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386 Indian Road
Grand Junction, CO 81501
Phone: (970) 241-8709

Bighorn Consulting Engineers, Inc.
Mechanical & Electrical Engineers

1805 WALTON CREEK ROAD

STEAMBOAT SPRINGS, COLORADO

DATE:	ISSUED FOR:
06/17/2022	PERMIT
09/07/2022	PERMIT CORRECTIONS
09/21/2022	ONE-LINE REVISION
09/29/2025	ADDENDUM 1 RE-ISSUE



DATE:	06/17/2022
JOB NO:	21-276
DRAWN BY:	BCE
CHECKED BY:	BCE
SCALE:	AS SHOWN
SHEET NUMBER:	M1-1

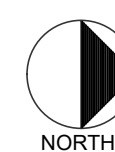
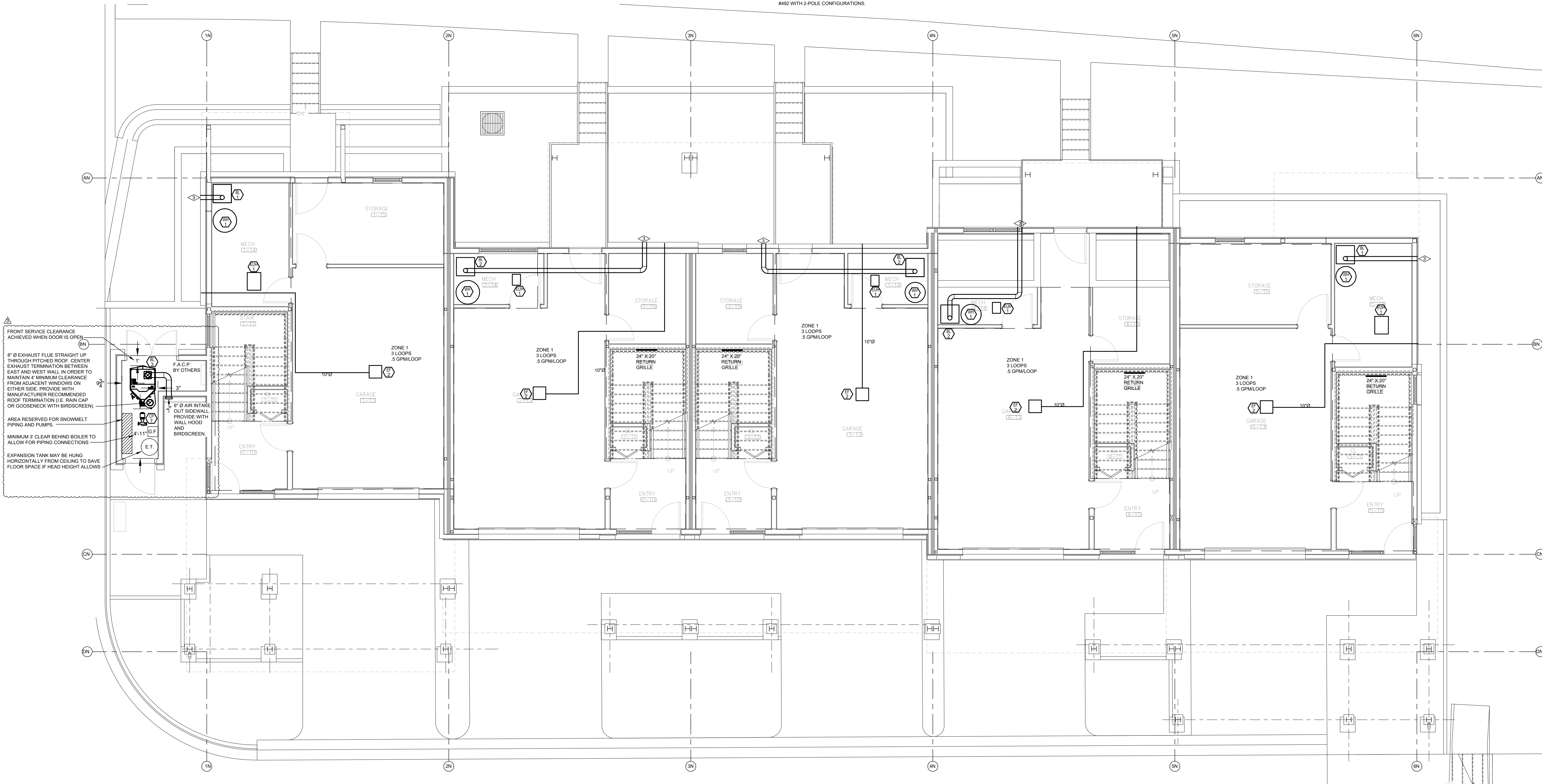
August 25, 2025 - 3:53:40pm

MECHANICAL GENERAL NOTES:

- DRAWING IS DIAGRAMMATIC IN NATURE. LOCATIONS AND SIZES MAY VARY DURING FIELD COORDINATION & INSTALLATION OF MECHANICAL, PLUMBING, & ELECTRICAL. DRAWINGS DO NOT NECESSARILY INDICATE EVERY REQUIRED OFFSET, FITTING, ETC. DRAWINGS ARE NOT TO BE SCALED FOR DIMENSIONS. TAKE ALL DIMENSIONS FROM ARCHITECTURAL DRAWINGS, CERTIFIED EQUIPMENT DRAWINGS AND FROM THE STRUCTURE ITSELF BEFORE FABRICATING ANY WORK. VERIFY ALL SPACE REQUIREMENTS COORDINATING WITH OTHER TRADES, AND INSTALL THE SYSTEMS IN THE SPACE PROVIDED WITHOUT EXTRA CHARGES TO THE OWNER.
- DUCT DIMENSIONS DO NOT REFLECT ADDITIONAL DIMENSIONS FOR INSULATION. ALL DUCTING SHALL BE INSULATED PER 2018 IECC CODE REQUIREMENTS. (SUPPLY AND RETURN AIR DUCTS AND PLENUMS SHALL BE INSULATED WITH NOT LESS THAN R-6 INSULATION WHERE LOCATED IN UNCONDITIONED SPACES AND WHERE LOCATED OUTSIDE THE BUILDING WITH NOT LESS THAN R-8 INSULATION IN CLIMATE ZONES 1 THROUGH 4 AND NOT LESS THAN R-12 INSULATION IN CLIMATE ZONES 5 THROUGH 8. WHERE LOCATED WITHIN A BUILDING ENVELOPE ASSEMBLY, THE DUCT OR PLENUM SHALL BE SEPARATED FROM THE BUILDING EXTERIOR OR UNCONDITIONED OR EXPOSED SPACES BY NOT LESS THAN R-8 INSULATION IN CLIMATE ZONES 1 THROUGH 4 AND NOT LESS THAN R-12 INSULATION IN CLIMATE ZONES 5 THROUGH 8. MESA COUNTY IS **CLIMATE ZONE 5B**).
- COORDINATE FINAL LOCATION OF THERMOSTAT WITH OWNER PRIOR TO INSTALLATION. IF THERMOSTAT IS LOCATED ON EXTERIOR WALL PROVIDE THERMOSTAT WITH INSULATED BACKING.
- CONDENSING WATER HEATER, GAS FURNACE, AND BOILER VENT MATERIAL SHALL COMPLY WITH MANUFACTURER'S LISTED AND APPROVED MATERIALS. PVC SHALL NOT BE USED FOR FLUE/COMBUSTION AIR VENTING MATERIAL. ENGINEERS PREFERRED MATERIAL IS PRESSURE RATED, DOUBLE WALL, GASKETED, 316 STAINLESS STEEL CONDENSING FLUE VENTING MATERIAL, RECOMMENDED MANUFACTURER'S SELKIRK OR JERMAIS.
- ALL REFRIGERANT LINES SHALL BE INSULATED IN A WORKMAN LIKE MANNER PER MANUFACTURER'S INSTRUCTIONS. REFRIGERANT LINES/SET LONGEST LENGTHS SHALL BE 75'.
- ROUTE CONDENSATE FROM CONDENSING MECHANICAL EQUIPMENT TO CONDENSATE NEUTRALIZATION KITS. CONDENSATE FROM NEUTRALIZATION KITS SHALL BE DISCHARGED INDIRECTLY THROUGH AIR GAP TO NEAREST FLOOR DRAIN.
- ALL MOTORIZED DAMPERS ON OUTDOOR AIR INTAKES AND EXHAUST SHALL BE PROVIDED WITH CLASS II MOTORIZED DAMPERS WITH A MAXIMUM LEAKAGE RATE OF 4 CFM/FT² AT 1.0 INCH WATER GAUGE WHEN TESTED IN ACCORDANCE WITH AMCA 5000. (PER 2012 IECC)
- MECHANICAL CONTRACTOR SHALL FIELD LOCATE EXISTING DUCTWORK PRIOR TO CONSTRUCTION. MECHANICAL CONTRACTOR SHALL COORDINATE TIE IN CONNECTION POINTS OF NEW SUPPLY DIFFUSERS WITH EXISTING DUCTWORK AS NECESSARY.
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FLAG NOTES:

- EXHAUST FAN TERMINATION: FIELD COORDINATE EXACT LOCATION OF TERMINATION AND MAINTAIN ALL CODE REQUIRED CLEARANCES AS PRESCRIBED BY THE I.M.C.
- DRYER DUCTED ROUTED TO EXTERIOR. COORDINATE ROUTING AND VERIFY MAXIMUM LENGTH WITH MANUFACTURER.
- COORDINATE FINAL COAXIAL BOILER FLUE TERMINATION LOCATION PER I.M.C. REQUIREMENTS.
- FINAL LOCATION, INSTALLATION, AND COORDINATION TO BE DETERMINED BY CONTRACTOR PER THE MANUFACTURER REQUIREMENTS.
- APRIL AIRE MODEL 300 HUMIDIFIER.
- 100 IN² OPENING IN LAUNDRY ROOM



MECHANICAL - NORTH BUILDING - LEVEL 1 FLOOR PLAN

SCALE: 1/4"=1'-0"

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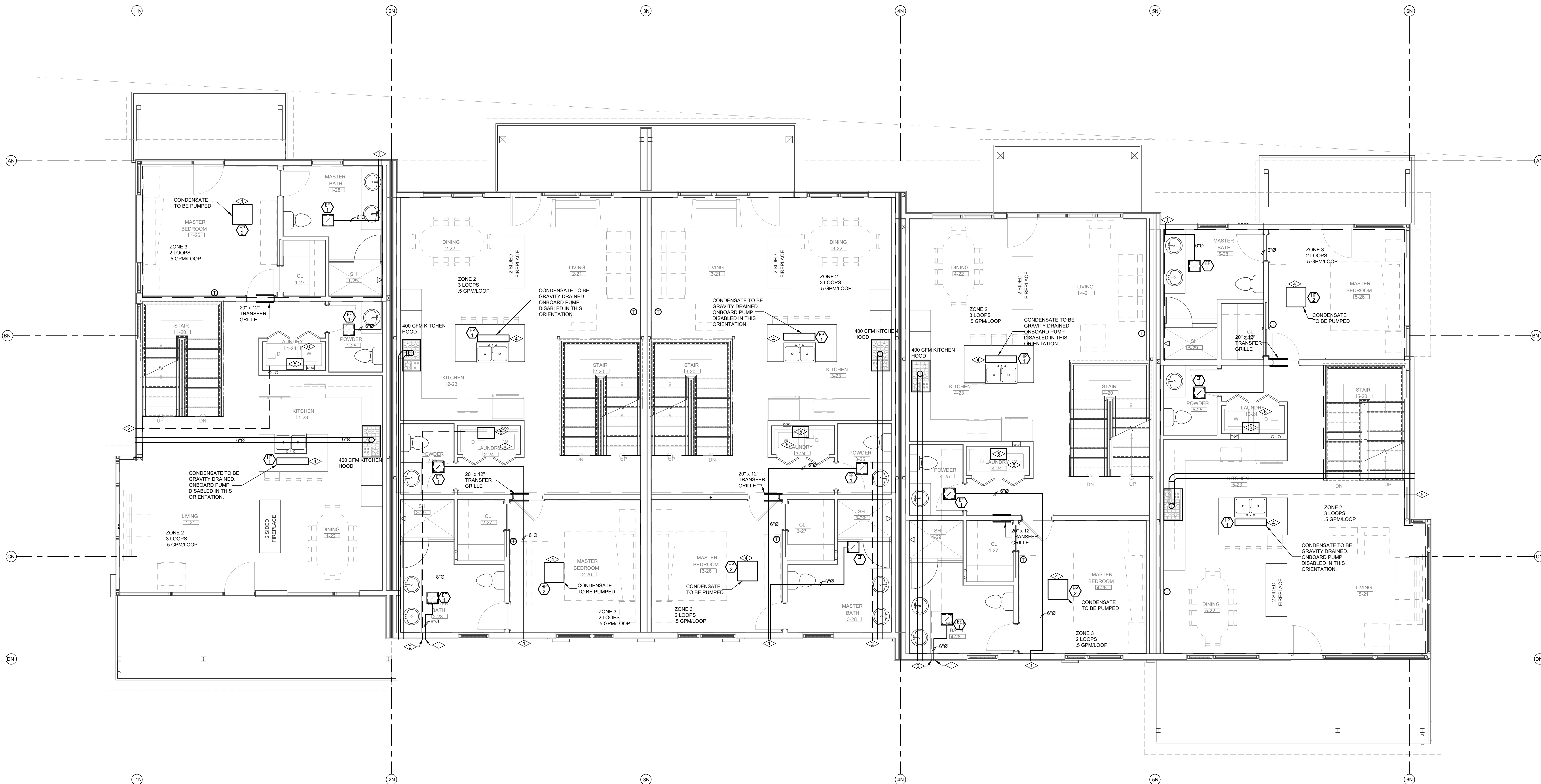
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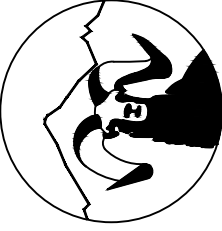
MECHANICAL - NORTH BUILDING - LEVEL 2 FLOOR PLAN

SCALE: 1/4"=1'-0"

NORTH

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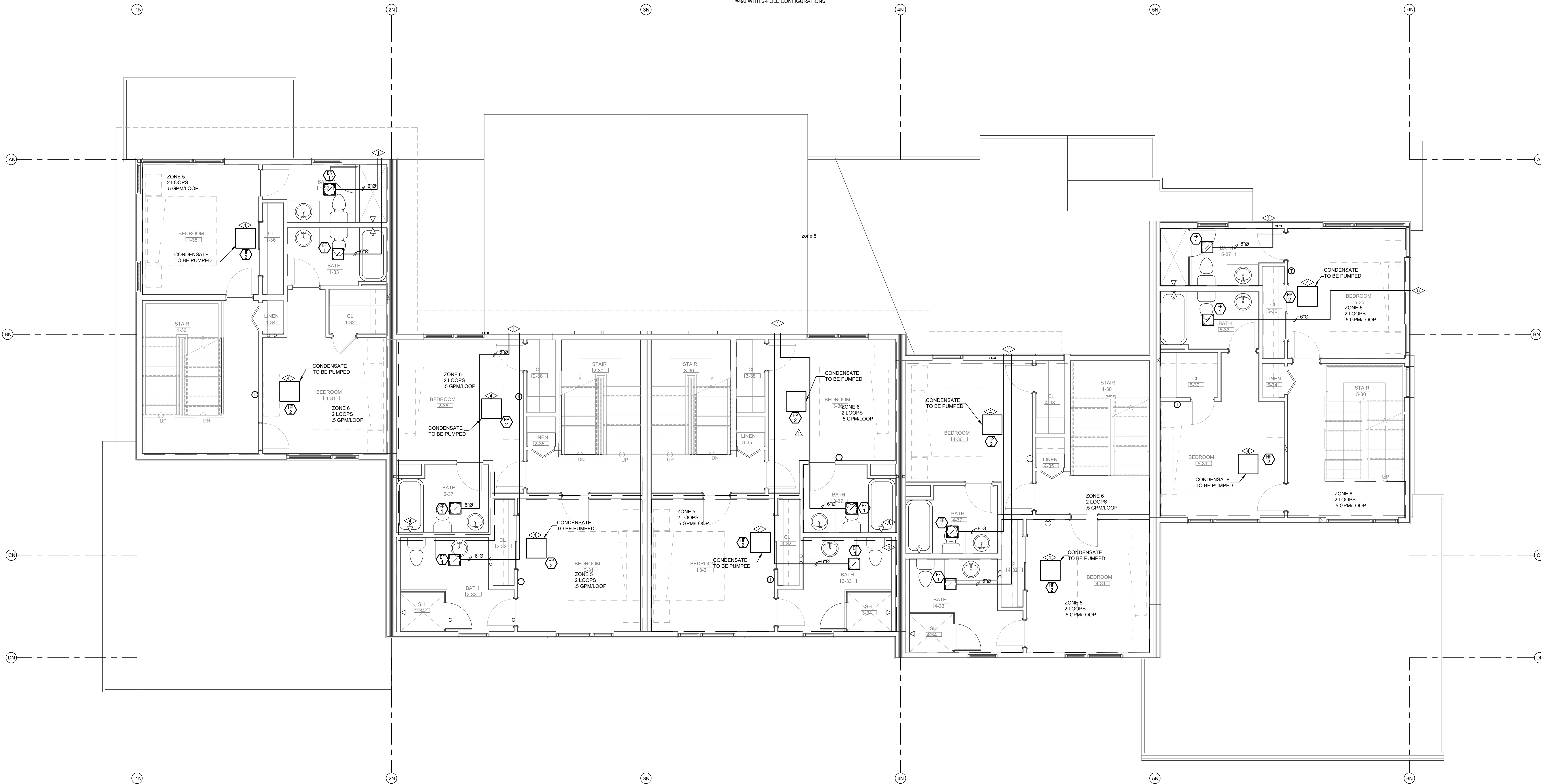
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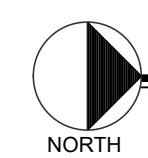
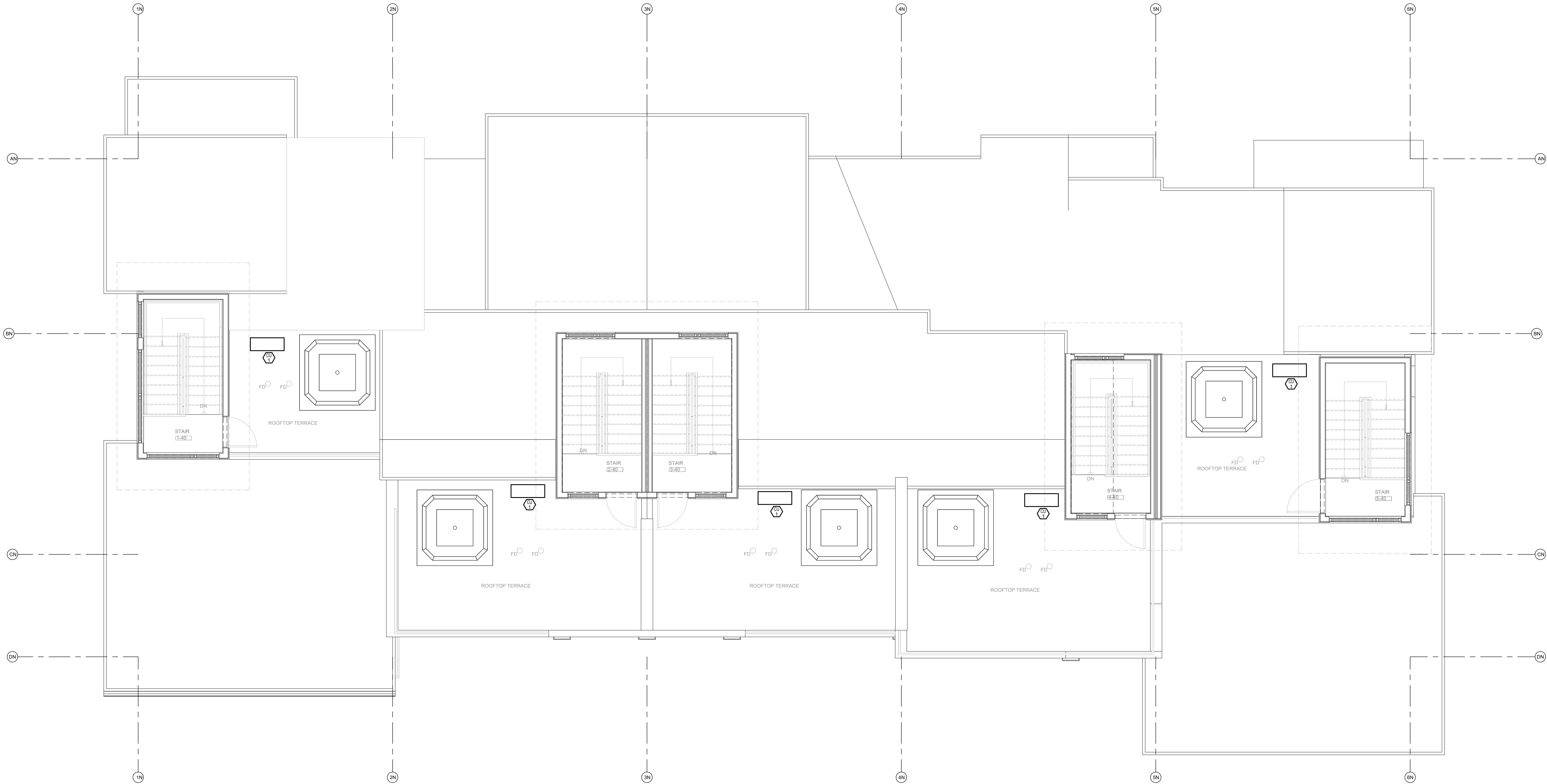
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- 100 IN² OPENING IN LAUNDRY ROOM



MECHANICAL - NORTH BUILDING - LEVEL 3 FLOOR PLAN

SCALE: 1/4"=1'-0"

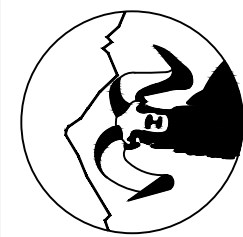


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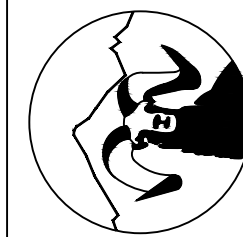
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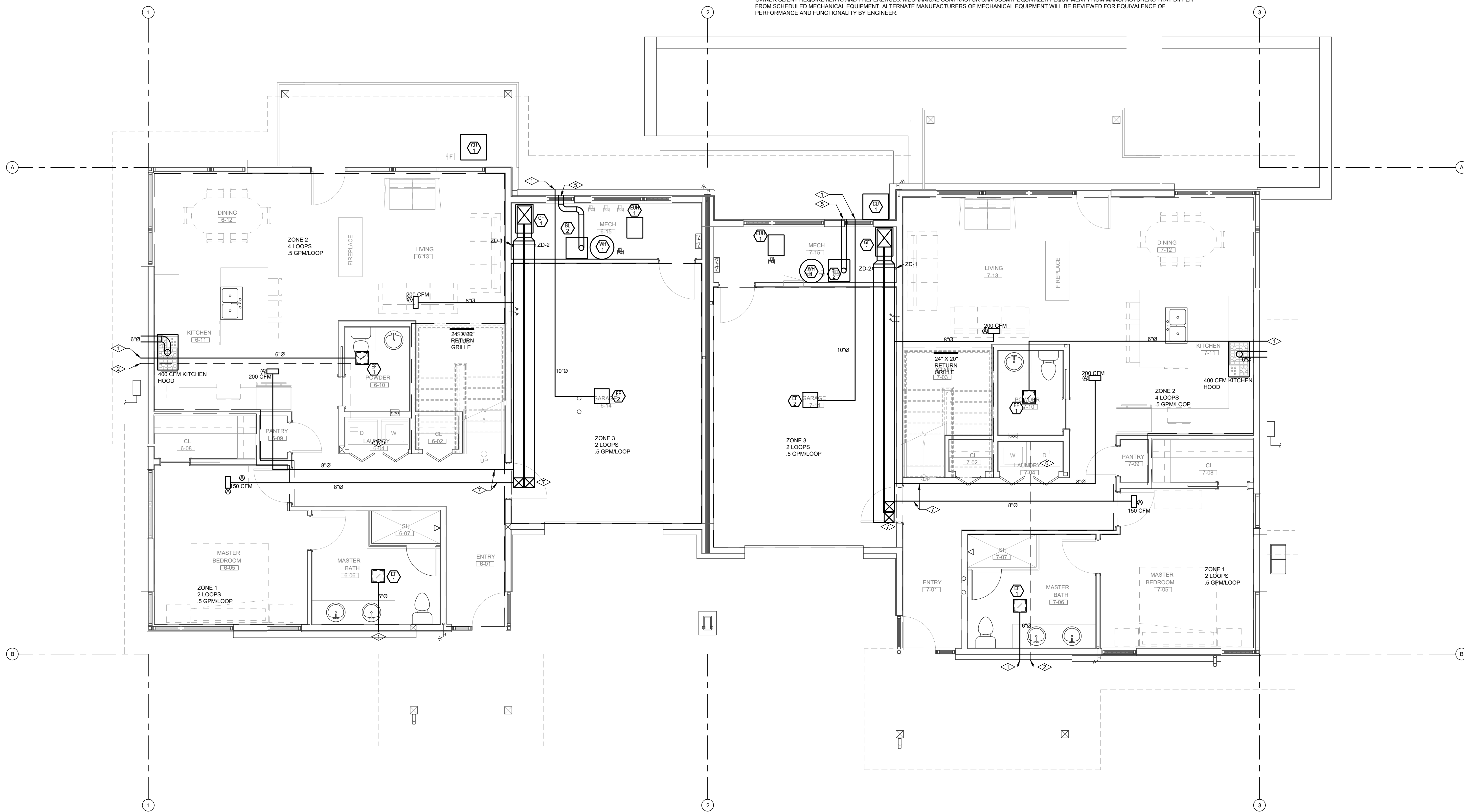
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2. DRYER DUCTED ROUTED TO EXTERIOR. COORDINATE ROUTING AND VERIFY MAXIMUM LENGTH WITH MANUFACTURER.
3. ZONE DAMPER 1 - SERVES KITCHEN/LIVING AND MASTER BEDROOM/BATHROOM.
4. ZONE DAMPER 2 - SERVES UPSTAIRS BEDROOM.
5. COORDINATE FINAL COAXIAL BOILER FLUE TERMINATION LOCATION PER I.M.C. REQUIREMENTS.
6. 100 IN² OPENING IN LAUNDRY ROOM.
7. DUCTS PENETRATING WALL AND CEILING OF GARAGE SHALL BE CONSTRUCTED OF NO. 26 GAGE SHEET STEEL OR OTHER APPROVED MATERIAL AND SHALL NOT HAVE OPENINGS INTO THE GARAGE. SEAL WITH FIRE CAULK AROUND THE DUCT TO DRYWALL ON BOTH SIDES.


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4. CONDENSING WATER HEATER, GAS FURNACE, AND BOILER VENT MATERIAL SHALL COMPLY WITH MANUFACTURER'S LISTED AND APPROVED MATERIALS.
5. ROUTE CONDENSATE FROM CONDENSING MECHANICAL EQUIPMENT TO CONDENSATE NEUTRALIZATION KITS. CONDENSATE FROM NEUTRALIZATION KITS SHALL BE DISCHARGED INDIRECTLY THROUGH AIR GAP TO NEAREST FLOOR DRAIN.
6. MECHANICAL EQUIPMENT MANUFACTURERS AS SCHEDULED ON MECHANICAL DRAWINGS ARE SUGGESTED MANUFACTURERS. UNLESS NOTED OTHERWISE DUE TO OWNER/CLIENT REQUIREMENTS AND PREFERENCES. MECHANICAL CONTRACTOR CAN SUBMIT EQUIVALENT EQUIPMENT FROM MANUFACTURERS THAT DIFFER FROM SCHEDULED MECHANICAL EQUIPMENT. ALTERNATE MANUFACTURERS OF MECHANICAL EQUIPMENT WILL BE REVIEWED FOR EQUIVALENCE OF PERFORMANCE AND FUNCTIONALITY BY ENGINEER.



MECHANICAL - SOUTH BUILDING - LEVEL 1 FLOOR PLAN

SCALE: 1/4"=1'-0"



Bighorn Creek
Mechanical



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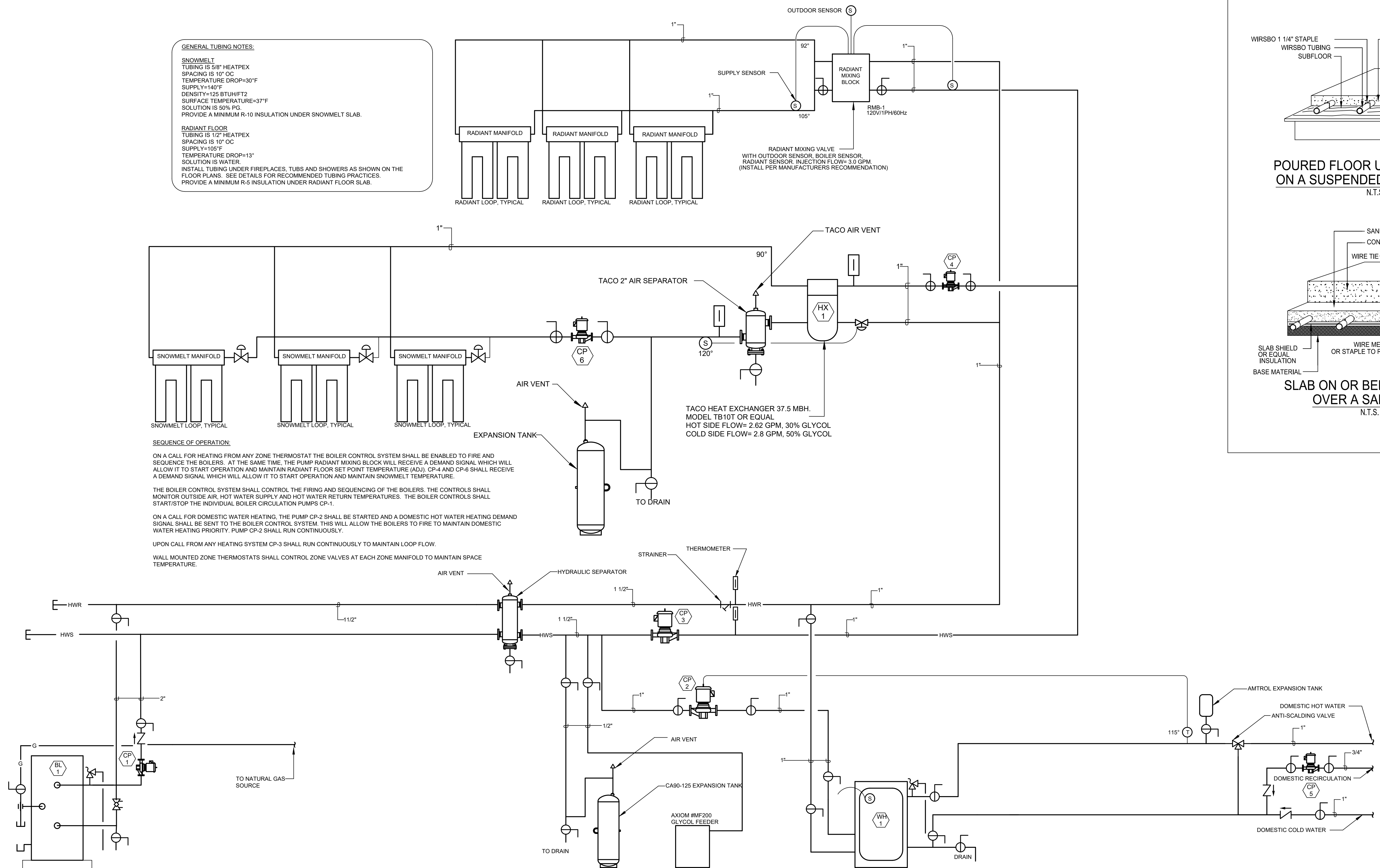
1805 WALTON CREEK ROAD
STEAMBOAT SPRINGS, COLORADO

DATE	ISSUED FOR:
06/17/2022	PERMIT
09/07/2022	PERMIT CORRECTIONS
09/21/2022	ONE-LINE REVISION
09/29/2025	ADDENDUM 1 RE-ISSUE




DATE	06/17/2022
JOB NO.	21-276
DRAWN BY	BCE
CHECKED BY	BCE
SCALE	AS SHOWN
SHEET NUMBER	M2-1

August 25, 2025 - 3:53:42pm



NORTH AND SOUTH BUILDING HEATING BOILER PIPING DETAIL
SCALE: NTS

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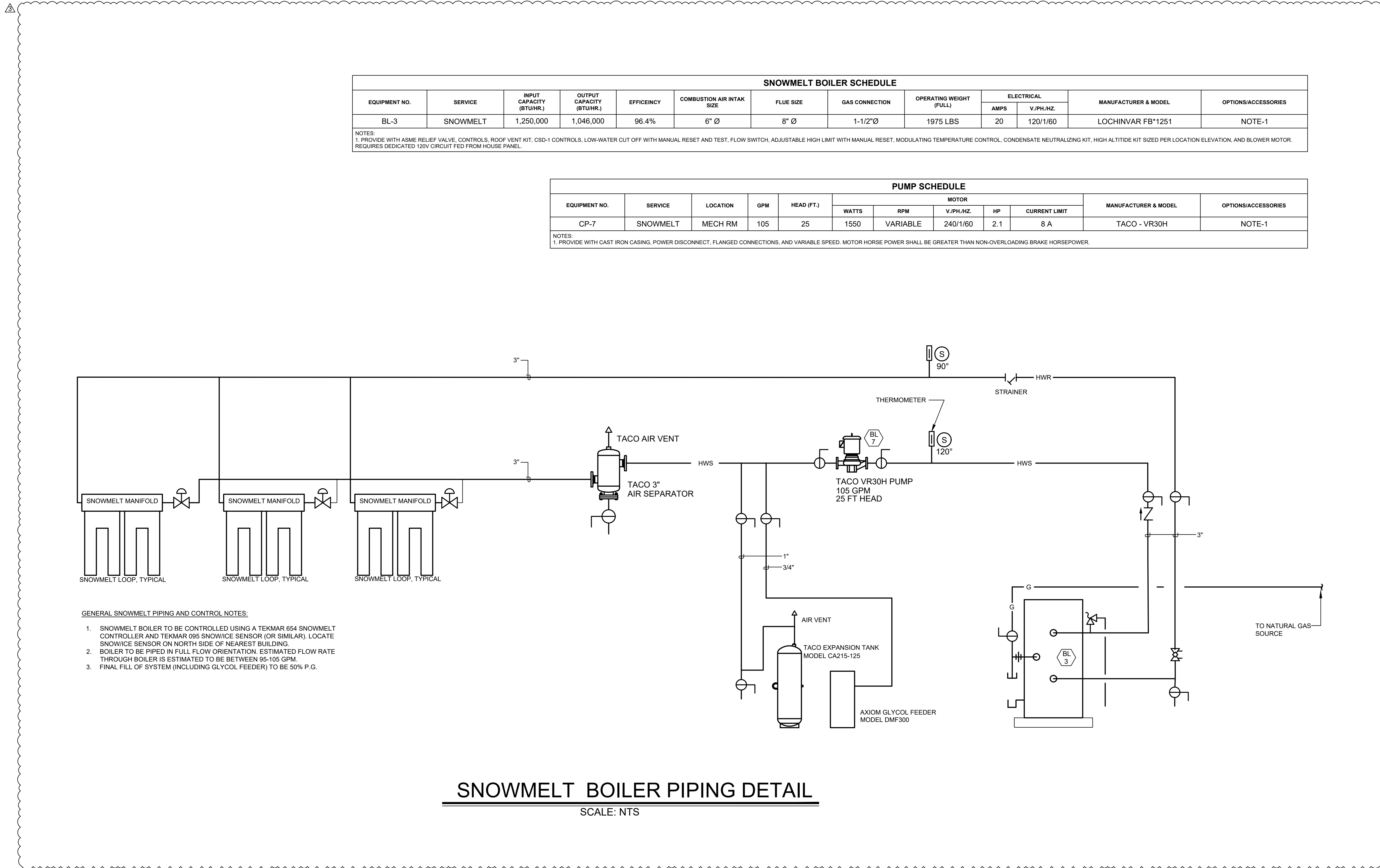
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DRAWN BY	BCE
CHECKED BY	BCE
SCALE	AS SHOWN
SHEET NUMBER	M2-2



MECHANICAL PROVISIONS

1. SCOPE OF WORK

- A. THE CONTRACTOR IS RESPONSIBLE FOR ALL WORK, MATERIALS, AND LABOR TO SATISFY A COMPLETE WORKING SYSTEM WHETHER SPECIFIED OR IMPLIED.
- B. ALL WORK IS TO BE PERFORMED IN STRICT COMPLIANCE WITH ALL LOCAL CODES AND ALL OTHER REGULATION GOVERNING WORK OF THIS NATURE.
- C. THE CONTRACTOR SHALL, BEFORE SUBMITTING ANY PROPOSAL, EXAMINE THE PROPOSED SITE AND SHALL DETERMINE FOR HIMSELF THE CONDITIONS THAT MAY AFFECT THE WORK. NO ALLOWANCE SHALL BE MADE IF THE CONTRACTOR FAILS TO MAKE SUCH EXAMINATIONS.
- D. ALL EQUIPMENT AND MATERIALS SHALL BE AS SPECIFIED OR "APPROVED EQUAL" BY THE ENGINEER OR ARCHITECT.

2. PERMITS

- A. THE CONTRACTOR SHALL SECURE ALL PERMITS OR APPLICATIONS AND PAY ANY AND ALL FEES.

3. SHOP DRAWINGS

- A. SUBMIT MATERIAL LIST AND SHOP DRAWINGS FOR MAJOR EQUIPMENT TO THE ARCHITECT/ENGINEER FOR APPROVAL. THE CONTRACTOR SHALL SUBMIT FIVE SETS OF SHOP DRAWINGS AND THEY SHALL BE CLEARLY LABELED.

4. FLEXIBLE DUCT WORK

- A. FLEXIBLE TYPE DUCT SHALL BE OF TWO ELEMENT SPIRAL CONSTRUCTION COMPOSED OF A CORROSION RESISTANT METAL SUPPORTING SPIRAL AND COATED FABRIC WITH A MINERAL BASE. FLEXIBLE DUCT CONNECTORS SHALL BE LISTED BY U.L. CLASS 1 DUCTS, AND SHALL HAVE A FLAME SPREAD RATING NOT EXCEEDING 25 AND A SMOKE DEVELOPED RATING NOT EXCEEDING 50.
- B. USE OF FLEXIBLE DUCTWORK SHALL BE LIMITED TO NO MORE THAN 6 LINEAR FEET PER RUN.
- C. CONTRACTOR SHALL BE CAREFUL SO AS NOT TO KINK OR COLLAPSE FLEXIBLE DUCT.
5. REFRIGERANT

- A. PIPING CONTRACTOR SHALL PROVIDE AND INSTALL REFRIGERANT PIPING IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND IN SUCH A WAY AS TO BE INCONSPICUOUS AND FREE FROM ANY POSSIBLE CONDENSATION.
- B. INSULATE REFRIGERANT LINES WITH ARMOUR-FLEX TYPE INSULATION. SHALL BE TYPE "K" COPPER TUBING, WITH WROUGHT COPPER SOLDER TYPE FITTINGS SUITABLE FOR CONNECTION WITH SILVER SOLDER.

6. DUCTWORK

- A. THE DUCTWORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE "SMACNA" APPLICABLE MANUALS.
- B. ALL DUCTWORK SHALL BE THE LOW VELOCITY TYPE, UNLESS SPECIFIED OTHERWISE.
- C. CONTRACTOR SHALL PROVIDE AND INSTALL APPROVED FIRE DAMPERS AND ACCESS PANELS IN ANY AND ALL DUCTWORK WHICH PENETRATES A HORIZONTAL OR VERTICAL FIRE PARTITION, OR AS OTHERWISE SHOWN ON DRAWINGS.
- D. ALL BRANCH DUCTS TO HAVE VOLUME DAMPERS. SMOOTH TURN RADIUS DUCTWORK OR TURNING VANES SHALL BE USED THROUGHOUT WHERE FLOW EXCEEDS 150 CFM.
- E. ALL DUCT JOINTS TO BE SEALED IN ACCORDANCE WITH "SMACNA" STANDARDS AND ACCEPTED GOOD PRACTICE.
- F. ALL DUCT DIMENSIONS SHOWN ARE NET INSIDE VALUES. DIMENSIONS MAY BE CHANGED SO LONG AS THE NET FREE FACE AREA IS MAINTAINED.
- G. ALL CONCEALED DUCTWORK SHALL BE INSULATED WITH 1-1/2" FIBERGLASS INSULATING BLANKET WITH ALUMINUM FOIL FACING.
- H. ALL SUPPLY AND RETURN DUCTWORK IS FEET DOWNSTREAM OF THE HVAC UNIT SHALL BE INTERNALLY LINED WITH A 1/2" ACOUSTICAL DUCT LINER UNLESS OTHERWISE NOTED ON THE DRAWINGS.

7. DRAINAGE PIPING

- A. (CONDENSATE) SHALL BE SCHEDULE 40 PVC PIPE WITH SOLVENT JOINTS. PITCH HORIZONTAL LINES 1" IN 10'-0". CONDENSATE DRAINS SHALL BE ROUTED TO FLOOR DRAIN, ROOF DRAIN OR INDIRECT WASTE DRAIN.

8. HVAC CONTROLS

- A. CONTRACTOR TO SUPPLY AND INSTALL ALL CONTROL WIRING AND THERMOSTATS AS REQUIRED.

9. ELECTRICAL

- A. CONTRACTOR TO COORDINATE WITH ELECTRICAL CONTRACTOR FOR LOCATION OF WIRING FOR EACH HVAC UNIT.

10. PIPE SUPPORTS

- A. ALL PIPE SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE IN A NEAT AND WORKMANLIKE MANNER. THE USE OF WIRE OR METAL STRAP TO SUPPORT PIPES WILL NOT BE PERMITTED. SPACING OF PIPE SUPPORTS SHALL NOT EXCEED 8 FEET FOR ALL PIPING. PLASTIC PIPING TO BE SUPPORTED EVERY 4 FEET.

11. GAS PIPING

- A. PIPING SHALL BE SCHEDULE 40 BLACK STEEL PIPE WITH MALLEABLE IRON FITTINGS. WHERE GAS PIPE CONNECTS TO EQUIPMENT, IT SHALL BE PROVIDED WITH A DRIP LEG THE FULL SIZE OF THE RUNOUT. A 100% SHUT-OFF VALVE AND A UNION. GAS PIPING CONTAINING PRESSURE GREATER THAN 1" W.G. SHALL BE SCHEDULE 40 BLACK STEEL PIPE WITH WELDED JOINTS.

12. MISCELLANEOUS

- A. ALL EXTERIOR OPENINGS TO BE PROPERLY CAULKED AND SEALED WITH A SEALANT OF HIGH QUALITY AND LONG LIFE. TO PREVENT INFILTRATION OF OUTSIDE AIR INTO CONDITIONED SPACE. COORDINATE INSTALLATION OF ALL ROOF FLASHING AT ROOF PENETRATION.
- C. DO NOT SCALE THIS DRAWING FOR EXACT DIMENSIONS. VERIFY ALL FIGURES, CONDITIONS, AND DIMENSIONS AT THE JOB SITE.
- D. THE MECHANICAL PLANS ARE INTENDED TO BE DIAGRAMMATIC AND ARE BASED ON ONE MANUFACTURER'S EQUIPMENT. THEY ARE NOT INTENDED TO SHOW EVERY ITEM IN ITS EXACT LOCATION, THE EXACT DIMENSIONS, OR ALL THE DETAILS OF THE EQUIPMENT.
- E. THE CONTRACTOR SHALL VERIFY THE ACTUAL DIMENSIONS OF THE EQUIPMENT PROPOSED TO ENSURE THAT THE EQUIPMENT WILL FIT IN THE AVAILABLE SPACE.
- D. PEX TUBING, IF PEX TUBING IS USED AS AN APPROVED ALTERNATE FOR APPLICATIONS WHERE METALLIC PIPING IS THE BASIS OF DESIGN, THE PEX MANUFACTURER SHALL SUBMIT SHOP DRAWINGS CLEARLY INDICATING THAT THE DESIGN HAS BEEN ANALYZED AND MODIFIED, AS REQUIRED, TO MAINTAIN SCHEDULED HYDRONIC SYSTEM PARAMETERS. ANY DESIGN RESULTING IN INCREASED SYSTEM PRESSURE DROP AS A RESULT OF IMPROPER PEX SIZING OR DESIGN SHALL NOT BE PERMITTED.

13. TESTING AND BALANCING

- A. THE HVAC SYSTEM SHALL BE TESTED AND AND BALANCED BY AN INDEPENDENT AGENCY, UNDER THE SUPERVISION OF A LICENSED PROFESSIONAL ENGINEER. A SEALED TYPE WRITTEN REPORT SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER FOR REVIEW AND APPROVAL.

14. GUARANTEE

- A. MATERIALS, EQUIPMENT AND INSTALLATION SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR FROM DATE OF ACCEPTANCE. DEFECTS WHICH APPEAR DURING THAT PERIOD SHALL BE CORRECTED AT THIS CONTRACTOR'S EXPENSE.
- B. FOR THE SAME PERIOD, THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO PREMISES CAUSED BY DEFECTS IN WORKMANSHIP OR IN THE WORK OR EQUIPMENT FURNISHED AND/OR INSTALLED BY HIM.

GAS FURNACE SCHEDULE															
EQUIPMENT NO.	SERVICE	SUPPLY AIR (CFM)	OUTSIDE AIR (CFM)	E.S.P. (IN WG.)	COOLING NOMINAL MBH	HEATING			EFFICIENCY A.F.U.E	FAN HP	ELECTRICAL			MANUFACTURER & MODEL	OPTIONS/ACCESSORIES
						GAS CFH	MBH INPUT	MBH OUTPUT			V/PH/Hz	MCA	MOCp		
GF-1	HOUSE	1,200	75		24	37.5	30	28.8	96%	1/2	115/1/60	8.6	15	DAIKIN - DM96TN 0303ANA	NOTE-1

NOTES:
1. PROGRAMMABLE THERMOSTAT, AND HIGH ALTITUDE KIT SIZED PER LOCATION ELEVATION.

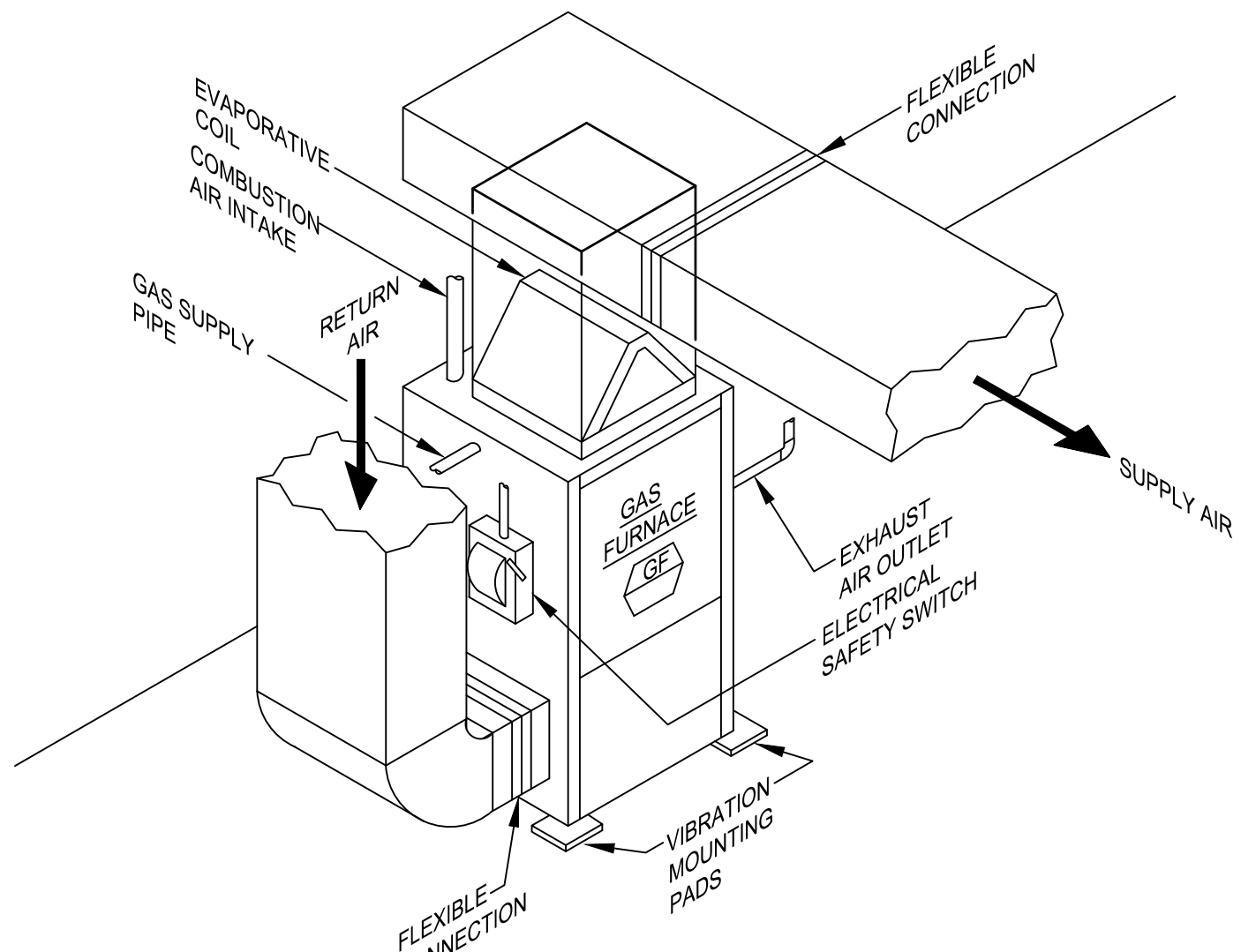
NOTES:

1. PROGRAMMABLE THERMOSTAT, AND HIGH ALTITUDE KIT SIZED PER LOCATION ELEVATION.

CONDENSING UNIT SCHEDULE									
EQUIPMENT NO.	SERVICE	NOMINAL COOLING CAPACITY (TON)	REFRIG. PIPING		ELECTRIC			MANUFACTURER & MODEL	OPTIONS/ACCESSORIES
			LIQUID	VAPOR	V/PH/Hz	MOP (A)	MCA (A)		
CU-1	HOUSE	24,000	3/8"	3/4"	208/230/1/60	30	17.6	DAIKIN - DX14SA 0241B	NOTE -1

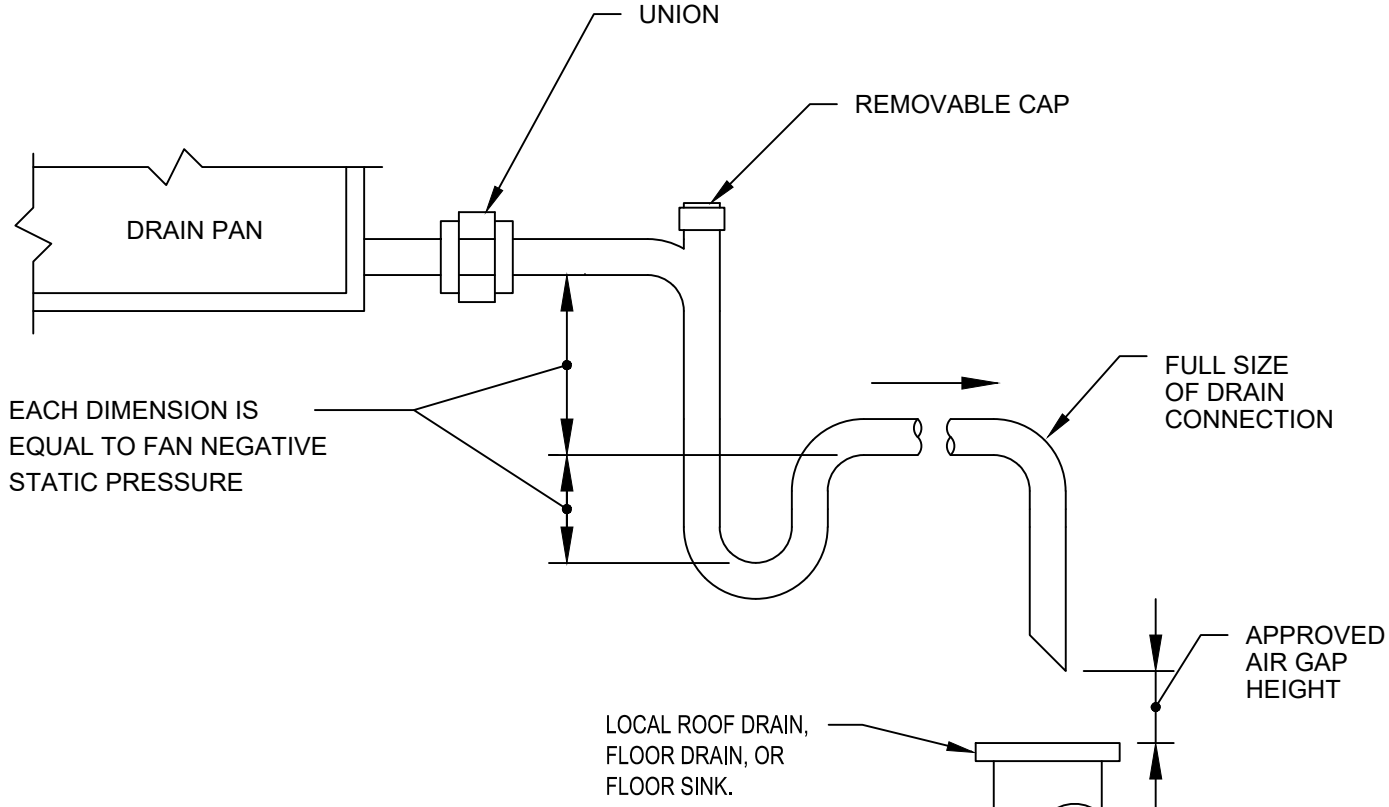
NOTES:

1. PROVIDE LINESET RECOMMENDED BY MANUFACTURER, POWER DISCONNECT, HEATED DRAIN PAN, 18" STAND, WIND BAFFLES.



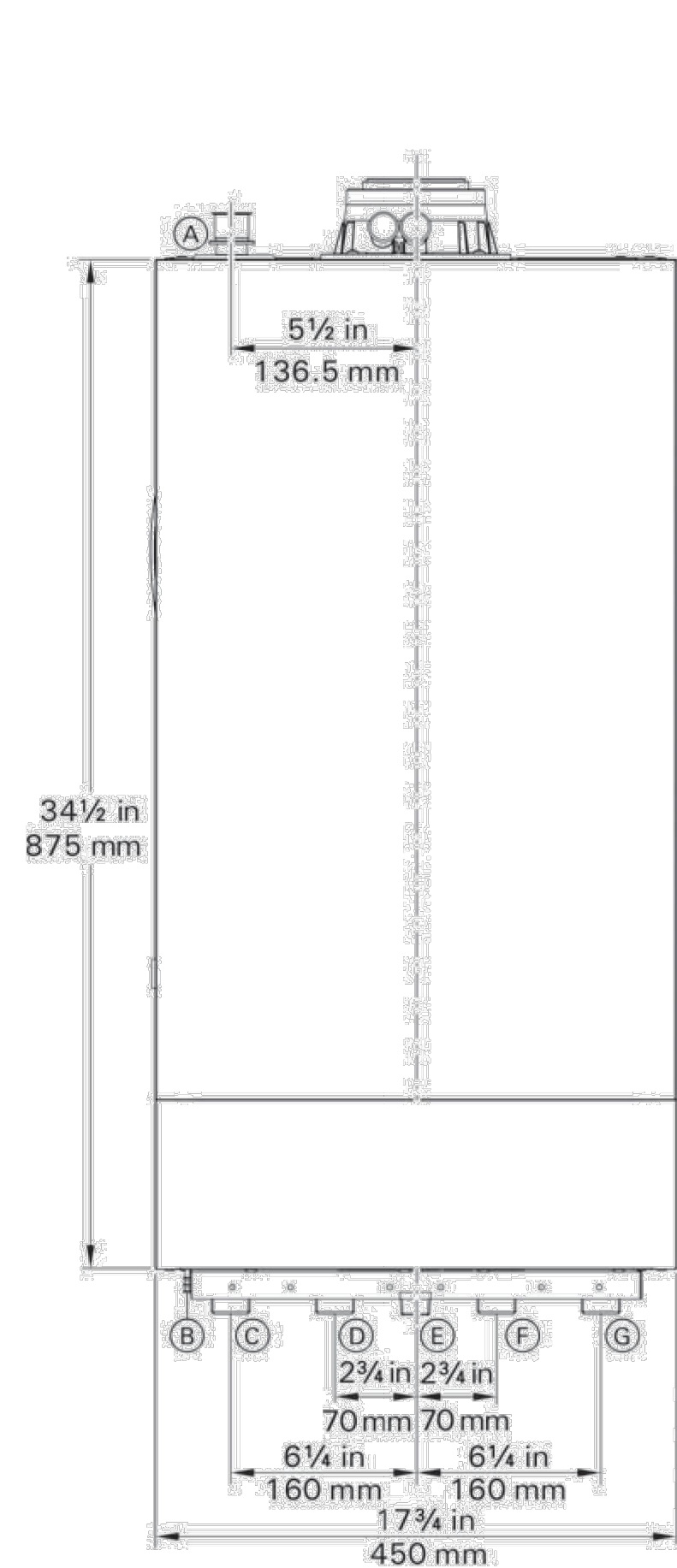
UPFLOW GAS FURNACE DETAIL

NOT TO SCALE

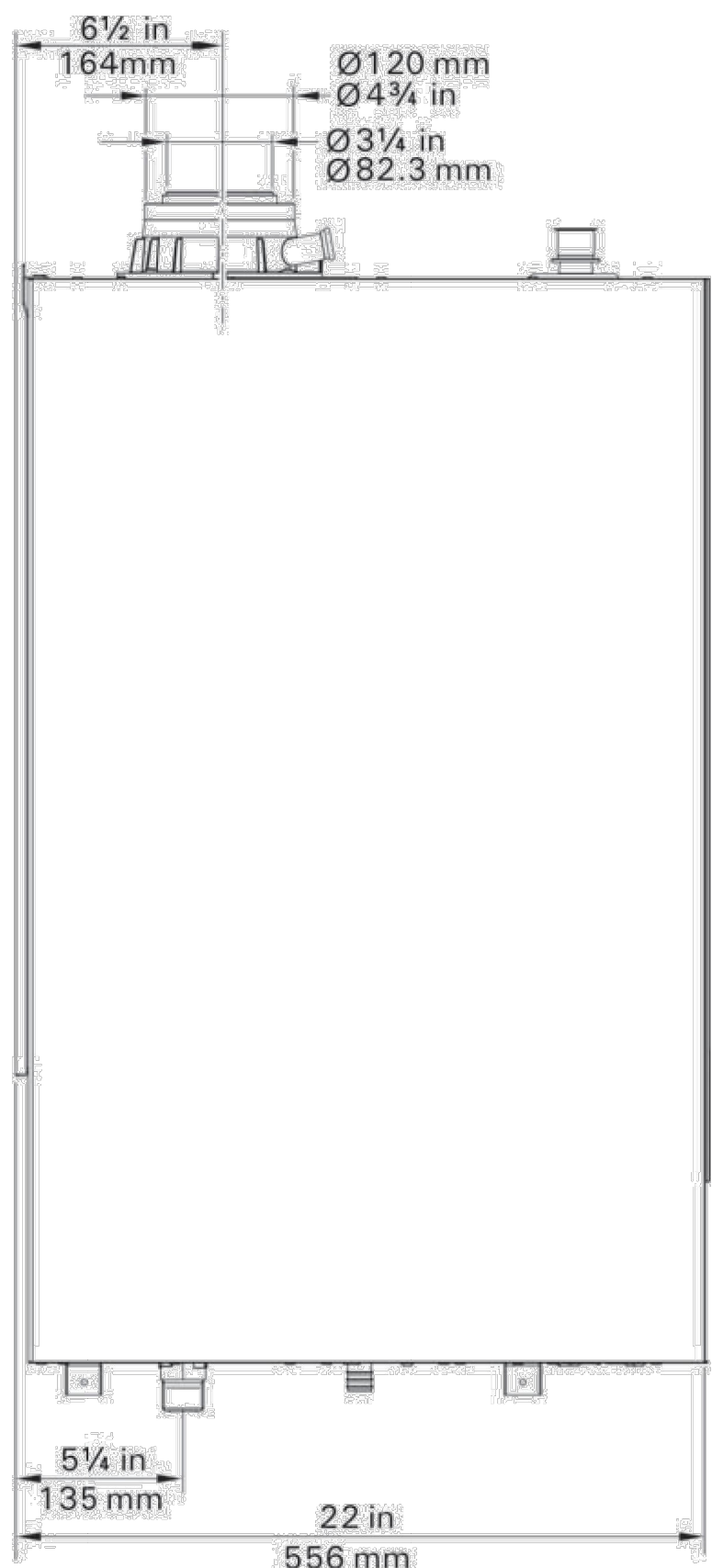


CONDENSATE DRAIN DETAIL

N.T.S.



Front view



Side view

Legend

- (A) Safety valve, pressure gauge connection
(B) Condensate drain
(C) Heating system supply
(D) DHW tank heating supply
(E) Fuel gas connection
(F) DHW tank heating return
(G) Heating system return

GAS FIRED WALL-MOUNTED CONDENSING BOILER

N.T.S.

VRF AIR COOLED CONDENSING UNIT SCHEDULE										
EQUIPMENT NO.	SERVICE	NOMINAL HEATING CAPACITY (BTU/h)	NOMINAL COOLING CAPACITY (BTU/h)	REFRIG. PIPING		ELECTRIC			MANUFACTURER & MODEL	OPTIONS/ACCESSORIES
				LIQUID	VAPOR	V/PH/Hz	MOP (A)	MCA (A)		
CU-1	TOWNHOUSE	54,000	48,000	3/8	5/8	208-230/1/60	30	29.8	FUJITSU-AOU48RLAVM4	NOTE - 1

NOTES:

1. PROVIDE LINE SET AS RECOMMENDED BY MANUFACTURER. POWER DISCONNECT, THERMOSTAT, AND HEATED DRAIN PAN.

NOTES:

1. PROVIDE LINE SET AS RECOMMENDED BY MANUFACTURER, POWER DISCONNECT, THERMOSTAT, AND HEATED DRAIN PAN.

INDOOR VRF UNIT EQUIPMENT SCHEDULE										
EQUIPMENT NO.	SERVICE	NOMINAL COOLING CAPACITY (BTU/HR.)	NOMINAL HEATING CAPACITY (BTU/HR.)	CFM	REFRIGERANT PIPING DIAMETER		ELECTRICAL		MANUFACTURER & MODEL	OPTIONS/ACCESSORIES
					LIQUID	SUCTION	MCA (AMPS)	V./PH./HZ.		
HP-1	KITCHEN/LIVING	18,000	20,000	554	1/4"	1/2"	0.76	208-230/1/60	FUJITSU-ARUL18LAV2	NOTE-1
HP-2	BEDROOMS	9,500	10,900	324	1/4"	3/8"	0.51	208-230/1/60	FUJITSU-AUUA9TLAV2	NOTE-1

NOTES:

1. PROVIDE WITH POWER DISCONNECT, LINESET RECOMMENDED BY MANUFACTURER. PROVIDE CONDENSATE OVERFLOW SWITCH.

INDIRECT WATER HEATER SCHEDULE							
EQUIPMENT NO.	CAPACITY	RECOVERY @100 DEG F. RISE	BTU PER HR.	BOILER CONNECTION	WATER CONNECTION	MANUFACTURER & MODEL	OPTIONS/ACCESSORIES
WH-1	79		169,000	1"	1"	VISSMANN - 300-V EVIB-79	NOTE-1

NOTES:

1. DRAIN PAN PIPED TO NEAREST FLOOR DRAIN. BRAID FLEXIBLE STAINLESS STEEL HOSES TO DOMESTIC COLD AND HOT WATER CONNECTIONS. ISOLATION VALVES ON ALL CONNECTIONS TO WATER HEATER. PROVIDE HIGH ALTITUDE KIT SIZED PER LOCATION ELEVATION.

EXHAUST FAN SCHEDULE									
EQUIPMENT NO.	SERVICE	LOCATION	CFM	EXTERNAL STATIC PRESS (IN. W.G.)	MOTOR			MANUFACTURER & MODEL	OPTIONS/ACCESSORIES
					WATTS	HP	RPM		
EF-1	BATHROOM	CEILING	50/110	0.25	7.20	-	120/1/60	PANASONIC - FV0511VQ1	NOTE-1
EF-2	GARAGE	CEILING	290	0.1	64.00	-	120/1/60	PANASONIC - FV30VQ3	NOTE-2

NOTES:

1. PROVIDE WITH CEILING FRAME, DUCT CONNECTIONS, AND BACK DRAFT DAMPER. EXHAUST FAN TO OPERATE CONTINUOUSLY ON LOW AND SWITCH TO HIGH WHEN OCCUPIED.
2. PROVIDE WITH CEILING FRAME, DUCT CONNECTIONS, AND BACK DRAFT DAMPER. EXHAUST FAN TO OPERATE WHILE SPACE IS OCCUPIED. FAN TO CONTINUE OPERATE FOR TIME AFTER SPACE IS UNOCCUPIED.

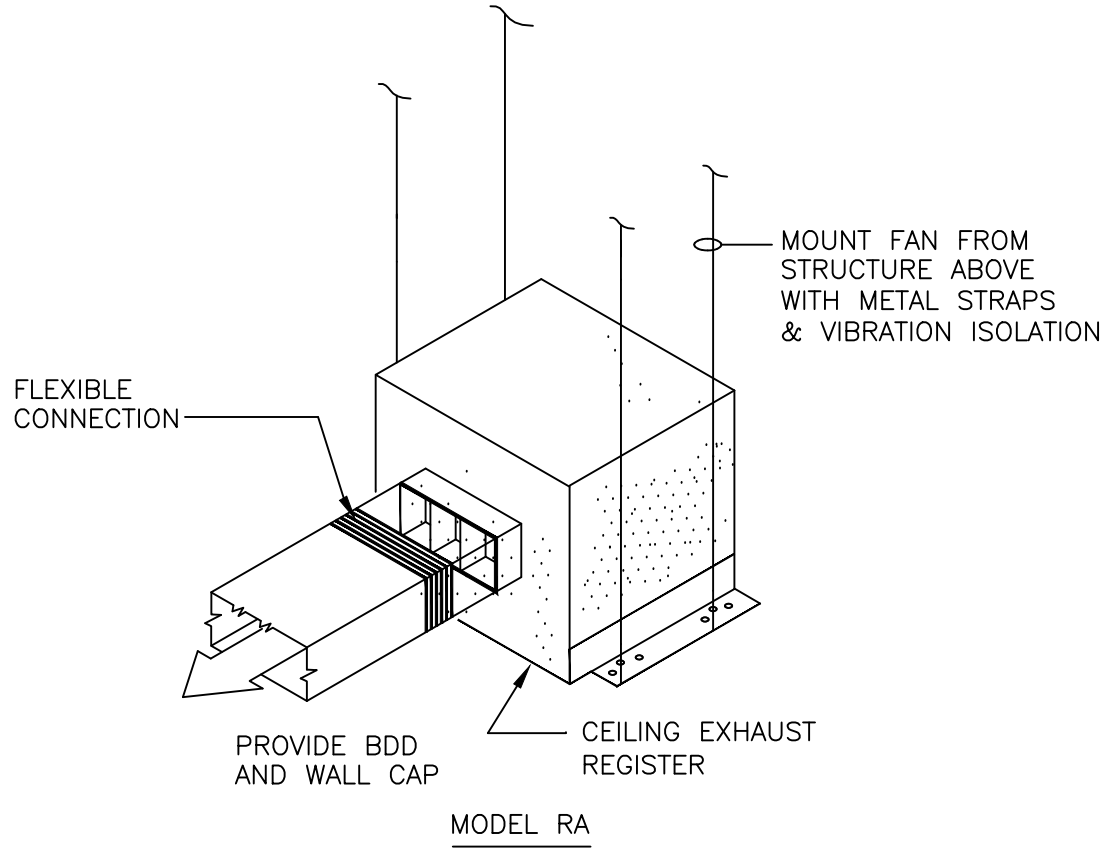
ELECTRIC UNIT HEATER SCHEDULE										
EQUIPMENT NO.	SERVICE	CFM	HP	RPM	BTU/HR	KW	FULL LOAD AMPS (FLA)	V/PH/Hz	MANUFACTURER & MODEL	OPTIONS/ACCESSORIES
EUH-1	MECH ROOM	175	-	700	5,120	1.5	12.5	120/1/60	RAYWALL - E338D-RP	NOTE-1
NOTES: 1. PROVIDE SURFACE MOUNTING KIT, TAMPER PROOF INTEGRAL THERMOSTAT, COORDINATE COLOR WITH ARCHITECT										

NOTES:

1. PROVIDE SURFACE MOUNTING KIT, TAMPER PROOF INTEGRAL THERMOSTAT, COORDINATE COLOR WITH ARCHITECT.

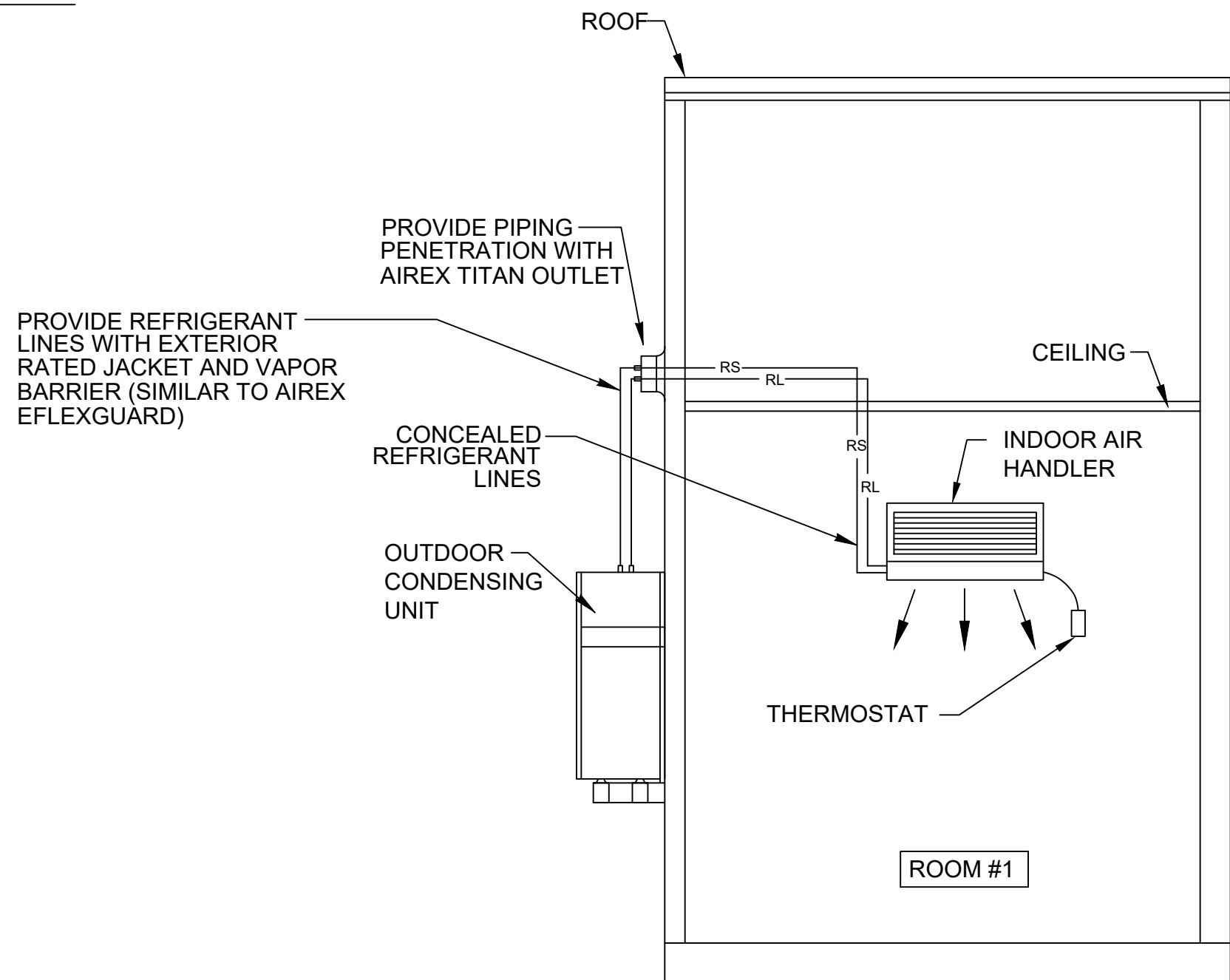
GRILLE-REGISTER-DIFFUSER SCHEDULE					
EQUIPMENT NO.	SIZE	MODEL	MANUFACTURER	FINISH	OPTIONS/ACCESSORIES
A	12" X 6"	540/640	PRICE	WHITE	NOTE -1
B	7" X 5"	540/640	PRICE	WHITE	NOTE -1
C	20" X 12"	600	KRUEGER	WHITE	NOTE -1

NOTES: COORDINATE ALL MOUNTING TYPES WITH CEILING.



CEILING EXHAUST FAN DETAIL

NOT TO SCALE



DUCTLESS SPLIT-SYSTEM WITH SINGLE

AIR HANDLING UNITS DETAIL

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PLUMBING PIPE DESIGNATIONS	
LINE TYPE	DESCRIPTION
140	HIGH TEMPERATURE (140°) WATER PIPE
—	COLD WATER PIPE (CWP)
CA	COMPRESSED AIR
DC	DECONTAMINATION PIPING
DER	DEIONIZED WATER RETURN
DES	DEIONIZED WATER SUPPLY
DIS	DISTILLED WATER SUPPLY
DIR	DISTILLED WATER RETURN
CD	EQUIPMENT CONDENSATE DRAIN
FP	FIRE MAIN
GW	GREASE WASTE PIPE
HE	HELIUM
HPS	HIGH PRESSURE STEAM
HPC	HIGH PRESSURE CONDENSATE
—	HOT WATER RECIRCULATION (HWR)
—	HOT WATER PIPE (HW)
H2	HYDROGEN
LPC	LOW PRESSURE CONDENSATE
LPS	LOW PRESSURE STEAM
MA	MEDICAL AIR
G	NATURAL GAS PIPE
N2	NITROGEN
N2O	NITROUS OXIDE
ORD	OVERFLOW STORM WATER PIPE
O2	OXYGEN
PG	PROPANE GAS
RD	ROOF DRAIN PIPE
—	SOIL OR WASTE PIPE
S/O	SOIL / OIL WASTE PIPE
TWR	TOWER WATER RETURN
TWS	TOWER WATER SUPPLY
VAC	VACUUM
—	VENT PIPE (V)

PLUMBING ELEMENTS / VALVING	
LINE TYPE	DESCRIPTION
	PRESSURE REDUCING VALVE (PRV)
	GATE VALVE
	GLOBE VALVE
	PLUG VALVE
	BUTTERFLY VALVE
	BALL VALVE
	SWING CHECK VALVE
	LIFT CHECK VALVE
	GATE VALVE, ANGLE
	GLOBE VALVE, ANGLE
	TEMPERATURE AND PRESSURE RELIEF VALVE
	GAS COOK
	GAS PRESSURE REGULATOR
	STRAINER
	STRAINER WITH BLOW OFF VALVE
	WATER HEATER
	WATER METER
	PRESSURE GAGE
	TEMPERATURE GAGE

LINE TYPE	DESCRIPTION
	PIPE RISING UP
	PIPE DROPPING DOWN
	UNION - SCREWED OR FLANGED
	PRESSURE TRANSMITTER OR PRESSURE SWITCH
	THERMOMETER/TEMPERATURE INDICATOR
	GAUGE WITH GAUGE COCK/ PRESSURE INDICATOR
	BACKFLOW PREVENTOR (REDUCED ZONE)
	BACKFLOW PREVENTOR (DOUBLE CHECK VALVE ASSEMBLY)
	WATER HAMMER ARRESTER
	CIRCUIT SETTING
	HOSE BIBB
	ROOF DRAIN
	FLOOR DRAIN
	AREA DRAIN
	FLOOR CLEAN OUT
	FLOOR SINK
	CLEAN OUT TO GRADE
	WALL CLEAN OUT
	FLEXIBLE-CONNECTION
	CHECK VALVE
	VACUUM BREAKER

RESPONSIBLE DIVISION:

UNLESS OTHERWISE INDICATED ALL HEATING, VENTILATING, AIR CONDITIONING, PLUMBING, AND OTHER MECHANICAL EQUIPMENT, MOTORS, AND CONTROLS SHALL BE FURNISHED, SET IN PLACE AND WIRED AS FOLLOWS:

ITEM	FURNISHED	SET	POWER WIRED	CONTROL WIRED
EQUIPMENT	23	23	26	--
COMBINATION MAGNETIC MOTOR STARTERS, MAGNETIC MOTOR STARTERS, VFD'S AND CONTACTORS	23(1)	26	26(2)	23
FUSED AND UNFUSED DISCONNECT SWITCHES, THERMAL OVERLOAD SWITCHES AND HEATERS, MANUAL MOTOR STARTERS	26	26	26	--
MANUAL OPERATING AND MULTI-SPEED SWITCHES	23	26	26	26
CONTROLS, RELAYS, TRANSFORMERS	23	23	26	23
THERMOSTATS (LOW VOLTAGE) AND TIME SWITCHES	23	23	26	23
THERMOSTATS (LINE VOLTAGE)	23	23	26	26
TEMPERATURE CONTROL PANELS	23	23	26	23
MOTOR AND SOLENOID VALVES, DAMPER MOTORS, PE & EP SWITCHES	23	23(2)	--	23(2)
PUSH-BUTTON STATIONS AND PILOT LIGHTS	23	23(2)	--	23(2)
HEATING, COOLING, VENTILATION AND AIR CONDITIONING CONTROLS	23	23	26	23
EXHAUST FAN SWITCHES	23	26	26	23(2)

SUBSCRIPT FOOTNOTES:

1. MOTOR STARTER TO INCLUDE CONTROL, TRANSFORMER, HOA SWITCH, (1) NO AND (1) NC AUXILIARY CONTACT, AND "ON" AND "OFF" PILOT LIGHTS.

2. IF ITEM IS FOR LINE VOLTAGE, SET IN PLACE AND CONNECT UNDER DIVISION 26. WHERE FACTORY MOUNTED ON EQUIPMENT OR ATTACHED TO PIPING OR DUCTS AND USING LINE VOLTAGE FURNISH AND SET UNDER DIVISION 23. CONNECT UNDER DIVISION 26.

ABBREVIATIONS:

44" MOUNTING HEIGHT ABOVE FINISHED FLOOR TO CENTER OF DEVICE	DIFF DIFFERENTIAL	HR HOUR	PT PRESSURE TRANSMITTER
A AMPS	DISCH DISCHARGE	HT HEIGHT	PTAC PACKAGED TERMINAL AIR CONDITIONER
A.D. ACCESS DOOR	DIV DIVISION	HTR HEATER	PV PLUS VALVE
AAV AIR ADMITTANCE VALVE	DN DOWN	HWR HEATING WATER RETURN	PVC POLYVINYL CHLORIDE
ABV ABOVE	DWG DRAWING	HWS HEATING WATER SUPPLY	QTY QUANTITY
AC AIR CONDITIONING UNIT	DX DIRECT EXPANSION	HX HEAT EXCHANGER	RA RETURN AIR GRILLE / REGISTER
AC ABOVE COUNTER	(E) EXISTING	ID INSIDE DIAMETER	RCP REFLECTED CEILING PLAN
AD AREA DRAIN (SEE SYMBOLS)	EA EXHAUST AIR GRILLE/REGISTER	IG ISOLATED GROUND	RD ROOF DRAIN
A.F.C. ABOVE FINISHED CEILING	EAT ENTERING AIR TEMPERATURE	IN INCHES	REL RELIEF
A.F.G. ABOVE FINISHED GRADE	EC ELECTRICAL CONTRACTOR	INV INVERT	REOD REQUIRED
AIC AMPERE INTERRUPTING CAPACITY	ECC ECCENTRIC	JBX JUNCTION BOX	RF RETURN FAN
A.F.F. ABOVE FINISHED FLOOR	EF EXHAUST FAN	K KELVIN	RH RELATIVE HUMIDITY
AHU AIR HANDLING UNIT	EFF EFFICIENCY	KW KILOWATT	RHC REHEAT COIL
ALUM ALUMINUM	EL ELEVATION	KVA KILO VOLT - AMPS	RLA RATED LOAD AMPS
AP ACCESS PANEL OR DOOR	ELEC ELECTRIC	L LENGTH	RM ROOM
ATS AUTOMATIC TRANSFER SWITCH	ELEV ELEVATOR	LAT LEAVING AIR TEMPERATURE	RPW REVOLUTIONS PER MINUTE
AV AUDIO / VIDEO	EM EMERGENCY FUNCTION	LV LEAVING DRY	SA SUPPLY AIR GRILLE / REGISTER
AVG AVERAGE	ENT ENTERING	LB POUND	SC SHORT CIRCUIT
AWG AMERICAN WIRE GAGE	EMT ELECTRIC METALLIC TUBE	LD LINEAR DIFFUSER	SCA SHORT CIRCUIT AVAILABLE
BAS BUILDING AUTOMATION SYSTEM	EQ EQUAL	LF LINEAR FEET	SCCR SHORT CIRCUIT CURRENT RATING
BB BASEBOARD	EQUIP EQUIPMENT	LN LINEAR	SD SMOKE DAMPER
BD BACK DRAFT DAMPER	EQUIV EQUIVALENT	LQ LIQUID	SEF SMOKE EXHAUST FAN
BFP BACK FLOW PREVENTOR	ES END SWITCH	LM LUMEN	SH SHOWER
BL BOILER	ESP EXTERNAL STATIC PRESSURE	LR LINEAL	SH SHOWER
BLOG BUILDING	ET EXPANSION TANK	LV LOUVER	SP STATIC PRESSURE
BLW BELOW	EX EXHAUST	LVG LEAVING	SPD SURGE PROTECTION DEVICE
BOS BOTTOM OF BEAM	EXPAN EXPANSION	LVG LEAVING	SPD SURGE PROTECTION DEVICE
BOD BOTTOM OF DUCT	EXT EXTERNAL	LVG LEAVING	SPD SURGE PROTECTION DEVICE
BOP BOTTOM OF PIPE	F DEGREES FAHRENHEIT	LVG LEAVING	SPD SURGE PROTECTION DEVICE
BSMT BASEMENT	FA FREE AREA	LVG LEAVING	SPD SURGE PROTECTION DEVICE
BTU BRITISH THERMAL UNIT	FC FAN COIL UNIT	LVG LEAVING	SPD SURGE PROTECTION DEVICE
C CHILLER	FC FOOTCANDLE	LVG LEAVING	SPD SURGE PROTECTION DEVICE
CAP CAPACITY	FD FLOOR DRAIN	LVG LEAVING	SPD SURGE PROTECTION DEVICE
CB CIRCUIT BREAKER	FD FLOOR DRAIN	LVG LEAVING	SPD SURGE PROTECTION DEVICE
CBV CIRCUIT BALANCING VALVE	FD FLOOR DRAIN	LVG LEAVING	SPD SURGE PROTECTION DEVICE
CCT CORRELATED COLOR TEMPERATURE	FD FLOOR DRAIN	LVG LEAVING	SPD SURGE PROTECTION DEVICE
CKT CIRCUIT	FIN FINISHED	LVG LEAVING	SPD SURGE PROTECTION DEVICE
CFH CUBIC FEET PER HOUR	FLA FULL LOAD AMPS	LVG LEAVING	SPD SURGE PROTECTION DEVICE
CFM CUBIC FEET PER MINUTE	FLEX FLEXIBLE	LVG LEAVING	SPD SURGE PROTECTION DEVICE
CHWR CHILLED WATER RETURN	FLR FLOOR	LVG LEAVING	SPD SURGE PROTECTION DEVICE
CHWS CHILLED WATER SUPPLY	FOT FLAT ON TOP	LVG LEAVING	SPD SURGE PROTECTION DEVICE
CI CAST IRON	FP FIRE PROTECTION	LVG LEAVING	SPD SURGE PROTECTION DEVICE
CL CENTER LINE	FP FIRE PUMP	LVG LEAVING	SPD SURGE PROTECTION DEVICE
CLG CEILING	FPM FEET PER MINUTE	LVG LEAVING	SPD SURGE PROTECTION DEVICE
CMU CONCRETE MASONRY UNIT	FPS FEET PER SECOND	LVG LEAVING	SPD SURGE PROTECTION DEVICE
CO CLEAN OUT	FS FLOW SWITCH	LVG LEAVING	SPD SURGE PROTECTION DEVICE
COL COLUMN	FSD FIRESMOKE DAMPER	LVG LEAVING	SPD SURGE PROTECTION DEVICE
COMP COMPRESSOR	FT FEET	LVG LEAVING	SPD SURGE PROTECTION DEVICE
CONC CONCRETE	FXC FLEXIBLE CONNECTION	LVG LEAVING	SPD SURGE PROTECTION DEVICE
COND CONDENSATE	GND GROUND	LVG LEAVING	SPD SURGE PROTECTION DEVICE
CONN CONNECTION	GA GAUGE	LVG LEAVING	SPD SURGE PROTECTION DEVICE
CONT CONTINUATION	GAL GALLON	LVG LEAVING	SPD SURGE PROTECTION DEVICE
CONTR CONTRACTOR	GALV GALVANIZED	LVG LEAVING	SPD SURGE PROTECTION DEVICE
CRI COLOR RENDERING INDEX	GEC GROUND ELECTRODE CONDUCTOR	LVG LEAVING	SPD SURGE PROTECTION DEVICE
CT COOLING TOWER	GFCI / GFI GROUND FAULT CIRCUIT INTERRUPTER	LVG LEAVING	SPD SURGE PROTECTION DEVICE
CT CURRENT TRANSFORMER	GC GENERAL CONTRACTOR	LVG LEAVING	SPD SURGE PROTECTION DEVICE
CUH CABINET UNIT HEATER	GPH GALLONS PER HOUR	LVG LEAVING	SPD SURGE PROTECTION DEVICE
CVB CONSTANT VOLUME BOX	GPM GALLONS PER MINUTE	LVG LEAVING	SPD SURGE PROTECTION DEVICE
CWR CONDENSER WATER RETURN	GRSLB GRAINS PER POUND	LVG LEAVING	SPD SURGE PROTECTION DEVICE
CWS CONDENSER WATER SUPPLY	H 2O WATER	LVG LEAVING	SPD SURGE PROTECTION DEVICE
DB DRY BULB	HB HOSE BIBB	LVG LEAVING	SPD SURGE PROTECTION DEVICE
DEPT DEPARTMENT	HD HEAD (SEE SCHEDULES)	LVG LEAVING	SPD SURGE PROTECTION DEVICE
DF DRINKING FOUNTAIN	HP HEAT PUMP	LVG LEAVING	SPD SURGE PROTECTION DEVICE
DA DIAMETER	HP HORSEPOWER	LVG LEAVING	SPD SURGE PROTECTION DEVICE
DIAG DIAGRAM		LVG LEAVING	SPD SURGE PROTECTION DEVICE
		LVG LEAVING	SPD SURGE PROTECTION DEVICE

SUBSTITUTIONS:

A. SUBSTITUTIONS; SUBSTITUTION OF SPECIFIED EQUIPMENT WILL BE ALLOWED THROUGH A PRIOR APPROVAL PROCESS INITIATED BY THE CONTRACTOR. CONTRACTOR SHALL SUBMIT INTENDED SUBSTITUTION AT LEAST FIVE DAYS PRIOR TO BID FOR APPROVAL FROM ENGINEER. SUBMITTAL SHALL INCLUDE CAPACITIES, DIMENSIONS AND OPERATING INSTRUCTIONS FOR EACH PIECE OF EQUIPMENT. SUBSTITUTION SHALL OCCUR AT NO COST TO THE OWNER. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF APPROVED SUBSTITUTION AND SHALL INCUR ALL COSTS ASSOCIATED WITH THE SUBSTITUTION INCLUDING STRUCTURAL MODIFICATIONS, SPACE LAYOUT AND REDESIGN COSTS. SEE ALSO DIVISION I GENERAL REQUIREMENTS.

EXAMINATION OF SITE, DRAWINGS, SPECIFICATIONS:

A. EXAMINE CAREFULLY THE SITE AND CONDITIONS OF THE SITE. PROVIDE ALL NECESSARY EQUIPMENT AND LABOR TO INSTALL A COMPLETE WORKING SYSTEM WITHIN THE SITE CONDITIONS.

B. EXAMINE THE DRAWINGS AND SPECIFICATIONS AND 5 DAYS PRIOR TO BIDDING REPORT ANY ERRORS, OMISSIONS, INCONSISTENCIES, AND CONFLICTS TO THE ENGINEER TO BE REMEDIED IN AN ADDENDUM TO THE PROJECT PRIOR TO BID TIME.

C. DRAWINGS ARE DIAGRAMMATIC AND CATALOG NUMBERS GIVEN ARE FOR REFERENCE ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE CAPACITY OF THE EQUIPMENT MEETS THE DRAWING REQUIREMENTS AND SHALL NOT DIMENSION FROM THE MECHANICAL, PLUMBING, OR PIPING DRAWINGS.

D. THE LATEST ADOPTED VERSIONS OF THE INTERNATIONAL BUILDING CODES SHALL BE USED AS REQUIRED. THIS WILL ALSO INCLUDE THE LATEST ADOPTED VERSIONS OF THE MECHANICAL, PLUMBING AND ENERGY CONSERVATION CODES. ALL METHODS AND MATERIALS REQUIRED BY THESE CODES SHALL BE REQUIRED BY THESE SPECIFICATIONS UNLESS INDICATED OTHERWISE. OTHER APPLICABLE LOCAL CODES AND ORDINANCES SHALL BE AS REQUIRED AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO BE KNOWLEDGEABLE OF THESE REQUIREMENTS.

E. WHERE INSTALLATION PROCEDURES OR ANY PART THEREOF ARE REQUIRED TO BE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE MANUFACTURER OF THE MATERIAL BEING INSTALLED, PRINTED COPIES OF THESE RECOMMENDATIONS SHALL BE FURNISHED TO THE ENGINEER PRIOR TO INSTALLATION. INSTALLATION OF THE ITEM WILL NOT BE ALLOWED TO PROCEED UNTIL THE RECOMMENDATIONS ARE PROVIDED. FAILURE TO FURNISH THESE RECOMMENDATIONS CAN BE CAUSE FOR REJECTION OF THE MATERIAL.

DO NOT REPRODUCE THESE DRAWINGS AND SPECIFICATIONS WITHOUT THE EXPRESSED WRITTEN PERMISSION OF THE DESIGNER. THE DRAWINGS AND SPECIFICATIONS ARE INSTRUMENTS OF THE SERVICE AND SHALL REMAIN THE PROPERTY OF THE DESIGNER. UNLESS THE PROJECT FOR WHICH THEY ARE MADE IS ANY OTHER PROJECT, THE DESIGNER IS NOT RESPONSIBLE FOR THE PROJECT. BY USING THESE DRAWINGS, THE CONTRACTOR AGREES TO BE BOUND BY THE DESIGNER'S PERMISSION OF THE DESIGNER.

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Mechanical & Electrical Engineers

1805 WALTON CREEK ROAD

STEAMBOAT SPRINGS, COLORADO

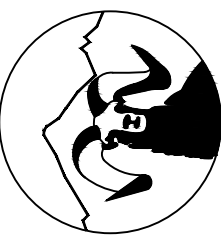
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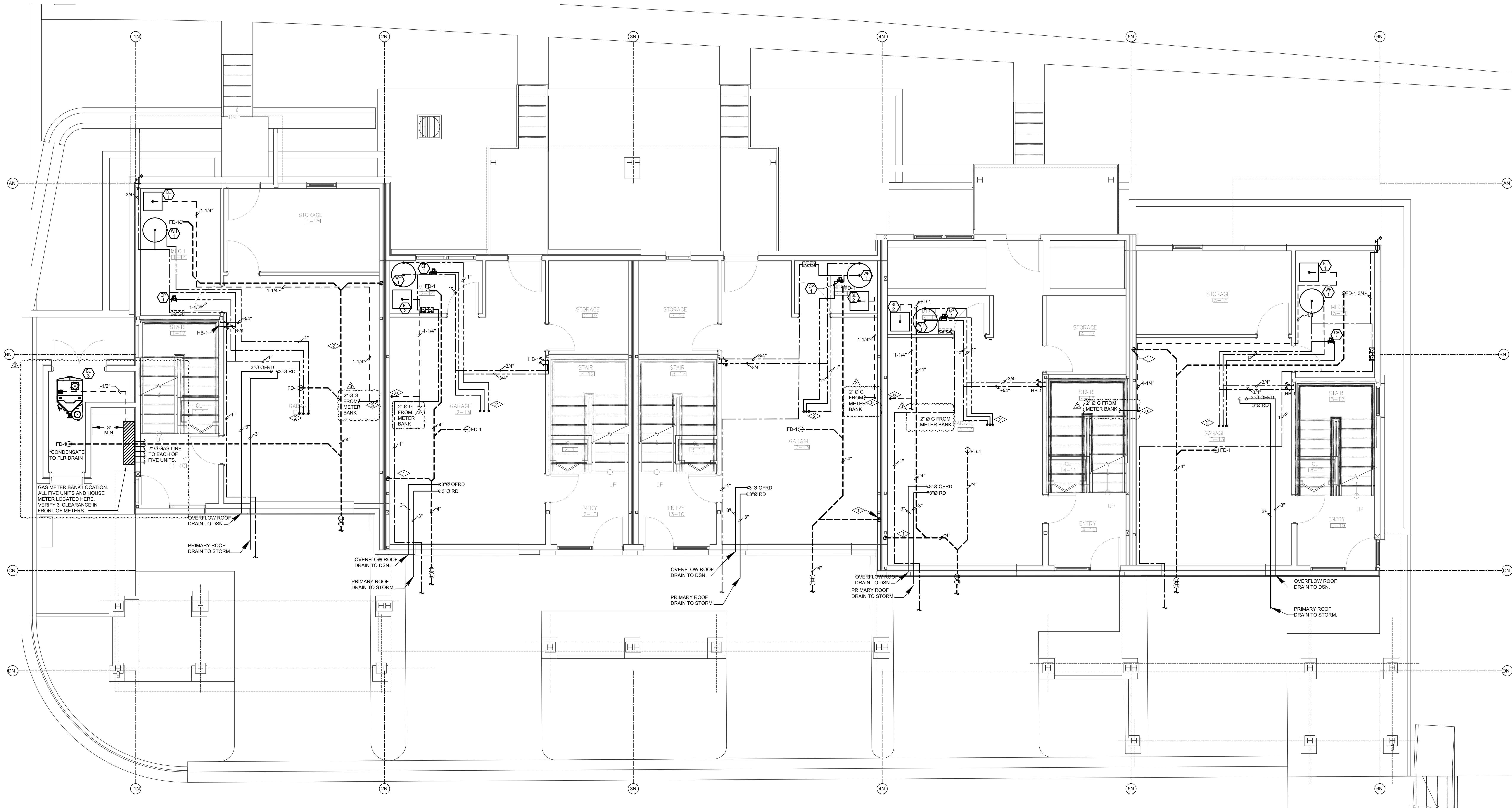
August 25, 2025 - 3:53:51pm

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- PIPE DIMENSIONS DO NOT REFLECT ADDITIONAL DIMENSIONS FOR INSULATION. ALL PIPING SHALL BE INSULATED PER 2018 IECC CODE REQUIREMENTS.
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- NEW GAS METER TO BE PROVIDED. GAS METER TO BE LOW PRESSURE (I.E. LESS THAN 14" W.C.) GAS METER LOAD IS 420 MBH (~512.5 CFH). LONGEST EQUIVALENT LINE LENGTH OF PIPING IS 104 FEET. GENERAL CONTRACTOR SHALL VERIFY THAT INSTALLED GAS METER CAN ACCOMMODATE GAS LOAD OF 420 CFH.
- PLUMBING FIXTURE MANUFACTURERS AS SCHEDULED ON. PLUMBING DRAWINGS ARE SUGGESTED MANUFACTURER'S AND MODELS. UNLESS NOTED OTHERWISE DUE TO OWNER/CLIENT REQUIREMENTS AND PREFERENCES, PLUMBING CONTRACTOR CAN SUBMIT EQUIVALENT FIXTURES FROM MANUFACTURERS THAT DIFFER FROM SCHEDULED PLUMBING FIXTURES. ALTERNATE MANUFACTURERS OF PLUMBING FIXTURES WILL BE REVIEWED FOR EQUIVALENCE OF PERFORMANCE AND FUNCTIONALITY BY ENGINEER.

FLAG NOTES:

- WASTE FROM FLOORS ABOVE
- COLD, HOT, AND RECIRC PIPES TO FLOORS ABOVE
- WASTE DOWN TO BELOW
- COLD, HOT AND RECIRC PIPES FROM FLOOR BELOW
- GAS LINE UP TO FLOOR ABOVE



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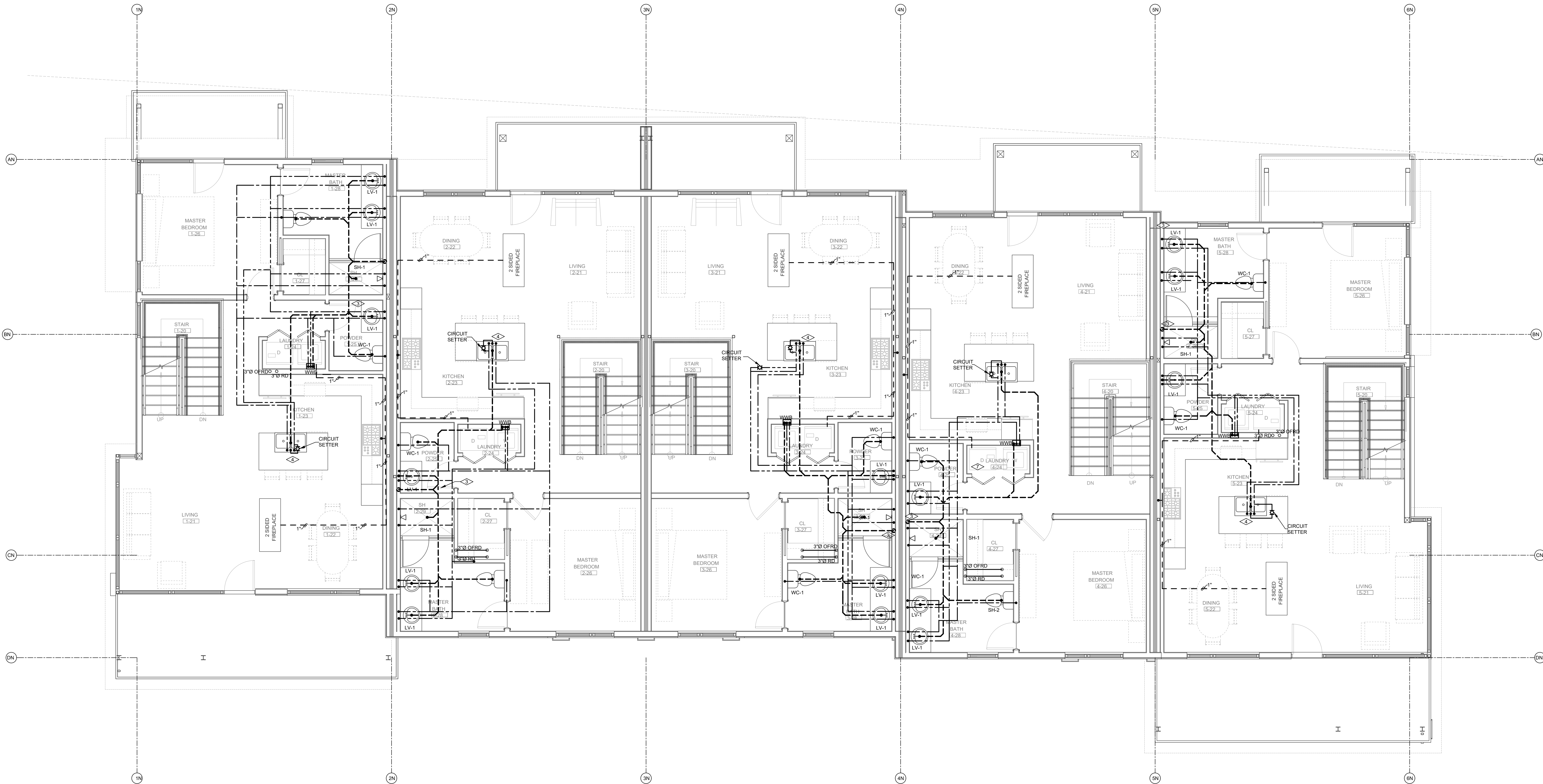
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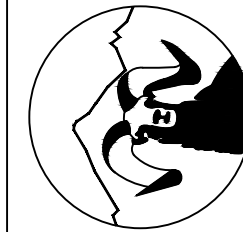
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PLUMBING - NORTH BUILDING - LEVEL 2 FLOOR PLAN
SCALE: 1/4"=1'-0"

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Mechanical & Electrical Engineers

1805 WALTON CREEK ROAD
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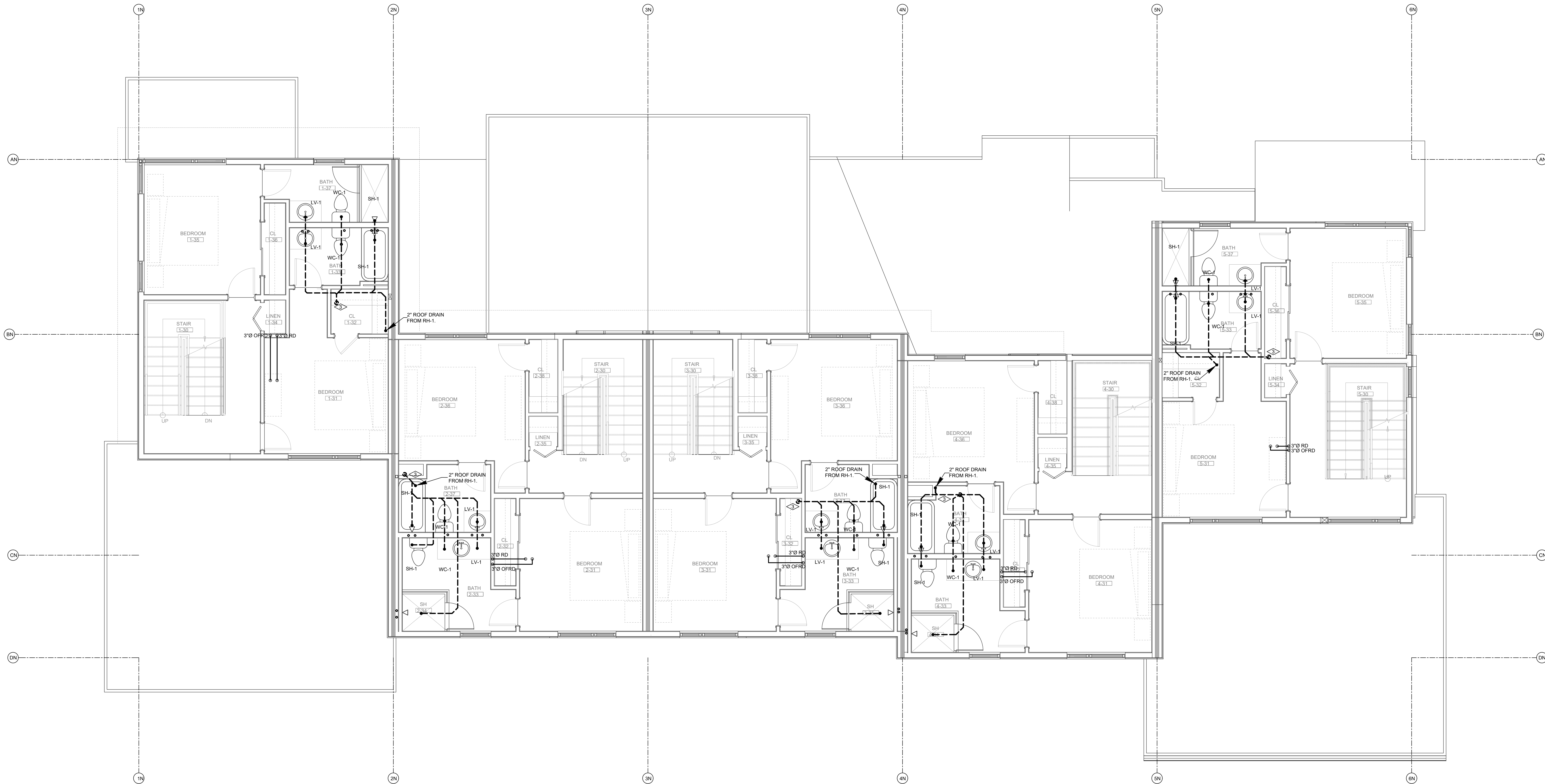
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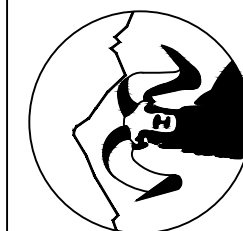
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PLUMBING - NORTH BUILDING - LEVEL 3 FLOOR PLAN
SCALE: 1/4"=1'-0"

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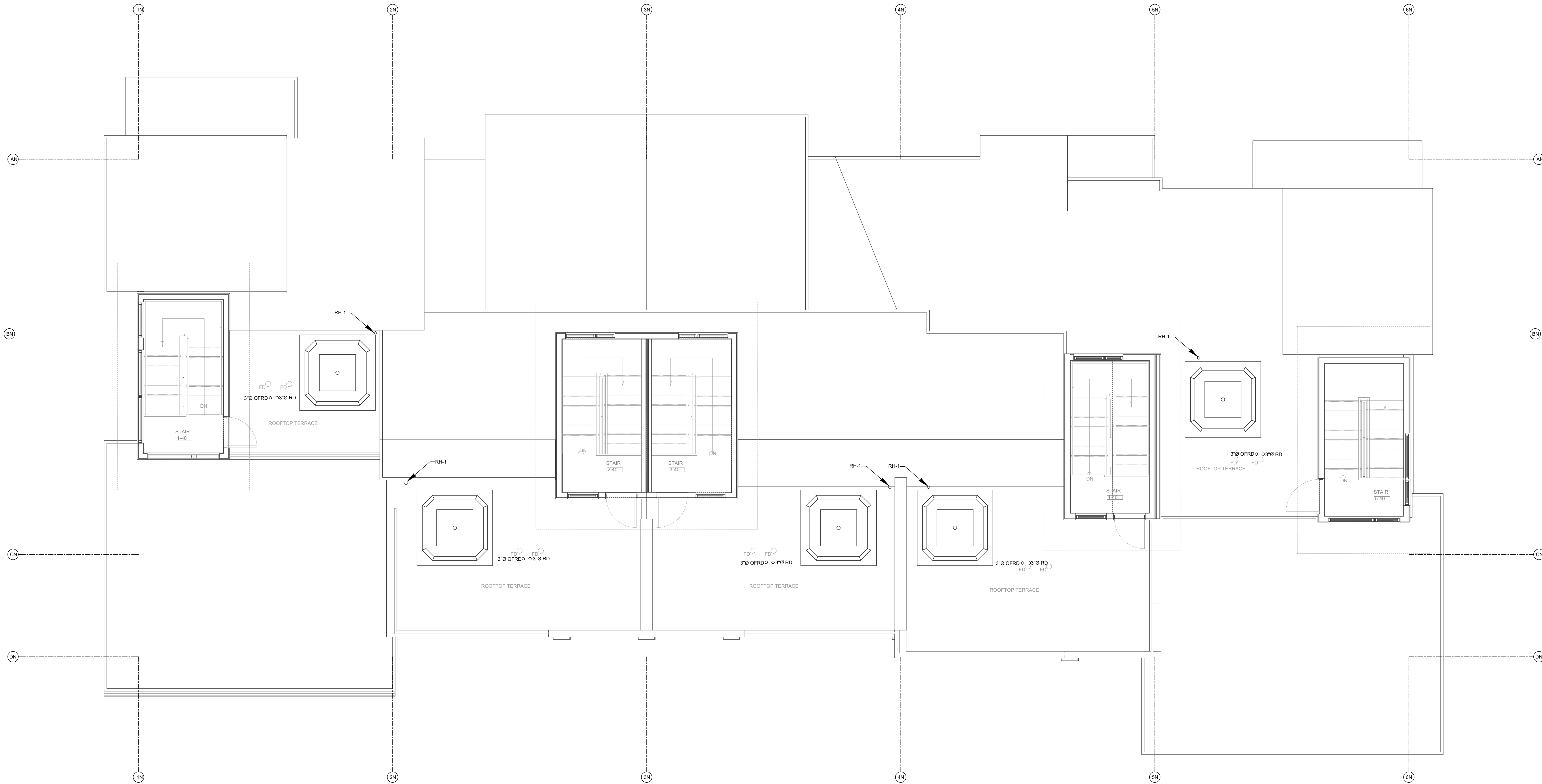


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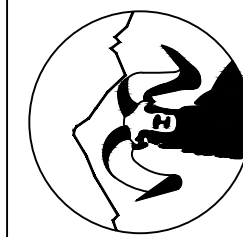


PLUMBING - NORTH BUILDING - LEVEL 4 FLOOR PLAN

SCALE: 1/4"=1'-0"

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386 Indian Road
Grand Junction, CO 81501
Phone: (970) 241-8709



Bighorn Consulting Engineers, Inc.
Mechanical & Electrical Engineers

1805 WALTON CREEK ROAD

STEAMBOAT SPRINGS, COLORADO

DATE	ISSUED FOR:
06/17/2022	PERMIT
09/07/2022	PERMIT CORRECTIONS
09/21/2022	ONE-LINE REVISION
09/29/2025	ADDENDUM 1 RE-ISSUE



DATE	06/17/2022
JOB NO.	21-276
DRAWN BY	BCE
CHECKED BY	BCE
SCALE	AS SHOWN
SHEET NUMBER	

P1-5

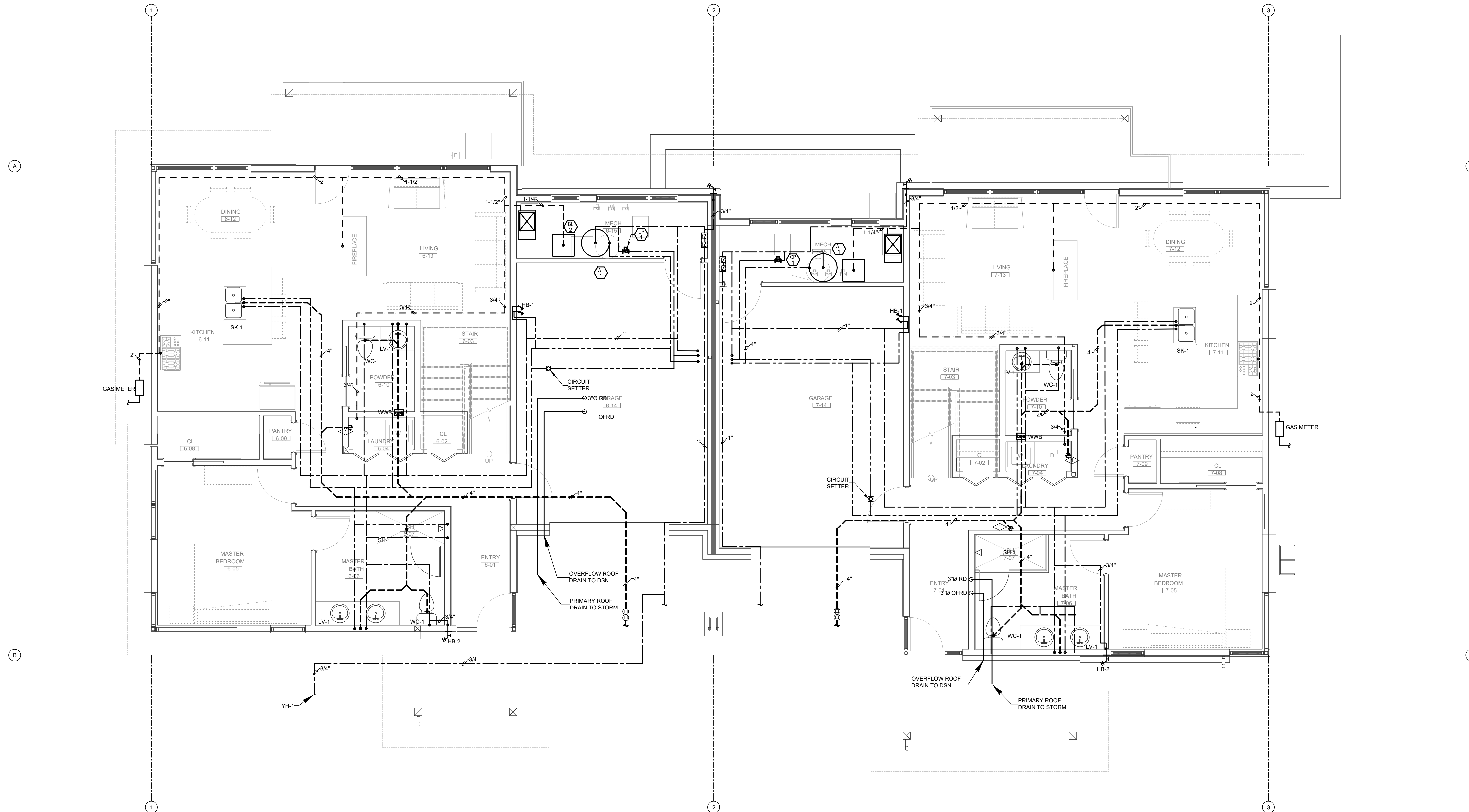
August 25, 2025 - 3:53:53pm

FLAG NOTES:

1. WASTE FROM FLOORS ABOVE
2. COLD, HOT, AND RECIRC PIPES TO FLOORS ABOVE.
3. WASTE DOWN TO BELOW.
4. COLD, HOT AND RECIRC PIPES FROM FLOOR BELOW

PLUMBING GENERAL NOTES:

1. DRAWING IS DIAGRAMMATIC IN NATURE. LOCATIONS AND SIZES MAY VARY DURING FIELD COORDINATION & INSTALLATION OF MECHANICAL, PLUMBING, & ELECTRICAL. DRAWINGS DO NOT NECESSARILY INDICATE EVERY REQUIRED OFFSET, FITTING, ETC. DRAWINGS ARE NOT TO BE SCALED FOR DIMENSIONS. TAKE ALL DIMENSIONS FROM ARCHITECTURAL DRAWINGS, CERTIFIED EQUIPMENT DRAWINGS AND FROM THE STRUCTURE ITSELF BEFORE FABRICATING ANY WORK. VERIFY ALL SPACE REQUIREMENTS COORDINATING WITH OTHER TRADES, AND INSTALL THE SYSTEMS IN THE SPACE PROVIDED WITHOUT EXTRA CHARGES TO THE OWNER.
2. PIPE DIMENSIONS DO NOT REFLECT ADDITIONAL DIMENSIONS FOR INSULATION. ALL PIPING SHALL BE INSULATED PER 2018 IECC CODE REQUIREMENTS.
3. CONDENSING WATER HEATER, GAS FURNACE, AND BOILER VENT MATERIAL SHALL COMPLY WITH MANUFACTURER'S LISTED AND APPROVED MATERIALS.
4. ROUTE CONDENSATE FROM CONDENSING MECHANICAL EQUIPMENT TO CONDENSATE NEUTRALIZATION KITS. CONDENSATE FROM NEUTRALIZATION KITS SHALL BE DISCHARGED INDIRECTLY THROUGH AIR GAP TO NEAREST FLOOR DRAIN.
5. ALL PLUMBING FIXTURES WITH QUICK CLOSING VALVES ON DOMESTIC COLD/HOT WATER SHALL BE PROVIDED WITH WATER HAMMER ARRESTOR.
6. PROVIDE ISOLATION VALVES AT GROUP RESTROOMS TO ALLOW FOR TOTAL ISOLATION OF THE ENTIRE RESTROOM GROUP FROM THE REST OF THE DOMESTIC COLD, HOT AND HOT RE-CIRCULATION SYSTEMS.
7. ALL PLUMBING FIXTURES SHALL BE VENTED BY PLUMBING CONTRACTOR PER IPC REQUIREMENTS.
8. NEW GAS METER TO BE PROVIDED. GAS METER TO BE LOW PRESSURE (I.E. LESS THAN 1/4" W.C.) GAS METER LOAD IS 459 MBH (~548.4 CFH). LONGEST EQUIVALENT LINE LENGTH OF PIPING IS 104 FEET. GENERAL CONTRACTOR SHALL VERIFY THAT INSTALLED GAS METER CAN ACCOMMODATE GAS LOAD OF 548.4 CFH.
9. PLUMBING FIXTURE MANUFACTURERS AS SCHEDULED ON PLUMBING DRAWINGS ARE SUGGESTED MANUFACTURER'S AND MODELS. UNLESS NOTED OTHERWISE DUE TO OWNER/CLIENT REQUIREMENTS AND PREFERENCES. PLUMBING CONTRACTOR CAN SUBMIT EQUIVALENT FIXTURES FROM MANUFACTURERS THAT DIFFER FROM SCHEDULED PLUMBING FIXTURES. ALTERNATE MANUFACTURERS OF PLUMBING FIXTURES WILL BE REVIEWED FOR EQUIVALENCE OF PERFORMANCE AND FUNCTIONALITY BY ENGINEER.

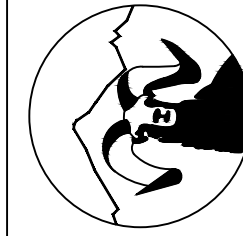


PLUMBING - SOUTH BUILDING - LEVEL 1 FLOOR PLAN

SCALE: 1/4"=1'-0"

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
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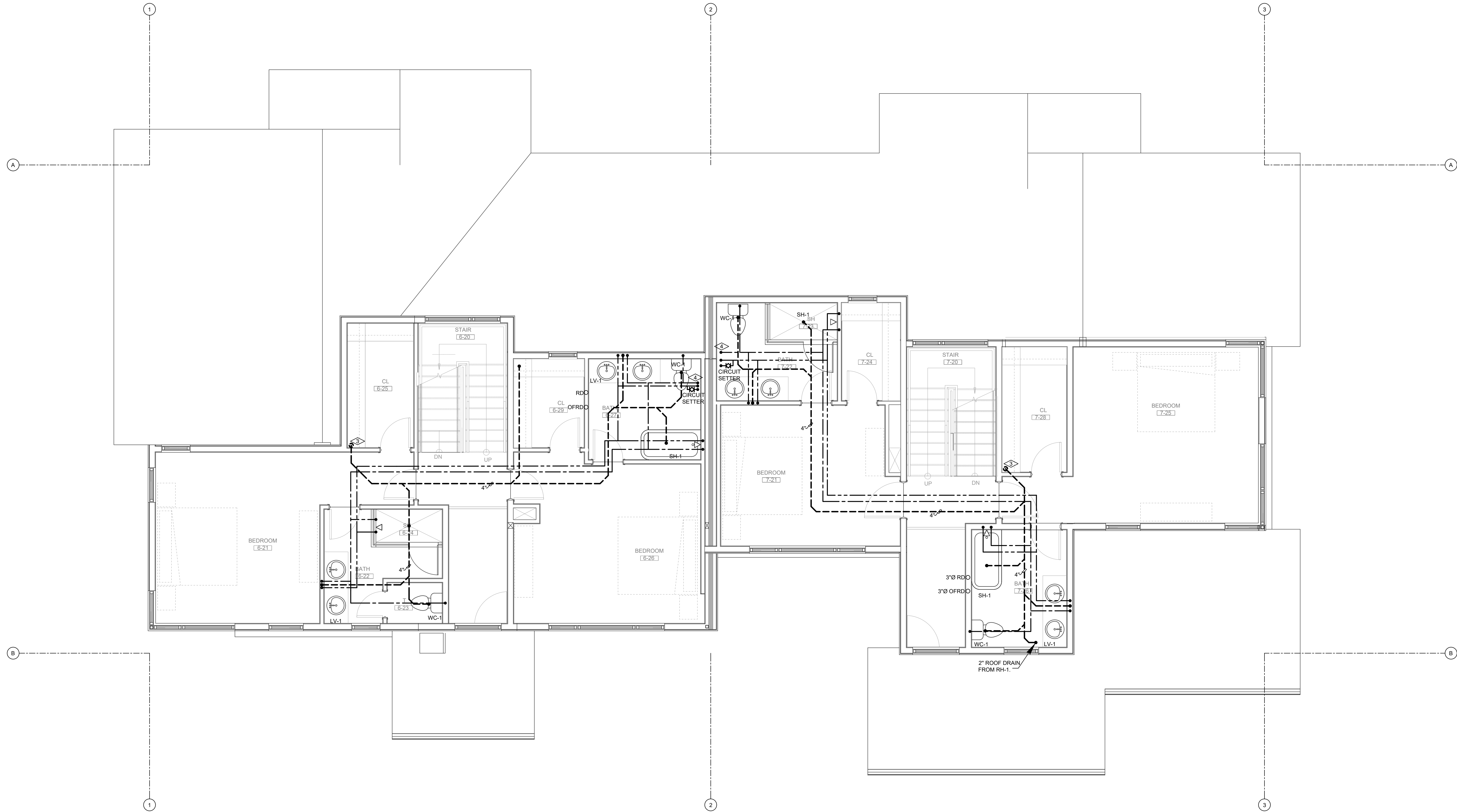
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SHEET NUMBER:	P1-6

PLUMBING GENERAL NOTES:

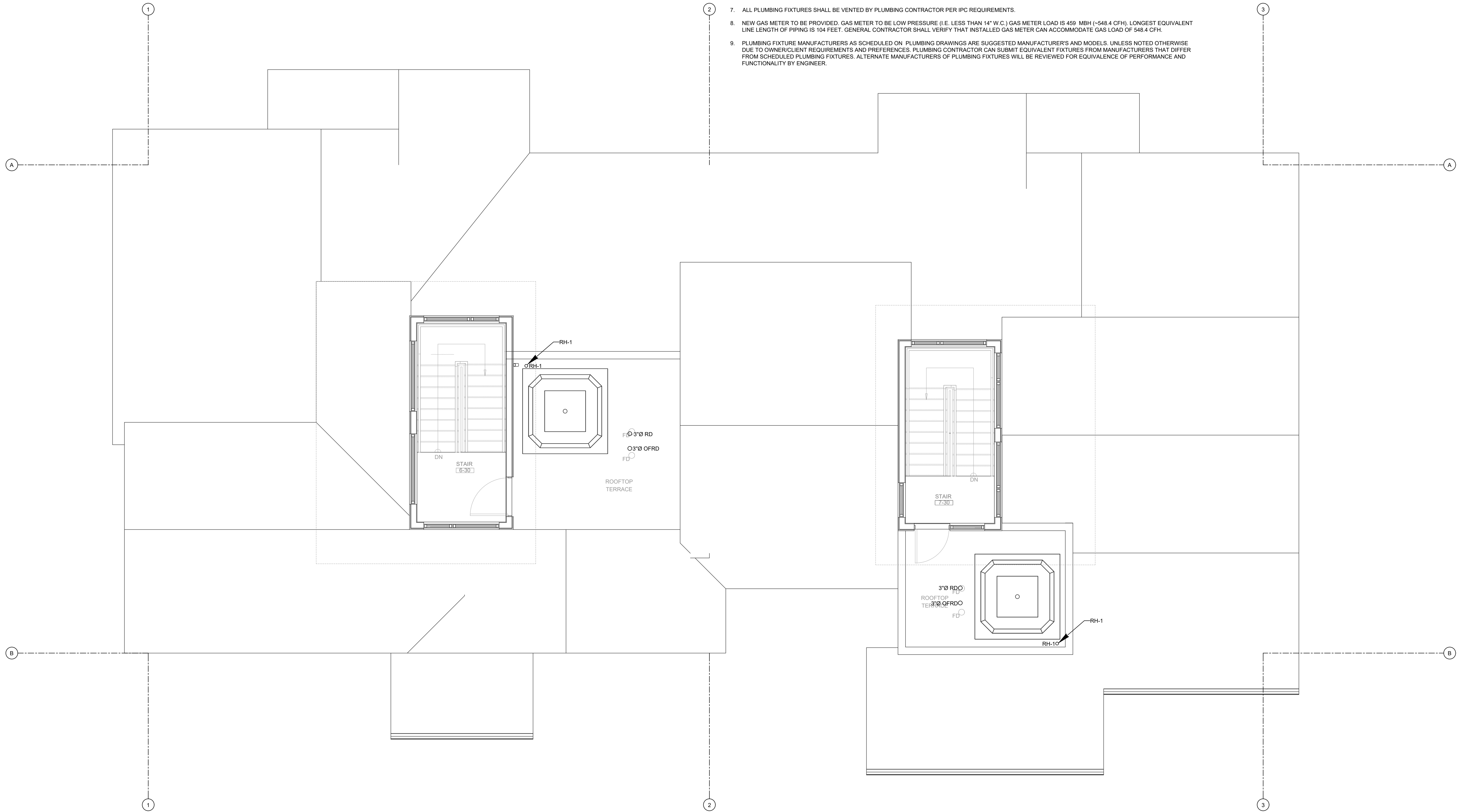
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PLUMBING - SOUTH BUILDING - LEVEL 2 FLOOR PLAN
SCALE: 1/4"=1'-0"



PLUMBING GENERAL NOTES:

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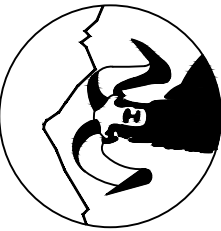


PLUMBING - SOUTH BUILDING - LEVEL 3 FLOOR PLAN


SCALE: 1/4\"/>

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August 25, 2025 - 3:53:54pm