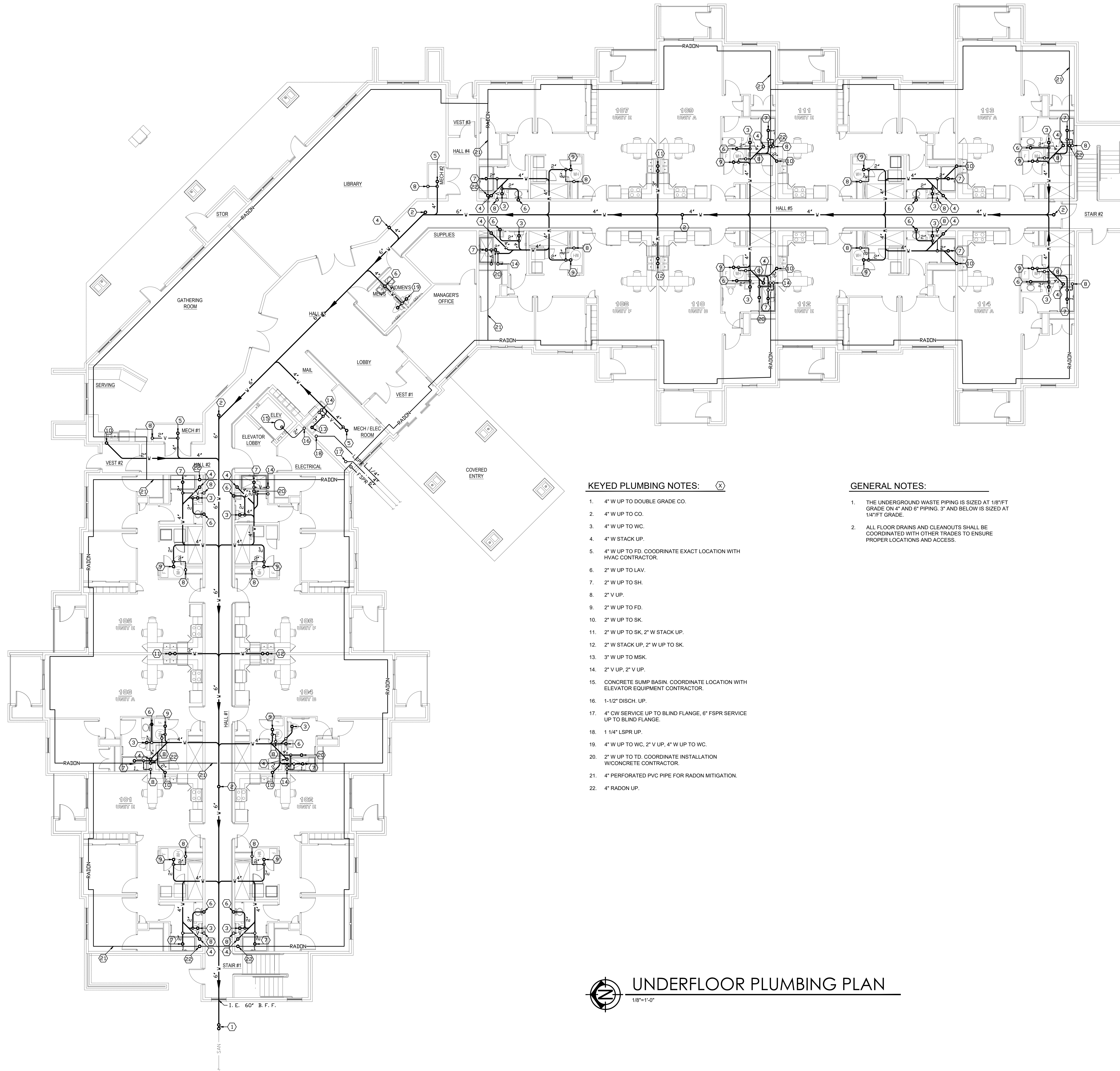


SYMBOL	ABBREV.	DESCRIPTION	SYMBOL & DESCRIPTION	SYMBOL	DESCRIPTION	ABBREVIATIONS										DRAWING INDEX	
	CW	COLD WATER			SUPPLY/OUTSIDE AIR DUCT UP (S/A OR O/A)	AF	AIRFOIL	DDVAV	DUAL DUCT VARIABLE AIR VOLUME	HDPE	HIGH DENSITY POLYETHYLENE	PVC	CONDITIONING	DRAWING INDEX	M0.0 SYMBOLS & ABBREVIATIONS		
	HW	HOT WATER			SUPPLY/OUTSIDE AIR ROOF/FLOOR PENETRATION	AC-X	AIR COMPRESSOR	DC-X	DUST COLLECTOR	HP	HORSE POWER	PDU-X	POOL DEHUMIDIFICATION UNIT				
	RHW	RECIRCULATED HOT WATER			SUPPLY/OUTSIDE AIR DUCT DOWN (S/A OR O/A)	A/C	AIR CONDITIONING	DWDI	DOUBLE WHEEL DOUBLE INLET	HR	HOUR	PIV	POST INDICATOR VALVE				
	A	AIR			RETURN AIR DUCT UP (R/A)	ACCU-X	AIR COOLED CONDENSING UNIT		ELECTRIC BASEBOARD RADIATOR	H-X	HUMIDIFIER	PWR	POWER				
	AV	ACID VENT			RETURN AIR ROOF/FLOOR PENETRATION	AHU-X	AIR HANDLING UNIT	ERAD-X	ELECTRIC FIN TUBE	HF-X	HYDRONIC FILTER	PF-X	PRE FILTER	P1.0 UNDERFLOOR PLUMBING PLAN			
	AW	ACID WASTE			RETURN AIR DUCT DOWN (R/A)	AIR PD	AIR PRESSURE DROP	ERH-X	ELECTRIC RADIANT HEATER	ID	INSIDE DIAMETER	PHC-X	PREHEAT COIL	P1.1 FIRST FLOOR PLUMBING PLAN			
	CD	CONDENSATE			RETURN AIR DUCT DOWN (R/A)	AS-X	AIR SEPARATOR	EUH-X	ELECTRIC UNIT HEATER	IH-X	INTAKE HOOD	PD	PRESSURE DROP	P1.2 SECOND FLOOR PLUMBING PLAN			
	CHR	CHILLED WATER RETURN			EXHAUST AIR DUCT UP (E/A)	ATU	AIR TERMINAL UNIT	EL/ELEV	ELEVATION	ISP	INTERNAL STATIC PRESSURE	P-X	PLUMBING FIXTURE	P1.3 THIRD FLOOR PLUMBING PLAN			
	CHS	CHILLED WATER SUPPLY			EXHAUST AIR ROOF/FLOOR PENETRATION	AMB	AMBIENT	ERV-X	ENERGY RECOVERY VENTILATOR	KW	KILOWATT	PRV-X	PRESSURE REDUCING VALVE	P1.4 TYPICAL ROOM PLUMBING PLANS			
	CWR	CONDENSER WATER RETURN			EXHAUST AIR DUCT DOWN (E/A)	ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	EAT	ENTERING AIR TEMPERATURE	KWH	KILOWATT HOUR	P-X	PUMP	P2.0 PLUMBING SCHEDULES & DETAILS			
	CWS	CONDENSER WATER SUPPLY			ROUND DUCT SECTION UP	ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATION AND AIR CONDITIONING ENGINEERS	EWT	ENTERING WATER TEMPERATURE	KES	KITCHEN EQUIPMENT SUPPLIER	PROP	PROPELLER	M1.0 FIRST FLOOR MECHANICAL PLAN			
	DI	DEIONIZED WATER			ROUND DUCT SECTION DOWN			EQUIP	EQUIPMENT	KEF-X	KITCHEN EXHAUST FAN			M1.1 SECOND FLOOR MECHANICAL PLAN			
	DS	DOWNSPOUT (RAINWATER)			ROUND DUCT ROOF/FLOOR PENETRATION	AMP	AMPERE	EVAP	EVAPORATIVE CONDENSING UNIT	KH-X	KITCHEN HOOD			M1.2 THIRD FLOOR MECHANICAL PLAN			
	DWR	DUAL WATER RETURN			DUCT DROP IN DIRECTION	ANG	ANGLE	EXH	EXHAUSTOR	LAT	LEAVING AIR TEMPERATURE			M1.3 ROOF MECHANICAL PLAN			
	DWS	DUAL WATER SUPPLY			DUCT DROP IN DIRECTION	A	AREA	EA	EXHAUST AIR	LWT	LEAVING WATER TEMPERATURE			M1.4 TYPICAL ROOM MECHANICAL PLANS			
	FOR	FUEL OIL RETURN			DUCT DROP IN DIRECTION	AD-X	AIR DOOR	EH-X	EXHAUST FAN	LG	LENGTH			CODE REQUIREMENTS			
	FOS	FUEL OIL SUPPLY			DUCT DROP IN DIRECTION	APPROX	APPROXIMATE	EXIST	EXISTING	LTG	LIGHTING						
	FOV	FUEL OIL VENT			DUCT DROP IN DIRECTION	AUX	AUXILIARY	ET-X	EXPANSION TANK	LD-X	LINEAR DIFFUSER						
	FSPR	FIRE SPRINKLER			DUCT DROP IN DIRECTION	ATM	ATMOSPHERE	ESP	EXTERNAL STATIC PRESSURE	LF	LINEAR FEET						
	G	NATURAL GAS LINE (FIRM)			DUCT DROP IN DIRECTION	AVG	AVERAGE			LP	LIQUID PROPANE			NOTICE			
	GI	GREASE INTERCEPTOR			DUCT DROP IN DIRECTION					LRA	LOCKED ROTOR AMPS						
	HG	HOT GAS			DUCT DROP IN DIRECTION					L-X	LOUVER						
	HPR	HIGH PRESSURE STEAM RETURN			DUCT DROP IN DIRECTION					LPC	LOW PRESSURE CONDENSATE						
	HPS	HIGH PRESSURE STEAM SUPPLY			DUCT DROP IN DIRECTION					LPS	LOW PRESSURE STEAM			THIS DOCUMENT AND ANY INFORMATION CONTAINED WITHIN THIS DOCUMENT MAY NOT BE REPRODUCED IN PART OR WHOLE WITHOUT WRITTEN PERMISSION OF RDH ENGINEERING, (402)333-9009. UNAUTHORIZED COPYING, DISCLOSURE, OR CONSTRUCTION USE ARE PROHIBITED BY COPYRIGHT LAWS. ALL REPORTS, PLANS, SPECIFICATIONS, FIELD DATA, AND NOTES AND OTHER DOCUMENTS, INCLUDING ALL DOCUMENTS ON ELECTRONIC MEDIA, PREPARED BY THE DESIGN PROFESSIONAL AS INSTRUMENTS OF SERVICE SHALL REMAIN THE PROPERTY OF THE DESIGN PROFESSIONAL.			
	HWR	HEATING WATER RETURN			DUCT DROP IN DIRECTION					LBS	POUNDS						
	HWS	HEATING WATER SUPPLY			DUCT DROP IN DIRECTION					MBH	1000 BTU'S						
	IG	NATURAL GAS LINE (INTERRUPTIBLE)			DUCT DROP IN DIRECTION					MFR	MANUFACTURER						
	LPG	LIQUIFIED PETROLEUM GAS			DUCT DROP IN DIRECTION	CUH-X	CABINET UNIT HEATER	FLR	FLOOR	MAX	MAXIMUM			SCHEDULE			
	LPR	LOW PRESSURE STEAM RETURN			DUCT DROP IN DIRECTION	C TO C	CENTER TO CENTER	FLT	FLOOR	MCA	MAXIMUM CIRCUIT AMPACITY						
	LPS	LOW PRESSURE STEAM SUPPLY			DUCT DROP IN DIRECTION	CL	CENTER LINE	FC-X	FAN COIL UNIT	MA	MAKE-UP AIR						
	LSPR	LAWN SPRINKLER			DUCT DROP IN DIRECTION	CENT	CENTRIFUGAL	FA	FREE AREA / FIRE ALARM	MAU-X	MAKE-UP AIR UNIT						
	MPR	MEDIUM PRESSURE STEAM RETURN			DUCT DROP IN DIRECTION	CF-X	CHEMICAL FEED SYSTEM	FOT-X	FUEL OIL TANK	MECH	MECHANICAL			TEMP TO TEMPERATURE DIFFERENCE			
	MPS	MEDIUM PRESSURE STEAM SUPPLY			DUCT DROP IN DIRECTION	CHR	CHILLED WATER RETURN	FLA	FULL LOAD AMPS	MC	MECHANICAL CONTRACTOR						
	NP	NON POTABLE COLD WATER			DUCT DROP IN DIRECTION	CHS	CHILLED WATER SUPPLY	FAL	FURNACE	MPC	MEDIUM PRESSURE CONDENSATE						
	NPHW	NON POTABLE HOT WATER			DUCT DROP IN DIRECTION	CH-X	CHILLER	G	GALLONS	MPS	MEDIUM PRESSURE STEAM						
	NPHW	NON POTABLE RECIRCULATED HOT WATER			DUCT DROP IN DIRECTION	CHV	CHLORINATED POLYVINYL CHLORIDE	GPM	GALLONS PER MINUTE	MIN	MINIMUM			UL UNDERWRITERS LABORATORY			
	O	OXYGEN			DUCT DROP IN DIRECTION	CLR	CLEAR	GALV	GALVANIZED	MISC	MISCELLANEOUS						
	ORD	OVERFLOW DRAIN			DUCT DROP IN DIRECTION	CO	CLEANOUT	GAS	GAS	MV-X	MIXING VALVE						
	RL	REFRIGERANT LIQUID			DUCT DROP IN DIRECTION	CMPR	COMPRESSOR	GPR-X	GAS PRESSURE REGULATOR	MTD	MOUNTED						
	RS	REFRIGERANT SUCTION			DUCT DROP IN DIRECTION	CRAC-X	COMPUTER ROOM AIR CONDITIONER	G	GAS	MTG	MOUNTING			TYP			
	SCW	SOFT COLD WATER			DUCT DROP IN DIRECTION	CP-X	CONDENSATE PUMP	GA	GAUGE	NOM	NOMINAL						
	S	SOFT HOT WATER			DUCT DROP IN DIRECTION	CDU	CONDENSER UNIT	GEN	GENERATOR	NC	NORMALLY CLOSED / NOISE CRITERIA						
	SRHW	SOFT RECIRCULATED HOT WATER			DUCT DROP IN DIRECTION	CU-X	CONDENSING UNIT	GH-X	GRAVITY HOOD	NO	NORMALLY OPEN / NUMBER						
	SD	STORM DRAIN			DUCT DROP IN DIRECTION	CUHP-X	CONDENSING UNIT HEAT PUMP	G-X	GRILLE	N/A	NOT APPLICABLE			UNO UNLESS NOTED OTHERWISE			
	TW	TEMPERED WATER			DUCT DROP IN DIRECTION	CV	CONSTANT VOLUME / CONTROL VALVE	HZ	HERTZ	NIC	NOT IN CONTRACT						
	V	VENT			DUCT DROP IN DIRECTION	CCV-X	CLOSED CIRCUIT COOLER (FLUID COOLER)	H	HEAD	NA	NEUTRAL AIR						
	VAC	VACUUM			DUCT DROP IN DIRECTION	CC-X	COOLING COIL	HTG	HEATING	OA	OUTSIDE AIR						
	W	WASTE ABOVE GRADE			DUCT DROP IN DIRECTION	CT-X	COOLING TOWER	HE-X	HEAT EXCHANGER	OC	ON CENTER			VARIABLE VARIABLE AIR VOLUME			
	W	WASTE BELOW FLOOR			DUCT DROP IN DIRECTION	CU FT	CUBIC FEET	HP-X	HEAT PUMP	ORD	OVERFLOW STORM DRAIN PIPING						
	W	WASTE BELOW GRADE			DUCT DROP IN DIRECTION	CFM	CUBIC FEET PER MINUTE	HPWR	HEAT PUMP WATER RETURN	ORD	OVERFLOW ROOF DRAIN						
	W	WASTE BELOW GRADE			DUCT DROP IN DIRECTION	CU IN	CUBIC INCH	HPWS	HEAT PUMP WATER SUPPLY	ORD	OVERFLOW ROOF DRAIN						
	W	WASTE BELOW GRADE			DUCT DROP IN DIRECTION			HTR	HEATER	PTAC-X	PACKAGED TERMINAL A/C			VARIABLE FREQUENCY DRIVE			
	W	WASTE BELOW GRADE			DUCT DROP IN DIRECTION			HTG	HEATING	PTHF-X	PACKAGED TERMINAL HEAT PUMP						
	W	WASTE BELOW GRADE			DUCT DROP IN DIRECTION			HC-X	HEATING COIL	PPM	PARTS PER MILLION						
	W	WASTE BELOW GRADE			DUCT DROP IN DIRECTION			HVAC	HEATING, VENTILATING AND AIR CONDITIONING	PERP	PERPENDICULAR						
	W	WASTE BELOW GRADE			DUCT DROP IN DIRECTION			HWR	HEATING WATER RETURN	PH	PHASE			VOLT			
	W	WASTE BELOW GRADE			DUCT DROP IN DIRECTION			HTG	HEATING WATER SUPPLY	PLBG	PLUMBING						
	W	WASTE BELOW GRADE			DUCT DROP IN DIRECTION			HWS	HEATING WATER SUPPLY	PC	PLUMBING CONTRACTOR						
	W	WASTE BELOW GRADE			DUCT DROP IN DIRECTION			HGT	HEATING WATER SUPPLY	PHVAC	PLUMBING, HEATING, VENTILATION AND AIR						
	W	WASTE BELOW GRADE			DUCT DROP IN DIRECTION									VOLUME			
	W	WASTE BELOW GRADE			DUCT DROP IN DIRECTION												
	W	WASTE BELOW GRADE			DUCT DROP IN DIRECTION												
	W	WASTE BELOW GRADE			DUCT DROP IN DIRECTION												
	W	WASTE BELOW GRADE			DUCT DROP IN DIRECTION									WG WATER GAUGE			
	W	WASTE BELOW GRADE			DUCT DROP IN DIRECTION												
	W	WASTE BELOW GRADE			DUCT DROP IN DIRECTION												
	W	WASTE BELOW GRADE			DUCT DROP IN DIRECTION												
	W	WASTE BELOW GRADE			DUCT DROP IN DIRECTION									WPD WATER PRESSURE DROP			
	W	WASTE BELOW GRADE			DUCT DROP IN DIRECTION												
	W	WASTE BELOW GRADE			DUCT DROP IN DIRECTION												
	W	WASTE BELOW GRADE			DUCT DROP IN DIRECTION												
	W	WASTE BELOW GRADE			DUCT DROP IN DIRECTION									WATT / WIDTH			
	W	WASTE BELOW GRADE			DUCT DROP IN DIRECTION												
	W	WASTE BELOW GRADE			DUCT DROP IN DIRECTION												
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	W	WASTE BELOW GRADE			DUCT DROP IN DIRECTION									WT WEIGHT			
	W	WASTE BELOW GRADE			DUCT DROP IN DIRECTION												
	W	WASTE BELOW GRADE			DUCT DROP IN DIRECTION												
	W	WASTE BELOW GRADE			DUCT DROP IN DIRECTION												
	W	WASTE BELOW GRADE			DUCT DROP IN DIRECTION									WB WET BULB TEMPERATURE			
	W	WASTE BELOW GRADE			DUCT DROP IN DIRECTION												
	W	WASTE BELOW GRADE			DUCT DROP IN DIRECTION												
	W	WASTE BELOW GRADE			DUCT DROP IN DIRECTION												
	W	WASTE BELOW GRADE			DUCT DROP IN DIRECTION									YD YARD			
	W	WASTE BELOW GRADE			DUCT DROP IN DIRECTION												
	W	WASTE BELOW GRADE			DUCT DROP IN DIRECTION												
	W	WASTE BELOW GRADE			DUCT DROP IN DIRECTION												
	W	WASTE BELOW GRADE			DUCT DROP IN DIRECTION												
	W	WASTE BELOW GRADE			DUCT DROP IN DIRECTION												
	W	WASTE BELOW GRADE			DUCT DROP IN DIRECTION												

11-18-04 P1.X COMBINED PLUMBING.dwg | 8/15/2018 | 12:01 PM



KEYED PLUMBING NOTES: (X)

1. 4" W UP TO DOUBLE GRADE CO.
2. 4" W UP TO CO.
3. 4" W UP TO WC.
4. 4" W STACK UP.
5. 4" W UP TO FD. COORDINATE EXACT LOCATION WITH HVAC CONTRACTOR.
6. 2" W UP TO LAV.
7. 2" W UP TO SH.
8. 2" V UP.
9. 2" W UP TO FD.
10. 2" W UP TO SK.
11. 2" W UP TO SK, 2" W STACK UP.
12. 2" W STACK UP, 2" W UP TO SK.
13. 3" W UP TO MSK.
14. 2" V UP, 2" V UP.
15. CONCRETE SUMP BASIN. COORDINATE LOCATION WITH ELEVATOR EQUIPMENT CONTRACTOR.
16. 1-1/2" DISCH. UP.
17. 4" CW SERVICE UP TO BLIND FLANGE, 6" FSPR SERVICE UP TO BLIND FLANGE.
18. 1 1/4" LSPR UP.
19. 4" W UP TO WC, 2" V UP, 4" W UP TO WC.
20. 2" W UP TO TD. COORDINATE INSTALLATION W/CONCRETE CONTRACTOR.
21. 4" PERFORATED PVC PIPE FOR RADON MITIGATION.
22. 4" RADON UP.

GENERAL NOTES:

1. THE UNDERGROUND WASTE PIPING IS SIZED AT 1/8"FT GRADE ON 4" AND 6" PIPING. 3" AND BELOW IS SIZED AT 1/4"FT GRADE.
2. ALL FLOOR DRAINS AND CLEANOUTS SHALL BE COORDINATED WITH OTHER TRADES TO ENSURE PROPER LOCATIONS AND ACCESS.



UNDERFLOOR PLUMBING PLAN

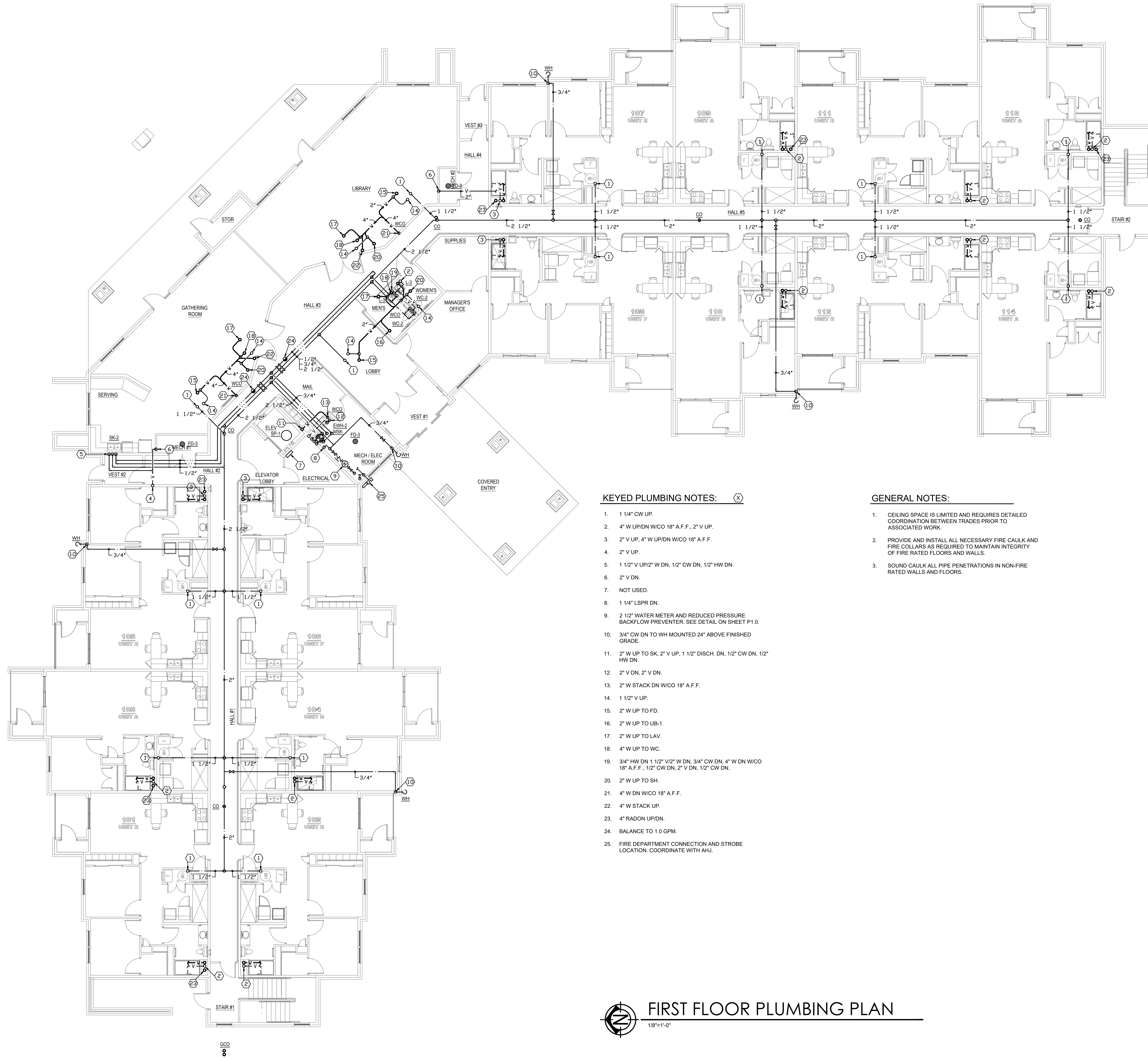
1/8"=1'-0"

NOT DISCLOSED

Project Number: 2017
Drawn by: ANW
Checked by: RDH
Sheet Name:
UNDERFLOOR PLUMBING
PLAN

P1.0

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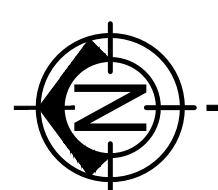


KEYED PLUMBING NOTES: (X)

- 1 1/4" CW UP.
- 4" W UP/DN WICO 18" A.F.F., 2" V UP.
- 2" V UP, 4" W UP/DN WICO 18" A.F.F.
- 2" V UP.
- 1 1/2" V UP/2" W DN, 1/2" CW DN, 1/2" HW DN.
- 2" V DN.
- NOT USED.
- 1 1/4" LSPR DN.
- 2 1/2" WATER METER AND REDUCED PRESSURE BACKFLOW PREVENTER. SEE DETAIL ON SHEET P1.0.
- 3/4" CW DN TO WH MOUNTED 24" ABOVE FINISHED GRADE.
- 2" W UP TO SK, 2" V UP, 1 1/2" DISCH. DN, 1/2" CW DN, 1/2" HW DN.
- 2" V DN, 2" V DN.
- 2" W STACK DN WICO 18" A.F.F.
- 1 1/2" V UP.
- 2" W UP TO FD.
- 2" W UP TO UB-1.
- 2" W UP TO LAV.
- 4" W UP TO WC.
- 3/4" HW DN 1 1/2" V/2" W DN, 3/4" CW DN, 4" W DN WICO 18" A.F.F., 1/2" CW DN, 2" V DN, 1/2" CW DN.
- 2" W UP TO SH.
- 4" W DN WICO 18" A.F.F.
- 4" W STACK UP.
- 4" RADON UP/DN.
- BALANCE TO 1.0 GPM.
- FIRE DEPARTMENT CONNECTION AND STROBE LOCATION. COORDINATE WITH AHJ.

GENERAL NOTES:

- CEILING SPACE IS LIMITED AND REQUIRES DETAILED COORDINATION BETWEEN TRADES PRIOR TO ASSOCIATED WORK.
- PROVIDE AND INSTALL ALL NECESSARY FIRE CAULK AND FIRE COLLARS AS REQUIRED TO MAINTAIN INTEGRITY OF FIRE RATED FLOORS AND WALLS.
- SOUND CAULK ALL PIPE PENETRATIONS IN NON-FIRE RATED WALLS AND FLOORS.



FIRST FLOOR PLUMBING PLAN

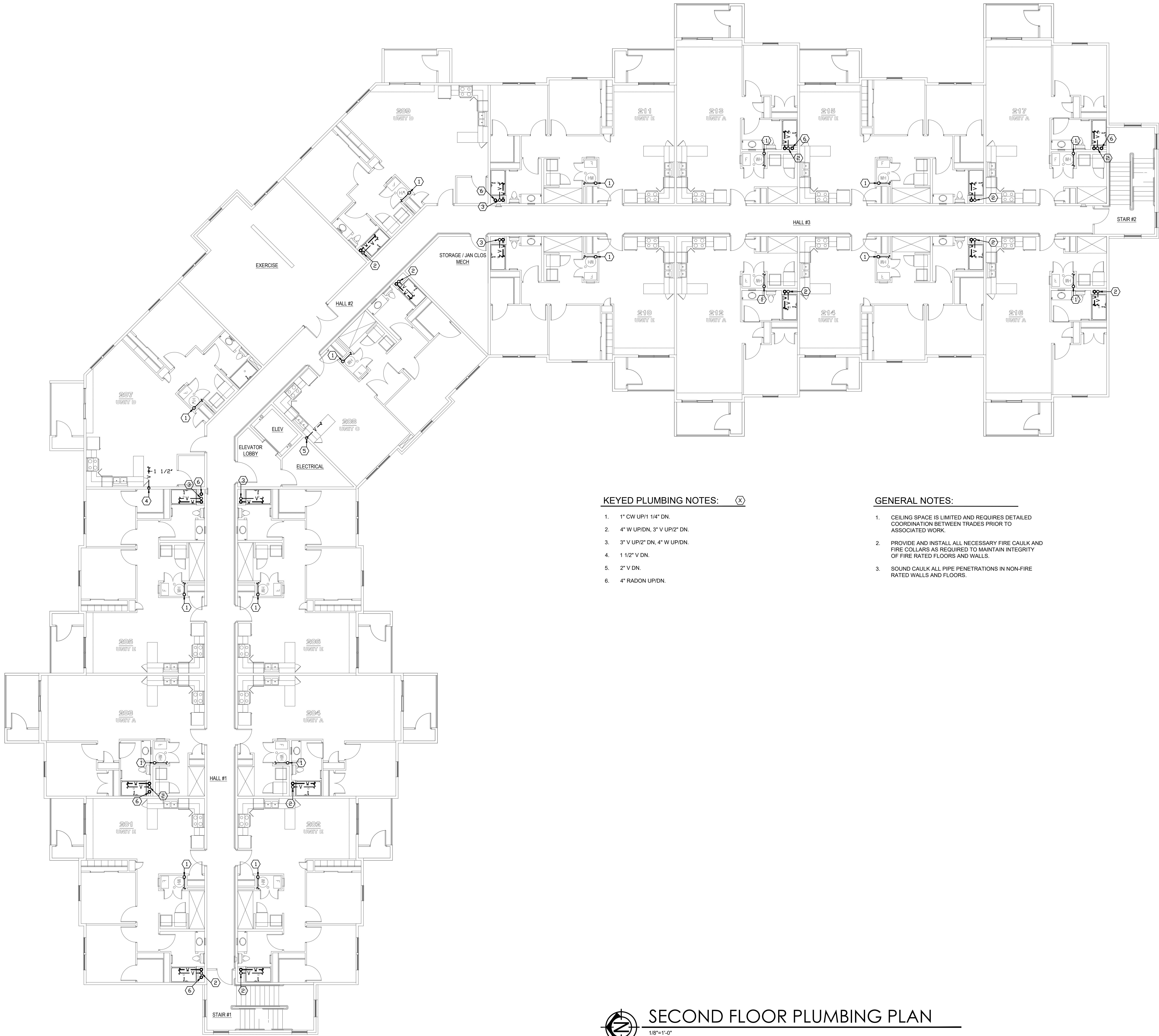
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Project Number: 2017
Drawn by: ANW
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Sheet Name:
FIRST FLOOR PLUMBING
PLAN

P1.1

11-18-04 P1.X COMBINED PLUMBING.dwg | 8/15/2018 | 12:01 PM



KEYED PLUMBING NOTES: (X)

1. 1" CW UP/1 1/4" DN.
2. 4" W UP/DN, 3" V UP/2" DN.
3. 3" V UP/2" DN, 4" W UP/DN.
4. 1 1/2" V DN.
5. 2" V DN.
6. 4" RADON UP/DN.

GENERAL NOTES:

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3. SOUND CAULK ALL PIPE PENETRATIONS IN NON-FIRE RATED WALLS AND FLOORS.



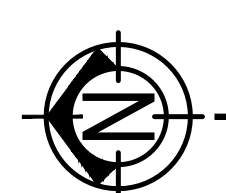
SECOND FLOOR PLUMBING PLAN

1/8"=1'-0"

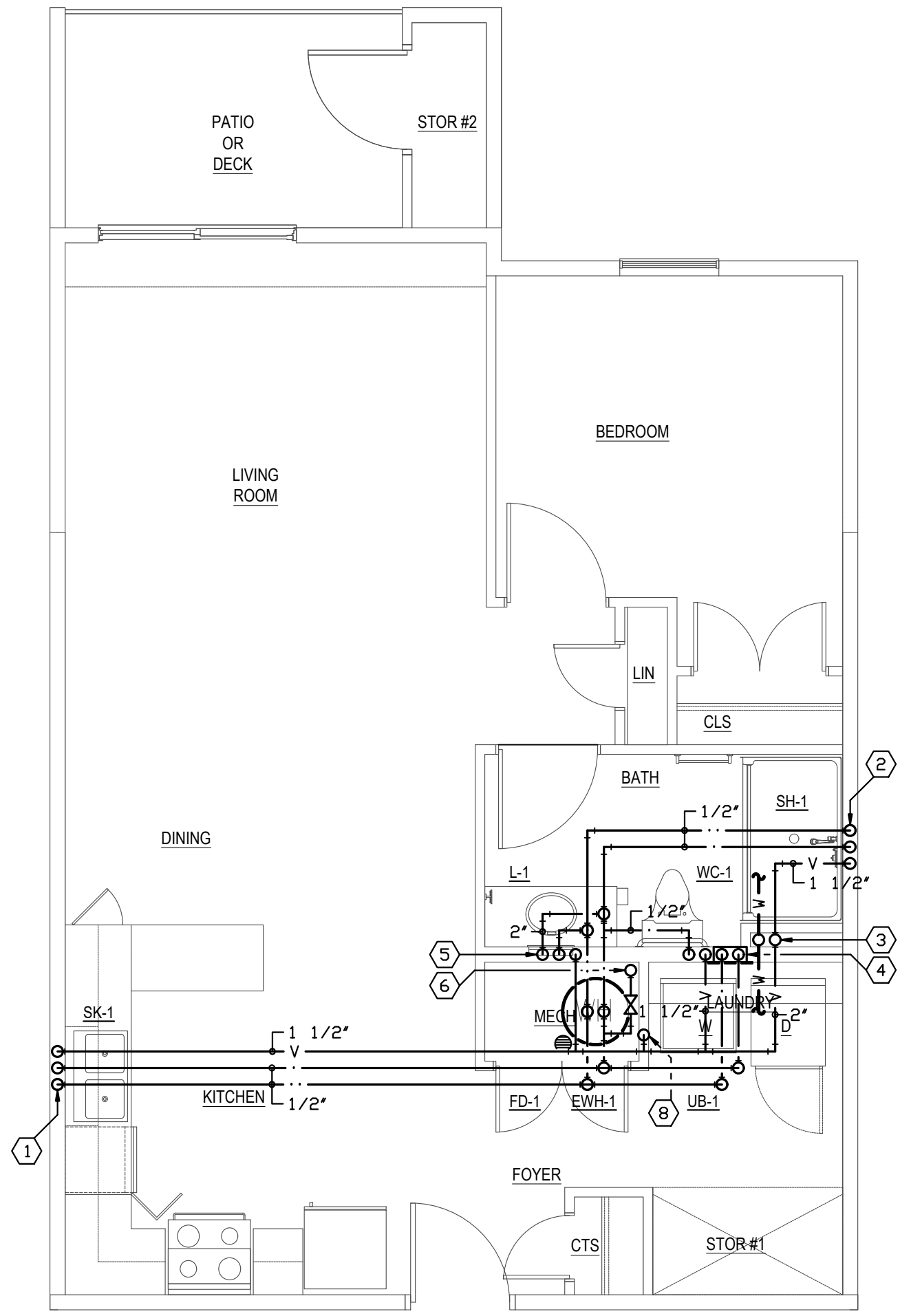
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Drawn by: ANW
Checked by: RDH
Sheet Name:
SECOND FLOOR PLUMBING
PLAN

P1.2

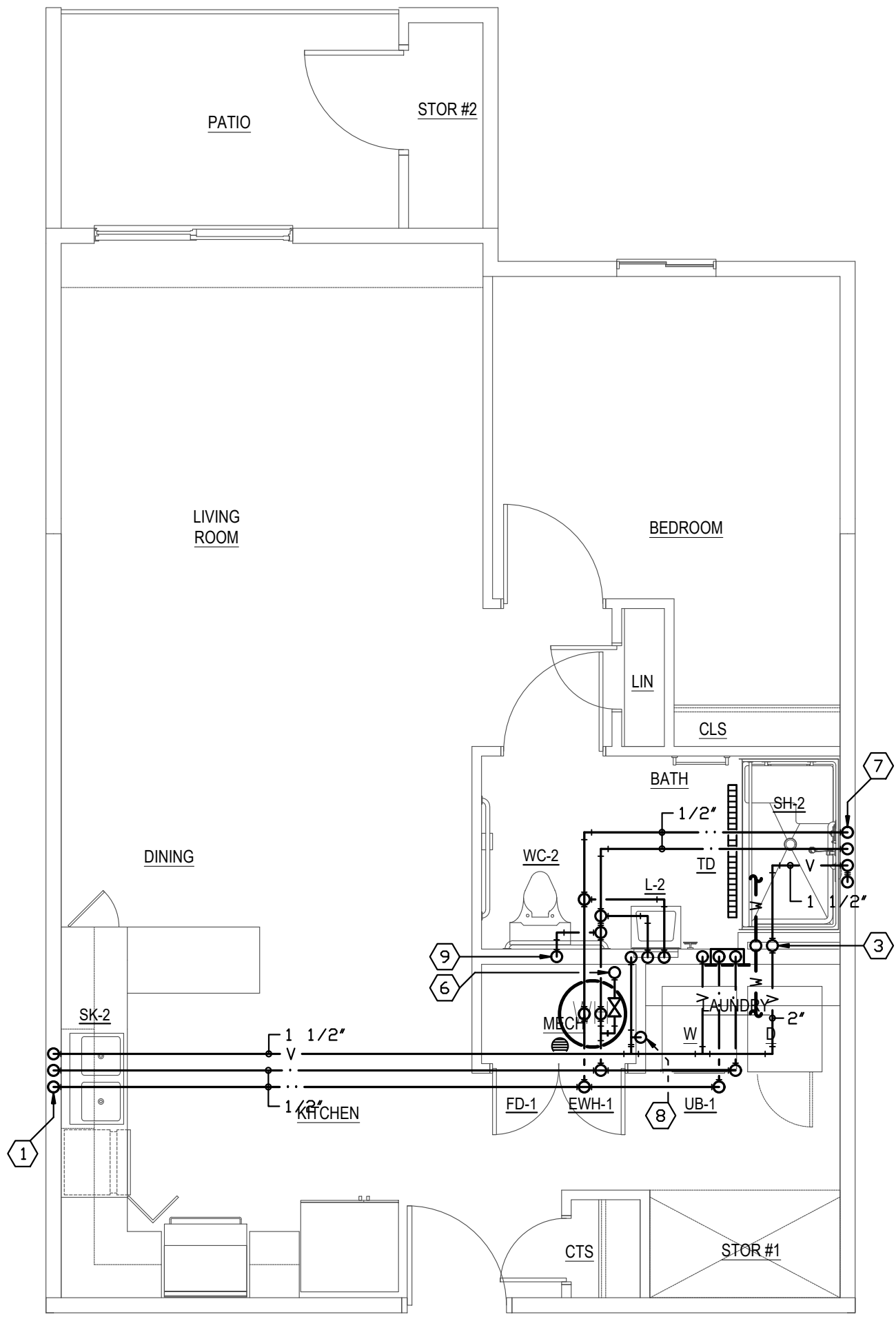
 $1/8"=1'$

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3. SOUND CAULK ALL PIPE PENETRATIONS IN NON-FIRE RATED WALLS AND FLOORS.



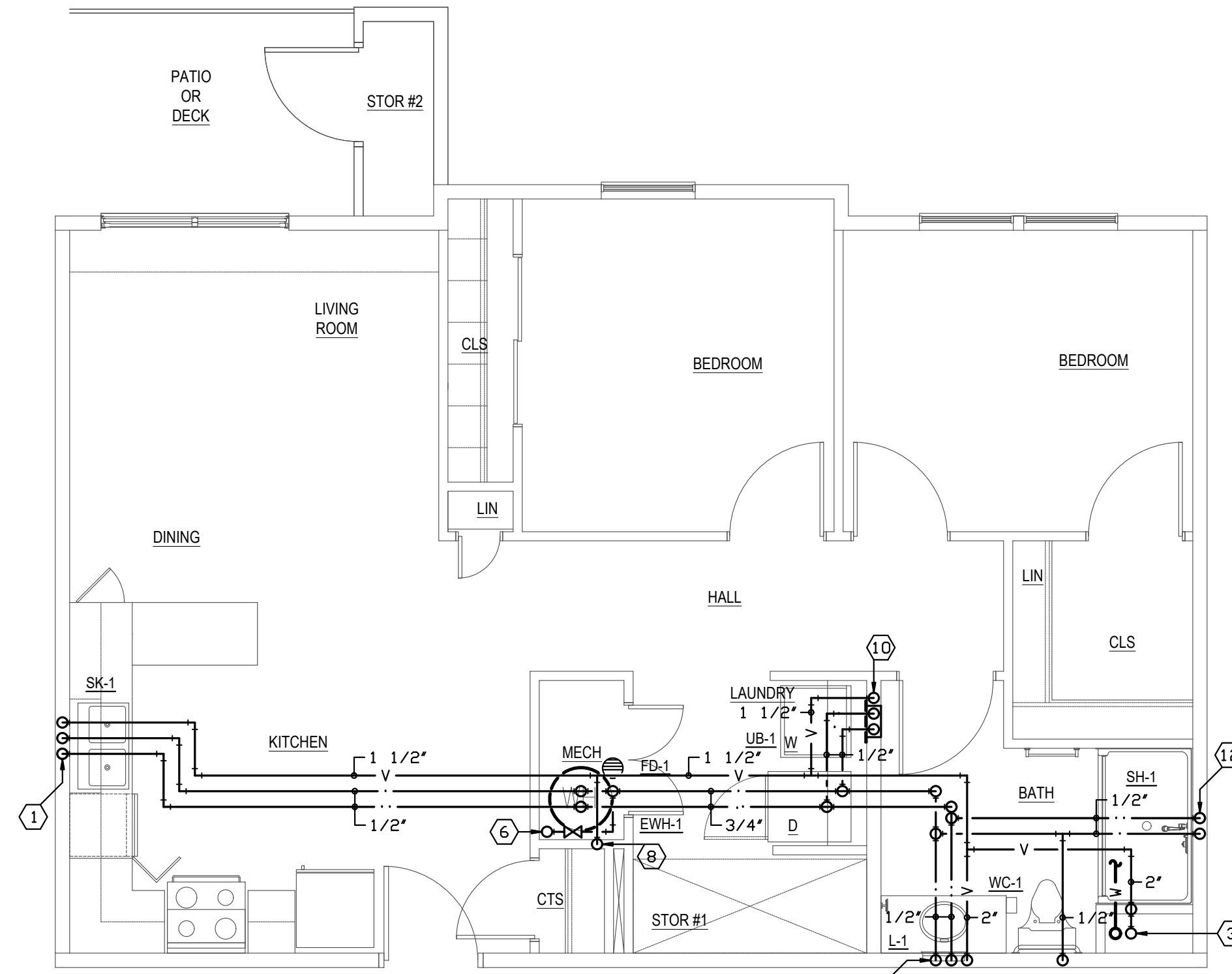
1 BEDROOM UNIT PLAN - UNIT A

1/4"=1'-0"
UNITS: 103, 109, 113, 114
203, 204, 212, 213, 216, 217
303, 304, 312, 313, 316, 317



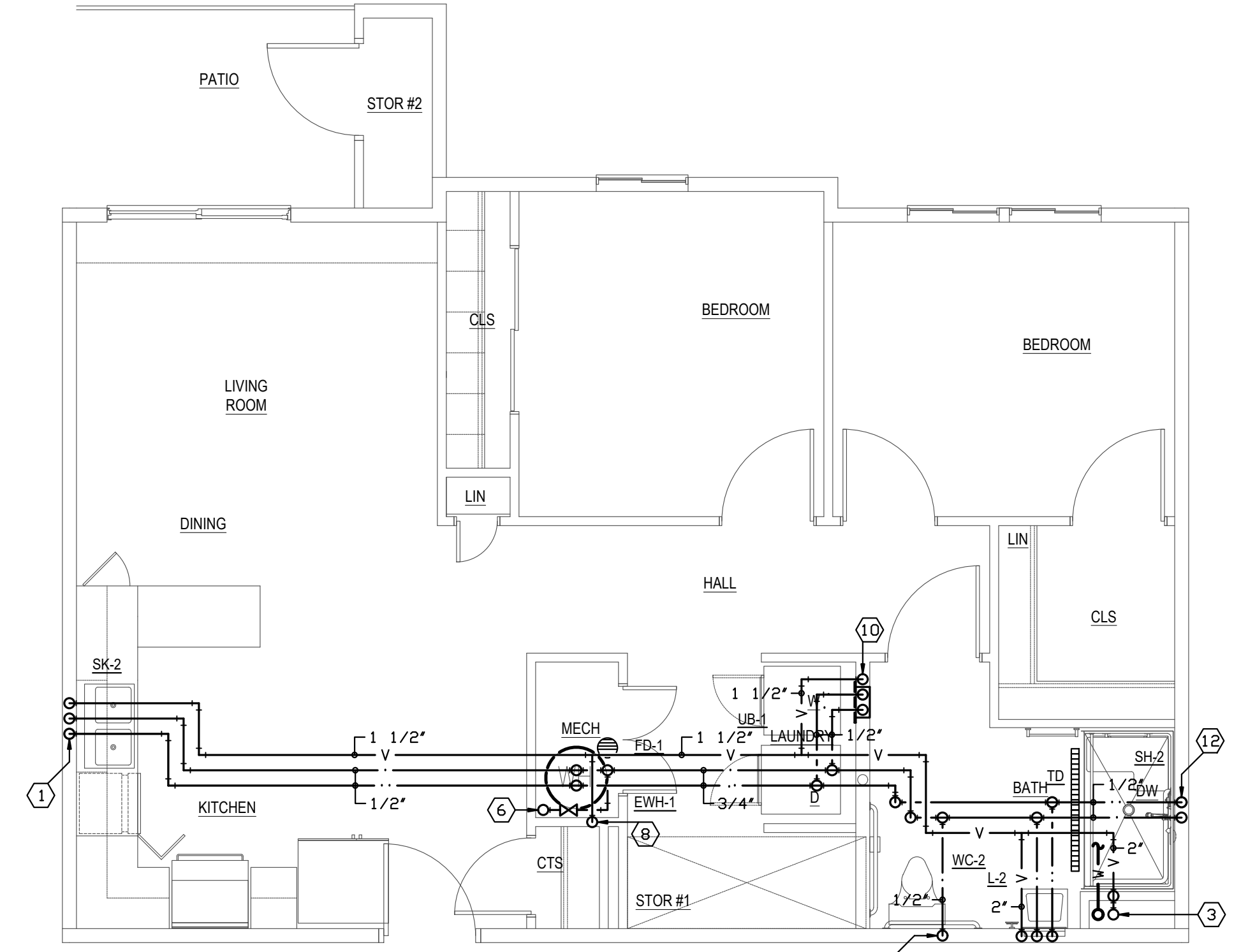
1 BEDROOM HANDICAP UNIT PLAN - UNIT B

1/4"=1'-0"
UNITS: 104, 110



2 BEDROOM UNIT PLAN - UNIT E

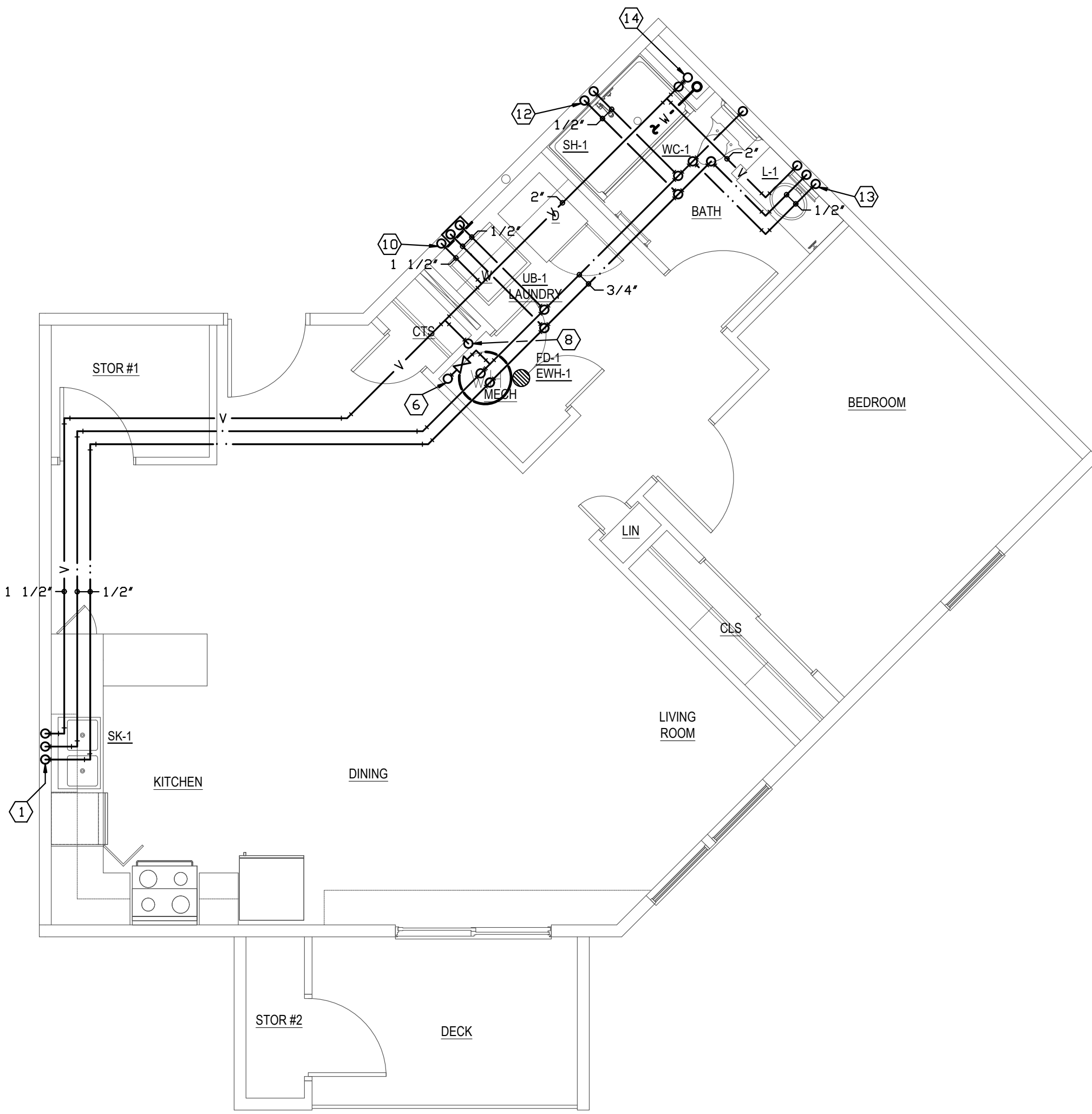
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UNITS: 101, 102, 105, 107, 111, 112
201, 202, 205, 206, 211, 212, 214, 215
301, 302, 305, 306, 311, 312, 314, 315



2 BEDROOM HANICAP UNIT PLAN - UNIT F

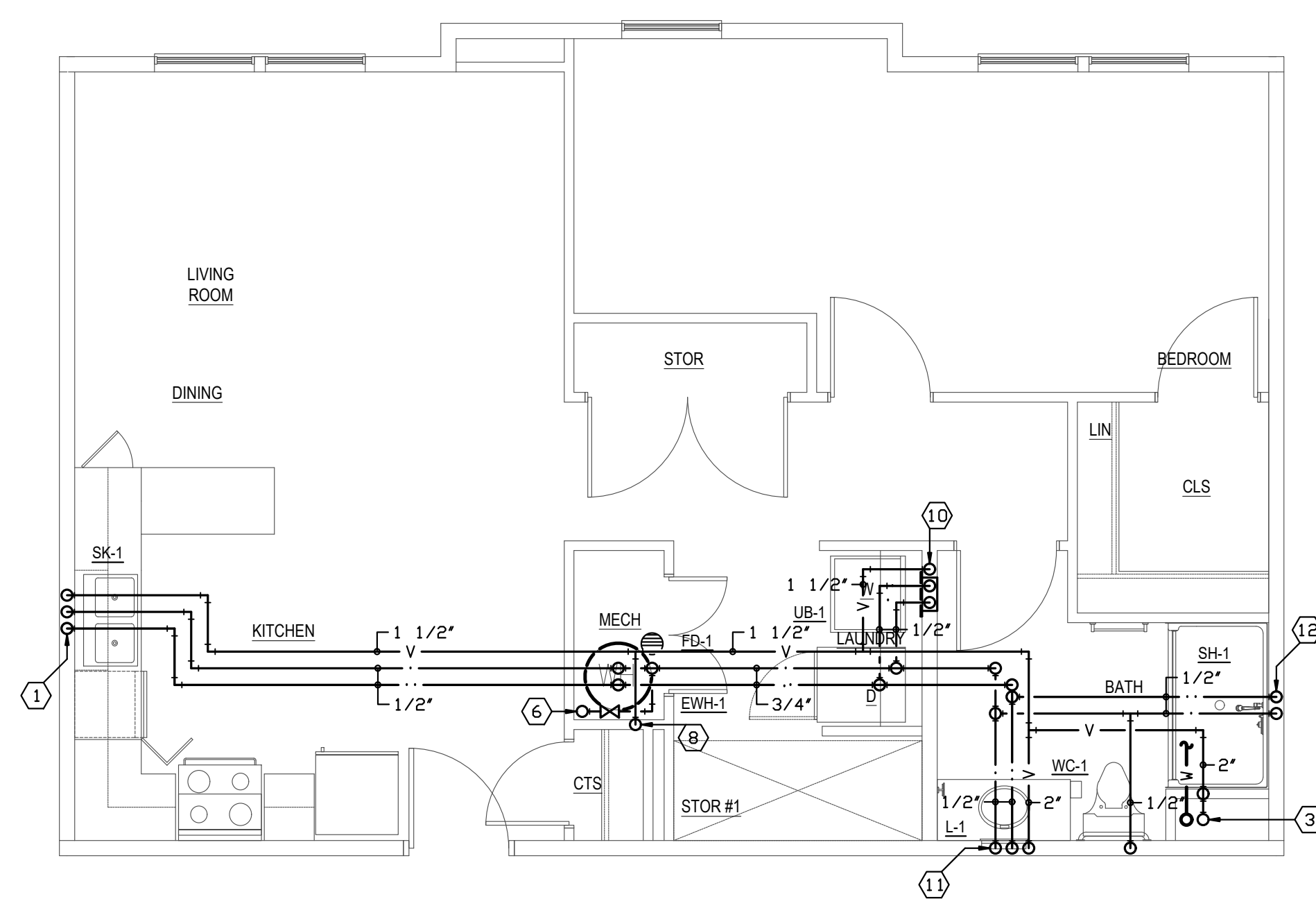
1/4"=1'-0"
UNITS: 106, 108

DO NOT ROUTE DOMESTIC WATER PIPING IN ATTIC SPACE.
THIRD FLOOR PIPING SHALL BE ROUTED IN SECOND FLOOR
CEILING SPACE. THIRD FLOOR ROOMS SHALL BE PIPED
INDEPENDENTLY WITH THEIR OWN SEPARATION VALVE.



1 BEDROOM UNIT PLAN - UNIT D

1/4"=1'-0"
UNITS: 207, 209, 307, 309



1 BEDROOM UNIT PLAN - UNIT C

1/4"=1'-0"
UNITS: 208, 308

KEYED PLUMBING NOTES: (X)

- 1 1/2" V/2" W DN, 1/2" CW DN, 1/2" HW DN.
- 1/2" HW DN, 1/2" CW DN, 1 1/2" V DN.
- 4" W UP/DN, 3" V UP/2" DN.
- 1/2" CW DN, 1 1/2" V/2" W DN, 1/2" HW DN, 1/2" CW DN.
- 1/2" CW DN, 1/2" HW DN, 2" VW DN. (WET VENT FOR WC).
- 1" CW UP/1 1/4" DN.
- 1/2" HW DN, 1/2" CW DN, 1 1/2" V DN, 1 1/2" V DN.
- 1 1/2" V DN.
- 1/2" CW DN, 2" VW DN (WET VENT FOR WC), 1/2" CW DN, 1/2" HW DN, 1 1/2" V DN, 1/2" HW DN, 1/2" CW DN.
- 1 1/2" V/2" W DN, 1/2" HW DN, 1/2" CW DN.
- 1/2" CW DN, 1/2" HW DN, 2" VW DN. (WET VENT FOR WC), 1/2" CW DN.
- 1/2" HW DN, 1/2" CW DN.
- 1/2" CW DN, 2" VW DN (WET VENT FOR WC), 1/2" HW DN, 1/2" CW DN.
- 3" V UP/2" DN, 4" W UP/DN.

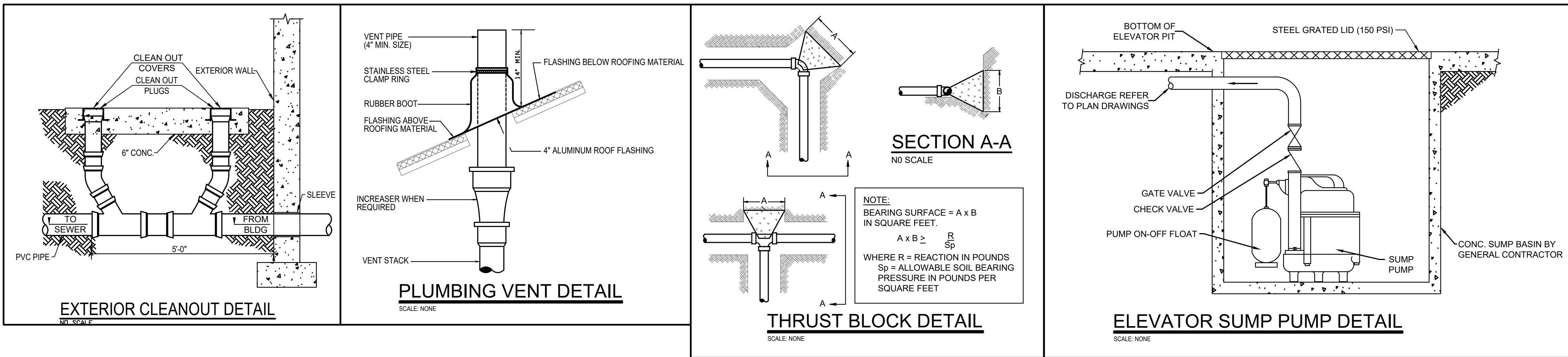
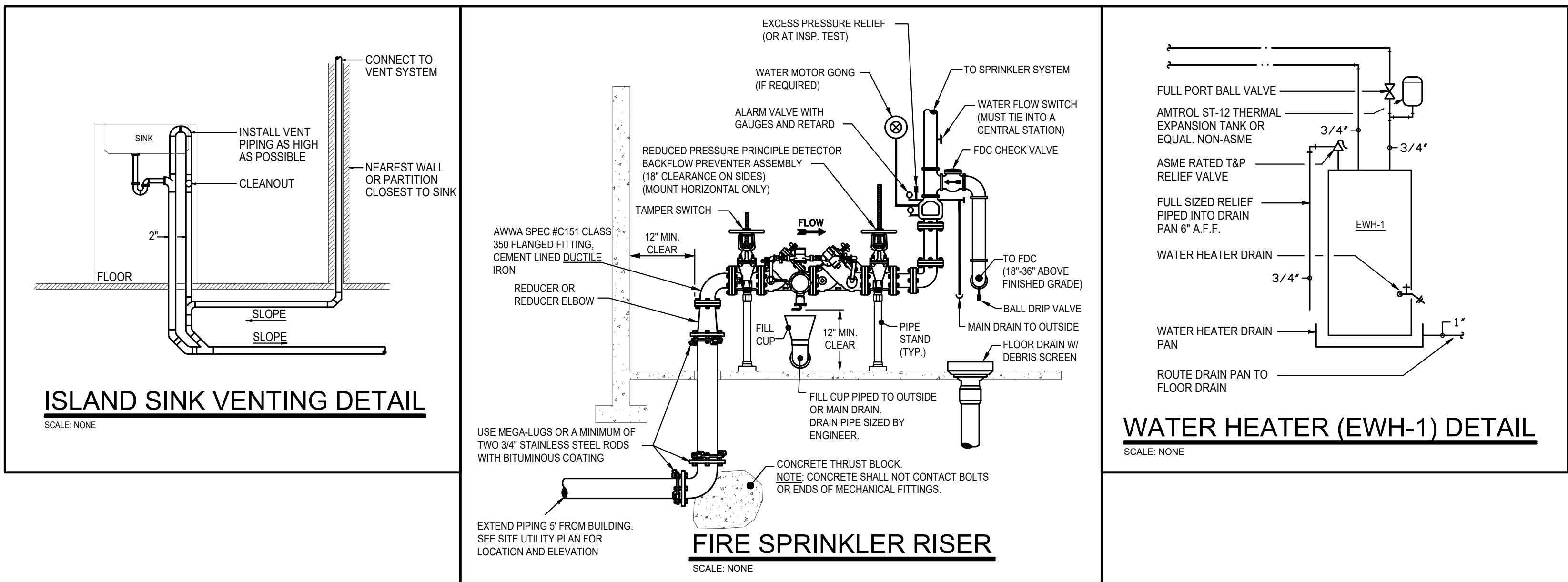
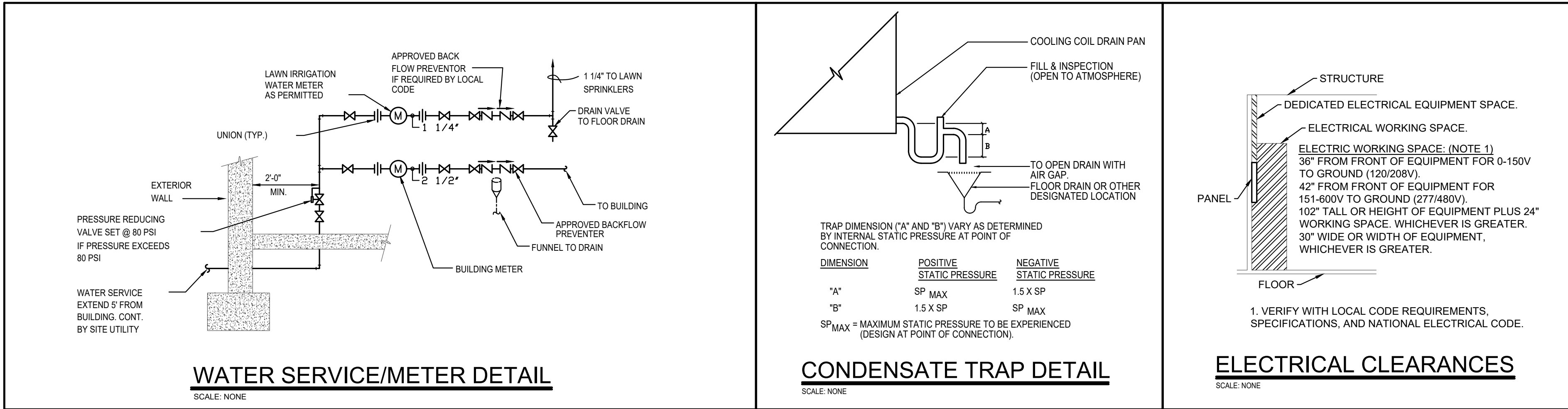
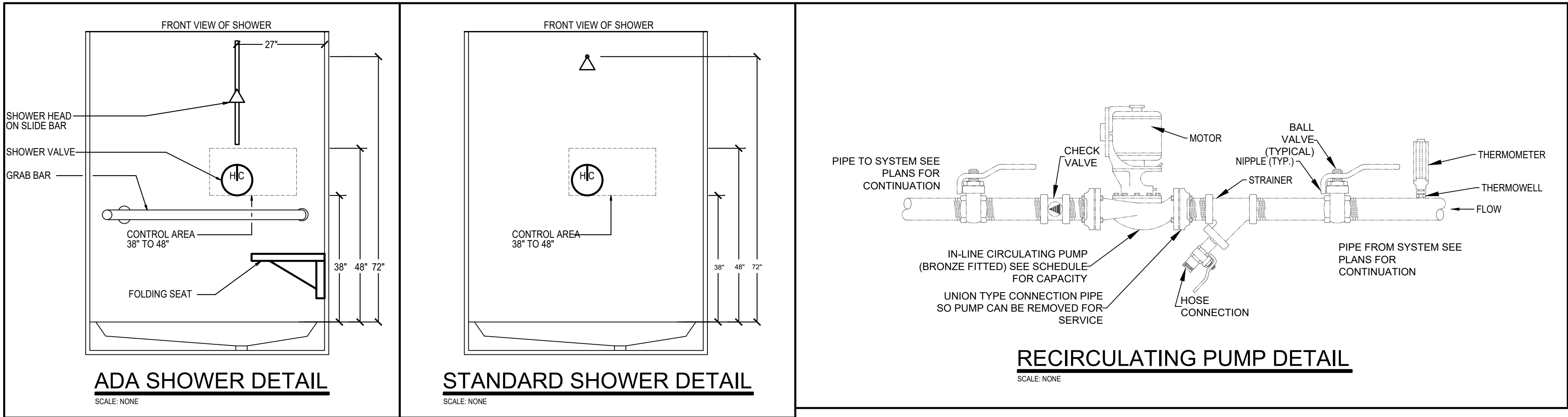
GENERAL NOTES:

1. CEILING SPACE IS LIMITED AND REQUIRES DETAILED COORDINATION BETWEEN TRADES PRIOR TO ASSOCIATED WORK.
2. PROVIDE AND INSTALL ALL NECESSARY FIRE CAULK AND FIRE COLLARS AS REQUIRED TO MAINTAIN INTEGRITY OF FIRE RATED FLOORS AND WALLS.
3. SOUND CAULK ALL PIPE PENETRATIONS IN NON-FIRE RATED WALLS AND FLOORS.

NOT DISCLOSED

Project Number: 2017
Drawn by: ANW
Checked by: RDH
Sheet Name:
TYPICAL ROOM PLUMBING
PLANS

P1.4



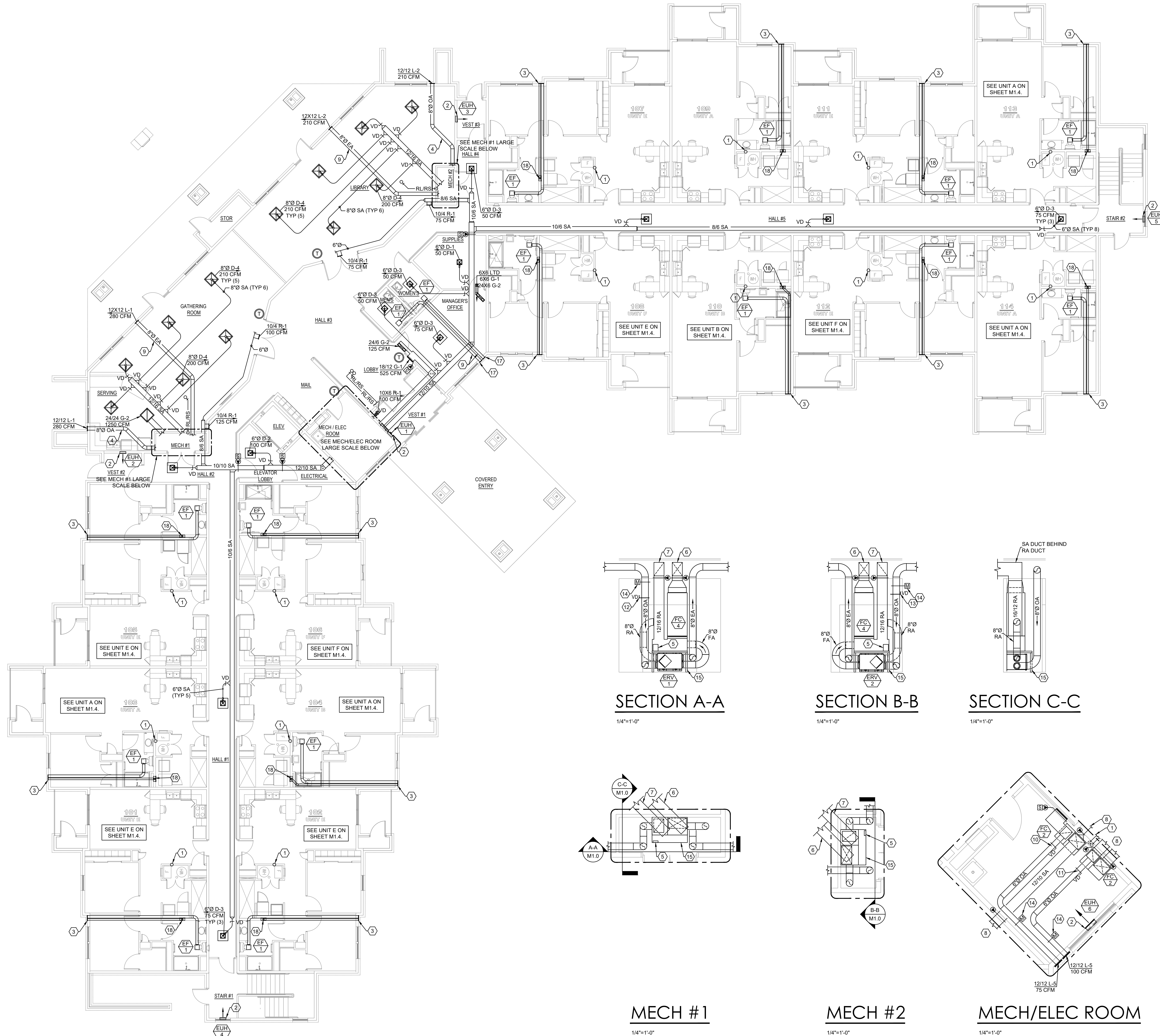
PLUMBING FIXTURE SCHEDULE							
FIXTURE SYMBOL	TYPE	MANUFACTURER	MODEL NO.	TRIM	SUPPLIES	WASTE	REMARKS
WC-1	WATER CLOSET FLUSH TANK FLOOR MOUNT - ADA	MANSFIELD	137-161 ALTO SERIES	---	BRASSCRAFT KTCR19 STOPS 649 ESCUTEON	--	CHURCH SEAT MODEL 380SLCWT TRIP LEVER TO WIDE SIDE OF STALL
WC-2	WATER CLOSET FLUSH TANK FLOOR MOUNT - ADA	MANSFIELD	137-161 ALTO SERIES	---	BRASSCRAFT KTCR19 STOPS 649 ESCUTEON	--	CHURCH SEAT MODEL 9400CT TRIP LEVER TO WIDE SIDE OF STALL
L-1	LAVATORY DROP IN CHINA	MANSFIELD	249-4 MAVERICK SERIES	MCEN L4621 FAUCET	BRASSCRAFT KTCR19 STOPS S1-20 SUPPLIES 649 ESCUTEONS	METAL POP UP ASSEMBLY (INC. W/ FAUCET), 1 1/2" BRASS P-TRAP	P-TRAP SHALL BE 17 GA. FRONT OVERFLOW
L-2	LAVATORY WALL HUNG CHINA - ADA	MANSFIELD	2008-4 WALNUT KNOLL SERIES	MCEN L4621 FAUCET	BRASSCRAFT KTCR19 STOPS S1-20 SUPPLIES 649 ESCUTEONS	METAL POP UP ASSEMBLY, 1 1/2" BRASS P-TRAP	P-TRAP SHALL BE 17 GA. TRUBERO TRAP WRAP ASSEMBLY
L-3	LAVATORY WALL HUNG - ADA	MANSFIELD	2008-4 WALNUT KNOLL SERIES	MCEN L4621 FAUCET FAUCET W/PLUGGED DRAIN HOLE & GRID DRAIN	BRASSCRAFT KTCR19 STOPS S1-20 SUPPLIES 649 ESCUTEONS	METAL GRID DRAIN ASSEMBLY, OFFSET WASTE, 1 1/2" BRASS P-TRAP	P-TRAP SHALL BE 17 GA. TRUBERO TRAP WRAP ASSEMBLY
SK-1	SINK - STAINLESS STEEL 2-COMPARTMENT	DAYTON	DSE2321 4-HOLE	MCEN 7430 BADGER 5 DISPOSAL	BRASSCRAFT KTCR19 STOPS S1-20 SUPPLIES 649 ESCUTEONS	CUP STYLE BASKET STRAINER, DISPOSAL WASTE, 1 1/2" BRASS P-TRAP	P-TRAP SHALL BE 17 GA. DISPOSAL ASSEMBLY - ISE BADGER 5XP DISPOSAL OR EQUAL. DISHWASHER CONN. LOOP DISHWASHER DRAIN AS HIGH AS POS.
SK-2	SINK - STAINLESS STEEL 2-COMPARTMENT - ADA	DAYTON	D2321 4-HOLE	MCEN 7430 BADGER 5 DISPOSAL	BRASSCRAFT KTCR19 STOPS S1-20 SUPPLIES 649 ESCUTEONS	CUP STYLE BASKET STRAINER, DISPOSAL WASTE, 1 1/2" BRASS P-TRAP	P-TRAP SHALL BE 17 GA. DISPOSAL ASSEMBLY - ISE BADGER 5XP DISPOSAL OR EQUAL. DISHWASHER CONN. LOOP DISHWASHER DRAIN AS HIGH AS POS.
SH-1	SHOWER	HAMILTON BATHWARE	G 6233 IBS	MCEN L2353 SHOWER VALVE & TRIM KIT	---	2" SHOWER DRAIN ASSEMBLY	INCLUDE OPTIONAL GRAB BAR BACKING INCLUDE FACTORY INSTALLED GRAB BARS
SH-2	SHOWER - ADA	HAMILTON BATHWARE	G 6233 IBS	MCEN 8342 ADA 3 FUNCTION SHOWER SYSTEM	---	2" SHOWER DRAIN ASSEMBLY; TRENCH DRAIN OUTSIDE OF SHOWER	INCLUDE OPTIONAL FACTORY STAINLESS STEEL GRAB BARS. FOLD UP SEAT. FLEXIBLE DRAIN REMOVABLE THRESHOLD AND HAND- HELD SHOWER/FAUCET MIXING VALVE ASSY.
UB-1	LAUNDRY BOX	GUY GRAY	FR-12	FIRE RATED BOX	---	---	SINGLE LEVER WHAMMER ARRESTORS
WH	WALL HYDRANT	WOODFORD	MODEL 67	---	---	---	INTEGRAL VACUUM BREAKER LOOSE KEYS OPERATOR COORDINATE LENGTH W/ WALL DEPTH
FD-1	FLOOR DRAIN	SIoux CHIEF	822-MR HALO SERIES	---	---	---	NICKEL BRONZE ROUND STRAINER PROVIDE LEVELING SHIMS AS NECESSARY
FD-2	FLOOR DRAIN	SIoux CHIEF	832-NR SERIES	---	---	---	NICKEL BRONZE ROUND STRAINER PROVIDE LEVELING SHIMS AS NECESSARY
FD-3	FLOOR DRAIN	SIoux CHIEF	860-4PI SERIES	---	---	---	CAST IRON ROUND STRAINER
FCO	FLOOR CLEANOUT	SIoux CHIEF	834-NR SERIES	---	---	---	NICKEL BRONZE ROUND COVER PROVIDE LEVELING SHIMS AS NECESSARY
FSK	FLOOR SINK	SIoux CHIEF	860-293 SERIES	---	---	---	NICKEL BRONZE 1/2 GRATE
GCO	GRADE CLEANOUT	SIoux CHIEF	851-241 SERIES	---	---	---	CAST IRON ROUND COVER
WCO	WALL CLEANOUT	SIoux CHIEF	873 SERIES	---	---	---	BRASS PLUG, 6" COVER
HB	HOSE BIBB	WOODFORD	101P	---	---	---	INTEGRAL VACUUM BREAKER
TD	TRENCH DRAIN	ZURN	ZS880-48-2S	---	---	2" WASTE CONNECTION	STAINLESS STEEL SLOTTED GRATE DECK CLAMPING MEMBRANE COLLAR
REMARKS: 1. ALL FIXTURES INCLUDING FAUCET TRIM SHALL BE CAULKED. TOILETS AND OTHER FIXTURES ON TILE SHALL BE CAULKED W/CLEAR CAULK. 2. FIXTURES SHALL BE INSTALLED AS RECOMMENDED BY MANUFACTURER INCLUDING MORTAR BEDS FOR SOAKING TUBS, BATHTUBS AND SHOWERS IF RECOMMENDED. 3. COORDINATE FLOORING/THRESHOLD HEIGHT REQUIREMENTS FOR ADA SHOWERS WITH GENERAL CONTRACTOR PRIOR TO ASSOCIATED WORK. 4. SHOWER DRAINS SHALL BE INSTALLED WITH 100% SILICONE. COMPRESSION STYLE SHOWER DRAIN ASSEMBLIES ARE NOT ACCEPTABLE FOR THIS PROJECT. 5. THE INTEGRITY OF THE FIRE RATED WALLS AND CEILINGS SHALL BE MAINTAINED AT ALL TIMES. THIS CONTRACTOR IS RESPONSIBLE FOR FIRE CAULKING/SEALING/SOUND CAULKING AS REQUIRED TO COMPLETE THEIR SCOPE OF WORK. 6. FLOOR DRAINS SHALL HAVE A PROTECTIVE WATER-PROOF SEAL AROUND THE DRAIN TO PREVENT FLUIDS FROM LEAKING FROM UPPER LEVEL INTO THE UNIT BELOW. COORDINATE WITH FLOORING CONTRACTOR PRIOR TO ASSOCIATED WORK. 7. THE FIXTURE STOPS AND SUPPLIES LISTED ABOVE SHALL BE CHROME 1/4 TURN BALL STYLE STOPS WITH CHROME METAL ESCUTEONS TRIM RINGS (CAULKED TO WALL) AND FLEXIBLE BRAIDED STAINLESS STEEL SUPPLY TUBES OF APPROPRIATE LENGTH TO SERVE FIXTURE. 8. INSTALL ALL ADA FIXTURES PER MFG RECOMMENDED HEIGHTS AND LOCATIONS. 9. FD-1 SIoux CHIEF HALO FLOOR DRAINS SHALL BE USED ON ALL 2ND AND 3RD FLOOR LOCATIONS.							

WATER HEATER SCHEDULE										
UNIT NO.	MFG.	MODEL NO.	CAPACITY GALLONS	INPUT WATTS	OPER EFF (%)	FIRST HOUR RATING GPH	RECOVERY @ 90° RISE	ELECTRICAL V/PH	FLA (LBS)	SHIP. WT. (LBS)
EWH-1	A.O. SMITH	ENT-50	50	4500	100	62	21	208/1	21.6	125
EWH-2	A.O. SMITH	ENJ-30 LOWBOY	26	4500	100	43	21	208/1	21.6	125
REMARKS: 1. ASME T&P RELIEF VALVE 2. WATER HEATING SYSTEM SHALL HAVE AN AMTROL ST-12 OR EQUAL NON-ASME THERMAL EXPANSION TANK. VERIFY EXPANSION TANK AIR PRESSURE IS EQUAL TO INCOMING WATER PRESSURE. 3. WATER HEATING SYSTEM SHALL HAVE AN AMTROL ST-12 OR EQUAL NON-ASME THERMAL EXPANSION TANK. VERIFY EXPANSION TANK AIR PRESSURE IS EQUAL TO INCOMING WATER PRESSURE. 4. INSTALL WATER HEATER IN AN ALUMINUM DRAIN PAN. ROUTE DRAIN PAN OUTLET TO FLOOR DRAIN. 5. UNIT SHALL BE MOUNTED ABOVE MOP SINK ON A HOLDRITE MODEL 30-SVHP-WN WALL MOUNT PLATFORM OR EQUAL. ROUTE PLATFORM DRAIN AND T&P RELIEF VALVE DOWN TO MOP SINK.										

PUMP SCHEDULE													
PUMP NO.	MANUFACTURER	MODEL NO.	DESCRIPTION	STYLE	SIZE	MIN. TEMP. (°F)	FLUID TEMP. (°F)	HEAD (FT)	GPM	MOTOR HP	BHP	ELEC. VOLTS	PH
P-1	TACO	006-PNP	RECIRC	INLINE	---	110°	2	7	140	---	---	120	1
SP-1	ZOELLER	940-0012	SUMP PUMP	SUMP	---	N/A	50	15	4/10	---	---	120	1
REMARKS: 1. PROVIDE WITH AQUASTAT. 2. PROVIDE WITH PLUG AND CORD. 3. PROVIDE WITH INTEGRAL TIME CLOCK. 4. PROVIDE ZOELLER CHECK VALVE FOR PUMP DISCHARGE PIPING. 5. PROVIDE WITH ZOELLER OIL MINDER CONTROL SYSTEM WITH BUILT-IN AUDIBLE AND VISUAL ALARM. PROVIDE SILENCING BUTTON FOR AUDIBLE ALARM BUILT INTO PANEL. PANEL SHALL HAVE ADDITIONAL CONTACT FOR REMOTE ALARM. 6. PROVIDE WITH OIL MINDER POWER CABLE. PROBE CABLE AND HIGH LIQUID ALARM CABLE LENGTH AS REQUIRED IN CONDUIT FOR PUMP. 7. PROVIDE WITH WATERTIGHT SLEEVE FOR PUMP. 8. PROVIDE WITH HIGH LIQUID ALARM FLOAT WITH CLAMP DEVICE FOR PUMP.													

NOT DISCLOSED

11-18-04 M1.X COMBINED MECHANICAL.dwg | 8/15/2016 | 12:02 PM



FIRST FLOOR MECHANICAL PLAN

1/8"=1'-0"

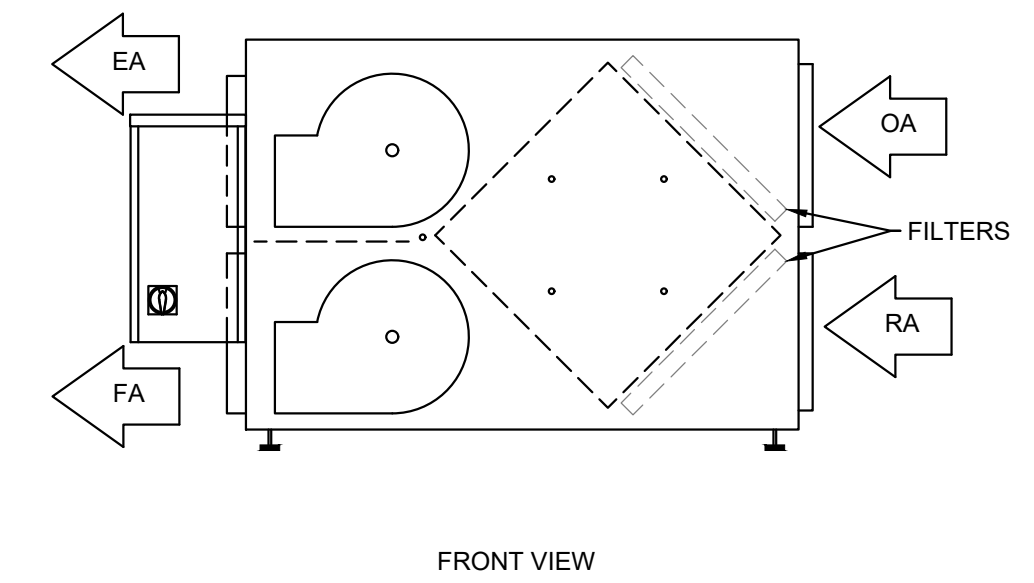
KEYED MECHANICAL NOTES: (X)

- R/RS LINES FROM AIR HANDLER TO MATCHED HEAT PUMP ON ROOF.
- MOUNT UNIT HEATER IN WALL. COORDINATE ELEVATION AND LOCATION WITH ARCHITECTURAL.
- ROUTE 6" RESTROOM EXHAUST AND 4" DRYER EXHAUST OUT THROUGH BRICK VENT SIMILAR TO XVENT BOX DHEB-S. PAINT VENT TO MATCH ADJACENT MATERIAL. INSULATE RESTROOM EXHAUST DUCT WITH 2" FOIL-FACED FIBERGLASS INSULATION WITHIN 10'-0" OF EXTERIOR WALL. INSULATE DRYER EXHAUST DUCT WITH 2" FOIL-FACED FIBERGLASS INSULATION WITHIN 10'-0" OF EXTERIOR WALL.
- INSULATE OUTDOOR AIR DUCT WITH 2" FOIL-FACED FIBERGLASS INSULATION.
- ERV TIME CLOCK. MOUNT ON ANGLE IRON PLATFORM IN FRONT OF THE RETURN DUCTWORK.
- 12/16 SA IN JOIST SPACE.
- 12/16 RA IN JOIST SPACE.
- SEE FULL PLAN ABOVE FOR CONTINUATION.
- INSULATE EXHAUST AIR DUCT WITH 2" FOIL-FACED FIBERGLASS INSULATION WITHIN 10'-0" OF EXTERIOR WALL.
- BALANCE OA TO 75 CFM.
- BALANCE OA TO 100 CFM.
- BALANCE OA TO 280.
- BALANCE OA TO 210.
- LOW VOLTAGE MOTORIZED DAMPER. INTERLOCK DAMPER WITH ASSOCIATED FAN COIL UNIT. WHEN FAN COIL IS ENERGIZED THE DAMPER SHALL BE OPEN. WHEN FAN COIL IS DE-ENERGIZED, THE DAMPER SHALL CLOSE.
- 1-1/2" x 1-1/2" x 1/8" ANGLE IRON FRAME.
- NOT USED.
- ROUTE 6" RESTROOM EXHAUST OUT THROUGH BRICK VENT SIMILAR TO XVENT BOX 6SEB-BR. PAINT VENT TO MATCH ADJACENT MATERIAL. INSULATE EXHAUST DUCT WITH 2" FOIL-FACED FIBERGLASS INSULATION WITHIN 10'-0" OF EXTERIOR WALL.
- 4" DRYER EXHAUST DN TO DRYERBOX MODEL 425 DRYER BOX OR EQUIVALENT. SEE DETAIL 9 ON SHEET M2.0.

GENERAL NOTES:

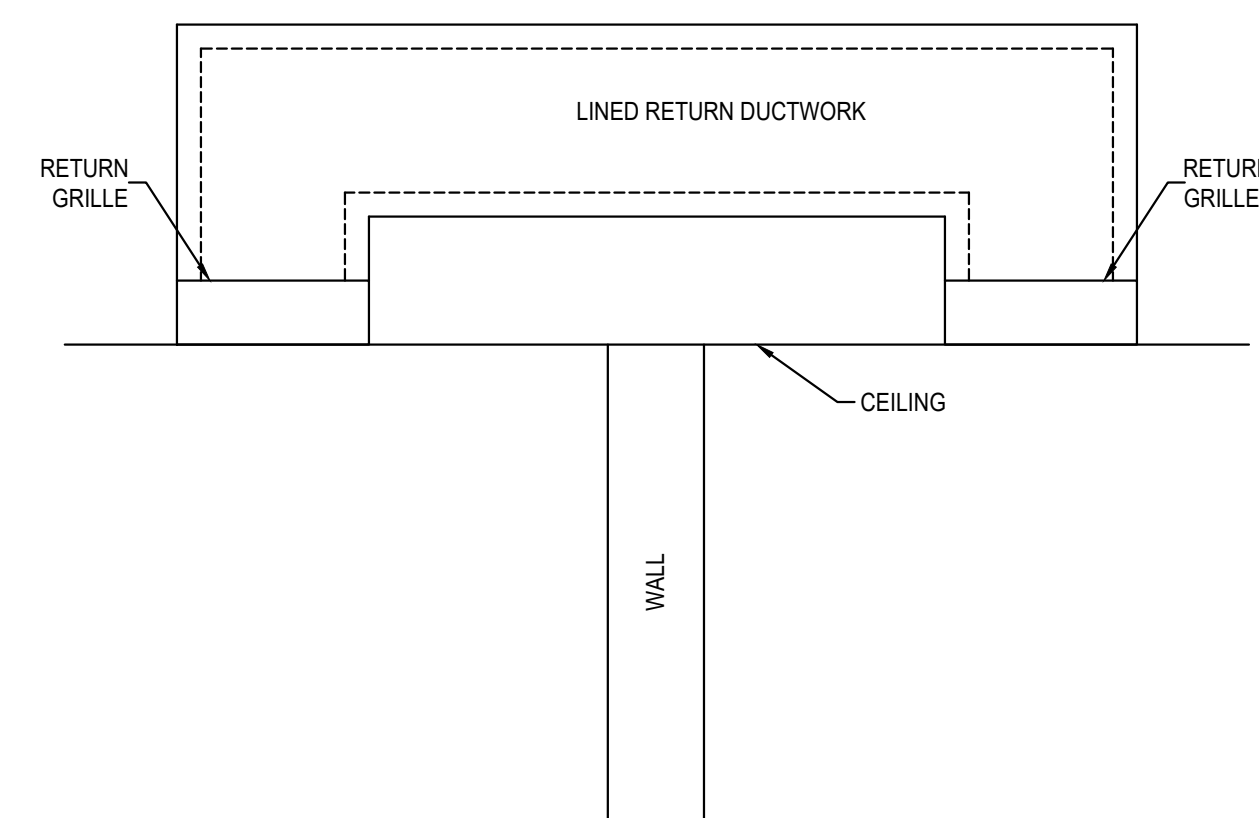
- REFER TO MANUFACTURING RECOMMENDATIONS FOR LINE SET SIZING. PROVIDE ALL ACCESSORIES AS REQUIRED BY MANUFACTURER FOR COMPLETE OPERATIONAL SYSTEM. INCLUDE ANY ACCESSORIES ASSOCIATED WITH LONG LENGTH APPLICATIONS.
- MECHANICAL CONTRACTOR SHALL FIELD COORDINATE WITH ELECTRICAL CONTRACTOR FOR ALL POWER REQUIREMENTS.
- COORDINATE DUCT ROUTING AND HEIGHTS WITH GENERAL CONTRACTOR. VERIFY ALL CLEARANCES BEFORE STARTING WORK.
- ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH ALL APPLICABLE GOVERNMENT AND LOCAL CODES.
- ALL FURNACES AND WATER HEATERS TO BE INSTALLED IN ACCORDANCE WITH LOCAL MECHANICAL AND PLUMBING CODES, INCLUDING CLEARANCE FOR OPERATION AND SERVICING.
- ALL PENETRATIONS THROUGH RATED CEILING TO BE PROTECTED WITH CEILING RADIATION DAMPER SIMILAR TO SOUTHWARH METAL MFG CO MODEL 59F CRD.

NOT DISCLOSED



ENERGY RECOVERY VENTILATOR

1 M1.0 SCALE: NONE

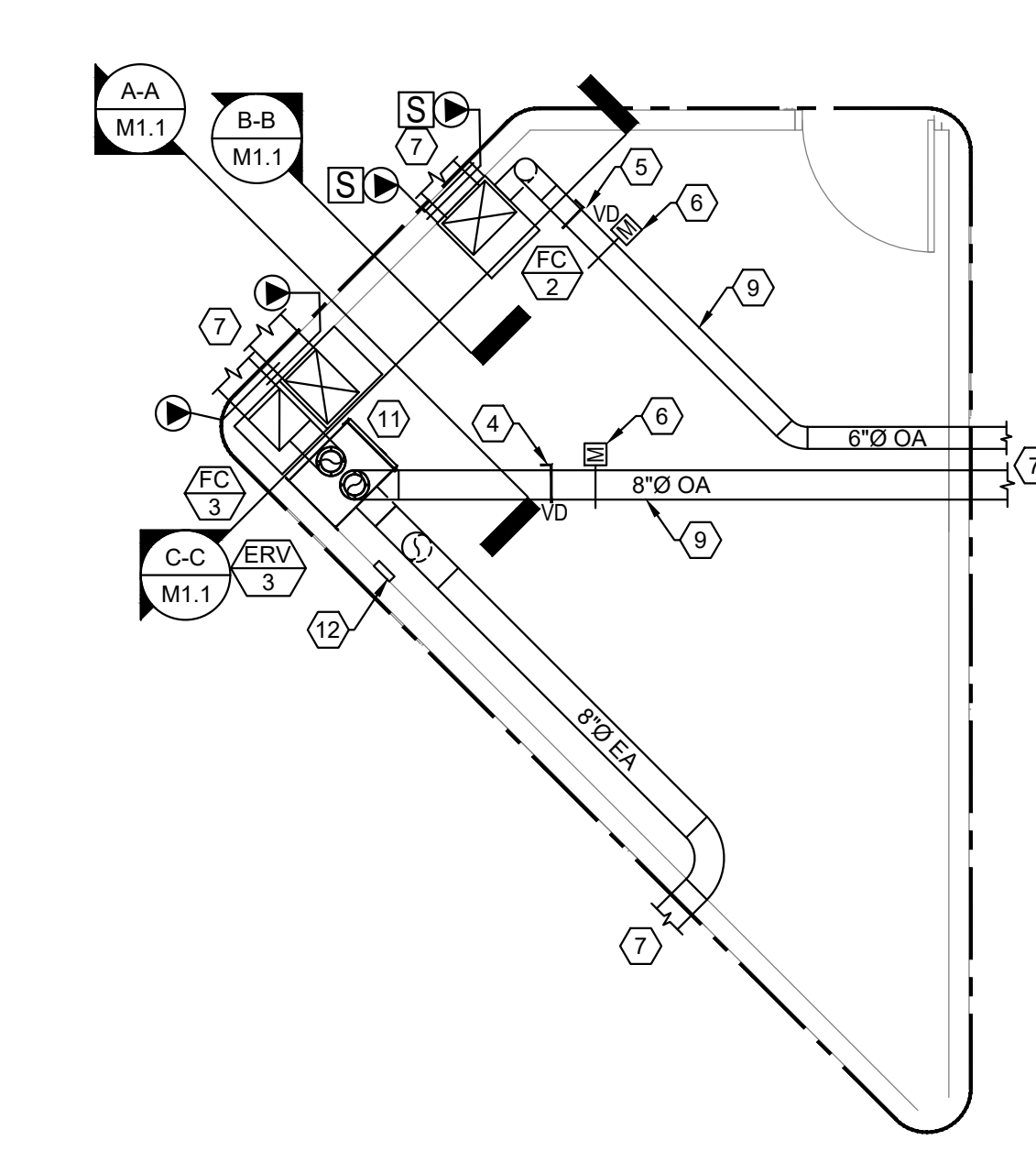


LINED TRANSFER DUCT

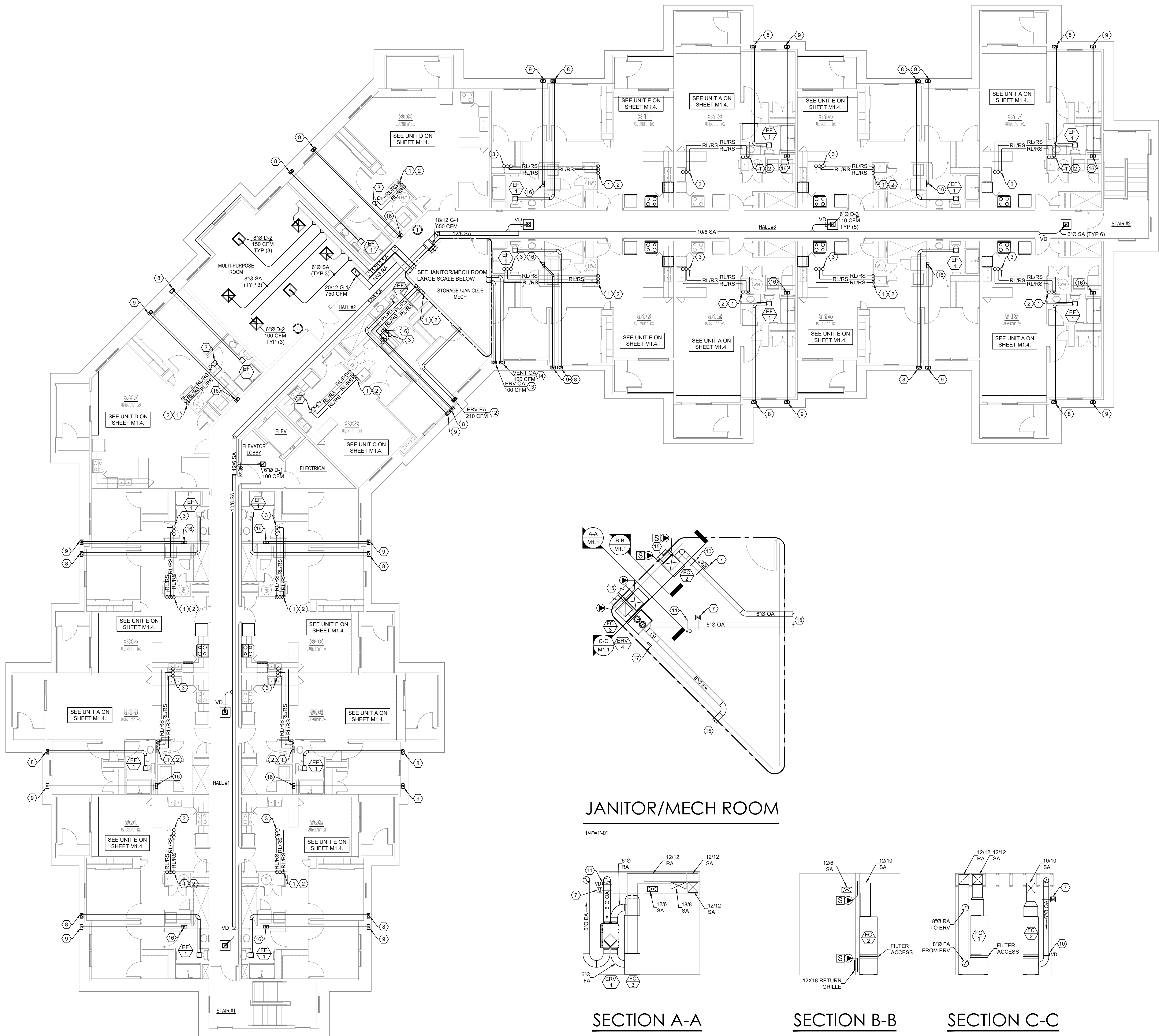
2 M1.0 SCALE: NONE

Project Number: 2017
Drawn by: ANW
Checked by: RDH
Sheet Name:
FIRST FLOOR MECHANICAL PLAN

M1.0

 $1/4''=1'-0''$

11-18-04 M1.X COMBINED MECHANICAL.dwg | 8/15/2018 | 12:02 PM

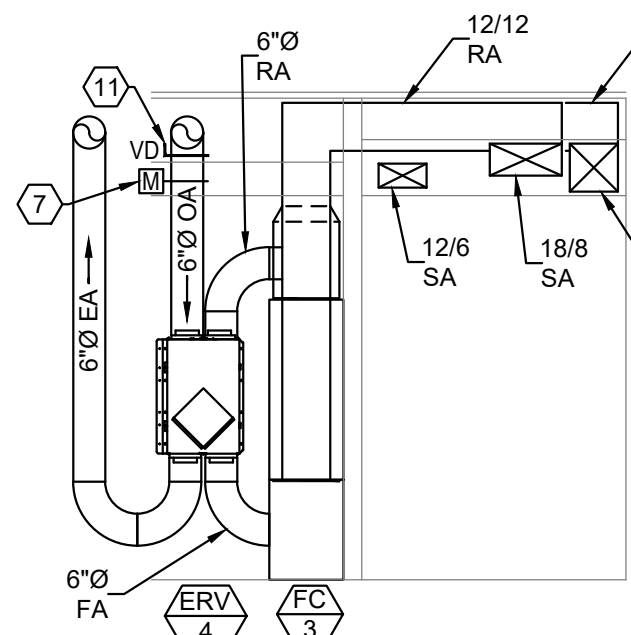


THIRD FLOOR MECHANICAL PLAN

1/8"=1'-0"

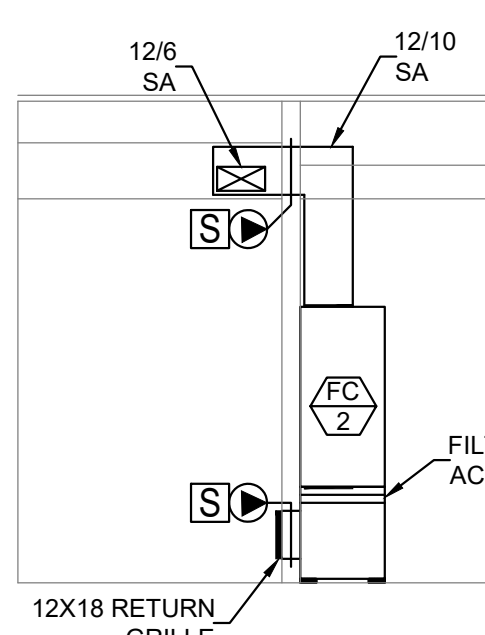
JANITOR/MECH ROOM

1/4"=1'-0"



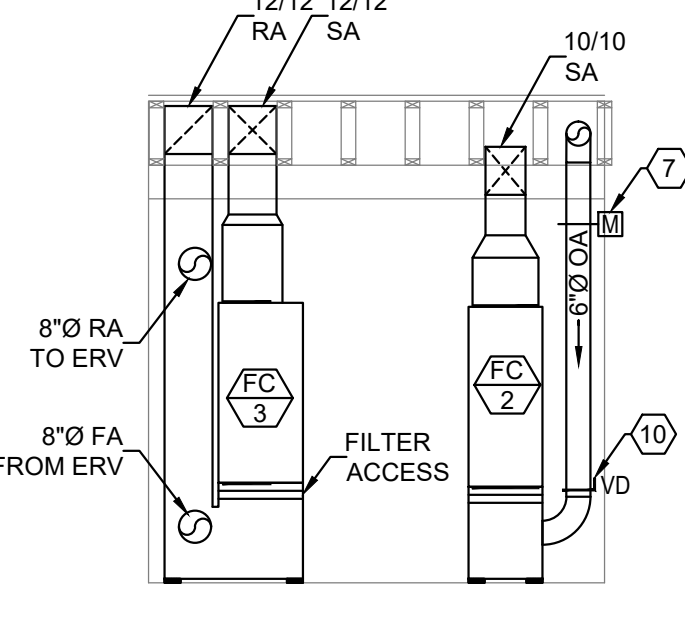
SECTION A-A

1/4"=1'-0"



SECTION B-B

1/4"=1'-0"



SECTION C-C

1/4"=1'-0"

KEYED MECHANICAL NOTES: (X)

- RL/RS LINES FROM AIR HANDLER TO MATCHED HEAT PUMP ON ROOF.
- RL/RS LINES FROM AIR HANDLER(S) BELOW TO MATCHED HEAT PUMP ON ROOF.
- RL/RS LINES ROUTED THROUGH ATTIC TO ROOF-MOUNTED HEAT PUMPS. ROUTE UP THROUGH PARAPET WALL.
- NOT USED.
- MOUNT BOTTOM OF G-1 AT 6" A.F.F.
- INSULATE OA DUCT WITH 3" FOIL-FACED FIBERGLASS INSULATION WITHIN 10'-0" OF EXTERIOR WALL.
- LOW VOLTAGE MOTORIZED DAMPER. INTERLOCK DAMPER WITH ASSOCIATED FAN COIL UNIT. WHEN FAN COIL IS ENERGIZED THE DAMPER SHALL BE OPEN. WHEN FAN COIL IS DE-ENERGIZED, THE DAMPER SHALL CLOSE.
- 6" RESTROOM EXHAUST. EXHAUST THROUGH EVE MOUNTED EXHAUST VENT SIMILAR TO DEFLECTOR MODEL #EVE/6. PAINT TO MATCH COLOR OF ADJACENT MATERIAL. INSULATE DUCT WITH 2" FOIL FACED FIBERGLASS INSULATION WITHIN 10'-0" OF EXTERIOR WALL.
- 4" DRYER EXHAUST. EXHAUST THROUGH EVE MOUNTED EXHAUST VENT SIMILAR TO DEFLECTOR MODEL #EVE/6. PAINT TO MATCH COLOR OF ADJACENT MATERIAL. INSULATE DUCT WITH 2" FOIL FACED FIBERGLASS INSULATION WITHIN 10'-0" OF EXTERIOR WALL.
- BALANCE OA TO 100 CFM.
- BALANCE OA TO 150 CFM.
- 6" ERV EXHAUST. EXHAUST THROUGH EVE MOUNTED EXHAUST VENT SIMILAR TO DEFLECTOR MODEL #EVE/6. PAINT TO MATCH COLOR OF ADJACENT MATERIAL. INSULATE DUCT WITH 2" FOIL FACED FIBERGLASS INSULATION WITHIN 10'-0" OF EXTERIOR WALL.
- 6" ERV OA INTAKE. INTAKE THROUGH EVE MOUNTED VENT SIMILAR TO DEFLECTOR MODEL #EVE/6. PAINT TO MATCH COLOR OF ADJACENT MATERIAL. INSULATE DUCT WITH 2" FOIL FACED FIBERGLASS INSULATION.
- 6" VENTILATION INTAKE. INTAKE THROUGH EVE MOUNTED VENT SIMILAR TO DEFLECTOR MODEL #EVE/6. PAINT TO MATCH COLOR OF ADJACENT MATERIAL. INSULATE DUCT WITH 2" FOIL FACED FIBERGLASS INSULATION.
- SEE FULL SCALE PLAN ABOVE FOR CONTINUATION.
- 4" DRYER EXHAUST DN TO DRYERBOX MODEL 425 DRYER BOX OR EQUIVALENT. SEE DETAIL 9 ON SHEET M2.0.
- ERV TIME CLOCK.

GENERAL NOTES:

- REFER TO MANUFACTURING RECOMMENDATIONS FOR LINE SET SIZING. PROVIDE ALL ACCESSORIES AS REQUIRED BY MANUFACTURER FOR COMPLETE OPERATIONAL SYSTEM. INCLUDE ANY ACCESSORIES ASSOCIATED WITH LONG LENGTH APPLICATIONS.
- MECHANICAL CONTRACTOR SHALL FIELD COORDINATE WITH ELECTRICAL CONTRACTOR FOR ALL POWER REQUIREMENTS.
- COORDINATE DUCT ROUTING AND HEIGHTS WITH GENERAL CONTRACTOR. VERIFY ALL CLEARANCES BEFORE STARTING WORK.
- ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH ALL APPLICABLE GOVERNMENT AND LOCAL CODES.
- ALL FURNACES AND WATER HEATERS TO BE INSTALLED IN ACCORDANCE WITH LOCAL MECHANICAL AND PLUMBING CODES, INCLUDING CLEARANCE FOR OPERATION AND SERVICING.
- ALL PENETRATIONS THROUGH RATED CEILING TO BE PROTECTED WITH CEILING RADIATION DAMPER SIMILAR TO SOUTHWARH METAL MF-6 CO MODEL 59F CRD.

NOT DISCLOSED

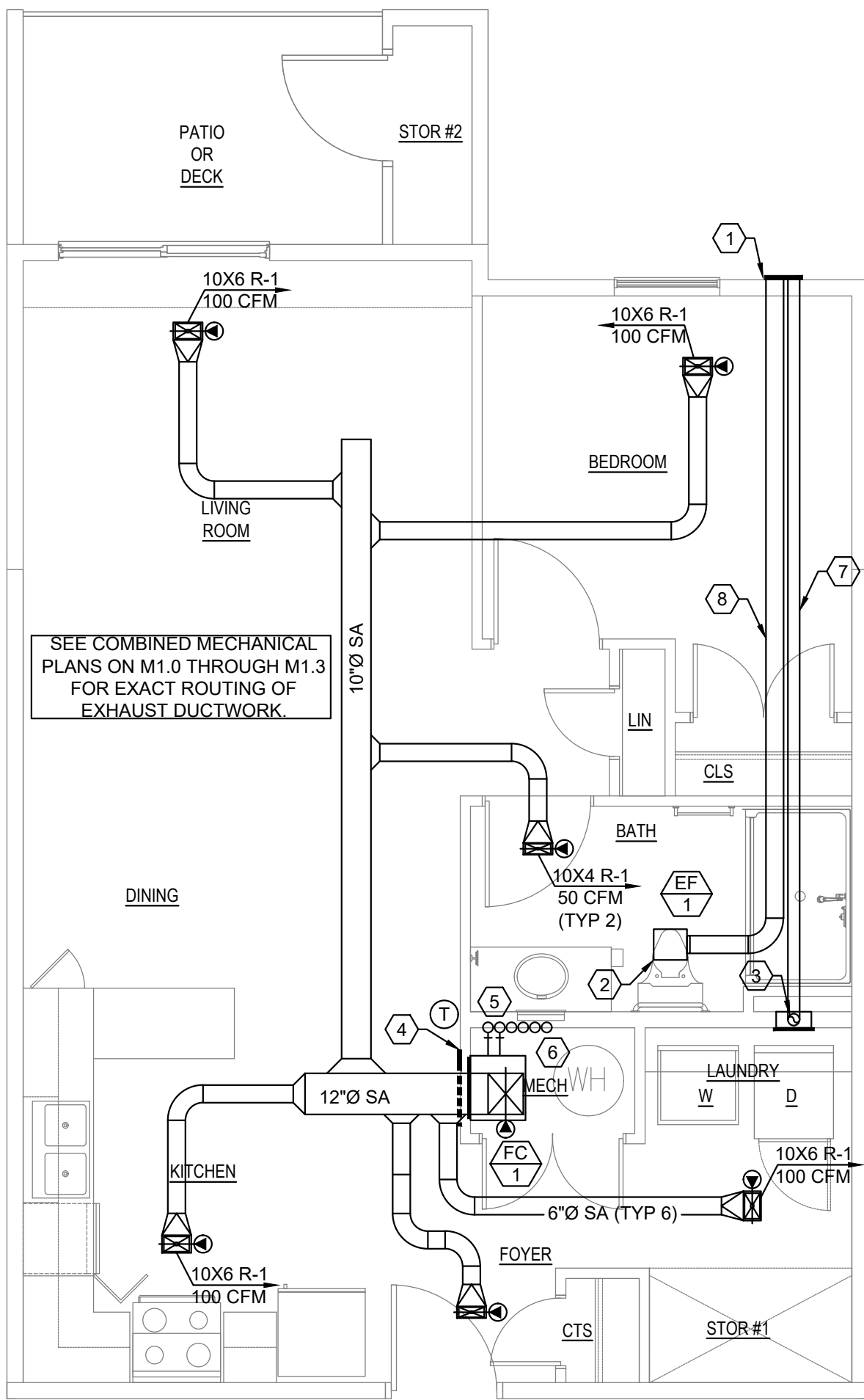
Project Number: 2017
Drawn by: ANW
Checked by: RDH
Sheet Name:
THIRD FLOOR MECHANICAL
PLAN

M1.2

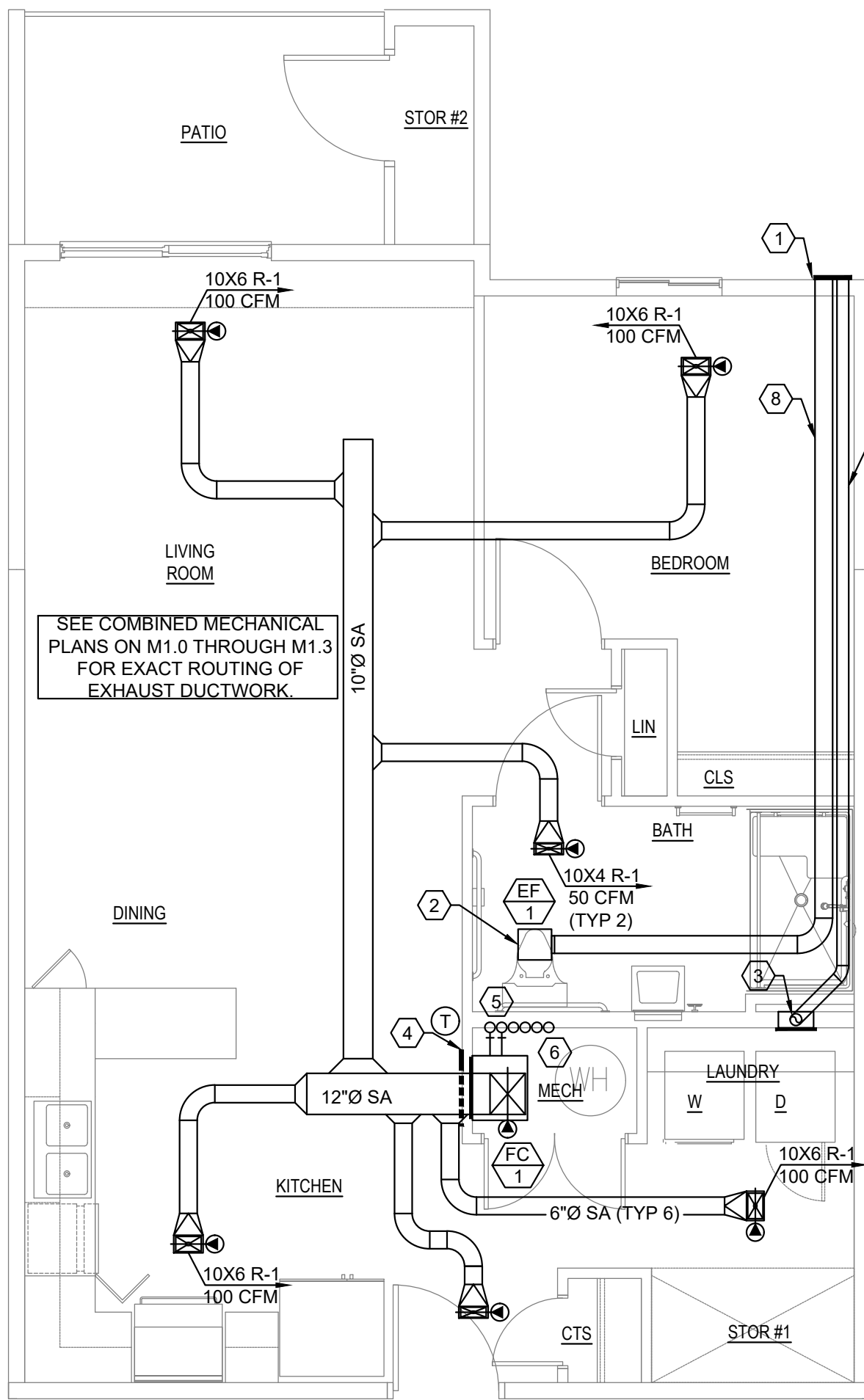

$$1/4"=1'-0"$$

- GENERAL NOTES:**
-
1. REFER TO MANUFACTURING RECOMMENDATIONS FOR LINE SET SIZING.

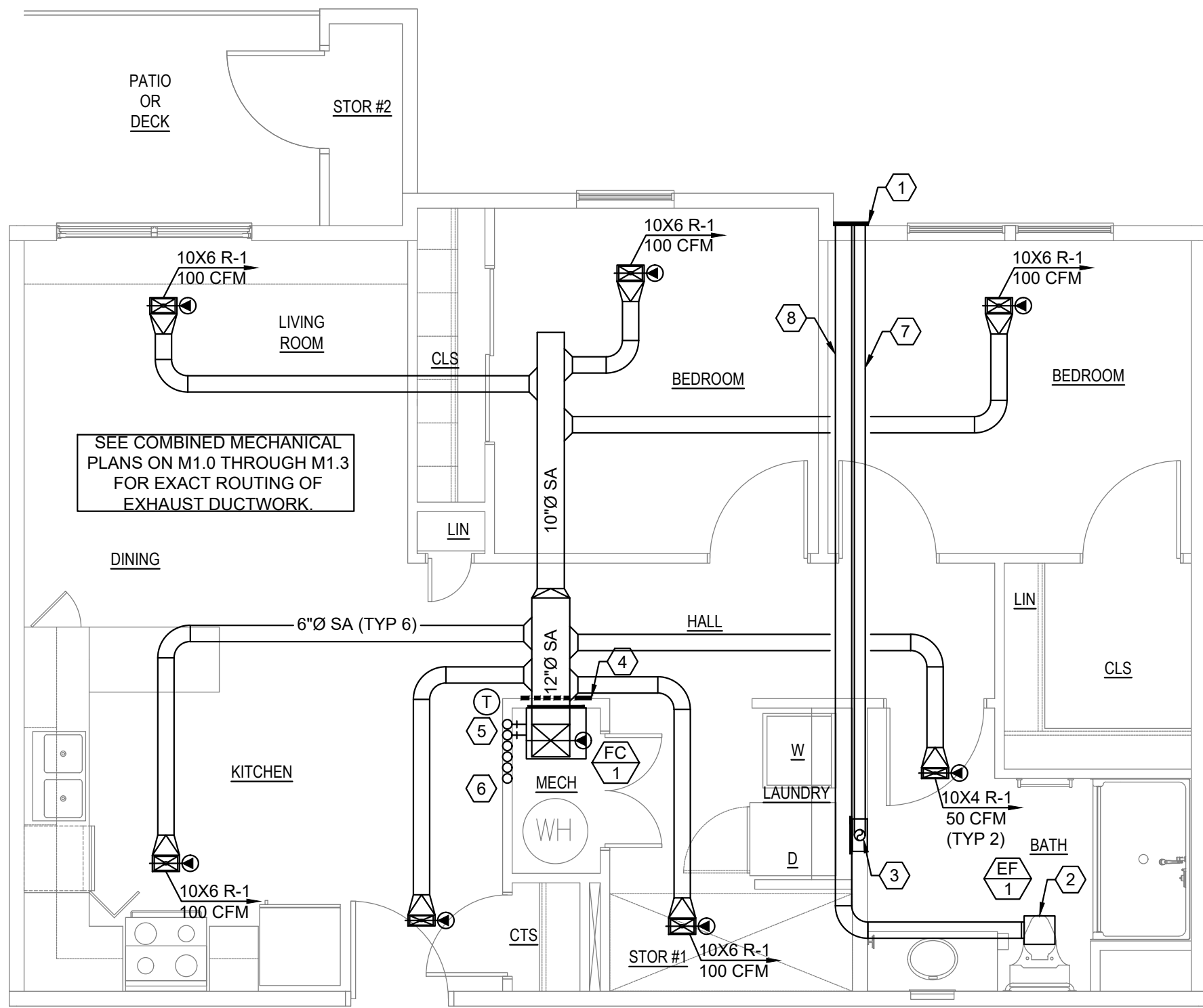
M1.3



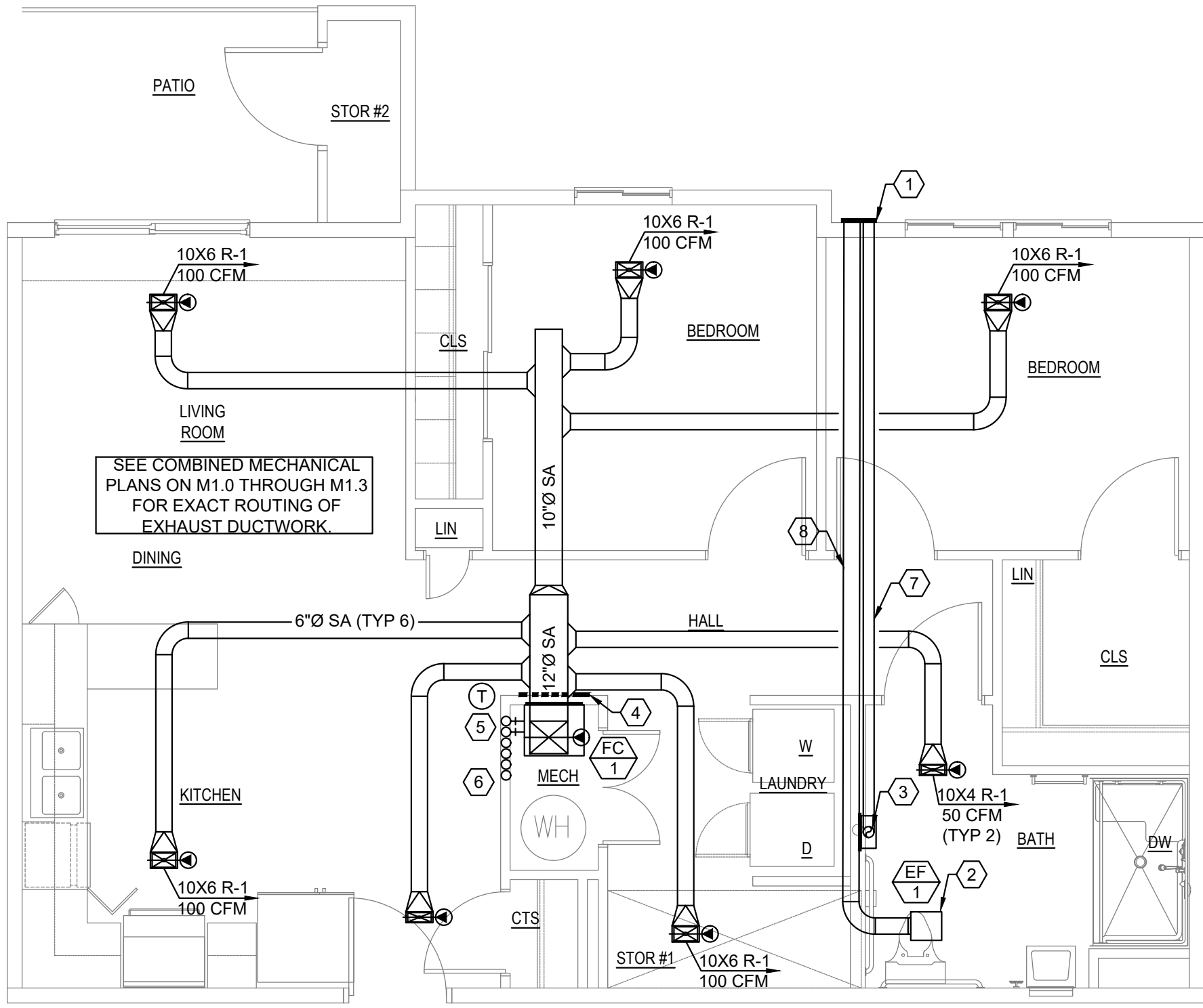
1 BEDROOM UNIT PLAN - UNIT A
1/4"=1'-0"
UNITS: 103, 109, 113, 114, 203, 204, 212, 213, 216, 217, 303, 304, 312, 313, 316, 317



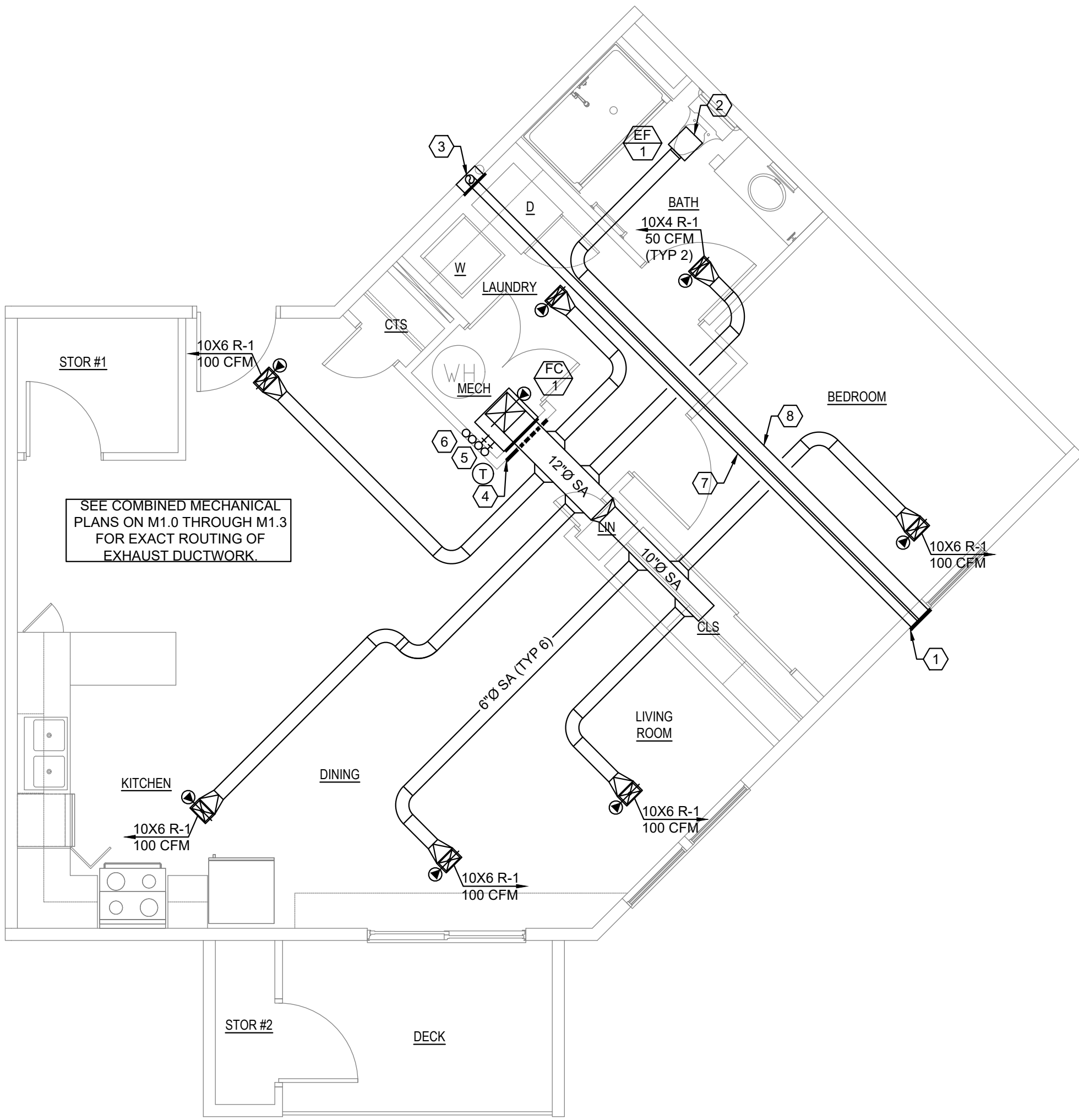
1 BEDROOM HANDICAP UNIT PLAN - UNIT B
1/4"=1'-0"
UNITS: 104, 110



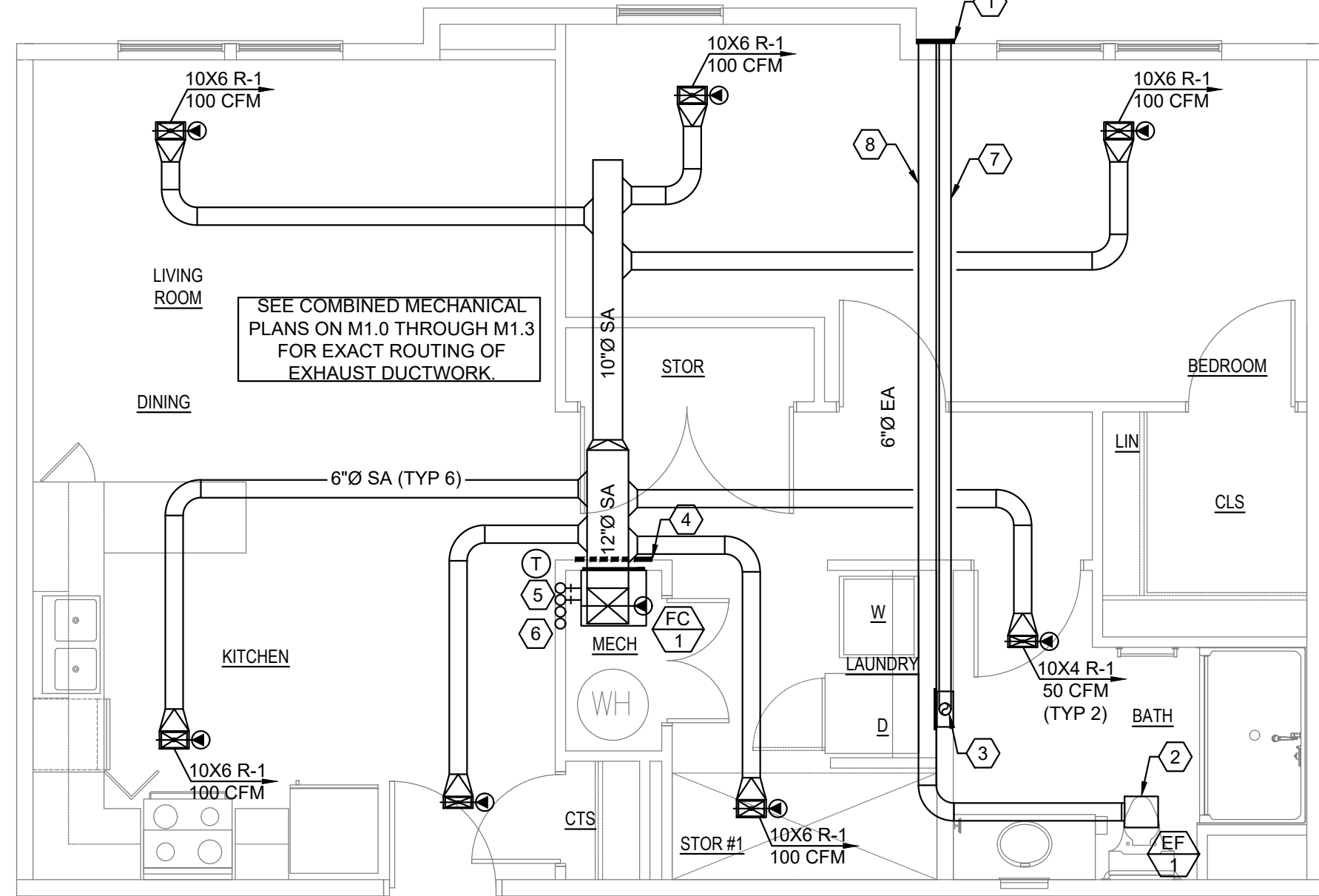
2 BEDROOM UNIT PLAN - UNIT E
1/4"=1'-0"
UNITS: 101, 102, 105, 107, 111, 112, 201, 202, 205, 204, 211, 212, 214, 215, 301, 302, 305, 306, 311, 312, 314, 315



2 BEDROOM HANICAP UNIT PLAN - UNIT F
1/4"=1'-0"
UNITS: 106, 108



1 BEDROOM UNIT PLAN - UNIT D
1/4"=1'-0"
UNITS: 207, 209, 307, 309



1 BEDROOM UNIT PLAN - UNIT C
1/4"=1'-0"
UNITS: 208, 308

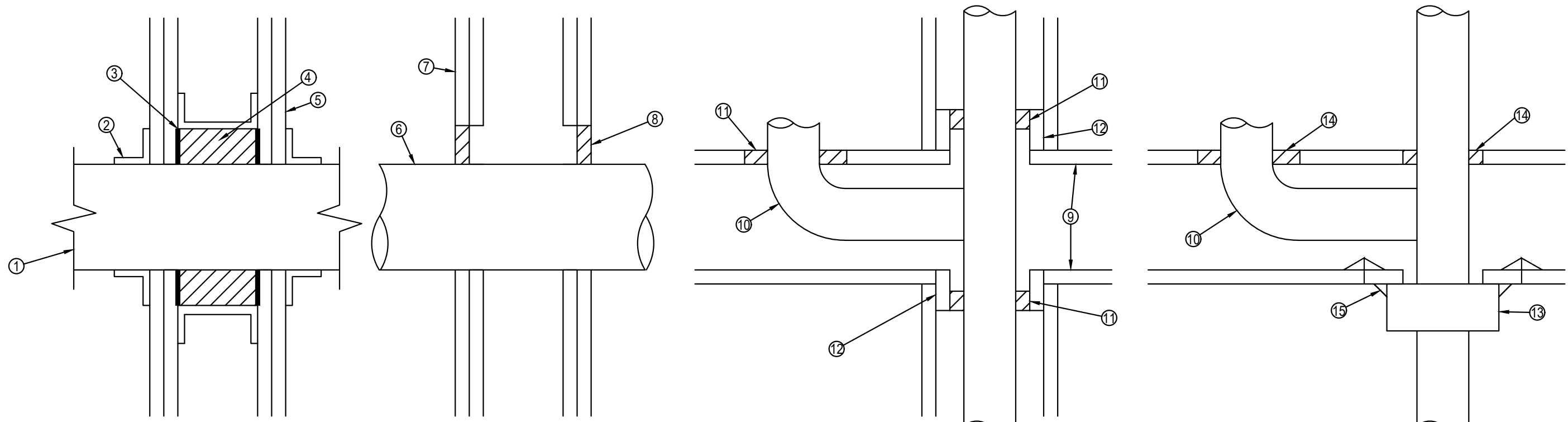
KEYED MECHANICAL NOTES: (X)

- ROUTE 6" RESTROOM EXHAUST AND 4" DRYER EXHAUST OUT THROUGH BRICK VENT SIMILAR TO XVENT BOX DHEB-S. PAINT VENT TO MATCH ADJACENT MATERIAL. INSULATE RESTROOM EXHAUST DUCT WITH 2" FOIL-FACED FIBERGLASS INSULATION WITHIN 10'-0" OF EXTERIOR WALL. INSULATE DRYER EXHAUST DUCT WITH 2" FOIL-FACED FIBERGLASS INSULATION WITHIN 10'-0" OF EXTERIOR WALL. FOR THIRD FLOOR UNITS ROUTE EXHAUST DUCTS THROUGH EVE MOUNTED EXHAUST VENTS SIMILAR TO DEFLECTOR MODEL REVEB.
- MOUNT EF-1 IN CEILING. PROVIDE WITH THIN-LINE RADIATION DAMPER. SEE DETAIL 8 ON M2.0.
- 4" EA DOWN TO DRYERBOX MODEL 425 DRYER BOX OR EQUIVALENT. SEE DETAIL 9 ON SHEET M2.0.
- MOUNT WALL PANEL OVER RETURN OPENING FOR FC-1. SEE DETAIL 6 ON SHEET M2.0.
- ROUTE RL/RS LINES TO MATCHED HEAT PUMP UNIT ON ROOF.
- ROUTE RL/RS LINES FROM UNITS BELOW THROUGH SPACE TO MATCHED HEAT PUMP UNITS ON ROOF.
- 4" DRYER EXHAUST DUCT.
- 6" BATHROOM EXHAUST DUCT.

GENERAL NOTES:

- ALL DUCTWORK IS TO BE ROUTED IN TRUSS SPACE.
- ALL PENETRATIONS THROUGH RATED CEILING TO BE PROTECTED WITH CEILING RADIATION DAMPER SIMILAR TO SOUTHWARK METAL MFG CO MODEL 59F CRD.

NOT DISCLOSED



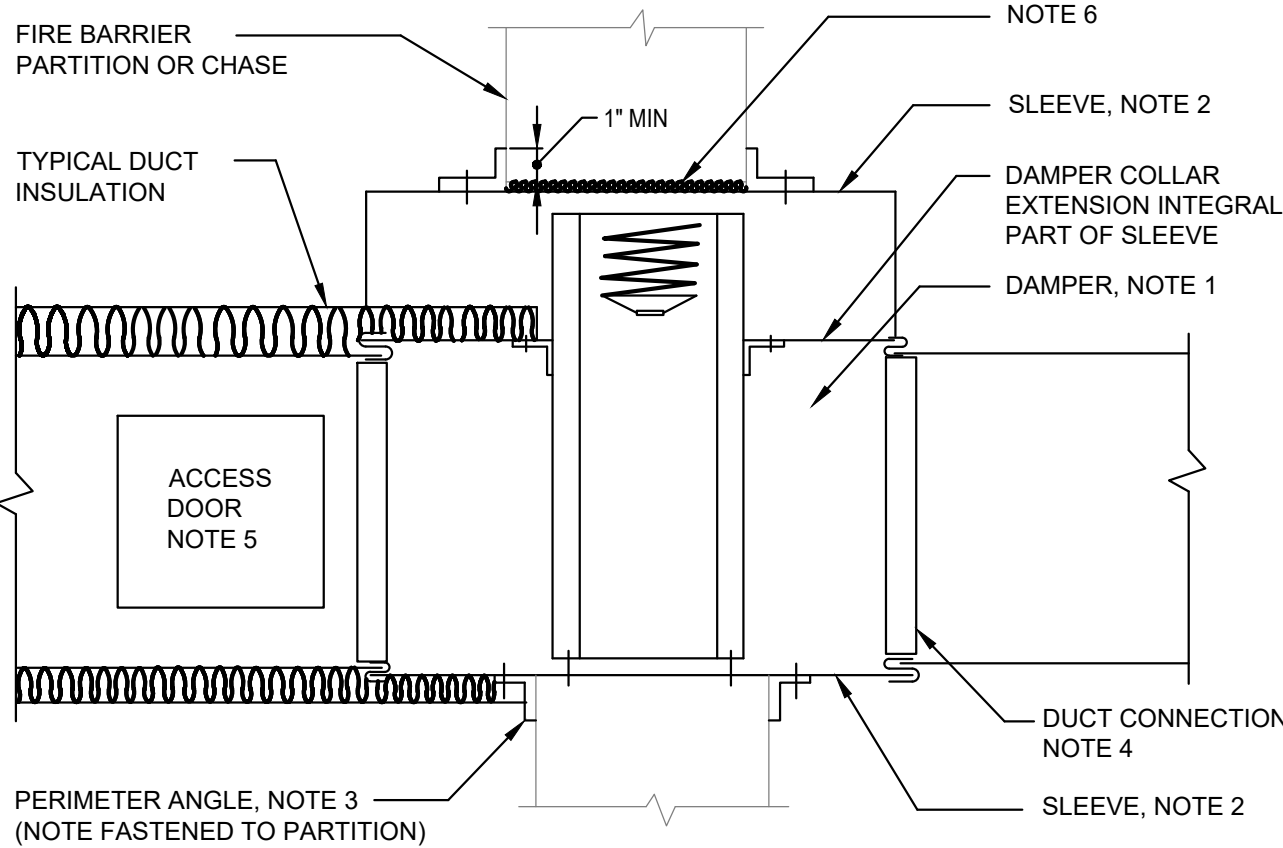
1
M2.0
SCALE: NONE
MECHANICAL PENETRATION THROUGH RATED ASSEMBLY DETAIL

- STEEL DUCT MAX 100" X 100" INSTALLED IN FRAMED OPENING.
- STEEL MINIMUM #16 GAUGE GALVANIZED STEEL ANGLES SIZED TO LAP STEEL DUCT A MINIMUM 1" AND WALL A MINIMUM OF 2" ANGLES ATTACHED TO STEEL DUCT ON BOTH SIDES OF WALL WITH MINIMUM #10 STEEL SHEET METAL SCREWS SPACED A MAX OF 1" FROM EACH END OF STEEL DUCT AND SPACED A MAXIMUM OF 6" ON CENTER.
- 3M FB-3000 WT MINIMUM OF 5/8" THICKNESS APPLIED WITHIN ANNULUS, FLUSH WITH BOTH SURFACES OF WALL.
- MINIMUM 4-7/8" THICKNESS OF MINIMUM 4PCF MINERAL WOOL BATT INSULATION FIRMLY PACKED IN TO OPENING AS A PERMANENT FORM. PACKING MATERIAL TO BE RECESSED FROM BOTH SURFACES OF WALL TO ACCOMMODATE THE REQUIRED THICKNESS OF FILL MATERIAL.
- RATED WALL ASSEMBLY.
- 2" MAX SDR 9 CROSSLINK POLYETHYLENE TUBING.
- RATED WALL ASSEMBLY.
- 3M FB-3000 WT MINIMUM OF 5/8" THICKNESS APPLIED WITHIN ANNULUS, FLUSH WITH BOTH SURFACES OF WALL. AN ADDITIONAL 1/2" BEAD OF FILL MATERIAL APPLIED AT THE TUBING / GYPSUM BOARD INTERFACE AT POINT OF CONTACT LOCATION ON BOTH SURFACES OF WALL ASSEMBLY.

- RATED ASSEMBLY.
- MAXIMUM 3" PVC PIPING.
- 3M FB-3000 WT MINIMUM OF 3/4" THICKNESS APPLIED WITHIN ANNULUS, FLUSH WITH TOP SURFACE OF FLOOR OR SOLE PLATE AND FLUSH WITH BOTTOM SURFACE OF OF TOP PLATE. 3M FB-3000 WT MINIMUM OF 3/4" THICKNESS APPLIED AROUND PERIMETER OF BRANCH PIPING FLUSH WITH TOP SURFACE OF FLOOR. 3M FB-3000 WT MINIMUM OF 1/2" THICKNESS APPLIED AT THE PIPE/FLOOR INTERFACE AND THE PIPE/PLATE INTERFACE.
- NOMINAL 2 BY 4 OR 2 BY 6 LUMBER PLATES. DIAMETER OR OPENING OR LENGTH OF NOTCH OUT IN PLATE TO BE 1/2" TO 1" LARGER THAN OUTSIDE PIPE DIAMETER.
- NOMINAL 1/8" THICK INTUMESCENT MATERIAL SUPPLIED IN 2" WIDE STRIPS. WRAP STRIP TIGHTLY AROUND NONMETALLIC PIPE WITH CONTINUOUS LAYERS AND BUTTED TIGHTLY AGAINST THE BOTTOM SURFACE OF THE THE GYPSUM WALLBOARD CEILING OR TOP PLATE. THE MINIMUM NUMBER OF STRIPS IS DEPENDENT UPON THE NOMINAL SIZE OF THE PIPE.
- 3M FB-3000 WT MINIMUM OF 3/4" THICKNESS APPLIED WITHIN ANNULUS, FLUSH WITH TOP SURFACE OF FLOOR. 3M FB-3000 WT MINIMUM OF 1/2" THICKNESS APPLIED AT THE PIPE/FLOOR INTERFACE AND THE PIPE/PLATE OR WALLBOARD INTERFACE AND AT THE SEAMS OF THE WALLBOARD PLATE.
- NOMINAL 2" DEEP COLLAR WITH 1-1/4" WIDE BY 2" LONG ANCHOR TABS AND MINIMUM 3/4" LONG TABS TO RETAIN WRAP STRIP LAYERS.

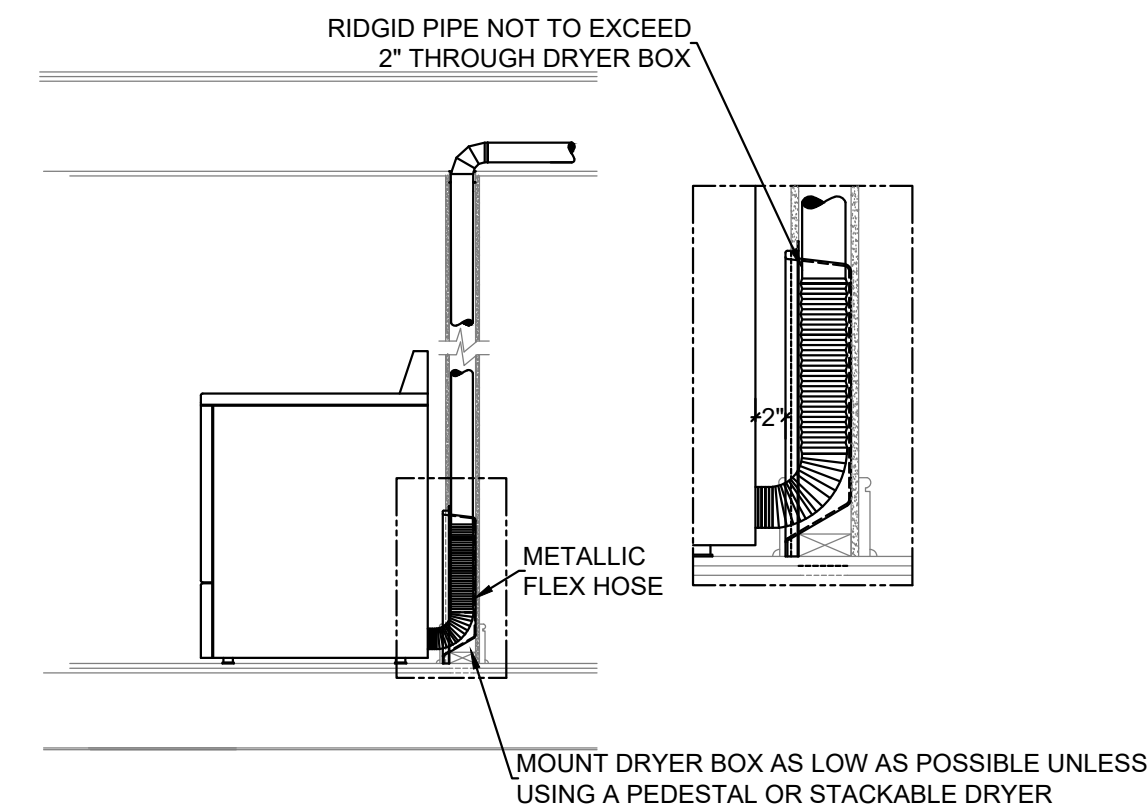
NOTES:

- A VERTICAL DAMPER IS SHOWN. HORIZONTAL DAMPER INSTALLATION, IS SIMILAR. FOLLOW DAMPER MANUFACTURER'S INSTRUCTIONS, INCLUDING FASTENER OPTIONS AND GAGES FOR SLEEVE AND PERIMETER ANGLES. FIRE DAMPERS MUST BE INSTALLED IN THE PARTITION OR FLOOR AND NOT OUTSIDE THE PENETRATION.
- GALVANIZED SLEEVE: GAGE NOT LESS THAN CONNECTING DUCT. FASTEN SLEEVE TO DAMPER FRAME AND TO PERIMETER ANGLES.
- PERIMETER ANGLES: GALVANIZED STEEL, NOT LESS THAN 1 1/2x1 1/2, 14 GAGE, TO PROVIDE 1" MINIMUM OVERLAP OF OPENING ON ALL 4 SIDES.
- BREAKAWAY DUCT CONNECTION: CONTRACTOR'S OPTION OF TYPES SHOWN IN SMACNA LPDS, FIG. 2-13, SEAL JOINTS.
- ACCESS DOOR: SIZE AND LOCATION TO PERMIT SERVICING THE FUSIBLE LINK OR LINKS.
- PROVIDE 1/4" TO 1/2" CLEARANCE ON HEIGHT AND WIDTH. FILL OPEN SPACE WITH ROCK WOOL FIRESTOP FIBER.
- ALL DUCT WORK RISERS WHICH ARE RUN EXPOSED, SUCH AS THRU ATTIC FLOORS AND MECHANICAL ROOM FLOORS, SHALL BE PROVIDED WITH 3 INCH HIGH CONCRETE CURB AROUND OPENING FOR DUCT.

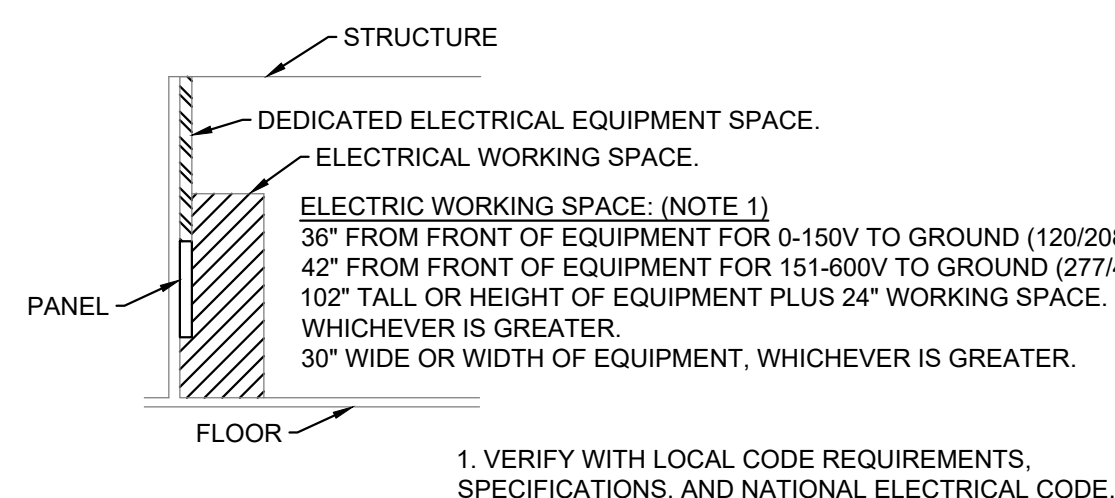


4
M2.0
SCALE: NONE
FIRE DAMPER INSTALLATION DETAIL

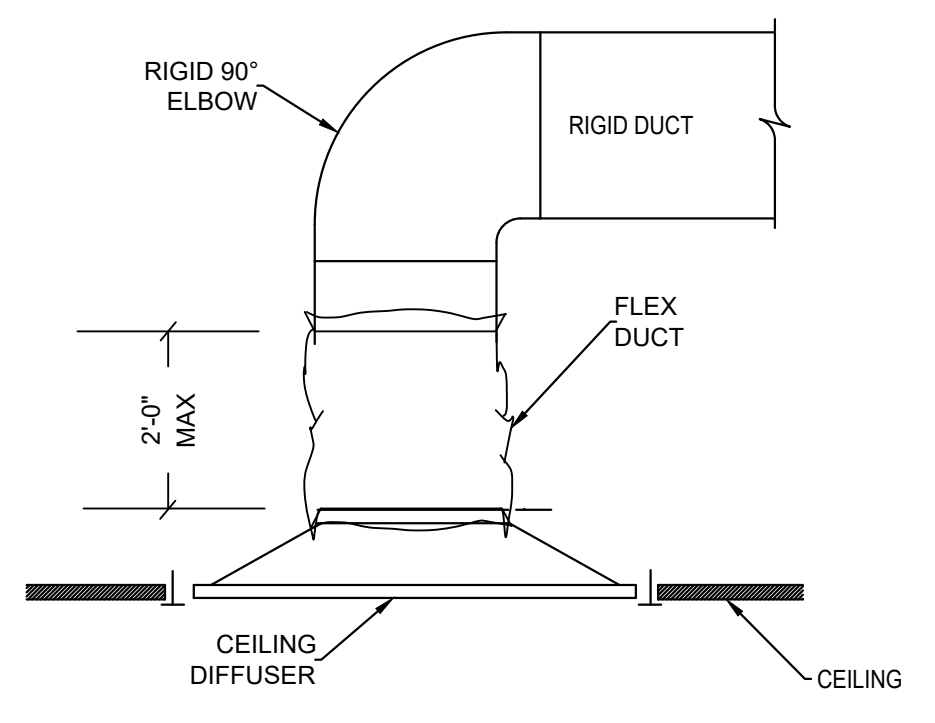
5
M2.0
SCALE: NONE
SHEET METAL FITTING DETAIL



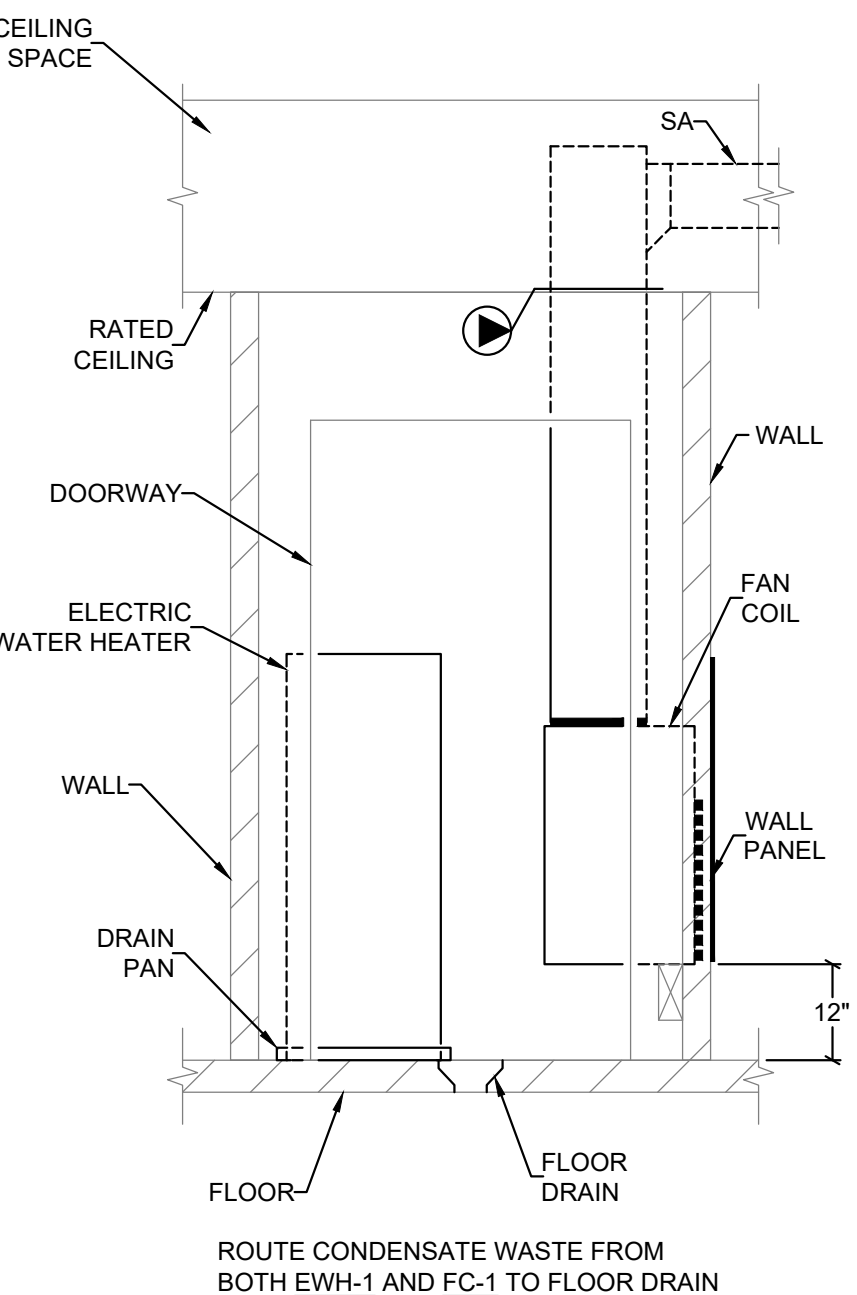
9
M2.0
SCALE: NONE
TYPICAL DRYER BOX DETAIL



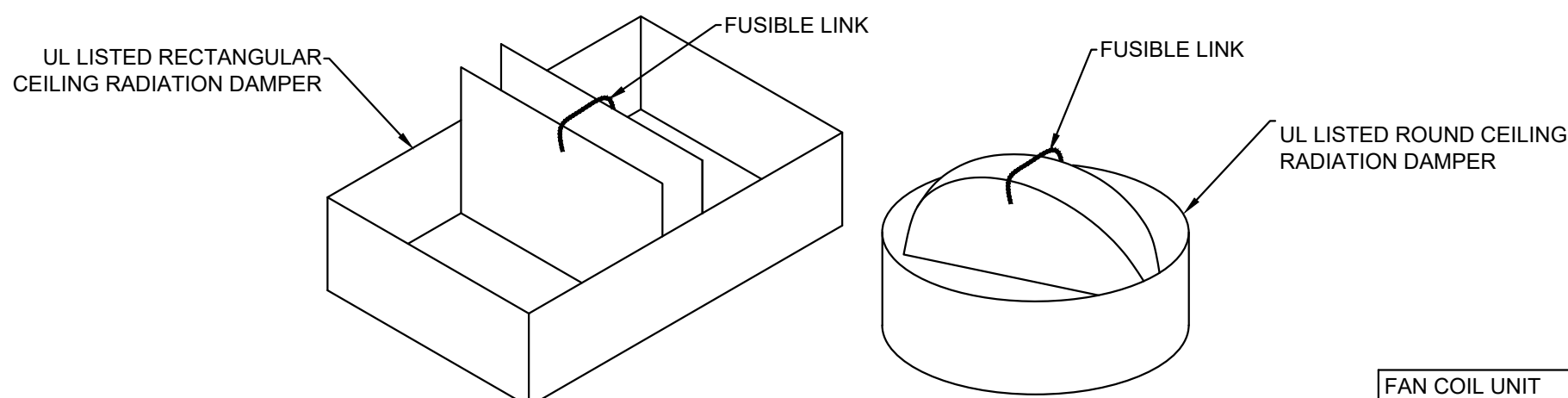
2
M2.0
SCALE: NONE
ELECTRIC WORKING SPACE



3
M2.0
SCALE: NONE
CEILING DIFFUSER



6
M2.0
SCALE: NONE
TYPICAL APARTMENT MECHANICAL CLOSET



NOTE: WHEN STATIC RADIATION DAMPERS ARE USED, INTERLOCK SMOKE DETECTORS WITH FURNACE TO SHUT DOWN AIRFLOW IN CASE OF FIRE.

7
M2.0
SCALE: NONE
STATIC RADIATION DAMPER

VENTILATION REQUIREMENTS (ASHRAE)					
ROOM / AREA	SIZE (SQ FT)	CFM / SQ FT	PEOPLE	CFM / PERSON	REQUIRED AIRFLOW (CFM)
GROUND FLOOR HALLS	2367	0.06	0	0	142
SECOND FLOOR HALLS	1619	0.06	0	0	97
THIRD FLOOR HALLS	1619	0.06	0	0	97
GATHERING ROOM	922	0.06	30	7.5	280
EXERCISE	700	0.30	15	0	210
LIBRARY	939	0.06	30	5	206
MANAGER'S OFFICE	125	0.06	1	5	13
MULTIPURPOSE	700	0.06	15	5	117
STORAGE	125	0.12	0	0	15

UNIT HEATER - ELECTRIC					
MARK	LOCATION	CFM	ELECTRIC COIL DATA		BASIS OF DESIGN
			KW	PH	
EUH-1	VEST #1	100	1.8	120	1
EUH-2	VEST #2	100	1.8	120	1
EUH-3	VEST #3	100	1.8	120	1
EUH-4	STAIR #1	100	3.0	208	1
EUH-5	STAIR #2	100	3.0	208	1
EUH-6	MECH/ELEC	100	3.0	208	1

- NOTES:
- PROVIDE WITH MOUNTING HARDWARE AND INTEGRAL THERMOSTAT.
 - PROVIDE WITH DISCONNECT SWITCH.
 - PROVIDE WITH 2" DEEP SEMI-RECESSED MOUNTING FRAME SIMILAR TO MODEL #CWH352.

LOUVERS								
MARK	USE	CFM	MAX PD (IN H ₂ O)	SIZE (IN)			BASIS OF DESIGN	NOTES
				W	H	D		
L-1	ERV-1	280	0.05	24	18	4	UNITED ENERTECH FL-D-4	1
L-2	ERV-2	210	0.05	18	18	4	UNITED ENERTECH FL-D-4	1
L-3	ERV-3	210	0.05	18	18	4	UNITED ENERTECH FL-D-4	1
L-4	ERV-4	150	0.05	12	12	4	UNITED ENERTECH FL-D-4	1
L-5	CORRIDORS	100	0.05	12	12	4	UNITED ENERTECH FL-D-4	1

- NOTES:
- PROVIDE WITH INSECT SCREEN.

COIL - DX									
MARK	MATCHING HP	FAN COIL SERVICES	CFM	EAT		NU. OF CIRCUITS	REFR TYPE	TOTAL CAPACITY (MBH)	NOTES
				DB (°F)	WB (°F)				
CC-1	HP-1	FC-1	600	55	54	1	R-410	17	1
CC-2	HP-2	FC-2	650	55	54	1	R-410	17.8	1
CC-3	HP-3	FC-3	750	55	54	1	R-410	23.8	1
CC-4	HP-4	FC-4	1250	55	54	1	R-410	36	1

- NOTES:
- PROVIDE CASED COOLING COIL IN FAN COIL UNIT.

DIFFUSER, REGISTERS, AND GRILLES							
MARK	MAX STATIC PD (IN W.G.)	MAX NC	DAMPER (Y/N)	FRAME TYPE	FINISH	BASIS OF DESIGN	NOTES
D-1	0.10	20	N	SURFACE	WHITE	KRUEGER 1400, 12X12	1, 3, 4
D-2	0.10	20	N	SURFACE	WHITE	KRUEGER 1400, 24X24	1, 3, 4
D-3	0.10	20	N	LAY-IN	WHITE	KRUEGER 1400, 12X12	1, 4
D-4	0.10	20	N	LAY-IN	WHITE	KRUEGER 1400, 24X24	1, 4
R-1	0.10	15	Y	SURFACE	WHITE	KRUEGER 880H	1, 2, 3, 4
G-1	0.05	25	N	SURFACE	WHITE	KRUEGER S480H	1, 4
G-2	0.05	15	N	LAY-IN	WHITE	KRUEGER EGC5	1, 4

- NOTES:
- CONTRACTOR SHALL COORDINATE WITH GENERAL CONTRACTOR FINAL CEILING PLAN AND FRAME TYPE.
 - PROVIDE WITH SOUTHWARK SPFCRD OR EQUIVALENT FOR CEILING PENETRATIONS THROUGH A RATED ASSEMBLY.
 - PROVIDE WITH THROAT MOUNTED VOLUME DAMPER.
 - SEE PLAN FOR QUANTITY AND THROAT SIZING.

EXHAUST FANS														
MARK	LOCATION	FAN DATA										BASIS OF DESIGN	NOTES	
		WHEEL TYPE	FAN TYPE	CFM	ESP (IN WG)	FAN RPM	DRIVE TYPE	WATTS	FLA	V	PH			SONES
EF-1	CEILING	FC	EXHAUST	75	0.21	700	DIRECT	20	0.65	120	1	1.2	GREENHECK SP-B90	1-5

- NOTES:
- PROVIDE FAN MOTOR WITH THERMAL CUT-OFF FUSE CONTROL.
 - PROVIDE WITH THINLINE RADIATION DAMPER, SEE DETAIL.
 - INTERLOCK WITH LIGHT SWITCH BY ELECTRICAL CONTRACTOR.
 - PROVIDE WITH INTEGRAL DISCONNECT, VIBRATION ISOLATION HANGING KIT, AND BACKDRAFT DAMPER.
 - PROVIDE WITH WALL CAP SIMILAR TO XVENT BOX 6SEB.

FAN COIL UNIT												
MARK	MANUFACTURER	MODEL NO.	MATCHED HP UNIT	CFM	E.S.P. (IN.WG)	FAN HP	DRIVE	HEATER ELEC				MOTOR ELEC
								KW	STAGES	VOLTS	PH	
FC-1	ADP	SK792510	HP-1	600	0.25	1/3	DIRECT	10	1	208	1	1.7
FC-2	TRANE	TEMA40B24S21	HP-2	650	0.50	1/4	DIRECT	7.21	1	208	1	1.3
FC-3	TRANE	TEMA40B24S21	HP-3	750	0.50	1/4	DIRECT	7.21	1	208	1	1.3
FC-4	TRANE	TEMA40C24S21SA	HP-4	1250	0.50	1/2	DIRECT	14.4	1	208	1	4.1

- NOTES:
- PROVIDE SINGLE CIRCUIT FOR ELECTRIC HEAT.
 - PROVIDE WITH SECONDARY OVERFLOW SWITCH.
 - PROVIDE WITH 7-DAY PROGRAMMABLE THERMOSTAT.
 - PROVIDE WITH HIGH EFFICIENCY ECM MOTOR.
 - FACTORY INSTALLED HEATER PACKAGE.
 - PROVIDE WITH INTEGRAL CIRCUIT BREAKER(S).
 - PROVIDE WITH (26" x 38") DECORATIVE WALL PANEL OVER RETURN THROUGH WALL.
 - PROVIDE WITH PULL-OUT DISCONNECT.
 - ENERGY STAR RATED UNIT.

AIR TO AIR HEAT PUMP SCHEDULE												
MARK	MANUFACTURER	MODEL NO.	MATCHED AHU CAPACITY (MBH)	HP HEATING (°F)	INDOOR AIR TEMP (°F)	AMB AIR TEMP (°F)	AMB AIR TEMP (°F)	INDOOR EAT (°F)	ELECTRICAL			
									VOLTS	PH	MCA (MGP)	W
HP-1	AMERICAN STANDARD	4AGH5019H1	FC-1	17	65	37	95	80/67	208	1	12	20
HP-2	TRANE	4TWR5019H1	FC-2	16.7	65	37	95	80/67	208	1	12	20
HP-3	TRANE	4TWR5024H1	FC-3	23.0	65	37	95	80/67	208	1	14	25
HP-4	TRANE	4TWR5036H1	FC-4	34.6	65	37	95	80/67	208	1	18	30

- NOTES:
- PROVIDE REFRIGERANT LINE SET SIZED PER MANUFACTURERS RECOMMENDATIONS.
 - UNIT SHALL BE CERTIFIED IN ACCORDANCE TO AHRI 210-240.
 - PROVIDE CRANK CASE HEATER.
 - PROVIDE 2" X 2" X 2" PRE-CUT NEOPRENE PADS, 4 PER HEAT PUMP UNIT.
 - PROVIDE WITH PUMP UP AS REQUIRED BY MANUFACTURER.
 - ENERGY STAR UNIT.

ENERGY RECOVERY VENTILATOR																														
MARK	FA (CFM)	FA ESP (IN WC)	EA (CFM)	EA ESP (IN WC)	COOLING SEASON										HEATING SEASON															
					SUMMER AMBIENT		SUMMER RETURN		VENTILATOR		TOTAL CAP (MBH)	SENS. CAP (MBH)	TOTAL EFF.	WINTER AMBIENT		WINTER RETURN		VENTILATOR		TOTAL CAP (MBH)	SENS. CAP (MBH)	TOTAL EFF.								
					DB (°F)	WB (°F)	DB (°F)	HUM	DB (°F)	WB (°F)				DB (°F)	WB (°F)	DB (°F)	WB (°F)	DB (°F)	WB (°F)				DB (°F)	WB (°F)						
ERV-1	280	0.5	280	0.5	87	58	75	50	76.5	58.1	-	1.1	47%	-10	-10	70	35	46.8	36.5	10	0.7%	120	1	3.3	0.2	0.2	RENEWARE EV2300	30	1-9	
ERV-2	210	0.5	210	0.5	87	58	75	50	77.5	58.6	-	0.7	53%	-10	-10	70	35	50.4	41.3	6.6	4.5	72%	120	1	3.3	0.1	0.1	RENEWARE EV2400	70	1-9
ERV-3	210	0.5	210	0.5	87	58	75	50	77.9	58.6	-	0.7	53%	-10	-10	70	35	50.4	41.3	6.6	4.5	72%	120	1	3.3	0.1	0.1	RENEWARE EV2400	70	1-9
ERV-4	120	0.5	120	0.5	87	58	75	50	77.3	59.3	-	0.9	59%	-10	-10	70	35	54.9	44.6	2.9	2.0	76%	120	1	1.5	0.1	0.1	RENEWARE EV2400	70	1-9

- NOTES:
- PROVIDE WITH 24 VAC TRANSFORMER RELAY.
 - PROVIDE WITH SINGLE POINT POWER CONNECTION AND FACTORY MOUNTED DISCONNECT.
 - PROVIDE WITH MERV 8 - 2" PLEATED FILTERS.
 - PROVIDE WITH ROUND FLANGE KIT.
 - PROVIDE WITH 6'-0" CORD AND PLUG.
 - PROVIDE WITH 7-DAY PROGRAMMABLE TIME CLOCK SIMILAR TO TC7D-W.
 - PROVIDE VIBRATION ISOLATION KIT.
 - MOUNT IN ACCORDANCE WITH MANUFACTURER'S CLEARANCE SPECIFICATIONS.
 - COOLING SEASON CAPACITY ONLY CONSIDERS SENSIBLE LOADS DUE TO DRY OUTDOOR CONDITIONS, PER MANUFACTURER.

Project Number: 2017
Drawn by: ANW
Checked by: RDH
Sheet Name: MECHANICAL DETAILS & SCHEDULES

M2.0