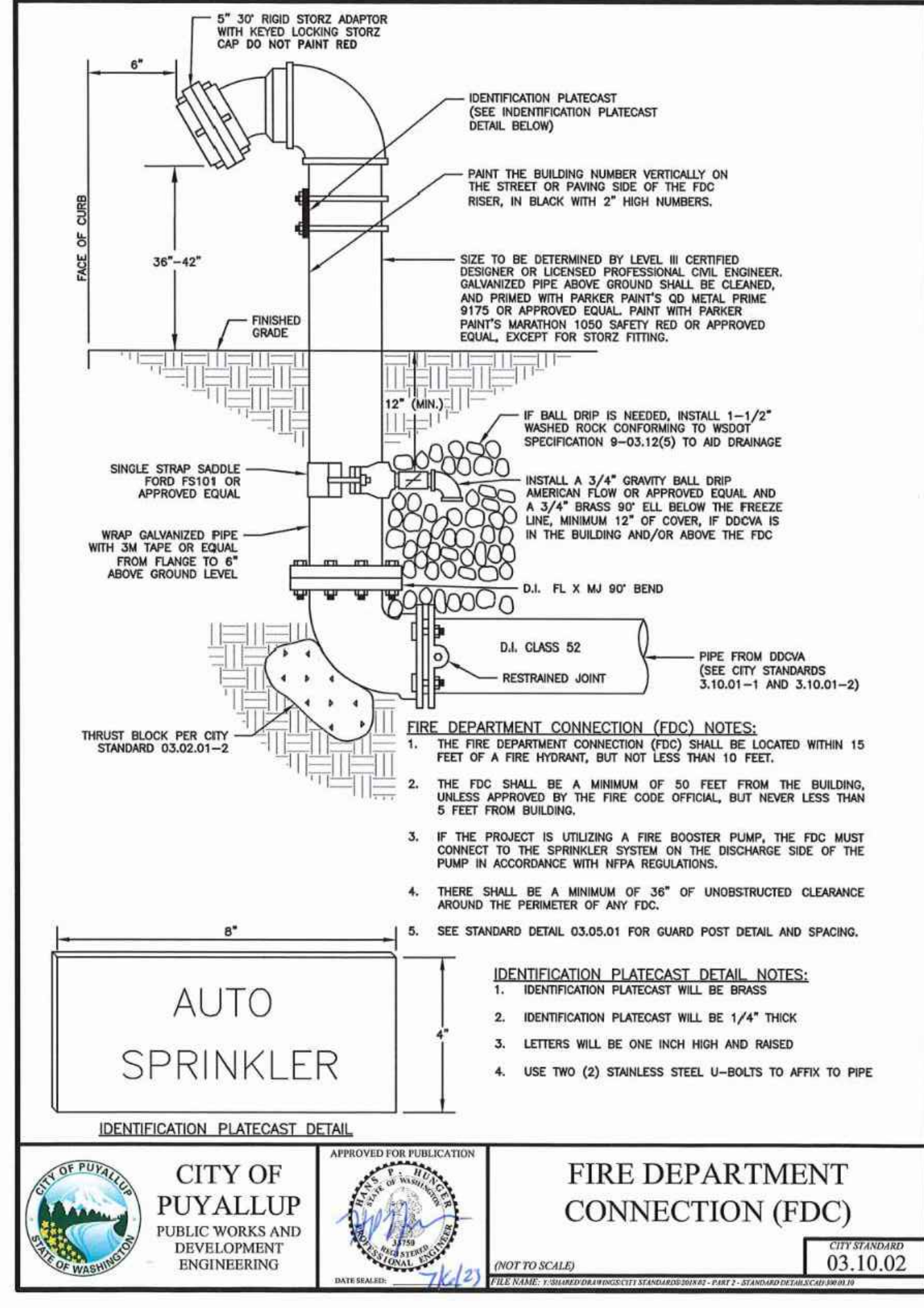
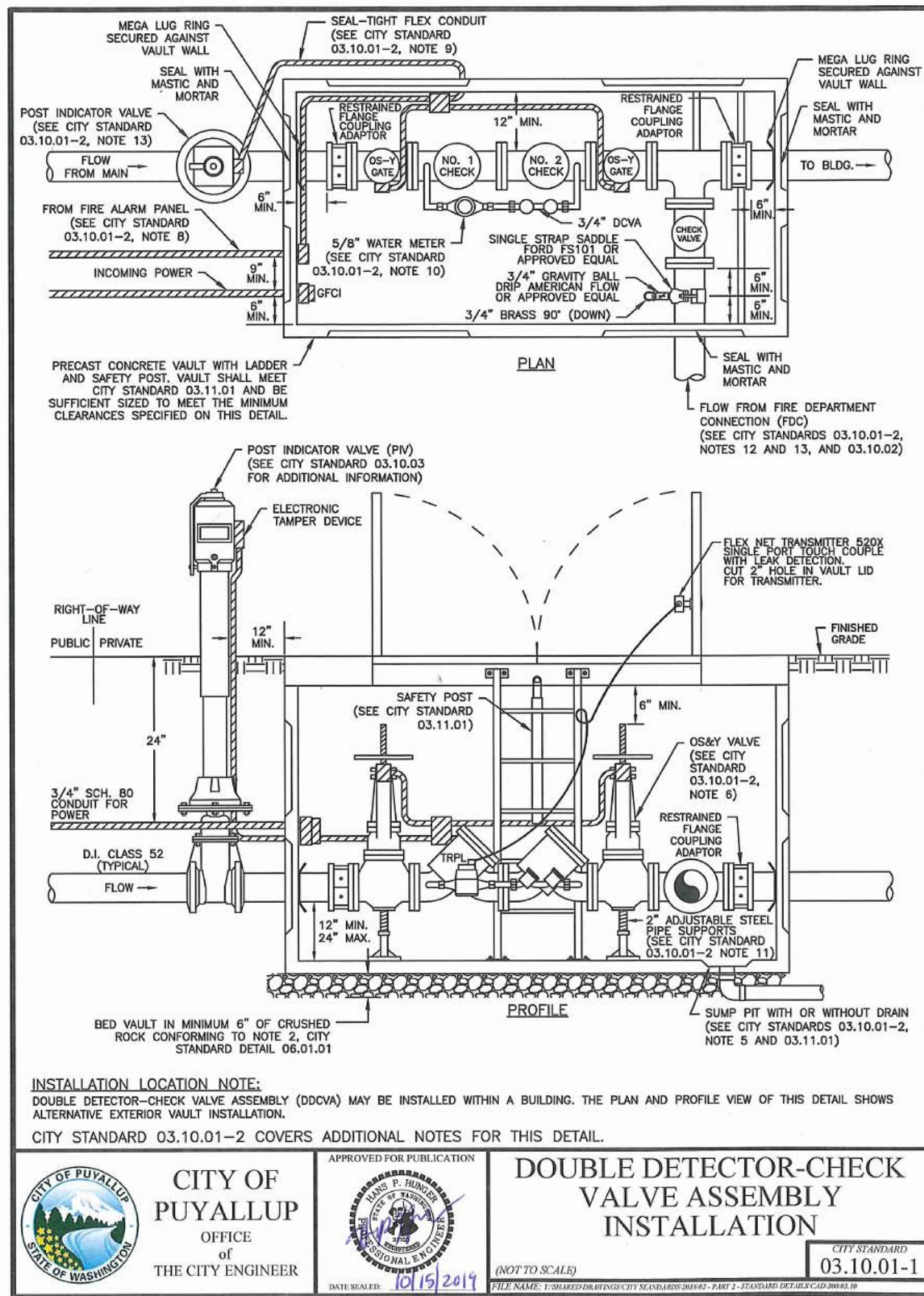
**WA. STATE LEVEL 3 STAMP**

Project No: 24-093CM  
Sheet Title: SITE PLAN

**SPRINKLER HEAD SCHEDULE**

SYMBOL	COUNT	THREAD	K-FACTOR	DESCRIPTION	NOTE
⊙	211	1/2"	4.9	HEAD1= VIKING VK468 WHITE RESIDENTIAL RECESSED PENDENT 175°F.	on Drop
◀	44	1"	5.6	SIDE1= VIKING VK178 QR CHROME DRY HORIZONTAL SIDEWALL 200°F.	
255 = TOTAL NUMBER OF HEADS BUILDING H					

**FP-1.0**  
File Name: ETC SITE PLAN.dwg



**CITY OF PUYALLUP**  
PUBLIC WORKS AND DEVELOPMENT ENGINEERING

**FIRE DEPARTMENT CONNECTION (FDC)**

APPROVED FOR PUBLICATION  
DATE: 03.10.02

- UNDERGROUND NOTES:**
- 1) ALL UNDERGROUND BY OTHERS. CONTRACTOR TO BE STATE LICENSED AND CERTIFIED TO INSTALL UNDERGROUND PIPING PER WAC 212-80.
  - 2) PIPE TYPE AND CLASS TO MEET LOCAL JURISDICTION APPROVAL.
  - 3) ALL UNDERGROUND PIPING SHALL HAVE A MINIMUM 3'-0" BURY.
  - 4) ALL UNDERGROUND PIPING SHALL BE U.L. LISTED AND/OR FM APPROVED FOR FIRE PROTECTION.
  - 5) ALL UNDERGROUND PIPING SHALL BE RODDED AND/OR BLOKED IN ACCORDANCE WITH THE SPECIFICATIONS AND NFPA 24.
  - 6) ALL UNDERGROUND PIPING SHALL BE HYDROSTATICALLY TESTED AT NOT LESS THAN 200 PSI FOR TWO HOURS IN ACCORDANCE WITH NFPA 24.
  - 7) ALL UNDERGROUND PIPING SHALL BE FLUSHED IN ACCORDANCE WITH NFPA 24. FLOW THE REQUIRED RATE UNTIL WATER IS CLEAR AS INDICATED BY NO COLLECTION OF FOREIGN MATERIAL IN BURLAP BAGS AT OUTLETS.  
4" - 390 GPM 10" - 2,400 GPM  
6" - 880 GPM 12" - 3,520 GPM  
8" - 1,560 GPM
  - 8) ALL UNDERGROUND INSTALLATION AND TESTING TO BE WITNESSED BY THE LOCAL AUTHORITY HAVING JURISDICTION.
  - 9) WHERE PIPES PASSES THROUGH HOLES IN FOUNDATIONS, WALLS, OR FLOORS, THE HOLES OR SLEEVE SHALL BE SIZED 4 IN. LARGER THAN THE SUPPLY PIPE SIZE ON PIPES SIZED 4" OR LARGER.

PROJECT: EAST TOWN CROSSING BUILDING H  
ADDRESS: 2902 E PIONEER  
CITY: PUYALLUP, WA 98372  
TITLE: SITE DETAILS

**SPRINX**  
FIRE PROTECTION  
A Fire Protection Corporation  
2709 ANN ARKE NW, SUITE 102  
COVINGTON, WA 98557-7335  
EST. 1989  
TEL: 253.835.9590

Date: 12/03/2024 Drawn: AJP Page: 2 of 4

REVISIONS	DATE	DESCRIPTION

**R & R CONSTRUCTION CONSULTING LLC**  
7809 PACIFIC AVE  
TACOMA, WA 98408  
SUPER: ADAM RAYGOR  
JOB PHONE: 253-961-9976

**CITY OF PUYALLUP**  
FIELD INSPECTIONS  
PHONE: (253) 864-4165

STANDARD SYMBOLS	DESCRIPTION
⊕	Pipe Coupling
⊖	Pipe Drop
⊕	Pipe Rise
⊕	Pipe End Cap
⊕	2-WAY EARTHQUAKE BRACE
⊕	4-WAY EARTHQUAKE BRACE
⊕	PIPE HANGER
⊕	Hydraulic Reference Points
⊕	Elev. Below Top of Steel
⊕	Elev. Above Finished Floor
⊕	Colling Height

WA. STATE LEVEL 3 STAMP

Expires: 03/31/25  
WASHINGTON STATE  
CERTIFICATE OF COMPETENCY  
FIRE SPRINKLER SYSTEMS

Joseph G. Faulkner  
9451-0509-C2C Level 3  
Sprinx Fire Protection, Inc.  
SPRINXPO11LLS

Date: 01/15/2025

**City of Puyallup**  
Development & Permitting Services  
**ISSUED PERMIT**

Building Planning  
Engineering Public Works  
Fire Traffic

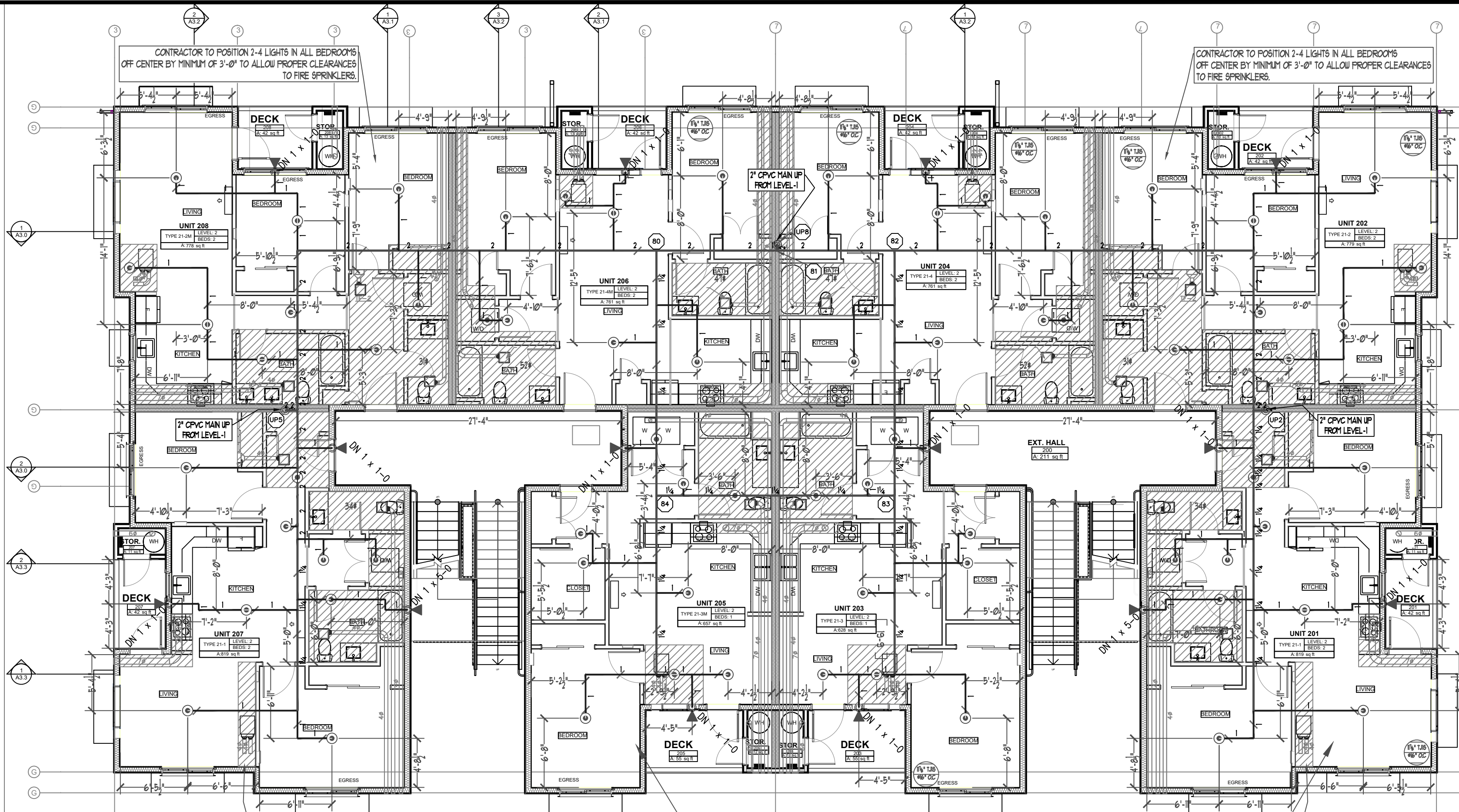
Project No: 24-093CM  
Sheet Title: DETAILS

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

SPRINKLER HEAD SCHEDULE					
SYMBOL	COUNT	THREAD	K-FACTOR	DESCRIPTION	NOTE
⊕	211	1/2"	4.9	HEAD1= VIKING VK468 WHITE RESIDENTIAL RECESSED PENDENT 175°F.	on Drop
⊕	44	1"	5.6	SIDE1= VIKING VK178 OR CHROME DRY HORIZONTAL SIDEWALL 200°F.	
255 = TOTAL NUMBER OF HEADS BUILDING H					

FP-1.1

File Name: ETC SITE PLAN.dwg



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

CONTRACTOR TO POSITION 2-4 LIGHTS IN ALL BEDROOMS OFF CENTER BY MINIMUM OF 3'-0" TO ALLOW PROPER CLEARANCES TO FIRE SPRINKLERS.

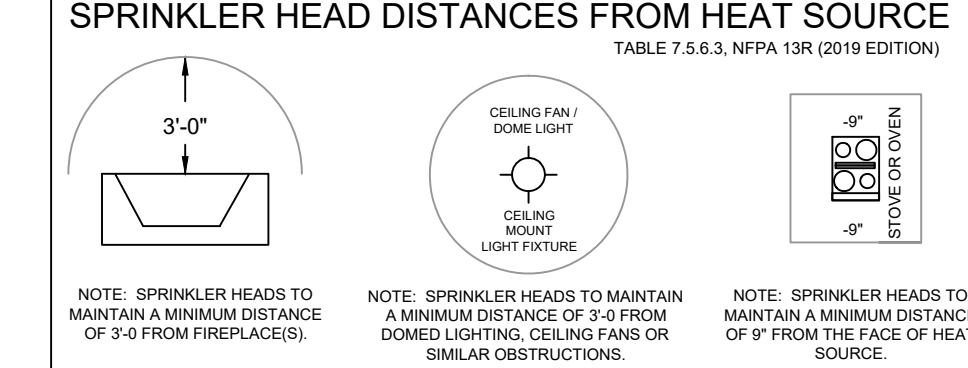
CONTRACTOR TO POSITION ALL COMMON SPACE LIGHTING IN ACCORDANCE WITH NFPA 13

**City of Puyallup**  
Development & Permitting Services  
**ISSUED PERMIT**

Building Planning  
Engineering Public Works  
Fire Traffic

**MINIMUM DISTANCES FROM HEAT SOURCES**

HEAT SOURCE	Minimum Distance from Edge of Source to Sprinkler	Minimum Distance from Edge of Source to Intermediate Temp. Sprinkler
FRONT OF RECESSED FIREPLACE	60"	36"
COAL-OR WOOD-BURNING STOVE	42"	12"
KITCHEN RANGE	18"	9"
WALL OVEN	18"	9"
HOT AIR FUELS	18"	9"
UNINSULATED HOT WATER PIPES	12"	6"
SIDE OF CEILING OR WALL MOUNTED HOT AIR DIFFUSERS	24"	12"
FRONT OF WALL-MOUNTED HOT AIR DIFFUSERS	36"	18"
HOT WATER HEATER OR FURNACE	6"	3"
LIGHT FIXTURE	12"	6"
0W - 250W	6"	3"
250W - 499W	12"	6"



**RESIDENTIAL PENDENT SPRINKLER OBSTRUCTION**

DISTANCE FROM SPRINKLERS TO SIDE OF OBSTRUCTION	MAXIMUM ALLOWABLE DISTANCE OF DEFLECTOR ABOVE BOTTOM OF OBSTRUCTION
LESS THAN 1 FOOT	0
1 FT TO LESS THAN 1 FT 6 IN	0
1 FT 6 IN TO LESS THAN 2 FT	1
2 FT TO LESS THAN 2 FT 6 IN	1
2 FT 6 IN TO LESS THAN 3 FT	1
3 FT TO LESS THAN 3 FT 6 IN	1
3 FT 6 IN TO LESS THAN 4 FT	3
4 FT TO LESS THAN 4 FT 6 IN	5
4 FT 6 IN TO LESS THAN 5 FT	7
5 FT TO LESS THAN 5 FT 6 IN	7
5 FT 6 IN TO LESS THAN 6 FT	9
6 FT TO LESS THAN 6 FT 6 IN	11
6 FT 6 IN TO LESS THAN 7 FT	14
7 FT OR GREATER	14

**Note-Minimum Cure Prior To Pressure Testing (200 PSI)**

Pipe Size	Ambient Temperature During Cure Period	40 TO 120 Deg. F	40 TO 59 Deg. F	10 TO 39 Deg. F
3/4"	45 MINUTES	1 1/2 HOURS	24 HOURS	
1"	45 MINUTES	1 1/2 HOURS	24 HOURS	
1 1/4" & 1 1/2"	1 1/2 HOURS	16 HOURS	120 HOURS	
2"	6 HOURS	36 HOURS	*	
2 1/2" & 3"	8 HOURS	72 HOURS	*	

\* Solvent Cement can be applied at a temperature below 40 deg. F for 2" and larger, however the temperature of the system must be raised to 40 deg. F or higher and allowed to cure per the above recommendations prior to pressure testing. When bringing cement, pipe or fittings to the site, do not let them be brought up to room temperature before using the 60 to 120 deg. F cure schedule.

**SCOPE OF WORK**  
INSTALL AUTOMATIC WET FIRE SPRINKLER SYSTEM FOR MULTI-FAMILY DWELLING IN ACCORDANCE WITH NFPA 13R 2019 EDITION AND LOCAL AUTHORITY.

**GENERAL NOTES**

- ALL PIPING AND SPRINKLERS SHALL BE U.L. LISTED AND/OR F.M. APPROVED, AND SHALL BE NEW AND FREE OF DEFECTS.
- HANGER TYPES AND SPACING SHALL BE INSTALLED PER NFPA 13R AND MANUFACTURER'S LISTING.
- SPRINKLER LOCATIONS AND SPACING PER NFPA 13R AND MANUFACTURER'S LISTING. ANY AND ALL ALARM SYSTEM WIRING AND INSTALLATION IS BY OTHERS.
- ALL DRILLING AND BORING OF HOLES SHALL BE DONE IN STRICT ACCORDANCE WITH THE STRUCTURAL ENGINEER'S REQUIREMENTS. DO NOT UNDER ANY CIRCUMSTANCES CUT OR MODIFY PRE-MANUFACTURED TRUSSES.
- INSTALLER SHALL VERIFY FINISH CEILING ELEVATION, OBSTRUCTIONS, LIGHT FIXTURES, CABINETS, ETC PRIOR TO INSTALLATION OF SPRINKLER HEADS.
- ALL PENETRATIONS THROUGH FIRE RATED ASSEMBLIES SHALL BE FIRE STOPPED. FIRE STOPPING MATERIAL SHALL BE INSTALLED PER MANUFACTURER'S INSTRUCTION BY OTHERS.
- SPRINKLER PIPE SIZING HAS BEEN ESTABLISHED BY HYDRAULIC CALCULATIONS. IT IS THE OWNER'S RESPONSIBILITY TO PROVIDE A RELIABLE WATER SUPPLY THAT IS CAPABLE OF MEETING THE MOST DEMANDING AREA.

**PROJECT DETAILS**  
NFPA CODE: 13R 2019  
SYSTEM TYPE: WET SYSTEM  
PIPE TYPE: BUZMASTER PVC  
MAX SPRINKLER SPACING REQUIREMENTS: 16'x16' @ 13 GPM, 16'x16' @ 17 GPM (1 HEAD RM.)  
MINIMUM SPRINKLER SPACING: 8' BETWEEN SPRINKLERS  
MINIMUM DESIGN DENSITY: 0.05 GPM/SQ.FT.

**NFPA & AHJ REQUIREMENTS**

- THE DESIGN DISCHARGE SHALL BE ALL OF THE SPRINKLERS WITHIN A SINGLE COMPARTMENT, UP TO A MAXIMUM OF FOUR SPRINKLERS, THAT REQUIRE THE GREATEST HYDRAULIC DEMAND.
- SPRINKLERS SHALL NOT BE REQUIRED IN BATHROOMS OF 55 SQ. FT. AND LESS.
- SPRINKLERS SHALL NOT BE REQUIRED IN CLOTHES CLOSETS, LINEN CLOSETS, AND PANTRIES THAT DO NOT EXCEED 24 SQ. FT. AND HAVE WALLS AND CEILING SURFACES WITH NONCOMBUSTIBLE OR LIMITED COMBUSTIBLE MATERIALS.
- SPRINKLERS SHALL NOT BE REQUIRED IN ATTICS OR CRAWL SPACES.
- SPRINKLER HEADS SHALL BE AT LEAST 3 FT. AWAY FROM CEILING FANS AND SURFACE MOUNTED LIGHT FIXTURES.
- ALL SPRINKLERS SHALL MAINTAIN THE MINIMUM REQUIRED DISTANCES FROM HEAT SOURCES IN ACCORDANCE WITH NFPA 13R.
- SPRINKLER HEADS UNDER SLOPE CEILINGS TO BE MEASURED ALONG THE SLOPE.

**CPVC FIRE SPRINKLER PIPE GUIDELINES**

INSTALLING CONTRACTOR TO PROVIDE AN INSTALLATION THAT IS IN 100% COMPLIANCE WITH THESE GUIDELINES. RESIDENTIAL DESIGN CANNOT BE RESPONSIBLE FOR THE WILLFUL OR NEGLIGENT ACTIONS OF OTHER PARTIES THAT DO NOT FOLLOW THE BELOW GUIDELINES.

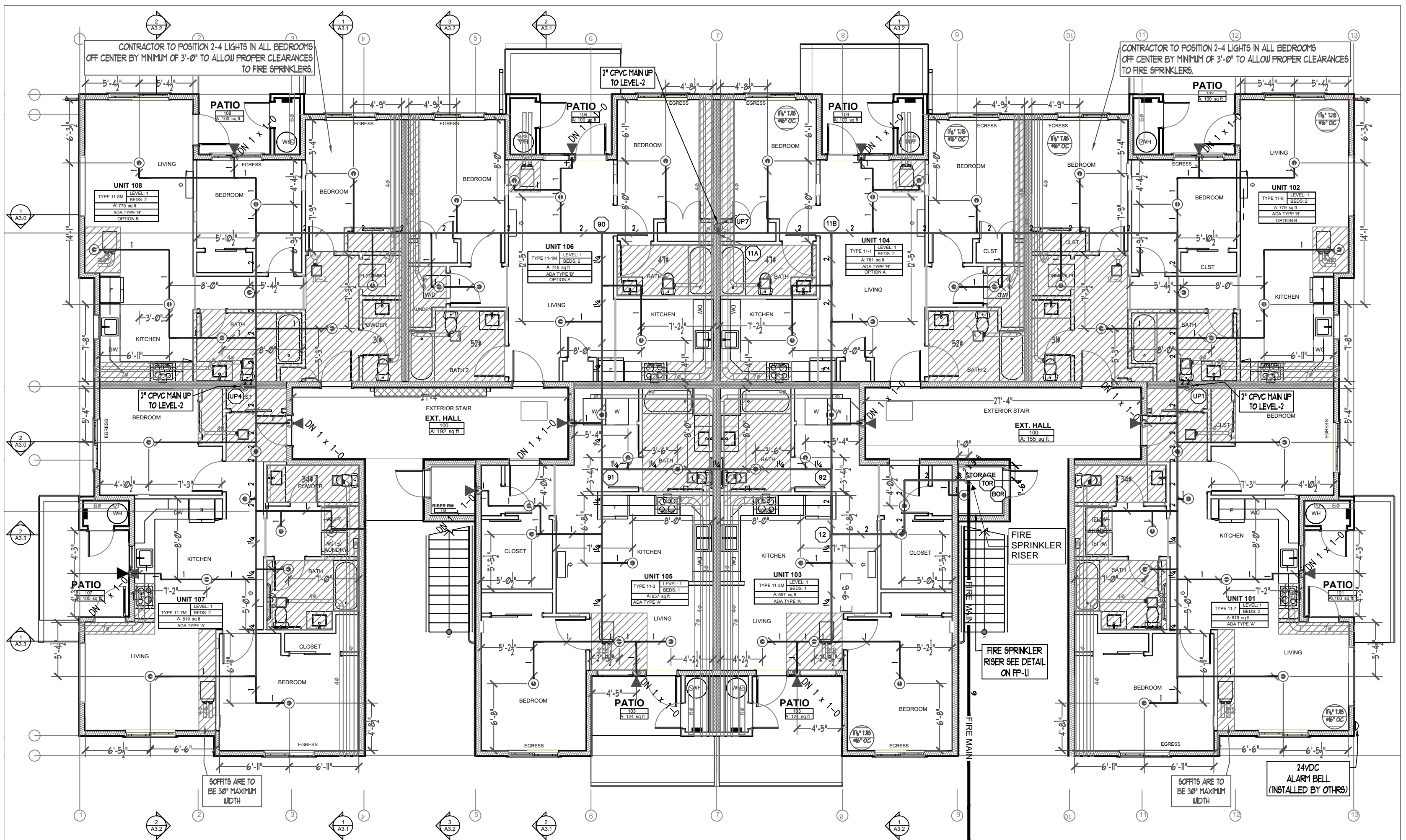
THESE GUIDELINES ARE:

- DO NOT STACK, SUPPORT, HANG EQUIPMENT, OR HANG FLEXIBLE WIRE/CABLE, ESPECIALLY COMMUNICATIONS CABLE, OR OTHER MATERIAL ON THE FIRE SPRINKLER. DO NOT EXPOSE CPVC PRODUCTS TO INCOMPATIBLE SUBSTANCES, SUCH AS CUTTING OILS, NON-WATER-BASED PAINTS, PACKING OILS, TRADITIONAL PIPE THREAD PASTE AND DOPE, FUNGICIDES, TERMITICIDES, INSECTICIDES, DETERGENTS, BULKY GROUTS, ADHESIVE TAPE, SOLDER FLUX, FLEXIBLE WIRE/CABLE (WITH SPECIAL CONSIDERATION FOR COMMUNICATIONS CABLE), AND NON-APPROVED SPRAY FOAM INSULATION MATERIALS.
- DO NOT EXPOSE CPVC PRODUCTS TO EDIBLE OILS, SOLVENTS, OR GLYCOL-BASED ANTI-FREEZE FLUIDS.
- DO NOT EXPOSE CPVC PRODUCTS TO OPEN FLAME, SOLDER, AND SOLDERING FLUX.
- DO NOT DROP, DISTORT, OR IMPACT CPVC PRODUCTS OR ALLOW OBJECTS TO BE DROPPED ON THEM.
- DO NOT HANDLE CPVC PRODUCTS WITH GLOVES CONTAMINATED WITH OILS (HYDROCARBONS) OR OTHER INCOMPATIBLE MATERIALS.
- DO NOT INJECT SYSTEM WITH M.I.C. INHIBITORS UNLESS THEY ARE LISTED IN COMBINATION WITH THIS SYSTEM.

FAILURE TO FOLLOW THIS NOTICE MAY CAUSE CRACKS OR FRACTURES TO DEVELOP IN CPVC PRODUCTS RESULTING IN PROPERTY DAMAGE DUE TO LEAKS OR FLOODING. THE PRESENCE OF ANY VISIBLE CRACKS MAY REQUIRE PARTIAL OR FULL SYSTEM REPLACEMENT.

**FREEZE PROTECTION**

THIS SYSTEM IS A WET SYSTEM. PRECAUTION MUST BE TAKEN TO PROTECT THE PIPING FROM EXTREME FREEZING TEMPERATURES. IT IS THE RESPONSIBILITY OF THE OWNER AND INSULATION INSTALLER TO ENSURE SUFFICIENT INSULATION IS PROVIDED AND INSTALLED CORRECTLY TO MAINTAIN ALL PIPING AT 40 DEG MINIMUM IN ALL AREAS. THE METHOD TO ACHIEVE THIS CONTROL OF TEMPERATURE SHALL BE IN ACCORDANCE WITH NFPA 13R. DESIGNER AND ENGINEER OF RECORD WILL NOT BE RESPONSIBLE FOR ANY FREEZING PIPE OR DAMAGE CAUSED BY FREEZING PIPING.



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

CONTRACTOR TO POSITION 2-4 LIGHTS IN ALL BEDROOMS OFF CENTER BY MINIMUM OF 3'-0" TO ALLOW PROPER CLEARANCES TO FIRE SPRINKLERS.

CONTRACTOR TO POSITION ALL COMMON SPACE LIGHTING IN ACCORDANCE WITH NFPA 13

DROPPED CEILING

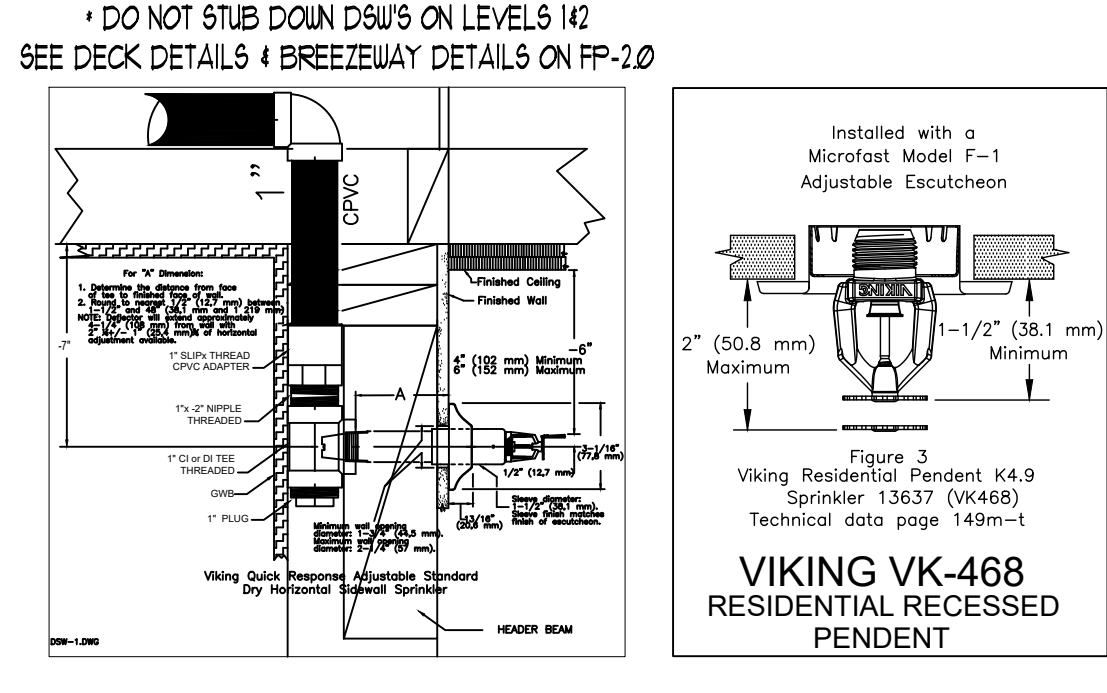
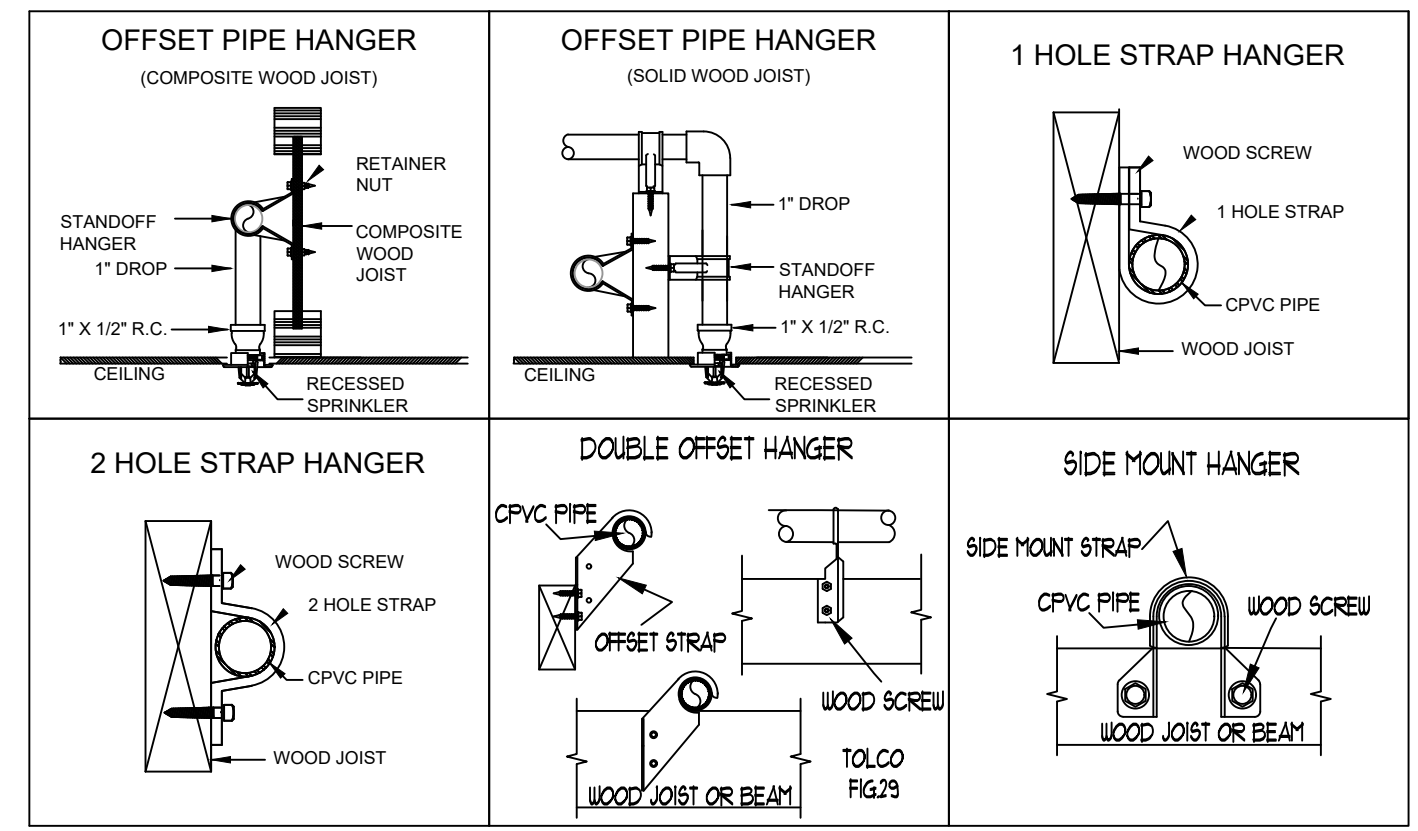
**TABLE 1**  
MAXIMUM SUPPORT SPACING DISTANCE  
END LINE SPRINKLER HEAD DROP ELBOW

PIPE SIZE Inches	SYSTEM PRESSURE	
	< 100 psi	> 100 psi
3/4"	9"	6"
1"	12"	9"
1 1/4"	16"	12"
1 1/2" - 3"	24"	12"

**TABLE 2**  
SOR 135 / ASTM F440  
HANGER SPACING

PIPE SIZE Inches	MAX SPACING Feet	
	NOMINAL SIZE	MAX SPACING
3/4"	55"	(17)
1"	67"	(20)
1 1/4"	87"	(26)
1 1/2"	107"	(32)
2"	137"	(41)
2 1/2"	167"	(51)
3"	207"	(63)

CPVC HANGER SCHEDULE AND DETAIL



**SPRINKLER HEAD SCHEDULE**

SYMBOL	COUNT	THREAD	K-FACTOR	DESCRIPTION	NOTE
⊙	211	1/2"	4.9	HEAD1= VIKING VK468 WHITE RESIDENTIAL RECESSED PENDENT 175F.	on Drop
◀	44	1"	5.6	SIDE1= VIKING VK178 QR CHROME DRY HORIZONTAL SIDEWALL 200F.	
255 = TOTAL NUMBER OF HEADS BUILDING H					

**SPRINTX FIRE PROTECTION**  
2709 ANNA AVE. NW, SUITE 102  
COVINGTON, WA 98305  
EST. 1999  
Phone: 253-835-9990

**EAST TOWN CROSSING BUILDING H**  
PROJECT: 2902 E PIONEER  
ADDRESS: PUYALLUP, WA 98372  
CITY: PUYALLUP, WA 98372  
TITLE: FIRE SPRINKLER LEVELS 1 & 2 DRAWING

BY: [Signature]  
DATE: 01/06/2025  
DRAWN: AJP

REVISIONS  
DISCREPANCY  
DATE

GENERAL: MKM LEGACY LLC  
ADDRESS: 7809 PACIFIC AVE  
CITY: TACOMA, WA 98408  
SUPER: ADAM RAYGOR  
JOB PHONE: 253-961-9976

FIELD INSPECTIONS  
NAME: CITY OF PUYALLUP  
PHONE: (253) 864-4165

STANDARD SYMBOLS  
Pipe Compling  
Pipe Drop  
Pipe Rise  
Pipe End Cap  
2-WAY EARTHQUAKE BRACE  
4-WAY EARTHQUAKE BRACE  
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Hydraulic Reference Points  
Elev. Below Top of Steel  
Elev. Above Finished Floor  
Ceiling Height

WA. STATE LEVEL 3 STAMP  
WASHINGTON STATE  
CERTIFICATE OF COMPETENCY  
FIRE SPRINKLER SYSTEMS  
Joseph G. Faulkner  
9491-0999-CEG Level 3  
Sprintx Fire Protection, Inc.  
SPRINF0111LS  
Joseph G. Faulkner  
Signature Date

Project No: 24-093CM  
Sheet Title: DECK-H LEVELS 1 & 2  
Sheet Number: BLND

**FP-2.0**  
File Name: ETC Building H.dwg

**City of Puyallup**  
Development & Permitting Services  
**ISSUED PERMIT**

Building Planning  
Engineering Public Works  
Fire Traffic

**Hydraulically Calculated System**

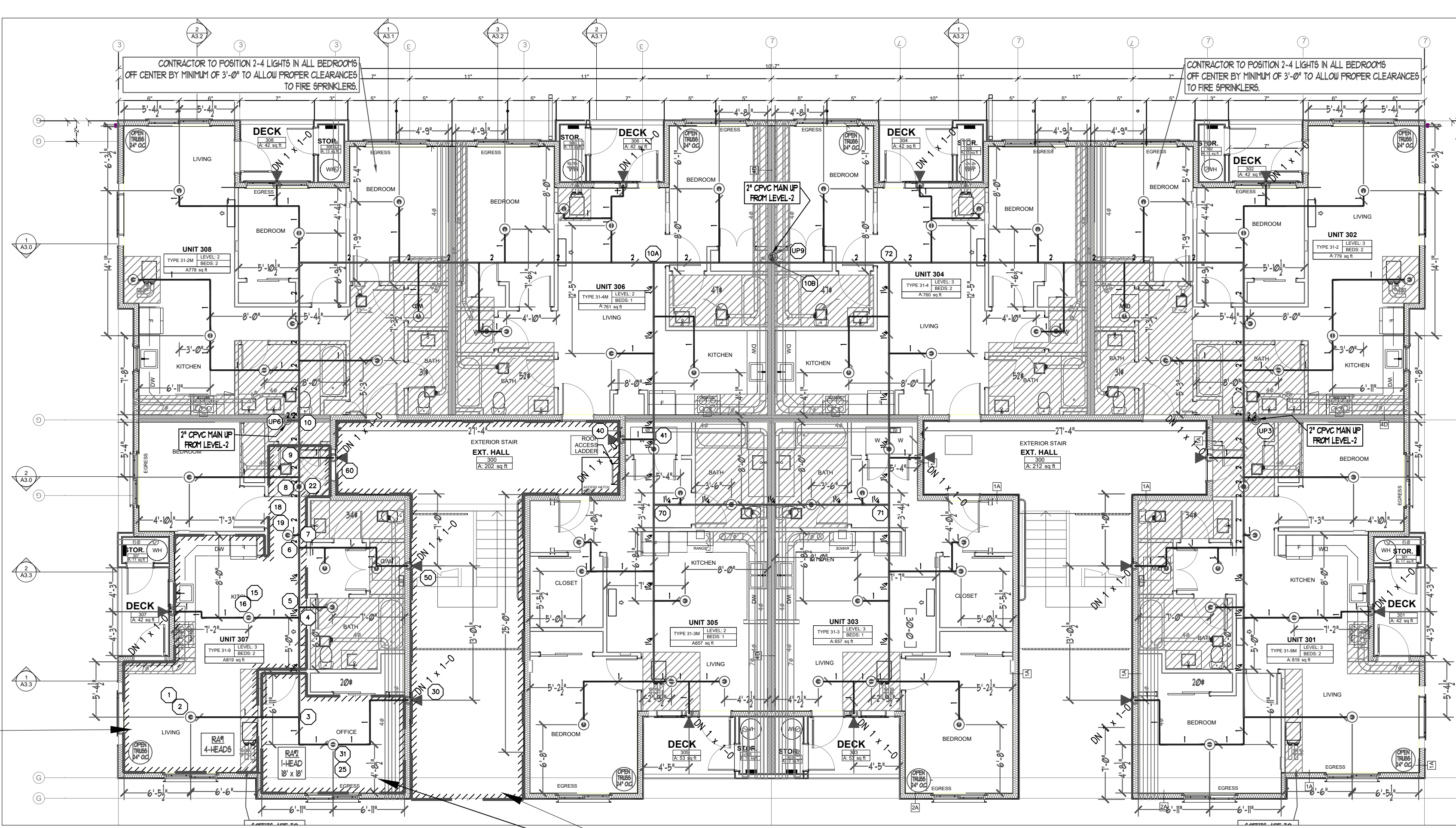
This system as shown on **SPRINX FIRE PROTECTION** company print no. **FP-3.0** dated **01/06/2025** for **REMOTE AREA 01 - LEVEL-3 UNIT 307** at **ETC APTS. BUILDING-H** contract no. **24-093CM** is designed to discharge at a rate of **0.05** GPM (L/min) per sq ft (m<sup>2</sup>) of floor area over a maximum area of **16' x 16' MAX SPACING** sq ft (m<sup>2</sup>) when supplied with water at the rate of **54.146** GPM (L/min) at **23.687** psi (bars) at the base of the riser. Hose stream allowance of **0** GPM (L/min) is included in the above.

Occupancy Classification: **NFPA-13R (2019)**  
Commodity Classification: **N/A**  
Maximum Storage Height: **N/A**  
Installed By: **SPRINX FIRE PROTECTION, INC.**

**Hydraulic Calculation Data**

Design Area Number: RA#1  
Design Area Location: LEVEL-3 UNIT 307  
Hazard/Occupancy: RESIDENTIAL NFPA 13R  
Design Density: 0.05  
Design Area: 256  
Number of Sprinklers in Design Area: 4

System Flow: 54.146 @ TEST  
System Pressure: 31,268 SAFETY FACTOR = 8.70 PSI @ 21.8%  
Hose Allowance (Included): 0



**LEVEL-3 FIRE SPRINKLER PLAN**  
SCALE: 1/8" = 1'-0"  
PROJECT NORTH

**Hydraulically Calculated System**

This system as shown on **SPRINX FIRE PROTECTION** company print no. **FP-3.0** dated **01/06/2025** for **REMOTE AREA 02 - LEVEL-3 UNIT 307 BEDROOM** at **ETC APTS. BUILDING-H** contract no. **24-093CM** is designed to discharge at a rate of **0.05** GPM (L/min) per sq ft (m<sup>2</sup>) of floor area over a maximum area of **18' x 18' MAX SPACING** sq ft (m<sup>2</sup>) when supplied with water at the rate of **17.00** GPM (L/min) at **25.292** psi (bars) at the base of the riser. Hose stream allowance of **0** GPM (L/min) is included in the above.

Occupancy Classification: **NFPA-13R (2019)**  
Commodity Classification: **N/A**  
Maximum Storage Height: **N/A**  
Installed By: **SPRINX FIRE PROTECTION, INC.**

**Hydraulic Calculation Data**

Design Area Number: RA#2  
Design Area Location: LEVEL-3 UNIT 307 BEDROOM  
Hazard/Occupancy: RESIDENTIAL NFPA 13R  
Design Density: 0.05  
Design Area: 324  
Number of Sprinklers in Design Area: 1

System Flow: 17.00 @ TEST  
System Pressure: 33,368 SAFETY FACTOR = 6.63 PSI @ 16.6%  
Hose Allowance (Included): 0

**Hydraulically Calculated System**

This system as shown on **SPRINX FIRE PROTECTION** company print no. **FP-3.0** dated **01/06/2025** for **REMOTE AREA 03 - LEVEL-3 SOUTH STAIRWELL** at **ETC APTS. BUILDING-H** contract no. **24-093CM** is designed to discharge at a rate of **0.10** GPM (L/min) per sq ft (m<sup>2</sup>) of floor area over a maximum area of **4 HEAD SIDEWALL CALC** sq ft (m<sup>2</sup>) when supplied with water at the rate of **62.932** GPM (L/min) at **25.453** psi (bars) at the base of the riser. Hose stream allowance of **0** GPM (L/min) is included in the above.

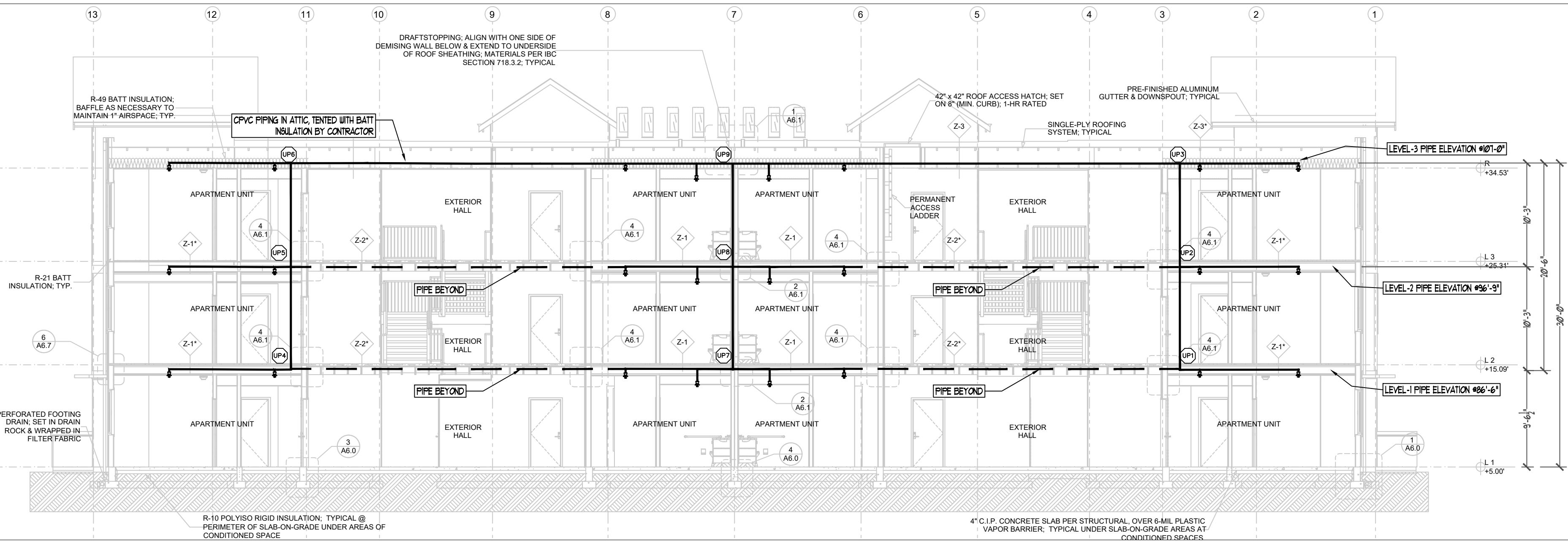
Occupancy Classification: **NFPA-13R (2019)**  
Commodity Classification: **N/A**  
Maximum Storage Height: **N/A**  
Installed By: **SPRINX FIRE PROTECTION, INC.**

**Hydraulic Calculation Data**

Design Area Number: RA#3  
Design Area Location: LEVEL-3 SOUTH STAIRWELL  
Hazard/Occupancy: LIGHT HAZARD  
Design Density: 0.10  
Design Area: 273sqft  
Number of Sprinklers in Design Area: 4

System Flow: 62.932  
System Pressure: 32,957 SAFETY FACTOR = 7.00 PSI @ 17.5%  
Hose Allowance (Included): 0

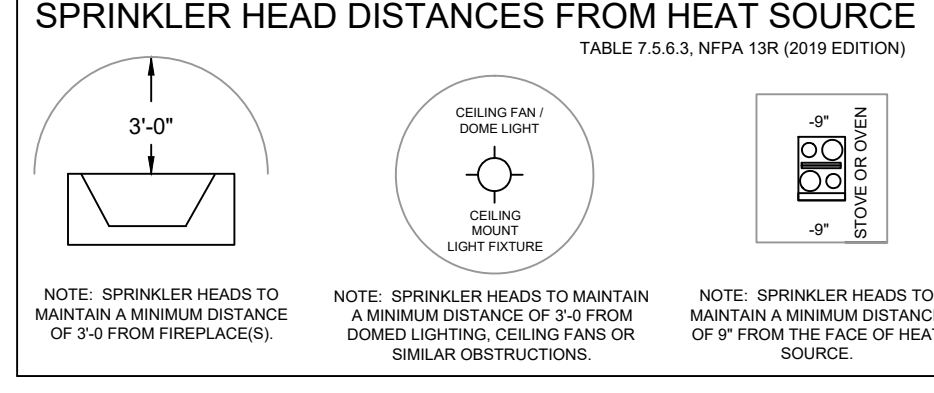
**DROPPED CEILING**



**BUILDING SECTION 2**  
SCALE: 1/8" = 1'-0"

**MINIMUM DISTANCES FROM HEAT SOURCES**

Side of Open or Recessed Fireplace	60"	36"
Front of Recessed Fireplace	42"	12"
Coal or Wood-Burning Stove	18"	9"
Kitchen Range	18"	9"
Wall Oven	18"	9"
Hot Air Flues	18"	9"
Uninsulated Heat Ducts	18"	9"
Uninsulated Hot Water Pipes	12"	6"
Side of Ceiling or Wall Mounted Hot Air Diffusers	24"	12"
Front of Wall-Mounted Hot Air Diffusers	36"	18"
Hot Water Heater or Furnace	6"	3"
Light Fixture	6"	3"
0W - 250W	6"	3"
250W - 400W	12"	6"



**RESIDENTIAL PENDENT SPRINKLER OBSTRUCTION**

Distance from Sprinklers to Side of Obstruction

Distance	Maximum Allowable Distance of Deflector Above Bottom of Obstruction
Less than 1 foot	0
1 FT TO LESS THAN 1 FT 6 IN	0
1 FT 6 IN TO LESS THAN 2 FT	1
2 FT TO LESS THAN 2 FT 6 IN	1
2 FT 6 IN TO LESS THAN 3 FT	3
3 FT TO LESS THAN 3 FT 6 IN	3
3 FT 6 IN TO LESS THAN 4 FT	5
4 FT TO LESS THAN 4 FT 6 IN	7
4 FT 6 IN TO LESS THAN 5 FT	7
5 FT TO LESS THAN 5 FT 6 IN	9
5 FT 6 IN TO LESS THAN 6 FT	9
6 FT TO LESS THAN 6 FT 6 IN	11
6 FT 6 IN TO LESS THAN 7 FT	11
7 FT OR GREATER	14

**Note-Minimum Cure Prior To Pressure Testing (200 PSI)**

Pipe Size	Ambient Temperature During Cure Period
3/4"	60 TO 120 Deg. F   40 TO 59 Deg. F   10 TO 39 Deg. F
1"	45 MINUTES   1 1/2 HOURS   24 HOURS
1 1/4" & 1 1/2"	1 1/2 HOURS   16 HOURS   120 HOURS
2"	6 HOURS   36 HOURS   *
2 1/2" & 3"	8 HOURS   72 HOURS   *

\* Solvent Cement can be applied at a temperature below 40 deg. F for 2" and larger, however the temperature of the system must be raised to 40 deg. F or higher and allowed to cure per the above recommendations prior to pressure testing. When bringing cement, pipe or fittings in from the outside, let them be brought up to room temperature before using the 60 to 120 deg. F cure schedule.

**SCOPE OF WORK**

INSTALL AUTOMATIC WET FIRE SPRINKLER SYSTEM FOR MULTI-FAMILY DWELLING IN ACCORDANCE WITH NFPA 13R 2019 EDITION AND LOCAL AUTHORITY.

**GENERAL NOTES**

- ALL PIPING AND SPRINKLERS SHALL BE U.L. LISTED AND/OR F.M. APPROVED AND SHALL BE NEW AND FREE OF DEFECTS.
- HANGER TYPES AND SPACING SHALL BE INSTALLED PER NFPA 13R AND MANUFACTURER'S LISTING.
- SPRINKLER LOCATIONS AND SPACING PER NFPA 13R AND MANUFACTURER'S LISTING. ANY AND ALL ALARM SYSTEM WIRING AND INSTALLATION IS BY OTHERS.
- ALL DRILLING AND ROOFING OF HOLES SHALL BE DONE IN STRICT ACCORDANCE WITH THE STRUCTURAL ENGINEER'S REQUIREMENTS. DO NOT UNDER ANY CIRCUMSTANCES CUT OR MODIFY PRE-MANUFACTURED TRUSSES.
- INSTALLER SHALL VERIFY FINISH CEILING ELEVATION, OBSTRUCTIONS, LIGHT FIXTURES, CABINETS, ETC. PRIOR TO INSTALLATION OF SPRINKLER HEADS.
- ALL PENETRATIONS THROUGH FIRE RATED ASSEMBLIES SHALL BE FIRE STOPPED. FIRE STOPPING MATERIAL SHALL BE INSTALLED PER MANUFACTURER'S INSTRUCTION BY OTHERS.
- SPRINKLER PIPE SIZING HAS BEEN ESTABLISHED BY HYDRAULIC CALCULATIONS. IT IS THE OWNER'S RESPONSIBILITY TO PROVIDE A RELIABLE WATER SUPPLY THAT IS CAPABLE OF MEETING THE MOST DEMANDING AREA.

**PROJECT DETAILS**

NFPA CODE: 13R 2019  
SYSTEM TYPE: WET SYSTEM  
PIPE TYPE: BLAZEMASTER CPVC  
MAX SPRINKLER SPACING REQUIREMENTS: 16'x16' @ 13 GPM, 18'x18' @ 17 GPM (1 HEAD RM.)  
MINIMUM SPRINKLER SPACING: 8' BETWEEN SPRINKLERS  
MINIMUM DESIGN DENSITY: 0.05 GPM/SQ.FT.

**NFPA & AHJ REQUIREMENTS**

- THE DESIGN DISCHARGE SHALL BE ALL OF THE SPRINKLERS WITHIN A SINGLE COMPARTMENT, UP TO A MAXIMUM OF FOUR SPRINKLERS, THAT REQUIRE THE GREATEST HYDRAULIC DEMAND.
- SPRINKLERS SHALL NOT BE REQUIRED IN BATHROOMS OF 55 SQ. FT. AND LESS.
- SPRINKLERS SHALL NOT BE REQUIRED IN CLOSETS, LINEN CLOSETS, AND PANTRIES THAT DO NOT EXCEED 24 SQ. FT. AND HAVE WALLS AND CEILING SURFACES WITH NONCOMBUSTIBLE OR LIMITED COMBUSTIBLE MATERIALS.
- SPRINKLERS SHALL NOT BE REQUIRED IN ATTICS OR CRAWL SPACES.
- SPRINKLER HEADS SHALL BE AT LEAST 3 FT. AWAY FROM CEILING FANS AND SURFACE MOUNTED LIGHT FIXTURES.
- ALL SPRINKLERS SHALL MAINTAIN THE MINIMUM REQUIRED DISTANCES FROM HEAT SOURCES IN ACCORDANCE WITH NFPA 13R.
- SPRINKLER HEADS UNDER SLOPE CEILINGS TO BE MEASURED ALONG THE SLOPE.

**CPVC FIRE SPRINKLER PIPE GUIDELINES**

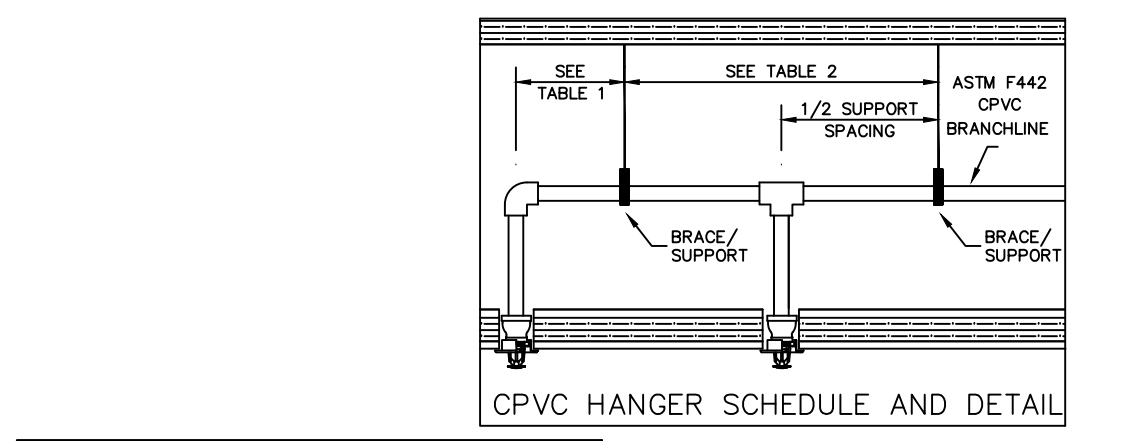
INSTALLING CONTRACTOR TO PROVIDE AN INSTALLATION THAT IS IN 100% COMPLIANCE WITH THESE GUIDELINES. RESIDENTIAL DESIGN CANNOT BE RESPONSIBLE FOR THE WILLFUL OR NEGLIGENT ACTIONS OF OTHER PARTIES THAT DO NOT FOLLOW THE BELOW GUIDELINES.

THESE GUIDELINES ARE:

- DO NOT STACK, SUPPORT, HANG EQUIPMENT, OR HANG FLEXIBLE WIRE/CABLE, ESPECIALLY COMMUNICATIONS CABLE, OR OTHER MATERIAL ON THE FIRE SPRINKLER.
- DO NOT EXPOSE CPVC PRODUCTS TO INCOMPATIBLE SUBSTANCES, SUCH AS CUTTING OILS, NON-WATER-BASED PAINTS, PACKING OILS, TRADITIONAL PIPE THREAD PASTE AND DOPE, FUNGICIDES, TERMITICIDES, INSECTICIDES, DETERGENTS, BULKING CAULKING, ADHESIVE TAPE, SOLDER FLUX, FLEXIBLE WIRE/CABLE (WITH SPECIAL CONSIDERATION FOR COMMUNICATIONS CABLEING), AND NON-APPROVED SPRAY FOAM INSULATION MATERIALS.
- DO NOT EXPOSE CPVC PRODUCTS TO EDIBLE OILS, SOLVENTS, OR GLYCOL-BASED ANTI-FREEZE FLUIDS.
- DO NOT EXPOSE CPVC PRODUCTS TO OPEN FLAME, SOLDER, AND SOLDERING FLUX.
- DO NOT DROP, DISTORT, OR IMPACT CPVC PRODUCTS OR ALLOW OBJECTS TO BE DROPPED ON THEM.
- DO NOT HANDLE CPVC PRODUCTS WITH GLOVES CONTAMINATED WITH OILS (HYDROCARBONS) OR OTHER INCOMPATIBLE MATERIALS.
- DO NOT INJECT SYSTEM WITH M.I.C. INHIBITORS UNLESS THEY ARE LISTED IN COMBINATION WITH THIS SYSTEM.
- FAILURE TO FOLLOW THIS NOTICE MAY CAUSE CRACKS OR FRACTURES TO DEVELOP IN CPVC PRODUCTS RESULTING IN PROPERTY DAMAGE DUE TO LEAKS OR FLOODING. THE PRESENCE OF ANY VISIBLE CRACKS MAY REQUIRE PARTIAL OR FULL SYSTEM REPLACEMENT.

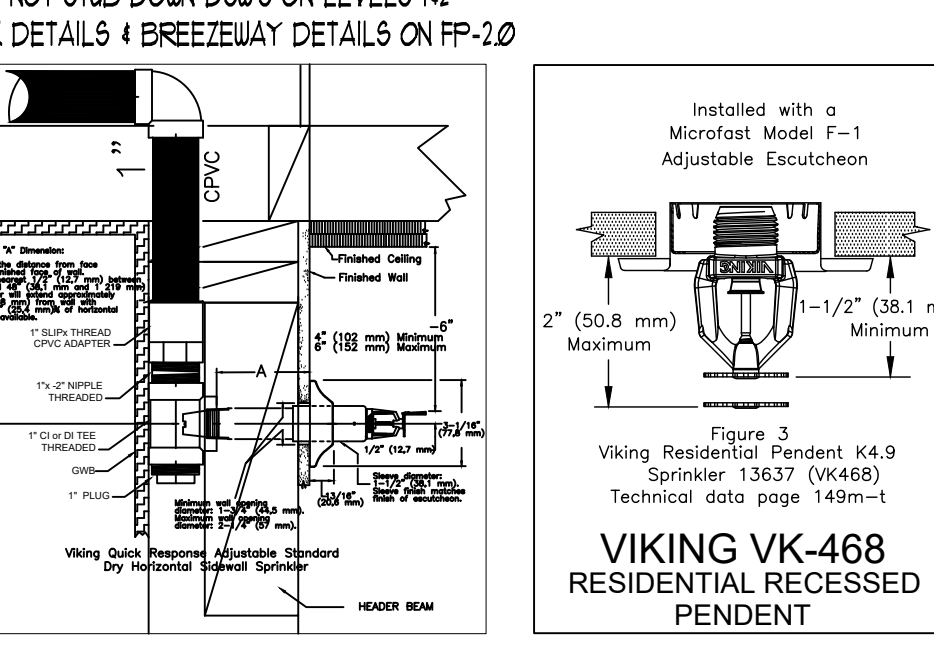
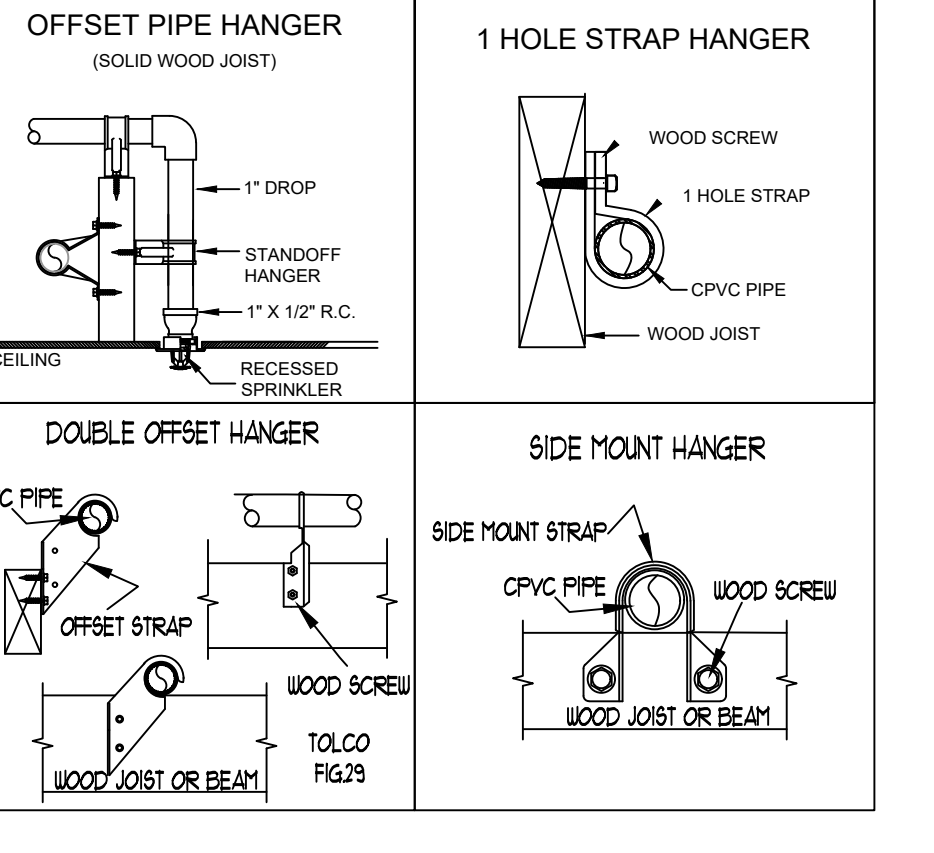
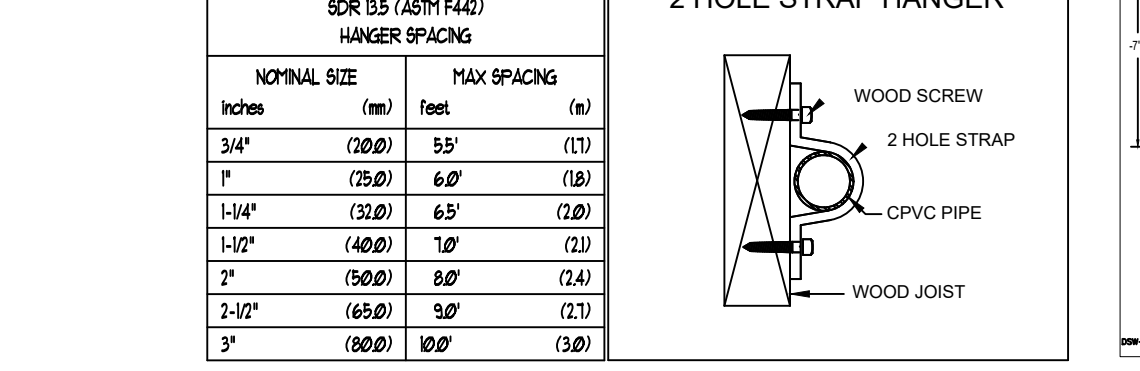
**FREEZE PROTECTION**

THIS SYSTEM IS A WET SYSTEM. PRECAUTION MUST BE TAKEN TO PROTECT THE PIPING FROM EXTREME FREEZING TEMPERATURES. IT IS THE RESPONSIBILITY OF THE OWNER AND INSULATION INSTALLER TO ENSURE SUFFICIENT INSULATION IS PROVIDED AND INSTALLED CORRECTLY TO MAINTAIN ALL PIPING AT 40 DEG MINIMUM IN ALL AREAS. THE METHOD TO ACHIEVE THIS CONTROL OF TEMPERATURE SHALL BE IN ACCORDANCE WITH NFPA 13R. DESIGNER AND ENGINEER OF RECORD WILL NOT BE RESPONSIBLE FOR ANY FREEZING PIPE OR DAMAGE CAUSED BY FREEZING PIPING.



**TABLE 1**  
MAXIMUM SUPPORT SPACING DISTANCE  
END LINE SPRINKLER HEAD DROP ELBOW

PIPE SIZE INCHES	SYSTEM PRESSURE	
	< 100 psi	> 100 psi
3/4"	9"	6"
1"	12"	9"
1 1/4"	16"	12"
1 1/2"-3"	24"	12"



**SPRINKLER HEAD SCHEDULE**

SYMBOL	COUNT	THREAD	K-FACTOR	DESCRIPTION	NOTE
⊙	211	1/2"	4.9	HEAD1= VIKING VK468 WHITE RESIDENTIAL RECESSED PENDENT 175F.	on Drop
◀	44	1"	5.6	SIDE1= VIKING VK178 QR CHROME DRY HORIZONTAL SIDEWALL 200F.	

255 = TOTAL NUMBER OF HEADS BUILDING H

**PROJECT** EAST TOWN CROSSING BUILDING H  
**ADDRESS** 2902 E PIONEER  
**CITY** PUYALLUP, WA 98372  
**TITLE** FIRE SPRINKLER LEVEL 3 DRAWING

**REVISIONS**

NO.	DATE	DESCRIPTION
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**STANDARD SYMBOLS**

Symbol	Meaning
⊙	Pipe Drop
⊙	Pipe Rise
⊙	Pipe End Cap
⊙	2-WAY EARTHQUAKE BRACE
⊙	4-WAY EARTHQUAKE BRACE
⊙	PIPE HANGER
⊙	Hydraulic Reference Points
⊙	Elev. Below Top of Steel
⊙	Elev. Above Finished Floor
⊙	CEILING HEIGHT

**WA. STATE LEVEL 3 STAMP**

Expire: 12/31/25

**WASHINGTON STATE CERTIFICATE OF COMPETENCY FIRE SPRINKLER**

Joseph G. Faulkner  
9491-0999-CEG Level 3  
Sprinx Fire Protection, Inc.  
SPRINXFP011LS

Joseph G. Faulkner  
Signature  
Date

Project No: 24-093CM  
Sheet Title: BLDG-H LEVELS 3  
Sheet Number: FP-3.0

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

File Name: ETC Building H.dwg