

FIRE SPRINKLER PLAN - FIRST FLOOR
 SCALE: 1/8"=1'
 AREA PROTECTED: 956 SQ.FT.
 FINISH FLOOR ELEVATION : 50.0'
 COLOR CODE: YELLOW

FIRE SPRINKLER PLAN - SECOND FLOOR
 SCALE: 1/8"=1'
 AREA PROTECTED: 956 SQ.FT.
 FINISH FLOOR ELEVATION : 61.66'
 COLOR CODE: YELLOW

FIRE SPRINKLER PLAN - THIRD FLOOR
 SCALE: 1/8"=1'
 AREA PROTECTED: 956 SQ.FT.
 FINISH FLOOR ELEVATION : 75.66'
 COLOR CODE: YELLOW

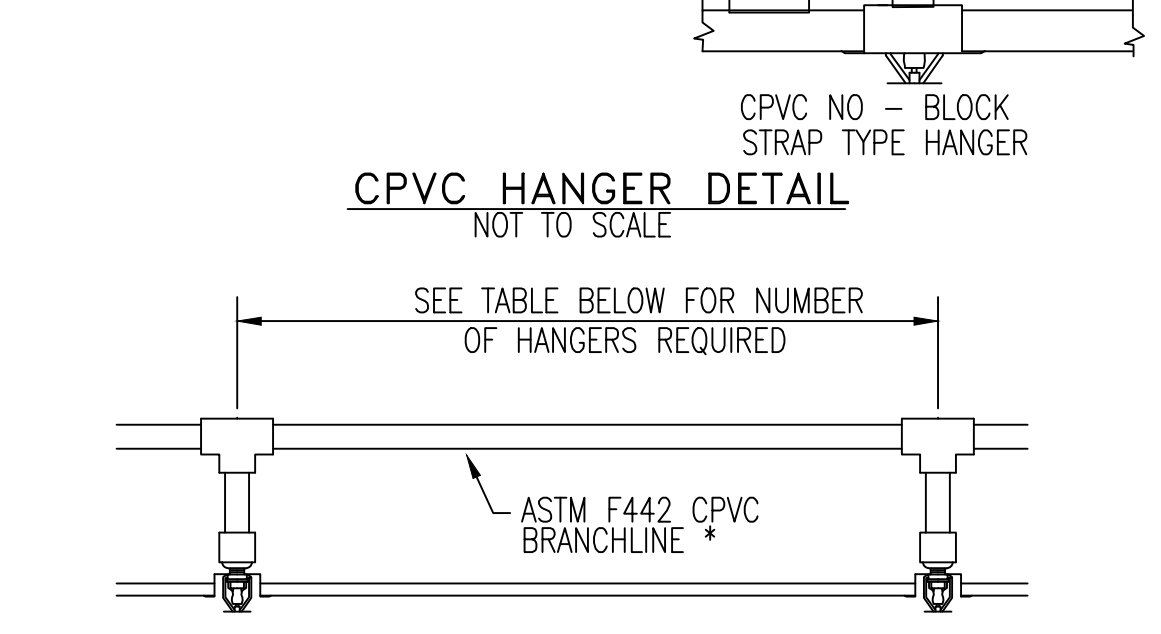
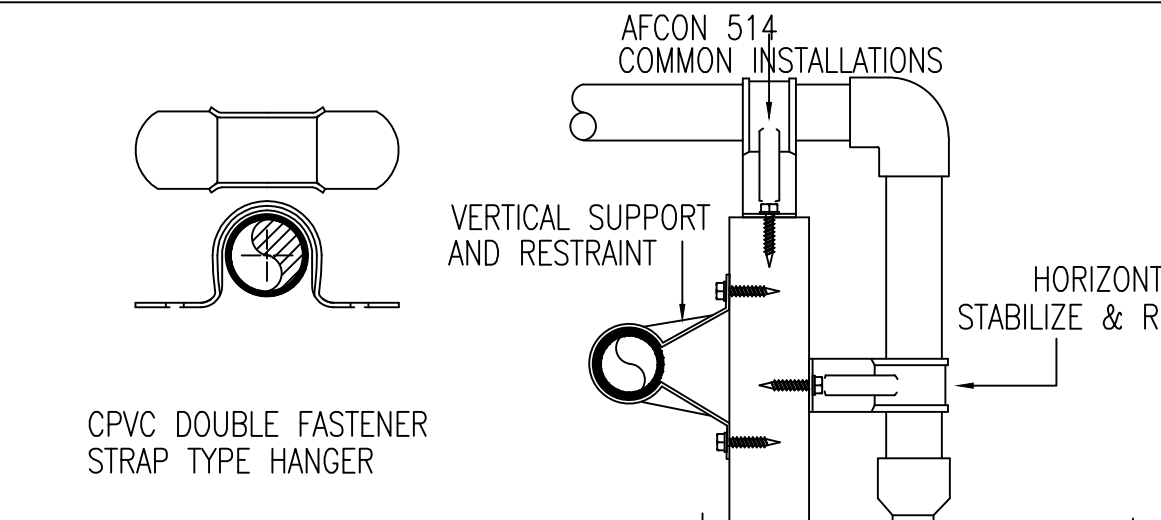
FIRE SPRINKLER PLAN - ROOF
 SCALE: SCALE
 AREA PROTECTED: 956 SQ.FT.
 FINISH FLOOR ELEVATION : 92.66'
 COLOR CODE: YELLOW

Symbol	Count	Thread	K-Factor	Description	Note
⊙	4	1/2"	4.9	RELIABLE F1RES49 WHITE RECESSED PENDENT	on Drop
○	3	1/2"	5.6	RELIABLE F1FR56 BRASS UPRIGHT 200"	
◀	1	1/2"	4.4	RELIABLE F1RES44 WHITE RECESSED HORIZONTAL SIDEWALL SIN#	Sidewall
◁	1	1/2"	4.4	RELIABLE F3RES44 DRY RECESSED HORIZONTAL SIDEWALL 4.4K 155' SIN#RA5231	
9 = Total Number of Heads This Floor					

Symbol	Count	Thread	K-Factor	Description	Note
⊙	5	1/2"	4.9	RELIABLE F1RES49 WHITE RECESSED PENDENT	on Drop
◁	1	1/2"	4.4	RELIABLE F3RES44 DRY RECESSED HORIZONTAL SIDEWALL 4.4K 155' SIN#RA5231	
6 = Total Number of Heads This Floor					

Symbol	Count	Thread	K-Factor	Description	Note
⊙	5	1/2"	4.9	RELIABLE F1RES49 WHITE RECESSED PENDENT	on Drop
◁	1	1/2"	4.4	RELIABLE F3RES44 DRY RECESSED HORIZONTAL SIDEWALL 4.4K 155' SIN#RA5231	
6 = Total Number of Heads This Floor					

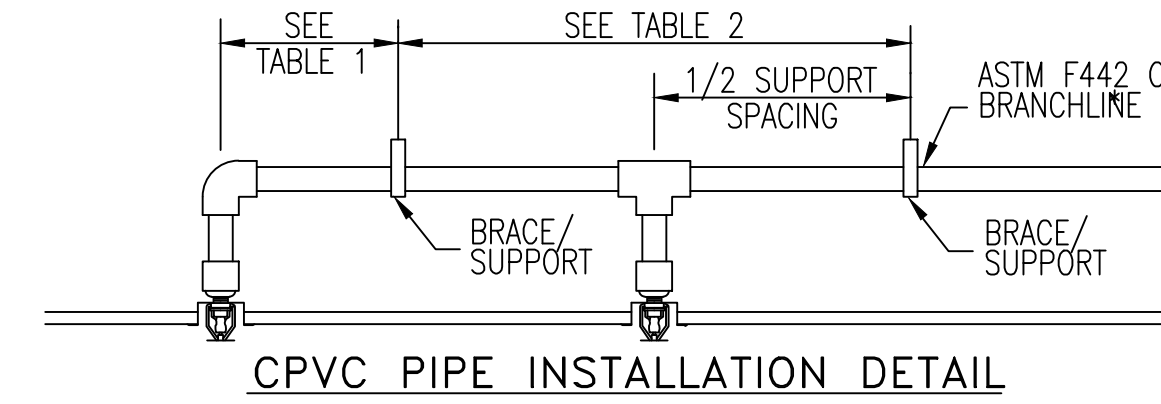
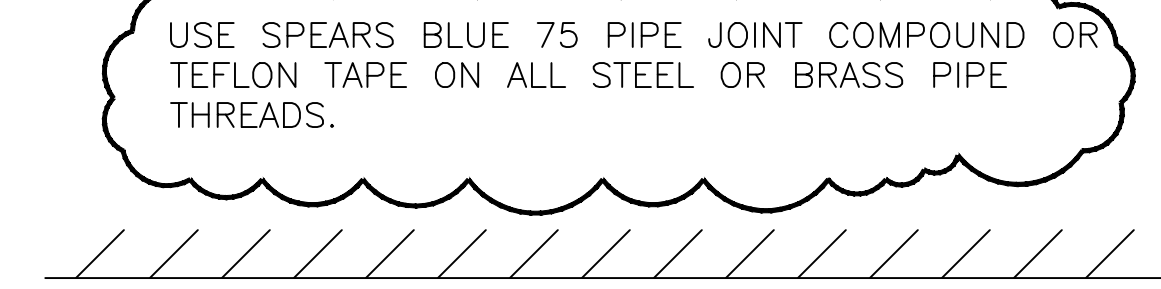
Symbol	Count	Thread	K-Factor	Description	Note
◁	1	1/2"	4.4	RELIABLE F1RES44 WHITE RECESSED HORIZONTAL SIDEWALL SIN#	Sidewall
1 = Total Number of Heads This Floor					



PIPE SIZE	1 HANGER	2 HANGERS	3 HANGERS
3/4"	0'-0" TO 5'-6"	5'-7" TO 11'-0"	11'-1" TO 16'-6"
1"	0'-0" TO 6'-0"	6'-1" TO 12'-0"	12'-1" TO 18'-0"
1 1/4"	0'-0" TO 6'-6"	6'-7" TO 13'-0"	13'-1" TO 19'-6"
1 1/2"	0'-0" TO 7'-0"	7'-1" TO 14'-0"	14'-1" TO 21'-0"
2"	0'-0" TO 8'-0"	8'-1" TO 16'-0"	16'-1" TO 24'-0"
2 1/2"	0'-0" TO 9'-0"	9'-1" TO 18'-0"	18'-1" TO 27'-0"
3"	0'-0" TO 10'-0"	10'-1" TO 20'-0"	20'-1" TO 30'-0"

PIPE SIZE inches	Ambient Temperature During Cure Period		
	60°F TO 120°F	40°F TO 59°F	0°F TO 39°F
3/4"	45 min.	1.5 hr.	24 hr.
1"	45 min.	1.5 hr.	24 hr.
1 1/4"	1.5 hr.	1.6 hr.	120 hr.
1 1/2"	1.5 hr.	1.6 hr.	120 hr.
2"	6 hr.	36 hr.	See Note 1
2 1/2"	8 hr.	72 hr.	See Note 1
3"	8 hr.	72 hr.	See Note 1

Note 1 For these sizes, the solvent cement can be applied at temperatures below 40°F; however, the sprinkler system temperature must be raised to a temperature of 40°F or above and allowed to cure per the above recommendations prior to pressure testing.



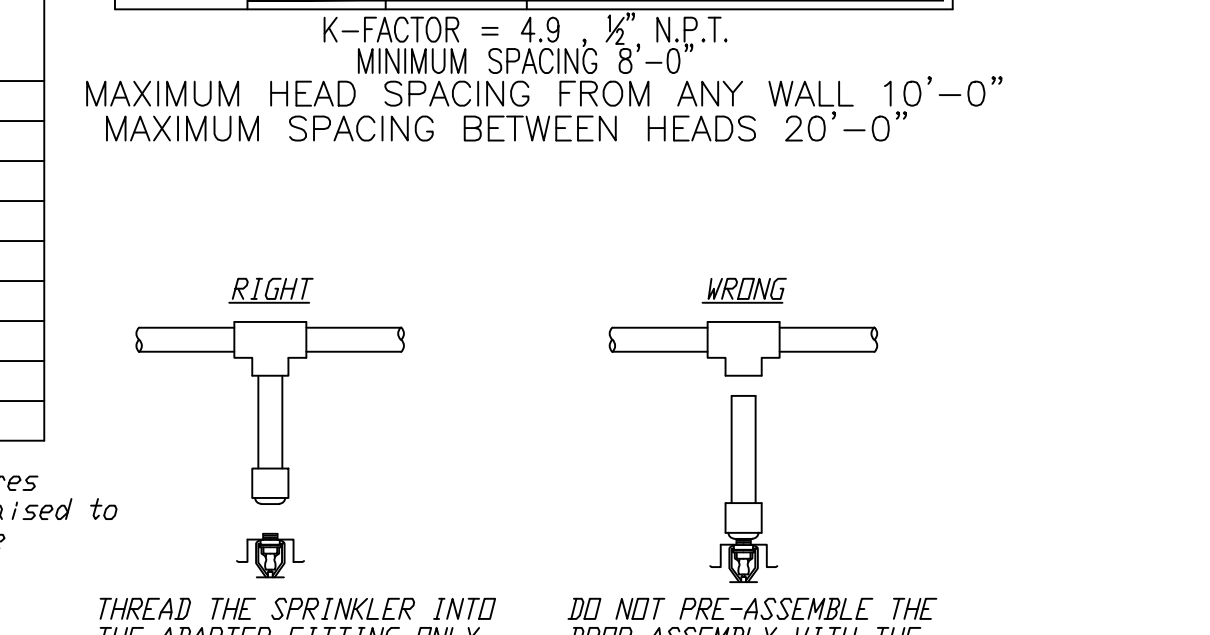
PIPE SIZE	SYSTEM PRESSURE	
	< 100 psi	> 100 psi
3/4"	9'	6'
1"	12'	9'
1 1/4"	16'	12'
1 1/2" - 3"	24'	12'

PIPE SIZE	SYSTEM PRESSURE	
	< 100 psi	> 100 psi
3/4"	9'	3'
1"	5'	4'
1 1/4"	6'	5'
1 1/2" - 3"	7'	7'

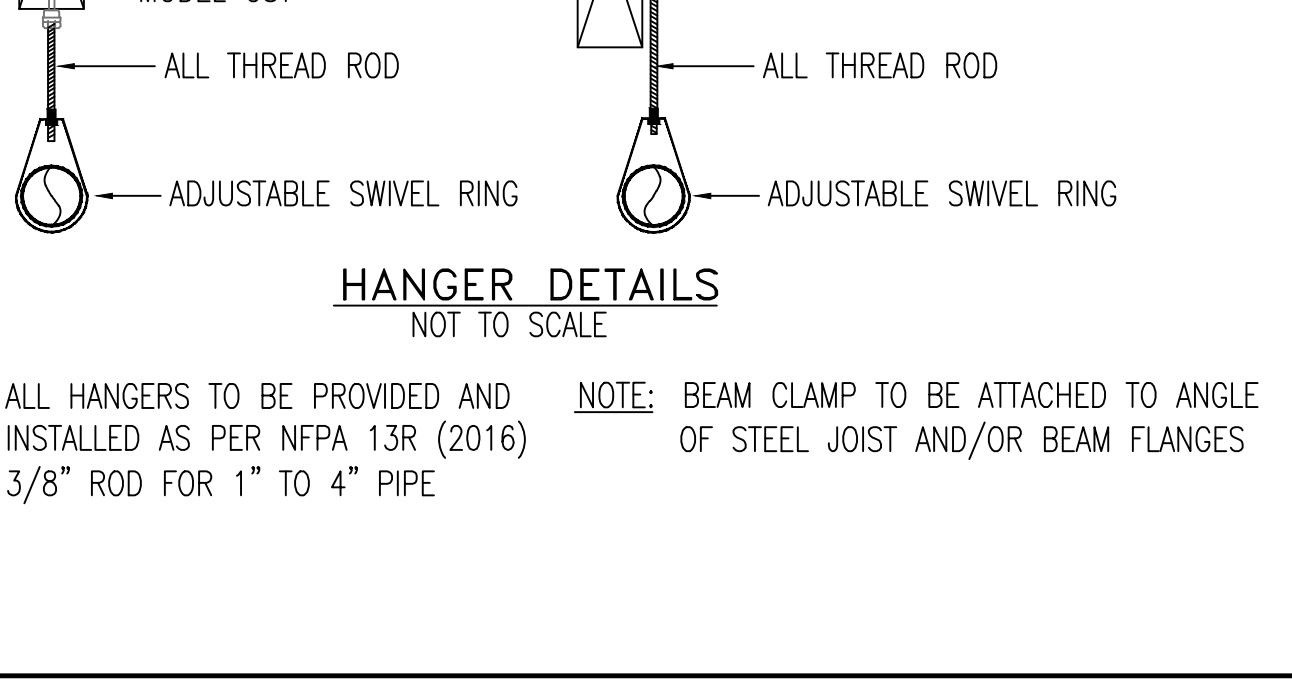
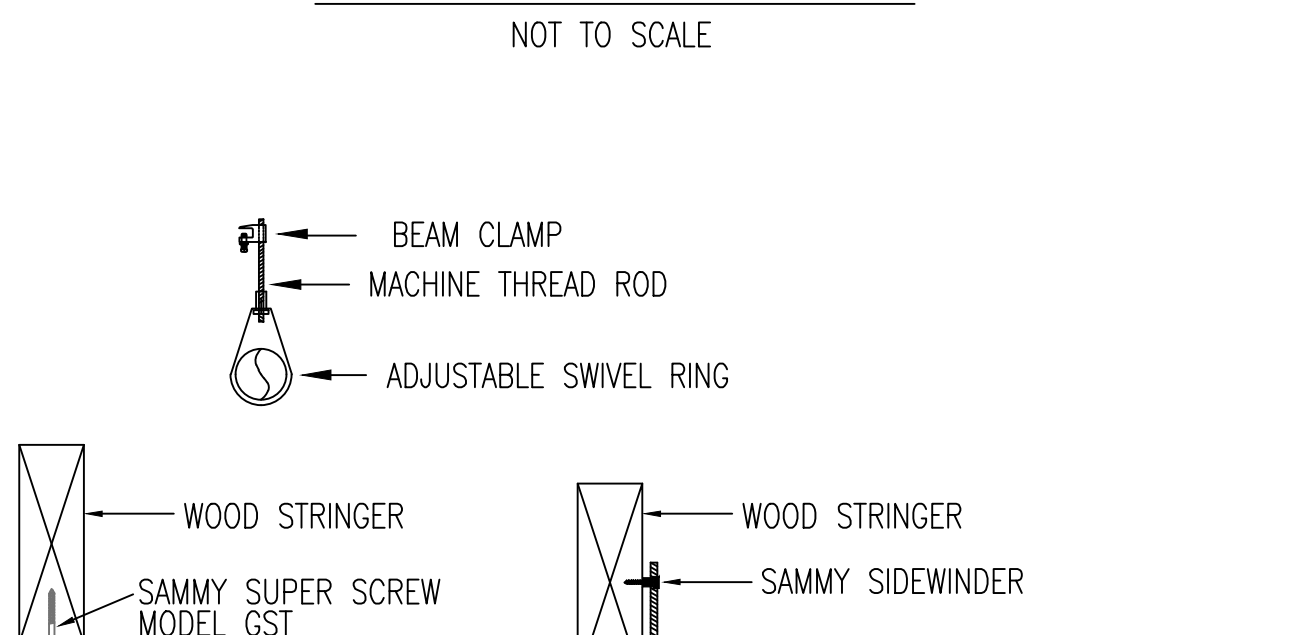
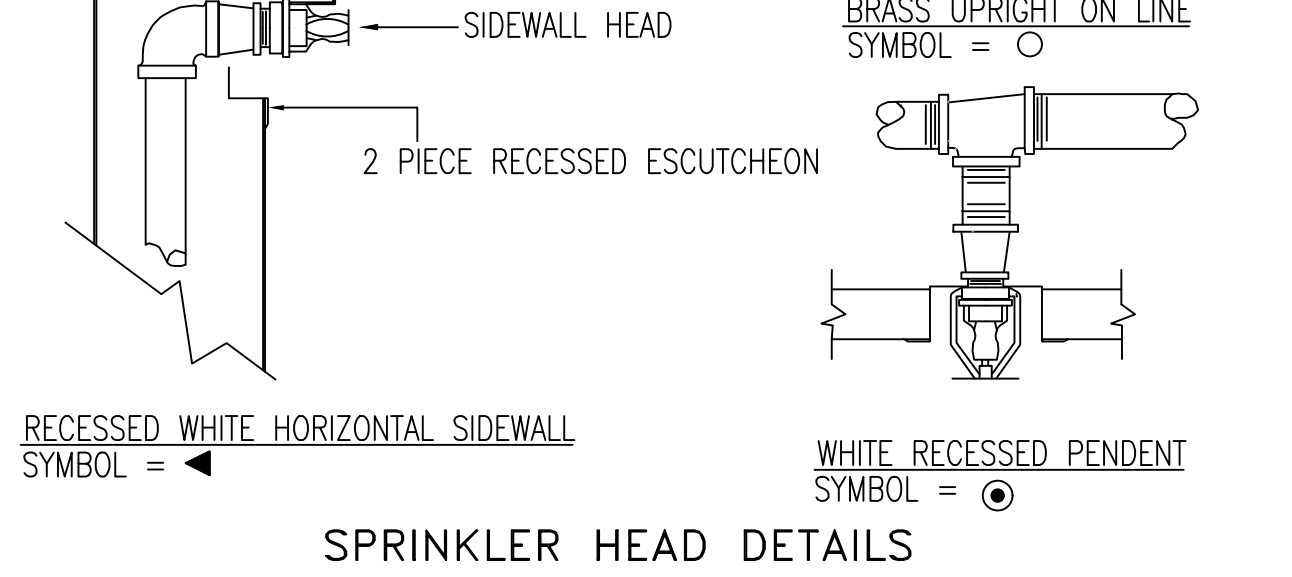
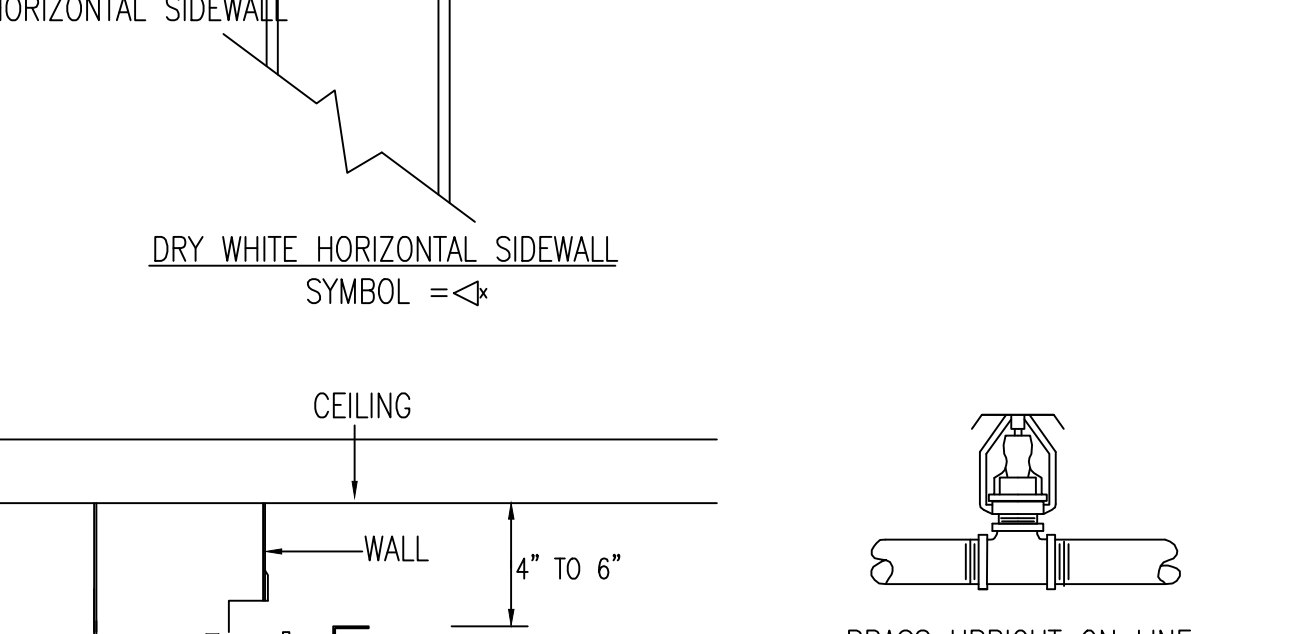
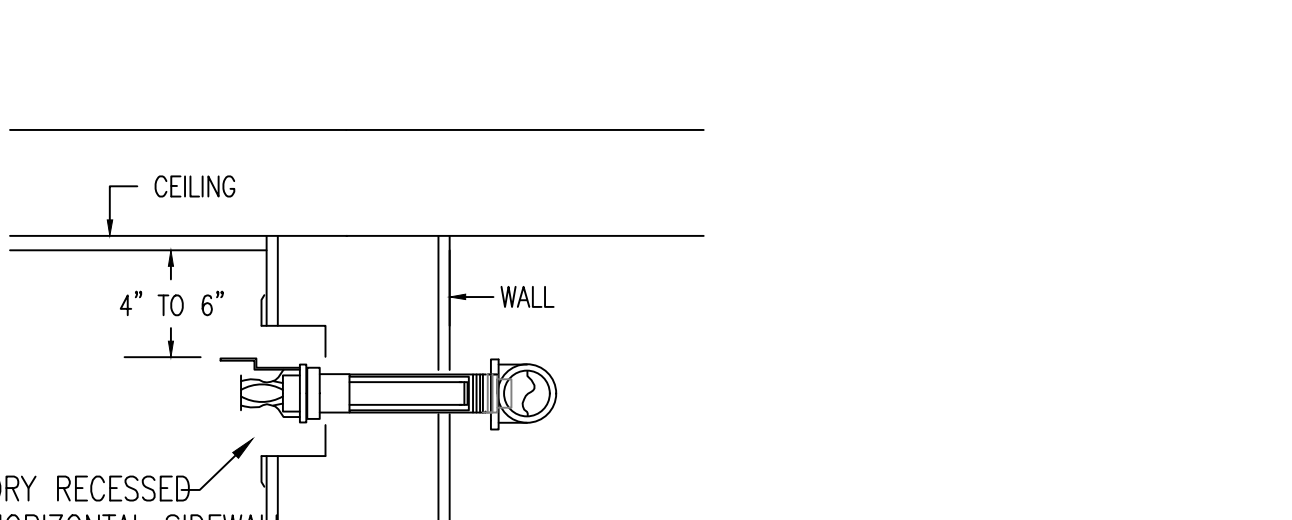
CPVC HANGER INSTALLATION DETAIL NOT TO SCALE

MODEL	COVERAGE AREA		MINIMUM DESIGN FLOW AND RESIDUAL PRESSURE	
	WIDTH FT. x FT.	MAXIMUM SPACING FT. (W)	TOP OF DEFLECTOR TO CEILING: 4 TO 6 INCHES	TOP OF DEFLECTOR TO CEILING: 6 TO 12 INCHES
F1 RES 44 HORIZONTAL SIDEWALL	12 x 12	12'	120GPM(7.0psi)	140GPM(10.2psi)
	14 x 14	14'	140GPM(10.2psi)	160GPM(13.3psi)
	16 x 16	16'	160GPM(13.3psi)	170GPM(15.0psi)
	16 x 18	16'	160GPM(16.0psi)	200GPM(20.7psi)
	18 x 18	16'	190GPM(18.7psi)	N/A
	16 x 20	16'	230GPM(27.4psi)	230GPM(27.4psi)

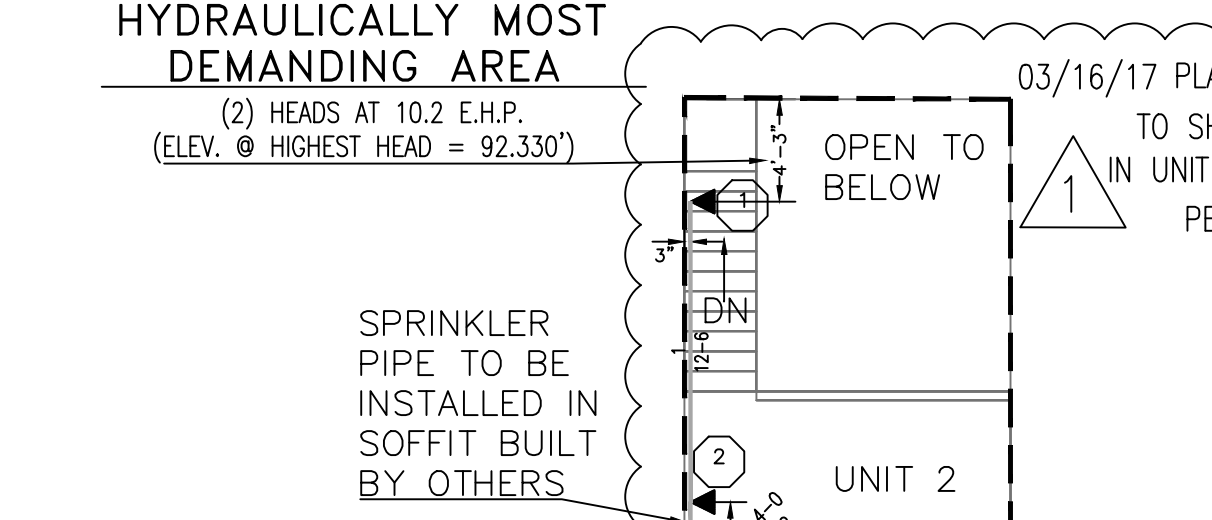
MODEL	COVERAGE AREA		MINIMUM DESIGN FLOW AND RESIDUAL PRESSURE	
	MAX. SPACING BETWEEN SPRINKLERS	MAXIMUM HORIZONTAL SPACING FROM WALL	MINIMUM FLOW & PRESSURE FOR HORIZONTAL CEILING (MAX. 2" RISE FOR 12" RUN)	MINIMUM FLOW & PRESSURE FOR HORIZONTAL CEILING (MAX. 2" RISE FOR 12" RUN)
F1RES49 RECESSED PENDENT	12 x 12	6'(OR LESS)	130GPM(7.0psi)	130GPM(7.0psi)
	14 x 14	7'	130GPM(7.0psi)	130GPM(7.0psi)
	16 x 16	8'	130GPM(7.0psi)	130GPM(7.0psi)
	18 x 18	9'	170GPM(12.0psi)	170GPM(12.0psi)
	20 x 20	10'	200GPM(16.7psi)	200GPM(16.7psi)



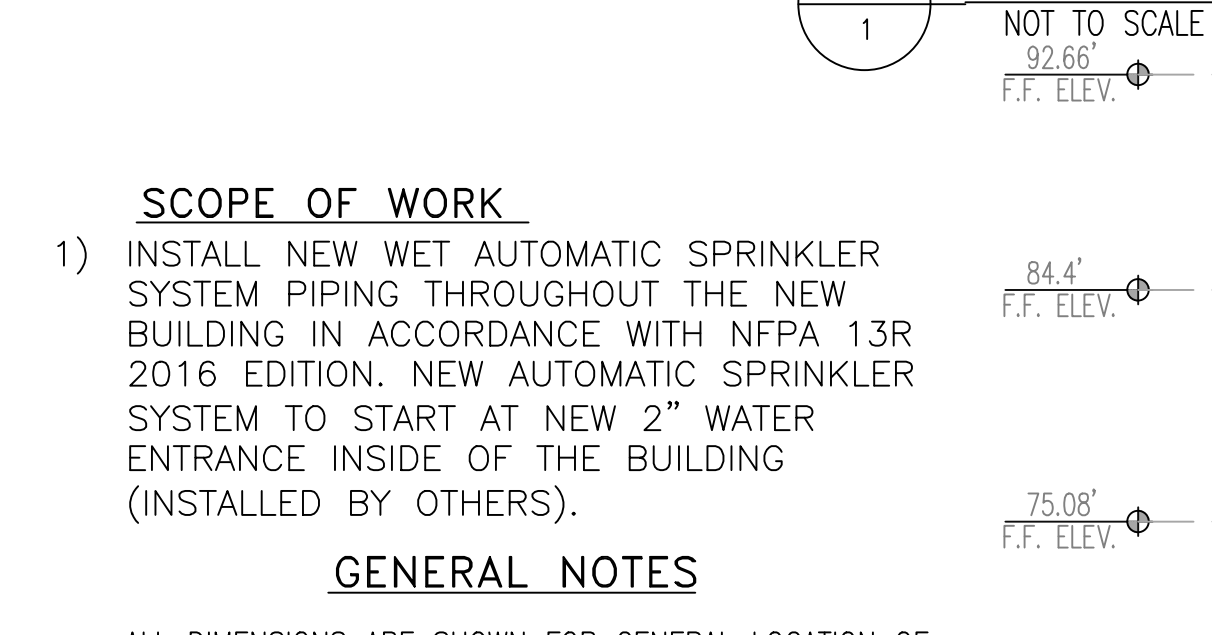
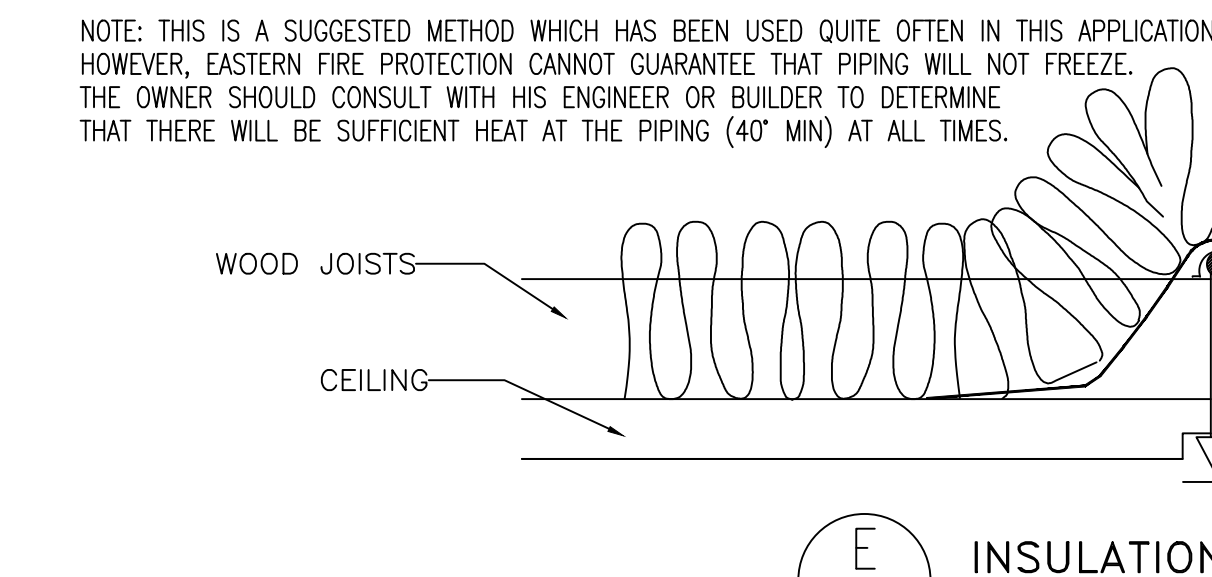
DO NOT USE ANY THREAD SEALANT
 CPVC TORQUESAFE SPRINKLER HEAD INSTALLATION DETAIL
 NOT TO SCALE



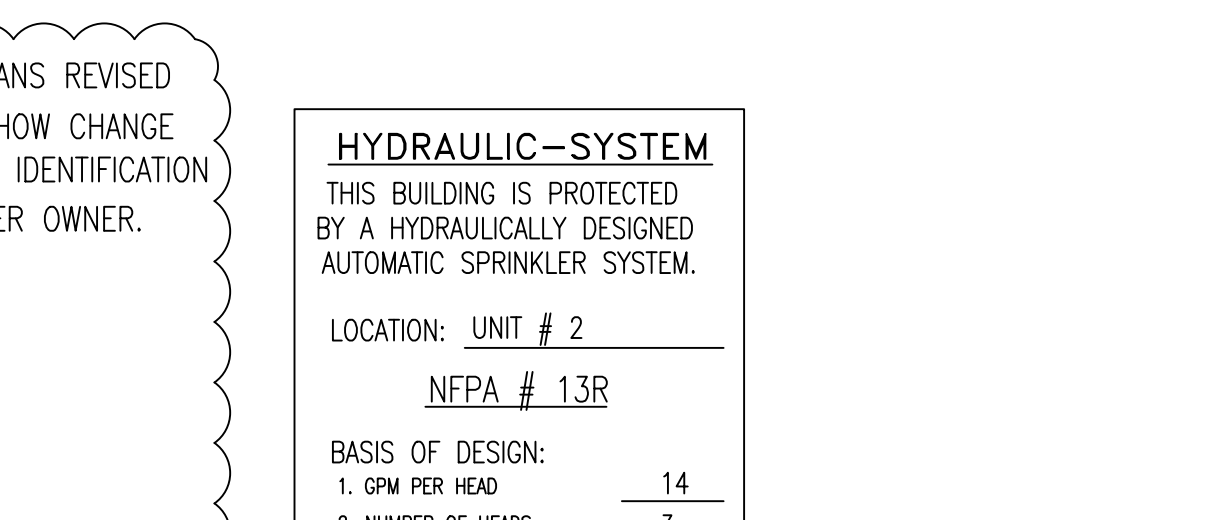
GENERAL NFPA #13R NOTES
 SPRINKLER SYSTEM INSTALLATION TO COMPLY WITH NFPA PAMPHLET # 13R-2016
 1" LINE PIPING IN FIRST FLOOR GARAGE TO BE BLACK SCHEDULE #40, JOINED W/ THREADED DUCTILE IRON FITTINGS. (C = 120)
 UPPER LEVEL PIPING TO BE CPVC PLASTIC PIPE, JOINED WITH GLUED CPVC FITTINGS.
 OWNER TO PROVIDE SUFFICIENT HEAT THROUGHOUT BUILDING TO PREVENT FREEZING OF WATER FILLED SPRINKLER PIPING AND EQUIPMENT (40°F MIN.).
 ALL WIRING TO BE DONE BY OTHERS



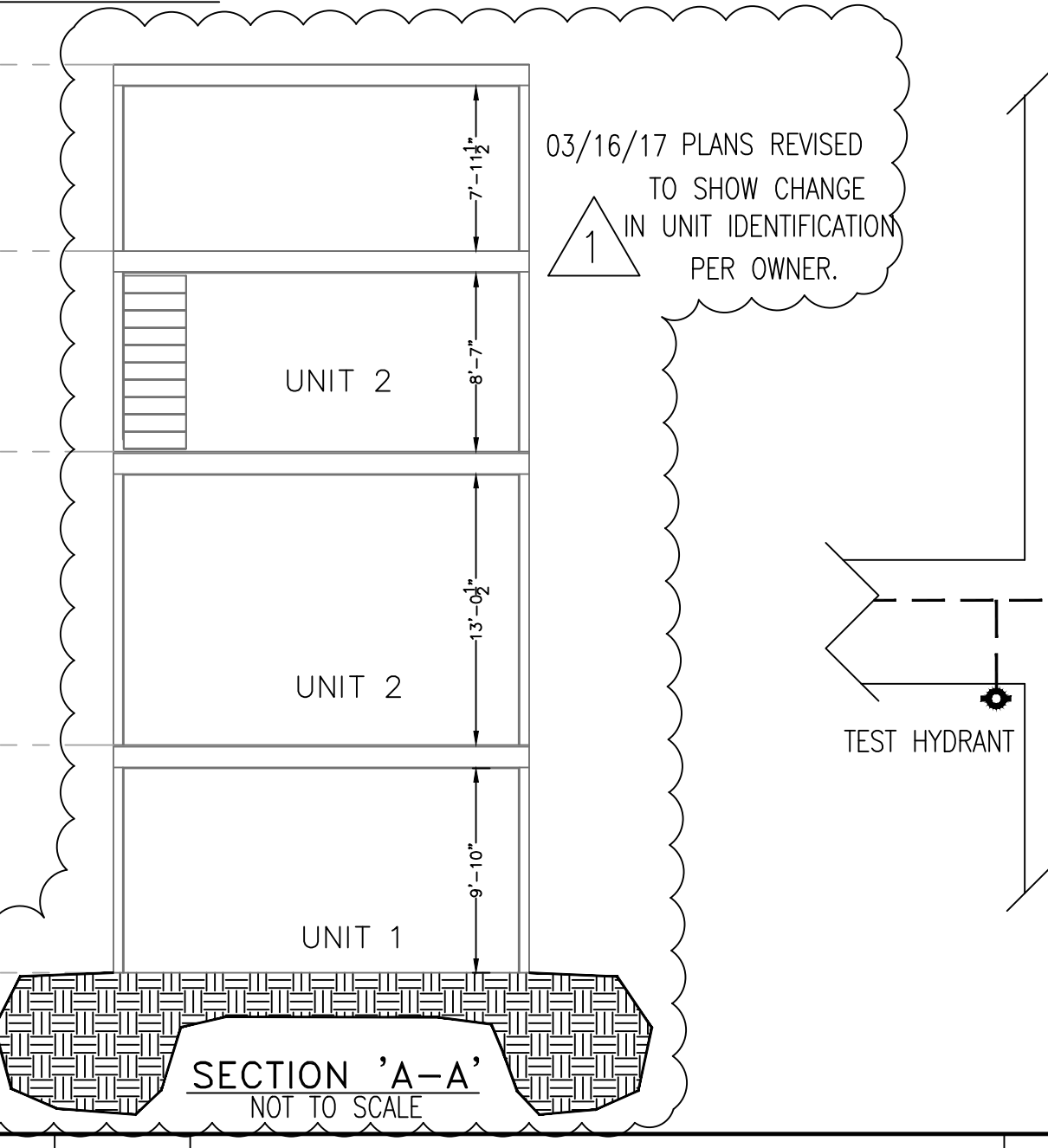
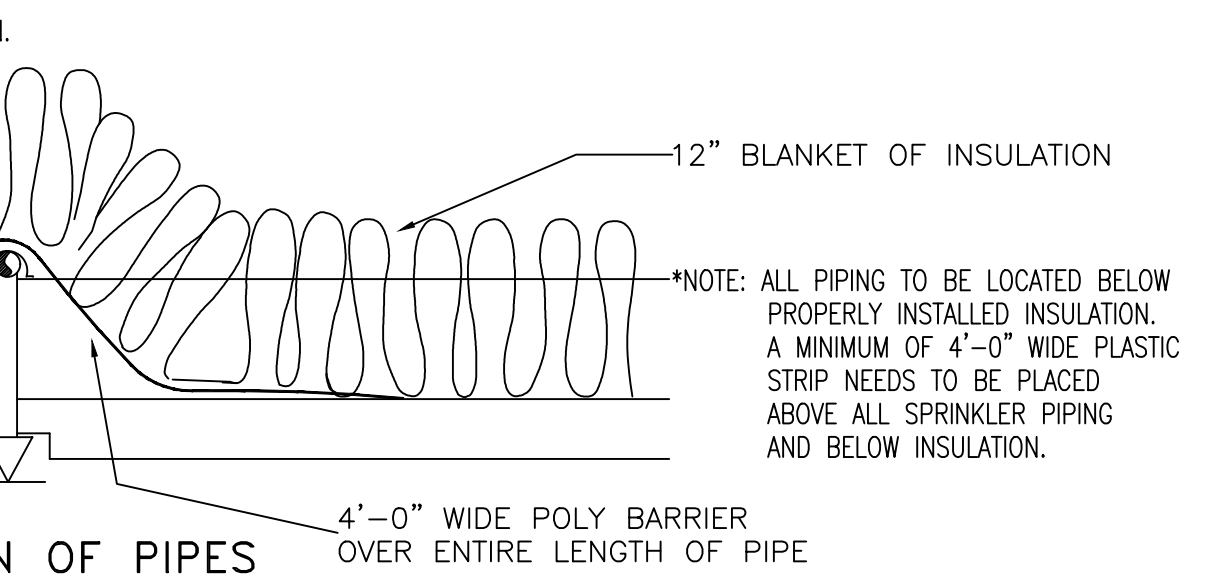
Symbol	Count	Thread	K-Factor	Description	Note
◁	2	1/2"	4.4	RELIABLE F1RES44 WHITE RECESSED HORIZONTAL SIDEWALL SIN#	Sidewall
2 = Total Number of Heads This Floor					



SCOPE OF WORK
 1) INSTALL NEW WET AUTOMATIC SPRINKLER SYSTEM PIPING THROUGHOUT THE NEW BUILDING IN ACCORDANCE WITH NFPA 13R 2016 EDITION. NEW AUTOMATIC SPRINKLER SYSTEM TO START AT NEW 2" WATER ENTRANCE INSIDE OF THE BUILDING (INSTALLED BY OTHERS).
 GENERAL NOTES
 ALL DIMENSIONS ARE SHOWN FOR GENERAL LOCATION OF SPRINKLER HEADS; PIPING MAY VARY TO SUIT ACTUAL FIELD CONDITIONS.
 OCCUPANCY DESCRIPTION AND CLASSIFICATION:
 DWELLING UNITS, RESIDENTIAL - LIGHT HAZARD
 GARAGE - ORDINARY HAZARD GROUP 1
 ○ = INDICATES HYDRAULIC REFERENCE POINTS.
 F.F. @ 0'-0" = INDICATES FINISH FLOOR UP TO CENTERLINE OF PIPE.
 A.S. = AUTOMATIC SPRINKLERS
 ALL WIRING BY OTHERS
 INDICATES EXPOSED STEEL PIPING =
 INDICATES CONCEALED CPVC PIPING =

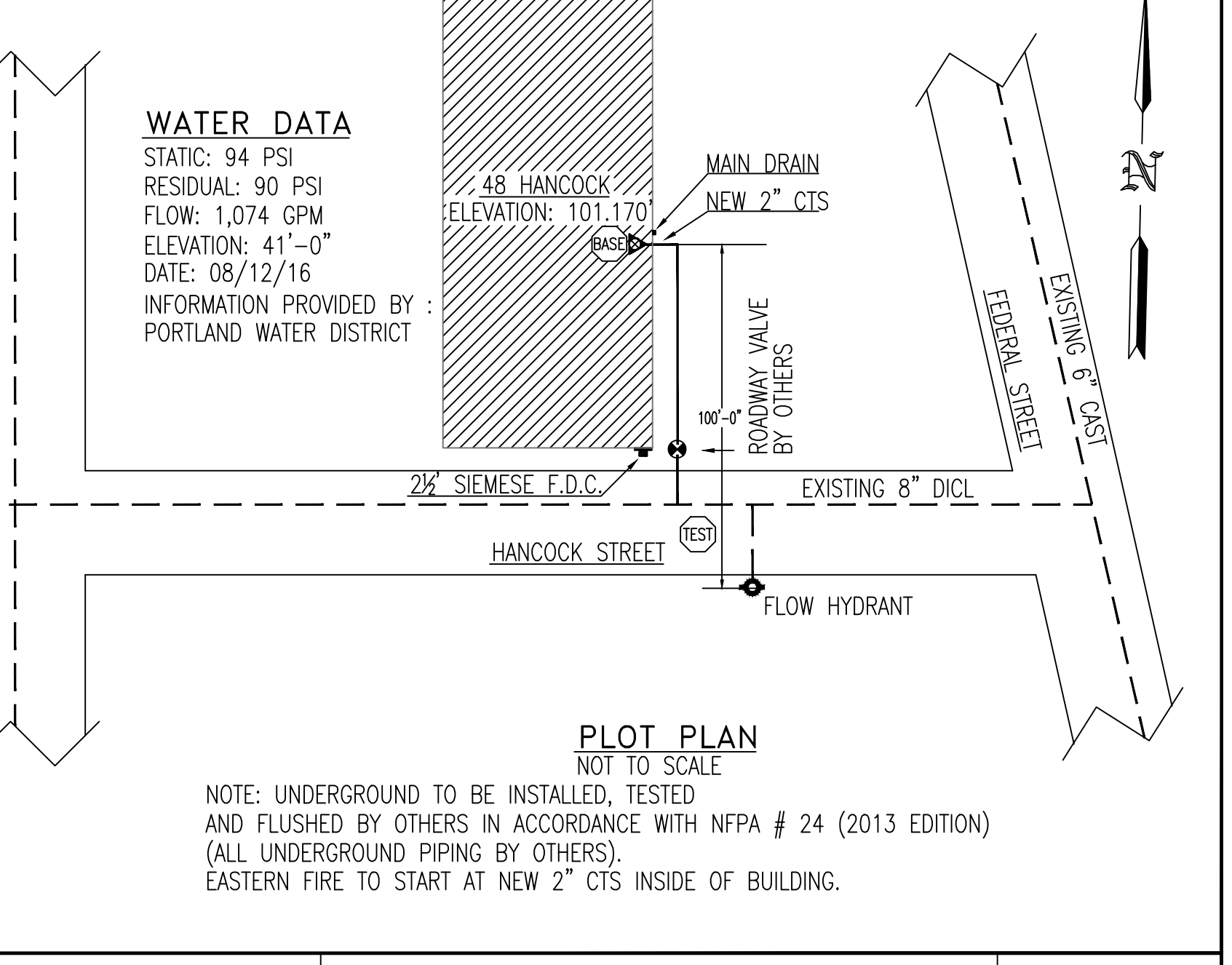
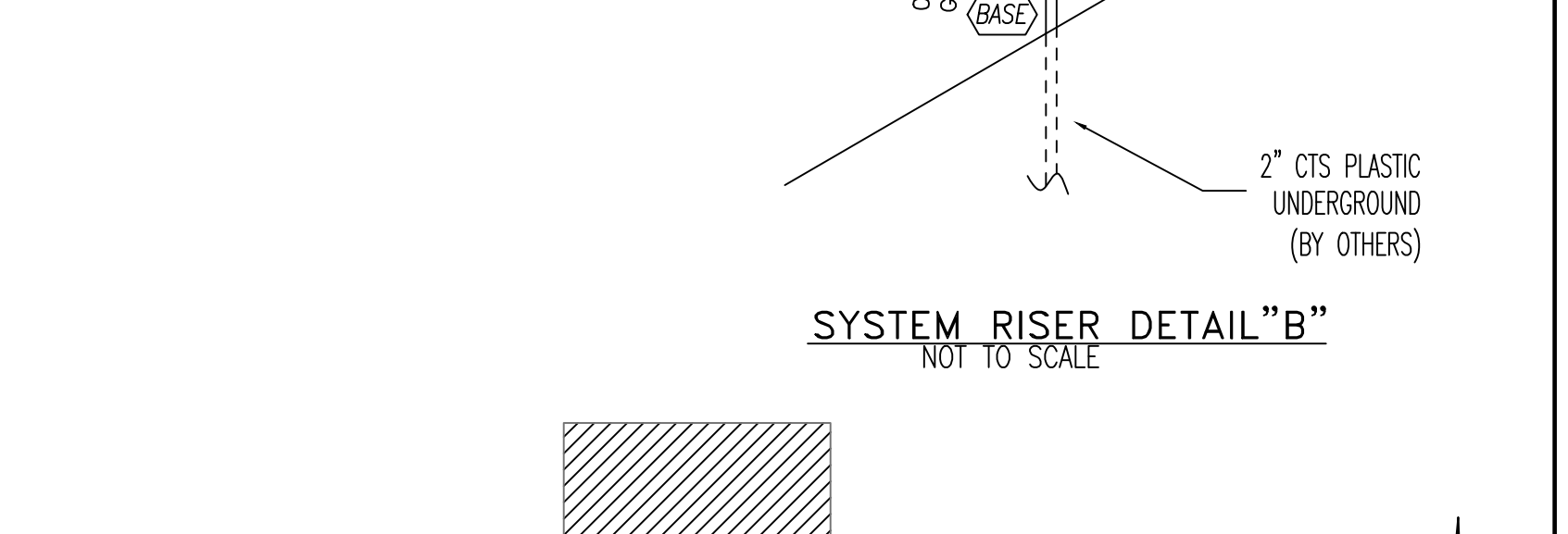
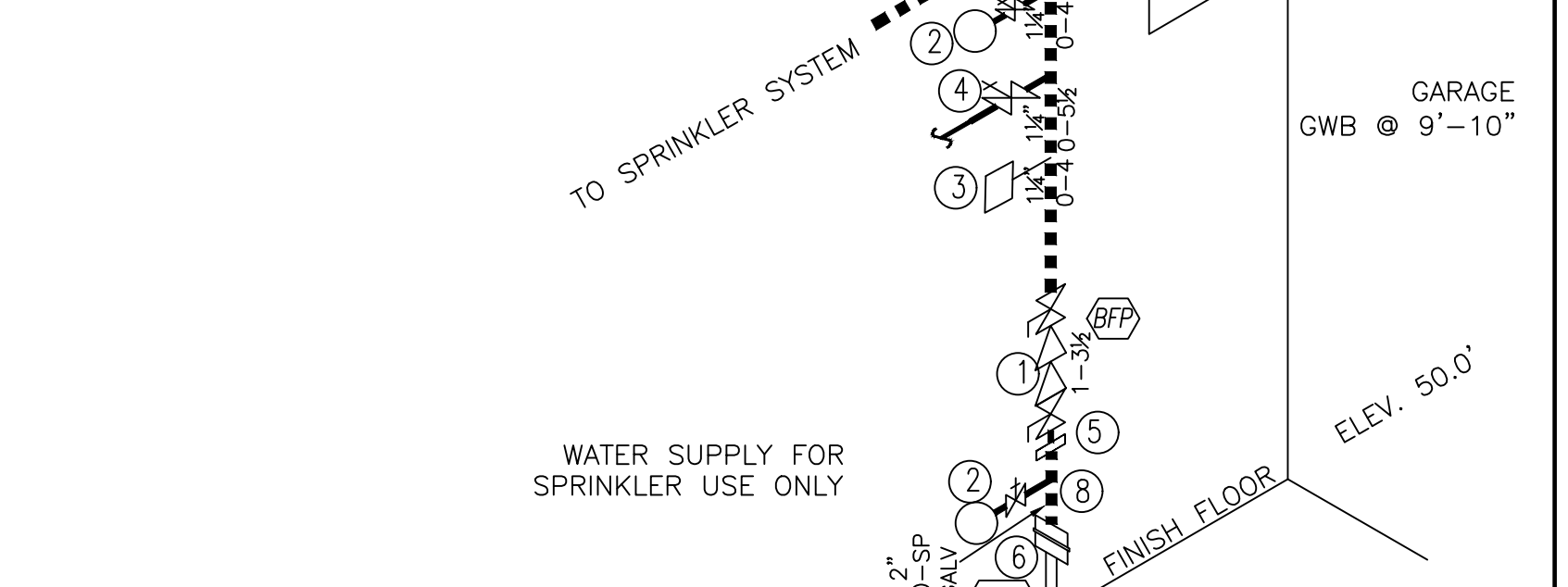


BASIS OF DESIGN:	
1. GPM PER HEAD	14
2. NUMBER OF HEADS CALCULATED	3
SYSTEM DEMAND:	
1. WATER FLOW RATE (GPM)	48.17
2. RESIDUAL PRESSURE AT THE BASE OF RISER (PSI)	75.470



DATE	REVISIONS	REQUIRED APPROVALS
03/16/17	PLANS REVISED TO SHOW CHANGE IN UNIT IDENTIFICATION PER OWNER.	OWNER/ARCHITECT STATE FIRE MARSHAL PORTLAND FIRE DEPARTMENT

- LEGEND FOR NFPA 13R SPRINKLER SYSTEM
- 1 1/4" AMES MOD. 2000B BACKFLOW PREVENTER W/ 1/4" BALL VALVES W/CHAIN & LOCK
 - 2 WATER PRESSURE GAUGE W/ 1/2" THREE-WAY VALVE.
 - 3 1/4" POTTER MOD. VSR-S FLOW SWITCH WIRED TO ELECTRONIC BELL
 - 4 1/4" TEST-AND-DRAIN WITH 7/16" ORIFICE (TO OUTSIDE DISCHARGE)(SEE FIRST FLOOR PLAN)
 - 5 1/4" UNION
 - 6 2" PLASTIC TO STEEL ADAPTER
 - 7 3-HEAD SPARE HEAD BOX W/ HEAD WRENCH
 - 8 2"x1/4"x1/2" GALVANIZED TEE



48 HANCOCK
 48 HANCOCK, PORTLAND MAINE
 CONTRACT WITH: OWNER
 DRAWN BY: JML
 NICET LEVEL: III
 CHECKED BY: JWD
 NICET LEVEL: III
 CONTRACTOR LICENSE #: 101
 CONTRACTOR RMS #: 839
 JOB NUMBER: AU-5463-16
 SCALE: AS NOTED
 DATE: 12/06/2016

