

SYMBOLS AND ABBREVIATIONS

SYMBOL	ABBREVIATION	DESCRIPTION
————	EX.	EXISTING TO REMAIN
————	NEW	NEW WORK
————	DEM.	EXISTING TO BE REMOVED
	—	ELBOW UP
	—	ELBOW DOWN
	—	TEE DOWN
	—	TEE UP
	—	PIPE CAP OR FLUSHING CONNECTION
	—	GATE VALVE
	—	OS&Y GATE VALVE
	—	BUTTERFLY VALVE
	—	CHECK VALVE
	—	UNION
	—	TEMPERATURE GAGE
	—	PRESSURE GAGE
	—	WATER FLOW SWITCH
	—	TAMPER SWITCH
	—	INSPECTORS TEST CONNECTION
	—	FLOW ARROW
	—	SPRINKLER GUARD
	—	EXISTING SPRINKLER TO REMAIN
	—	EXISTING SPRINKLER TO BE REMOVED
	—	NEW PENDENT SPRINKLER, CONCEALED OR EXPOSED AS NOTED.
	—	NEW UPRIGHT SPRINKLER
	—	SIDEWALL SPRINKLER
	—	POINT OF CONNECTION
	—	POINT OF DISCONNECTION
	—	HYDRAULIC REFERENCE NODE
	—	HYDRAULIC REFERENCE SPRINKLER
	FDC	FIRE DEPARTMENT CONNECTION
	FP	FIRE PUMP
	AFF	ABOVE FINISHED FLOOR
	AHC	ABOVE HUNG CEILING
	ATC	AT CEILING
	BFP	BACKFLOW PREVENTOR
	DCDA	DOUBLE CHECK DETECTOR ASSEMBLY
	DCV	DOUBLE CHECK VALVE BFP
	DN.	DOWN
	FCA	FLOOR CONTROL ASSEMBLY
	FD	FLOOR DRAIN
	FLFD	FUNNEL FLOOR DRAIN
	GPM	GALLONS PER MINUTE
	JP	JOCKEY PUMP
	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
	(NO)	NORMALLY OPEN
	(NC)	NORMALLY CLOSED
	NTS	NOT TO SCALE
	PRV	PRESSURE REDUCING VALVE
	PSI	POUNDS PER SQUARE INCH
	RPZ	REDUCED PRESSURE ZONE BFP
	SF	SQUARE FOOT
	TS	TAMPER SWITCH
	TYP	TYPICAL
	U.O.N.	UNLESS OTHERWISE NOTED

NOTE: FOR REFERENCE ONLY. NOT ALL SYMBOLS OR ABBREVIATIONS ARE USED IN THIS PROJECT.

GENERAL NOTES

- THE REVISED SPRINKLER SYSTEM SHALL BE DESIGNED AND INSTALLED BY AN EXPERIENCED FIRE PROTECTION CONTRACTOR IN STRICT ACCORDANCE WITH NFPA-13, THE REQUIREMENTS OF THE LANDLORD, LANDLORD'S FIRE INSURANCE UNDERWRITER, AND ALL GOVERNMENTAL AGENCIES AND AUTHORITIES HAVING JURISDICTION OVER THE PREMISES.
- COORDINATE ALL WORK WITH OTHER TRADES TO MINIMIZE INTERFERENCES WITH NEW AND EXISTING FACILITIES, TO FACILITATE TIMELY COMPLETION AND AVOID NECESSITY FOR CUTTING AND PATCHING. FURNISH TO OTHER AFFECTED TRADES ALL NECESSARY INFORMATION, WORKING DRAWINGS OR MATERIALS REQUIRED FOR INSTALLATION AND COMPLETION OF ALL WORK. ALL CONFLICTS, OBSTRUCTIONS AND/OR MODIFICATIONS TO THE SPRINKLER DESIGN LAYOUT DUE TO FIELD CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO FABRICATION AND INSTALLATION.
- CONTRACTOR SHALL CONDUCT FLOW TEST TO ESTABLISH EXACT FLOW AND PRESSURE AVAILABLE ON THE SITE FOR PREPARATION OF HYDRAULIC CALCULATIONS.
- ALTER PIPING AS REQUIRED TO SUIT NEW AND EXISTING CEILING HEIGHTS, DUCTWORK, AND LIGHTS. PROVIDE AT NO EXTRA COST ALL ADDITIONAL PIPING AND FITTINGS REQUIRED TO OFFSET SYSTEM TO AVOID STRUCTURAL, ARCHITECTURAL, MECHANICAL, AND ELECTRICAL INTERFERENCES, WHETHER INDICATED OR NOT, BEFORE INSTALLING WORK.
- WHEN INSTALLING SPRINKLER HEADS, THE CONTRACTOR SHALL PROVIDE THE SHORTEST HYDRAULIC PIPE LENGTH BETWEEN THE FINAL SPRINKLER HEAD LOCATION AND THE BRANCH LINE CONNECTION. MINIMUM 1" FOR TWO HEADS, 1-1/4" FOR THREE HEADS AND 1-1/2" FOR FIVE HEADS.
- EXACT LOCATION OF SPRINKLER HEADS IN FINISHED AREAS SHALL BE COORDINATED WITH ARCHITECTURAL REFLECTED CEILING PLANS. SPRINKLER HEADS INSTALLED IN HUNG CEILING WILL BE POSITIONED AS FOLLOWS: LOCATED WITH TOLERANCE ± 1/2" OF THE CENTERLINE OF THE TILES.
- INSTALL SPRINKLER HEADS TIGHT TO BOTTOM OF HUNG CEILING WITH CARE THAT THE FINISH IS NOT DAMAGED.
- WHEN CONCEALED TYPE SPRINKLER HEADS ARE USED, THE COVER PLATES WILL BE FLUSH WITH THE CEILING PLANE TO LIMIT SHADOW EFFECT. TOLERANCE GREATER THAN ± 1/8" IS UNACCEPTABLE.
- PROVIDE TWO 2-1/2 GALLON PRESSURIZED WATER AND ONE 10 LB ABC DRY CHEMICAL EXTINGUISHERS FOR EMERGENCY USE DURING CONSTRUCTION.
- SPRINKLER PLAN SHOWS NEW, EXISTING TO REMAIN AND SPRINKLER HEADS TO BE REMOVED ONLY. ADD SPRINKLER HEADS AS SHOWN ON PLAN AND REUSE EXISTING BRANCH PIPING. MODIFY, EXTEND, AND SHORTEN PIPING AS REQUIRED.
- EXISTING FLOW, TAMPER AND ALARM DEVICES MUST BE TIED INTO THE BUILDING'S FIRE ALARM SYSTEM. ALL REQUIRED EXTENDER PANELS, CODE TRANSMITTERS, ETC. AS MAY BE REQUIRED TO INTEGRATE THE SYSTEM EXPANSION SHALL BE FURNISHED AND INSTALLED BY THE SPRINKLER CONTRACTOR.
- EXISTING DRAIN VALVES AT MAIN SHUT-OFF VALVES, LOW POINTS, AND APPARATUS SHALL BE MAINTAINED.
- PROVIDE ALL PIPE OPENINGS THROUGH PARTITIONS WITH PIPE SLEEVES. FOR PIPES PENETRATING FIRE RATED PARTITIONS, THE SPACE BETWEEN THE PIPE AND THE SLEEVE SHALL BE SEALED WITH A LISTED FIRE STOPPING ASSEMBLY OR MATERIAL.
- ALL HOSE CONNECTION AND FIRE DEPARTMENT CONNECTION THREADS SHALL BE TESTED TO VERIFY COMPATIBILITY WITH THREADS USED BY LOCAL FIRE DEPARTMENT, IN ACCORDANCE WITH NFPA-14 (2013) SECTION 11.3.
- THE CONTRACTOR SHALL MAKE A PROVISION FOR (10) EXTRA SPRINKLERS INCLUDING IMMEDIATE BRANCH PIPING, FITTINGS AND ARM-OVERS. THE CONTRACTOR SHALL COORDINATE WITH FINAL CONFIGURATION OF OPEN AND HUNG CEILINGS, ALL HVAC DUCTWORK AND PIPING AND STRUCTURAL ELEMENTS THROUGHOUT THE AREA OF WORK.

EQUIPMENT NOTES

- TAMPER SWITCHES: SHALL BE AS MANUFACTURED BY POTTER ELECTRIC SIGNAL CO. FOR EACH POSSIBLE SHUT-OFF VALVE TYPE:
 - MODEL OSYSU-2 - FOR OS&Y VALVES.
 - MODEL PCVS-2 - FOR BUTTERFLY VALVES.
 - MODEL RBVS - FOR BALL VALVES.
- SPRINKLER PIPING MATERIAL: SHALL BE STANDARD WEIGHT SCHEDULE 40 BLACK STEEL PIPE, SEAMLESS OR WELDED MILD STEEL, CONFORMING TO ASTM A-795/A-53. SCHEDULE 10 PIPING IS NOT PERMITTED FOR PIPING LESS THAN 2".
- WATERFLOW ALARM SWITCH: SHALL BE BASED ON POTTER ELECTRIC SIGNAL CO. VSR SERIES. PROVIDE WATERFLOW ALARM SWITCHES WHERE INDICATED ON THE DRAWINGS.
- FIRE DEPARTMENT CONNECTION: SHALL BE BASED ON CROKER 6030 OR EQUAL AT BUILDING FACADE. SIAMESE SHALL BE PLACED BETWEEN 18 INCHES AND 36 INCHES ABOVE THE SIDEWALK. FIRE DEPARTMENT CONNECTION SHALL HAVE TWO (2) 3" INTERNALLY THREADED SWIVEL FITTINGS WITH THREADS CONFORMING TO AHJ STANDARDS WITH 4" OUTLET. PROVIDE AUTOMATIC BALL DRIP AT FDC FACE PLATE.
- SPRINKLERS: REFER TO DRAWING SP-701 FOR SPRINKLER HEAD SCHEDULE.

DESIGN CRITERIA		
HAZARD CLASSIFICATION ⁽¹⁾	DENSITY ⁽²⁾	PROTECTION AREA PER SPRINKLER ⁽³⁾
LIGHT HAZARD	0.1 GPM / 1500 SQ. FT.	225 SQ. FT. MAX
ORDINARY HAZARD GROUP 1	0.15 GPM / 1500 SQ. FT.	130 SQ. FT. MAX

NOTES:
 1.) HAZARD CLASSIFICATION, DENSITY AND MAX. PROTECTION AREA SHALL BE IN ACCORDANCE WITH NFPA 13 - 2013 RECOMMENDATIONS UNLESS OTHERWISE NOTED.
 2.) WHERE REQUIRED BY THE BUILDING DEPARTMENT OR AUTHORITY HAVING JURISDICTION FOR PERMIT, THE ENTIRE SYSTEM SHALL BE HYDRAULICALLY CALCULATED.
 3.) THE MINIMUM PRESSURE AT EACH SPRINKLER HEAD SHALL BE 7 PSI.
 4.) EQUIVALENT FITTING LENGTHS USED IN HYDRAULIC CALCULATIONS SHALL BE IN ACCORDANCE WITH NFPA 13 - 2013.
 5.) DISCHARGE FROM EACH SPRINKLER SHALL NOT BE LESS THAN REQUIRED AREA COVERAGE BY THIS HEAD. AREA COVERAGE PER HEAD SHALL BE DETERMINED IN ACCORDANCE WITH NFPA 13 SECTION 8.6.2.2.1 (2013).
 6.) HYDRAULIC CALCULATIONS SHALL BE BROUGHT BACK TO THE CONNECTION TO THE RISER OR SPRINKLER CONTROL VALVE (F.C.A).
 FLOW VELOCITY IN SPRINKLER PIPING SHALL NOT EXCEED 20 FEET PER SECOND (FPS).

WATER SUPPLY DATA	
DATE:	
TIME:	
PERFORMED BY:	
STATIC PRESSURE AT RESIDUAL FIRE HYDRANT:	
RESIDUAL PRESSURE AT RESIDUAL FIRE HYDRANT:	
MEASURED FLOW AT FLOW FIRE HYDRANT:	
NOTES:	

PIPE SIZING SCHEDULE		
SIZE	LIGHT HAZARD QTY SPRINKLERS	ORDINARY HAZARD QTY SPRINKLERS
1"	2	2
1 1/2"	3	3
1 1/2"	5	5
2"	10	10
2 1/2"	30	20
3"	60	40
3 1/2"	100	65
4"	SEE NOTE 3	100

NOTES:
 1. IN ACCORDANCE WITH NFPA 13 - 2013 EDITION - TABLE 22.5.2.2.1 AND TABLE 22.5.3.4.
 2. ALL PIPING BASED ON SCHEDULE 40 BLACK STEEL.
 3. AREAS REQUIRING MORE SPRINKLERS THAN SPECIFIED FOR 3" SHALL BE SUPPLIED BY MAINS OR RISERS SIZED FOR ORDINARY HAZARD OCCUPANCIES.

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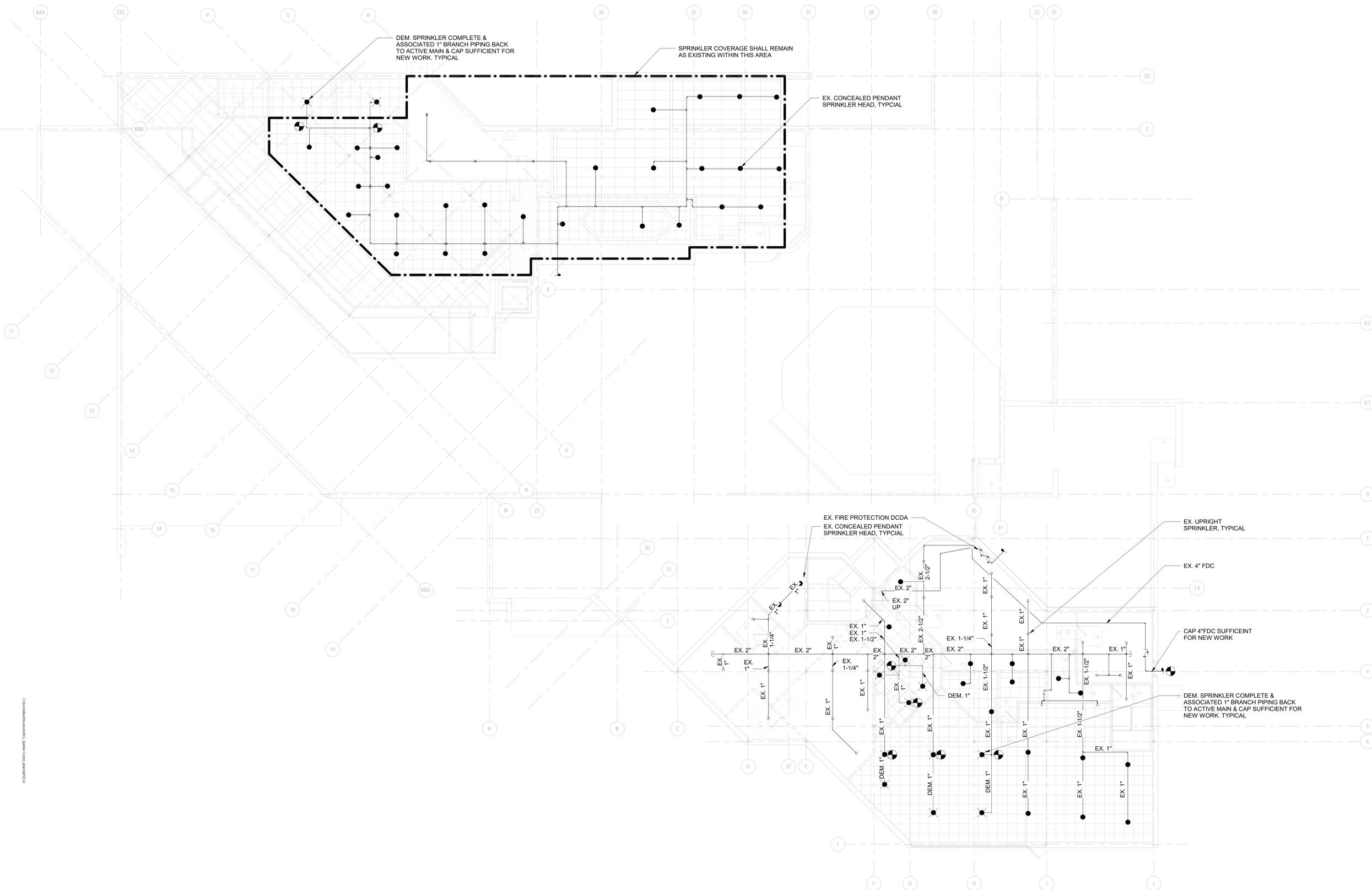
Checked By RG
 Drawn By AMB

DRAWING NOT FOR CONSTRUCTION

ISSUES AND REVISIONS	DATE
NO. SUBMITTAL DESIGN DEVELOPMENT	07.09.2021

SPRINKLER SYMBOLS, ABBREVIATIONS AND NOTES

SP-001
 DESIGN DEVELOPMENT
 07.09.2021



1 SPRINKLER LOWER LEVEL DEMOLITION PLAN

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

NOTES:
1. PROVIDE FIRE WATCH DURING SPRINKLER SYSTEM SHUTDOWNS. SPRINKLER SYSTEM SHALL BE REFILLED AND ACTIVATED AT THE END OF EACH WORK DAY, COORDINATE WITH BUILDING MANAGEMENT.

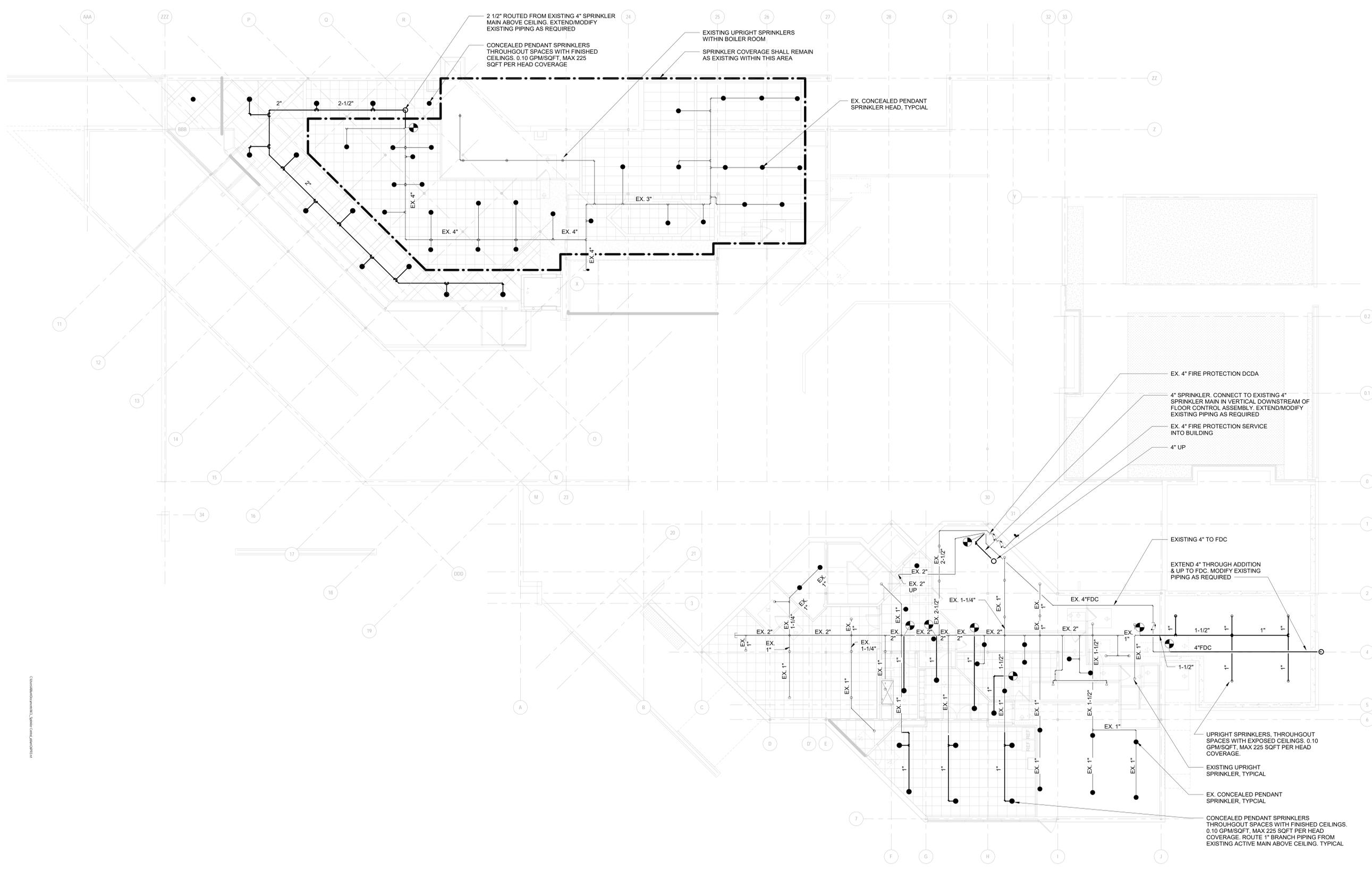


1 SPRINKLER MAIN LEVEL DEMOLITION PLAN

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

NOTES:
1. PROVIDE FIRE WATCH DURING SPRINKLER SYSTEM SHUTDOWNS. SPRINKLER SYSTEM SHALL BE REFILLED AND ACTIVATED AT THE END OF EACH WORK DAY, COORDINATE WITH BUILDING MANAGEMENT.

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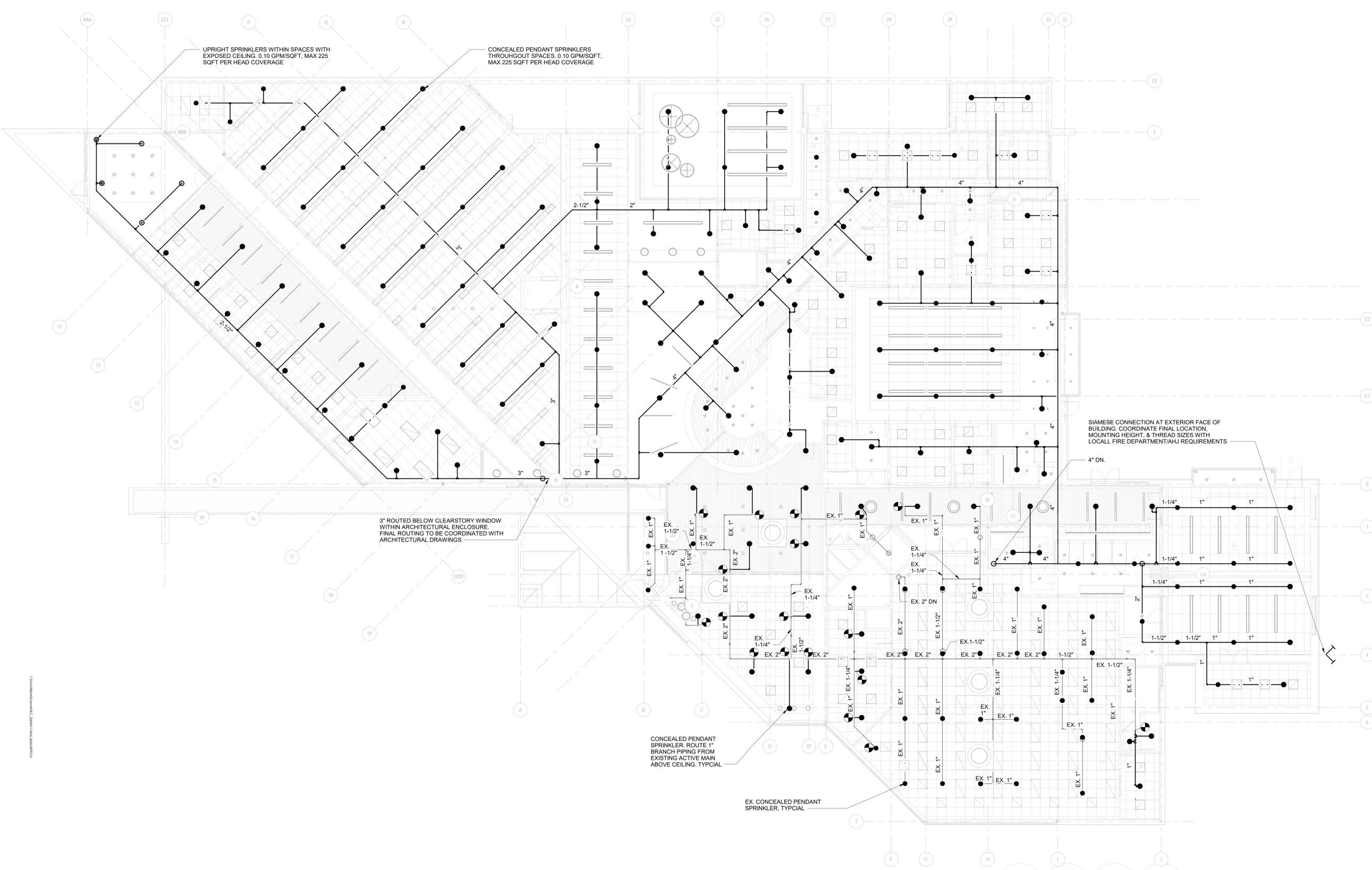


1 SPRINKLER LOWER LEVEL NEW WORK PLAN

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

- NOTES:
1. PROVIDE FIRE WATCH DURING SPRINKLER SYSTEM SHUTDOWNS. SPRINKLER SYSTEM SHALL BE REFILLED AND ACTIVATED AT THE END OF EACH WORK DAY, COORDINATE WITH BUILDING MANAGEMENT.
2. SPRINKLER CONTRACTOR SHALL CONFIRM EXISTING SPRINKLERS TO BE STANDARD RESPONSE TYPE. ALL NEW SPRINKLERS WITHIN THE OPEN FLOOR AREAS SHALL BE STANDARD RESPONSE TYPE TO MATCH THE THE EXISTING HEAD RESPONSE TYPE. NEW SPRINKLERS WITHIN INDIVIDUAL ROOMS SHALL BE QUICK RESPONSE TYPE.

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1 SPRINKLER MAIN LEVEL NEW WORK PLAN

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

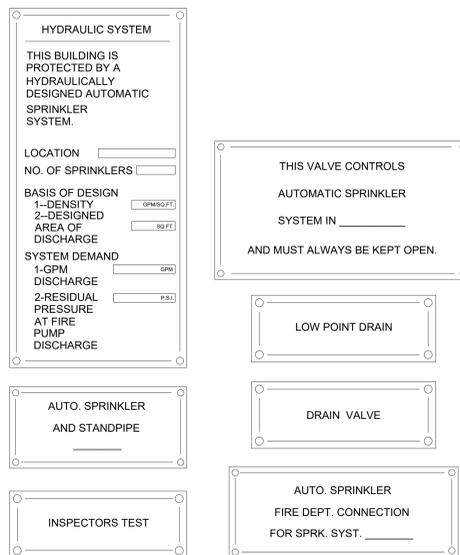
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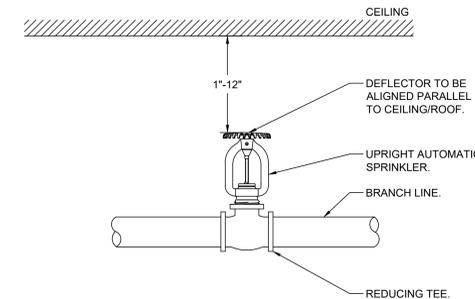
SPRINKLER HEAD SCHEDULE										
SYM	TYPE	LOCATION	FINISH	MANUF.	MODEL	HEAD TEMP.	MAX CEILING TEMP.	ORIFICE	K-FAC TOR	MEAF
O	UPRIGHT	EXPOSED AREAS PER PLANS	CHROME PLATED	RELIABLE	F1FR	165°F	100°F	1/2"	5.6	258-93-E

NOTES:
1. SPRINKLER HEADS SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS.
2. PROVIDE METAL WIRE GUARDS WHERE SPRINKLERS ARE SUBJECT TO DAMAGE, SUCH AS SPRINKLER HEADS LOCATED UNDER MECHANICAL DUCTS IN MECHANICAL EQUIPMENT ROOMS WHEN LOCATED LOWER THAN 7'-0" AFF AND HEADS IN TRASH CHUTE.
3. ALL SPRINKLER HEADS THROUGHOUT THE PROJECT AREA SHALL BE OF THE ORDINARY TEMPERATURE RATING EXCEPT AS FOLLOWS:
3.1. SPRINKLER HEADS LOCATED CLOSE TO HEATERS, HOT WATER PIPING OR LOW-PRESSURE BLOW-OFF VALVE SHALL BE OF THE TEMPERATURE RATING AS REQUIRED BY NFPA-13.
3.2. 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.

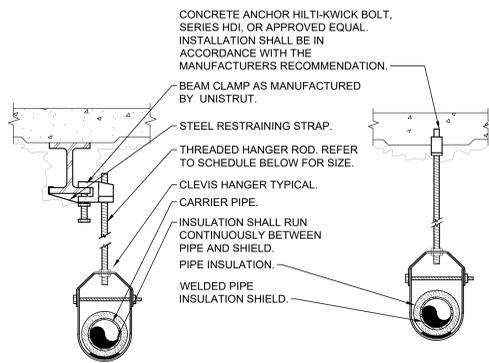
6 SPRINKLER HEAD SCHEDULE
SCALE: NONE



4 TYPICAL SIGNS
SCALE: NONE



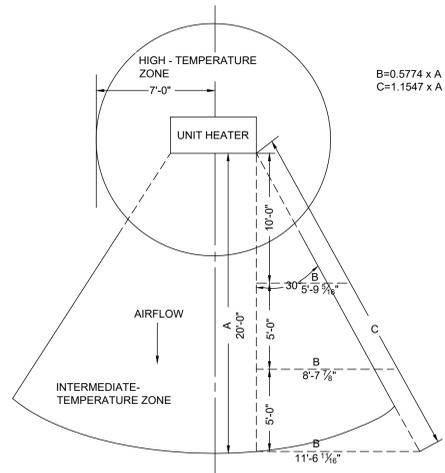
2 TYPICAL UPRIGHT SPRINKLER
SCALE: NONE



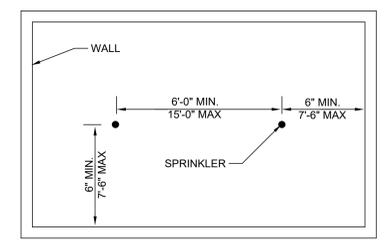
PIPE HANGER SCHEDULE					
PIPE DIA.	3/4"-2"	2 1/2"-3"	4"-5"	6"	8"-12"
HANGER DIA.	3/8"	1/2"	5/8"	3/4"	7/8"

NOTES:
1. CLEVIS HANGERS WITH WELDED INSULATION SHIELDS SIMILAR TO RAUGH FIG. 100SH ON ALL PIPES LARGER THAN 1".
2. FOR PIPES 1" OR SMALLER, A BAND HANGER WITH INSULATION SHIELD MAY BE USED SIMILAR TO RAUGH FIG. NO. 1ASH.
3. FOR NON-INSULATED PIPE, INSULATION SHIELDS MAY BE OMITTED.
4. ALL PIPE HANGERS SHALL BE GALVANIZED STEEL OR FACTORY PAINTED BLACK WITH ENAMEL.
5. FOR NON-FERROUS PIPING WITHOUT INSULATION, ALL HANGERS SHALL BE COPPER PLATED OR FURNISHED WITH A DIELECTRIC BETWEEN PIPE AND HANGERS.
6. WHERE EXISTING BUILDING STRUCTURAL COMPONENTS HAVE FIREPROOF MATERIAL, ANY AREA THAT IS DISTURBED OR DAMAGED AS A RESULT OF HANGER INSTALLATION SHALL BE PATCHED WITH UL AND FM APPROVED FIREPROOFING TO MATCH EXISTING.
7. ALL ANCHORS AND INSERTS SHALL HAVE NEW YORK CITY BOARD OF STANDARD AND APPEALS, (BSA) APPROVAL.

7 PIPE HANGER DETAIL
SCALE: NONE

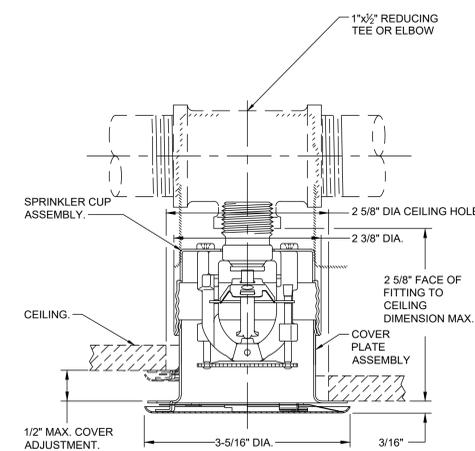


5 SPRINKLER TEMPERATURE ZONES AT UNIT HEATERS
SCALE: NONE



	MAX AREA PER HEAD	DENSITY PER 1500 SQ. FT.
LIGHT HAZARD	225 SQ. FT.	0.10 GPM/SQ. FT.
ORDINARY HAZARD	130 SQ. FT.	0.16 GPM/SQ. FT.

3 SPRINKLER HEAD SPACING CRITERIA
SCALE: NONE



NOTE: SPRINKLER COVER PLATE SHALL NOT BE INSTALLED UNTIL DEFLECTOR POSITION (DEPLOYED) IS CONFIRMED TO BE BELOW THE CEILING TILE.

1 CONCEALED PENDENT SPRINKLER HEAD
SCALE: NONE

DRAWING NOT FOR CONSTRUCTION

ISSUES AND REVISIONS	
NO.	DATE
1. SUBMITTAL	07.09.2021
2. DESIGN DEVELOPMENT	

SPRINKLER DETAILS

SP-701

DESIGN DEVELOPMENT
07.09.2021