

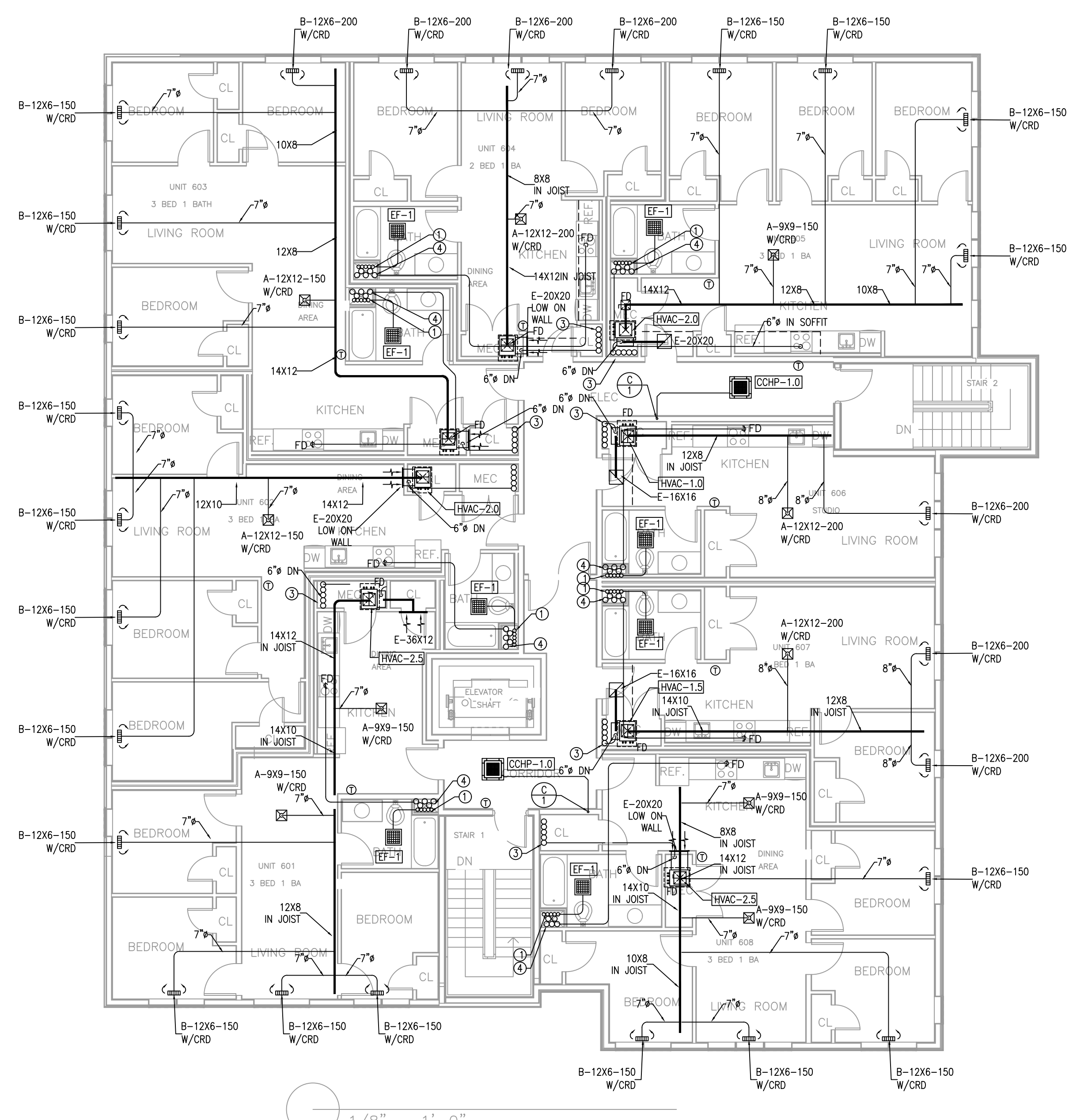
H-1



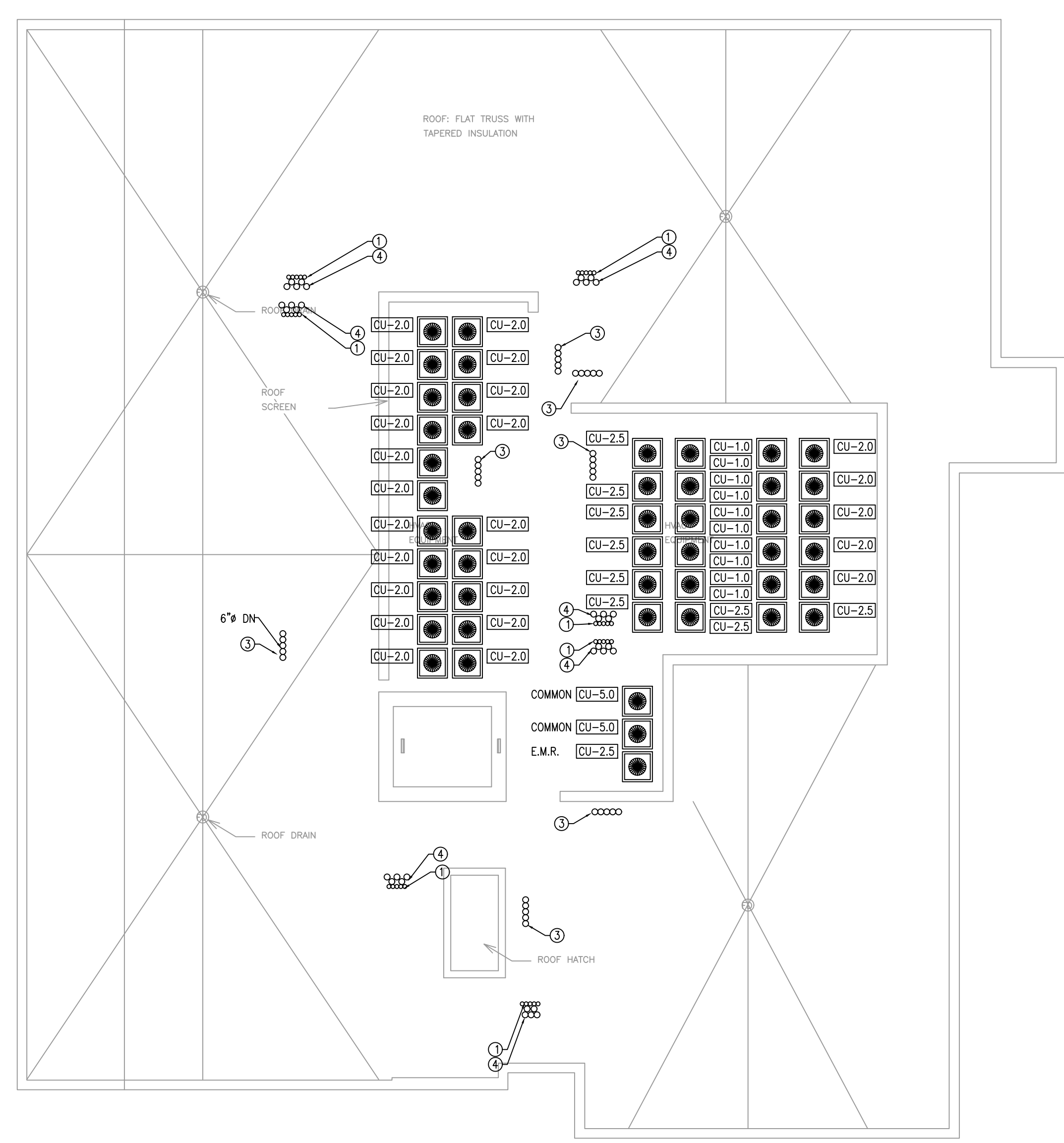
H-2



H-3



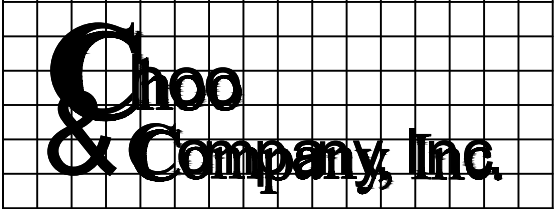
1/8" = 1'-0"



1/8" = 1'-0"

Location

PROPOSED MULTI-FAMILY
BUILDING
30 THORN STREET
HYDE PARK, MA 02136


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No.	Description	Date

Project No: 2025014
Scale: AS NOTED
Date: 08-28-25
Drawn By: _____

Drawing Name

HVAC FLOOR
PLAN

Sheet No.

H-4

DIFFUSER/REGISTER SCHEDULE		
LEGEND: (N)- ## - ###		
	CFM	
	DIMENSIONS	
	TYPE	
TYPE	DESCRIPTION	MODEL (BASED ON TITUS)
A	LOUVER FACE CEILING DIFFUSER FOR SHEET ROCK CEILING INSTALLATION. PROVIDE ROUND TO SQUARE ADAPTOR. WITH OPPOSITE BLADE DAMPER	TITUS TDCA, BORDER 1
A1	LOUVER FACE CEILING DIFFUSER FOR 2'x2' LAY-IN CEILING INSTALLATION. PROVIDE ROUND TO SQUARE ADAPTOR. WITH OPPOSITE BLADE DAMPER	TITUS TDCA, BORDER 3
B	DOUBLE DEFLECTION REGISTER FOR SHEET ROCK INSTALLATION. PROVIDE ROUND TO SQUARE ADAPTOR.	TITUS 272RS
E	DOUBLE DEFLECTION GRILLE FOR SHEET ROCK INSTALLATION. WITH OPPOSITE BLADE DAMPER	TITUS 25 RS
E1	DOUBLE DEFLECTION GRILLE FOR SHEET ROCK INSTALLATION. WITH OPPOSITE BLADE DAMPER ALUMINUM TYPE	TITUS 25 RS
F	PERFORATED SIGHT PROOF EGGORATE GRILLE FOR SHEET ROCK CEILING INSTALLATION.	TITUS 45F
G	LINEAR DIFFUSER, LINEAR STYLE 1 1/2" SLOT SPACING WIDTH, 4 SLOT FOR SHEET ROCK CEILING INSTALLATION. 100 CFM/FT WITH DAMPER, INSULATED PLENUM	TITUS MLR-40, BORDER TYPE 22

CEILING RADIATION DAMPERS	
CEILING RADIATION DAMPERS SHALL BE AS MANUFACTURED BY GREENHECK MODEL CRD-1WT FOR SIDE INLET MODEL CRD-2WT FOR TOP INLET CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE UL LISTED DAMPER WITH THE UL LISTING OF THE CEILING APPROVED CEILING RATINGS ARE L-528,546,558,562,574,576,581,583,585,592 M-501,503,508 P-533,538,545,547,548,554	

FIRE SAFE THROUGH FLOORS							
TYPE	SIZE	HULTI	MATERIAL	RATING	BOTTOM	TOP	CHASE WALL
STEEL/CAST COPPER/EM	MAX 4"	FS-ONE	INTUMESCENT SEALANT	2HRS	FIRE STOP	FIRE STOP	REQUIRED
STEEL/CAST	MAX 6"	FS-ONE	INTUMESCENT SEALANT	2HRS	FIRE STOP	FIRE STOP	NOT REQUIRED
STEEL/CAST COPPER/EM	MAX 4"	CP-620	FIRE FOAM	1HRS	FIRE STOP	FIRE STOP	REQUIRED
PEX	MAX 1"	CP 645	INTUMESCENT STRIP W/COLLAR	1HRS	BOTH SIDES	BOTH SIDES	NOT REQUIRED
PVC PIPE	MAX 2"	FS-ONE	INTUMESCENT SEALANT	1HRS	FIRE STOP	FIRE STOP	NOT REQUIRED
PVC PIPE	MAX 4"	FS-ONE	INTUMESCENT SEALANT	2HRS	FIRE STOP	FIRE STOP	REQUIRED
PVC PIPE	MAX 4"	CP 645	INTUMESCENT STRIP W/COLLAR	1HRS	COLLAR	FIRE STOP	NOT REQUIRED
REFRIGERANT	-	FS-ONE	INTUMESCENT SEALANT	1HRS	FIRE STOP	FIRE STOP	NOT REQUIRED
4" DUCT	MAX 4"	FS-ONE	INTUMESCENT SEALANT	1HRS	FIRE STOP	FIRE STOP	NOT REQUIRED
INSULATED COPPER/STEEL	MAX 2"	FS-ONE	INTUMESCENT SEALANT	1HRS	FIRE STOP	FIRE STOP	NOT REQUIRED
CABLES	MAX 2"	FS-ONE	INTUMESCENT SEALANT	1HRS	FIRE STOP	FIRE STOP	NOT REQUIRED

LOUVER NOTES	
LOUVER DIMENSIONS SHALL BE COORDINATED WITH ARCHITECTURAL DRAWINGS AND FIELD CONDITIONS LOUVERS SHALL BE AMCA CERTIFIED FOR WIND DRIVEN RAINS BLADES SHALL BE 4" DEEP MOUNTED BETWEEN 35-45 DEGREES WITH DRAINABLE BLADE AND DRAINABLE HEAD PROVIDE BRD. SCREENS IN COMPLIANCE WITH IMC 401 PROVIDE COLOR ANODIZED LOUVER PER ARCHITECT'S DIRECTION LOUVERS SHALL BE AS MANUFACTURED BY GREENHECK MODEL EHH 401 SERIES	

FIRE RATED CEILING NOTES:	
WHEN DUCT PENETRATE RATED CEILING: -ALL RECESSED DIFFUSERS AND REGISTERS SHALL HAVE RADIATION DAMPERS. -ALL UNITS DUCTED TO PLENUM SPACE SHALL HAVE CEILING FIRE DAMPERS TO MEET UL 555C -ALL RETURN DUCTS SHALL BE BELOW THE RATED CEILING, DROPPED CEILING AREAS SHALL NOT BE RATED CEILING UNLESS SHOWN OTHERWISE -ALL RETURN AIR GRILLES IN RATED CEILING SHALL HAVE CEILING FIRE DAMPERS -ALL UNIT DISCHARGES SHALL BE OFFSET TO GET INTO PROPER JOIST SPACES, CARRY TRANSITION PIECE AS NEEDED -ALL DUCTS LARGER THAN 4"Ø DIAMETER SHALL HAVE FIRE DAMPERS AT CEILING PENETRATIONS	

CONSTRUCTION NOTES							
-ALL CEILING MOUNTED HVAC UNITS SHALL BE HUNG FROM STRUCTURAL STEEL WITH SPRING ISOLATORS, -PROVIDE FLEXIBLE DUCT CONNECTIONS AT HVAC UNIT, AND ALL FANS -PROVIDE ISOLATION VALVES, CONTROL VALVES, DRAIN AND STRAINER FOR ALL WATER BASED HVAC UNITS. -PROVIDE SECONDARY DRAIN PAN WITH LEAK DETECTOR TO SHUT DOWN HVAC UNIT. -MAINTAIN ACCESS DOORS AND CODE REQUIRED CLEARANCES FOR ALL FILTER REPLACEMENT, EQUIPMENT REPAIR AND ELECTRICAL CONTROLS. -PRIOR TO ANY INSTALLATION, COORDINATE CLEARANCES WITH ALL TRADES. -ALL CONDENSATE DRAINS SHALL RUN TO NEAREST STORM CONNECTION PROVIDED BY P.C. REFER TO PLUMBING DRAWINGS -ALL CONDENSING UNITS SHALL BE MOUNTED ON CONCRETE PAD ON VIBRATION PADS, OR MOUNTED ON SLEEPERS ANCHORED TO ROOF. -ALL SPLIT SYSTEM CONDENSER UNITS IF LOCATED AWAY FROM THE BUILDING SHALL BE PIPED UNDERGROUND UP TO BUILDING, PROVIDE MINIMUM 18" COVER. -PROVIDE MAINTENANCE PADS MINIMUM 4" HIGH FOR ALL FLOOR-MOUNTED EQUIPMENT PUMPS AND BOILERS. -PROVIDE 13 FILTERS FOR ALL INDOOR UNITS, MERV 8 FOR ESTAR/LEED BUILDINGS -PROVIDE 11 FILTERS FOR ALL OUTSIDE AIR UNITS, MERV 8 FOR ESTAR/LEED BUILDINGS -ALL PIPING CONNECTED TO VIBRATION-ISOLATED EQUIPMENT TO BE ISOLATED BY MEANS OF VIBRATION ISOLATORS, RESILIENT LATERAL SUPPORTS AND RESILIENT PENETRATION SLEEVE /SEALS. THIS APPLIES TO FIRST 50 FEET OF TOTAL PIPE LENGTH OR THE ENTIRE PIPE WITHIN MECH. ROOM (WHICHEVER IS LONGER). PIPES THAT ARE 4" DIAMETER OR LARGER TO BE ISOLATED THROUGHOUT THE BUILDING REFER TO SPEC SECTION 230548 FOR ADDITIONAL INFORMATION -PROVIDE EXPANSION LOOPS AS REQUIRED -ALL FRESH AIR DUCTS SHALL HAVE MOTORIZED DAMPERS INTERLOCKED WITH UNIT AND HAVE VOLUME DAMPERS							

STANDARD SPLIT HEAT PUMP SYSTEM SCHEDULE (INDOOR)														STANDARD SPLIT HEAT PUMP SYSTEM SCHEDULE (OUTDOOR)																
UNIT NO.	MITSUBISHI MODEL	RATED CAPACITY (BTU/H)	SEER	POWER SUPPLY	MCA	FAN MOTOR	AIRFLOW (LO-MED-HI)	SOUND LEVEL (LO-MED-HI)	W	D	H	HEIGHT (LBS)	INTAKE AIR TEMP	UNIT NO.	MITSUBISHI MODEL	RATED CAPACITY (BTU/H)	SEER	POWER SUPPLY	R.P.A.	MCA	MOCP	SOUND LEVEL	W	D	H	HEIGHT (LBS)	MAX REFRIGERANT (LBS)	PIPE LENGTH (FT)	MAX REFRIGERANT PIPE HEIGHT DIFF (FT)	INTAKE AIR TEMP
													MAX MIN																MAX MIN	
ADU-1	PKA-A12H47	12,000	15.3	208/230V 1 PHASE, 60HZ	1.0 A	0.76 F.L.A.	268-328-381 DRY CFM 240-293-342 NET CFM	54-40-45 DB(A)	30-11/16"	8-1/4"	11-3/4"	23	95/70B 67/70B 71/70B 67/70B	CU-1	PUZ-A12NH44	12,000	16	208/1PHASE	DC	14	20	50 DB(A)	31-1/2"	11-1/4"	21-5/8"	88	100	100	D.B. 115° F	D.B. -13° F
HPC-1	PLA-A12H47	12,000	15.3	208/230V 1 PHASE, 60HZ	1.0 A	0.76 F.L.A.	268-328-381 DRY CFM 240-293-342 NET CFM	54-40-45 DB(A)	30-11/16"	8-1/4"	11-3/4"	23	95/70B 67/70B 71/70B 67/70B	CU-2	PUZ-A12NH44	12,000	16	208/1PHASE	DC	14	20	50 DB(A)	31-1/2"	11-1/4"	21-5/8"	88	100	100	D.B. 115° F	D.B. -13° F
PROVIDE ME HVAC CONTROLLER WALL MOUNTED THERMOSTAT, DISCONNECT SWITCH														WITH EACH UNIT PROVIDE -3R RATED FUSED DISCONNECT SWITCH BY ELECTRICAL CONTRACTOR -PROVIDE MOUNTING STAND ABOVE SNOW LINE -PROVIDE WIND BAFFLE KIT FOR LOW AMBIENT OPERATION																

MULTIZONE HEAT PUMP UNIT SCHEDULE (NON-SIMULTANE HEAT AND COOL)																			
TAG NO.	TON	REFRIG	OUTDOOR UNIT				DUCTED/NON-DUCTED				MAX # OF NOISE SONS PRESSURE	MITSUBISHI MODEL#	DIMENSIONS	MAX REF LENGHT EACH/TOTAL/HEIGHT	ESTAR				
			HEAT	COOL	VOL/PHS	AMP	MCA	KW	SEER	EER						HSPT	HEAT	COOL	VOL/PHS
CU-4	4.0	R410A	54,000	48,000	208/1	29.5	40	4.3	15.0	10.8	10.1	2.50	2.85	54 DBA	MXZ-8C48NH4Z2	42"Wx13"Dx35.5"H-275 LBS	130 BELOW/164 ABOVE/262/492	YES	
WITH EACH UNIT PROVIDE: -3R RATED FUSED DISCONNECT SWITCH -SEACOST PROTECTION OPTION -HEATING VALVES ARE AT 5F, USE 95% FACTOR FOR RUNS MORE THAN SOFT -BOX AT -13F -PROVIDE CLEARANCES OF 6" BEHIND, 15" ON THE RIGHT SIDE AND 20" ON THE FRONT AND ABOVE -PROVIDE BRANCH BOX FOR MORE THAN 3 UNIT CONNECTIONS --208/1/5A POWER TO EACH BC CONTROLLER, -PROVIDE COLD TEMPERATURE BAFFLE																			

MULTIZONE HEAT PUMP UNIT SCHEDULE (NON-SIMULTANE HEAT AND COOL)																										
TAG NO.	TON	CFM	INDOOR UNIT					NOISE	MITSUBISHI MODEL#	DIMENSIONS																
			HEAT	COOL	VOLT/PHS	SP	KW																			
HPC-.75	.75	400	10,000	9,000	208/1	0.1"	.6	45 DBA	PLA-A09M7	39"wx27"Dx8"H-150LBS																
HPC-1	1	400	15,000	12,000	208/1	0.1"	.6	45 DBA	PLA-A12M7	39"wx27"Dx8"H-150LBS																
NOTE																										
UNITS ARE BASED ON HIGH EXTERNAL STATIC PRESSURE OPTION, STANDARD PRESSURE IS 0.1"																										
HEATING VALVES ARE AT 75 WHEN OUTDOORS IS -13 DEGREE F																										
WITH EACH UNIT PROVIDE ME PROGRAMMABLE CONTROLLER																										

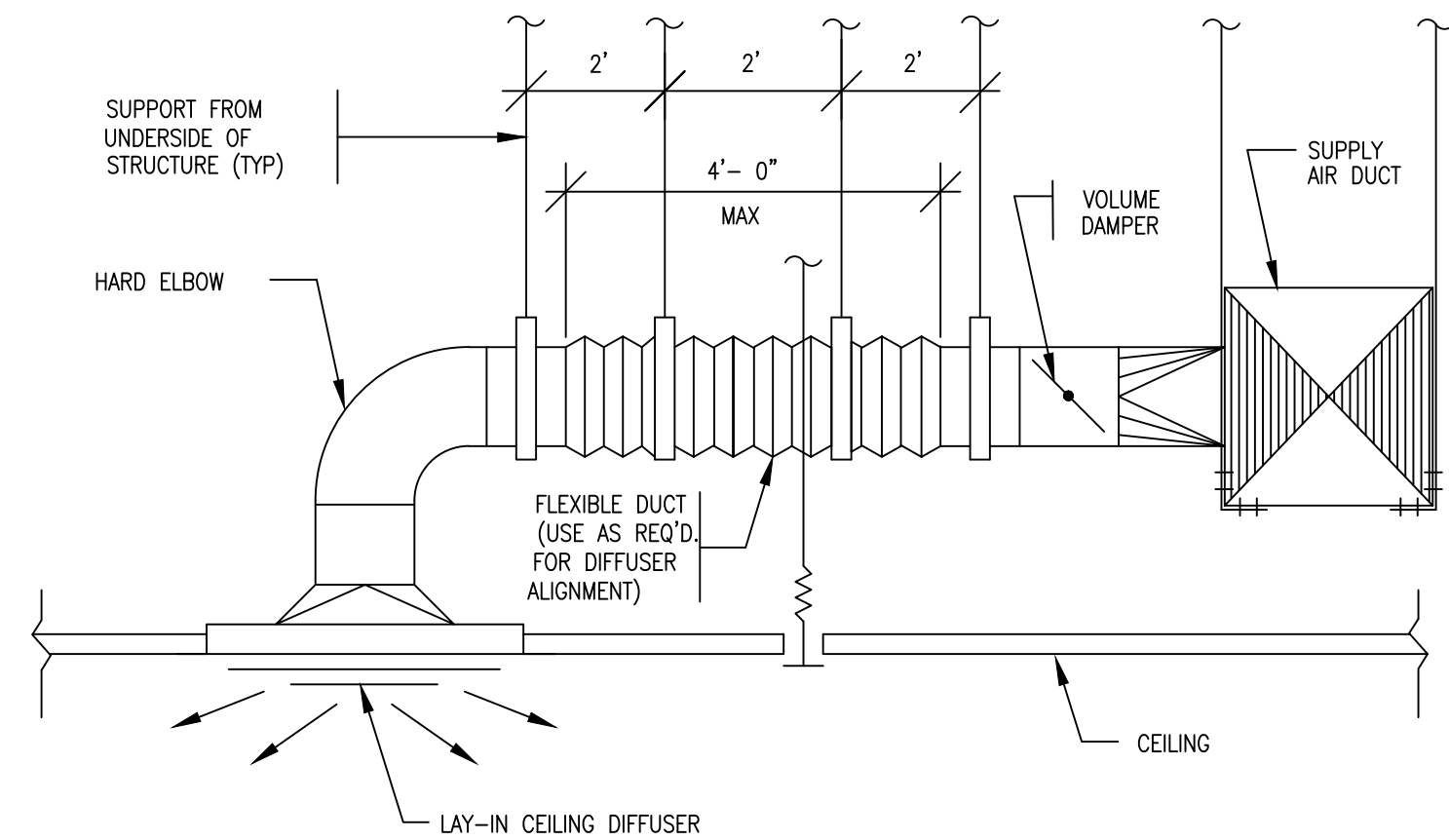
ELECTRIC HEATER SCHEDULE				
TYPE	KW	VOLT/PH	DIMENSIONS	MODEL NUMBER-COLOR BY ARCH
RWH-1	1	120/1		Q'MARK#ORA 1512-T2
RWH-2	2	120/1	19"Hx16"Wx4"D	Q'MARK# MCSARWH1802/HTWHS1
RWH-4	4	208/1	19"Hx16"Wx4"D	Q'MARK# MCSARWH4808/HTWHS1
SWH-4	4	208/1	19"Hx16"Wx4"D	Q'MARK# MCSARWH4808/HTWHS1
EBB-2	0.4	120/1		Q'MARK#OMK-2512W-W/T*STAT
EBB-3	0.75	120/1		Q'MARK#OMK-2513W-W/T*STAT
EBB-4	1	120/1		Q'MARK#OMK-2514W-W/T*STAT
EBB-6	1.5	120/1		Q'MARK#OMK-2516W-W/T*STAT
UH-5	5	208/1		Q'MARK#MUH-35-W/T*STAT
CCH-4	4	208/1		Q'MARK#CDF548-W/T*STAT
SOME HEATERS MAY NOT NOTED/USED ON PLANS				

CEILING MOUNTED EXHAUST FAN												CEILING MOUNTED EXHAUST FAN											
TAG	LOCATION	TYPE	DRIVE	CFM	V/Ø	LAMP	SP	NOISE SONES	DIMENSIONS	PANASONIC MODEL	ESTAR	TAG	LOCATION	TYPE	DRIVE	CFM	V/Ø	LAMP	SP	NOISE SONES	DIMENSIONS	PANASONIC MODEL	ESTAR
EF-1	BATHROOM	CEILING	DIRECT	110	120/1	(2)PL18	0.1"	0.3	14.5"x17"x11.5"H-16LBS-6" DUCT	FV-05-11VKS1	YES	EF-1	BATHROOM	CEILING	DIRECT	110	120/1	(2)PL18	0.1"	0.3	14.5"x17"x11.5"H-16LBS-6" DUCT	FV-05-11VKS1	YES
PROVIDE PANASONIC FIRE DAMPER ENCLOSURE FOR ALL CEILING BATHROOM FANS.																							

WALL CAP SCHEDULE							WALL CAP SCHEDULE						
TAG	BRAND	SIZE	DIMENSIONS	LOCATION	DUCT		TAG	BRAND	SIZE	DIMENSIONS	LOCATION	DUCT	
WC-B	X-VENT THVB	4" VENT	7.5"x7.5"x1.5"	BATHROOM EXHAUST	#4"-NO FLEX		WC-B	X-VENT THVB	4" VENT	7.5"x7.5"x1.5"	BATHROOM EXHAUST	#4"-NO FLEX	
WC-K	X-VENT THVB	6" VENT	10"x9"x5"	KITCHEN EXHAUST	#6" W/BD AT CEILING PENETRATION		WC-K	X-VENT THVB	6" VENT	10"x9"x5"	KITCHEN EXHAUST	#6" W/BD AT CEILING PENETRATION	
WC-D	X-VENT THVB	4" VENT	7.5"x7.5"x1.5"	DRYER EXHAUST-REMOVE SCREEN	#4" AL WITH HARD ELBOW		WC-D	X-VENT THVB	4" VENT	7.5"x7.5"x1.5"	DRYER EXHAUST-REMOVE SCREEN	#4" AL WITH HARD ELBOW	
WC-FA	X-VENT TEVB	6" VENT	7.5"x7.5"x1.5"	FRESH AIR INTAKE	#6"-INSULATED		WC-FA	X-VENT TEVB	6" VENT	7.5"x7.5"x1.5"	FRESH AIR INTAKE	#6"-INSULATED	

VYNIL COLOR TO MATCH SIDING,
MATCH DUCT SIZE CONNECTED TO UNIT.
ALL EXHAUST DUCTS SHALL HAVE R-6 INSULATION FIRST 10FT FROM EXTERIOR WALL IN
ALL FRESH AIR INTAKE DUCTS SHALL HAVE MOTORIZED DAMPER AT ENVELOPE PENETRATION WITH ACCESS PANEL.
DAMPER SHALL BE INTERLOCKED WITH HVAC UNIT
FOR COMBINED BATHROOMS, USE 6" DUCT AFTER COMBINE AND USE WC-K WALL CAP
COMBINE EXHAUST TO ONE WALL CAP WITH SEPARATE DUCT CONNECTIONS IF LOCATED NEXT TO EACH OTHER COORDINATE WITH ARCHITECT

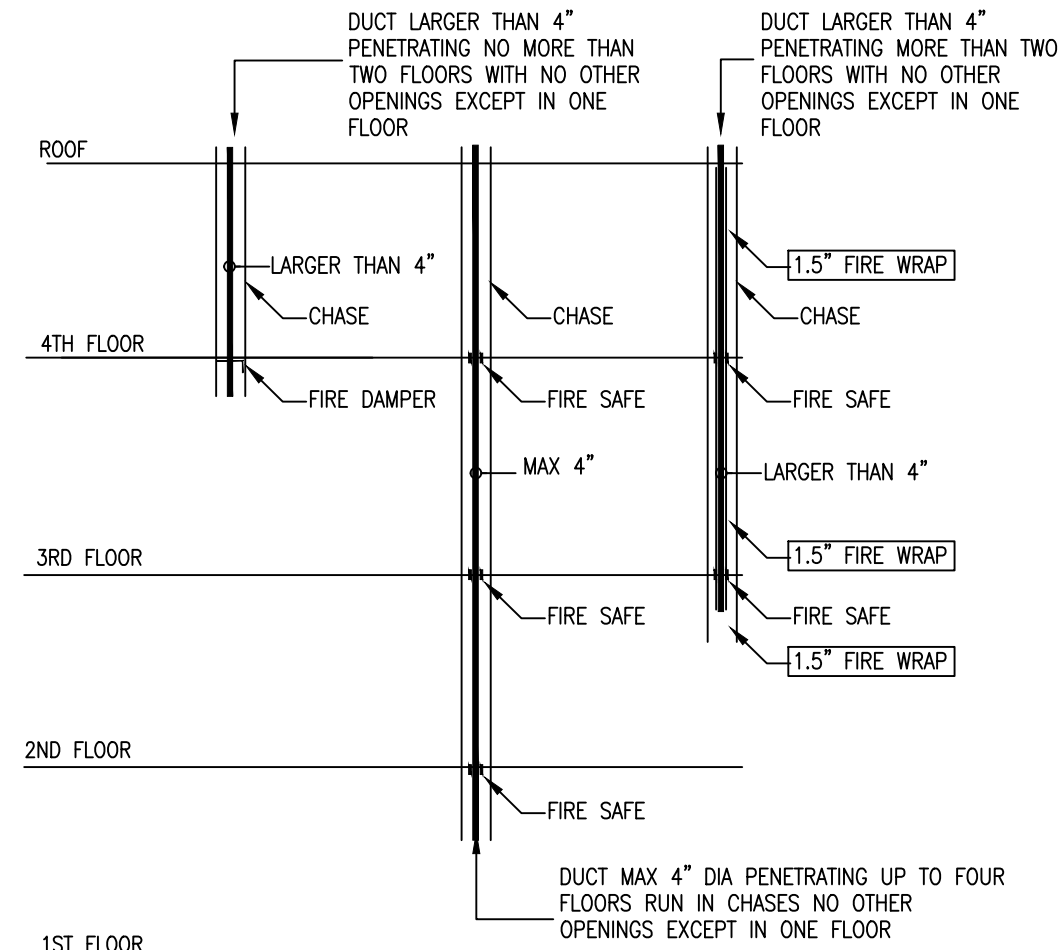
SPLIT SYSTEM WITH WATER COIL VERTICAL HVAC UNIT SCHEDULE(VARIABLE DRIVE)																																					
INDOOR SECTION																	CONDENSING SECTION																				
TAG	NOM. CAP. TON	CFM	FAN HP	ESP IN MBH	SENS. MBH	HFG. COIL EAT	LAT BTU/H	V/ø	TAG	MCA	MOCP	V/ø	EER/SEER	DB IN/OUT	MODEL (ASPEN/ CARRIER)	INDOOR	OUTDOOR	REMARKS																			
HVAC-1.5	1.5	600	.5	1/3	24	20	70	90	24.0	115/1	CU-1.5	14	20	208/1	13/17	60/74	AFM18/24ACB7-18-3 AND MATCHING COIL	15"Wx22"Dx44"H+12" COIL	31"Lx31WDX40"H-250 LBS	W/HW PUMP/TIMER																	
HVAC-2	2	800	.5	1/3	24	20	70	90	28.0	115/1	CU-2	14	20	208/1	13/17	60/74	AFM24/24ACB7-24-3 AND MATCHING COIL	15"Wx22"Dx44"H+12" COIL	31"Lx31WDX40"H-250 LBS	W/HW PUMP/TIMER																	
HVAC-2.5	2.5	1000	.5	1/2	30	25	70	90	31.0	115/1	CU-2.5	14	20	208/1	13/17	60/74	AFM30/24ACB7-32-3 AND MATCHING COIL	15"Wx22"Dx44"H+12" COIL	31"Lx31WDX40"H-250 LBS	W/HW PUMP/TIMER																	
HVAC-3	3	1200	.5	1/2	36	35	70	90	33.5	115/1	CU-3	22	30	208/1	13/17	60/74	AFM36/24ACB7-36-3 AND MATCHING COIL	15"Wx22"Dx44"H+12" COIL	31"Lx31WDX40"H-250 LBS	W/HW PUMP/TIMER																	
HVAC-3.5	3.5	1400	.5	1/2	42	33	70	90	42.0	115/1	CU-3.5	22	30	208/1	13/17	60/74	AFM42/24ACB7-42-3 AND MATCHING COIL	15"Wx22"Dx44"H+12" COIL	31"Lx31WDX40"H-250 LBS	W/HW PUMP/TIMER																	
HVAC-4	4	1600	.5	1/2	48	41	70	90	44.0	115/1	CU-4	27	40	208/1	13/17	60/74	AFM48/24ACB7-48-3 AND MATCHING COIL	15"Wx22"Dx44"H+12" COIL	31"Lx31WDX40"H-250 LBS	W/HW PUMP/TIMER																	
NOTE: PROVIDE ESTAR RATED THERMOSTAT, ANTI CYCLING PROTECTION, DISCONNECT SWITCH. HEATING COILS SUPPLIED W/ 140 DEG. HOT WATER. CONDENSATE DRAINS SHALL BE TYPE "L" COPPER WITH 1/8" FIBERGLASS INSULATION RUN TO INDIRECT WASTE DRAIN REFER TO RISER DIAGRAM PROVIDE ZONE CONTROL AS REQUIRED TO MATCH NUMBER OF MOTORIZED DAMPERS PROVIDE REFRIGERANT LINES BETWEEN INDOOR AND OUTDOOR UNITS AS REQUIRED PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE MERV 11 FILTERS PROVIDE HIGH HEAD PUMP PROVIDE PUMP RATED FOR MINIMUM OF 3/2 GPM AT 30FT OF HEAD																																					



NOTES:
① MAXIMUM SAG 1/2" PER FOOT.

CEILING DIFFUSER BRANCH DUCTS

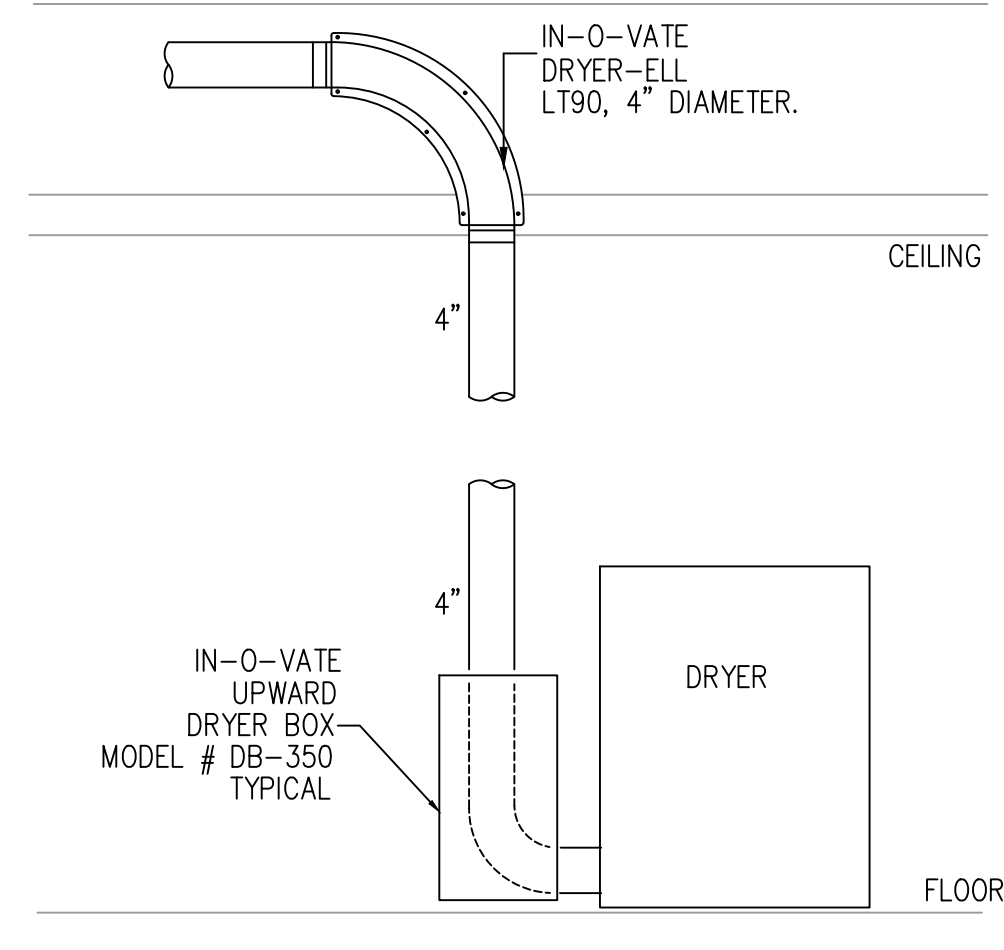
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PER IMC 2015 FIGURE 607.6.1(2)

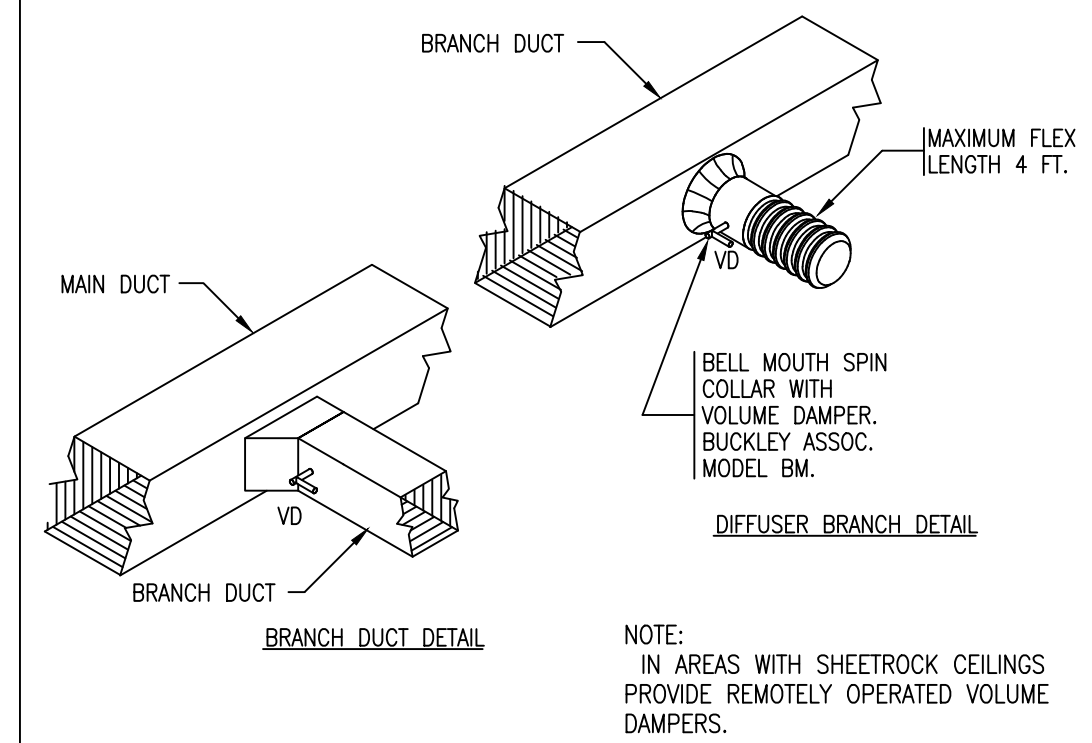
DUCT RISER THROUGH FLOORS

NTS



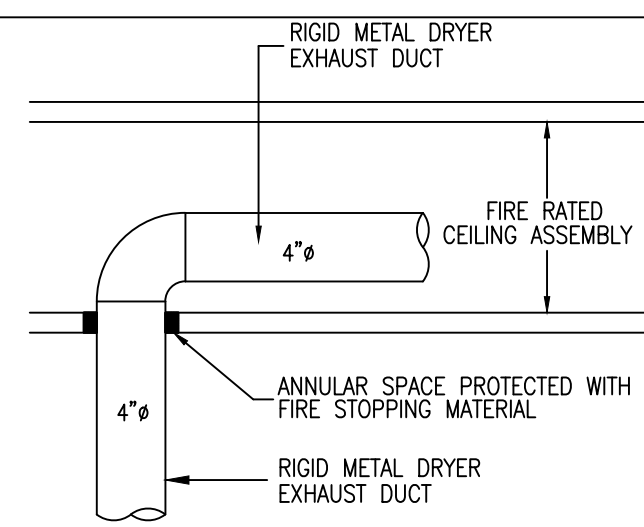
TYPICAL DRYER BOX AND DRYER ELL DETAIL

NTS



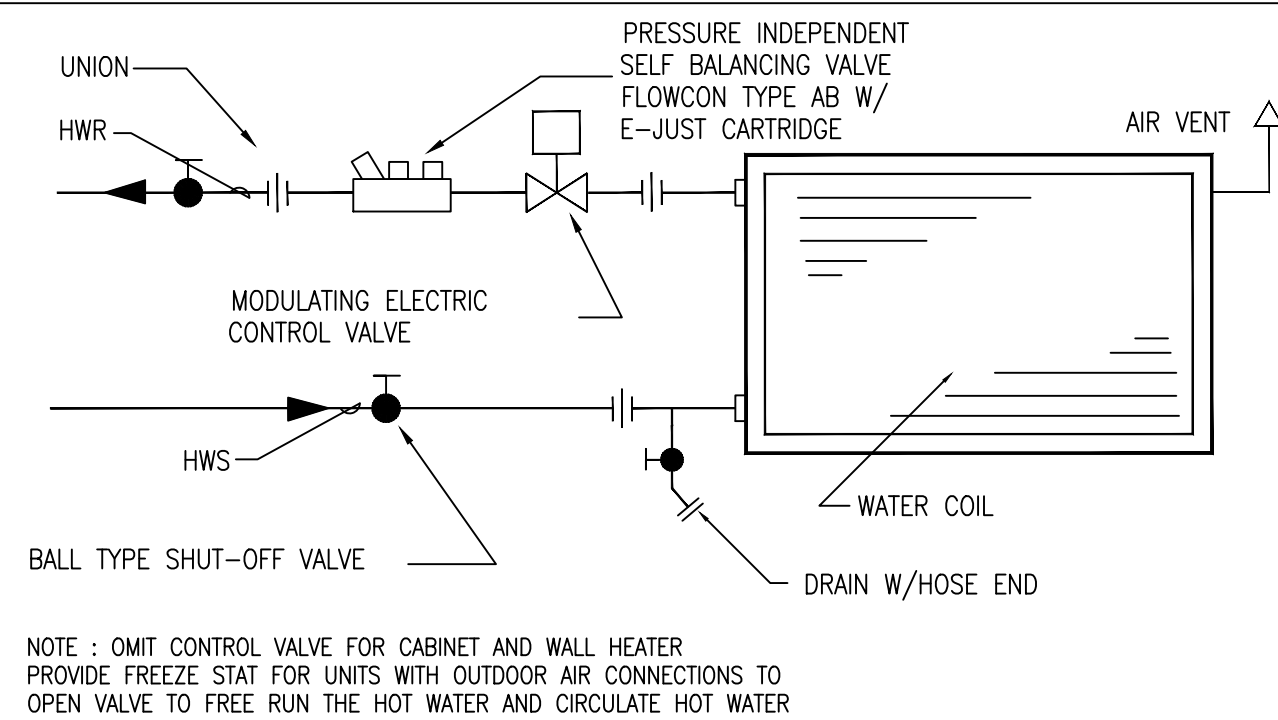
DUCT DETAILS

NTS



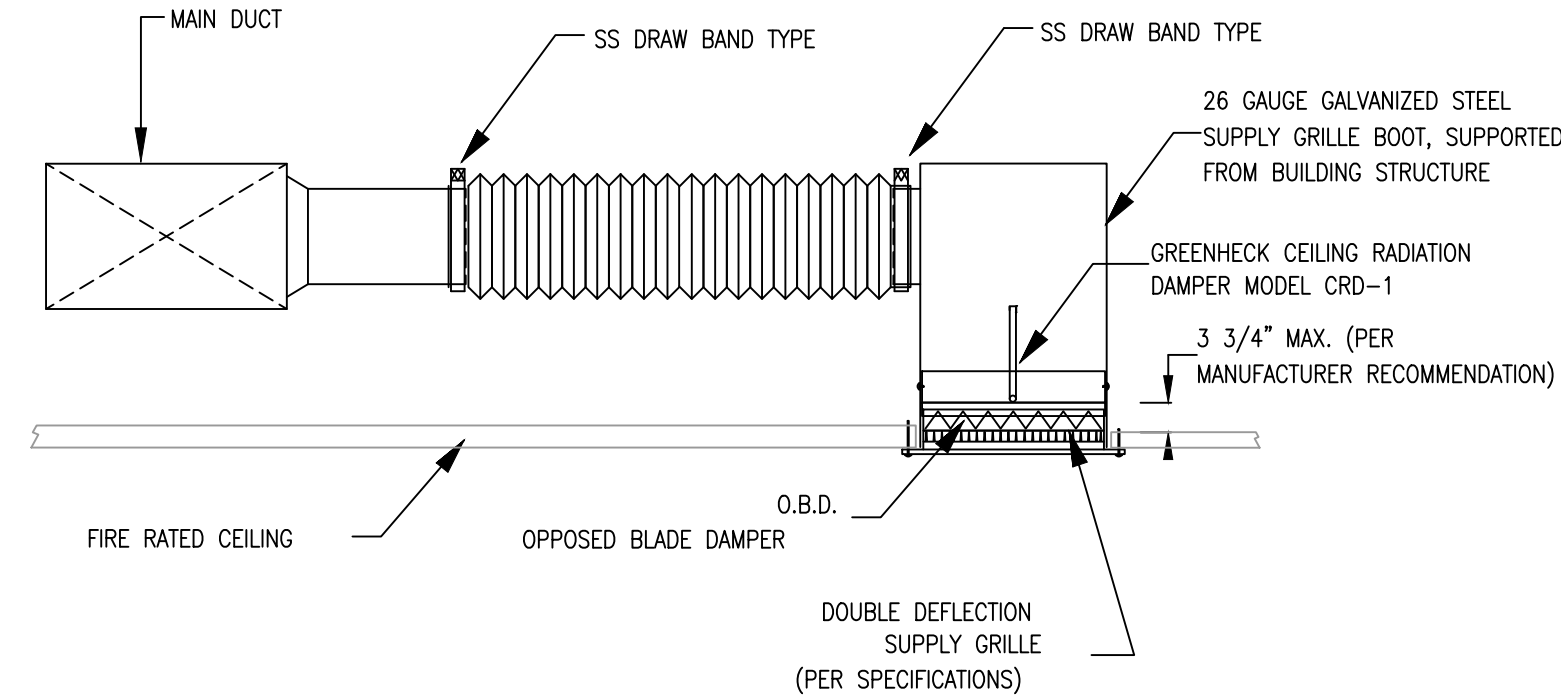
FLOOR/CEILING DUCT PROTECTION DETAIL

NTS



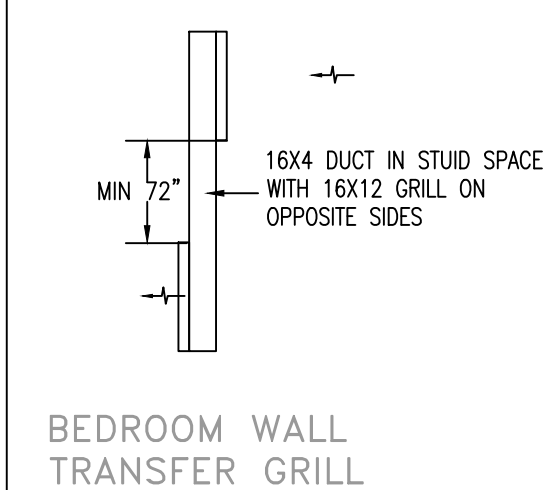
WATER COIL PIPING DETAIL

NTS

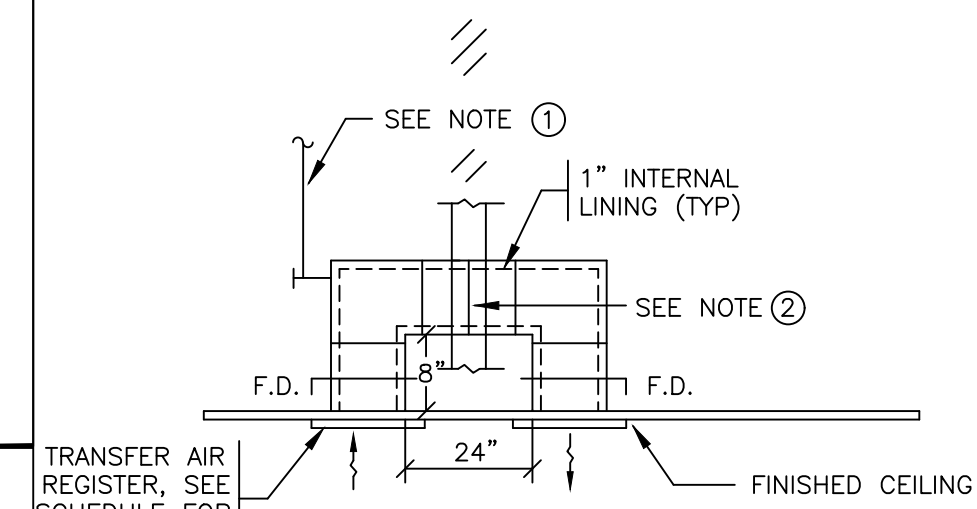


SUPPLY GRILLE/CRD INSTALLATION DETAIL

NTS



BEDROOM WALL TRANSFER GRILL

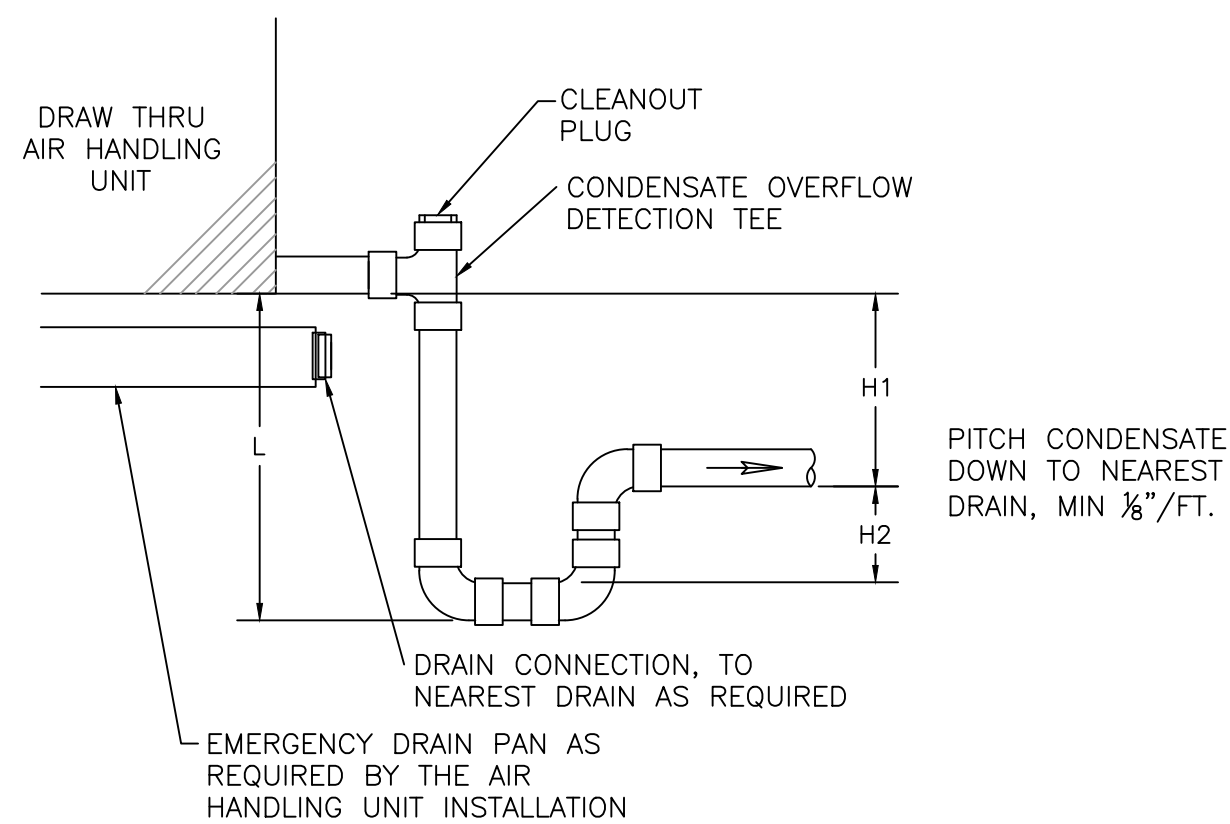


CEILING TRANSFER GRILL

NOTES:
① TRANSFER DUCTS TO BE SUPPORTED FROM STRUCTURE ABOVE.
② FIRE DAMPER WHERE APPLICABLE, SEE PLANS FOR LOCATION.
③ OPEN END DUCT WxH.

CEILING AND WALL TRANSFER DUCT DETAIL

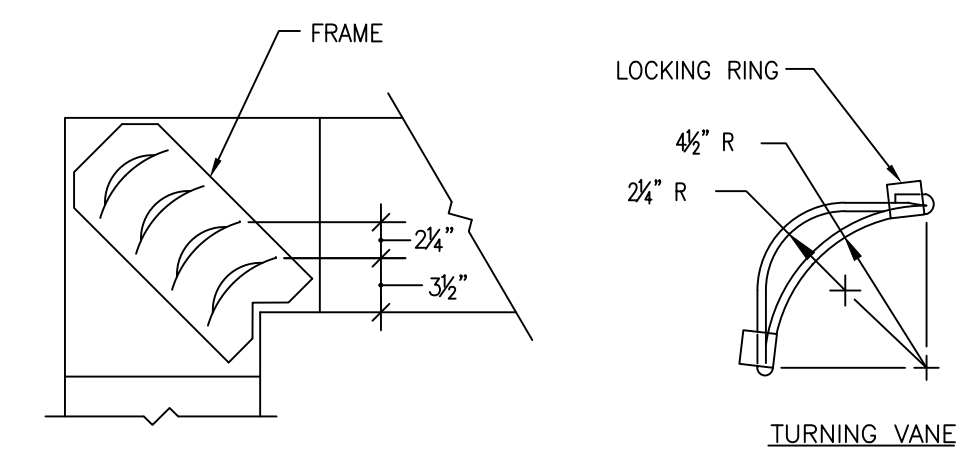
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H1 = MAX NEGATIVE STATIC PRESSURE PLUS 1"
H2 = H1/2
L = H1 + H2 + PIPE DIAMETER + INSULATION THICKNESS

CONDENSATE DRAIN DETAIL

NTS



NOTES:
VANED ELBOW

1. LOCKING LUGS INTEGRAL WITH VANE.
2. MAXIMUM UNSUPPORTED VANE LENGTH 48".
3. FRAMES-BOLTED OR RIVETED TO ELBOW.
4. VANES AND FRAMES-SAME GAUGE AS ELBOW.

DOUBLE THICKNESS TURNING VANES FOR SQUARE ELBOW

N.T.S.

Location

PROPOSED MULTI-FAMILY
BUILDING
30 THORN STREET
HYDE PARK, MA 02136

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& Company, Inc.

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No.	Description	Date

Project No: 2025014

Scale: AS NOTED

Date: 08-28-25

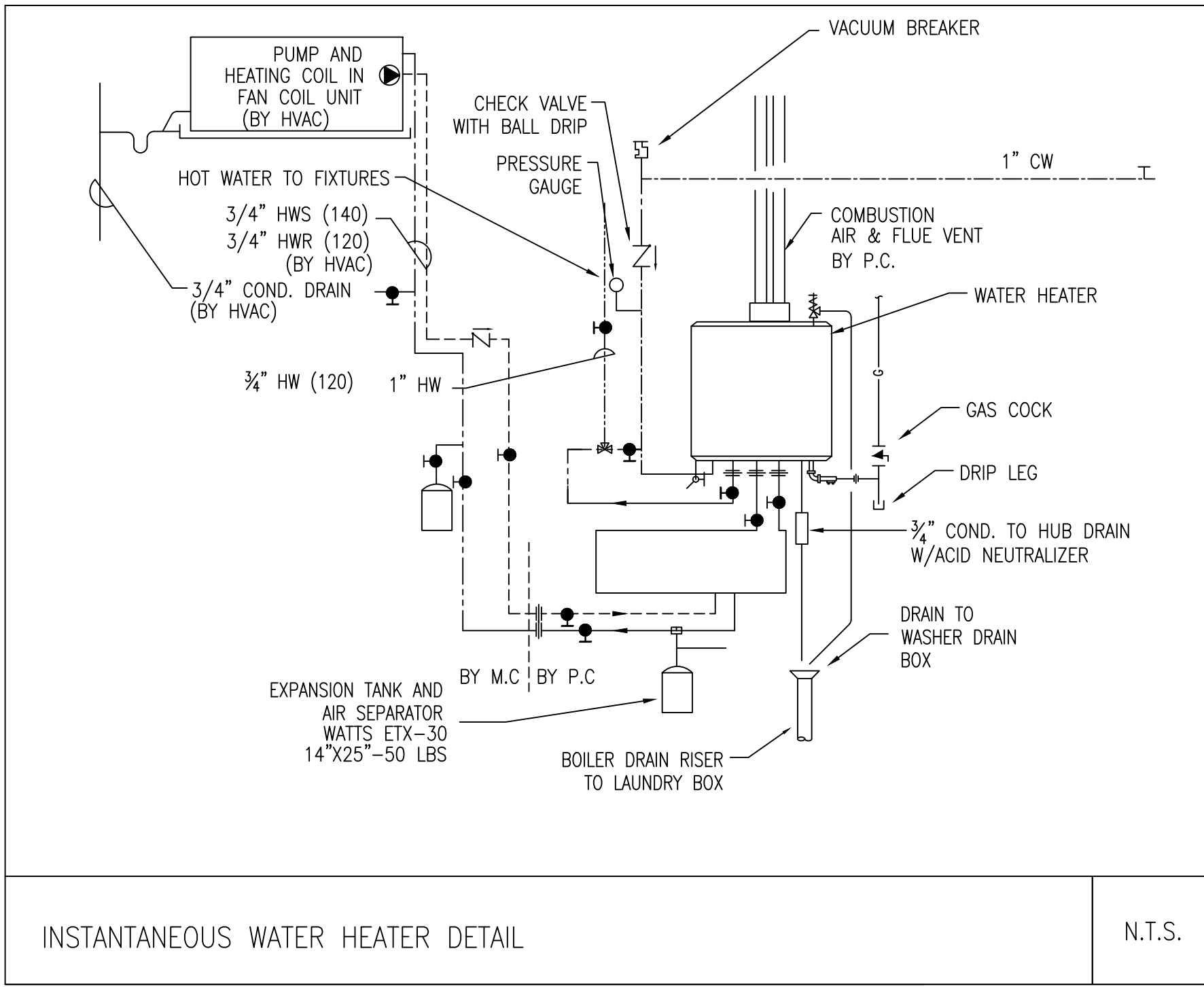
Drawn By: _____

Drawing Name

HVAC DETAILS

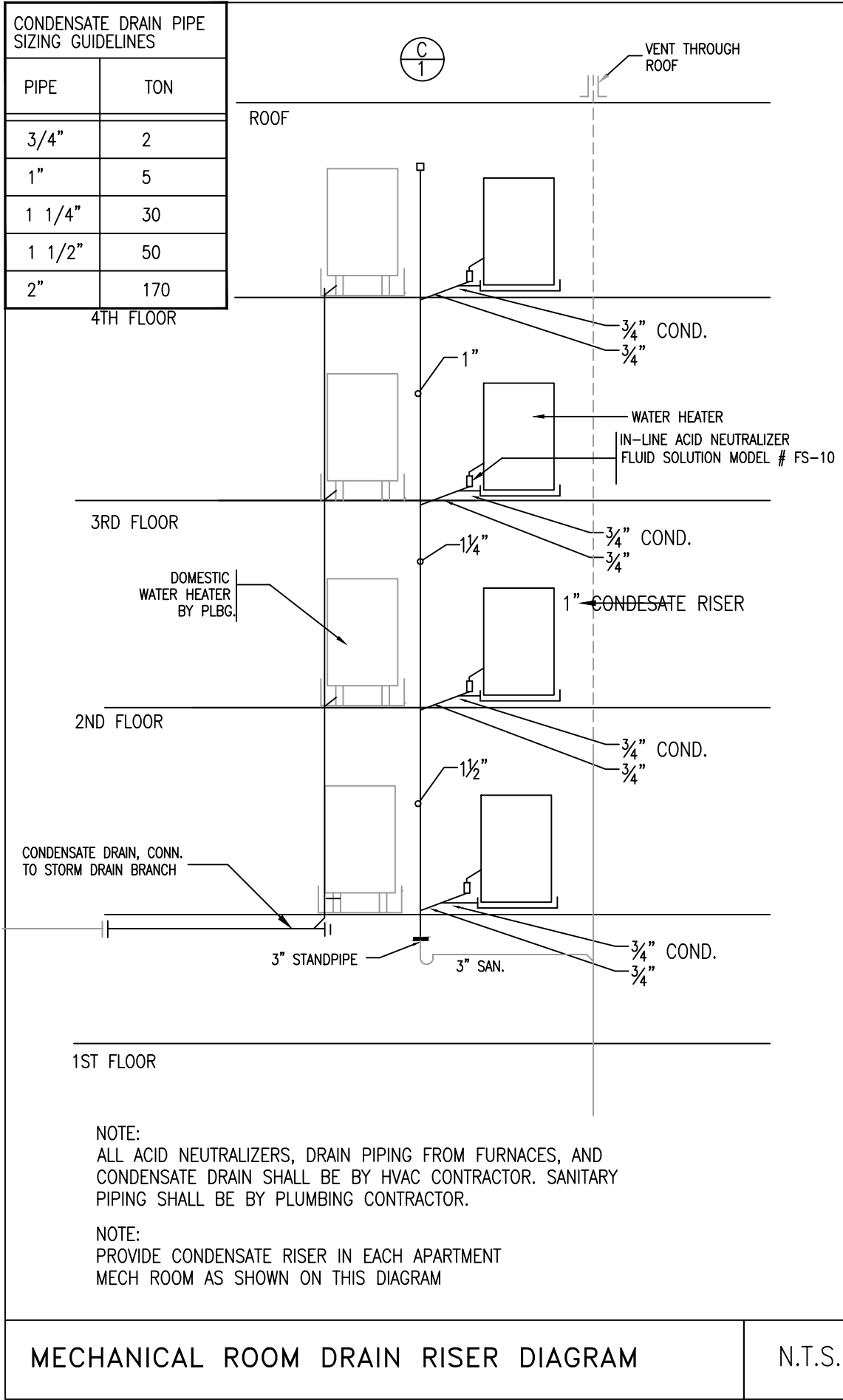
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H-7



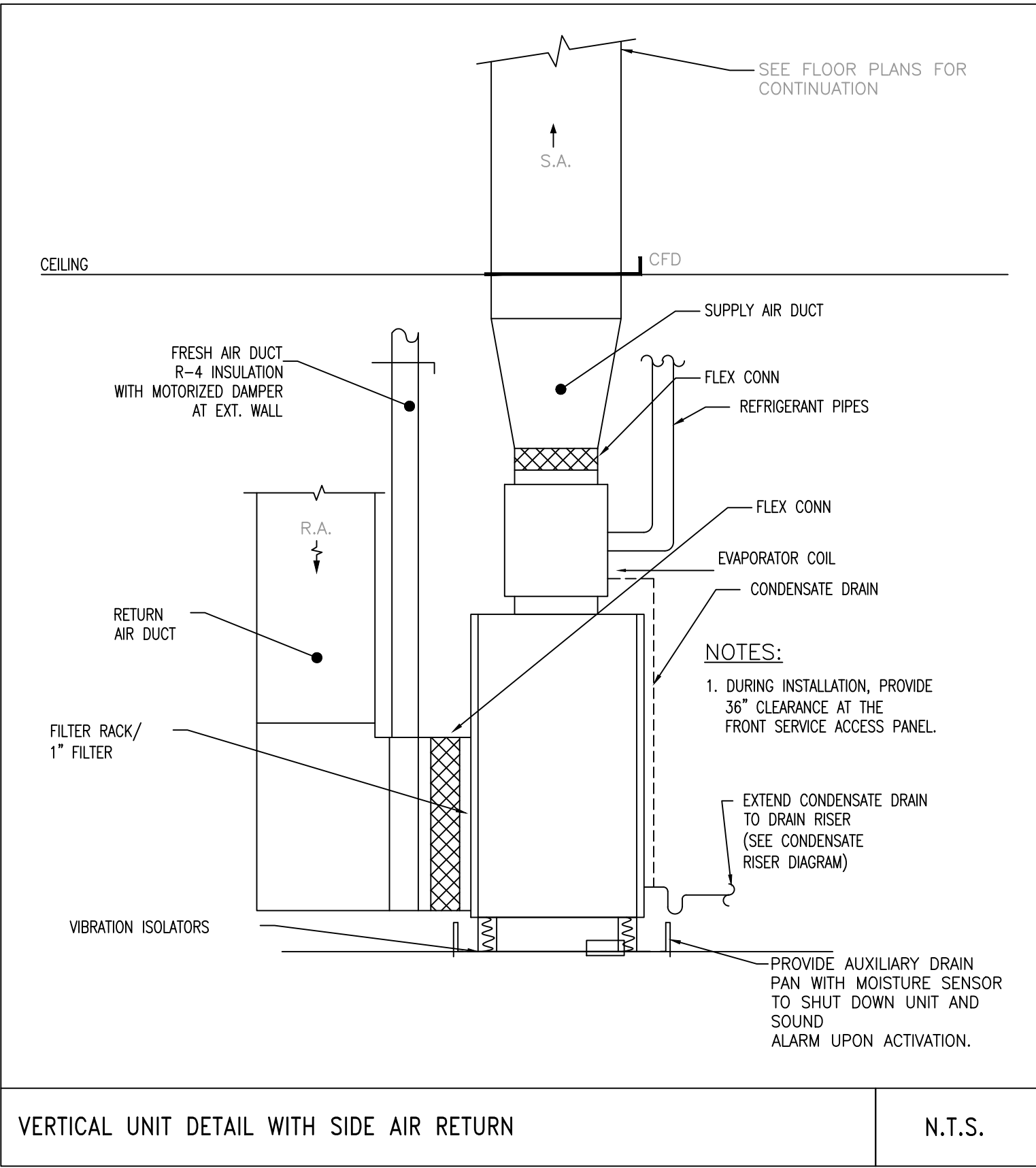
INSTANTANEOUS WATER HEATER DETAIL

N.T.S.



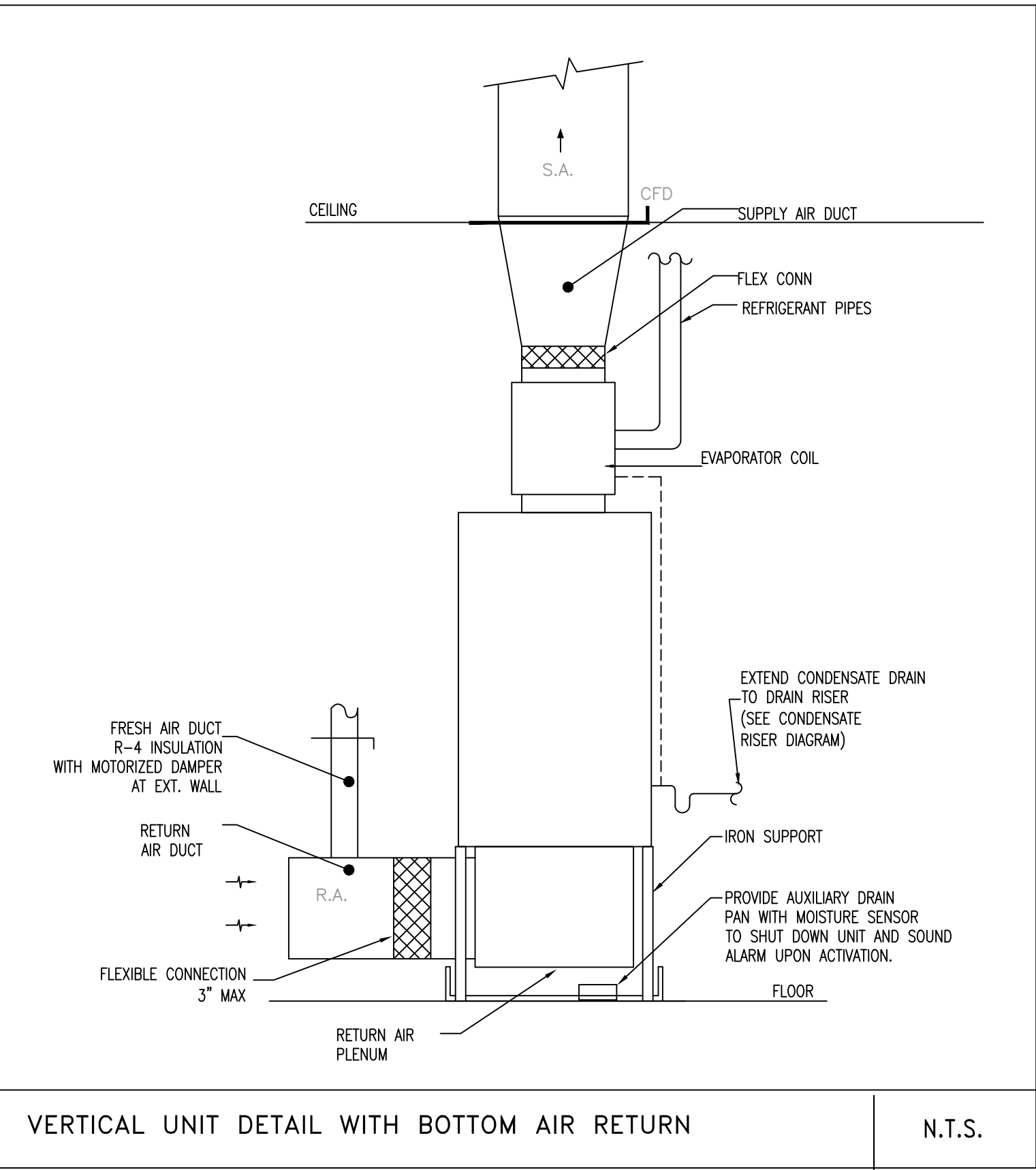
MECHANICAL ROOM DRAIN RISER DIAGRAM

N.T.S.



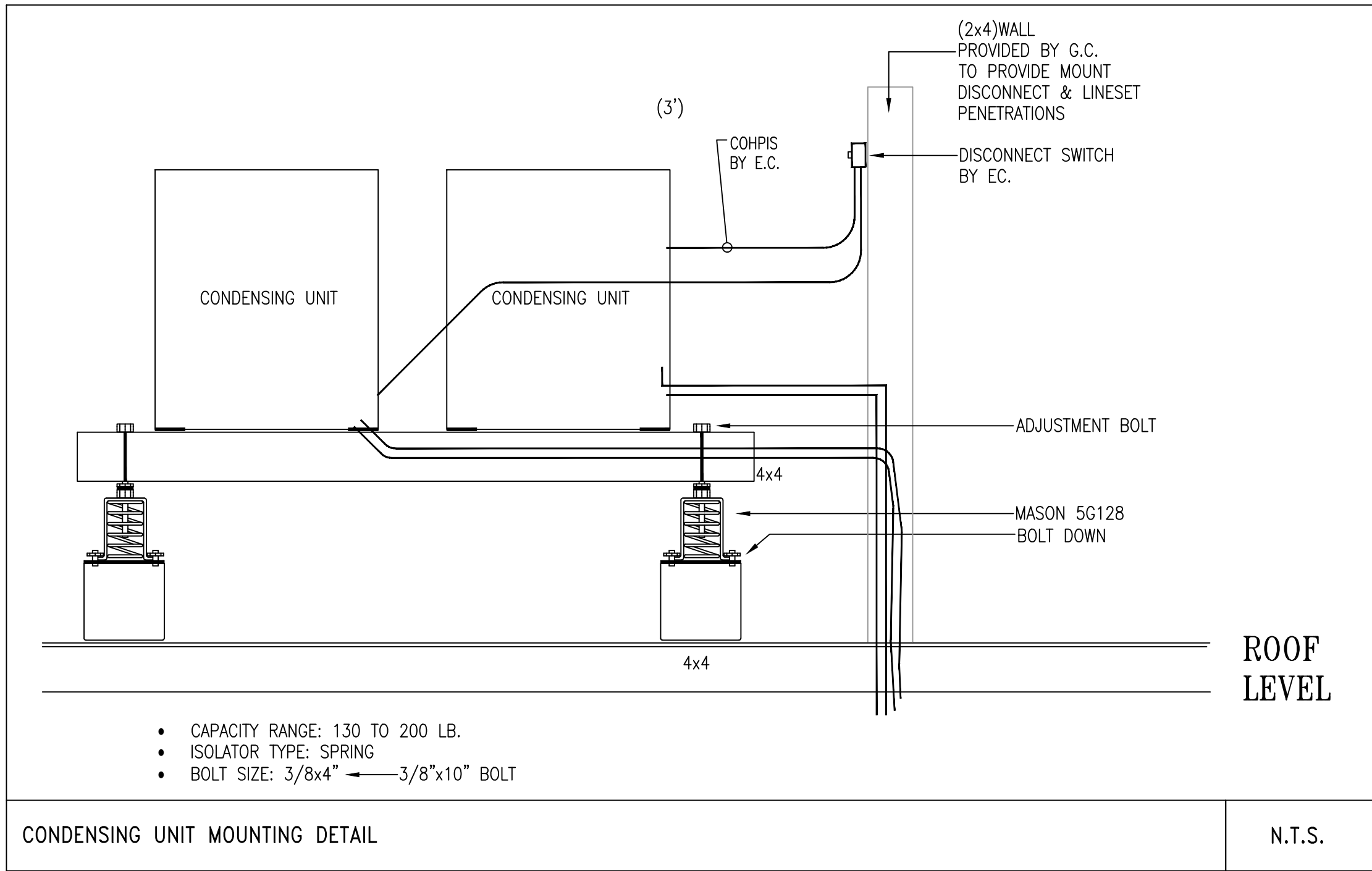
VERTICAL UNIT DETAIL WITH SIDE AIR RETURN

N.T.S.



VERTICAL UNIT DETAIL WITH BOTTOM AIR RETURN

N.T.S.



CONDENSING UNIT MOUNTING DETAIL

N.T.S.

Location

PROPOSED MULTI-FAMILY
BUILDING
30 THORN STREET
HYDE PARK, MA 02136

Choo & Company, Inc.

One Billings Road Quincy, MA 02171
617-786-7727 fax 617-786-7715

ZADE ENGINEERING LLC
CONSULTING ENGINEERS
1 BILLINGS ROAD STE 306, QUINCY, MA 02171
TEL. (617) 338-4406
FAX. (617) 451-2540
EMAIL. zade@zadeengineering.com

No.	Description	Date

Project No: 2025014

Scale: AS NOTED

Date: 08-28-25

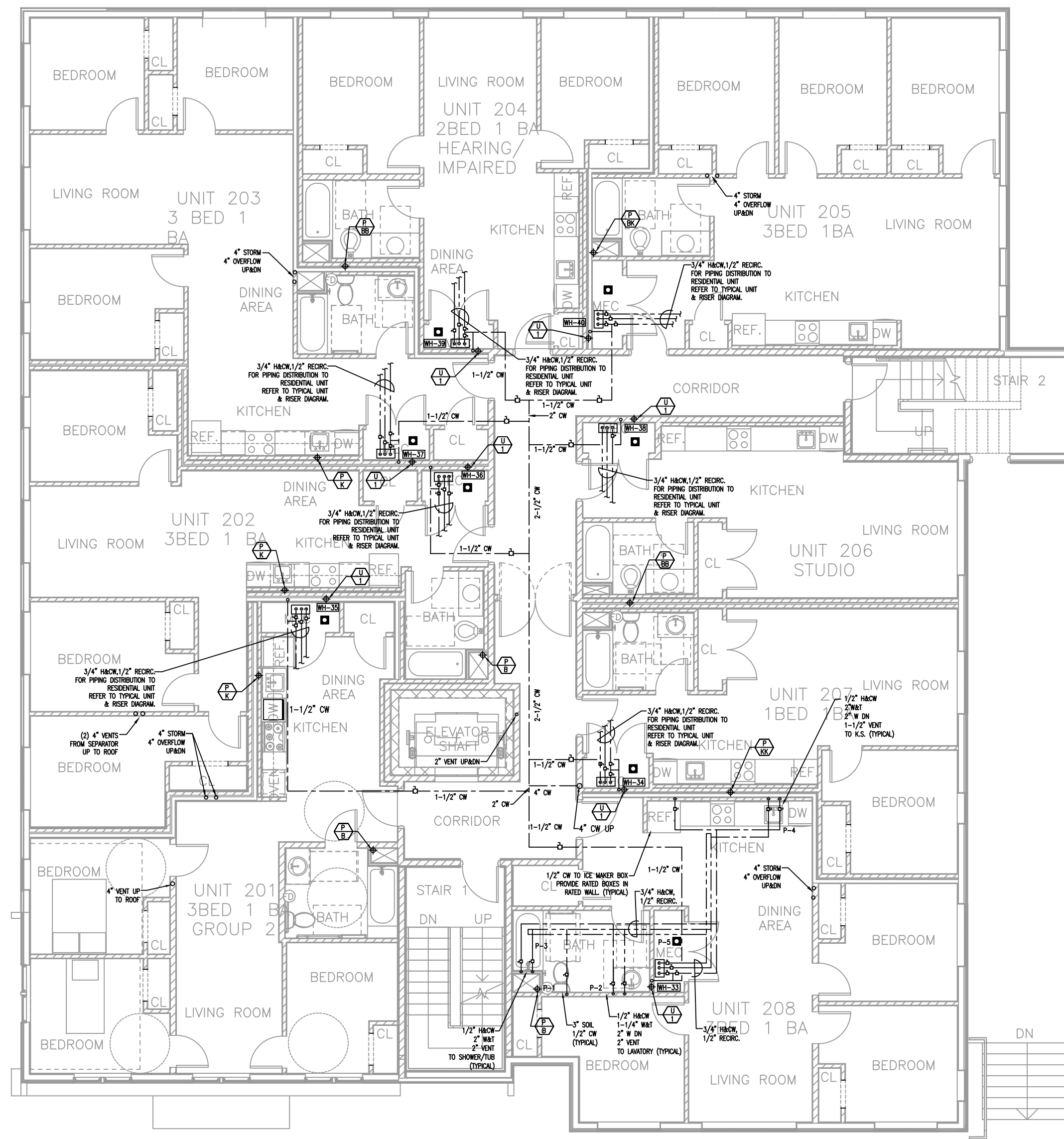
Drawn By: -----

Drawing Name

HVAC DETAILS

Sheet No.

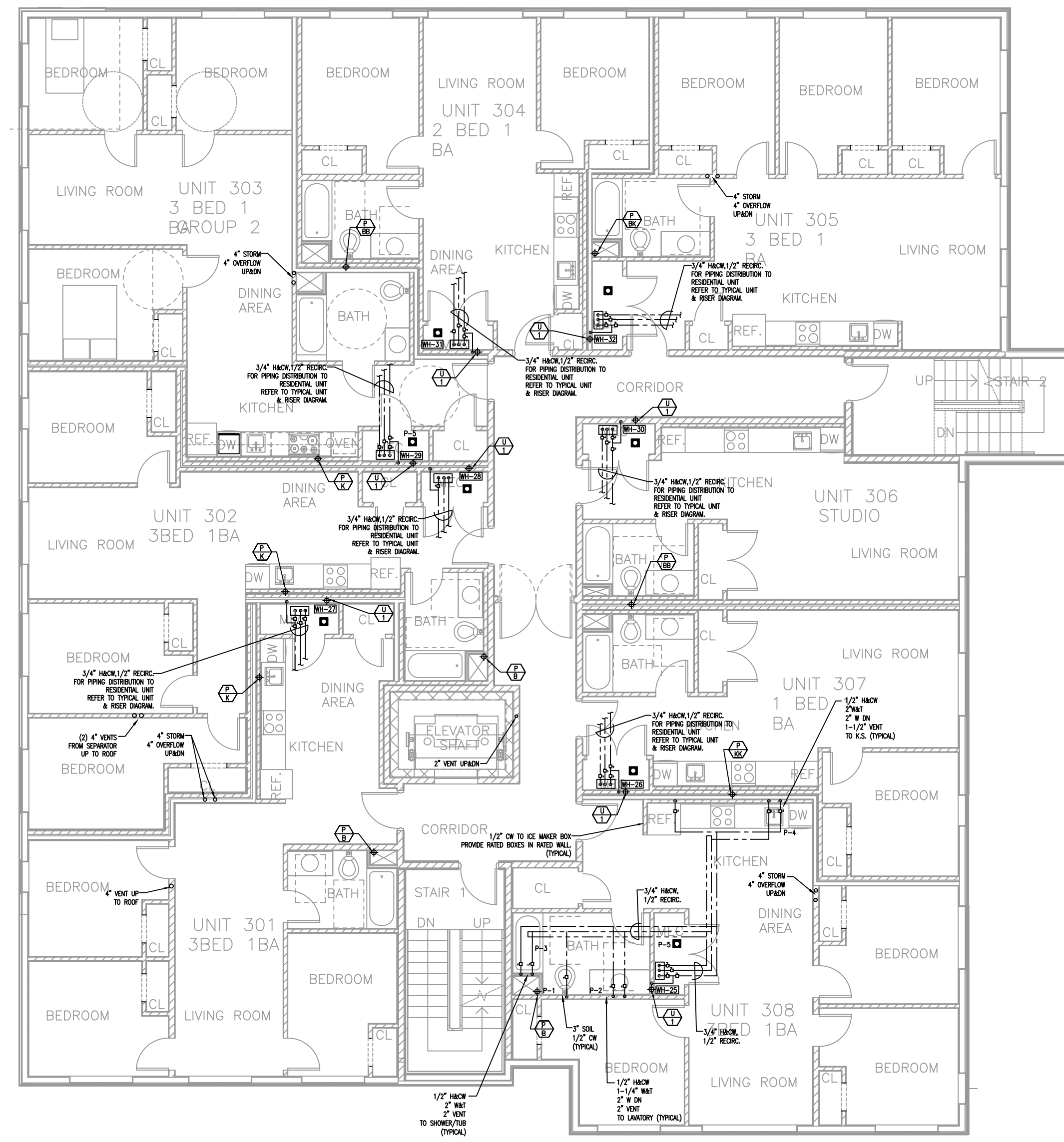
H-8



SECOND FLOOR
1/8" = 1'-0"

GENERAL NOTE:
RUN ALL PIPING ON WARM SIDE OF
INSULATION TO PREVENT FROM FREEZING.
ANY PIPING RUNNING IN COLD AREAS SHALL
BE PROVIDED WITH HEAT TRACE AND
COORDINATED WITH ELECTRICAL
CONTRACTOR.

RUN P DOWN TO ICE MAKERS FROM
KITCHEN WATER RISER



THIRD FLOOR
1/8" = 1'-0"

Location

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BUILDING
30 THORN STREET
HYDE PARK, MA 02136

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& Company, Inc.

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ZADE ENGINEERING LLC
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1 BILLINGS ROAD STE 306, QUINCY, MA 02171
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FAX: (617) 451-3540
EMAIL: zade@zadeengineering.com

No.	Description	Date

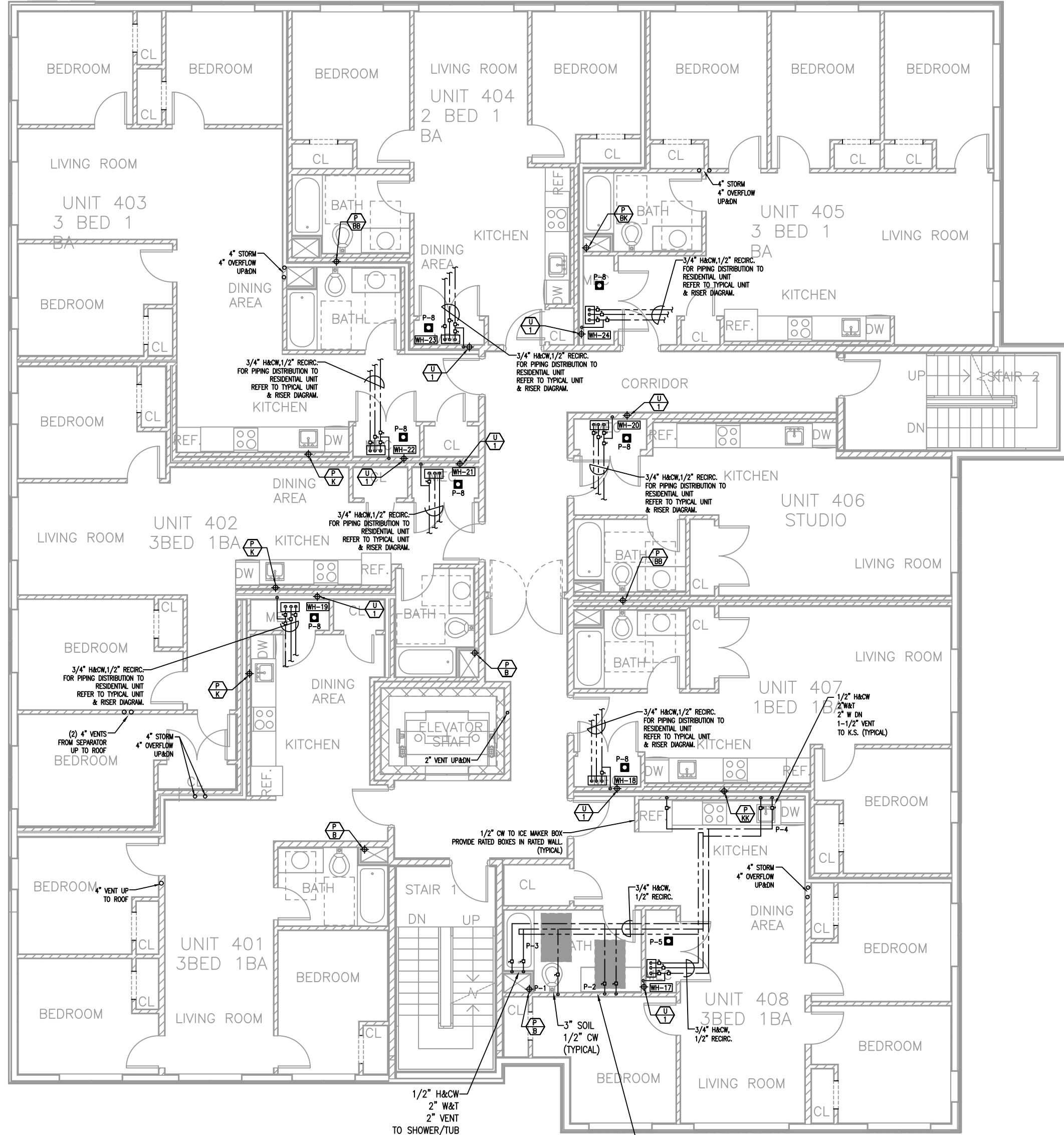
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Scale: AS NOTED
Date: 08-28-25
Drawn By: _____

Drawing Name

PLUMBING
FLOOR PLAN

Sheet No.

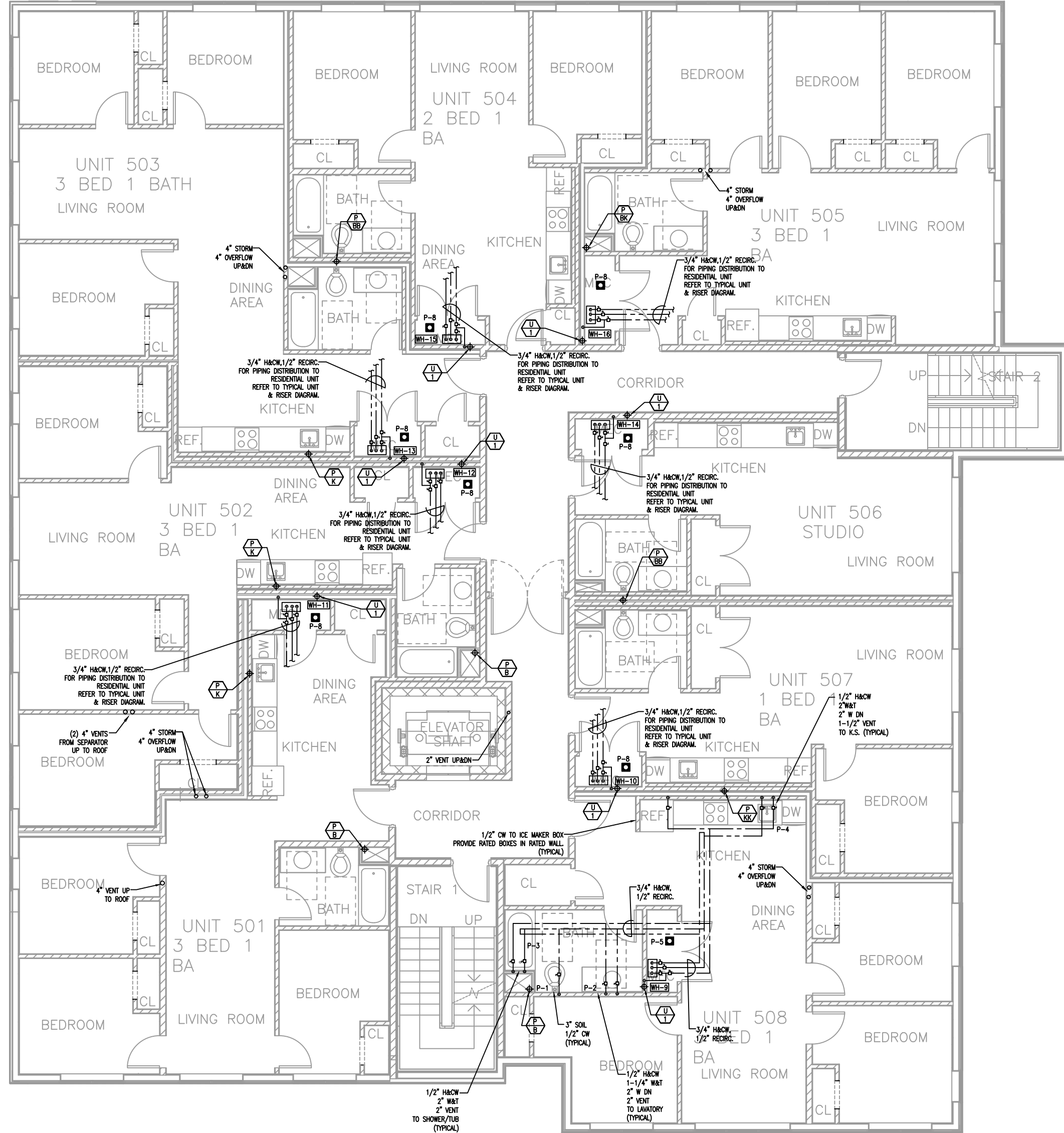
P-2



FOURTH FLOOR
1/8" = 1'-0"

GENERAL NOTE:
RUN ALL PIPING ON WARM SIDE OF
INSULATION TO PREVENT FROM FREEZING.
ANY PIPING RUNNING IN COLD AREAS SHALL
BE PROVIDED WITH HEAT TRACE AND
COORDINATED WITH ELECTRICAL
CONTRACTOR.

RUN 1/2" CW TO ICE MAKERS FROM
KITCHEN WATER RISER.



FIFTH FLOOR
1/8" = 1'-0"

Location

PROPOSED MULTI-FAMILY
BUILDING
30 THORN STREET
HYDE PARK, MA 02136

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FAX: (617) 451-5540
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No.	Description	Date

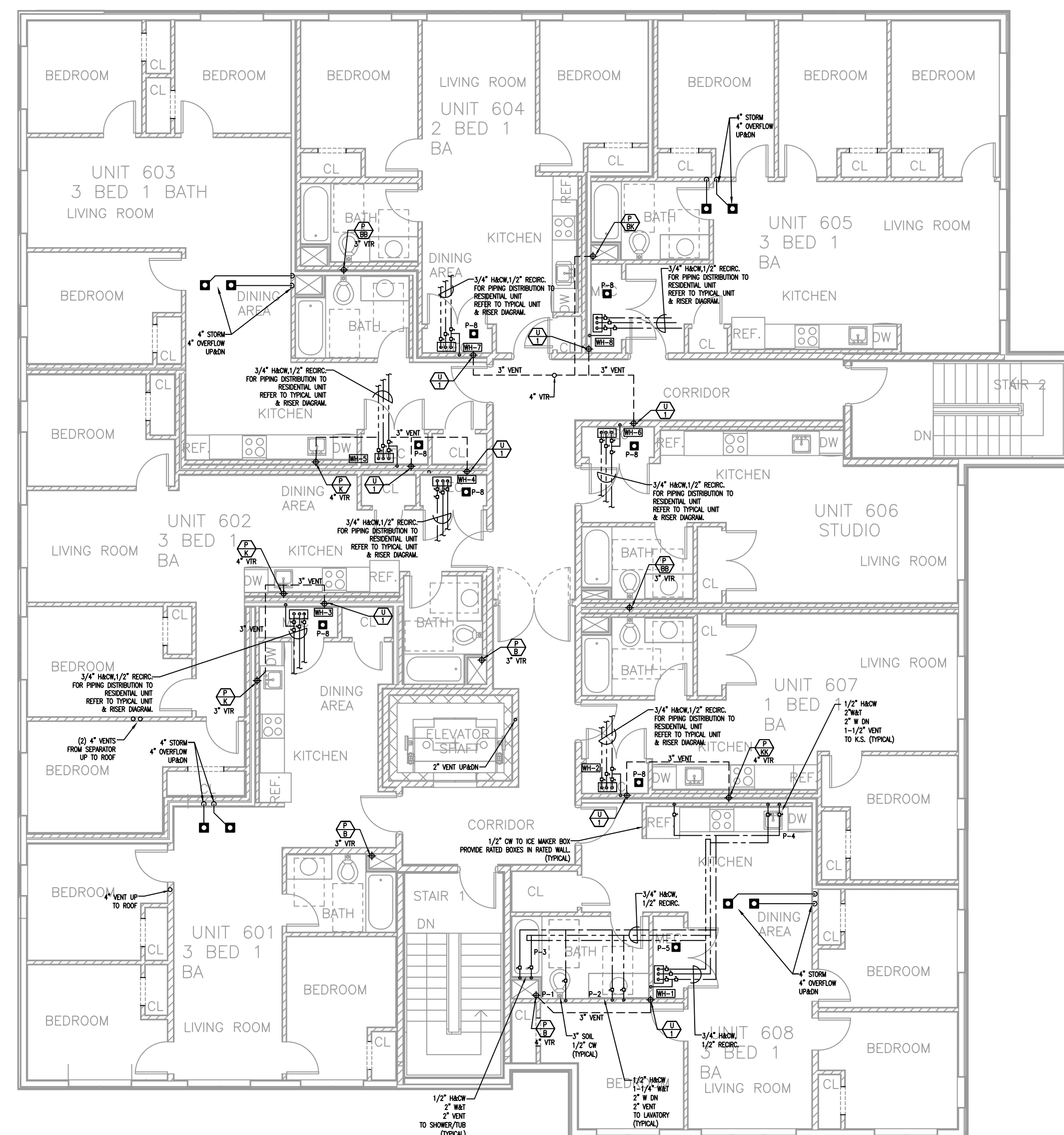
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Date: 08-28-25
Drawn By: _____

Drawing Name

PLUMBING
FLOOR PLAN

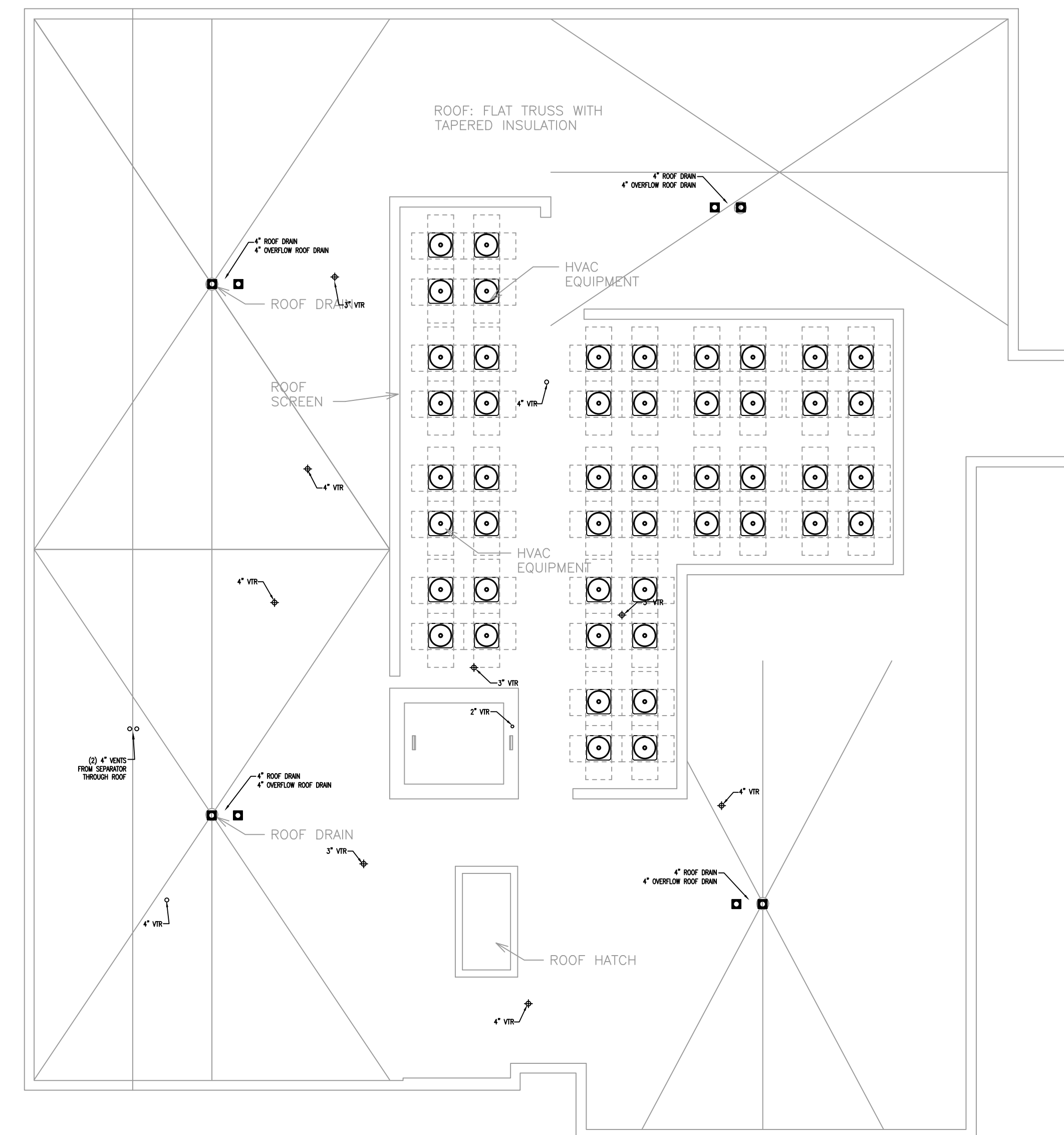
Sheet No.

P-3



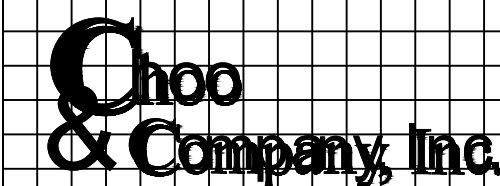
GENERAL NOTE:
RUN ALL PIPING ON WARM SIDE OF
INSULATION TO PREVENT FROM FREEZING.
ANY PIPING RUNNING IN COLD AREAS SHALL
BE PROVIDED WITH HEAT TRACE AND
COORDINATED WITH ELECTRICAL
CONTRACTOR.

RUN 1/2" CW TO ICE MAKERS FRO
KITCHEN WATER RISER



Location

PROPOSED MULTI-FAMILY
BUILDING
30 THORN STREET
HYDE PARK, MA 02136



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Project No: 2025014

Scale: AS NOTED

Date: 08-28-25

Drawn By: -----

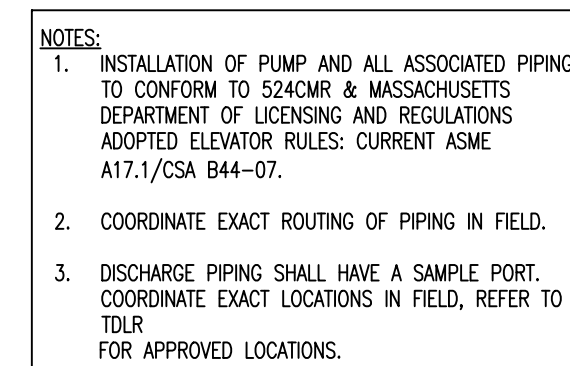
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PLUMBING FLOOR PLAN

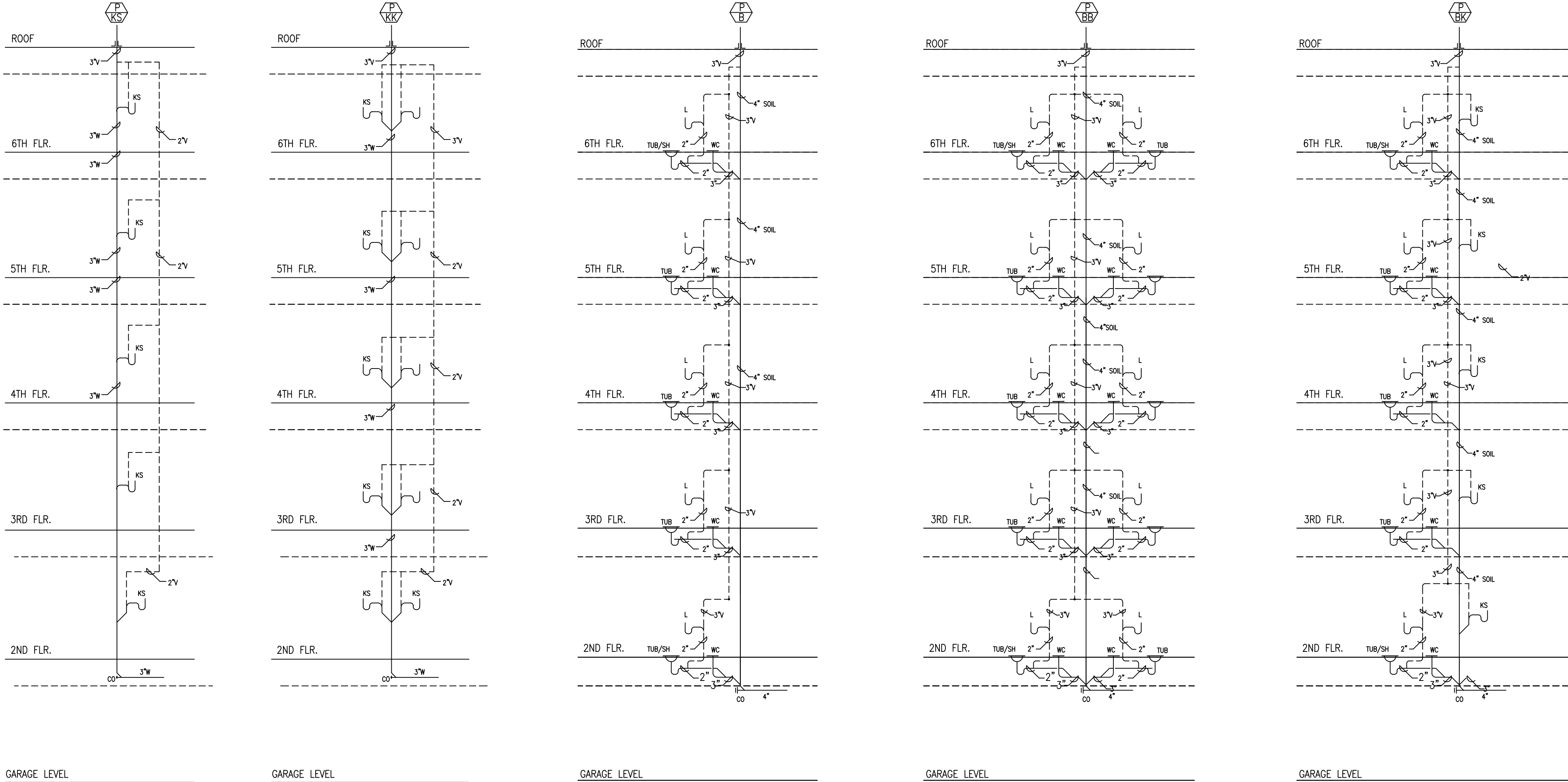
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P-4

P-5

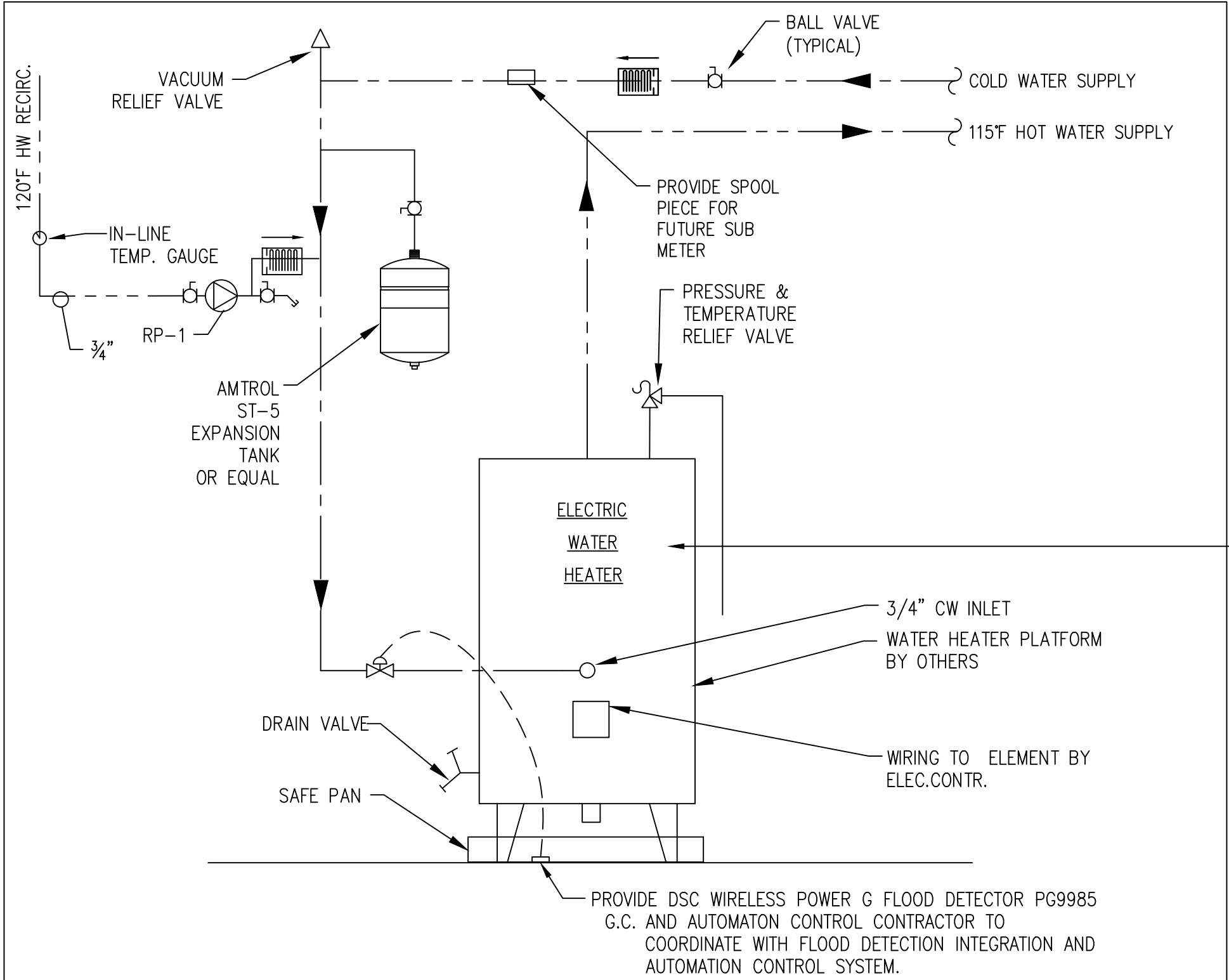


P-7



TYPICAL SANITARY RISER DIAGRAMS
N.T.S.

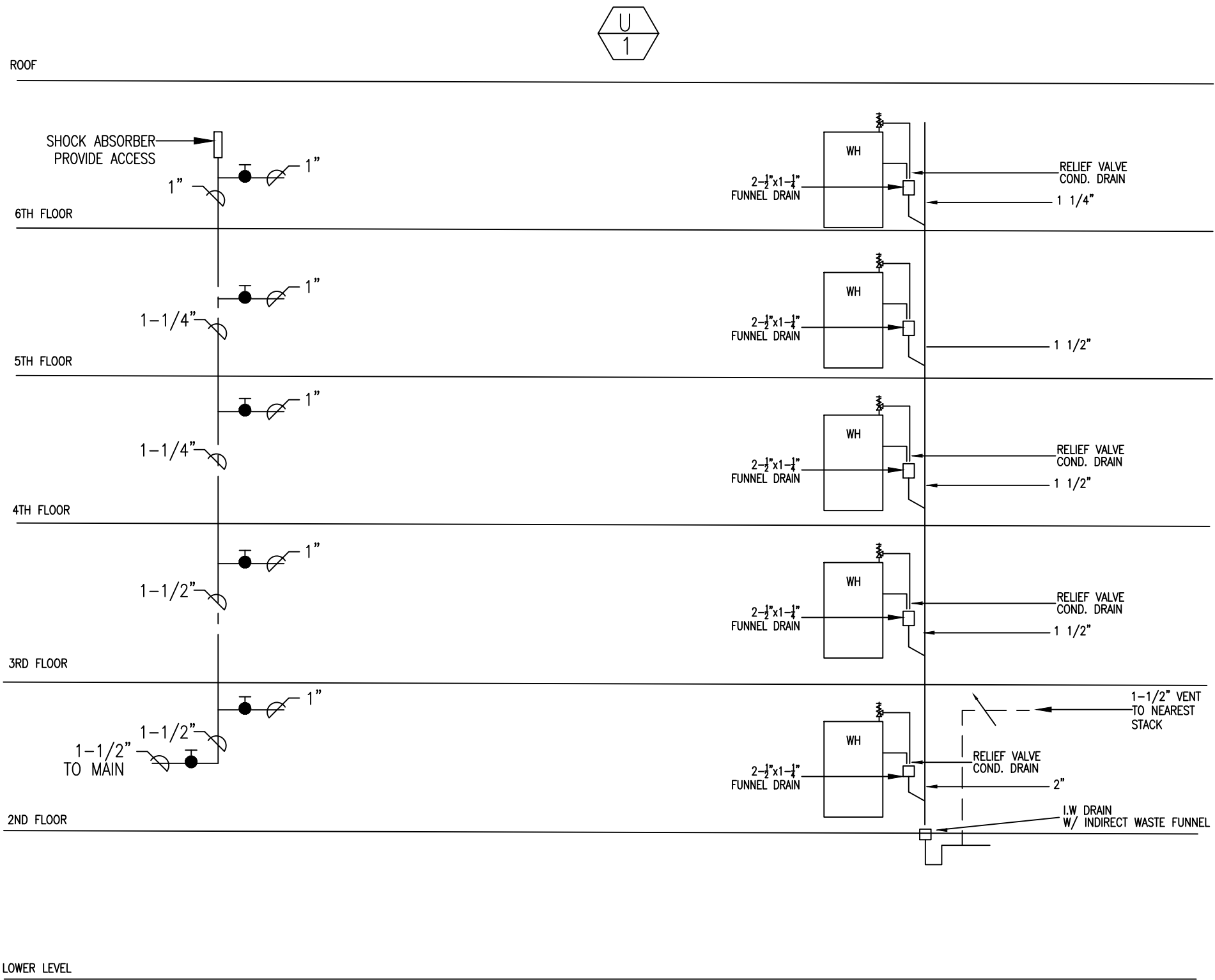
RISER DIAGRAMS DO NOT SHOW OFFSETS.



PC SHALL PROVIDE ON DEMAND HOT WATER RECIRCULATION PUMP AS MFG BY TACO, MODEL GENIE, STAINLESS STEEL PUMP, COMPLETE WITH ALL COMPONENTS FOR PROPER INSTALLATION AND OPERATION. PROVIDE ROUND MOTION SENSOR AT EACH BATHROOM LOCATION, WIRELESS TRANSMITTER AND HARD WIRED TRANSMITTER AT PUMP LOCATION, LOCATE PUMP AT WATER HEATER.

ELECTRIC WATER HEATING PIPING DETAIL

N.T.S.



WATER RISER DIAGRAMS
N.T.S.

DRAIN RISER DIAGRAMS
N.T.S.
FOR BACK TO BACK UNITS
USE ONE RISER

Location

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30 THORN STREET
HYDE PARK, MA 02136

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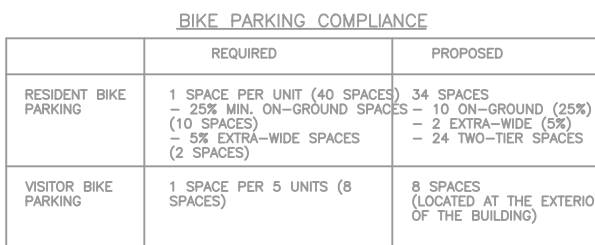
Project No: 2025014
Scale: AS NOTED
Date: 08-28-25
Drawn By: _____

Drawing Name

PLUMBING
DETAILS

Sheet No.

P-9


$$1/8'' = 1'-0''$$

DRY SIDEWALL SPRINKLER HEADS ARE REQUIRED AT ALL BUILDING OVERHANGS EXCEEDING 4-FT.

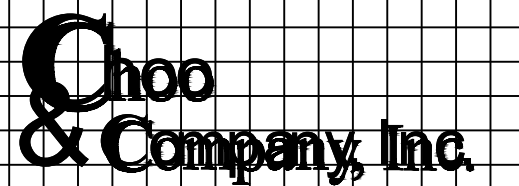
NOTES:
SPRINKLER CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF ALL
NEW WORK WITH BUILDING FEATURES AND OTHER TRADES AT NO
ADDITIONAL COST TO THE OWNER.

GENERAL NOTES:
PROVIDE COIN TYPE SPRINKLER PROTECTION FOR ALL CONCEALED SPACES
CREATED DURING CONSTRUCTION AS REQUIRED BY NFPA-13, INCLUDING OPEN
WEB JOIST SPACES NOT COMPLETELY FILL WITH NON-COMBUSTIBLE INSULATION.

SPRINKLER HEAD LAYOUT BASED ON LIGHTING NOT TO EXCEED 17' BELOW THE GWB CEILING.

location

PROPOSED MULTI-FAMILY
BUILDING
30 THORN STREET
HYDE PARK, MA 02136



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EMAIL zade@zadeengineering.com

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Project No: 2025014

Scale: AS NOTED

ate: 08-28-25

Drawn By: _____

Drawing Name

GROUND FLOOR FIRE PROTECTION PLAN

Sheet No.

FP-1

Location

PROPOSED MULTI-FAMILY
BUILDING
30 THORN STREET
HYDE PARK, MA 02136

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No.	Description	Date

Project No: 2025014

Scale: AS NOTED

Date: 08-28-25

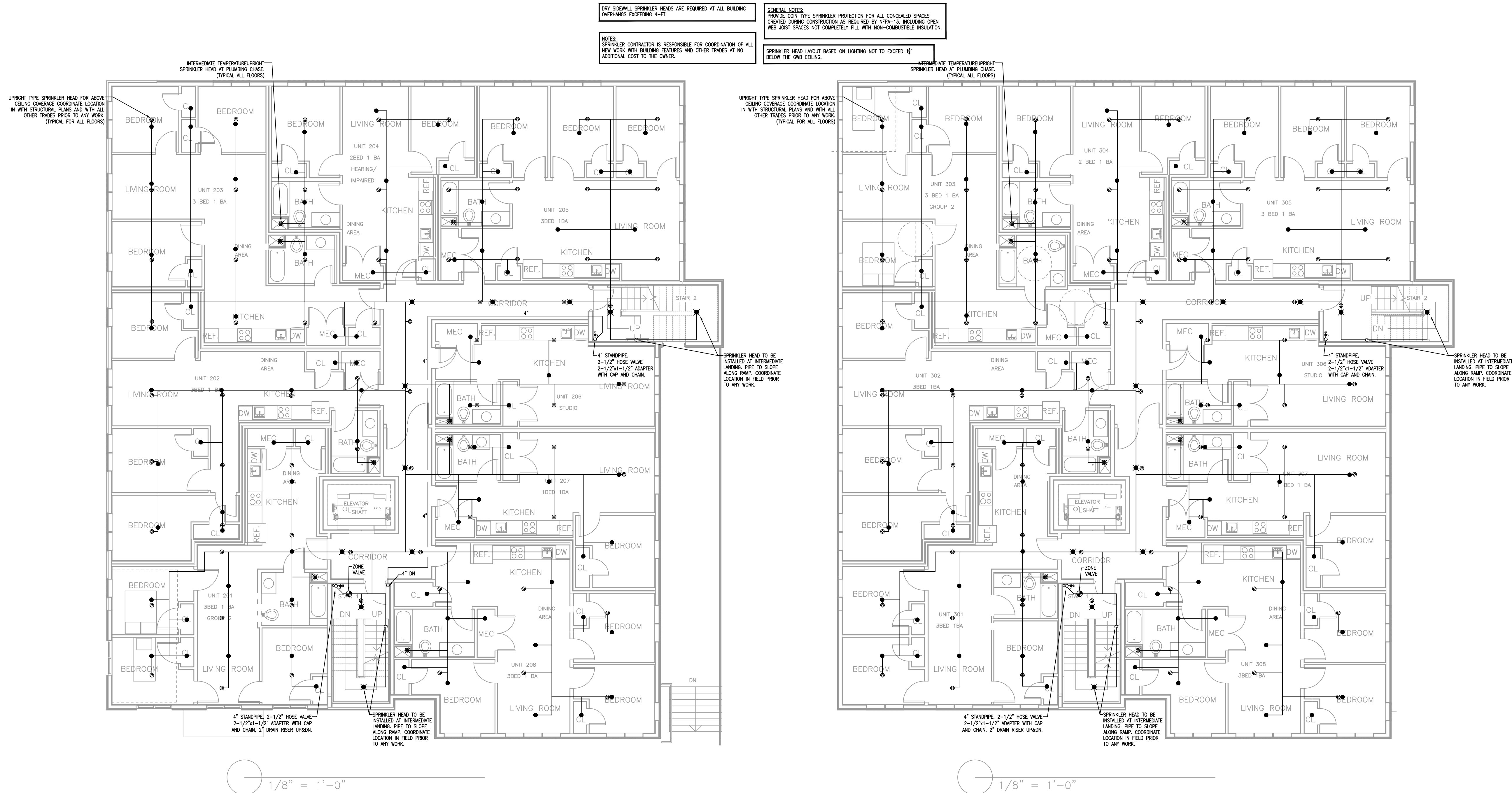
Drawn By: _____

Drawing Name

FIRE
PROTECTION
FLOOR PLAN

Sheet No.

FP-2



Location

PROPOSED MULTI-FAMILY
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No.	Description	Date

Project No: 2025014

Scale: AS NOTED

Date: 08-28-25

Drawn By: _____

Drawing Name

FIRE
PROTECTION
FLOOR PLAN

Sheet No.

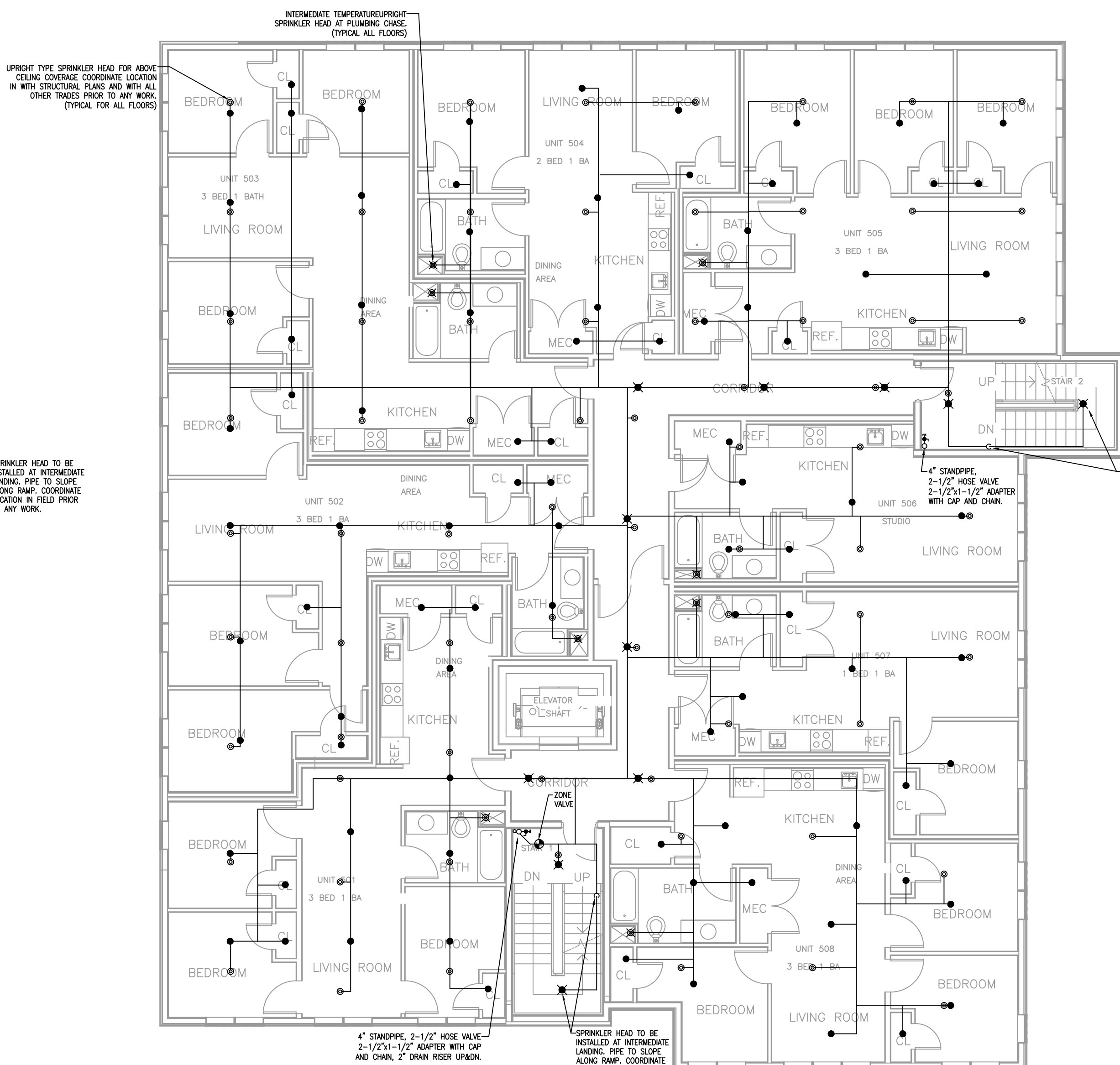
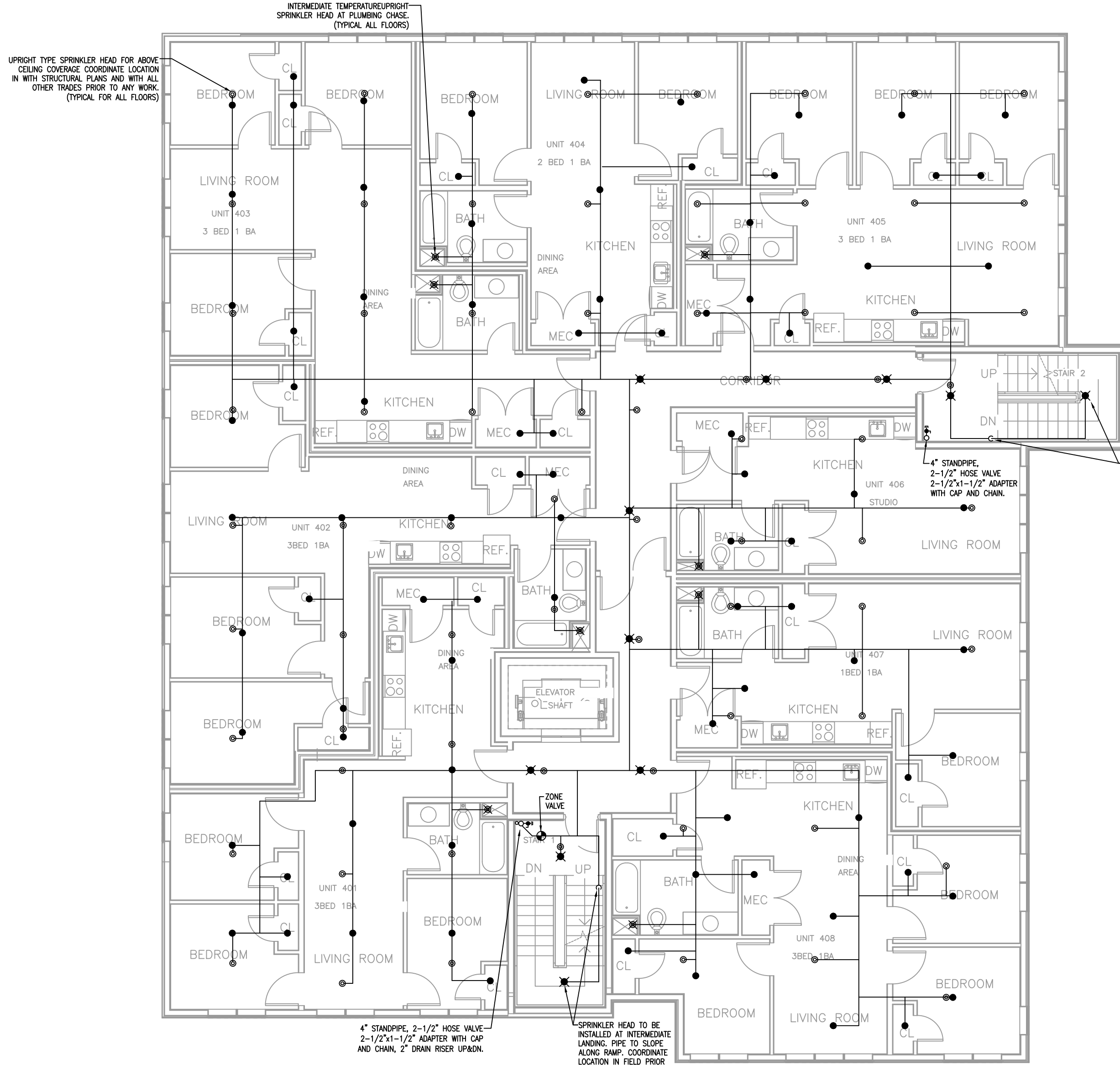
FP-3

GENERAL NOTES:
PROVIDE COIN TYPE SPRINKLER PROTECTION FOR ALL CONCEALED SPACES
CREATED DURING CONSTRUCTION AS REQUIRED BY NFPA-13, INCLUDING OPEN
WEB JOIST SPACES NOT COMPLETELY FILLED WITH NON-COMBUSTIBLE INSULATION.

NOTES:
SPRINKLER CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF ALL
NEW WORK WITH BUILDING FEATURES AND OTHER TRADES AT NO
ADDITIONAL COST TO THE OWNER.

GENERAL NOTES:
PROVIDE COIN TYPE SPRINKLER PROTECTION FOR ALL CONCEALED SPACES
CREATED DURING CONSTRUCTION AS REQUIRED BY NFPA-13, INCLUDING OPEN
WEB JOIST SPACES NOT COMPLETELY FILLED WITH NON-COMBUSTIBLE INSULATION.

SPRINKLER HEAD LAYOUT BASED ON LIGHTING NOT TO EXCEED 14"
BELOW THE GMB CEILING.



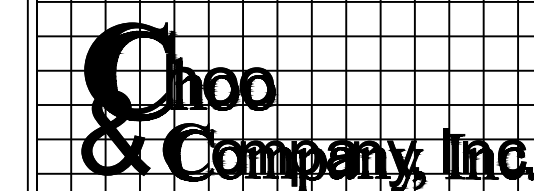
GENERAL NOTES:
PROVIDE COIN TYPE SPRINKLER PROTECTION FOR ALL CONCEALED SPACES
CREATED DURING CONSTRUCTION AS REQUIRED BY NFPA-13, INCLUDING OPEN
WEB JOIST SPACES NOT COMPLETELY FILL WITH NON-COMBUSTIBLE INSULATION.

NOTES:
SPRINKLER CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF ALL
NEW WORK WITH BUILDING FEATURES AND OTHER TRADES AT NO
ADDITIONAL COST TO THE OWNER.

SPRINKLER HEAD LAYOUT BASED ON LIGHTING NOT TO EXCEED 12'
BELOW THE GWB CEILING.

Location

**PROPOSED MULTI-FAMILY
BUILDING
30 THORN STREET
HYDE PARK, MA 02136**



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Project No: 2025014

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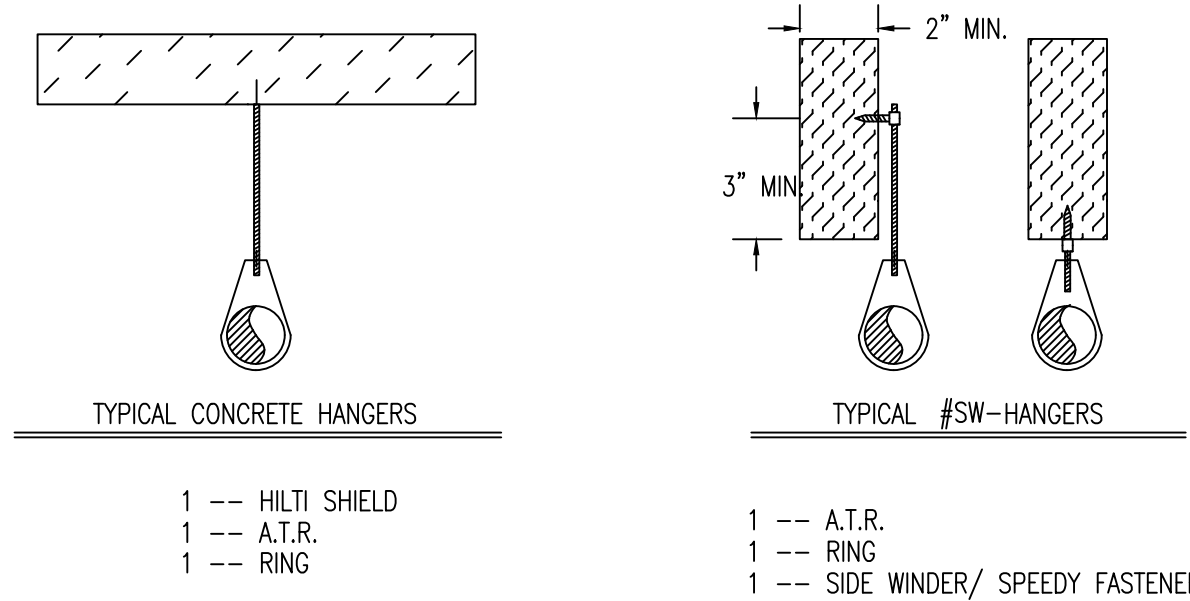
Drawn By: -----

Drawing Name

FIRE PROTECTION FLOOR PLAN

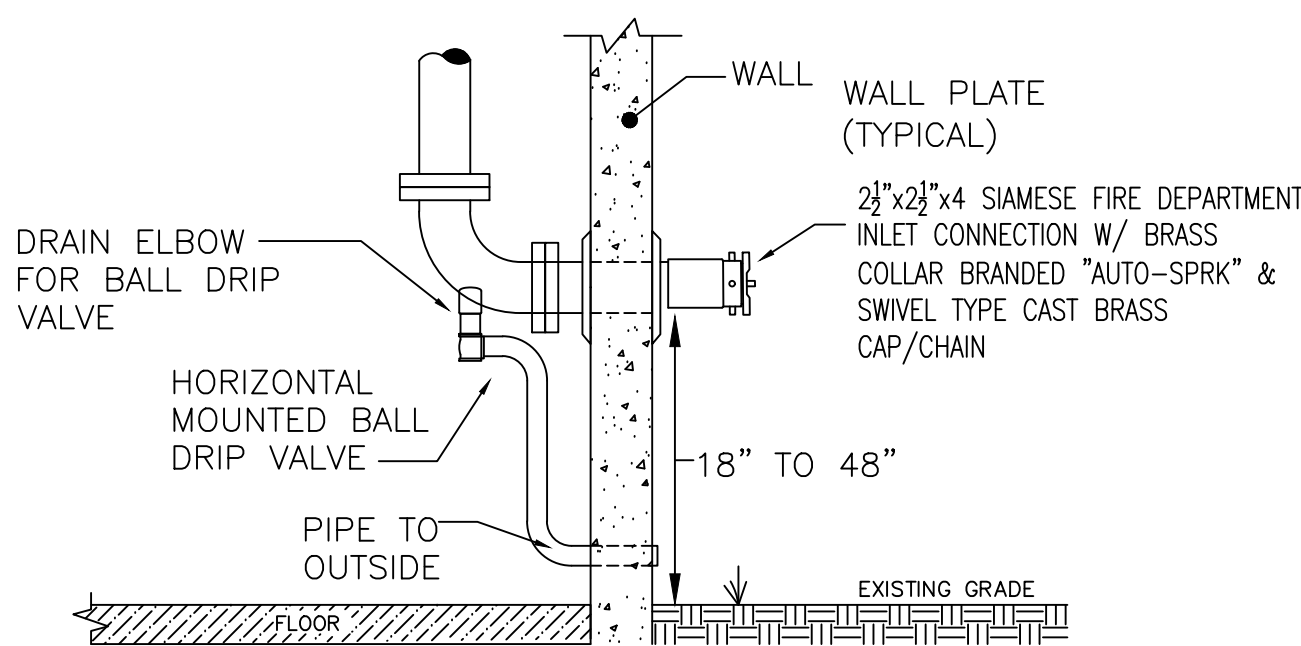
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FP-4



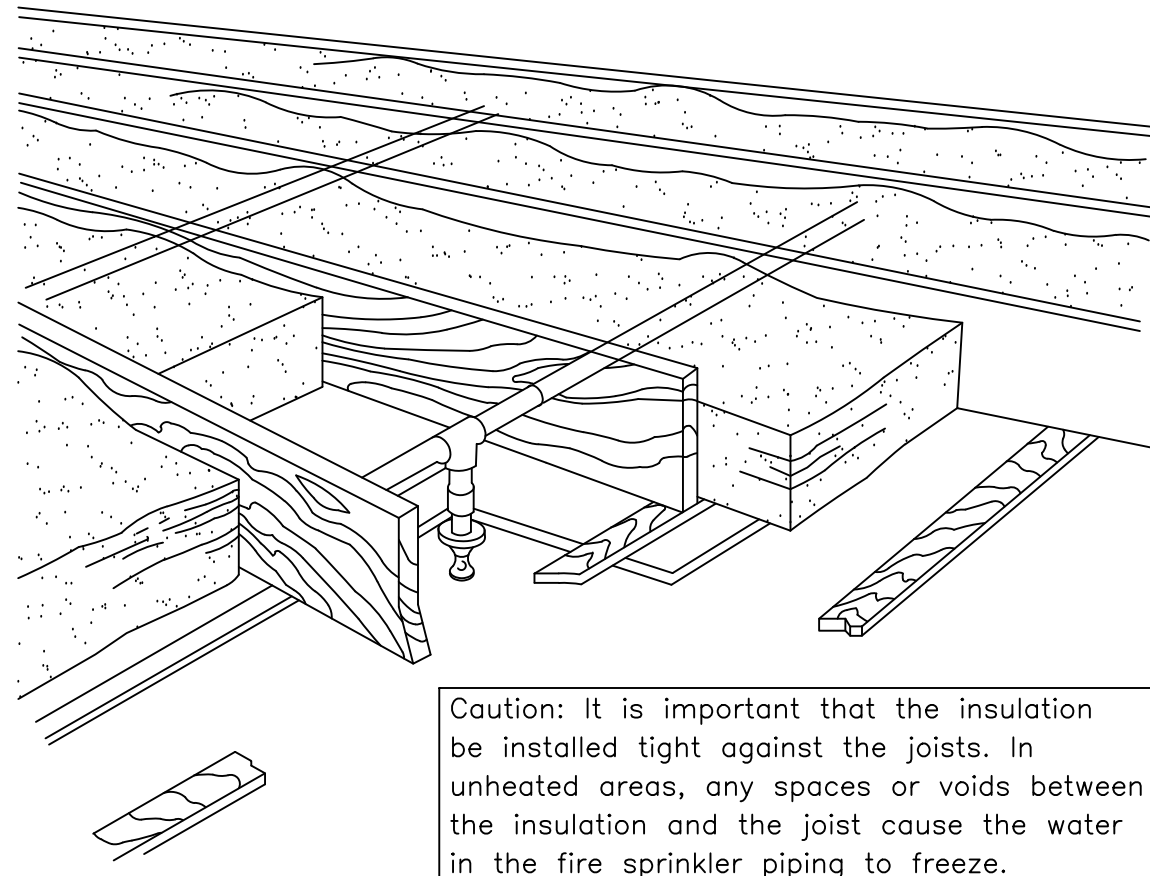
HANGER STRUCTURE ATTACHMENT

NTS



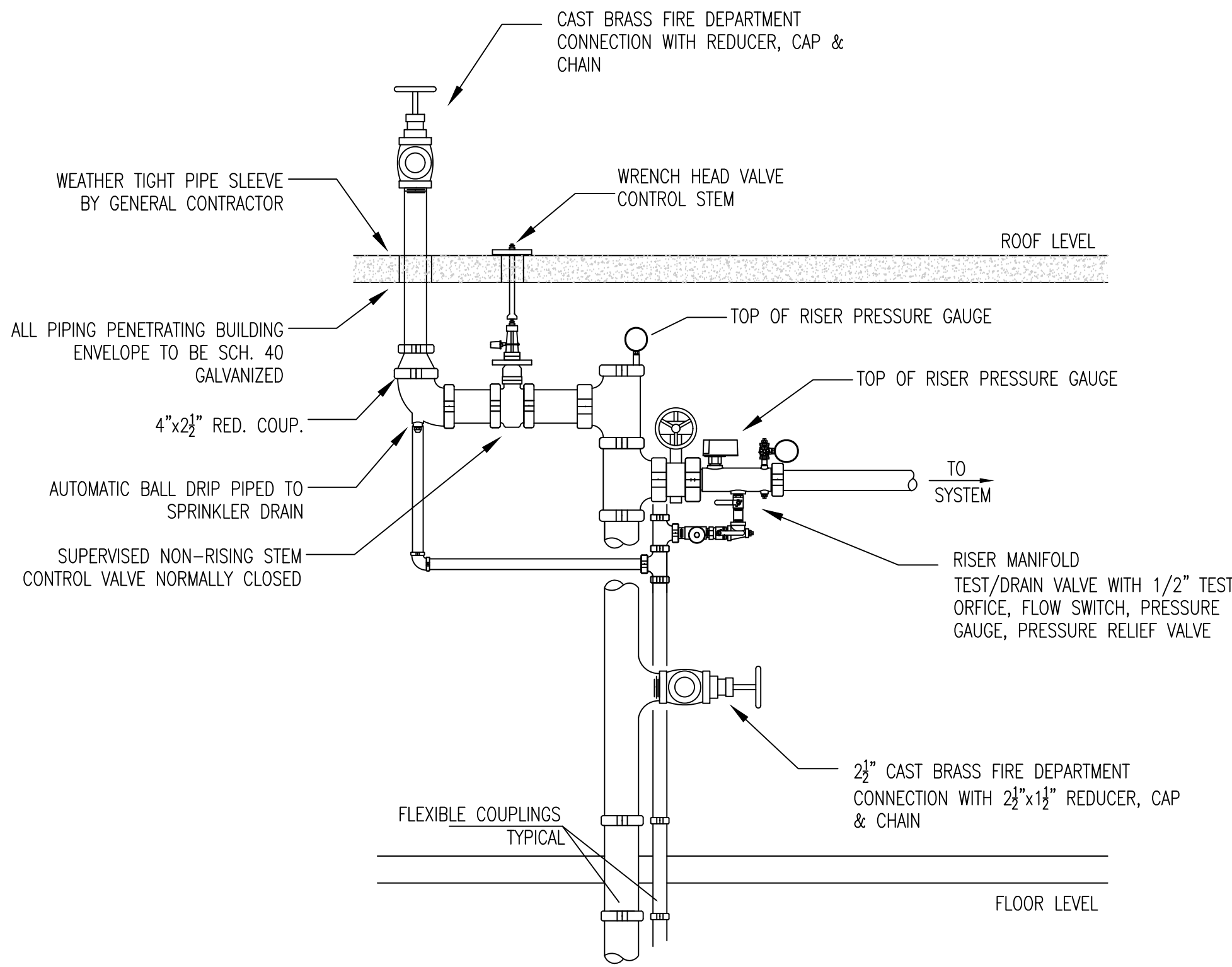
FIRE DEPARTMENT CONNECTION

NTS



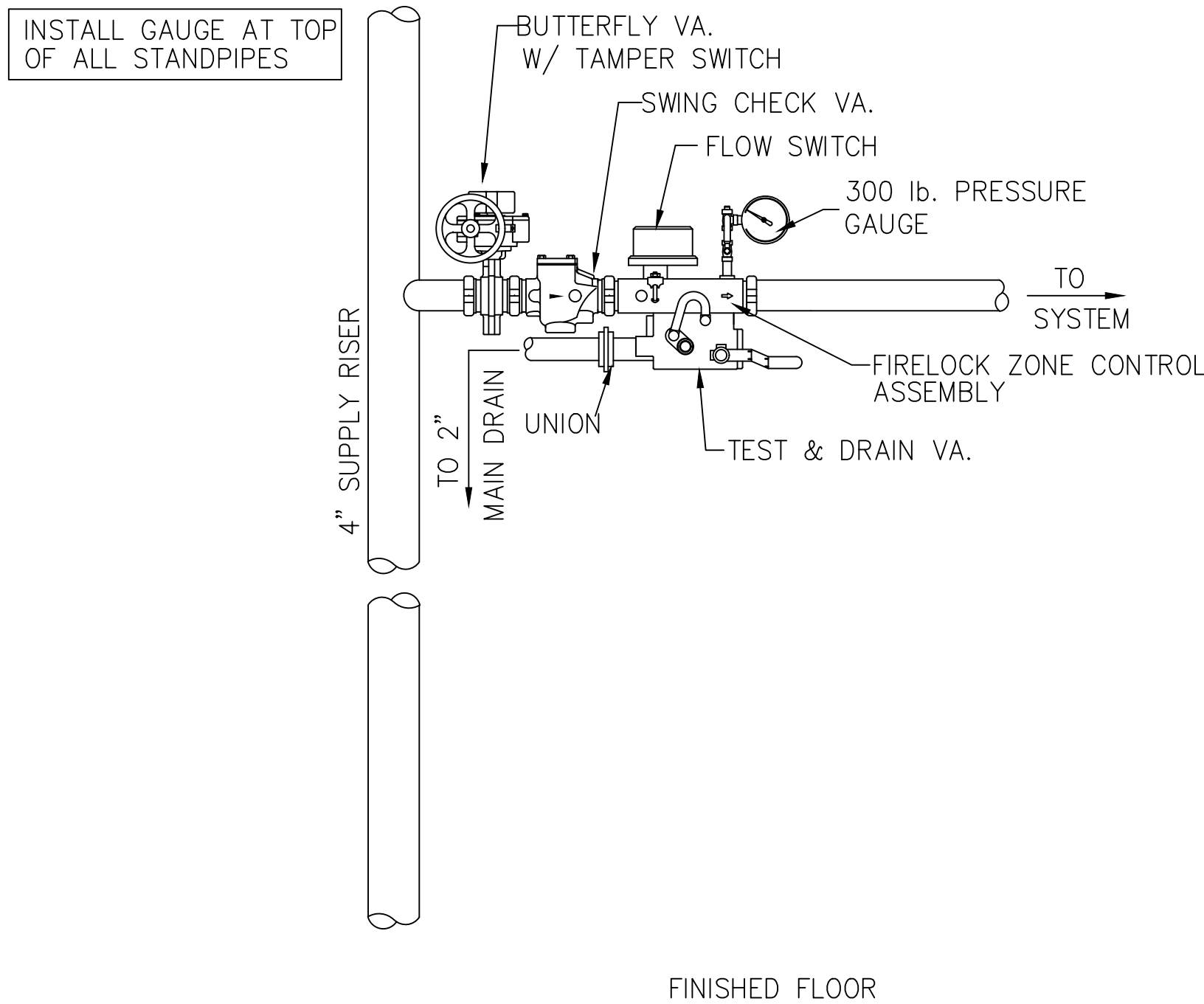
PIPE INSULATION

NTS



COMBINATION STANDPIPE RISER
WITH ROOF HYDRANT CONNECTION

NTS



FIRE SPRINKLER RISER

NTS

Location

PROPOSED MULTI-FAMILY
BUILDING
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HYDE PARK, MA 02136

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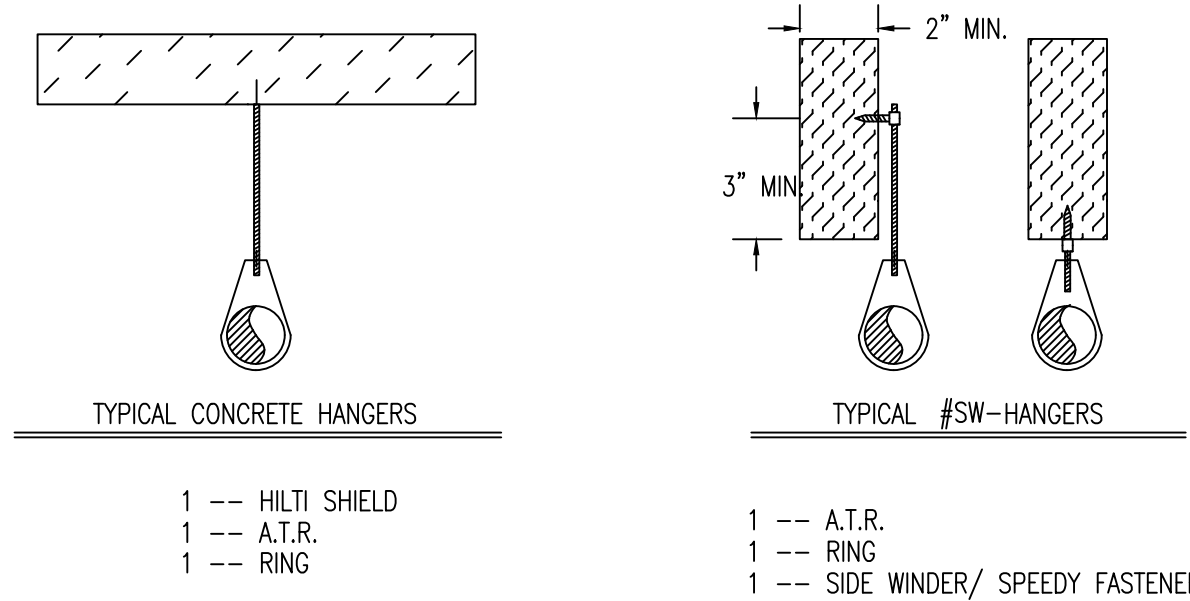
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Scale: AS NOTED
Date: 08-28-25
Drawn By: -----

Drawing Name

FIRE
PROTECTION
DETAILS

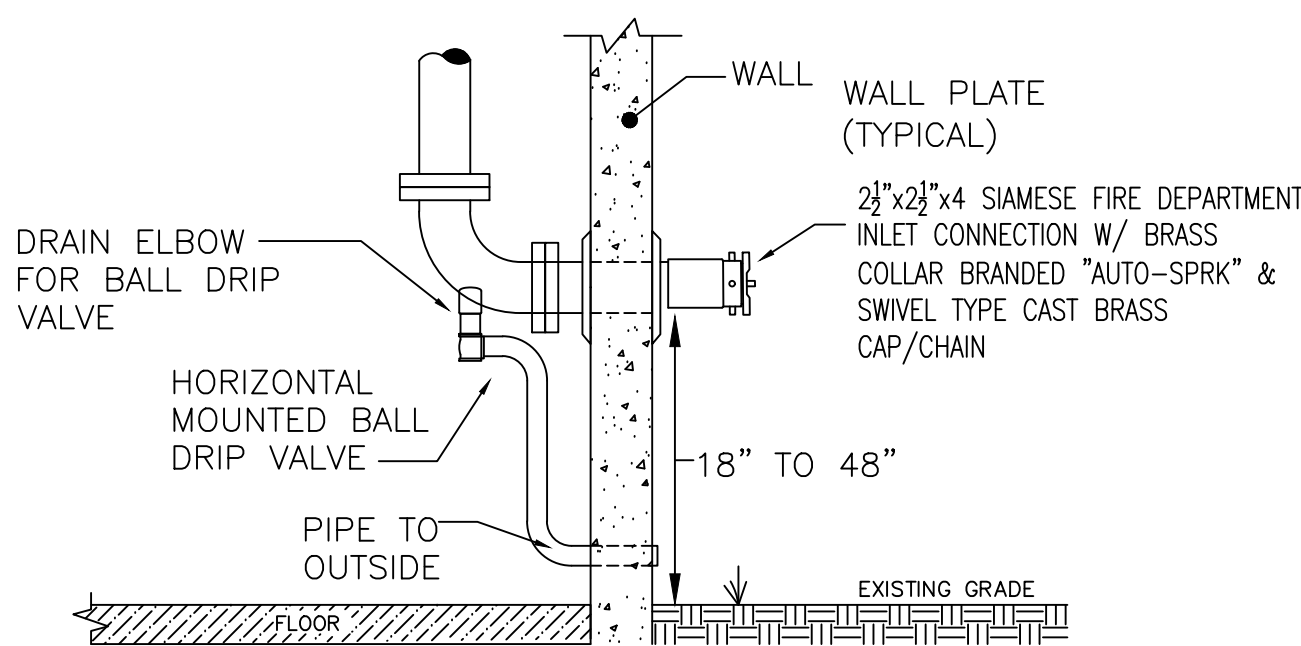
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FP-6



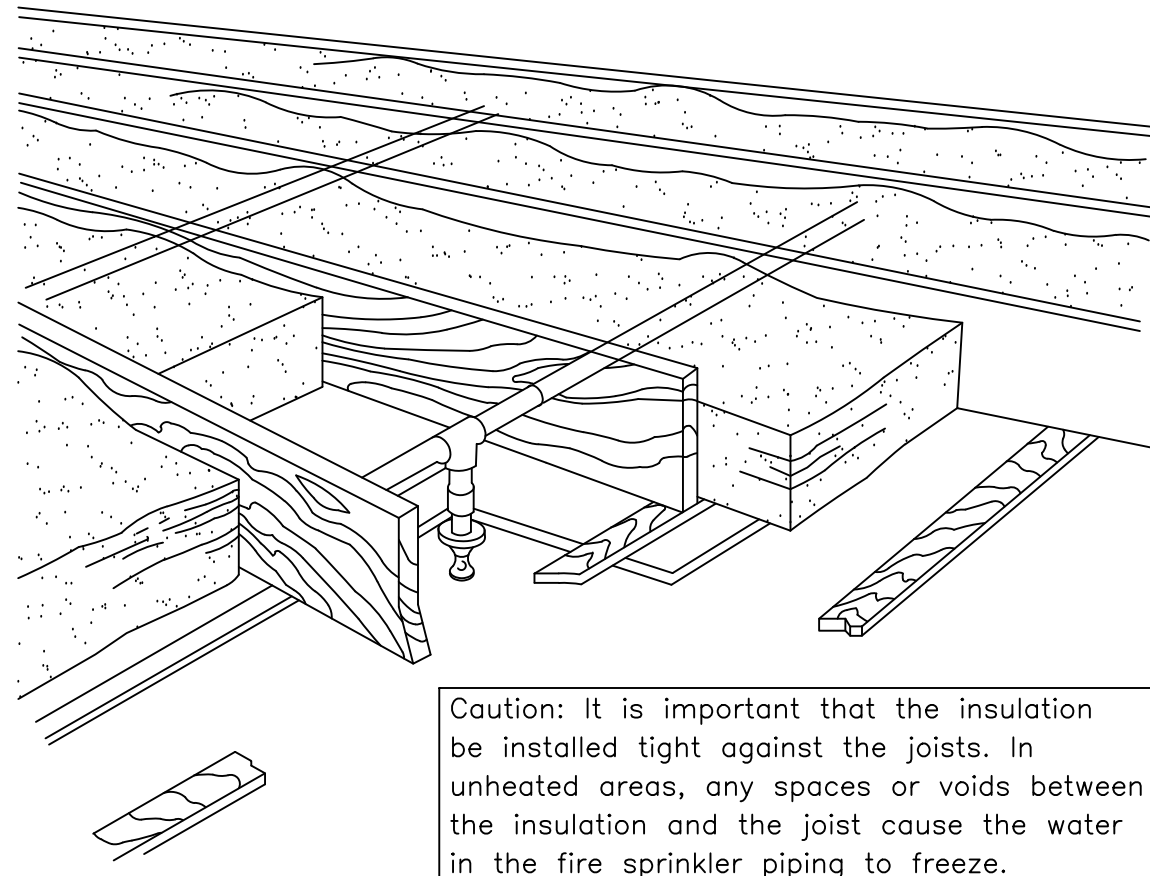
HANGER STRUCTURE ATTACHMENT

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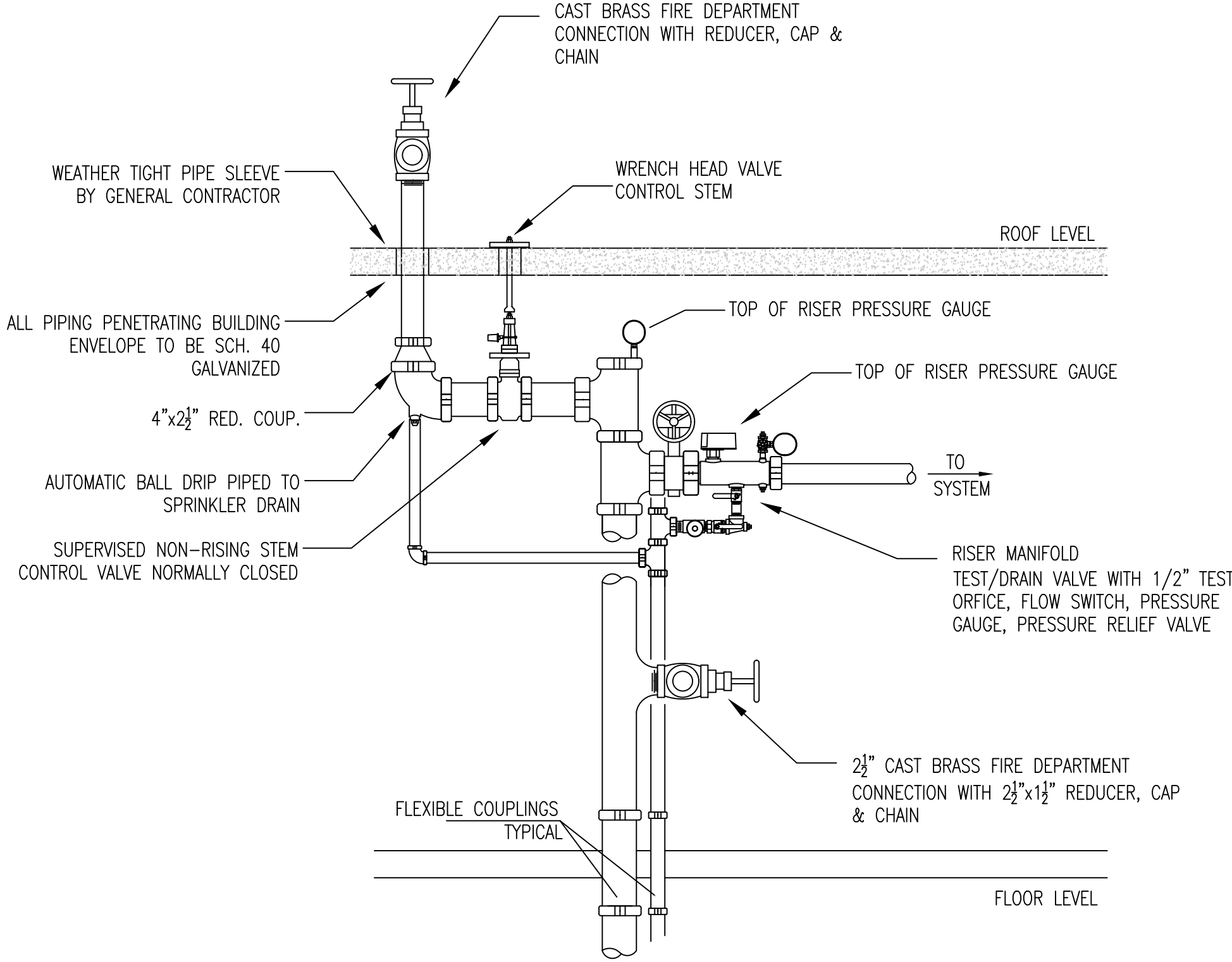
FIRE DEPARTMENT CONNECTION

NTS



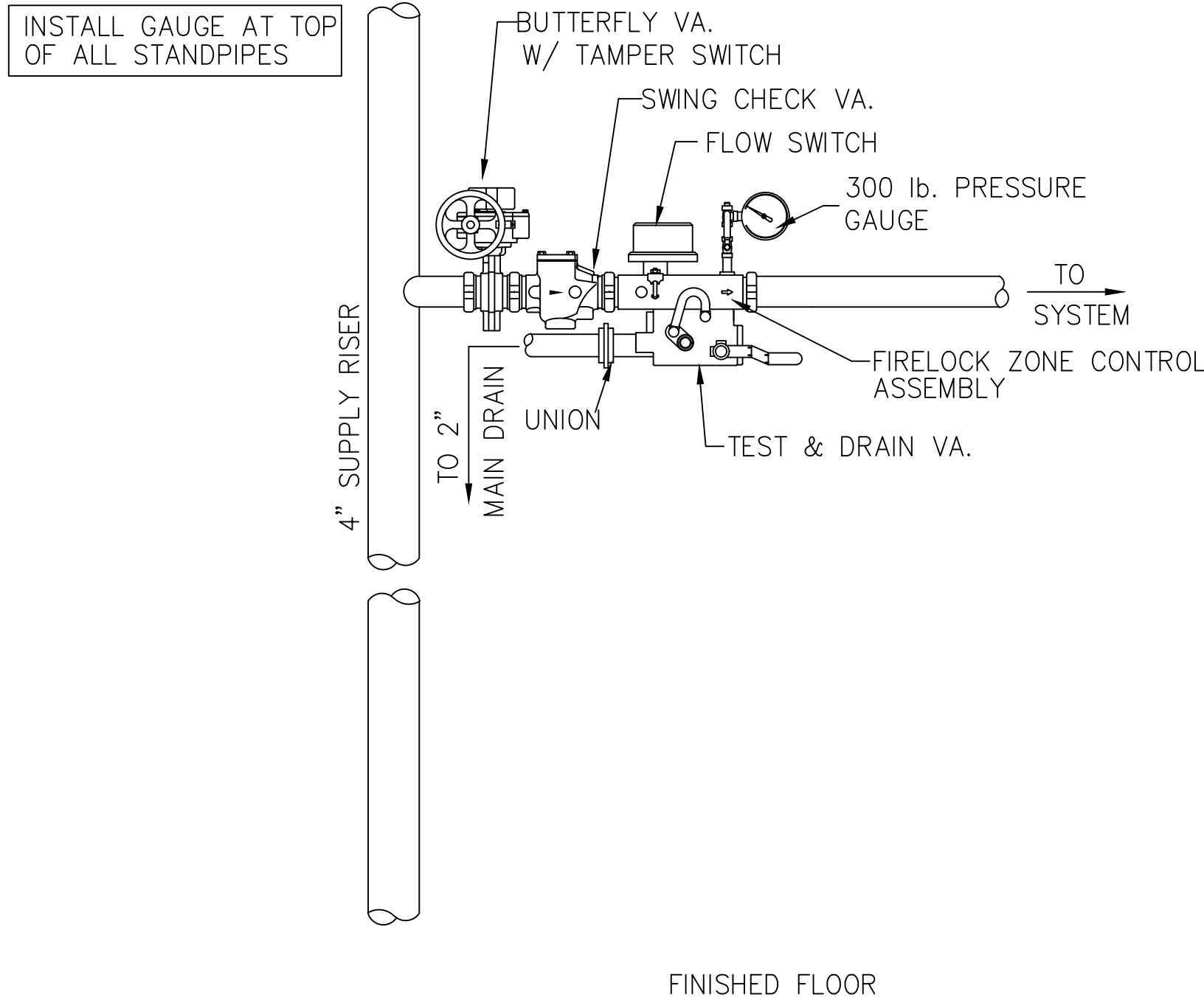
PIPE INSULATION

NTS



COMBINATION STANDPIPE RISER
WITH ROOF HYDRANT CONNECTION

NTS



FIRE SPRINKLER RISER

NTS

Location

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No.	Description	Date

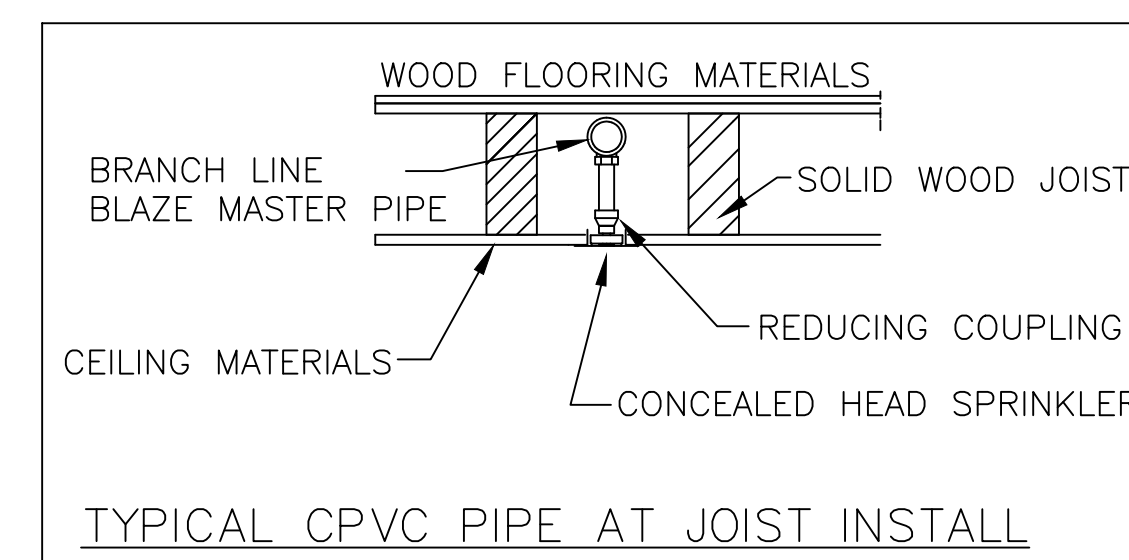
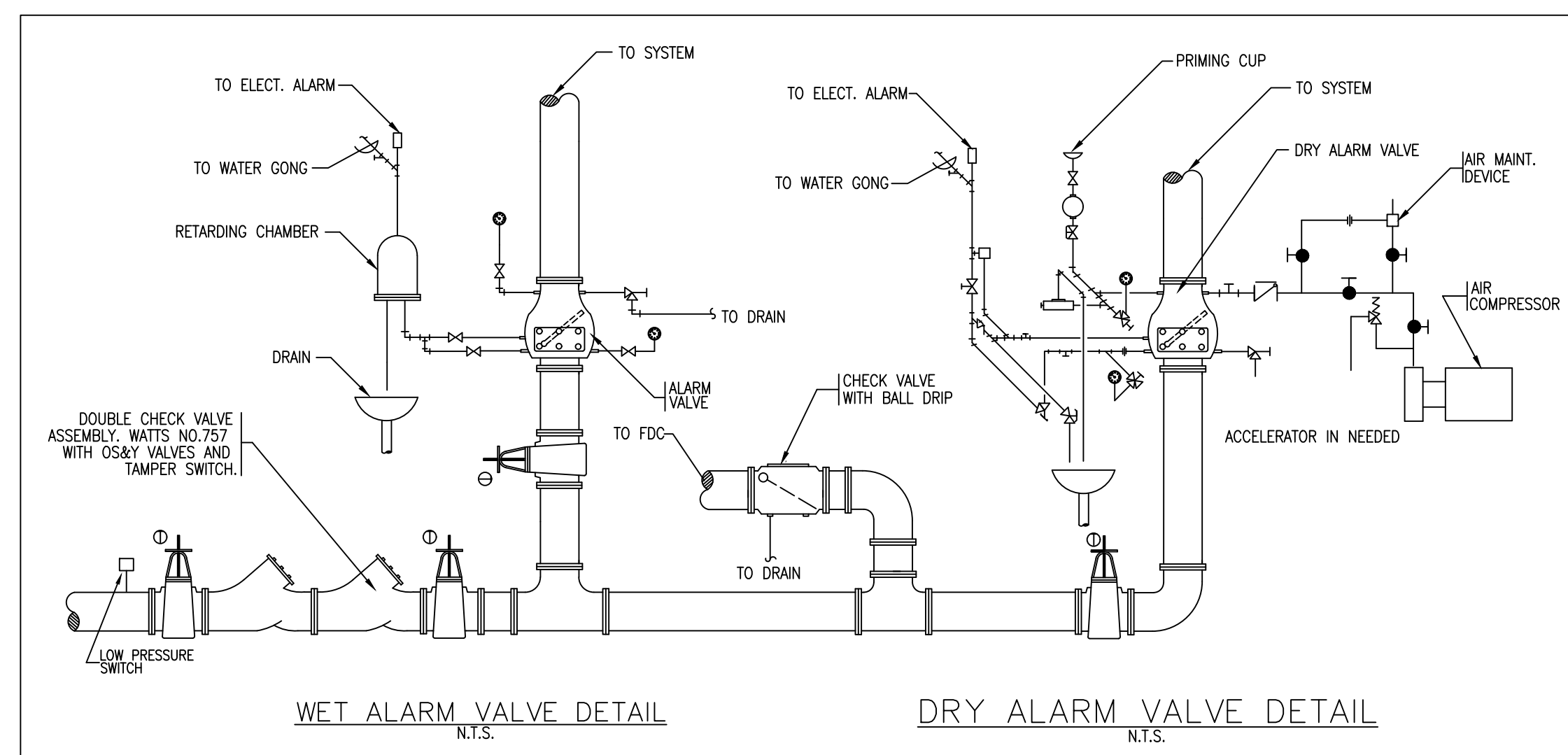
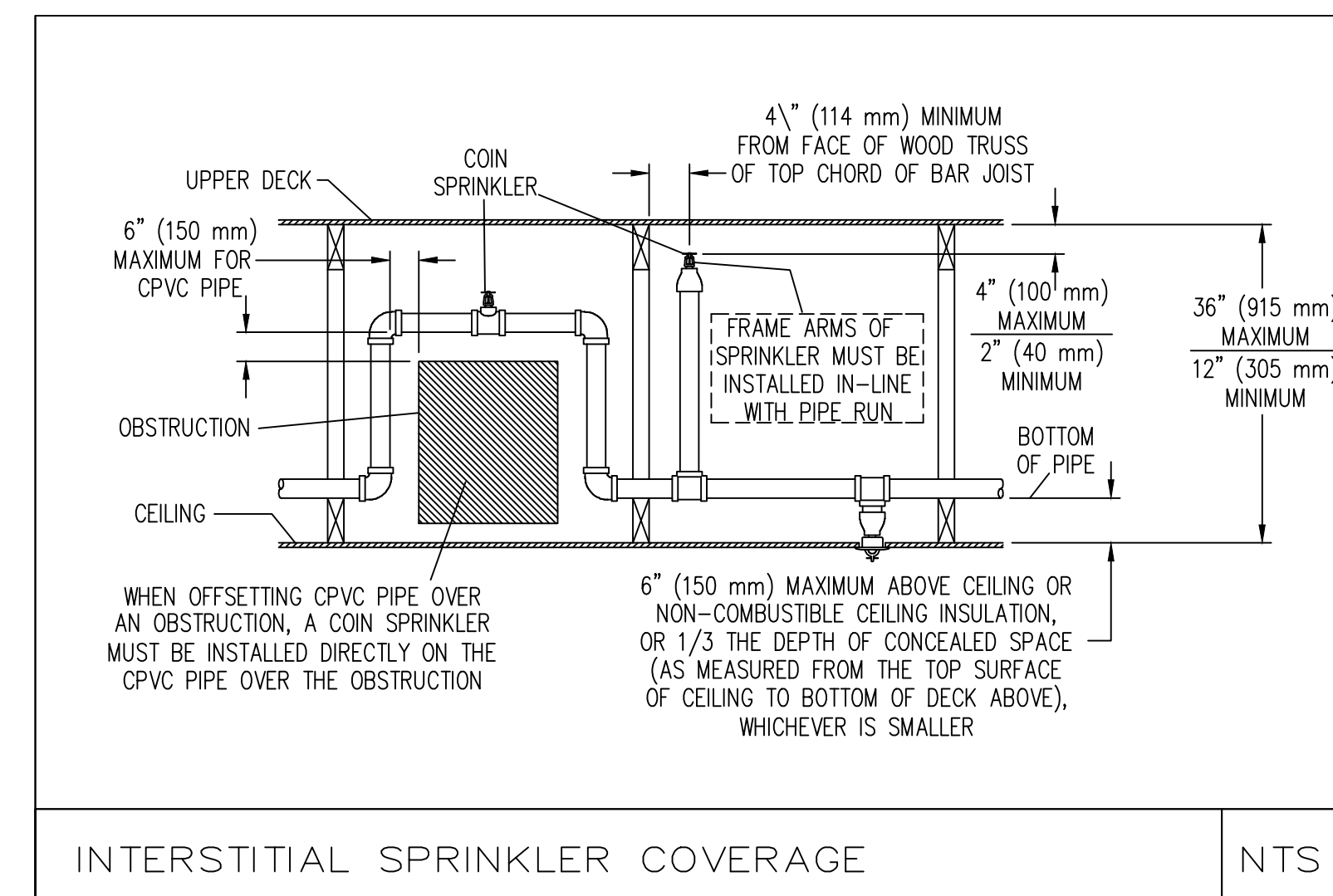
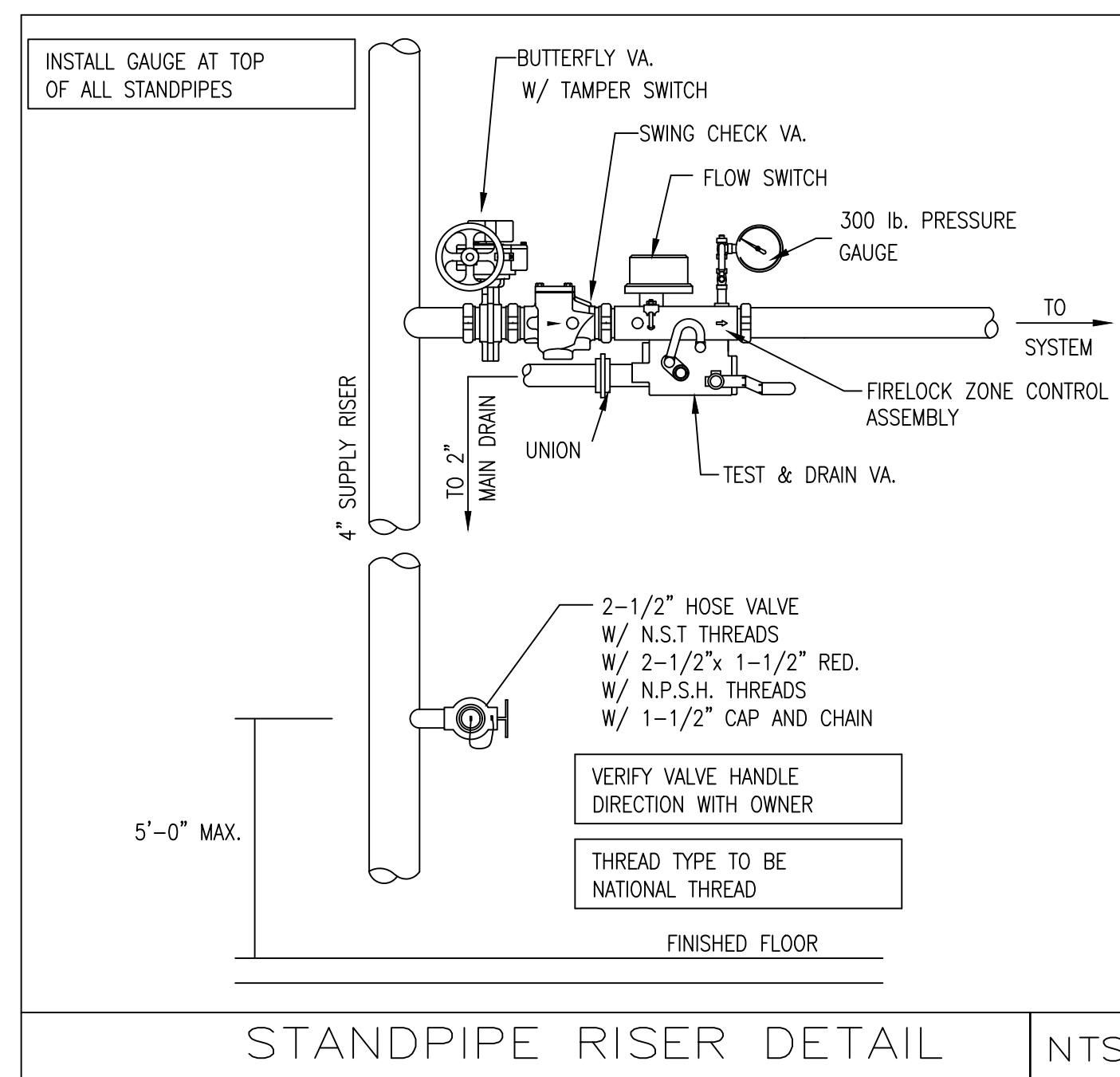
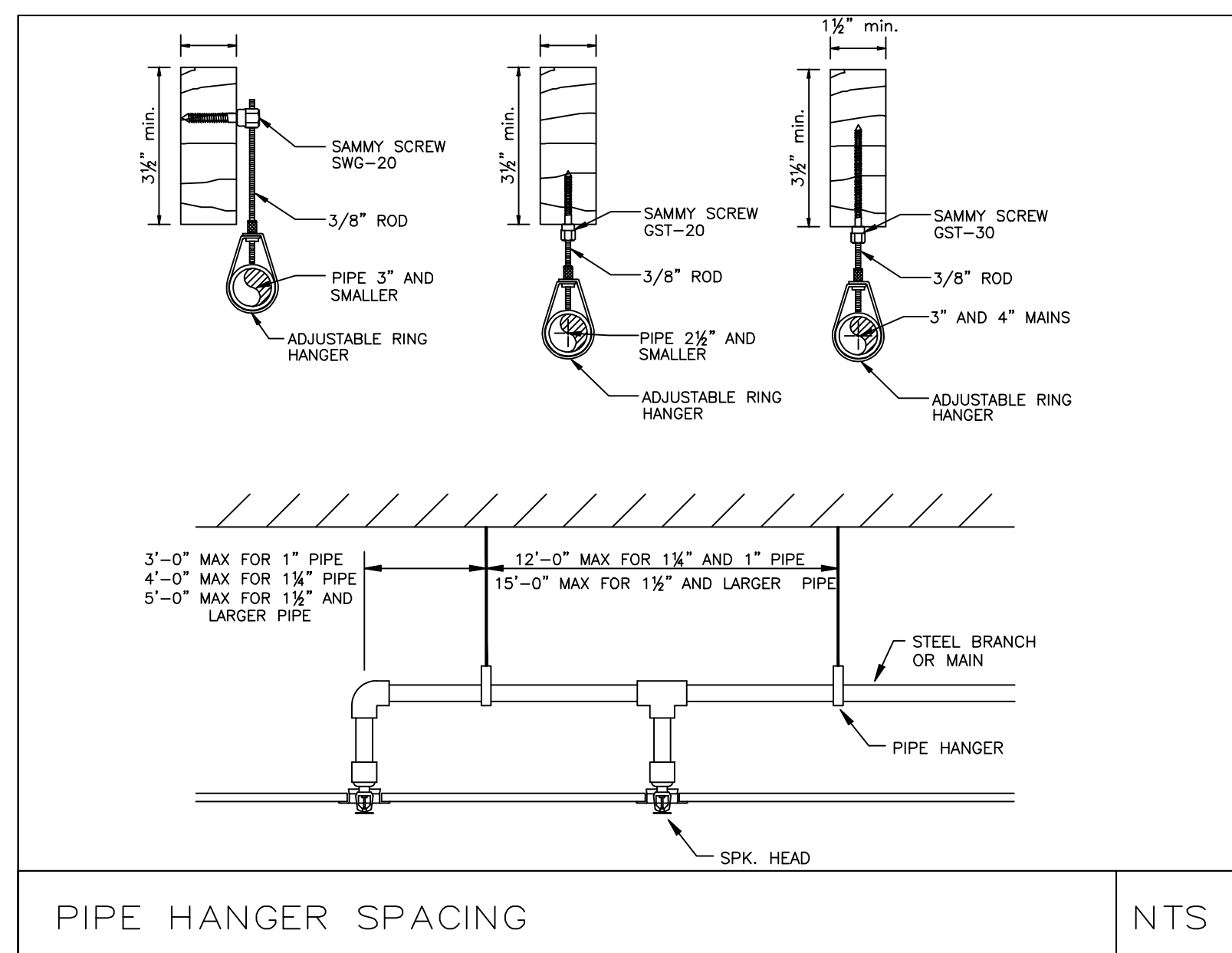
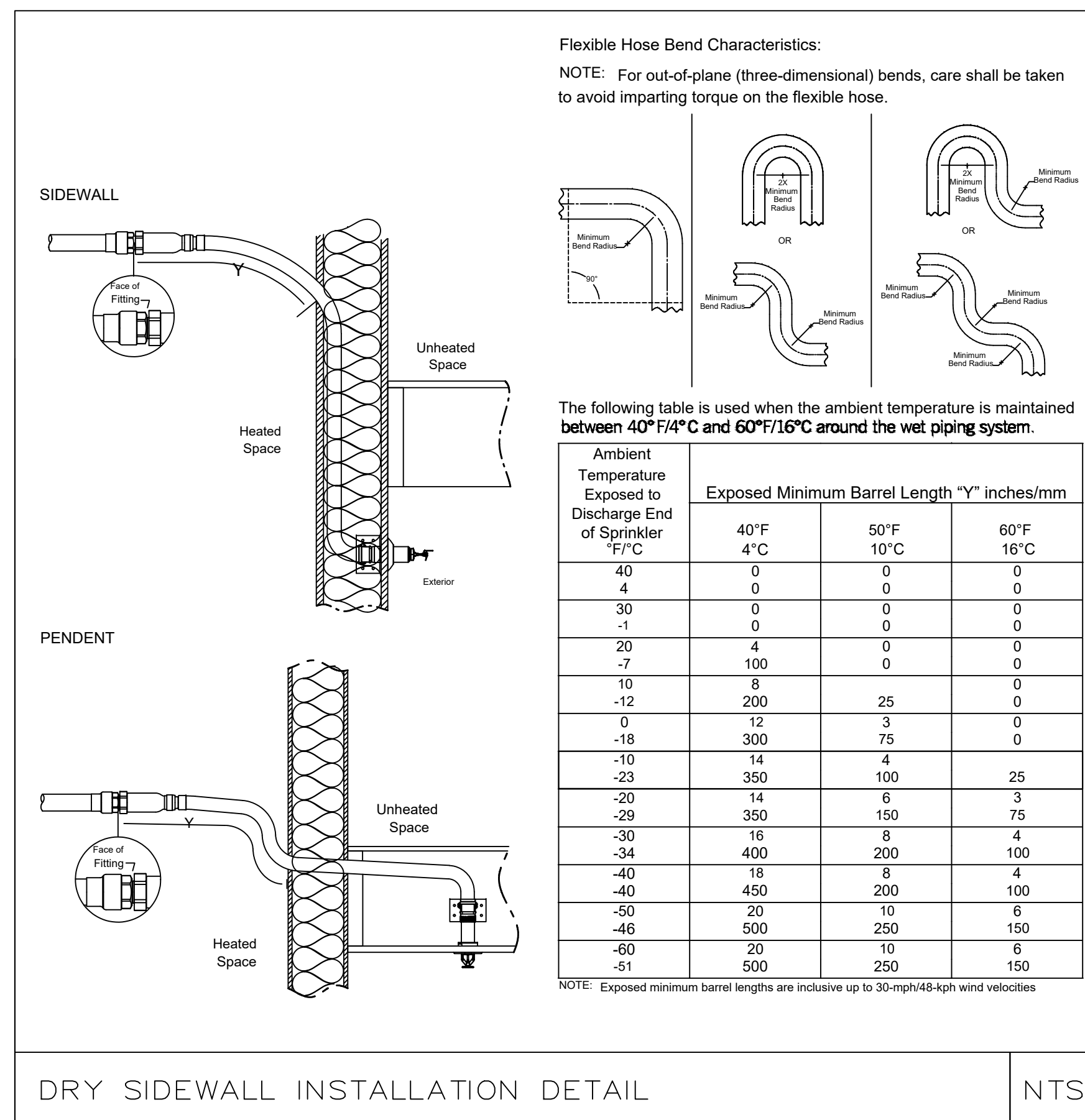
Project No: 2025014
Scale: AS NOTED
Date: 08-28-25
Drawn By: -----

Drawing Name

FIRE
PROTECTION
DETAILS

Sheet No.

FP-7



Location

**PROPOSED MULTI-FAMILY
BUILDING
30 THORN STREET
HYDE PARK, MA 02136**

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Project No: 2025014

Scale: AS NOTED

Date: 08-28-25

Drawn By: -----

Drawing Name

FIRE PROTECTION DETAILS

Sheet No.

FP-8

	CEILING MOUNTED LIGHT FIXTURE.
	WALL MOUNTED LIGHT FIXTURE.
	2'X2' OR 2'X4' LED LIGHT FIXTURE.
	1'X4' LED WALL/CEILING MOUNTED LIGHT FIXTURE.
	TRACK LIGHT
	S SINGLE POLE LIGHT SWITCH
	S3 THREE-WAY LIGHT SWITCHES
	S4 FOUR-WAY LIGHT SWITCHES
	S0 DIMMER SWITCH MINIMUM 1000W OR AS REQUIRED PER CIRCUIT
	S30 THREE-WAY DIMMER SWITCHES
	S40 FOUR-WAY DIMMER SWITCHES
	S0S SWITCH WITH INTEGRAL OCCUPANCY SENSOR
	DUPLX RECEPTACLE, 120V, 18" AFF.
	DUPLX RECEPTACLE WITH GROUND FAULT INTERRUPTER 8" ABOVE COUNTER TO CENTER
	DUPLX RECEPTACLE, 120V,18" AFF., ONE OUTLET SWITCHED
	120V DOUBLE DUPLEX CONVENIENCE RECEPTACLE
	DUPLX RECEPTACLE ABOVE COUNTER, 8" ABOVE COUNTER TO CENTER
	208V/1P/30A RECEPTACLE
	SIMPLEX RECEPTACLE, 120V/20A, 18" AFF.
	DUPLX RECEPTACLE WITH USB PORT
	208V/1P/50A RANGE RECEPTACLE
	SPECIALTY NEMA RECEPTACLE; SEE FLOOR PLANS FOR NEMA TYPE, 18" AFF.
	CEILING MOUNTED RECEPTACLE, 120V
	TEL/DATA COMBINATION OUTLET, COMPLETE W/JACK AND COVER, HEIGHT @18" TO C AFF
	MOTOR
	FUSED DISCONNECT SWITCH, (3R RAIN-PROOF).
	HOMERUN TO PANEL WITH CONDUCTOR.(HOT, NEUTRAL, GROUND)
	JUNCTION BOX
	LIGHTING & POWER PANEL
	APARTMENT LOAD CENTER, RECESSED
	LOW VOLTAGE BOX
	RACEWAY CONCEALED IN CEILING, PLENUM OR WALLS
	RACEWAY CONCEALED IN SLAB (FLOOR)
	TIME SWITCH
	DRY TYPE TRANSFORMER
	UNIVERSAL MOUNTING EXIT SIGN (DOUBLE FACED), ARROWS AS INDICATED.
	EMERGENCY BATTERY UNIT WITH MOUNTING BRACKET AND VOLTMETER.
	OCCUPANCY SENSOR
	AREA OF REFUGE CENTRAL BASE UNIT (TWO-WAY COMMUNICATION SYSTEM)
	AREA OF REFUGE FLOOR ELEVATOR LOBBY UNIT.



ALARM MONITORING SERVICE RECEIVES A SUPERVISORY CARBON MONOXIDE SIGNAL;
THE WORDS "CARBON MONOXIDE" MUST BE PRESENT AT ALARM COMPANY, THE LETTERS "CO" ARE
NOT ACCEPTABLE.

EC SHALL HOME RUN EACH CATV OUTLETS WITH RG 6 COAX CABLE AND CONNECT TO CATV SPLITTER WITHIN EACH UNIT CLOSET AND CONNECT UNIT WITH DOUBLE COAX TO CATV ENTRANCE BOX LOCATED IN ELECTRIC ROOM.



PROPOSED MULTI-FAMILY
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30 THORN STREET
HYDE PARK, MA 02136

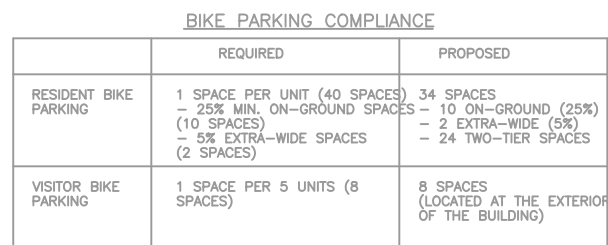
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Drawing Name

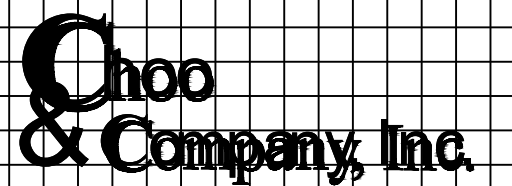
Sheet No.

E0.0



- location

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[illegible]

Project No: 2025014

Scale: AS NOTED

ate: 04-11-2025

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Drawing Name

GROUND FLOOR POWER PLAN

Sheet No.

E1.1

Figure 1 is a detailed floor plan of a 10-unit apartment building, showing the layout of switches and receptacles. The plan includes units 201 through 208, each with a living room, kitchen, and bedrooms. Common areas include a central hallway, stairs, and a laundry room. The diagram uses various symbols for switches (circles with 'S') and receptacles (circles with 'R') and shows their distribution throughout the building. A legend on the right indicates that switches for receptacle group 2 are located on the face of the load center.

[illegible]

1. EC SHALL COORDINATE LOCATION OF GARBAGE DISPOSAL SWITCH IN FIELD.
2. PROVIDE A 15A/1P TOGGLE DEC. SW. FOR ENERGY RECOVERY UNITS AND BACKFLOW REATERS. SEE "LC" PANEL SCHEDULE FOR CIRCUIT & DESIGNATIONS. COORDINATE WORK WITH E.C.
3. INTER-COMMUNICATE LIGHT SWITCH CONTROLLING THE SHOWER LIGHT WITH THE HIGH SETPOINT OF BACKFLOW EXHAUST FAN/ENERGY RECOVERY UNIT. PROVIDE DEDICATED SWITCH FOR LOW SETPOINT. PROVIDE POWER FOR EXHAUST FAN FROM THE LOCAL BACKFLOW PREVENTER CIRCUIT. COORDINATE WORK WITH E.C.
4. INDOOR HANG UNITS ARE POWERED BY ASSOCIATED OUTDOOR UNIT. PROVIDE 14/0 4X4 INTERCONNECTED WIRING AS REQUIRED. COORDINATE WORK WITH M.C.
5. PROVIDE POWER CONNECTION ADJACENT TO DWELLING UNIT WATER HEATER FOR CONNECTION TO HOT WATER RECIRCULATING PUMP. SEE "LC" PANEL SCHEDULE FOR CIRCUIT # & DESIGNATION. COORDINATE WORK WITH E.C.
6. ALL BASEMENT RECEPTACLES SHALL HAVE GROUND FAULT PROTECTION.
7. PROVIDE 220V AND 120V LINE CONDUIT FROM TENANT PANEL(S) TO ROOF FOR FUTURE EQUIPMENT WIRING.

PROPOSED MULTI-FAMILY
BUILDING
30 THORN STREET
HYDE PARK, MA 02136

One Billings Road Quincy, MA 02171
617-786-7727 fax 617-786-7715

[illegible]

Drawing Name

Sheet No.

E1.2

The floor plan illustrates a multi-unit residential building with the following details:

- Units and Bedrooms:**
 - Unit 401:** 3BD 1BA (Bedroom, Living Room, Bathroom, Kitchen, Dining Area)
 - Unit 402:** 3BED 1BA (Bedroom, Living Room, Kitchen, Dining Area, Bathroom, MEC)
 - Unit 403:** 3 BED 1 BA (Bedroom, Living Room, Kitchen, Dining Area, Bathroom, MEC)
 - Unit 404:** 2 BED 1 BA (Bedroom, Living Room, Kitchen, Dining Area, Bathroom, MEC)
 - Unit 405:** 3 BED 1 BA (Bedroom, Living Room, Kitchen, Dining Area, Bathroom, MEC)
 - Unit 406:** STUDIO (Living Room, Kitchen, Dining Area, Bathroom, MEC)
 - Unit 407:** 1BED 1BA (Bedroom, Living Room, Kitchen, Dining Area, Bathroom, MEC)
 - Unit 408:** 3BED 1BA (Bedroom, Living Room, Kitchen, Dining Area, Bathroom, MEC)
- Common Areas and Features:**
 - Corridor:** A central corridor with two CCHP-1.0 units indicated by arrows.
 - Stairs:** Stair 1 (UP/DN) and Stair 2 (UP/DN).
 - Elevator:** ELEVATOR SHAFT.
 - Kitchens:** Each unit has a kitchen with a refrigerator (REF.), sink, and dishwasher (DW).
 - Bathrooms:** Each unit has a bathroom with a toilet, sink, and bathtub/shower.
 - Living Rooms:** Each unit has a living room.
 - Dining Areas:** Each unit has a dining area.
 - MEC:** Mechanical rooms are located throughout the building.
 - CL:** Closets are located in various rooms.

- 1. EC SHALL COORDINATE LOCATION OF GARBAGE DISPOSAL SWITCH IN FIELD.
- 2. PROVIDE A 15A/1P TOGGLE DEC. SW. FOR ENERGY REDUCED UNITS AND WATER/SEWER MISC. SEE "LC" PANEL SCHEDULE FOR CIRCUIT & DISCONNECTS.
- 3. INTER-COMM. CABLES SHALL COORDINATE THE SHOWER LIGHT WITH THE HOT SETTING OF SHOWER DRAIN (ENERGY REDUCED) UNIT. PROVIDE A 15A/1P TOGGLE DEC. SW. FOR LOW SETTING. PROVIDE A 15A/1P TOGGLE DEC. SW. FOR THE LOCKER SHOWER BRANDY CIRCUIT. COORDINATE WORK WITH PC.
- 4. INDOOR HALL UNITS ARE POWERED BY ASSIGNED OUTDOOR LUMP. WITH 1/4" INTERCONNECTED BY RESOURCES. COORDINATE WORK WITH PC.
- 5. PROVIDE POWER CONNECTION W/ADJ. TO DRILLING UNIT WATER HEATER FOR CONNECTION TO HOT WATER RECYCLATING PLANT. SEE "LC" PANEL SCHEDULE FOR CIRCUIT & DISCONNECT. COORDINATE WORK WITH PC.
- 6. ALL BASEMENT REDEFINES SHALL HAVE GROUND FLOOR PROTECTION.
- 7. PROVIDE 212" AND 112" MC CONDUIT FROM TENANT PANEL(S) TO ROOF FOR FUTURE EQUIPMENT WIRING.

PROPOSED MULTI-FAMILY
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HYDE PARK, MA 02136

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Project No: 2025014

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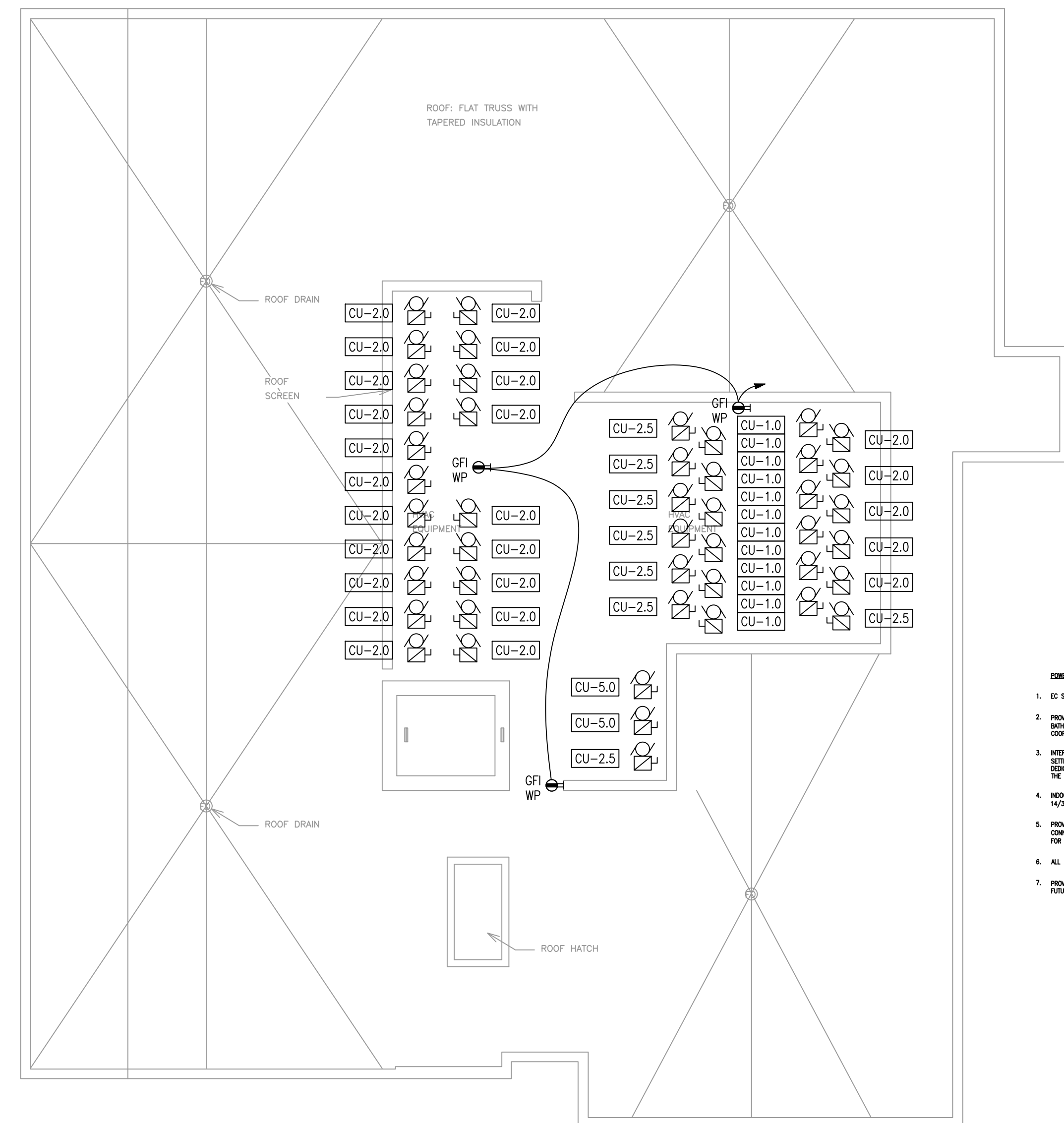
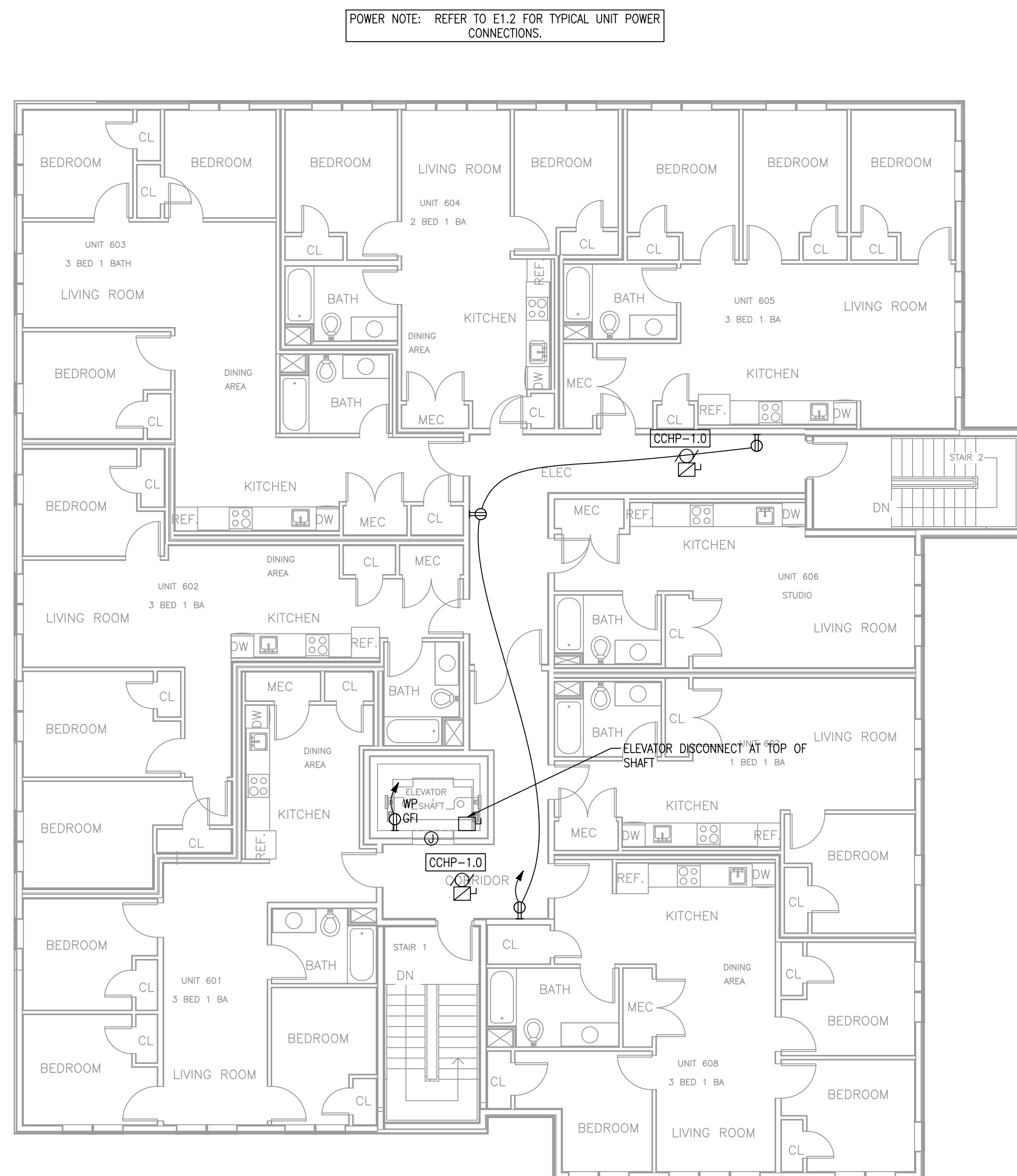
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Drawing Name

POWER FLOOR
PLAN, FOURTH
AND FIFTH
FLOOR

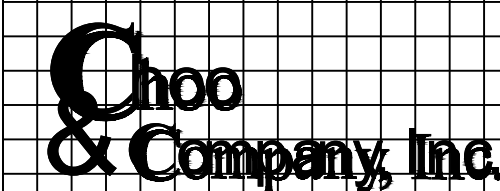
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E1.3



Location

**PROPOSED MULTI-FAMILY
BUILDING
30 THORN STREET
HYDE PARK, MA 02136**



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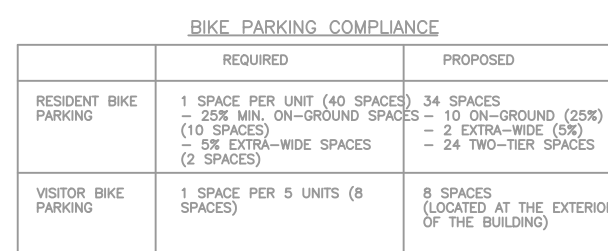
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Drawing Name	
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POWER FLOOR
PLAN, SIXTH
FLOOR AND
ROOF

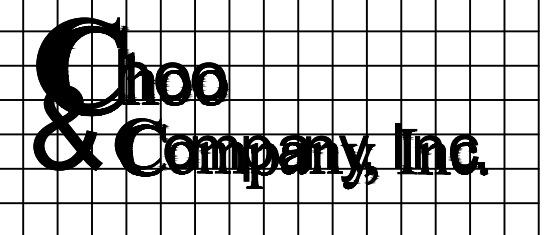
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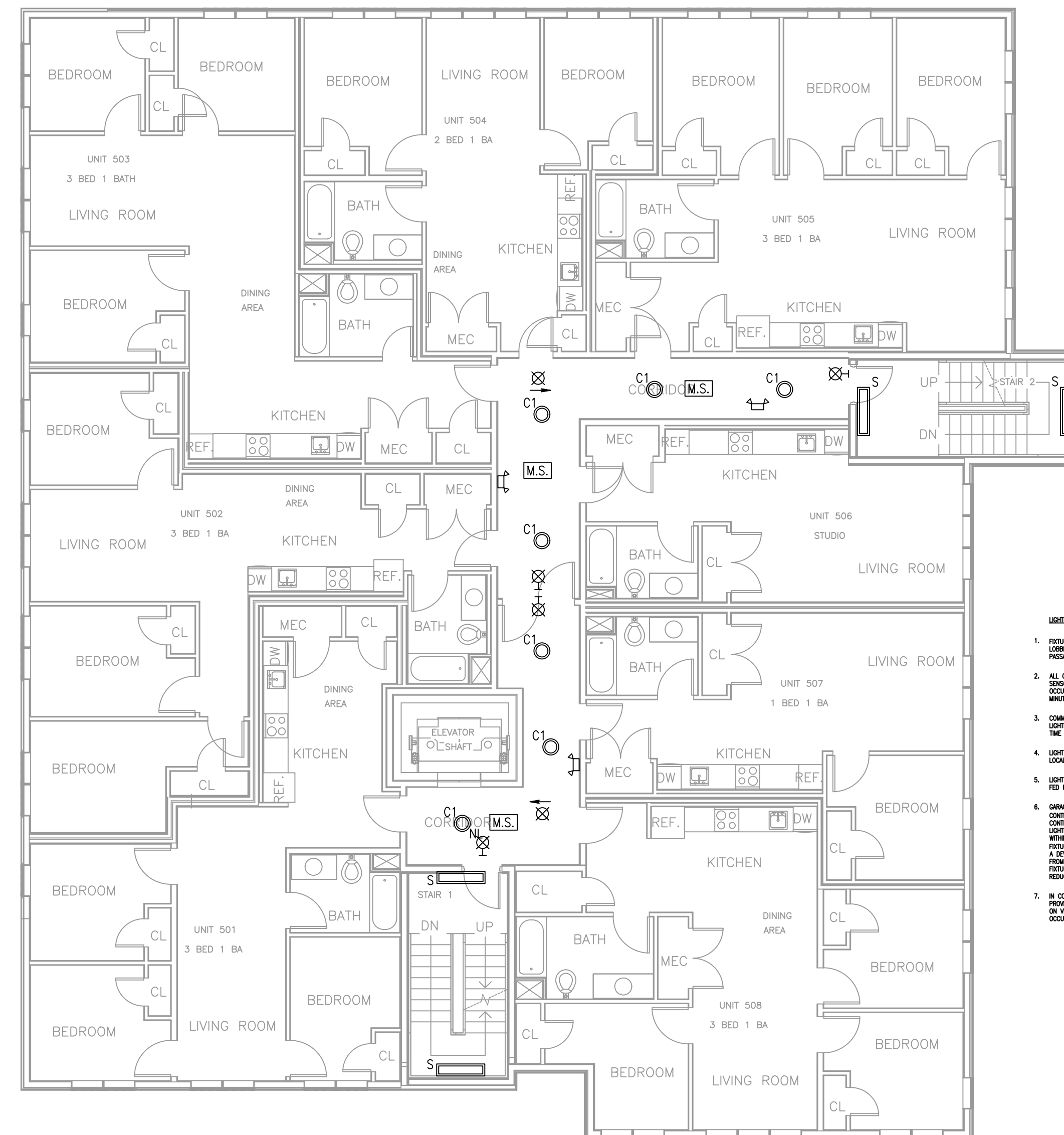
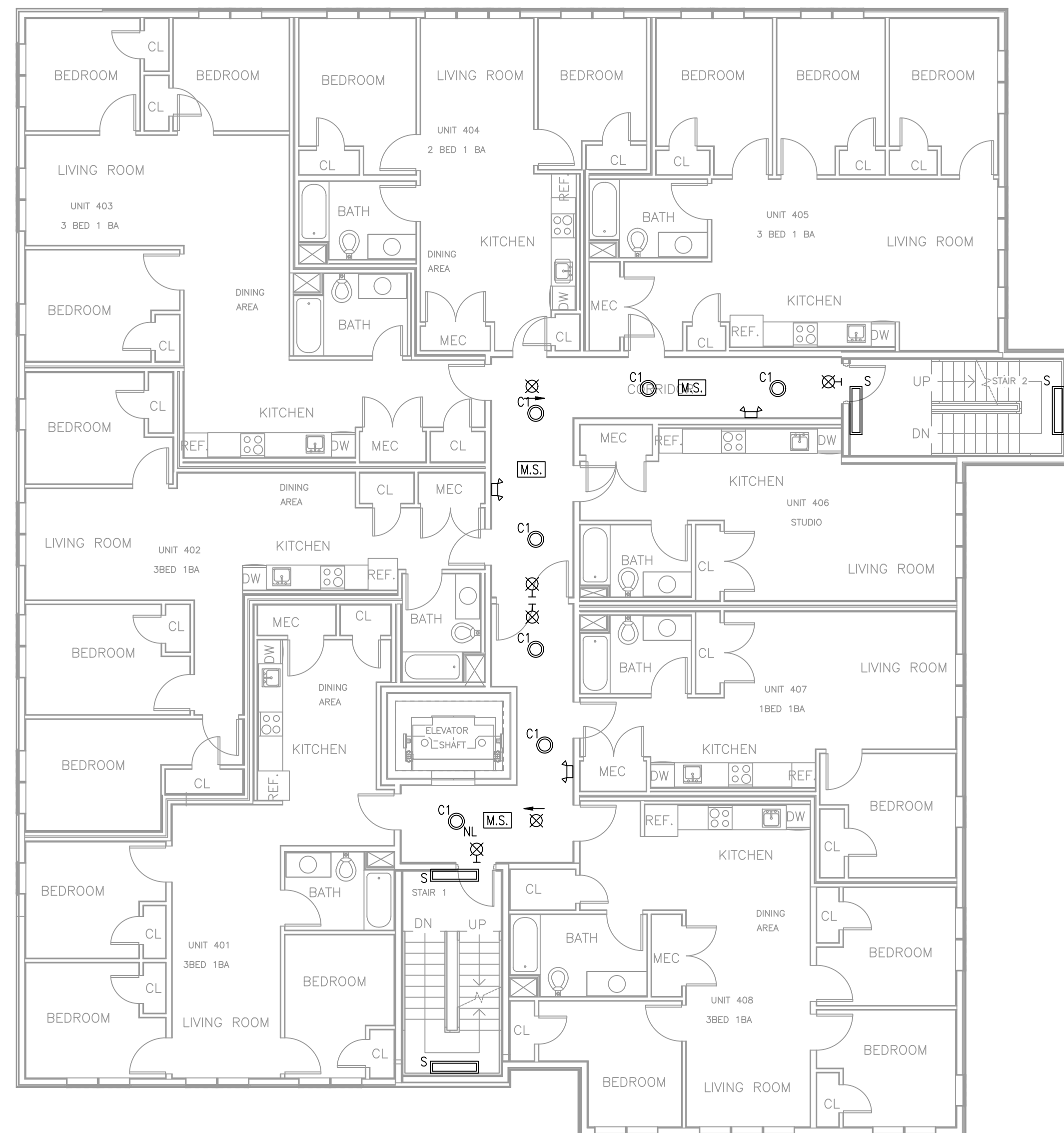
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Drawing Name

GROUND FLOOR LIGHTING PLAN

Sheet No.

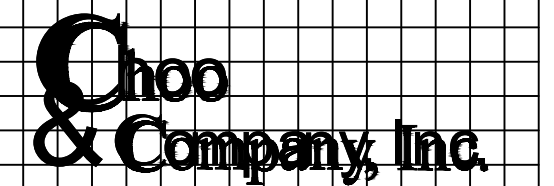
E2.1



- LISTING NOTES**
1. FIGHTERS SUITS TO BE 24/7 FOR LIFE-SAVE IN THE FOLLOWING AREAS:
INTERIOR, WINDOW EXIT STAIRWAYS, INTERIOR EXIT HALLS, AND EXIT PASSAGeways
 2. ALL GROUND AREA FIGHTER SUITS SHALL BE CONTROLLED BY MOTOR
SIGNALS. FIGHTERS SHALL TURN TO LIFT BROTHERSHIP UPON DETECTING
DOWNLIFT. DOWNLIFT SHALL BE LASTING UPLIFT BY AT LEAST ONE MINUTE
BEFORE DOWNLIFT.
 3. COMMON AREA EXTERIOR LIGHTING SHALL BE PROVIDED BY A DISCREET
EXTERIOR LIGHTING SYSTEM, AND CONTROLLED BY A JIGG-SAW PROTOCOL AND
THE CLOCK DAY.
 4. LIGHT FIXTURES IN DWELLING UNIT BATHROOMS SHALL BE FROM THE
LIGHT BROTHERSHIP DOWNLIFT SYSTEM.
 5. LIGHT FIXTURES IN ALL OTHER AREAS WITHIN THE DWELLING UNIT SHALL
BE FROM THE DISCREET LIGHTING CIRCUIT.
 6. GARAGE MOTION SENSOR ILLUMINATION SHALL BE RESTRICTED TO A WORKING
AREA OF 10' FROM THE DOWNLIFT. LIGHTS NOT TO EXCEED ILLUMINATION
OF 10' FROM THE DOWNLIFT. LIGHTS SHALL BE CONTROLLED BY MOTOR
SIGNALS. THE ILLUMINATION OF EACH FIGHTER SHALL BE REDUCED BY A MINIMUM OF 50%
IF THERE IS NO READING OF A FIGHTER'S POSITION. LIGHTS SHALL BE
CONTROLLED BY GARAGE DOWNLIFT/UPLIFT SIGNALS. CONTROLLED SEPARATELY BY
DOWNLIFT/UPLIFT SIGNALS. LIGHTS SHALL BE CONTROLLED BY DOWNLIFT/UPLIFT
SIGNALS TO SILENCE.
 7. THE ILLUMINATION OF FIGHTER WALL CHANGES SHALL BE
CONTROLLED BY DOWNLIFT/UPLIFT SIGNALS. LIGHTS SHALL BE CONTROLLED
IN RESPONSE TO DOWNLIFT BY AT LEAST 100.
7. IN CONFERENCE, OFFICE, MEETING, MAILROOM, STORAGE, AND BATHROOMS,
LIGHTING SHALL BE CONTROLLED BY DOWNLIFT/UPLIFT SIGNALS, OR BY
DOWNLIFT/UPLIFT SIGNALS. LIGHTS SHALL BE CONTROLLED BY DOWNLIFT/UPLIFT
SIGNALS, OR BY DOWNLIFT/UPLIFT SIGNALS. LIGHTS SHALL BE CONTROLLED BY
DOWNLIFT/UPLIFT SIGNALS, OR BY DOWNLIFT/UPLIFT SIGNALS.

Location

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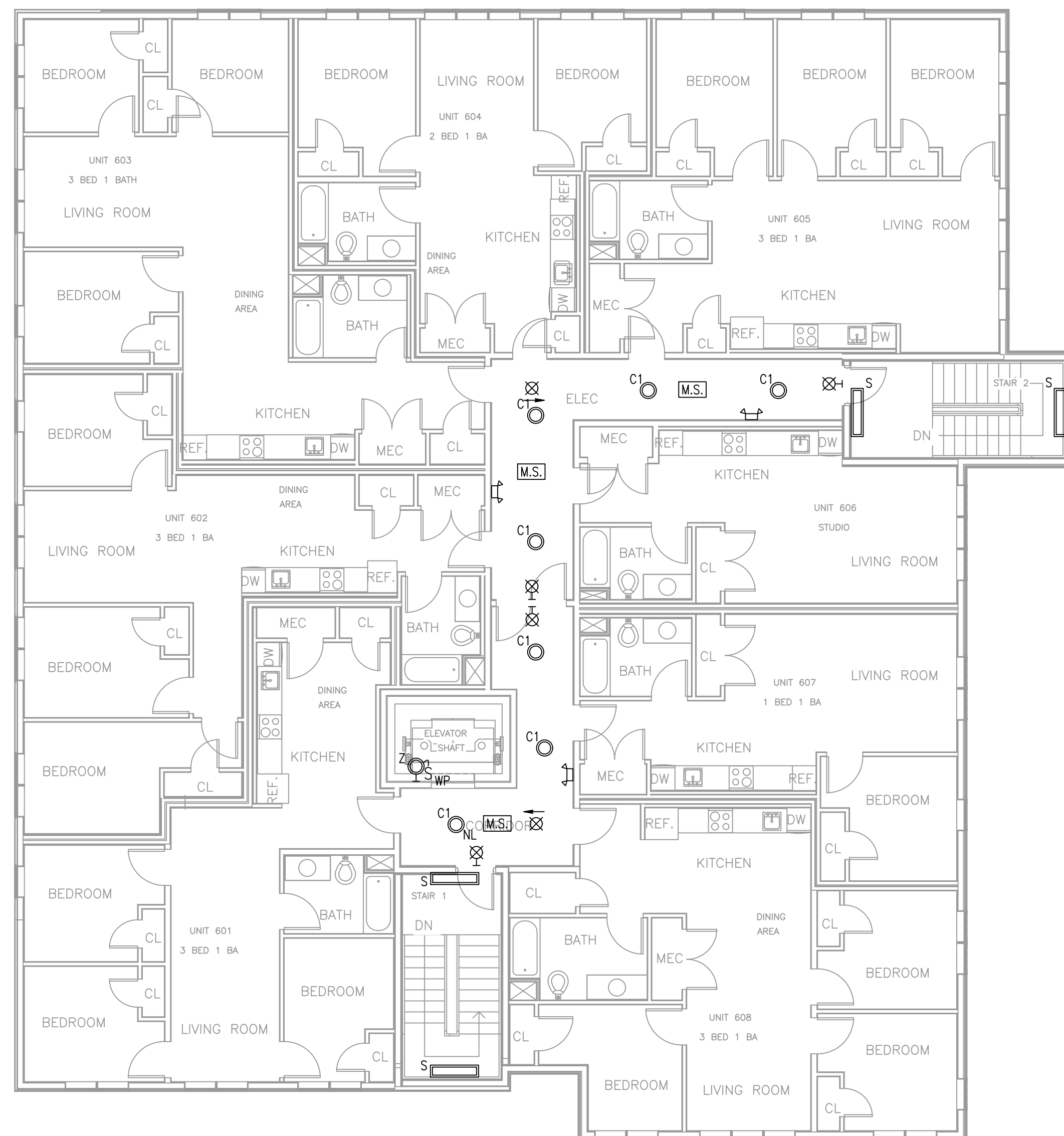
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Drawing Name

LIGHTING FLOOR PLAN, FOURTH AND FIFTH FLOOR

Sheet No.

E2.3



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Location

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LIGHTING FLOOR PLAN, SIXTH FLOOR AND ROOF

Sheet No.

E2.4

50A, UP TO 100FT #6, INCREASE BY ONE SIZE FOR EVERY 30FT.
100A, UP TO 100FT #3, INCREASE BY ONE SIZE FOR EVERY 30FT.
200A, UP TO 150FT #3/0, INCREASE BY ONE SIZE FOR EVERY 50 FT.
400A, UP TO 200FT #500, INCREASE BY ONE SIZE FOR EVERY 50FT.

-ALL WIRING WITHIN UNITS SHALL BE ROMEX. WIRING OUTSIDE UNITS SHALL BE METAL CLAD.

BUILDING RESIDENTIAL DEMAND=45X35.9X0.27=437KW
 FACTOR TO BE TAKEN FROM TABLE NEC 220.84

- (-3) 20A/1P KITCHEN COUNTER OUTLETS GFCI AND AFCI PROTECTION
- (-1) 20A/1P FOR REFRIGERATOR GFCI AND AFCI PROTECTION
- (-1) 20A/1P FOR DISHWASHER AFCI/GFCI PROTECTION
- (-1) 20A/1P FOR DISHWASHER GFCI AND AFCI/GFCI PROTECTION
- (-1) 50A/2P FOR MICROWAVE-HOOD AFCI/GFCI PROTECTION
- (-1) 50A/2P FOR ELECTRIC RANGE, GFCI
- (-1) 20A/1P FOR DINING ROOM OUTLETS AFCI PROTECTION

IF THEY ARE COMBINED WITH KITCHEN COUNTER OUTLETS GFCI AND AFCI PROTECTION

- (-1) 30A/2P FOR EACH A/C CONDENSER UNIT, GFCI
- (-1) 30A/2P FOR WATER HEATER
- (-1) 30A/2P FOR DRYER, GFCI
- (-1) 15A/1P FOR EACH BATHROOM UNIT (NEVP)
- (-1) 20A/1P FOR EACH BATHROOM GFCI PROTECTION
- (-1) 15A/1P FOR LIGHTING AFCI PROTECTION
- (-1) 15A/1P FOR LIVING ROOM AFCI PROTECTION
- (-1) 15A/1P FOR EACH BEDROOM AFCI PROTECTION

-RECEPTACLES INSTALLED WITHIN 6 FEET OF SINK SHALL BE GFCI PROTECTED IN ADDITION TO AFCI PROTECTION.

- SEE ARCHITECTURAL PLANS FOR NUMBER OF HC UNITS AND LOCATIONS.
CARRY MINIMUM OF 5% OF UNITS AS ACCESSIBLE
- IN EACH UNIT PROVIDE:
 - LOCAL TYPE SMOKE DETECTOR WITH BUILT IN STROBE EACH BEDROOM, OUTSIDE BEDROOM
 - SYSTEM TYPE STROBE IN EACH BEDROOM AND LIVING ROOM
 - LOCAL TYPE CO DETECTORS OUTSIDE BEDROOMS AND EVERY HABITABLE FLOOR LEVEL. STROBES ARE TO BE LOCATED IN BEDROOMS AND HABITABLE SPACES
 - MOUNTING HEIGHTS OF ANY CONTROL SWITCH SHALL BE NO HIGHER THAN 48" AFF.
 - HOOD CONTROL SWITCHES (LIGHT/FAN) SHALL BE MOUNTED ON WALL AT COUNTER
 - PROVIDE WALL OVEN AND COOK TOP WIRING ON SAME CIRCUIT, 50A/2P
 - ALL OUTLETS AND CONTROL SWITCHES SHALL BE MINIMUM 18" AWAY FROM AN INTERIOR CORNER REGARDLESS HOW IT IS SHOWN
- PROVIDE STROBE LIGHT FOR INTERCOM SYSTEM IN LIVING ROOM AND IN EACH BEDROOM
- ALL ELECTRICAL OUTLETS HEIGHTS TO BE A MINIMUM OF 15" TO THE CENTERLINE OF THE LOWEST RECEPTACLE AND MAXIMUM OF 48" TO THE CENTERLINE OF THE HIGHEST RECEPTACLE.
- ALL ELECTRICAL OUTLETS ARE LOCATED OVER COUNTERTOPS, SHALL BE NO HIGHER THAN 44" TO THE CENTERLINE OF THE HIGHEST RECEPTACLE.
- ALL CIRCUIT BREAKER PANELS MUST BE CENTERED ON A 30" BY 48" CLEAR FLOOR SPACE AND IF A PARALLEL APPROACH IS USED, THE HIGHEST CONTROL SHALL BE NO HIGHER THAN 54" A.F.F..
IF A FRONT APPROACH IS USED, THE HIGHEST CONTROL SHALL BE NO HIGHER THAN 48" A.F.F.
- PROVIDE STROBE FOR INTERCOM FOR THE HEARING IMPAIRED.

PANEL SCHEDULE									
ITEM	VOLT/PHS/W	MLO	MCB	CIRC	ECU ¹ S307	PLP B301	BRANCH BREAKERS	SPE ² -SPARE SPC=SPACE	
PANEL HP	120-208/3/4	400	-	84	S	B	(1)200/3, (12)30/2, (2)20/2 GFCI, (30)20/1		
PANEL EV	120-208/3/4	200	-	42	S	B	(4)40/2		
PANEL LC	120-208/1/3	125	-	30	F	P	(1)50/2 GFCI, (1)30/2, (8)20/1 AFI, (6)15/1 AFI, (8)20/1 AFI/GFI		

LOAD BREAKDOWN			
LOAD	KVA	FACTOR	KVA
RESIDENTIAL	1036	0.28	290
HOUSE	100	1.00	100
EV CHARGERS	29	1.25	36
TOTAL	1265		426

E3.0

HOUSE PANEL 'HP' SCHEDULE						
VOLTS MAINS		208Y/120V, 3ø, 4W 400A MLO		AIC LOCATED	65,000; VERIFY WITH UTILITY	
CIR NO	LOAD	DESC	BRKR	BRKR	DESC	LOAD
1	200	FACP	20/1	20/1	INTERCOM SYSTEM	100
3		STAIRWELL LIGHTING	20/1	20/1	EXTERIOR LIGHTING	4
5		GARAGE LIGHTING	20/1	20/1	TELE-COM QUAD RECEPTS	360
7		INTERIOR LIGHTING	20/1	20/1	TELE-COM QUAD RECEPTS	360
9						10
11						12
13						14
15						16
17						18
19						20
21						22
23						24
25						26
27						28
29						30
31						32
33						34
35						36
37						38
39						40
41						42
43						44
45						46
47						48
49						50
51						52
53	3,500	GARAGE DOOR OPENER	40/2		SOLAR READY SPACE	54
55	200	ELEV. CAB	20/1			56
57	200	ELEV. PIT RECEPT/LTG	20/1	200/3	ELEVATOR (40 HP EST.)	58
59	500	ELEV. PIT EJECTOR PUMP	20/1			60
TOTAL LOAD DEMAND LOAD				48.4 kVA		

& - INDICATES GFCI TYPE CIRCUIT BREAKER
 ^ - INDICATES RED, LOCKABLE CLOSED CIRCUIT BREAKER

DWELLING UNIT LIGHTING FIXTURE SCHEDULE						
TYPE	DESCRIPTION	CATALOG NUMBER	VOLTS	LIGHTING SYSTEM	INPUT WATTS	NOTES
U1	GENERAL ENTRY/HALL DOWNLIGHT	CARRY #100	120V	LED	13W	
U2	KITCHEN CEILING DOWNLIGHT	CARRY #100	120V	LED	13W	
U3	BATHROOM FAN/LIGHT	CARRY #200	120V	LED	80W	TWO--SPEED FAN AND SEPARATE LIGHT SWITCH CONTROL.
U4	LIVING/DINING ROOM	CARRY #100	120V	LED	20W	
U5	BEDROOM FIXTURE	CARRY #100	120V	LED	25W	
U6	BATHROOM VANITY	CARRY #100	120V	LED	20W	
U7	SHOWER FIXTURE	CARRY #100	120V	LED	13W	

FIXTURE NOTES

ALL LIGHT FIXTURES MODELS, FINISH COLORS SHALL BE VERIFIED BY ARCHITECT.

REGARDLESS HOW MODEL NUMBERS ARE WRITTEN ALL FLUORESCENT & PL FIXTURES SHALL HAVE HPF ENERGY SAVINGS BALLAST/ENERGY STAR LABEL.

LAMPS AND BALLASTS SHALL BE IN COMPLIANCE WITH LOCAL UTILITY COMPANY REBATE PROGRAMS, SPECIFICATIONS ABOVE FOR THE FIXTURE TYPE ONLY.

FLUORESCENT FIXTURES SHALL HAVE ELECTRONIC BALLASTS THD LESS THAN 315.

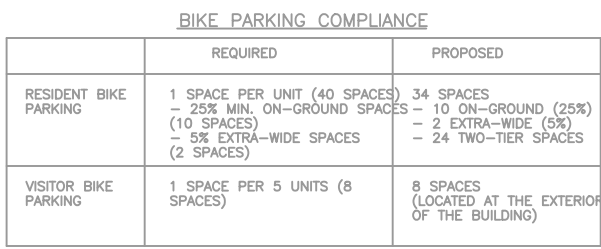
FIXTURES MOUNTED IN INSULATED CEILINGS, EC SHALL PROVIDE HOODS TO KEEP INSULATION AWAY. FIXTURES MOUNTED IN RATED CEILINGS (SEE ARCHITECTURAL DRAWINGS), EC SHALL PROVIDE HOODS TO MAINTAIN RATINGS.

AN "EM" LABELED FIXTURE INDICATES EMERGENCY LIGHT WITH BUILT IN BODINE BALLAST OR MANUFACTURER BACKUP BATTERY. 700 LUMEN OUTPUT. EMERGENCY LIGHTS SHALL HAVE INTEGRAL TEST SWITCHES BUILT INTO FIXTURE (NOT SEPARATE SWITCH). PROVIDE CONSTANT FEED TO BUILT-IN EMERGENCY BATTERY AS REQUIRED.

EXACT LOCATION AND TYPES OF ALL LIGHTING FIXTURES, MOUNTING HEIGHTS AND MOUNTING DETAILS SHALL BE COORDINATED WITH ARCHITECTURAL REFLECTED CEILING PLANS AND ANY CONFLICTS MUST BE BROUGHT TO ARCHITECT'S ATTENTION PRIOR TO ANY WORK DONE. OBTAIN LATEST COPY OF THE CEILING PLAN FROM ARCHITECT PRIOR TO ANY WORK DONE.

IN AREAS WHERE FIXTURES ARE MOUNTED INTO INSULATED CEILINGS, THIS CONTRACTOR SHALL PROVIDE HOODS, 3" LARGER THAN FIXTURES TO KEEP INSULATION AWAY FROM THE FIXTURES AND TO MAINTAIN INSULATION INTEGRITY OF THE CEILING. SEE ARCHITECTURAL DRAWINGS FOR AREAS WHERE THESE HOODS MAY BE REQUIRED.

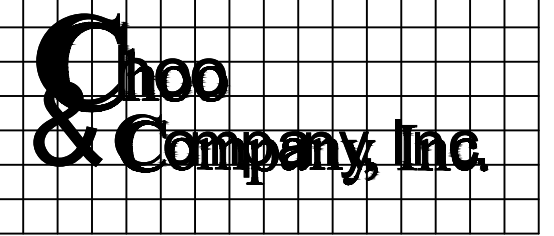
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- FIRE ALARM NOTES
1. 120V FIRE ALARM DEVICES SHALL BE CIRCUITED TO THAT UNIT'S LIGHTING/FAN CIRCUIT. SEE "LC" PANEL SCHEDULE.
 2. SMOKE DETECTORS AT FIRE/SMOKE DOORS SHALL BE LISTED FOR THAT PURPOSE.

Location

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BUILDING
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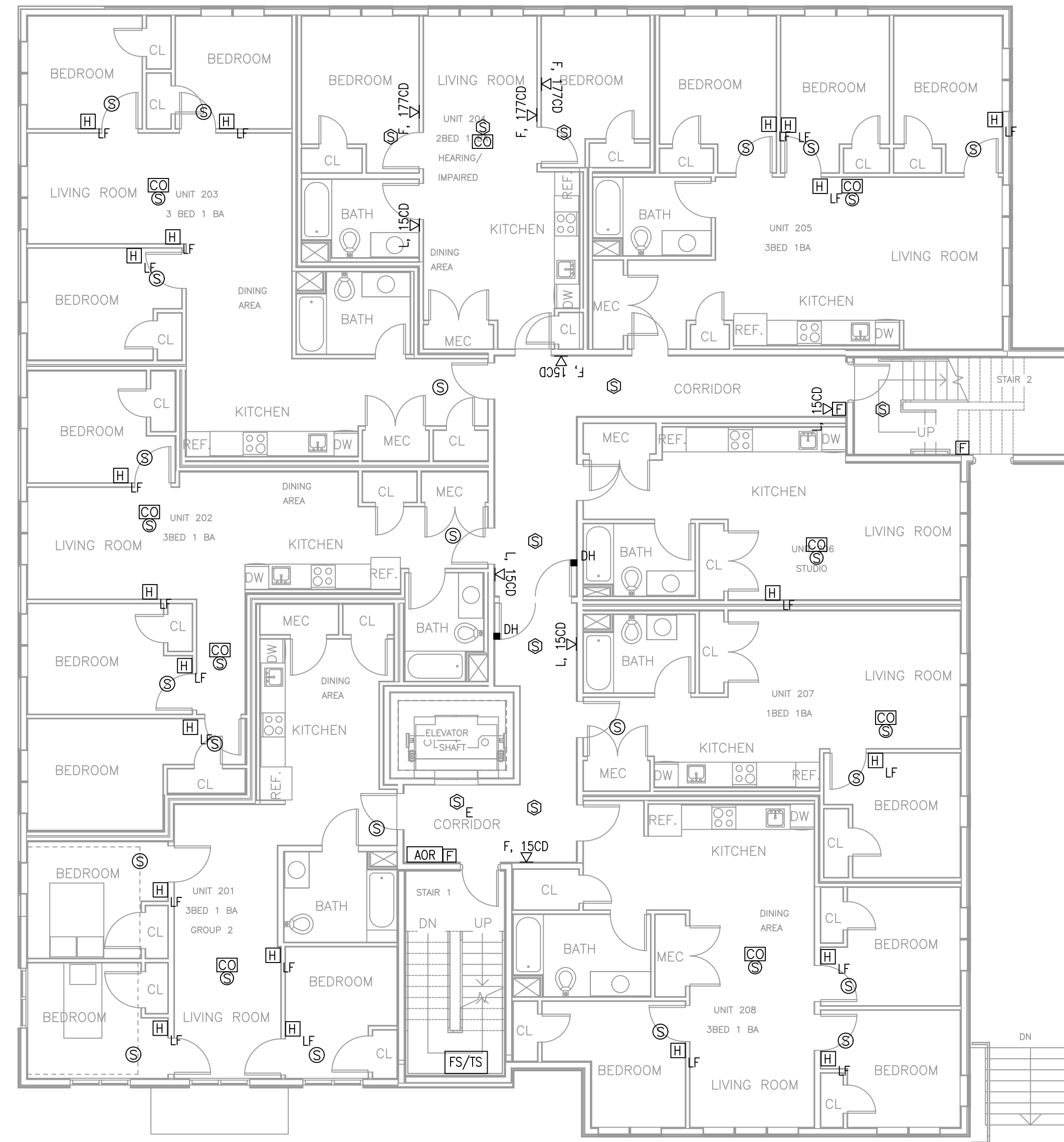
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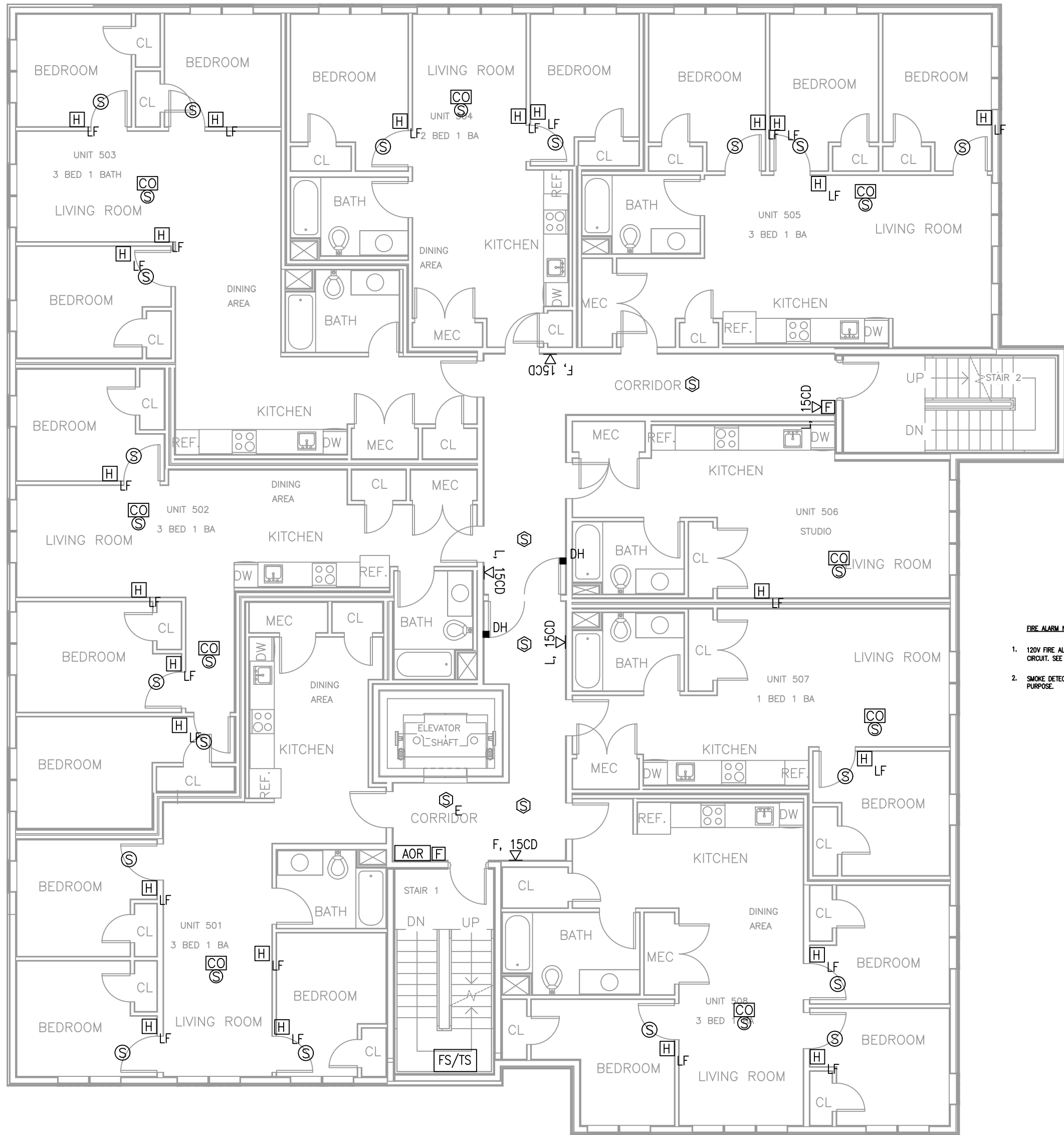
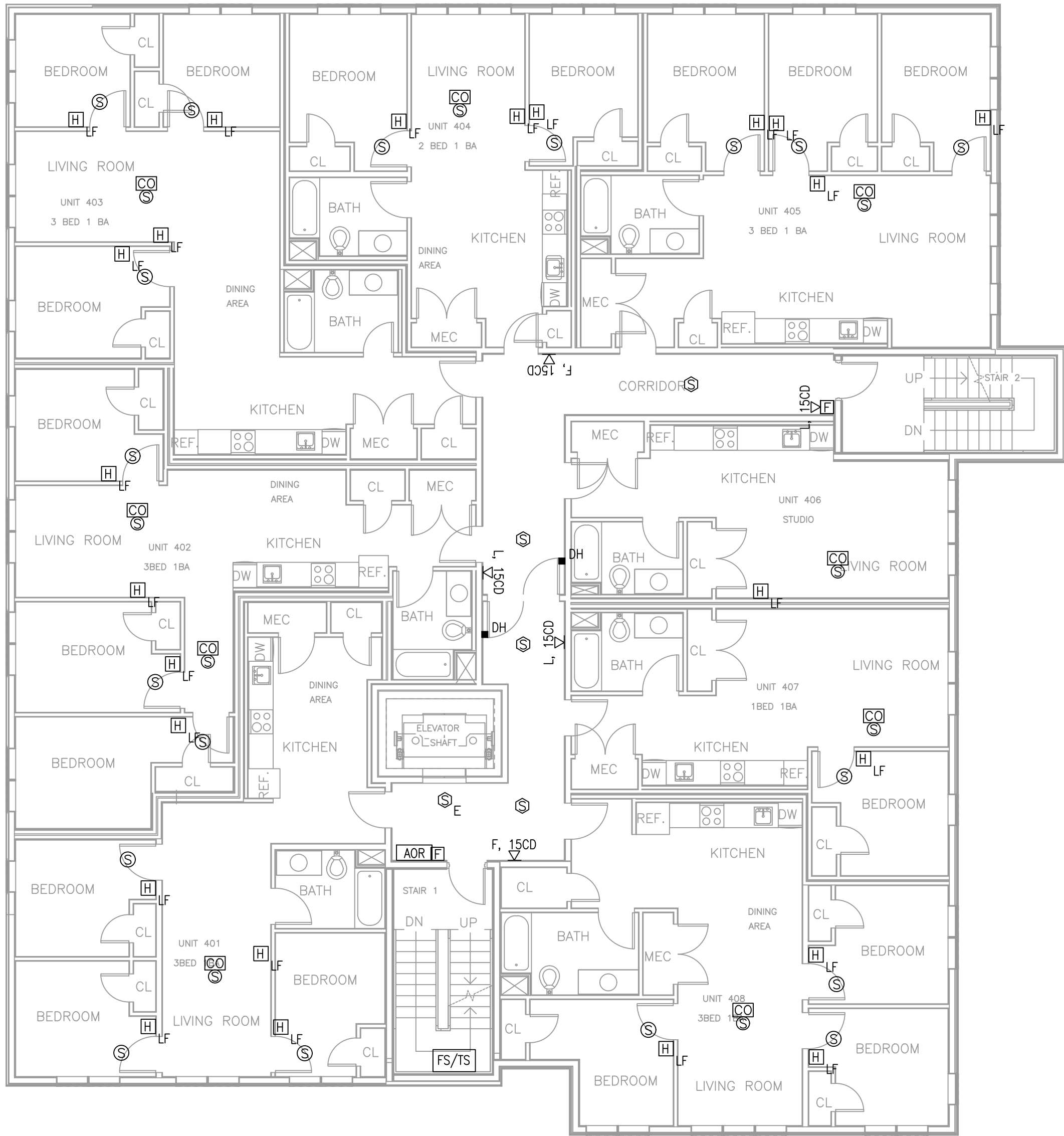
Drawing Name

GROUND FLOOR FIRE ALARM PLAN

Sheet No.

FA1.1





- FIRE ALARM NOTES**
1. 120V FIRE ALARM DEVICES SHALL BE CROUTED TO THAT UNIT'S LIGHTING/FA CIRCUIT. SEE LIF PANEL SCHEDULE.
 2. SMOKE DETECTORS AT FIRE/SMOKE DOORS SHALL BE LISTED FOR THAT PURPOSE.

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No.	Description	Date

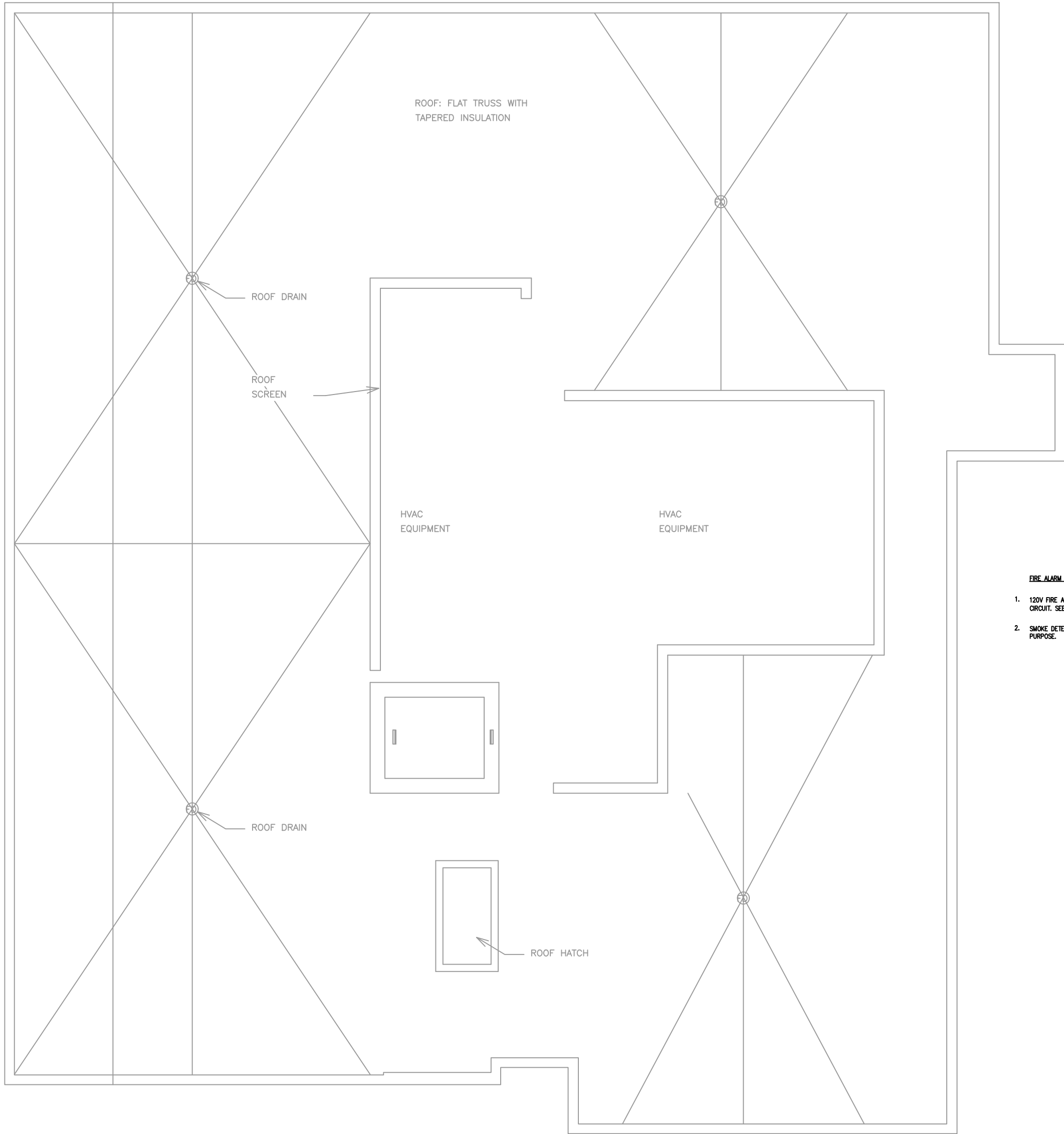
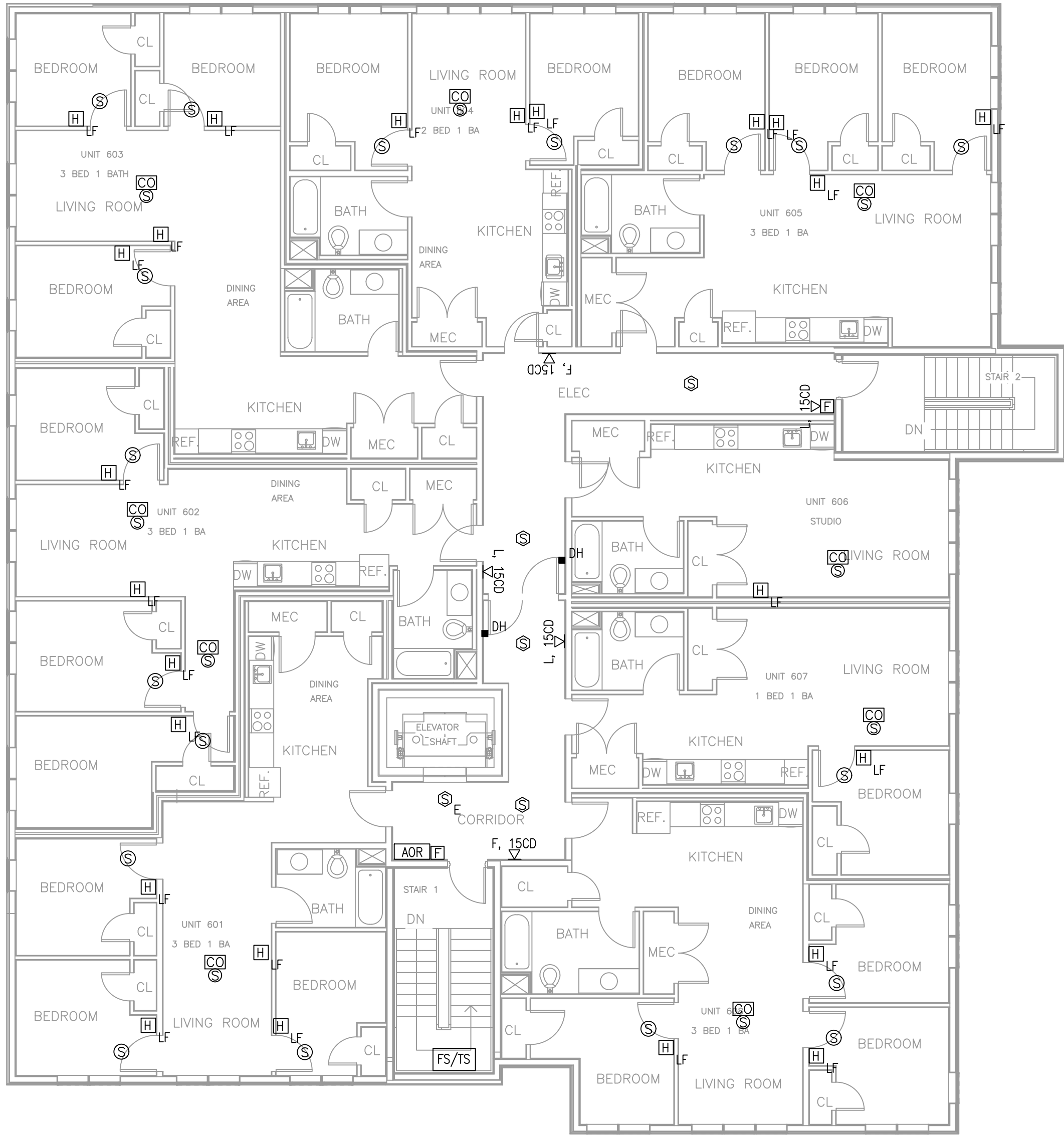
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Drawing Name

**FIRE ALARM
FLOOR PLAN**

Sheet No.

FA1.3



- ELECTRICAL NOTES**
1. 120V FIRE ALARM DEVICES SHALL BE ORIGINATED TO THAT UNIT'S LIGHTING/FA CIRCUIT. SEE 'LC' PANEL SCHEDULE.
 2. SMOKE DETECTORS AT FIRE/SMOKE DOORS SHALL BE LISTED FOR THAT PURPOSE.

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No.	Description	Date

Project No: 2025014

Scale: AS NOTED

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Drawing Name

**FIRE ALARM
FLOOR PLAN,
SIXTH FLOOR
AND ROOF**

Sheet No.

FA1.4