

## NEW YORK CITY SPRINKLER NOTES

- THE INSTALLATION, COMPONENTS, SIZING, SPACING, LOCATION, CLEARANCES, POSITION AND TYPE OF SYSTEMS SHALL CONFORM TO APPENDIX Q, SECTION BC Q102 AND SECTION BC903.
- ONLY APPROVED MATERIALS SHALL BE USED AS PER CHAPTER 6 OF APPENDIX Q, SECTION BCQ102.
- DIRECT CONNECTION OF SPRINKLERS TO THE PUBLIC WATER SYSTEM SHALL CONFORM TO SECTION BCQ102, SECTION 8.16, CHAPTER 23 AND BC903.3.5.
- SPRINKLERS WILL BE PROTECTED AGAINST FREEZING AND INJURY AS PER APPENDIX Q, BCQ102, SECTION 8.16.4.
- INSPECTION AND TESTS OF SPRINKLER SYSTEM SHALL BE CONDUCTED AS PER SECTION 901.5.
- THE OCCUPANCY OF THE AREAS TO BE SPRINKLERED IN ACCORDANCE WITH CHAPTER 5 OF APPENDIX Q, SECTION BCQ102.
- WATER SUPPLY TEST PIPES AND GAUGES SHALL BE PROVIDED AS PER SECTION 8.16.1 OF APPENDIX Q, SECTION BCQ102.
- PIPING SPECIFICATIONS, SYSTEM TEST CONNECTIONS, PROTECTION AGAINST CORROSION, DAMAGE, FITTINGS, VALVES, HANGERS, SPRINKLERS, GUARDS AND SHIELDS SHALL BE AS APPENDIX Q, SECTION BCQ102, CHAPTERS 6 AND 8.
- PIPE SCHEDULE SYSTEMS SHALL BE IN ACCORDANCE WITH SECTION 22.5 OF APPENDIX Q, SECTION BCQ102.
- STOCK OF EXTRA SPRINKLERS WILL BE FURNISHED AS PER SECTION 6.2.9 APPENDIX Q, SECTION BCQ102 (REQUIRED FOR EACH TEMPERATURE RATING).
- SPRINKLER ALARM WILL BE IN ACCORDANCE WITH SECTION 8.17.1 OF APPENDIX Q, SECTION BCQ102.
- SPACING, LOCATION AND POSITION OF SPRINKLERS WILL BE IN AS PER SECTION 8 OF APPENDIX Q, SECTION BCQ102.
- ALL CONCEALED SPACES EXCEEDING 6 IN. IN WIDTH OR DEPTH WHICH CONTAIN COMBUSTIBLE MATERIAL WILL BE SPRINKLERED
- ALL PIPE PASSING THROUGH WALLS WILL COMPLY WITH SECTION BC713.
- THERE IS NO HIGH PILED STORAGE AS DEFINED IN SECTION 3.9.1.13 OF APPENDIX Q, SECTION BCQ102.
- DISTANCE OF SPRINKLERS FROM HEAT SOURCES SHALL BE IN ACCORDANCE WITH TABLES 8.3.2.5(a), 8.3.2.5(b) AND 8.3.2.5(c).
- AUTOMATIC INTERLOCK CUTOFF SWITCH FOR VENTILATION WILL CONFORM TO CHAPTER 6 OF THE MECHANICAL CODE (APPLICABLE ONLY IF THERE IS AN AIR SYSTEM UTILIZING RECIRCULATED AIR AND REQUIRING A THERMOSTATIC DEVICE).
- AS PER SECTION BC903.1.2, PROVIDE DEPT. OF WATER SUPPLY LETTER WITH FLOW TEST DATA IF THERE IS A DIRECT CONNECTION TO THE STREET WATER SUPPLY.
- ALL PIPES PASSING THROUGH FOUNDATION WALLS TO BE PROTECTED AS PROVIDED BY SECTION 305.5 OF THE PLUMBING CODE.
- THIS APPLICATION IS NOT FILED AS A RESULT OF ACTIONS BY THE FIRE COMMISSIONER AS AUTHORIZED BY THE BS & A TO MODIFY THE CERTIFICATE OF OCCUPANCY NOR IS SUCH ACTION PENDING.
- ALL VALVES SHALL BE IDENTIFIED AS REQUIRED SECTION 6-7.4 OF APPENDIX Q, SECTION BCQ102.
- DRAINAGE TO CONFORM TO SECTION 8.16.2 OF APPENDIX Q, SECTION BCQ102.
- HYDRAULICALLY DESIGNED SPRINKLER SYSTEMS SHALL BE IN ACCORDANCE WITH CHAPTER 22 OF APPENDIX Q, SECTION BCQ102.
- A ONE PIECE REDUCING FITTING SHALL BE USED WHENEVER A CHANGE IS MADE IN THE SIZE OF THE PIPE AS PER SECTION 6.4.6. OF APPENDIX Q, SECTION BCQ102.
- ALL VALVES ON CONNECTIONS TO WATER SUPPLIES AND IN SUPPLY TO SPRINKLERS SHALL BE APPROVED O.S. & Y. OR APPROVED INDICATOR TYPE.
- WHEN SPRINKLER SYSTEMS ARE CONNECTED TO STANDPIPE SYSTEMS, VALVES SHALL COMPLY WITH APPENDIX Q, SECTION BC Q102 AND SECTION BC903.
- DRAIN VALVES AND TEST VALVES SHALL BE APPROVED TYPE AS PER SECTION 6.7.3 OF APPENDIX Q, SECTION BCQ102.
- HANGERS SHALL BE OF A TYPE APPROVED FOR USE WITH THE PIPE OR TUBE INVOLVED, SPRINKLER PIPING SHOULD BE SUPPORTED BY APPROVED ADJUSTABLE HANGERS, AS PER CHAPTER 9 OF APPENDIX Q, SECTION BCQ102
- PROVISIONS SHOULD BE MADE TO FACILITATE FLUSHING OF THE SYSTEM PIPING BY PROVIDING FLUSHING CONNECTIONS CONSISTING OF A CAPPED 4" LONG NIPPLE ON THE END OF THE CROSS MAIN AS PER SECTION 8.16.3 OF APPENDIX Q, SECTION BCQ102.
- SPRINKLER HEADS SHALL BE AN APPROVED TYPE AS PER SECTION 8.3 OF APPENDIX Q, SECTION BCQ102.
- TEMPERATURE RATING SHALL COMPLY WITH SECTION 8.3 OF APPENDIX Q, SECTION BCQ102.
- 18" MINIMUM CLEARANCE TO BELOW SPRINKLER DEFLECTOR AS PER SECTION 8.5.5.3 OF APPENDIX Q, SECTION BCQ102.
- 1" TO 12" MINIMUM CLEARANCE OF SPRINKLER DEFLECTOR TO CEILING FOR STANDARD UPRIGHT AND PENDENT SPRINKLERS UNDER UNOBSTRUCTED CONSTRUCTIONS AS PER SECTION 8.6.4 OF APPENDIX Q, SECTION BCQ102.
- SPRINKLER SYSTEM COMPLIES WITH NFPA 13 2007 AS MODIFIED BY APPENDIX Q, SECTION BCQ102.
- DRY SYSTEMS SHALL IN ACCORDANCE WITH SECTION 7.2 OF APPENDIX Q, SECTION BCQ102.
- THE CONTRACTOR SHALL ENGAGE THE SERVICES OF AN AGENCY APPROVED BY THE NYC DEPARTMENT OF BUILDING TO PERFORM ALL REQUIRED SPECIAL INSPECTIONS (BC 1704 AND PROGRESS INSPECTIONS (BC 110)). SPECIALS AND PROGRESS INSPECTION SHALL BE PAID FOR BY THE OWNER.  
THE FOLLOWING ITEMS REQUIRE SPECIAL INSPECTION (BC REFERENCES ARE TO THE DECEMBER 31, 2014 BUILDING CODE):  
SPRAYED FIRE-RESISTANT MATERIALS BC 1704.11  
SPRINKLER SYSTEMS BC 1704.23  
FIRESTOP, DRAFTSTOP AND FIREBLOCK SYSTEMS BC 1704.27  
FINAL INSPECTION 28-116.2.4.2 AND BC 110.5 AND DIRECTIVE 14 OF 1979  
THE FOLLOWING ITEMS REQUIRE PROGRESS INSPECTION (BC REFERENCES ARE TO THE DECEMBER 31, 2014 BUILDING CODE):  
FIRE RESISTANT RATED CONSTRUCTION BC 110.3.4  
FINAL INSPECTION 28-116.2.4.2 AND BC 110.5
- THIS PLAN IS APPROVED ONLY OR WORK INDICATED ON THE APPLICATION SPECIFICATION SHEET. ALL OTHER MATTERS SHOWN ARE NOT TO BE RELIED UPON, OR TO BE CONSIDERED AS EITHER BEING APPROVED OR IN ACCORDANCE WITH APPLICABLE CODES.

FIRE PROTECTION DRAWING INDEX	
DWG. No.	DRAWING NAME
SP-001.00	FIRE PROTECTION SYMBOLS, NOTES AND DRAWING LIST
SP-101.00	FIRE PROTECTION PLAN VIEWS
SP-102.00	FIRE PROTECTION SECTIONS AND DETAIL VIEWS
SP-201.00	FIRE PROTECTION SCHEDULES AND RISER DIAGRAM
SP-301.00	FIRE PROTECTION SPECIFICATIONS
SP-401.00	FIRE PROTECTION DETAILS

## DESIGN CRITERIA

NYC FIRE CODE OFFICIAL TO REVIEW AND APPROVE THE DESIGN CRITERIA BELOW AS A VARIANCE FROM THE NYC FIRE CODE SECTION 1908, SECTION 304 AND SECTION 315 THAT MANDATES OUTDOOR STORAGE OF COMBUSTIBLE WASTE AT A TRANSFER STATION.

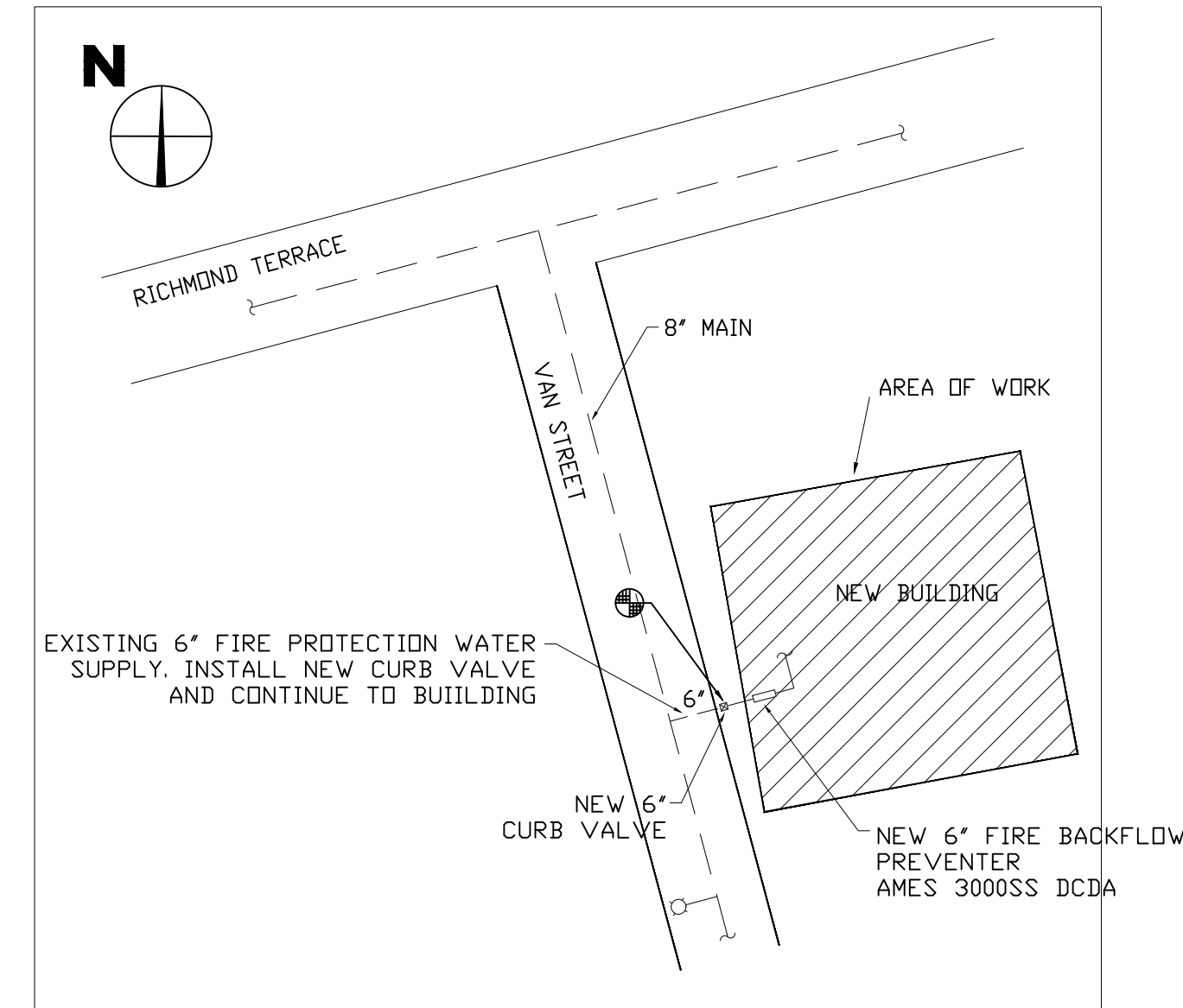
- THE SPRINKLER SYSTEMS SHALL BE HYDRAULICALLY CALCULATED FOR HAZARD CONSISTENT WITH IDLE PALLET STORAGE AT THE STORAGE AREA AND AS EXTRA HAZARD GROUP I AT A DENSITY OF 0.3 GPM/SQ.FT. OVER 3,250 SQ.FT. FOR WORK (SORTING) AREA.
- DETERMINATION OF DESIGN CRITERIA IS AS FOLLOWING:
  - ARCHITECTURAL DRAWING A-001.00 ESTABLISHES AN OCCUPANCY GROUP F-1.
  - THE BUILDING AREA IS 14,396 SQ.FT. AND AS PER NYC BUILDING CODE ARTICLE 903.2.4, AN AUTOMATIC SPRINKLER SYSTEM IS REQUIRED.
  - NO STANDPIPES ARE REQUIRED FOR THE BUILDING AS PER NYC BUILDING CODE ARTICLE 905.3.
  - THE TYPE OF ACTIVITY PERFORMED IN THE BUILDING CONSISTS IN THE TEMPORARY STORAGE OF CONSTRUCTION DEMOLITION MATERIALS, FOLLOWED BY SORTING FOR THE EVENTUAL REUSE OF THIS MATERIAL.
  - SINCE THE ACTIVITY GOAL IS THE RECOVERY MAINLY OF WOOD AND METAL STUDS, THE OCCUPANCY HAZARD CLASSIFICATION WAS CONSIDERED EXTRA HAZARD GROUP I (SIMILAR TO A SAWMILL HAZARD).
  - ALSO, STORAGE IS INVOLVED.
  - WE CAN ASSIMILATE THE STORAGE OF CONSTRUCTION DEMOLITION MATERIALS WITH SOLID PILE STORAGE OF COMMODITIES; BASED ON DIRECT OBSERVATION AND THE OWNER'S PROVIDED DESCRIPTION OF STORED MATERIALS, WE DETERMINED THAT THE PERCENTAGE AMOUNT OF HIGH HAZARD COMMODITIES EXCEEDS THE THRESHOLD INDICATED IN THE NYC FIRE CODE FIGURE 2303.7.4, THUS THE STORAGE CAN BE ASSIMILATED WITH SOLID PILE STORAGE OF HIGH HAZARD COMMODITIES.
  - AS PER NFPA 13 (2007) ARTICLE 5.6.1.2.2, THE MIXED COMMODITY STORAGE SHALL BE PROTECTED FOR THE HIGHEST CLASSIFIED COMMODITY AND STORAGE ARRANGEMENT.
  - WE CONSIDER STORAGE OF IDLE WOOD PALLETS TO BE THE TYPE OF HIGH HAZARD COMMODITY WHICH POSSES A SIMILAR FIRE HAZARD WITH THE CONSTRUCTION DEMOLITION MATERIALS. IDLE WOOD PALLETS POSE A SEVERE FIRE CHALLENGE AND FIRE TEST AND DATA EXISTS. THE PROTECTION CRITERIA ARE ALSO MORE DEMANDING THAN THOSE FOR UNSTABLE NON-EXPANDED GROUP A PLASTICS.
  - AS PER NFPA 13 (2007) TABLE 12.12.1.2(b), THE DESIGN CRITERIA FOR PROTECTING IDLE WOOD PALLETS CONSISTS OF USING 25 LARGE DROP SPRINKLERS (K-11.2) ON A DRY SYSTEM FLOWING AT MINIMUM 25 PSI EACH.
  - THE STORAGE CANNOT EXCEED 20' AND A DROP CEILING WITH DRAFT STOPS IS INSTALLED AT ELEVATION 28'-7" (AFF), OVER THE STORAGE AREA.

## SPRINKLER PLAN NOTES

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING A FULL SET OF BID DOCUMENTS AND VISIT THE SITE TO MAKE HIMSELF AWARE OF THE TOTAL JOB BEFORE SUBMITTING HIS PRICE. FAILURE TO COMPLY SHALL NOT HOLD THE OWNER RESPONSIBLE FOR ANY ADDITIONAL COST.
- CONTRACTOR SHALL SUBMIT SPRINKLER HYDRAULIC CALCULATIONS FOR THE ENGINEER'S REVIEW.
- THE CONTRACTOR SHALL INDICATE ON HIS SHOP DRAWING THAT ALL PIPING LAYOUTS ARE COORDINATED WITH THE MEP AND STRUCTURAL CONDITIONS. INCLUDE ON EACH WORKING DRAWING LAYOUT CERTIFICATE, THAT ALL RELATED CONDITIONS HAVE BEEN CHECKED, AND THAT NO CONFLICT EXISTS. SUBMISSION WILL NOT BE APPROVED WITHOUT SUCH CERTIFICATION.
- THE CONTRACTOR MUST SUBMIT A COMPLETE SET OF COORDINATED SPRINKLER DRAWINGS FOR APPROVAL BEFORE THE START OF THE WORK. THIS DRAWING SHOULD INDICATE ALL OF THE SPRINKLER MAINS AND BRANCH PIPING INCLUDING SIZES AND ELEVATIONS. THIS DRAWING MUST ALSO BE SUBMITTED WITH HYDRAULIC CALCULATIONS TO VERIFY THE ADEQUACY OF THE INDICATED PIPE SIZES.
- THE SPRINKLER PIPING NOT SHOWN SHALL BE SIZED AND INSTALLED AS PER THE APPROVED SHOP DRAWINGS. SIZES MUST BE DETERMINED BY HYDRAULIC CALCULATIONS.
- THE MINIMUM SPRINKLER BRANCH PIPE SIZE SHALL BE 1".

### NOTES:

- IN THE EVENT OF AN IMPAIRMENT TO THE FIRE PROTECTION SYSTEM IN THE AREA OF THE PROPOSED WORK DURING CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE FACILITIES MANAGER WHOM SHALL COMPLETE AN IMPAIRMENT NOTIFICATION FORM AND FORWARD IT TO THE PERSONS INDICATED ON THAT FORM, AND MUST PROVIDE A CONTINUOUS FIRE WATCH.
- IN THE EVENT THAT FIRE DETECTION, NOTIFICATION OR SUPPRESSION DEVICES ARE REMOVED & REPLACED, RELOCATED OR DAMAGED DURING THE PROPOSED WORK, ALL NEW AND/OR RELOCATED FIRE DETECTION, NOTIFICATION, AND SUPPRESSION DEVICES SHALL BE INSTALLED, TESTED, AND ACCEPTED PRIOR OCCUPANCY. THIS ALSO APPLIES TO WIRING TO EXISTING DEVICES, WHICH ARE CUT AND RECONNECTED DURING THE PROPOSED WORK.
- ALL NEW FIRE DETECTION, NOTIFICATION, AND ACTIVATION DEVICES MUST BE NYC APPROVED (PROVIDE UL NUMBER).
- INSTALL 1½" SEISMIC BRACING AT EACH TURN OF DRY PIPE MAINS.



25 VAN STREET  
STATEN ISLAND, NY 10310  
BLOCK 186  
LOT 221

## PLOT PLAN NTS

**NYC**  
Environmental  
Protection

Vincent Spagnola, P.E.  
Commissioner

Anastasio Georgellis, P.E.  
Deputy Commissioner  
Bureau of Water &  
Sewer Operations

59-17 Junction Boulevard  
Flushing, NY 11373

11/30/2018

Abramov & Szat Consulting Engineers, LLC  
82 Summit Avenue  
Garfield, New Jersey 07026  
Attn: Alek Abramov

To Whom It May Concern:

The hydrant flow test you requested in the vicinity of **25 Van Street, Staten Island** was performed on **11/30/2018 at 9:45 AM** with the following results:

The static pressure taken on an 8 inch water main which is fed from one direction on the west side of Van Street 2nd hydrant south of Richmond Terrace was 90 pounds per square inch. The residual pressure at this point was 84 pounds per square inch when 1000 gallons of water per minute were flowing from the west side of Van Street 1st hydrant south of Richmond Terrace.

This Department cannot guarantee that this pressure will be maintained in the future because a change may be needed in conformity with good engineering practices.

If you have any questions regarding engineering, and application status, please call (718) 595-7135.

Very truly yours,  
*Urszula Krajewski*  
Urszula Krajewski, P.E.  
Water Distribution Engineer  
City Wide Hydraulic Testing Unit

File: FT2018-2868-507676  
All hydrant flow test requests are to be addressed to: NYCDEP-BWSO, 59-17 Junction Blvd, 12th Fl., Flushing, NY 11373-5108, Attn: Citywide Hydraulic Flow Test Unit  
Enduse payment for \$500 payable to NYC Water Board for each test. Indicate the test street, cross streets and borough for each test. All requests are to be made by US or overnight mail, no hand deliveries accepted.

## FIRE PROTECTION SYMBOL LIST

NOTE: THIS KEY IS FOR CONVENIENCE ONLY AND DOES NOT NECESSARILY INDICATE THAT ALL SYMBOLS AND ABBREVIATIONS SHOWN ARE USED IN THIS SET OF DRAWINGS.

SYMBOLS	ABBREVIATIONS	DEFINITIONS
		COMBINE FIRE STANDPIPE AND SPRINKLER RISER
		FIRE STANDPIPE RISER
	SP	SPRINKLER PIPING
	DR	SPRINKLER DRAIN PIPING
	F	FIRE STANDPIPE PIPING
	F/SP	COMBINED FIRE STANDPIPE / SPRINKLER PIPING
	UP	PIPE UP
	DN	PIPE DOWN
	FCVA	FLOOR CONTRL VALVE ASSEMBLY
		NEW CONNECTION TO EXISTING
		UPRIGHT SPRINKLER HEAD
		PENDENT SPRINKLER HEAD
		CONCEALED SPRINKLER HEAD
		HORIZONTAL SIDEWALL SPRINKLER HEAD
		EXIST. SPRINKLER HEAD TO REMOVED/RELOCATED
	WFS	WATERFLOW SWITCH
	FHV	FIRE HOSE VALVE
	ABD	CHECK VALVE WITH AUTOMATIC BALL DRIP
	TS	TAMPER SWITCH
	O.S.&Y.	OUTSIDE SCREW AND YDKE GATE VALVE
		BUTTERFLY VALVE
		FIRE DEPARTMENT CONNECTION (SIAMESE)
	FHC/FHR	FIRE HOSE CABINET/FIRE HOSE RACK
		ROOF MANIFOLD
	PSI	POUNDS PER SQUARE INCH
	DIA	DIAMETER
	GPM	GALLONS PER MINUTE
	DIA	DIAMETER
	PRV	PRESSURE REDUCING VALVE
	R	RESIDENTIAL
	S	STANDARD RESPONSE
	FCA	FLOOR CONTRDL ASSEMBLY (RISER MANIFOLD)
	AFF	ABOVE FINISHED FLOOR

## NYC SPECIAL INSPECTIONS:

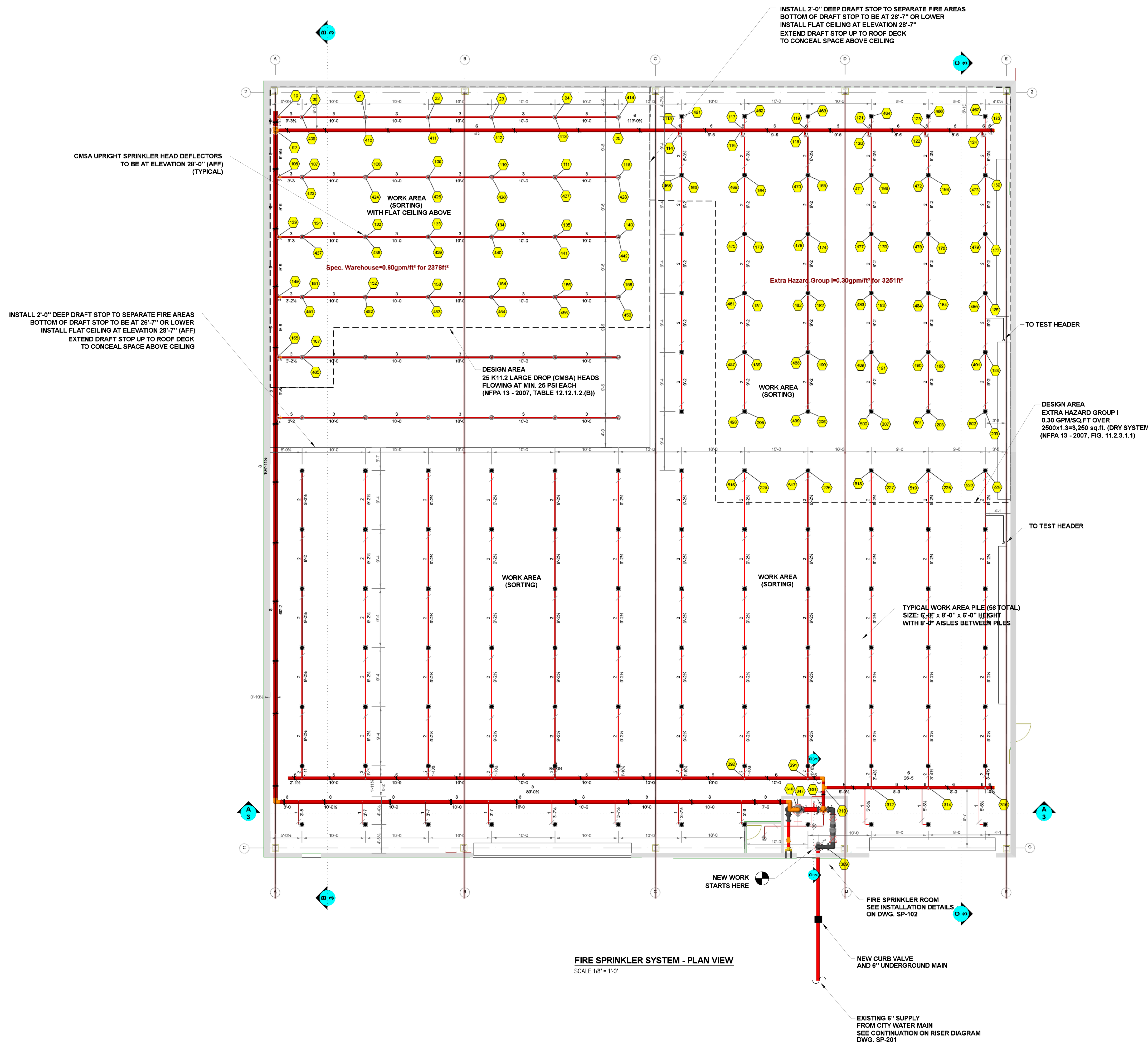
- SPECIAL INSPECTIONS SHALL BE PERFORMED BY THIS CONTRACTOR. CONTRACTOR SHALL PROVIDE THE NAME OF A LICENSED PROFESSIONAL ENGINEER TO OWNER OR OWNER REPRESENTATIVE WHEN AWARDED
- ALL SPECIAL INSPECTIONS SHALL BE PERFORMED BY SPECIAL INSPECTORS AND AGENCIES QUALIFIED BY THE CITY OF NEW YORK AND ACCEPTABLE TO THE ENGINEER OF RECORD.
- ALL SPECIAL INSPECTIONS SHALL BRING AND DISCREPANCIES TO THE ATTENTION OF THE OWNER AND ENGINEER OF RECORD.
- ALL SPECIAL INSPECTORS SHALL FURNISH INSPECTION REPORTS TO THE OWNER AND TO THE ENGINEER OF RECORD.
- THE FOLLOWING ITEMS REQUIRE SPECIAL INSPECTION (BC REFERENCES ARE TO THE DECEMBER 31, 2014 BUILDING CODE):

SPRINKLER SYSTEMS BC 1704.23

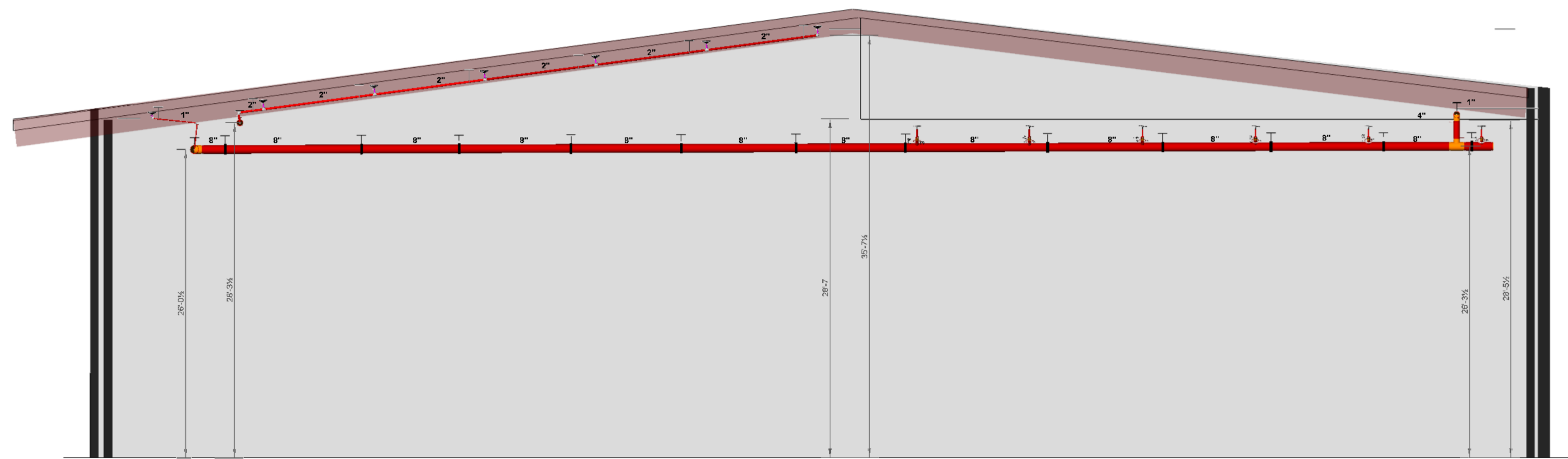
FIRESTOP, DRAFTSTOP AND FIREBLOCK SYSTEMS BC 1704.27  
FINAL INSPECTION 28-116.2.4.2 AND BC 110.5 AND DIRECTIVE 14 OF 1979

THE FOLLOWING ITEMS REQUIRE PROGRESS INSPECTION  
(BC REFERENCES ARE TO THE DECEMBER 31, 2014 BUILDING CODE):

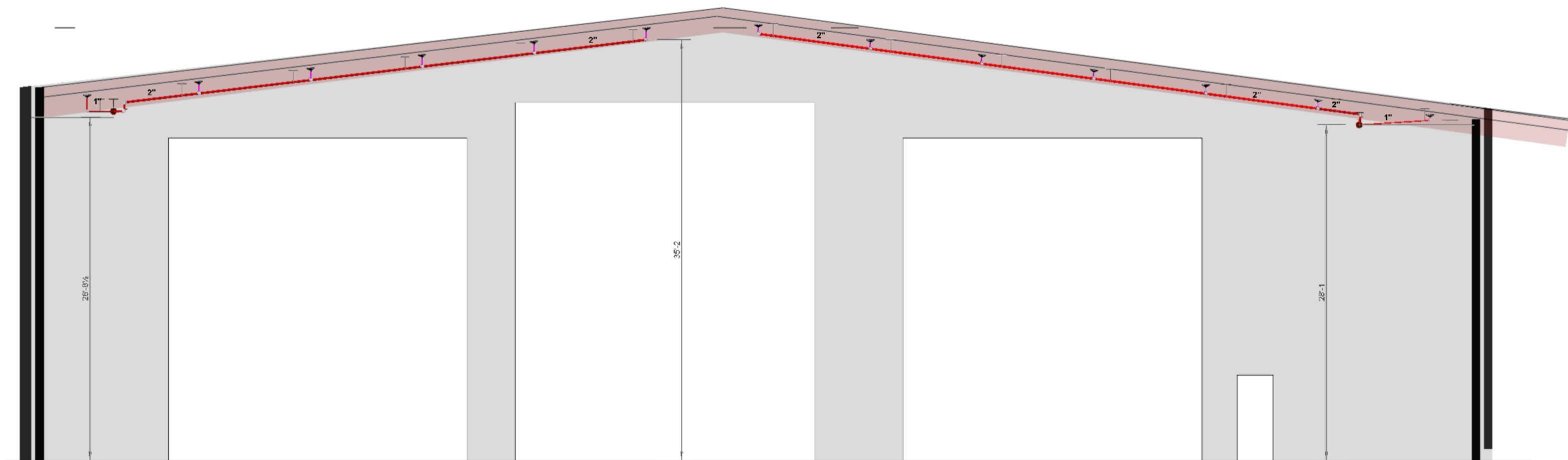
FINAL INSPECTION 28-116.2.4.2 AND BC 110.5



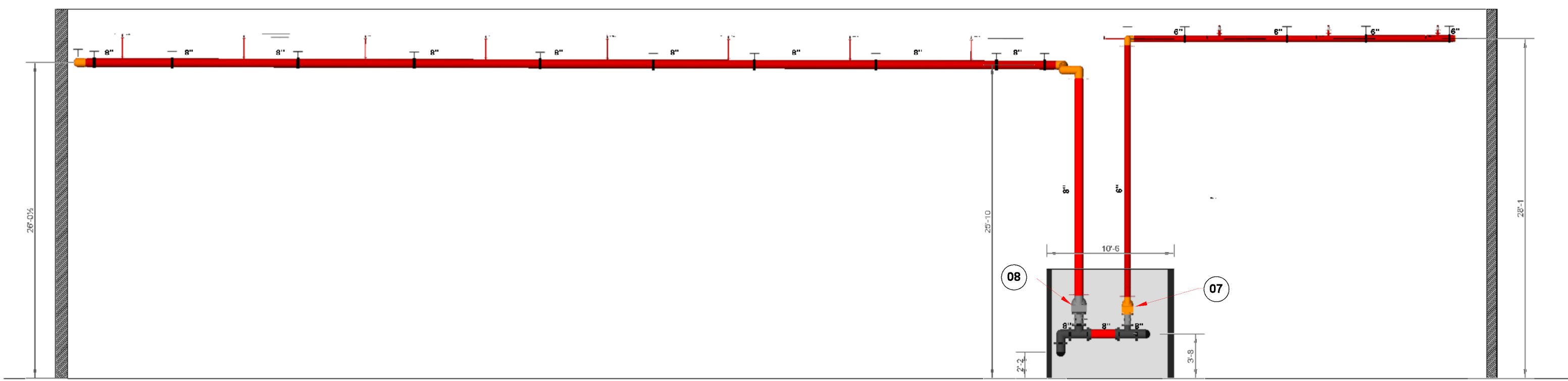
**FIRE SPRINKLER SYSTEM - PLAN VIEW**  
 SCALE 1/8" = 1'-0"



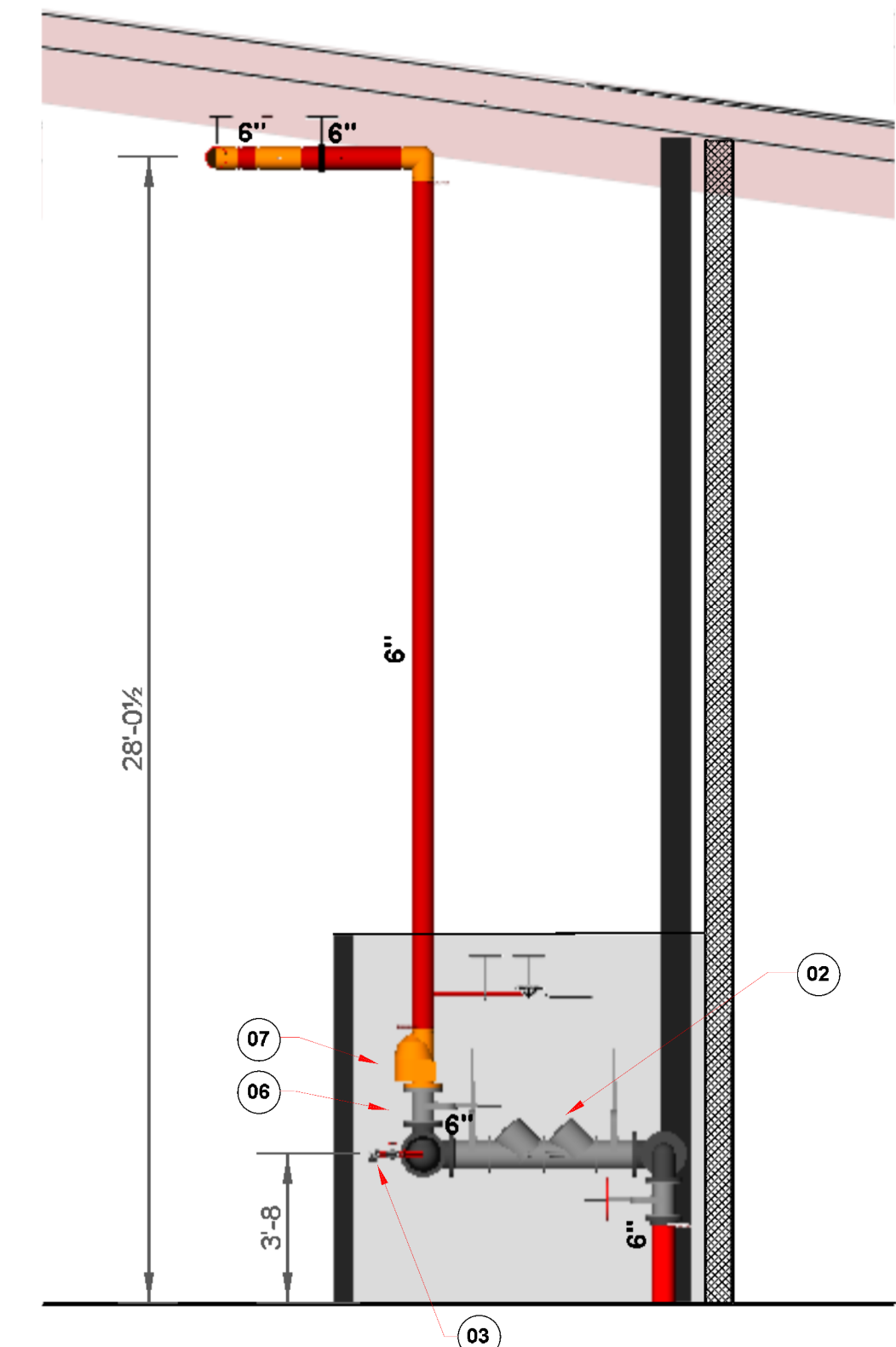
VIEW B-B  
SCALE 1/8" = 1'-0"



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

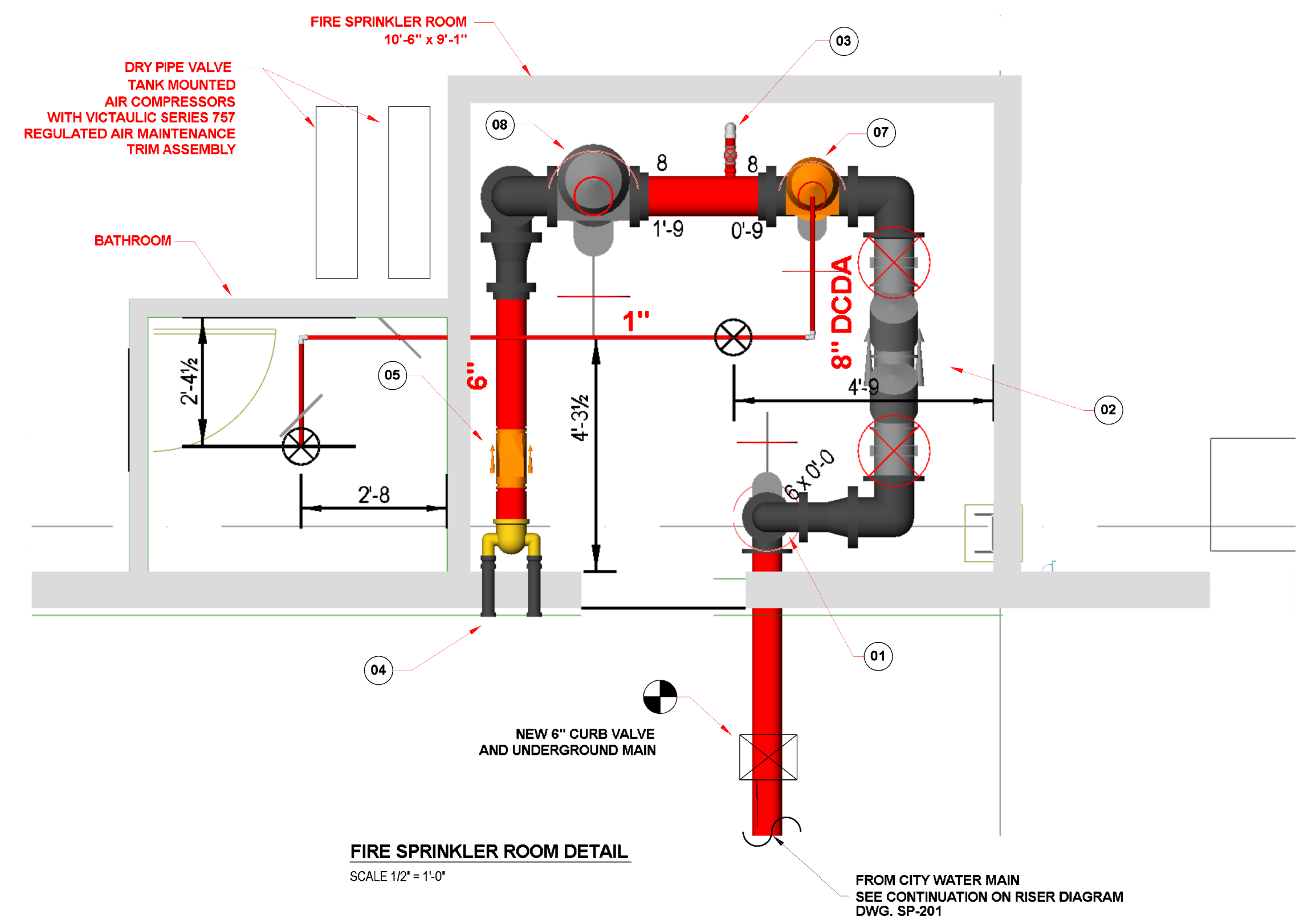


VIEW A-A  
SCALE 1/8" = 1'-0"



VIEW D-D  
SCALE 1/4" = 1'-0"

- LIST OF EQUIPMENT**
- 01 - 6" O&Y GATE VALVE
  - 02 - 8" AMES 3000SS DCDA BACKFLOW PREVENTER
  - 03 - 2" MAIN DRAIN
  - 04 - 6"x3"x3" SIAMESE FDC
  - 05 - 6" CHECK VALVE WITH ABD
  - 06 - 6" O&Y GATE VALVE
  - 07 - 6" DRY PIPE VALVE - VICTAULIC NXT 768N WITH 746-LPA DRY ACCELERATOR
  - 08 - 8" DRY PIPE VALVE - VICTAULIC FIRELOCK NXT SERIES 768N WITH 746-LPA DRY ACCELERATOR



FIRE SPRINKLER ROOM DETAIL  
SCALE 1/2" = 1'-0"

FROM CITY WATER MAIN  
SEE CONTINUATION ON RISER DIAGRAM  
DWG. SP-201

### SCHEDULE OF SPRINKLER HEADS

SYMBOL	MFR.	MODEL	SIN	TYPE	LOCATION	FINISH & REMARKS	TEMP. RATING	'K' FACTOR	HEAD COVERAGE	MIN. FLOW	MIN. PRESS.	LISTINGS
☐	RELIABLE	MODEL G	R1027	STANDARD RESPONSE UPRIGHT K 8.0; 3/4" NPT	AT THE BUILDING ROOF DECK	BRONZE	165°F	8.0	-	-	7 PSI	UL; FM
☒	RELIABLE	F1FR56	RA1425	QUICK RESPONSE UPRIGHT K 5.6; 1/2" NPT	IN SPRINKLER ROOM AND BATHROOM	BRONZE	155°F	5.6	-	-	7 PSI	UL; FM
☉	VIKING	CMSA	VK540	CMSA LARGE DROP UPRIGHT K 11.2; 3/4" NPT	UNDERNEATH THE FLAT DROP CEILING	BRONZE	155°F	11.2	-	-	25 PSI	UL; FM

- SPRINKLER HEADS SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS.
- PROVIDE METAL WIRE GUARDS WHERE SPRINKLERS ARE SUBJECT TO DAMAGE, SUCH AS WITH-IN THE GYMNASIUM, ETC. AND SPRINKLER HEADS LOCATED UNDER HVAC DUCTS IN MECHANICAL EQUIPMENT ROOMS WHEN LOCATED LOWER THAN 7'-0" A.F.F. ETC.
- ALL SPRINKLER HEADS THROUGHOUT THE FACILITY SHALL BE OF THE ORDINARY TEMPERATURE RATING EXCEPT AS FOLLOWS:
  - SPRINKLER HEADS IN SHOWERS SHALL BE OF INTERMEDIATE TEMPERATURE RATING (175° TO 225°).
  - SPRINKLER HEADS LOCATED CLOSE TO HEATERS, STEAM PIPING OR LOW-PRESSURE BLOW-OFF VALVE SHALL BE OF THE TEMPERATURE RATING AS REQUIRED BY NFPA 13.
- ALL HEAT GENERATING EQUIPMENT WHICH CAN AFFECT THE TEMPERATURE RATING OF THE SPRINKLER HEADS SHALL BE CLEARLY IDENTIFIED ON THE SHOP DRAWINGS PRIOR TO SUBMISSION FOR APPROVAL.
- SPRINKLER HEADS MINIMUM FLOW & MINIMUM PRESSURE REQUIREMENTS TO BE BASED ON HYDRAULIC CALCULATION DESIGN DENSITIES.

### SPECIALTY EQUIPMENT

TYPE	DESCRIPTION	SIZE	MANUFACTURER	MODEL NUMBER	NOTES
DRY	DRY VALVE ASSEMBLY	6" & 8"	VICTAULIC FIRELOCK	NXT SERIES 768N	PROVIDE 746-LPA ACCELERATOR AND TANK MOUNTED AIR COMPRESSOR WITH SERIES 757 AIR MAINTENANCE TRIM
DRY	AIR COMPRESSOR (TANK MOUNTED)	-	GENERAL AIR PRODUCTS	-	-

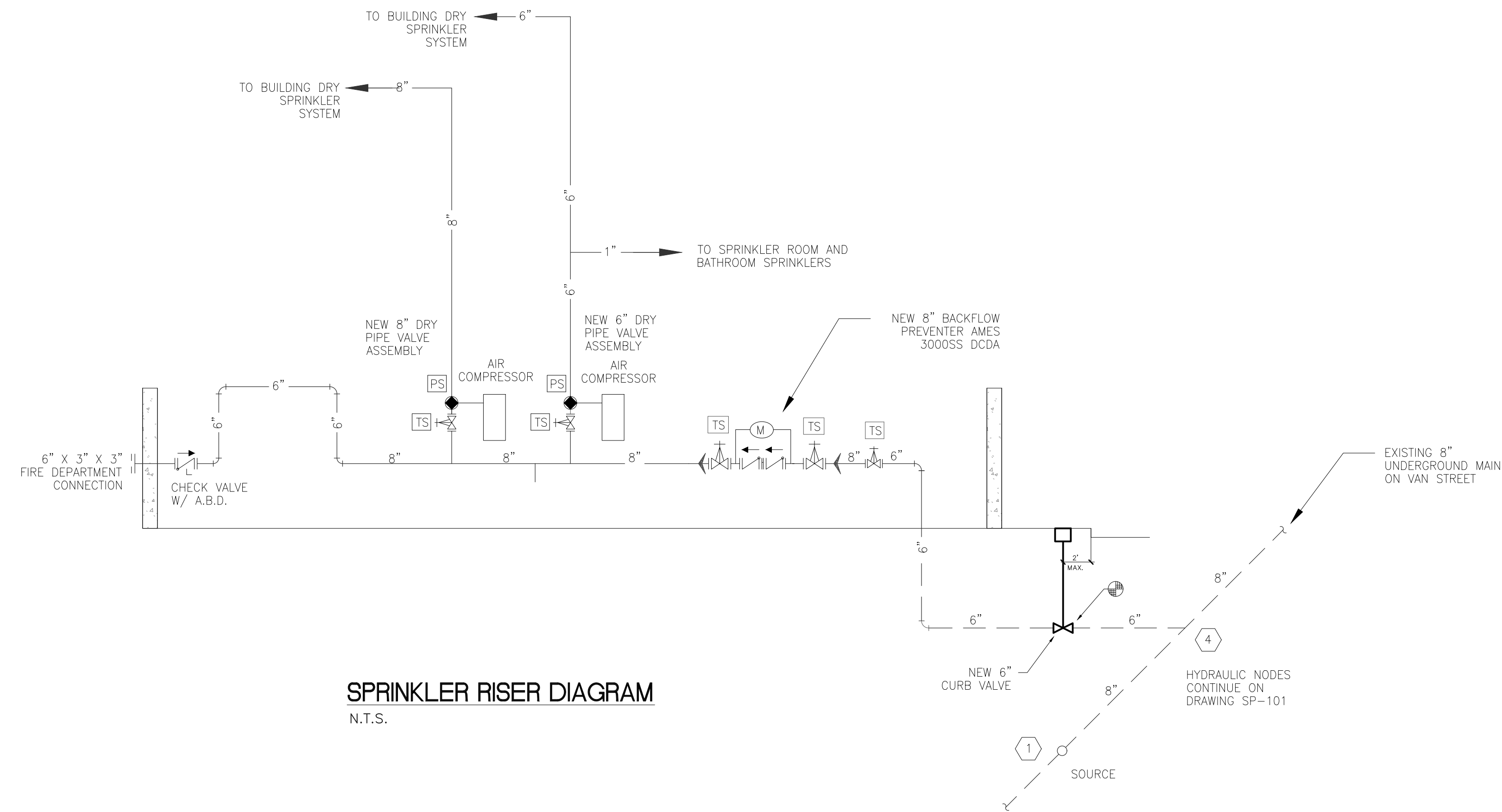
### FIRE HOSE VALVE, FIRE VALVE CABINET, FIRE DEPARTMENT CONNECTION SCHEDULE

TYPE	DESCRIPTION	SIZE	MANUFACTURER	MODEL NUMBER	NOTES
FDC	FIRE DEPARTMENT SIAMESE	6"x3"x3"	CROKER	6080	FLUSH MOUNTED

### FIRE PROTECTION MATERIAL SCHEDULE

SYSTEM	PIPE	FITTINGS	JOINTS	REMARKS
BURIED BUILDING FIRE SERVICE	DUCTILE IRON CAST IRON WATER PIPE	DUCTILE IRON	MECH. JOINT-FLANGED CAULKED	
SPRINKLER	STEEL SCHED. 40 GALVANIZED	MALLEABLE IRON	THREADED VICTAULIC	TO BE USED ON BRANCH LINES DOWNSTREAM OF DRY PIPE VALVE FOR PIPE SIZES 2" & SMALLER.
SPRINKLER	STEEL SCH. 10 GALVANIZED	VICTAULIC	ROLL GROOVED	TO BE USED ON RISERS AND MAINS, PIPE SIZES 2 1/2" AND LARGER, DOWNSTREAM OF THE DRY PIPE VALVE.
SPRINKLER	STEEL SCH. 40	FLANGED VICTAULIC	THREADED FLANGE VICTAULIC	TO BE USED ON RISERS AND MAINS, PIPE SIZES 2 1/2" AND LARGER IN THE SPRINKLER ROOM ONLY.
SPRINKLER DRAIN PIPE	STEEL SCHED 40 GALVANIZED	GALVANIZED	THREADED	

- NOTES:  
1. ALL MATERIALS SELECTED ON THIS SCHEDULE MUST BE APPROVED BY THE LOCAL AUTHORITIES.



## SPRINKLER SPECIFICATIONS

### 1. GENERAL

- A. THE SPRINKLER CONTRACTOR SHALL BE A LICENSED, AUTHORIZED INSTALLER OF SPRINKLER SYSTEMS AND SHALL HAVE HAD A MINIMUM OF FIVE YEARS EXPERIENCE IN THE INSTALLATION OF SPRINKLER SYSTEMS IN THE CITY OF NEW YORK.
- B. BEFORE SUBMITTING HIS BID, THE SPRINKLER CONTRACTOR SHALL VISIT THE SITE AND SHALL FULLY FAMILIARIZE HIMSELF WITH THE STRUCTURAL LAYOUT OF THE EXISTING BEAMS IN RELATIONSHIP TO THE NEW HVAC DUCT LAYOUT AND NEW LIGHTING FIXTURES AND HUNG CEILING HEIGHTS AND BECOME FAMILIAR WITH THE DIFFICULTIES THAT WILL ATTEND THE EXECUTION OF THIS WORK. CONTRACTOR SHALL PERFORM THIS PRIOR TO SUBMITTING HIS BID. SUBMISSION OF A BID WILL BE CONSTRUED AS EVIDENCE THAT SUCH AN EXAMINATION HAS BEEN MADE, AND LATER CLAIMS WILL NOT BE RECOGNIZED FOR EXTRA LABOR, EQUIPMENT OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED WHICH COULD HAVE BEEN FORESEEN HAD SUCH AN EXAMINATION BEEN MADE.
- C. UPON REVIEW OF SPRINKLER DRAWINGS PRIOR TO SUBMITTING HIS PROPOSAL, THE SPRINKLER CONTRACTOR SHALL INFORM ARCHITECT AND/OR ENGINEER OF ANY DISCREPANCIES OR REQUEST CLARIFICATION IN WRITING. IF NECESSARY, CONCERNING THE INTENT OF THE PLANS AND SPECIFICATIONS TO PROVIDE A COMPLETE SPRINKLER INSTALLATION. LATER CLAIMS WILL NOT BE RECOGNIZED FOR EXTRA LABOR, EQUIPMENT OR MATERIALS SHOULD SUCH PROCEDURE NOT BE FOLLOWED.
- D. THE SCHEDULING OF THE SPRINKLER WORK SHALL BE COORDINATED WITH THE BUILDING OWNER, WITH OTHER CONTRACTORS AND WITH CLIENT.
- E. NECESSARY SHUT-DOWNS OF BASE BUILDING SPRINKLER SYSTEM MUST BE COORDINATED WITH THE BUILDING OWNER AND CLIENT. SHUT-DOWNS OF BASE BUILDING SYSTEMS SHALL TAKE PLACE AFTER OR BEFORE NORMAL BUSINESS HOURS AND SHALL BE CONSIDERED OVERTIME WORK.
- F. THE SPRINKLER SYSTEM SHALL BE COMPLETE WITH ALL PIPE, FITTING, VALVES DRAINAGE SYSTEM AND VALVES, SPRINKLER HEADS, HANGERS AND SUPPORTS, ALSO MISCELLANEOUS WORK ITEMS, SUCH AS, SIGNS AS REQUIRED, VALVE TAGS, ETC., AND ALL OTHER RELATED EQUIPMENT, APPARATUS, AND MATERIAL ITEMS AND NECESSARY FOR COMPLETE, SATISFACTORY OPERATING AND APPROVED TYPE SYSTEM.
- G. ALL PIPE FITTINGS, HANGERS, SUPPORTS, SPRINKLER HEADS, ETC., SHALL CONFORM TO THE NEW YORK CITY BUILDING CODE AND NATIONAL FIRE PROTECTION ASSOCIATION'S REQUIREMENTS AS TO TYPES OF MATERIALS, ARRANGEMENT, SIZES, AND INSTALLATION EXCEPT THAT NO FACE OR FLUSH BUSHING SHALL BE USED. REDUCING FITTINGS SHALL BE PROVIDED IN LIEU OF BUSHINGS.

### 2. WORK INCLUDED

- A. WORK SHALL INCLUDE ALL SPRINKLER WORK FURNISHED AND INSTALLED FOR THE CLIENT.
  - 1) ALL WORK SHALL COMPLY WITH REQUIREMENTS OF THE NEW YORK CITY BUILDING CODE.
  - 2) WORK SHALL INCLUDE FURNISHING AND INSTALLING A COMPLETE WET PIPE SPRINKLER SYSTEM AS INDICATED ON THE PLANS. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ASPECTS OF THE INSTALLATION AND SHALL RETAIN THE SERVICES OF A LICENSED ELECTRICIAN TO PERFORM THE REQUIRED INSTALLATION. THIS CONTRACTOR'S ELECTRICIAN SHALL BE FULLY FAMILIAR WITH THE OPERATION OF THE DRY PIPE SYSTEM AND IT'S INTERCONNECTION TO THE BUILDING'S FIRE ALARM SYSTEM AND SHALL BE AVAILABLE FOR ANY AND ALL TESTS OR DEMONSTRATIONS AS REQUIRED BY THE FIRE DEPARTMENT.
- B. SPRINKLER HEAD LAYOUT SHALL BE BASED ON THE LOCATIONS INDICATED ON ON THE PLANS. THE SPRINKLER CONTRACTOR SHALL COORDINATE HIS WORK WITH EXISTING CONDITIONS AND WITH WORK OF ALL OTHER CONTRACTORS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY CONFLICTS IN WRITING BETWEEN THE OTHER TRADES BEFORE INSTALLATION OF THE SPRINKLER SYSTEM.
- C. SPRINKLER SYSTEM SHALL BE:
  - 1) A HYDRAULICALLY DESIGNED SYSTEM IN ACCORDANCE WITH THE STANDARDS OF THE NATIONAL FIRE PROTECTION ASSOCIATION, THE BUILDING CODE OF NEW YORK CITY.
  - 2) DESIGN SYSTEM TO CONFORM WITH BUILDING STRUCTURAL, MECHANICAL AND ELECTRICAL SYSTEMS, EITHER EXISTING OR PROPOSED.
- D. THESE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL LOCATION OF WORK. SCALED DIMENSIONS SHALL NOT BE USED. ANY DIMENSIONS NOT SHOWN SHALL BE OBTAINED FROM THE ARCHITECTURAL DRAWINGS. FOR EXACT LOCATIONS, MOUNTING HEIGHTS, ETC., REFER TO ARCHITECTURAL DRAWINGS AND DETAILS. ALL DIMENSIONS, ETC., SHALL BE VERIFIED BY FIELD CHECK.

### 3. SHOP DRAWINGS AND DATA

- A. THE CONTRACTOR SHALL SUBMIT, FOR APPROVAL, FULLY COORDINATED SHOP DRAWINGS, CAPACITY DATA, HYDRAULIC CALCULATIONS AND CATALOG CUTS OF THE FOLLOWING:
  - 1) PIPE AND FITTINGS
  - 2) SPRINKLER HEADS
  - 3) HANGERS AND SUPPORTS
  - 4) SPRINKLER AND PIPING LAYOUT
  - 5) HYDRAULIC CALCULATIONS
  - 6) VALVES, O.S.& Y. FLOOR CONTROL VALVE
  - 7) PRESSURE GAUGE
  - 8) TAMPER SWITCH

### 4. BUILDING DEPARTMENT FILING, PERMITS, AND CERTIFICATES

- A. THE SPRINKLER CONTRACTOR SHALL FILE ALL REQUIRED DRAWINGS AND SPECIFICATIONS WITH THE NEW YORK CITY BUILDING DEPARTMENT AND BE RESPONSIBLE FOR OBTAINING FINAL APPROVAL. THIS CONTRACTOR SHALL SUBMIT THE REQUIRED FORM (A-433) WITH THE FIRE DEPARTMENT AND OBTAIN ALL FINAL APPROVALS. IN ADDITION THIS CONTRACTOR IS TO SUBMIT TO THE FIRE DEPARTMENT FOR THEIR APPROVAL, A SHOP DRAWING INDICATING ALL OF THE SYSTEMS COMPONENTS. THIS DRAWING SHALL INCLUDE ALL OF THE NECESSARY SYMBOLS, NOTES AND WIRING DIAGRAMS AS REQUIRED FOR APPROVAL. THIS DRAWING IS TO BE SIGNED AND SEALED BY THE CONTRACTOR'S LICENSED ENGINEER AS REQUIRED FOR THE FINAL BUILDING AND FINAL FIRE DEPARTMENT APPROVALS.

### 5. INSPECTION AND TESTING

- A. THE SPRINKLER SYSTEM SHALL BE INSPECTED AND TESTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE NEW YORK CITY BUILDING CODE.
- B. THE SPRINKLER SYSTEM SHALL BE SUBJECTED TO A HYDROSTATIC PRESSURE FOR A PERIOD OF TWO HOURS AT A PRESSURE OF AT LEAST 200 PSIG OR 50 PSI IN EXCESS OF THE MAXIMUM PRESSURE TO BE MAINTAINED WHEN THE MAXIMUM PRESSURE IN THE SYSTEM IS IN EXCESS OF 150 PSI AS PER NFPA.
- C. BEFORE SPRINKLER SYSTEM IS CONCEALED, THE BUILDING DEPARTMENT SHALL BE NOTIFIED THAT THE SYSTEM IS READY FOR INSPECTION AND TESTING. THE BUILDING DEPARTMENT INSPECTOR SHALL WITNESS THE TEST. FINAL APPROVAL OF THE SPRINKLER SYSTEM SHALL BE OBTAINED FROM BUILDING DEPARTMENT.

### 6. FLUSHING

- A. ALL FIRE PROTECTION PIPING SHALL BE FLUSHED OUT IN ACCORDANCE WITH REQUIREMENT OF THE NATIONAL FIRE PROTECTION ASSOCIATION PAMPHLET NO. 13 AND 14, LATEST EDITION.

### 7. SPRINKLER PIPING

- A. SPRINKLER PIPING 2" AND SMALLER DIAMETER SHALL BE SCHEDULE 40 GALVANIZED PIPE. PIPING 2 1/2" AND LARGER CAN BE SCH. 10 GALVANIZED PIPE. FITTINGS AND FLANGES SHALL BE AMERICAN STANDARD GALVANIZED MALLEABLE IRON SPRINKLER FITTINGS, FLANGED OR SCREWED AS REQUIRED, DESIGNED AND MANUFACTURED FOR A WATER WORKING PRESSURE OF 175 POUNDS. VICTALIC TYPE ROLL GROOVED FITTINGS SHALL BE USED FOR PIPE 2 1/2" OR LARGER WHEN SCH. 10 GALVANIZED PIPE IS BEING USED.

### 8. SPRINKLER HEADS

- A. PLEASE CHECK THE SPRINKLER HEAD SCHEDULE IN DRAWING SP-001.

### 10. TAMPER SWITCHES

- A. WHERE INDICATED ON THE DRAWINGS, FURNISH AND INSTALL VALVE TAMPER SWITCHES FOR SUPERVISION OF O.S.& Y. SHUT OFF VALVES. TAMPER SWITCHES SHALL BE POTTER, ADT, ITT GRINNELL CORP., AUTO-CALL OR APPROVED OTHER.

### 11. WATER FLOW DETECTOR

- A. WHERE INDICATED ON THE DRAWINGS FURNISH AND INSTALL WATER FLOW ALARMS. WATER FLOW ALARMS SHALL BE PADDLE TYPE NON-CODED, RATED AT 120 VOLTS AD, 10 AMPS NORMALLY CLOSED SWITCH, ACME TYPE 430 OR APPROVED OTHER.

### 13. CUTTING AND PATCHING

- A. DO ALL CUTTING NECESSARY FOR THE INSTALLATION OF SPRINKLER WORK. ACCURATELY LAYOUT WORK FOR WHICH CUTTING IS REQUIRED, SO AS TO AVOID UNNECESSARY LARGE OPENINGS. CUTTING OF BEAMS, JOISTS, FLOORS OR WALLS OF THE BUILDING WILL NOT BE PERMITTED EXCEPT AFTER RECEIVING APPROVAL OF THE BUILDING MANAGER.
- B. ROUGH PATCHING WILL BE DONE BY THIS CONTRACTOR IN A MANNER TO ACCOMMODATE FINISHED PATCHING WORK. FINISHED PATCHING WILL BE DONE "UNDER ANOTHER SECTION OF THE SPECIFICATIONS".

### 14. INSERTS, HANGERS, ETC.

- A. ALL SPRINKLER PIPING SHALL BE SUBSTANTIALLY SUPPORTED AND SHALL COMPLY WITH THE STANDARDS OF THE NATIONAL FIRE PROTECTION ASSOCIATION FOR THE INSTALLATION OF SPRINKLER SYSTEMS NFPA 13 AND AS REQUIRED BY THE NEW YORK STATE BUILDING CODE AND FACTORY MUTUAL.
- B. HANGERS AND THEIR COMPONENTS SHALL BE FERROUS. HANGERS SHALL BE ADJUSTABLE, FLAT IRON TYPE OR CLEVIS TYPE.
- C. SPRINKLER PIPING OR HANGERS SHALL NOT BE USED TO SUPPORT NON-SYSTEM COMPONENTS.
- D. SPRINKLER PIPING SHALL BE SUBSTANTIALLY SUPPORTED FROM THE BUILDING STRUCTURE WHICH MUST SUPPORT THE ADDED LOAD OF THE WATER-FILLED PIPE PLUS A MINIMUM OF 250 LBS. APPLIED AT THE POINT OF HANGING.
- E. SPRINKLER PIPING SHALL BE SUPPORTED INDEPENDENTLY OF THE CEILING SHEATHING.
- F. WHEN SPRINKLER PIPING IS INSTALLED BELOW DUCTWORK, PIPING SHALL BE SUBSTANTIALLY SUPPORTED FROM THE BUILDING STRUCTURE, NOT FROM THE DUCTWORK.
- G. MAXIMUM DISTANCE BETWEEN HANGERS SHALL NOT EXCEED 12 FT. FOR 1-1/4" AND SMALLER, AND 15 FT. FOR 1-1/2" AND LARGER.
- H. EXPANSION SHIELDS FOR SUPPORTING PIPES UNDER CONCRETE CONSTRUCTION MAY BE USED IN A HORIZONTAL POSITION IN THE SIDES OF BEAMS. IN CONCRETE HAVING GRAVEL OR CRUSHED STONE AGGREGATE, EXPANSION SHIELDS MAY BE USED IN THE VERTICAL POSITION TO SUPPORT PIPES 4 IN. OR LESS IN DIAMETER.

### 15. O.S. & Y. GATE VALVE (CONTROL VALVE)

- A. VALVES SHALL BE NIBCO FIG. 607-OTS RISING STEM O.S.&Y. WITH FLANGED ENDS, 175 PSI, UL LISTED, FM APPROVED.

### 16. FLOOR CONTROL DRAIN VALVE ASSEMBLY

- A. SPRINKLER COMBINATION TEST AND DRAIN VALVE SHALL BE AGF MODEL #1000 BRONZE TYPE.
- B. FURNISH AND INSTALL A ONE INCH INSPECTORS TEST VALVE ASSEMBLY WITH SIGHT GLASS AND A 1-1/4" SYSTEM DRAIN VALVE ALL IN ACCORDANCE WITH NFPA-13.

### 17. PRESSURE GAUGE

- A. ASHCROFT SERIES 1079, OR APPROVED OTHER, 4-1/2" DIAMETER, 0-200 P.S.I. RANGE, 20 P.S.I. INTERVALS.

### 18. ESCUTCHEONS

- A. PROVIDE ESCUTCHEONS ON ALL EXPOSED PIPING PASSING THROUGH WALLS, PARTITIONS, FLOORS AND CEILINGS. ESCUTCHEON SHALL BE HELD IN PLACE BY INTERNAL TENSION OR SET SCREW.

### 19. SYSTEM SUPERVISION

ALL VALVES IN SUPPLY PIPES TO SPRINKLER SYSTEMS SHALL BE SUPERVISED BY:

- A. SUPERVISING STATION, PROPRIETARY OR REMOTE STATION SIGNALING SERVICE. OR,
- B. LOCAL SIGNALING SERVICE THAT WILL CAUSE THE SOUNDING OF AN AUDIBLE SIGNAL AT A CONSTANTLY ATTENDED POINT.

### 20. FIRE WATCH

- A. FIRE SYSTEM INTERRUPTIONS: FIRE WATCH REQUIREMENTS FOR FIRE SYSTEM OUTAGES SHALL BE DETERMINED BASED ON EXTEND OF THE INTERRUPTION AND EXPECTED OUTAGE TIME OF THE INTERRUPTION. HOWEVER, IN GENERAL, A FIRE WATCH IS TO FULFILL THE INTENT OF NFPA-72 AS FOLLOWS:

- 1) FIRE WATCH PERSONNEL ARE TO BE FAMILIAR WITH FACILITIES AND PROCEDURES FOR SOUNDING AN ALARM IN THE EVENT OF A FIRE.
- 2) FIRE WATCH PERSONNEL ARE TO HAVE FIRE EXTINGUISHING EQUIPMENT READILY AVAILABLE AND BE TRAINED IN ITS USE, INCLUDING PRACTICE ON TEST FIRES.
- 3) NOTIFY OCCUPANTS TO EVACUATE WHEN THERE IS A FIRE IN THE BUILDING.
- 4) NOTIFY THE CENTRAL MONITORING STATION TO INITIATE EMERGENCY PERSONNEL RESPONSE.
- 5) ACTIVATE FIRE PROTECTION SYSTEMS, E.G., IN ORDER TO RELEASE DOOR HOLDERS, CLOSE SMOKE DAMPERS AND SHUT DOWN FANS.
- 6) THE PERSONS PERFORMING THIS TYPE OF FIRE WATCH ARE NOT TO BE PERMITTED TO PERFORM ANY OTHER DUTIES.

### 21. GUARANTEE

- A. THE CONTRACTOR SHALL GUARANTEE FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF ACCEPTANCE BY THE ARCHITECT/ENGINEER, ALL MATERIALS, APPARATUS AND WORKMANSHIP WHETHER FURNISHED BY HIMSELF OR BY HIS SUBCONTRACTORS AND HE SHALL REPLACE OR REPAIR IN A MANNER APPROVED BY THE ARCHITECTS, WITHOUT COST TO THE TENANT, ANY PART OR PARTS OF THE WORK WHICH MAY PROVE DEFECTIVE OR UNSATISFACTORY WITHIN THE PERIOD OF THE GUARANTEE.

### 22. AS-BUILT DRAWINGS

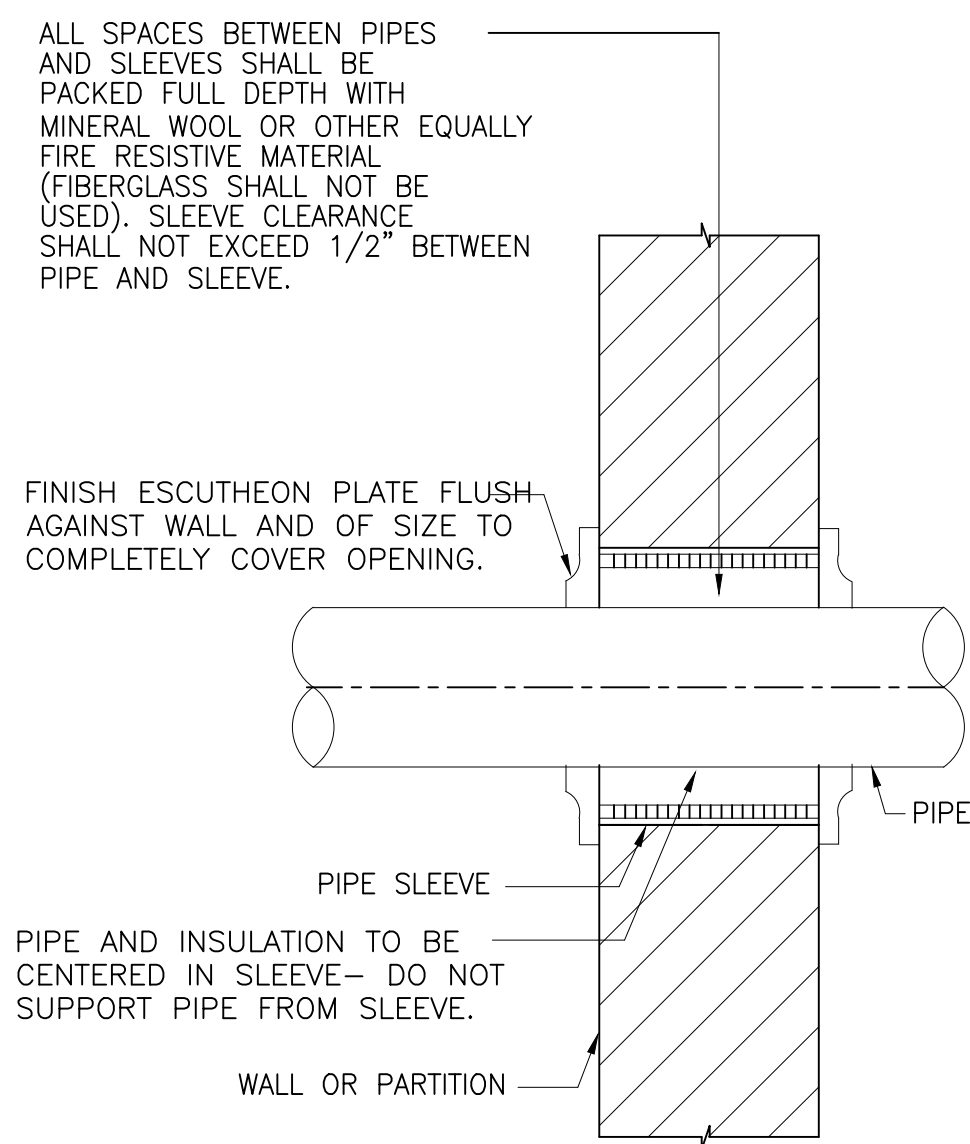
- A. PREPARE AND SUBMIT "AS-BUILT" DRAWINGS AT THE COMPLETION OF THE PROJECT.

## SPRINKLER FIELD EXAMINATION AND COORDINATION REQUIREMENTS

1. THESE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS AND WORK INDICATED UNDER THIS SECTION. THE CONTRACTOR SHALL CONSULT THE ARCHITECTURAL DRAWINGS AND DETAILS FOR EXACT LOCATIONS OF FIXTURES, AND EQUIPMENT.
2. THE CONTRACTOR SHALL FOLLOW THE DRAWINGS IN LAYING OUT WORK AND CHECK DRAWINGS OF OTHER TRADES TO VERIFY SPACES IN WHICH WORK WILL BE INSTALLED AND MAINTAIN MAXIMUM HEADROOM AND SPACE CONDITIONS AT ALL POINTS. WHERE HEADROOM OR SPACE CONDITIONS APPEAR INADEQUATE, THE ENGINEER SHALL BE NOTIFIED IN WRITING. THE INSTALLATION SHALL NOT PROCEED BEFORE RECEIVING THE ENGINEER'S WRITTEN INSTRUCTIONS.
3. IF DIRECTED BY THE ENGINEER, THE CONTRACTOR SHALL, WITHOUT EXTRA CHARGE, MAKE REASONABLE MODIFICATIONS IN THE APPROVED LAYOUT AS NEEDED TO PREVENT CONFLICT WITH WORK OF OTHER TRADES, MAINTAIN REQUIRED HEADROOM AND SPACE CONDITIONS, OR FOR PROPER EXECUTION OF THE WORK.
4. WHERE THE FIRE PROTECTION WORK WILL BE INSTALLED IN CLOSE PROXIMITY TO THE WORK OF OTHER TRADES, OR WHERE THERE IS EVIDENCE THAT THE WORK OF THE CONTRACTOR WILL INTERFERE WITH THE WORK OF OTHER TRADES, HE SHALL ASSIST IN WORKING OUT SPACES CONDITIONS TO MAKE A SATISFACTORY ADJUSTMENT. IF THE CONTRACTOR INSTALLS HIS WORK BEFORE COORDINATION WITH OTHER TRADES OR SO AS TO CAUSE INTERFERENCE WITH WORK OF OTHER TRADES, HE SHALL MAKE NECESSARY CHANGES IN HIS WORK TO CORRECT THE CONDITION WITHOUT EXTRA CHARGE.
5. STUDY THE DRAWINGS AND SPECIFICATIONS IN ORDER TO INSURE COMPLETENESS OF THE WORK REQUIRED UNDER THIS SECTION. INCIDENTAL WORK ITEMS NORMAL AND NECESSARY TO COMPLETE THE WORK, THOUGH NOT SHOWN OR SPECIFIED SHALL BE INCLUDED.
6. VERIFY ALL MEASUREMENTS AND CONDITIONS IN THE FIELD BEFORE STARTING WORK. INFORMATION REGARDING THE EXISTING FIRE PROTECTION SPRINKLER SYSTEM SHOWN ON THE PLANS HAVE BEEN TAKEN FROM PREVIOUS BUILDING SHOP DRAWINGS. ANY DEVIATIONS FOUND IN THE FIELD SHOULD BE REPORTED TO THE ENGINEER.
7. THIS CONTRACTOR SHALL SUBMIT LAYOUT DRAWINGS FOR APPROVAL BEFORE BEGINNING WORK. THESE DRAWINGS SHALL DEPICT ACTUAL FIELD CONDITIONS VERIFIED UNDER THIS CONTRACT. THEY MUST ALSO INDICATE ALL NEW AND EXISTING PIPING, SPRINKLER HEADS, ETC. DRAWINGS SHALL BE TO SCALE (1/4"=1'-0") AND INDICATE ALL PERTINENT DIMENSIONS, AND PIPE SIZES. THIS CONTRACTOR SHALL SUBMIT SEPIAS AND PRINTS OF THIS LAYOUT PLAN AND ALL CALCULATIONS TO THE ARCHITECT. QUANTITIES SHALL BE AS DIRECTED BY THE ENGINEER.
8. THIS CONTRACTOR SHALL SUBMIT DRAWINGS AND HYDRAULIC CALCULATIONS SIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER FOR APPROVAL TO THE NEW YORK CITY BUILDING DEPARTMENT, THE CITY OF NEW YORK FIRE PREVENTION BUREAU (THE OWNERS INSURANCE CARRIER) AND OBTAIN ALL REQUIRED APPROVALS PRIOR TO THE INSTALLATION OF WORK. CONTRACTOR SHALL OBTAIN REQUIRED FIRE PROTECTION PLANS AND RISER DIAGRAMS FROM THE BUILDING OWNER. THIS CONTRACTOR SHALL VERIFY WITH BUILDING MANAGEMENT IF THE EXISTING BUILDING FIRE RESERVE CAPACITY IS ADEQUATE.

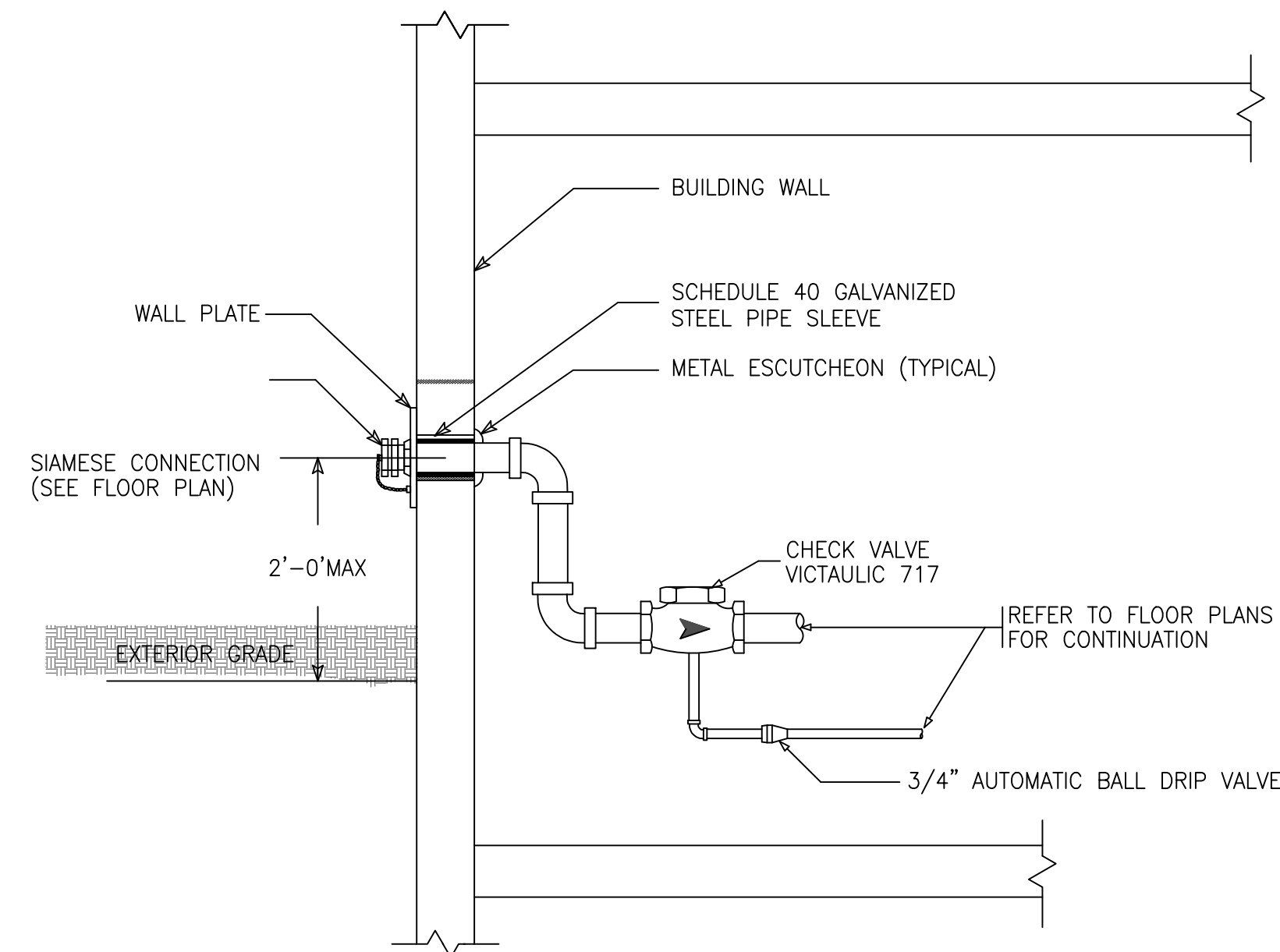
## CONSTRUCTION GENERAL NOTES

1. THE SPRINKLER CONTRACTOR WILL BE HELD RESPONSIBLE TO HAVE VISITED AND EXAMINED THE PREMISES BEFORE SUBMITTING HIS PROPOSAL, IN ORDER TO UNDERSTAND THE CONDITIONS RELATED TO HIS WORK.
2. ALL MATERIALS AND APPARATUS SHALL BE INSTALLED IN ACCORDANCE WITH ALL THE RULES AND REGULATIONS OF THE NEW YORK CITY BUILDING CODES AND ALL OTHER AUTHORITIES HAVING JURISDICTION & NFPA.
3. PROCUREMENT OF ALL PERMITS AND CERTIFICATES FOR THE INSTALLATION OF THESE SYSTEMS SHALL BE PERFORMED IN ACCORDANCE WITH ALL THE RULES & REGULATIONS OF THE NEW YORK CITY BUILDING CODES & ALL OTHER AUTHORITIES HAVING JURISDICTION.
4. THE SPRINKLER CONTRACTOR SHALL COORDINATE HIS WORK WITH ALL OTHER TRADES AND ALL CONDITIONS, AND PROVIDE OFFSETS IN PIPING SYSTEM TO AVOID STRUCTURAL, ARCHITECTURAL, MECHANICAL & ELECTRICAL INTERFERENCES, WHETHER INDICATED OR NOT.
5. PROVIDE COMPLETE SPRINKLER COVERAGE IN ALL AREAS, REFER TO AND COORDINATE WITH THE LATEST ARCHITECTURAL REFLECTED CEILING PLANS AND DETAILS. SPRINKLER HEADS SHALL BE CENTERED IN TILE OR ALIGNED WITH LIGHTS, DIFFUSERS, ETC. ANY SPRINKLER HEAD, MODIFICATIONS REQUIRED TO MEET THE DESIGN CRITERIA MUST BE PROVIDED AND APPROVED BY THE ARCHITECT.
6. PROVIDE SPRINKLER HEAD COMPLETE WITH PIPING, FITTINGS, HANGERS WITH ATTACHMENT TO BUILDING STRUCTURE.
7. PIPING DAMAGES AS A RESULT OF PERFORMING THE WORK OF THIS CONTRACT SHALL BE REPAIRED OR REPLACED AS REQUIRED WITH MATERIAL & FINISH TO MATCH EXISTING.
8. ALL AREAS WITHOUT HUNG CEILINGS ELECTRICAL ROOMS, MECHANICAL ROOMS, STORAGE AREAS ETC., PROVIDE WITH EXPOSED UPRIGHT OR PENDENT SPRINKLER HEADS WITH SPRINKLER GUARDS IN AREAS SUBJECT TO ACCIDENTAL DAMAGE.
9. CONTRACTOR IS RESPONSIBLE FOR PROVIDING COMPLETE SPRINKLER COVERAGE IN ACCORDANCE WITH THE REQUIREMENTS OF THE NYC BUILDING CODE & NFPA STANDARDS, LOCAL FIRE DEPARTMENT & THE DESIGN CRITERIA.
10. LOCATION AND TYPE OF SPRINKLER HEADS IN THE AREAS WITHOUT HUNG CEILINGS SHALL BE FULLY COORDINATED WITH THE EXPOSED STRUCTURAL (BEAMS, COLUMNS, ETC.) LIGHTING EQUIPMENT AND HVAC EQUIPMENT (DUCTWORK, UNIT HEATERS, ETC.) ALL OF THE ABOVE ELEMENTS WHICH IMPACT THE SPRINKLER SYSTEM MUST BE INDICATED ON THE SHOP DRAWINGS FOR REVIEW AND APPROVAL.
11. BEFORE COMMENCEMENT OF ANY WORK, COMPLETE AND DETAILED WORKING PLANS SHALL HAVE BEEN SUBMITTED AND APPROVED BY THE PORT AUTHORITY OF NY & NJ.
12. PROVIDE SPRINKLER HEADS ABOVE AND BELOW ALL DUCTS OR CLUSTERS OF DUCTS, PIPES OR CONDUITS OVER 48" WIDE.
13. ALL FLOOR PENETRATIONS, CORE DRILLING, ETC. SHALL BE APPROVED BY LANDLORD.
14. BASE BUILDING ARCHITECT AND STRUCTURAL ENGINEERS SHALL REVIEW METHOD OF SUPPORTING SPRINKLER PIPING.
15. CONTRACTOR SHALL SUBMIT ALL FINAL COORDINATED DRAWINGS IN AUTO CAD FORMAT.



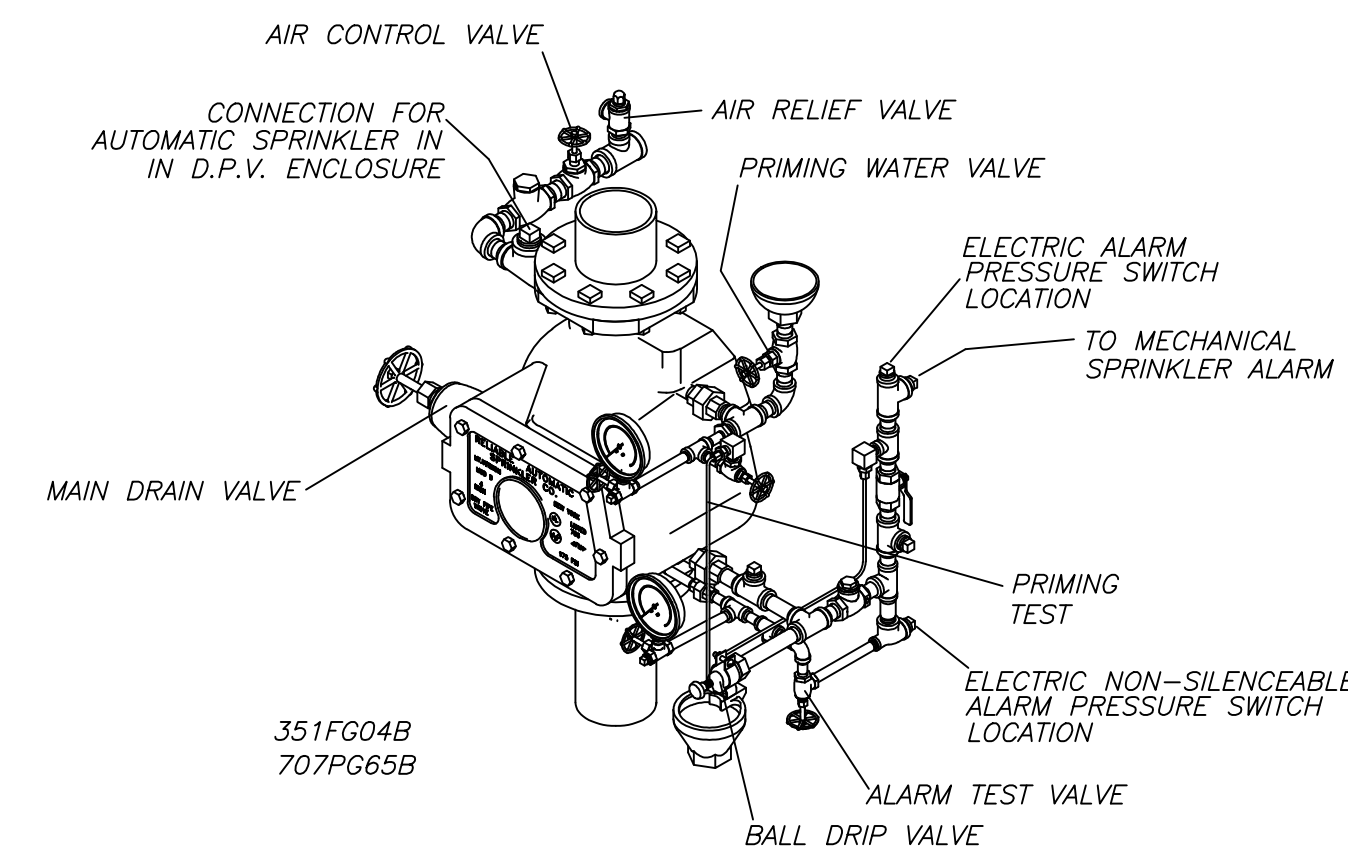
**DETAIL OF PIPING THRU  
FIRE RATED WALL**

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**SIAMESE CONNECTION DETAIL**

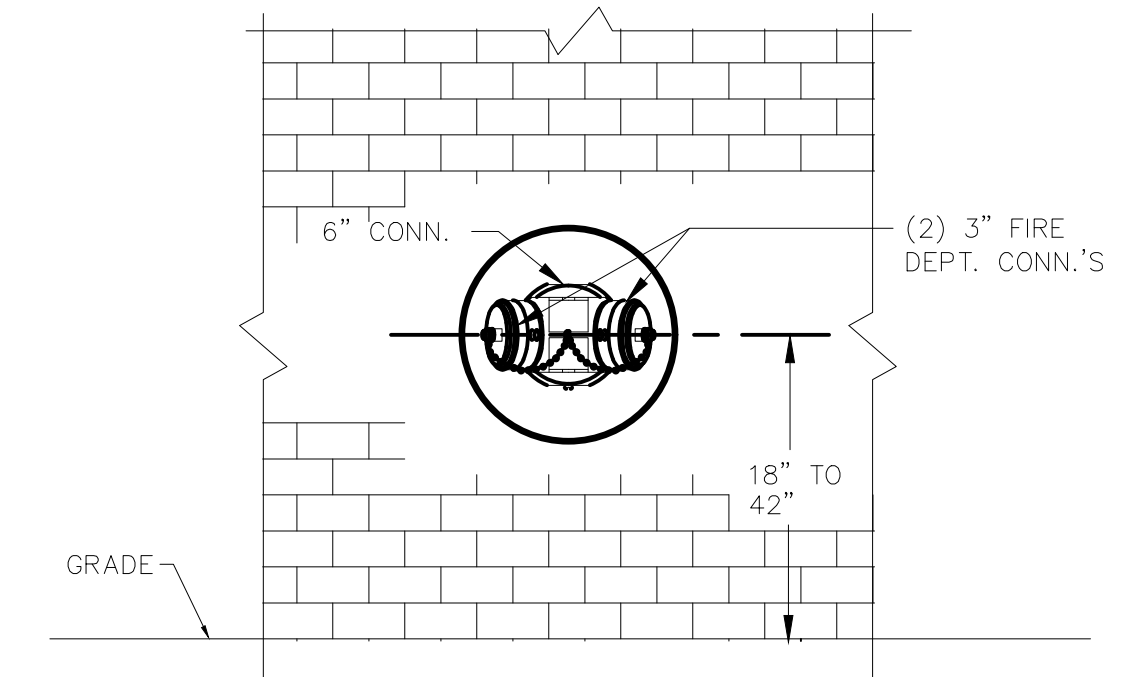
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**DRY PIPE VALVE**

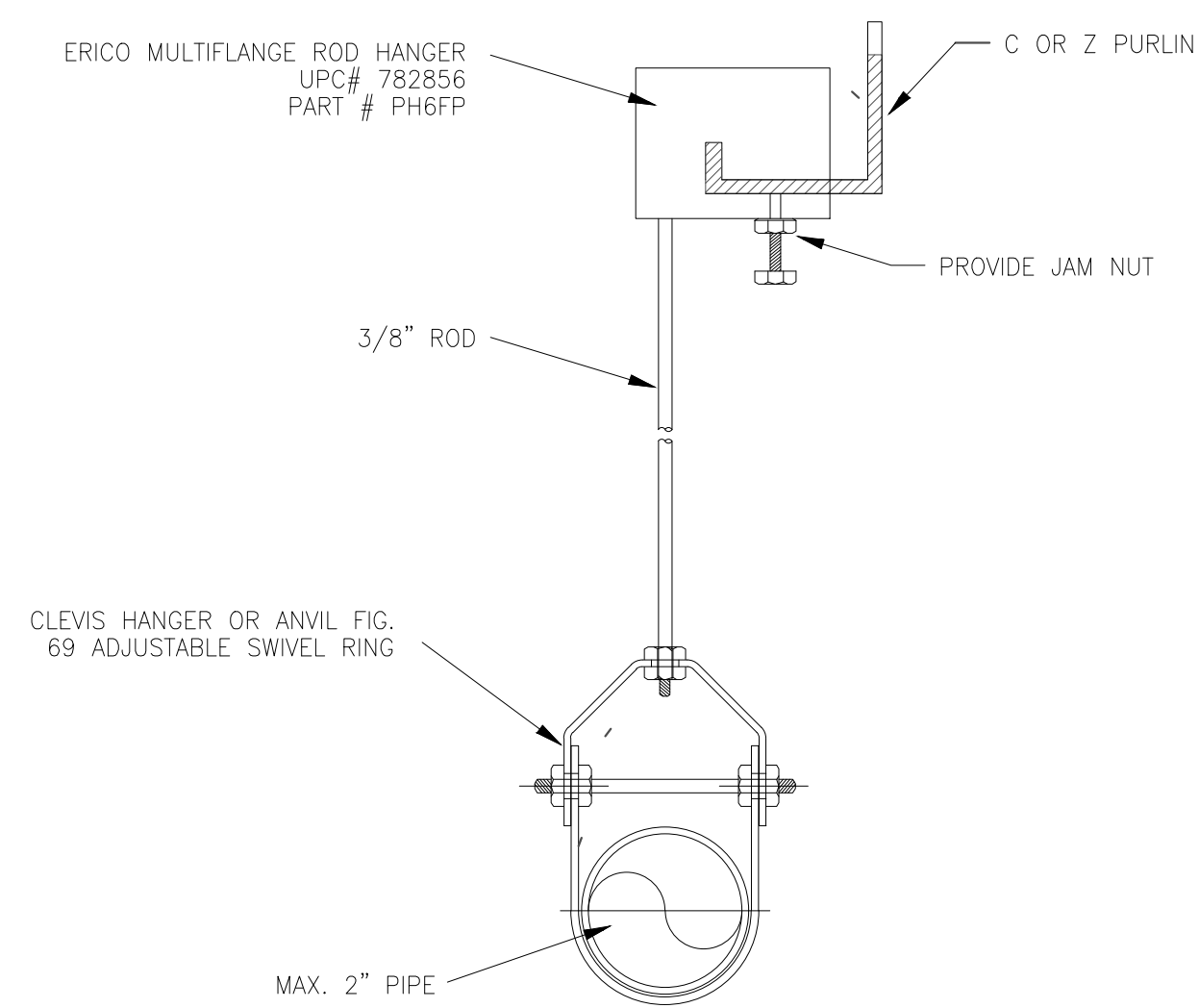
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- NOTES**
1. SPRINKLER CONTRACTOR TO COORDINATE HEIGHT & LOCATION OF FIRE DEPT. CONNECTION WITH LOCAL FIRE DEPARTMENT.
  2. SPRINKLER CONTRACTOR TO COORDINATE THREADS ON FIRE DEPT. CONNECTION WITH LOCAL FIRE DEPARTMENT.



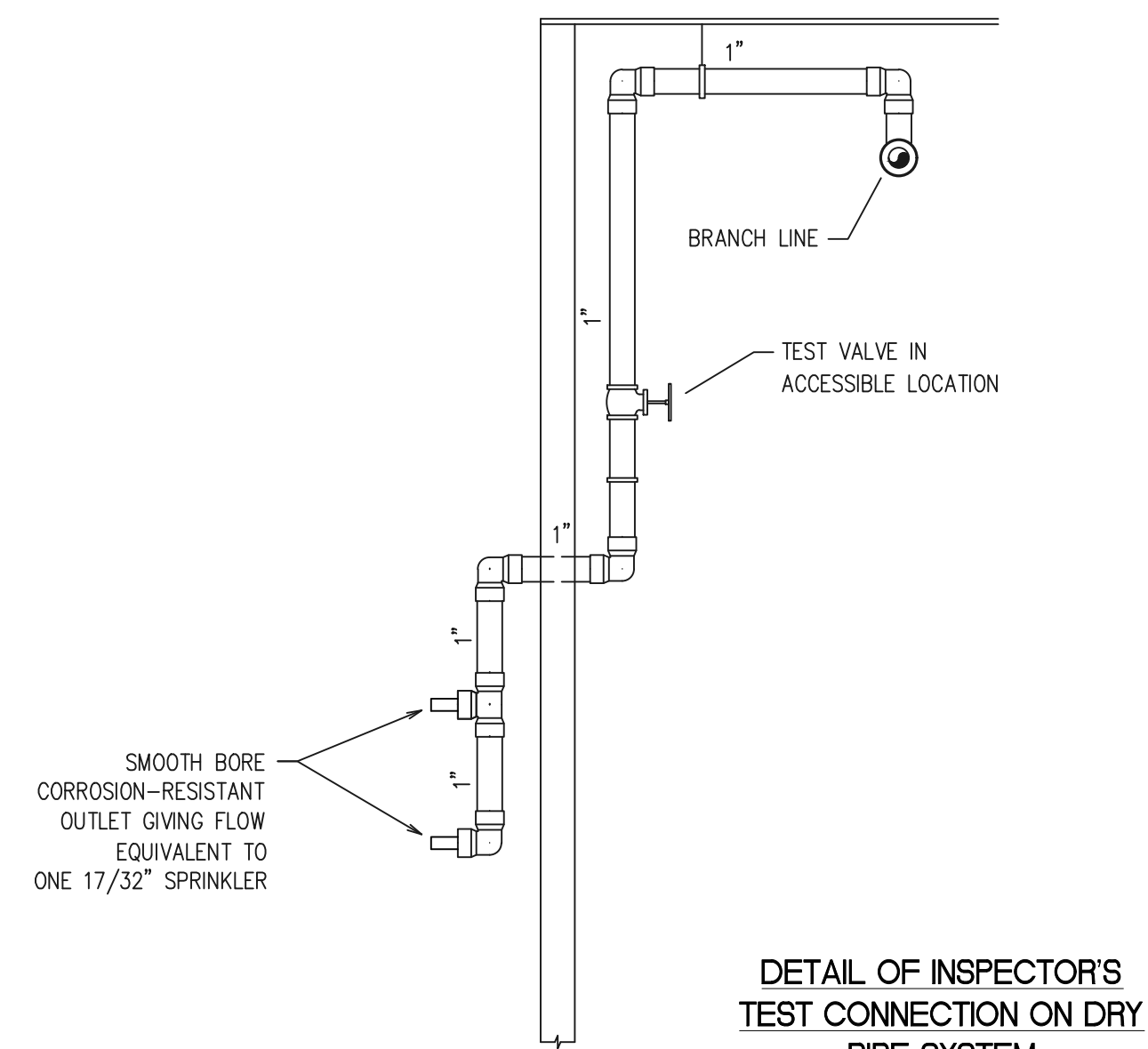
**FIRE DEPARTMENT CONNECTION DETAIL**

N.T.S.



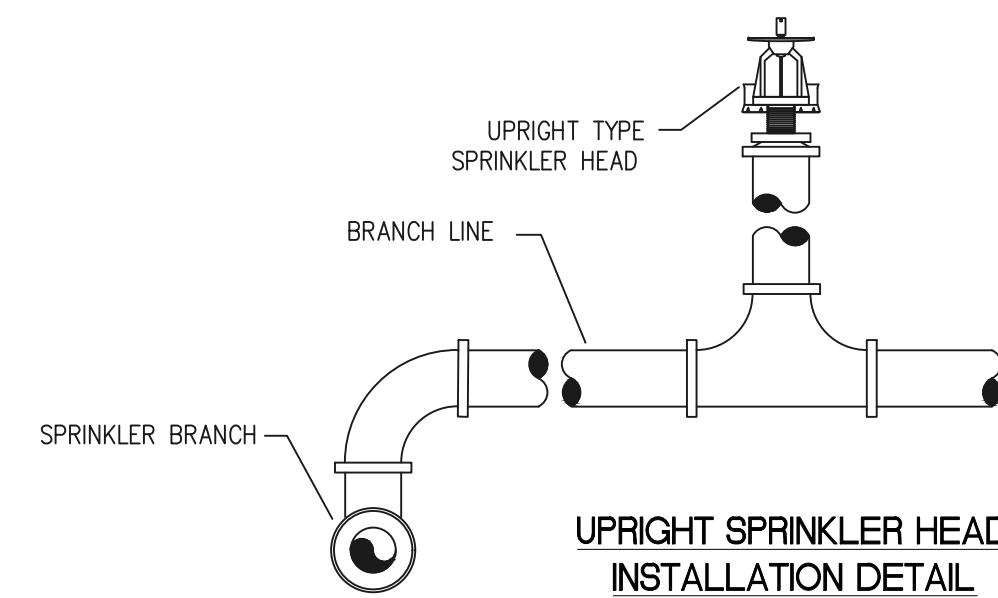
**TYPICAL HANGER DETAIL  
FOR HANGING PIPES UP TO 2\"/>**

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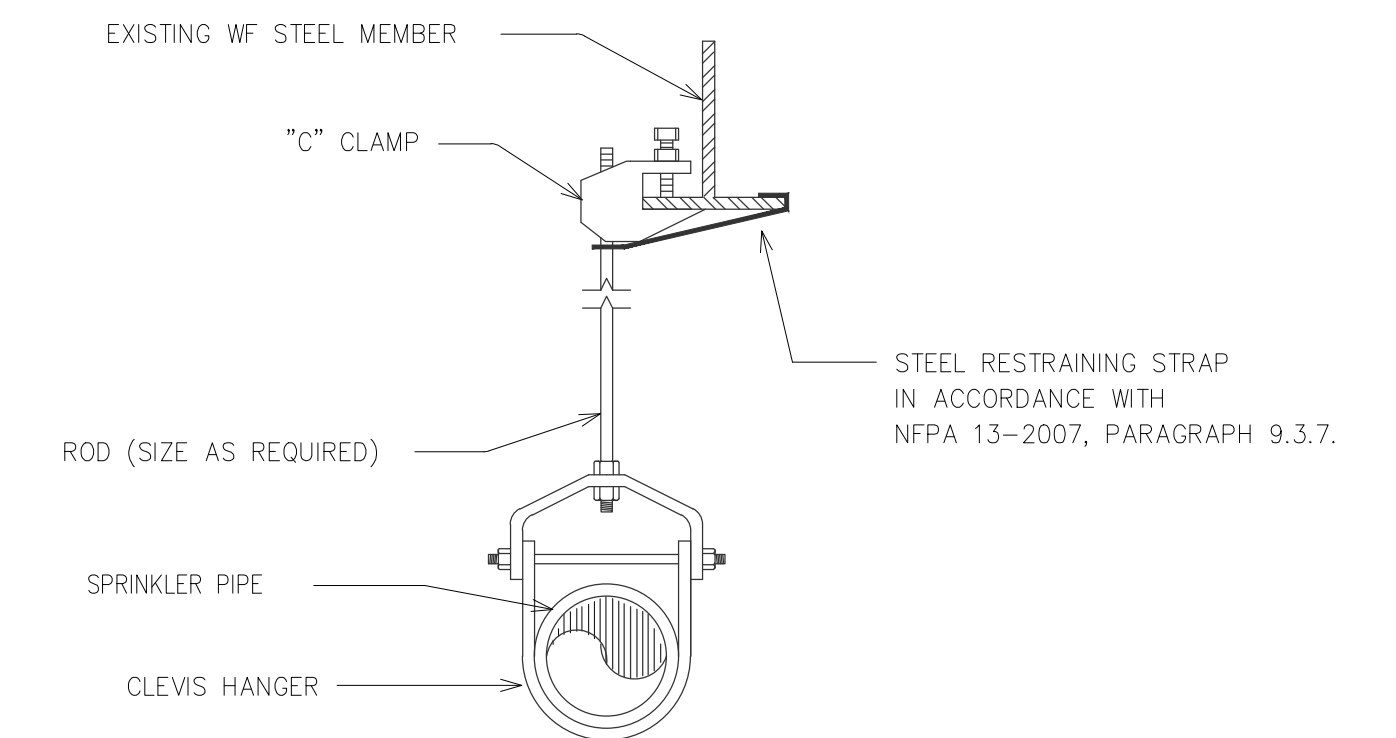
**DETAIL OF INSPECTOR'S  
TEST CONNECTION ON DRY  
PIPE SYSTEM**

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**UPRIGHT SPRINKLER HEAD  
INSTALLATION DETAIL**

N.T.S.



**TYPICAL HANGING DETAILS**

N.T.S.

- NOTES:**
1. CLEVIS HANGERS REQUIRED ON PIPING LARGER THAN 1"
  2. GENERAL PURPOSE HANGERS MAY BE USED ON 1" SPRINKLER PIPING ONLY.