

pkmr
ENGINEERS

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MECHANICAL AND PLUMBING SYMBOL LEGEND

SOME SYMBOLS AND ABBREVIATIONS ON THIS LEGEND MAY NOT BE USED

	MECHANICAL PIPING RL REFRIGERANT LIQUID RS REFRIGERANT SUCTON D DRAIN (CONDENSATE) CA COMPRESSED AIR CHW CHILLED WATER SUPPLY CWR CHILLED WATER RETURN C/HWS CHILLED/HOT WATER SUPPLY C/HWR CHILLED/HOT WATER RETURN HWS HOT WATER SUPPLY HWR HOT WATER RETURN C/TWS COOLING TOWER SUPPLY C/TWR COOLING TOWER RETURN STM STEAM (ANY P'S DENOTE PRESSURE) CR CONDENSATE RETURN (P'S DENOTE PRESSURE) RV REFRIGERANT VENT RD RUPTURE DISK	PLUMBING PIPING DC DOMESTIC COLD WATER DHW DOMESTIC HOT WATER RDC RECIRCULATING DOMESTIC HOT WATER SAW WASTE ABOVE GRADE OR FLOOR SAW WASTE BELOW GRADE OR FLOOR ST STORM ABOVE GRADE OR FLOOR STW STORM BELOW GRADE OR FLOOR ST/O STORM OVERFLOW ABOVE GRADE OR FLOOR ST/OB STORM OVERFLOW BELOW GRADE OR FLOOR PL PLUMBING VENT W WATER SERVICE G GAS (NATURAL) PD FROM SUMP PUMP DISCHARGE CA COMPRESSED AIR LP PROPANE SCW SOFT DOMESTIC COLD WATER SDW SOFT DOMESTIC HOT WATER SRW SOFT RECIRCULATING HOT WATER ACD ACID WASTE N NITROGEN NO NITROUS OXIDE WAO WASTE ANESTHETIC GAS DISPOSAL CO CARBON DIOXIDE MV MEDICAL VACUUM SA SURGICAL AIR S MEDICAL SLIDE
GENERAL SYMBOLS INDICATES CONNECT TO EXISTING INDICATES ELEVATION	GENERAL SYMBOLS INDICATES CONNECT TO EXISTING INDICATES ELEVATION	GENERAL SYMBOLS INDICATES CONNECT TO EXISTING INDICATES ELEVATION

ELECTRICAL SYMBOL LEGEND

SOME SYMBOLS AND ABBREVIATIONS ON THIS LEGEND MAY NOT BE USED

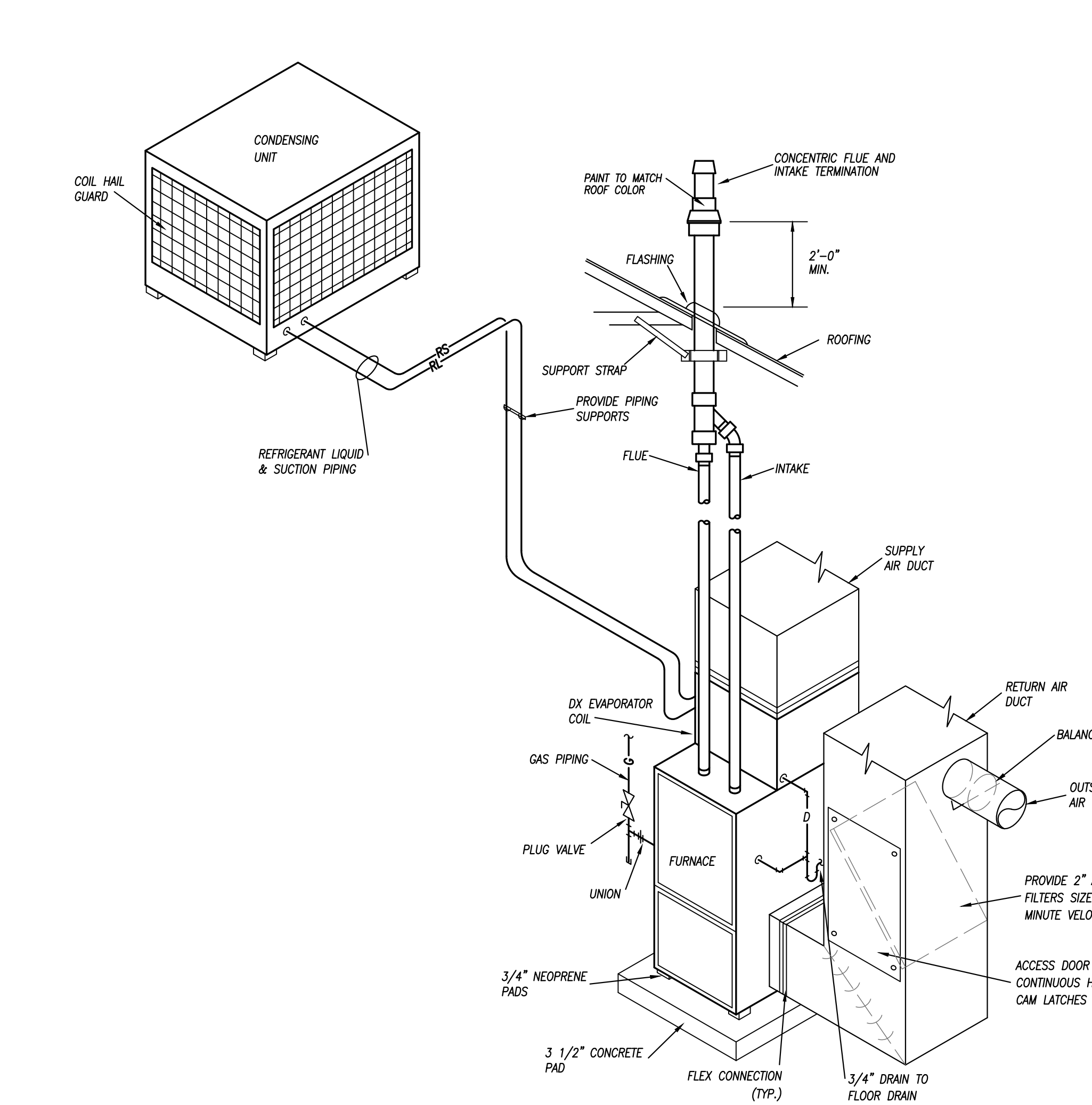
CIRCUITING HOME RUN (2#12 1#12S UNG) INDICATES 2 PHASE, 1 N, & 1 GRD CONDUCTOR HOME RUN: INDICATES #10 CONDUCTORS ENTIRELY	POWER DEVICES DUPLICATE RECEPTACLE LINE THRU DEVICE INDICATES ABOVE COUNTER SPECIAL DUPLICATE RECEPTACLE (OPT. ISOLATED GROUND, ETC.) QUADREX RECEPTACLE SIMPLEX RECEPTACLE W/NEMA CONFIG AS NOTED MULTI-POLE RECEPTACLE W/NEMA CONFIG AS NOTED RECEPTACLE/DEVICE MOUNTED IN "TOMBSTONE" POKE-THRU WITH POWER POKE-THRU WITH TELECOMMUNICATIONS POKE-THRU W/POWER AND TELECOM SINGLE GANG FLOOR BOX (2, 3, 4 GANG SIMILAR) DIVIDED POWER POLE CLOCK RECEPTACLE PLUG MOLD / WIRE MOLD AS SPECIFIED JUNCTION BOX THERMOSTAT - ELECTRIC PUSH BUTTON MOTOR	TELEPHONE/DATA TELEPHONE OUTLET (SINGLE-GANG BOX WITH (1) 3/4" CONDUIT TO ABOVE ACCESSIBLE CEILING) LINE THRU DEVICE INDICATES ABOVE COUNTER DATA OUTLET (DOUBLE-GANG BOX WITH (2) 3/4" CONDUITS TO ABOVE ACCESSIBLE CEILING) TELEPHONE/DATA OUTLET (DOUBLE-GANG BOX WITH (2) 3/4" CONDUITS TO ABOVE ACCESSIBLE CLG.) PHONE OUTLET WITH NUMBER OF PHONE JACKS AS INDICATED - SEE DETAILS FOR ADD'L INFO. PHONE/DATA OUTLET WITH NUMBER OF PHONE/DATA JACKS AS INDICATED - SEE DETAILS FOR ADD'L INFO. WALL-MOUNTED WIRELESS INTERNET TRANSMITTER CEILING-MOUNTED WIRELESS INTERNET TRANSMITTER	AUDIO/VISUAL TELEVISION OUTLET (SINGLE GANG BOX WITH (1) 3/4" CONDUIT TO ABOVE ACCESSIBLE CEILING) REVERSE TELEVISION OUTLET - CABLE TO HEAD END TEACHER'S DESK CONNECTIONS - RE: DETAILS WALL SPEAKER CEILING SPEAKER WALL SPEAKER - HORN TYPE CEILING SPEAKER - HORN TYPE CEILING SPEAKER - SUBWOOFER CEILING SPEAKER - SUBWOOFER VOLUME CONTROL INTERCOM CALL STATION INTERCOM HANDET SOUND SYSTEM AUDIO JACK REMOTE MICROPHONE CONTROL PUBLIC ADDRESS SYSTEM AMPLIFIER INTERCOM MASTER STATION
UTILITIES UNDERGROUND ELECTRICAL OVERHEAD ELECTRICAL TELECOMMUNICATIONS CONDUIT UNDERGROUND IN TELECOMMUNICATIONS CONDUIT	LIGHTING FLUORESCENT LIGHT FIXTURE FLUORESCENT STRIP FIXTURE SURFACE/RECESSED LIGHT FIXTURE WALL-MOUNTED LIGHT FIXTURE POLE-MOUNTED LIGHT FIXTURE EXIT LIGHT BATTERY-OPERATED EMERGENCY LIGHT (WALL MTD) BATTERY-OPERATED EMERGENCY LIGHT (CEILING MTD) WALL-MOUNTED COMBINATION EXIT LIGHT/ BATTERY-OPERATED EMERGENCY LIGHT LIGHT SWITCH - SINGLE POLE LIGHT SWITCH - 3-WAY LIGHT SWITCH - 4-WAY LIGHT SWITCH - KEY LIGHT SWITCH - DIMMER LIGHT SWITCH - PILOT LIGHT LIGHT SWITCH - 2 POLE LIGHT SWITCH - 3-WAY DIMMER WALL-MOUNTED MOTION SWITCH CEILING-MOUNTED MOTION SWITCH SWITCHBANK - REFER TO DETAILS DIMMER BOARD REMOTE CONTROL SWITCH AS SCHEDULED TIMECLOCK - REFER TO PLANS / DETAILS	SECURITY FIXED CAMERA PAN/TILT/ZOOM CAMERA PROXIMITY TYPE CARD READER SWIPE CARD READER BREAK GLASS DETECTOR ELECTRIC STRIKE SECURITY MOTION DETECTOR KEYPAD / MAG LOCK BUTTON / MAG LOCK	

FIRE SEALING NOTES

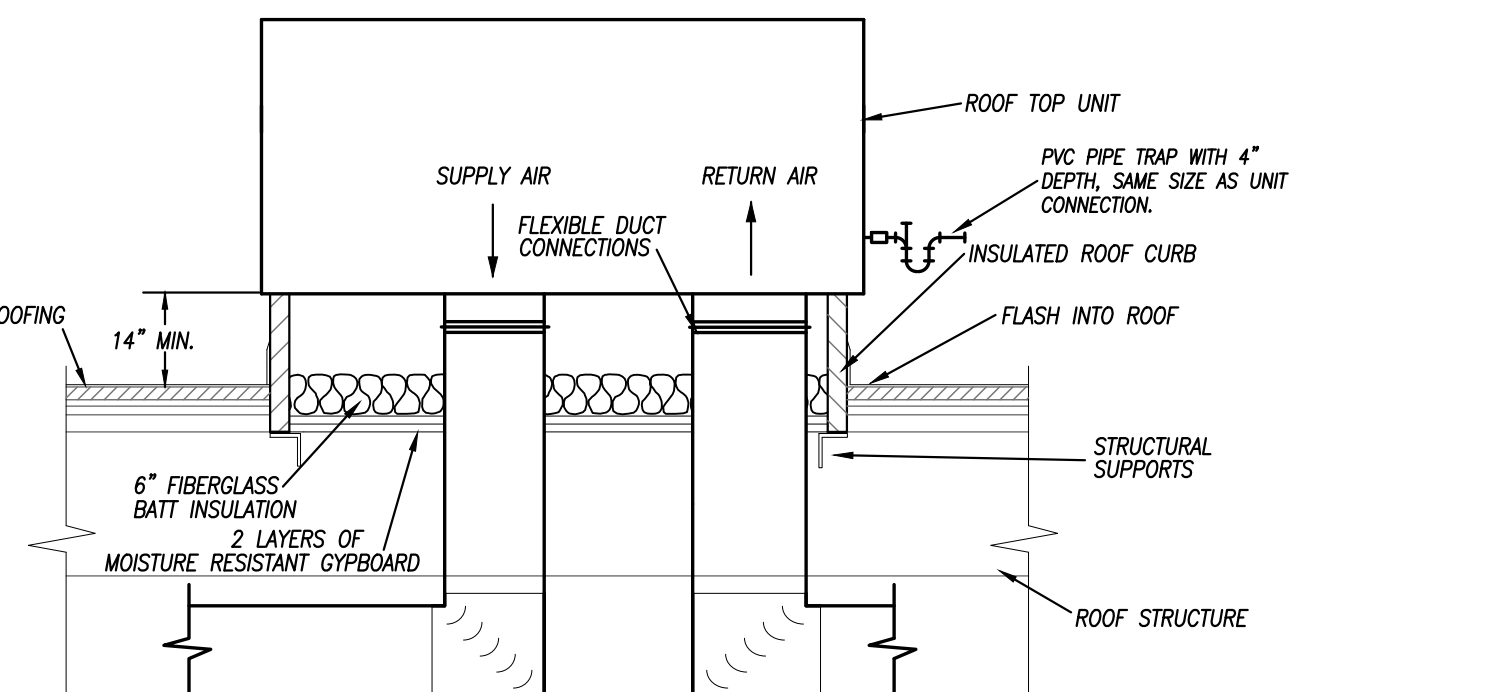
- COORDINATE CONSTRUCTION OF OPENINGS AND PENETRATING ITEMS TO ENSURE THAT THROUGH-PENETRATION FIRESTOP SYSTEMS ARE INSTALLED ACCORDING TO SPECIFIED AND APPLICABLE UL REQUIREMENTS.
- COORDINATE SIZING OF SLEEVES, OPENINGS, CORE-DRILLED HOLES, OR CUT OPENINGS TO ACCOMMODATE THROUGH-PENETRATION FIRESTOP SYSTEMS.
- DO NOT COVER UP THROUGH-PENETRATION FIRESTOP SYSTEM INSTALLATIONS UNTIL EXAMINED BY INSPECTOR, IF REQUIRED BY AUTHORITIES HAVING JURISDICTION.
- COMPATIBILITY: PROVIDE THROUGH-PENETRATION FIRESTOP SYSTEMS THAT ARE COMPATIBLE WITH ONE ANOTHER, WITH THE SUBSTRATES FORMING OPENINGS, AND WITH THE ITEMS, IF ANY, PENETRATING THROUGH-PENETRATION FIRESTOP SYSTEMS, UNDER CONDITIONS OF SERVICE AND APPLICATION, AS DEMONSTRATED BY THROUGH-PENETRATION FIRESTOP SYSTEM MANUFACTURER BASED ON TESTING AND FIELD EXPERIENCE.
- PROVIDE COMPONENTS FOR EACH THROUGH-PENETRATION FIRESTOP SYSTEM THAT ARE NEEDED TO INSTALL FULL MATERIALS. USE ONLY COMPONENTS SPECIFIED BY THROUGH-PENETRATION FIRESTOP SYSTEM MANUFACTURER AND APPROVED BY QUALIFIED TESTING AND INSPECTING AGENCY FOR FIRESTOP SYSTEMS INDICATED.
- PROVIDE SLEEVES THROUGH ALL FIRE-RATED WALLS AND FILL JOISTS SURROUNDING SLEEVES AND INTERIOR TO SLEEVES AROUND PIPING WITH FIRE STOP PUTTY WITH LUL LISTED 3 HOUR RATING INSTALLED AS PER MANUFACTURERS RECOMMENDATIONS.
- FIRE SEAL ALL PIPING, CONDUIT, CABLE ETC PENETRATIONS ROUTED THROUGH FIRE RATED WALLS.
- PROVIDE FIRE RATED ENCLOSURES OR WRAPS ON LIGHT FIXTURES AND OTHER ITEMS PENETRATING FIRE RATED CEILINGS, FLOOR/CEILING/CEILING/ROOF ASSEMBLIES TO MAINTAIN UL LISTING FOR CONSTRUCTION.

ABBREVIATIONS

A/E ARCHITECT / ENGINEER AFF ABOVE FINISHED FLOOR AFS ABOVE FINISHED GRADE AG ABOVE GRADE AAU AUTHORITY HAVING JURISDICTION ARCH ARCHITECT BFP BACKFLOW PREVENTER BG BELOW GRADE BLDG BUILDING BMS BUILDING MANAGEMENT SYSTEM C CONDUIT CD CANDELA CD COOL DECK CLS COOLING CM COORDINATE MOUNTING HEIGHT CD CLEAN OUT CTE CONNECT TO EXISTING DCDA DOUBLE CHECK VALVE ASSEMBLY DCW DOMESTIC COLD WATER DDC DIRECT DIGITAL CONTROLS JED JUNCTION BOX LED LIGHT EMITTING DIODE DHW DOMESTIC HOT WATER DHW DOMESTIC HOT WATER RETURN DA DIAMETER DN DOWN E/C ELECTRICAL CONTRACTOR EA EXHAUST AIR EDF ELECTRIC DRINKING FOUNTAIN	ELEV ELEVATION EM EMERGENCY FIXTURE/DEVICE ENT ENTERING WATER TEMPERATURE EX EXISTING ITEM FFA FROM FLOOR ABOVE FFB FROM FLOOR BELOW FFC FINISHED FLOOR CLEAN OUT FFCO FLUSH GRADE CLEAN OUT FL FLOW LINE FLR FLOOR FP FIRE PROTECTION FPM FEET PER MINUTE FFM FLUSH WALL CLEAN OUT G GROUND / GANG G/C GENERAL CONTRACTOR GCC GROUND FAULT CIRCUIT INTERRUPTER GPM GALLONS PER MINUTE HD HOT DECK HS HEATING IG ISOLATED GROUND JB JUNCTION BOX LED LIGHT EMITTING DIODE LWT LEAVING WATER TEMPERATURE M/C MECHANICAL CONTRACTOR MA MAILED AIR MAU MAKE UP AIR UNIT MCB MAIN CIRCUIT BREAKER MECH MECHANICAL MH MANHOLE	MLO MAIN LOSS ONLY NFA NET FREE AREA NL NIGHT LIGHT OA OUTSIDE AIR ORD OVERFLOW ROOF DRAIN P/C PLUMBING CONTRACTOR PSI POUNDS PER SQUARE INCH PVC POLYVINYLCHLORIDE RA RETURN AIR RE/RET REFER / REFERENCE RF RELIEF FAN RA RELOCATED ITEM RPZ REDUCED PRESSURE ZONE RR RESTROOM SA SUPPLY AIR SPD SURGE PROTECTIVE DEVICE ST SHUNT TRIP TRANSFER AIR TA TO FLOOR ABOVE T/FB TO FLOOR BELOW TP TAMPERPROOF TYP TYPICAL UNO UNLESS NOTED OTHERWISE VRF VARIABLE REFRIGERANT FLOW VENT VENT THROUGH ROOF WCO WALL CLEANOUT WG WIRE GUARD WP WEATHERPROOF
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FURNACE AND CONDENSING UNIT DETAIL NO SCALE



ROOF TOP UNIT MOUNTING DETAIL

NO SCALE

COORDINATION NOTES

- COORDINATE REQUIREMENTS FOR INSTALLATION OF SYSTEMS AND EQUIPMENT WITH ALL OTHER TRADES.
- THE CONTRACTOR SHALL COORDINATE THE ROUTING AND PATH OF ALL SYSTEMS, CONDUITS, PIPES, DUCTS, ETC WITH THE POSITION AND LAYOUT OF THE STRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING NECESSARY OFFSETS, TURNS, RISERS AND DROPS FOR SYSTEMS AND COMPONENTS AS NEEDED TO INSTALL THE MEP SYSTEMS TO CLEAR STRUCTURE, CEILING, ETC AND OTHER SYSTEMS IN POTENTIAL CONFLICT WITH ROUTING.
- COORDINATE WORK WITH OTHER TRADES TO INSTALL SYSTEMS ABOVE CEILING HEIGHTS INDICATED ON ARCHITECTURAL PLANS.
- CHECK SPACE REQUIREMENTS WITH OTHER TRADES AND STRUCTURE/CONSTRUCTION TO INSURE THAT ALL MATERIALS AND EQUIPMENT CAN BE INSTALLED IN THE SPACE ALLOTTED INCLUDING FINISHED SUSPENDED CEILING AND OTHER SPACES, CHASSES, ETC WITHIN THE BUILDING. MAKE MODIFICATIONS THEREAS AS REQUIRED AND APPROVED.
- TRANSMIT TO OTHER TRADES ALL INFORMATION REQUIRED FOR WORK TO BE PROVIDED UNDER THEIR RESPECTIVE SECTIONS IN AMPLIFIED TIME FOR INSTALLATION.
- WHEREAS WORK INTERCONNECTS WITH WORK OF OTHER TRADES, COORDINATE WITH THOSE TRADES TO INSURE THAT ALL SUBCONTRACTORS HAVE THE INFORMATION NECESSARY SO THAT THEY MAY PROPERLY INSTALL ALL CONNECTIONS AND EQUIPMENT. IDENTIFY ALL ITEMS OF WORK THAT REQUIRE ACCESS SO THAT THE CEILING TRADE WILL KNOW WHERE TO INSTALL ACCESS DOORS AND PANELS.
- COORDINATE, PROJECT AND SCHEDULE WORK WITH OTHER TRADES IN ACCORDANCE WITH THE CONSTRUCTION SEQUENCE.
- DRAWINGS SHOW THE GENERAL RUNS OF CONDUITS, PIPING AND DUCTWORK AND APPROXIMATE LOCATION OF OUTLETS. ANY SIGNIFICANT CHANGES IN LOCATION OF ITEMS NECESSARY IN ORDER TO MEET FIELD CONDITIONS SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ARCHITECT/ENGINEER AND RECEIVE HIS APPROVAL BEFORE SUCH ALTERATIONS ARE MADE. ALL SUCH MODIFICATIONS SHALL BE MADE WITHOUT ADDITIONAL COST TO THE OWNER.
- CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION AND REPAIR OF SURFACES, AREAS AND PROPERTY THAT MAY BE DAMAGED AS A RESULT OF CONSTRUCTION ACTIVITIES.
- ADJUST LOCATION OF PIPING, DUCTWORK, ETC. TO PREVENT INTERFERENCES, BOTH ANTICIPATED AND ENCOUNTERED, DETERMINE THE EXACT ROUTE AND LOCATION OF EACH ITEM PRIOR TO FABRICATION. MAKE OFFSETS, TRANSITIONS AND CHANGES IN DIRECTION IN SYSTEMS AS REQUIRED TO MAINTAIN ADEQUATE CLEARANCES AND HEADROOM.
- WHENEVER THE WORK IS OF SUFFICIENT COMPLEXITY, PREPARE ADDITIONAL CONSTRUCTION DRAWINGS AND ORANGE ON-SITE MEETINGS WITH ALL RELATED SUBCONTRACTORS TO COORDINATE THE WORK BETWEEN TRADES. DRAWINGS SHALL CLEARLY SHOW THE WORK AND ITS RELATIONSHIP TO THE WORK OF OTHER TRADES, AND BE SUBMITTED FOR REVIEW PRIOR TO COMMENCING SHOP FABRICATION OR ERECTION IN THE FIELD.
- COORDINATE WITH LOCAL UTILITY PROVIDERS FOR THEIR REQUIREMENTS FOR SERVICE CONNECTIONS AND PROVIDE ALL NECESSARY PAYMENTS, MATERIALS, LABOR AND TESTING TO ACCOMPLISH THE WORK.

GEN. MECHANICAL NOTES

- COMPLETE INSTALLATION SHALL BE IN ACCORDANCE WITH THE LATEST ADOPTED VERSION OF THE INTERNATIONAL MECHANICAL CODE, LOCAL AND STATE CODES, AND REQUIREMENTS OF THE A/E.
- ANY POWER FOR CONTROL SYSTEMS TO BE PROVIDED BY E/C IS INDICATED ON ELECTRICAL PLANS. ANY ADDITIONAL LINE VOLTAGE OR LOW VOLTAGE POWER REQUIRED BY THE M/C OR SUBCONTRACTORS TO HAVE A FULLY FUNCTIONING SYSTEM SHALL BE PROVIDED BY THE M/C CONTRACTOR OR SUBS.
- ALL EQUIPMENT SHALL BE ADEQUATELY AND PROPERLY SUPPORTED AND FASTENED FROM STRUCTURE.
- ALL EQUIPMENT AND ACCESSORIES INSTALLED IN CONCEALED SPACES REQUIRING ACCESS SHALL BE PROVIDED WITH ACCESS DOORS MEETING ANY FIRE REQUIREMENTS OF THE WALL/CEILING THEY ARE INSTALLED.
- EACH AIR HANDLING UNIT OVER 2000CFM SHALL BE PROVIDED WITH A SMOKE DETECTOR TO SHUT DOWN THE UNIT PER IMC 606 AS REQUIRED BY A/E. COORDINATE WITH OTHER TRADES.
- START UP AND ADJUST ALL MECHANICAL SYSTEMS IN ACCORDANCE WITH THEIR INTENDED PURPOSES. SUBMIT BALANCE AND START UP REPORTS TO THE A/E. REFER TO SPECIFICATIONS FOR ANY ADDITIONAL REQUIREMENTS.

GENERAL PLUMBING NOTES

- COMPLETE INSTALLATION SHALL BE IN ACCORDANCE WITH THE LATEST ADOPTED VERSION OF THE INTERNATIONAL PLUMBING CODE, LOCAL AND STATE CODES, AND REQUIREMENTS OF THE A/E.
- NO PIPING SHALL BE INSTALLED WHERE IT WILL BE SUBJECT TO FREEZING TEMPERATURES. PIPING IN EXTERIOR WALLS SHALL BE INSTALLED ON THE WARM SIDE OF BUILDING INSULATION, INSULATED AND CHASE SHALL BE VENTILATED WITH GRILLES ALLOWING INDOOR AMBIENT CONDITIONS TO CIRCULATE THROUGH THE CHASE.
- PROVIDE CLEANSITS IN THE FOLLOWING LOCATIONS:
 - 3.1. IN ALL HORIZONTAL DRAINS (WITHIN THE BUILDING) NOT MORE THAN 100 FEET APART.
 - 3.2. IN BUILDING SERVICES LOCATED MORE THAN 100 FEET APART MEASURED FROM THE UPSTREAM ENTRANCE OF THE CLEANSIT.
 - 3.3. EACH CHANGE OF DIRECTION OF THE BUILDING DRAIN OR HORIZONTAL WASTE OR SOIL LINES GREATER THAN 45 DEGREES, WHERE MORE THAN ONE CHANGE OF DIRECTION OCCURS IN A RUN OF PIPING, ONLY ONE CLEANSIT SHALL BE REQUIRED FOR EACH 40 FEET OF DEVELOPED LENGTH OF THE DRAINAGE PIPING.
 - 3.4. AT THE BASE OF EACH WASTE OR SOIL STACK.
 - 3.5. NEAR THE JUNCTION OF THE BUILDING DRAIN AND BUILDING SEWER.

GENERAL ELECTRICAL NOTES

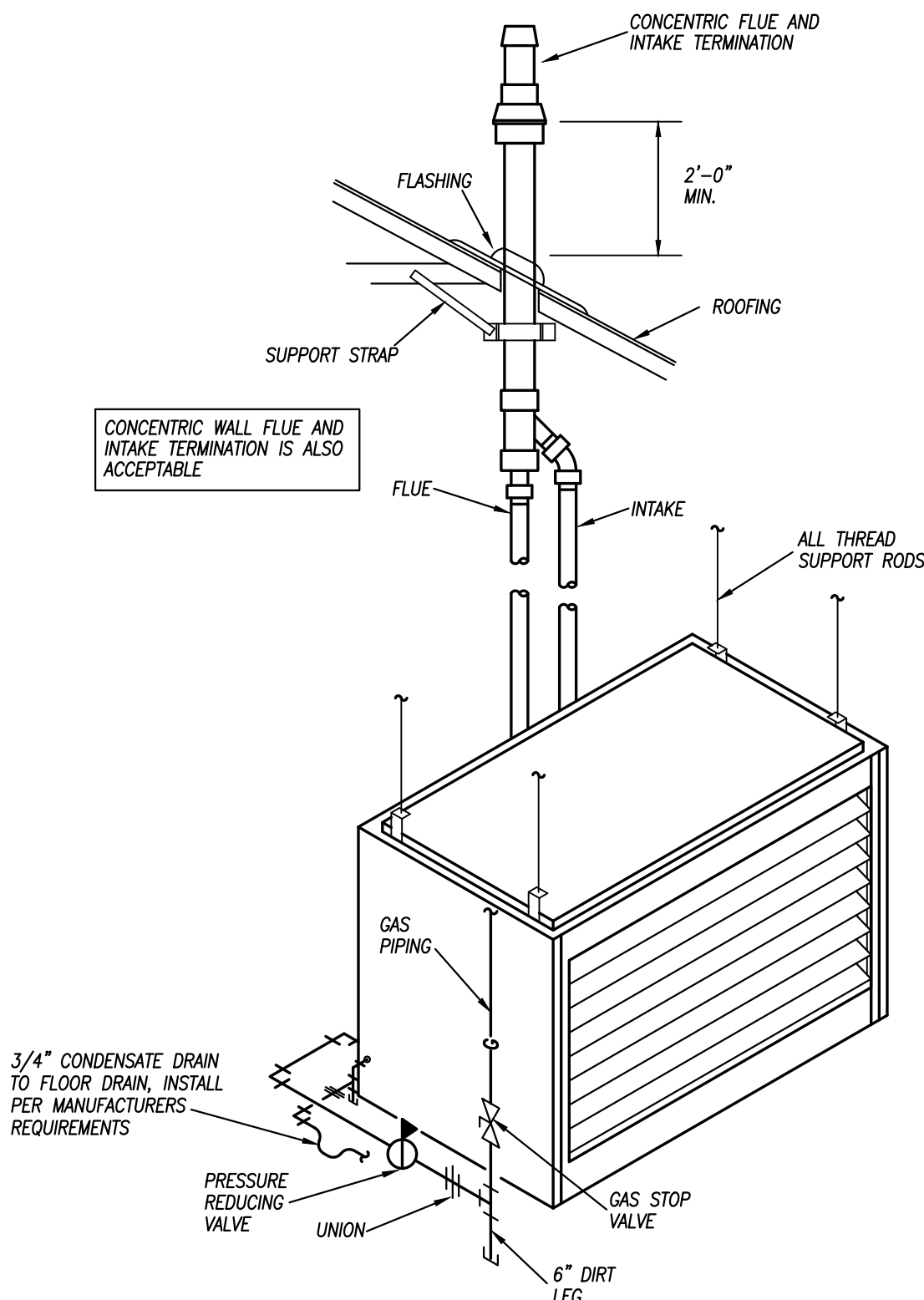
- COMPLETE INSTALLATION SHALL BE IN ACCORDANCE WITH THE LATEST ADOPTED VERSION OF THE NATIONAL ELECTRICAL CODE, LOCAL AND STATE CODES, AND REQUIREMENTS OF THE A/E.
- COORDINATE LOCATION OF RECEPTACLES, SWITCHES, ETC. WITH ARCHITECTURAL CASEWORK AND ELEVATIONS.
- REFER TO MOUNTING HEIGHTS DETAIL FOR MOUNTING HEIGHTS OF ALL DEVICES NOT INDICATED OTHERWISE.
- PROVIDE ALL EMPTY CONDUITS WITH PULL STRINGS AND BUSHED ENDS.
- CONTRACTOR SHALL CONCEAL ALL CONDUIT, FITTINGS, AND DEVICES FROM VIEW WHERE REASONABLY POSSIBLE.

GENERAL NOTES

- SOME ROOM NAMES MAY NOT BE SHOWN FOR PURPOSE OF CLARIFYING PLAN. REFER TO ARCHITECTURAL PLANS FOR REFERENCES TO ROOM NAMES NOT SHOWN.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN AND KEEP AT THE JOB SITE AN UP TO DATE SET OF "RECORD DRAWINGS" SHOWING ALL CHANGES FROM THE ORIGINAL PLANS. THE CONTRACTOR SHALL DELIVER THE "RECORD DRAWINGS" TO THE ENGINEER AT THE CONCLUSION OF THE PROJECT ELECTRONICALLY.
- THESE DRAWINGS ARE DIAGRAMMATIC. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS (NEW AND EXISTING) DIMENSIONS, AND CLEARANCES PRIOR TO THE COMMENCEMENT OF WORK AND SHALL INCLUDE ALL COSTS, EQUIPMENT, MATERIAL, ACCESSORIES, ETC. REQUIRED FOR A FULLY COMPLETE, FUNCTIONAL AND CODE COMPLIANT INSTALLATION.
- FINAL LOCATIONS OF ALL DEVICES, LIGHT FIXTURES, EQUIPMENT ETC. SHALL BE INDICATED ON THE ARCHITECTURAL DRAWINGS. ALL DIMENSIONAL INFORMATION SHALL BE OBTAINED FROM ARCHITECTURAL PLANS. NO DIMENSIONAL INFORMATION SHALL BE OBTAINED FROM MEP DRAWINGS.
- THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS, APPROVALS, LICENSES, ETC. AS NEEDED FOR THE COMPLETE INSTALLATION AND PROJECT. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER FOR ALL FEES AND DATA NEEDED FOR THIS.

GEN. RENOVATION NOTES

- DISCONNECT AND REMOVE ANY EQUIPMENT, PIPING OR DUCTWORK THAT WAS INSTALLED AS PART OF THE BUILDING SHELL THAT IS NOT NEEDED OR CONFLICTS WITH THIS BUILD OUT.
- EXISTING UNDERGROUND PIPING LOCATIONS ARE ESTIMATED BASED UPON ANTICIPATED ROUTINGS. FIELD VERIFY EXACT LOCATIONS DURING CONSTRUCTION AND PROVIDE ALL NECESSARY MODIFICATIONS.
- SAWCUT GRADE FLOOR SLABS TO INSTALL NEW PIPING, MECHANICAL SYSTEMS, ELECTRICAL FLOOR BOXES AND ALL ASSOCIATED CONDUIT, ETC. PATCH FLOOR TO MAKE LIKE NEW AFTER INSTALLATION. TAKE CARE TO LOCATE EXISTING CONDUIT, ETC. AND AVOID CUTTING EXISTING CONDUITS BY NOT OVERTIGHTENING SLAB DEPTH.
- SAWCUT AND CORE DRILL OPENINGS AS REQUIRED FOR ABOVE GRADE SLAB PENETRATIONS. XRAY SLABS TO ASCERTAIN STEEL AND EXISTING CONDUIT PENETRATIONS PRIOR TO CUTTING. VERIFY OPENINGS WITH STRUCTURAL ENGINEER PRIOR TO CUTTING.
- REMOVE CIRCUITS TO 20 AMP, SINGLE POLE BREAKERS IN PANELBOARDS INDICATED. UTILIZE SPARE BREAKERS MADE AVAILABLE BY DEMOLITION, IF NO SPARE BREAKER IS AVAILABLE, PROVIDE NEW BREAKER.
- EXISTING CIRCUITING MAY BE RE-USED WHERE POSSIBLE. FOR NEW DEVICES INSTALLED ON EXISTING SOLID WALLS, CONCEAL CIRCUITING IN WIREMOLD. COORDINATE FINISH AND GENERAL ROUTING OF WIREMOLD WITH ARCHITECT TO BE AS CONCEALED AND/OR ROUTED IN A NEAT AND ORGANIZED CONSISTENT MANNER.

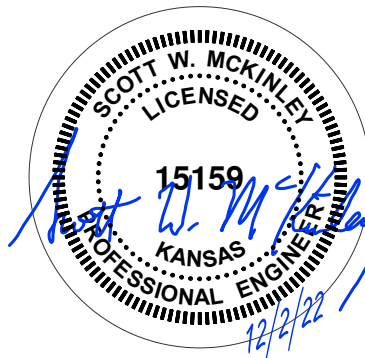


GAS FIRED UNIT HEATER DETAIL NO SCALE

ISSUED FOR:	DESCRIPTION	DATE
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2		
3		
© PEARSON KENT MCKINLEY RAAF ENGINEERS, LLC		
DRAWN BY:	EJT	
CHECKED BY:	SWM	
SHEET TITLE:		
HVAC SYMBOLS & DETAILS		
DATE:	12/2/22	PKMR PROJECT: 22.175
SHEET NUMBER:		

ME1

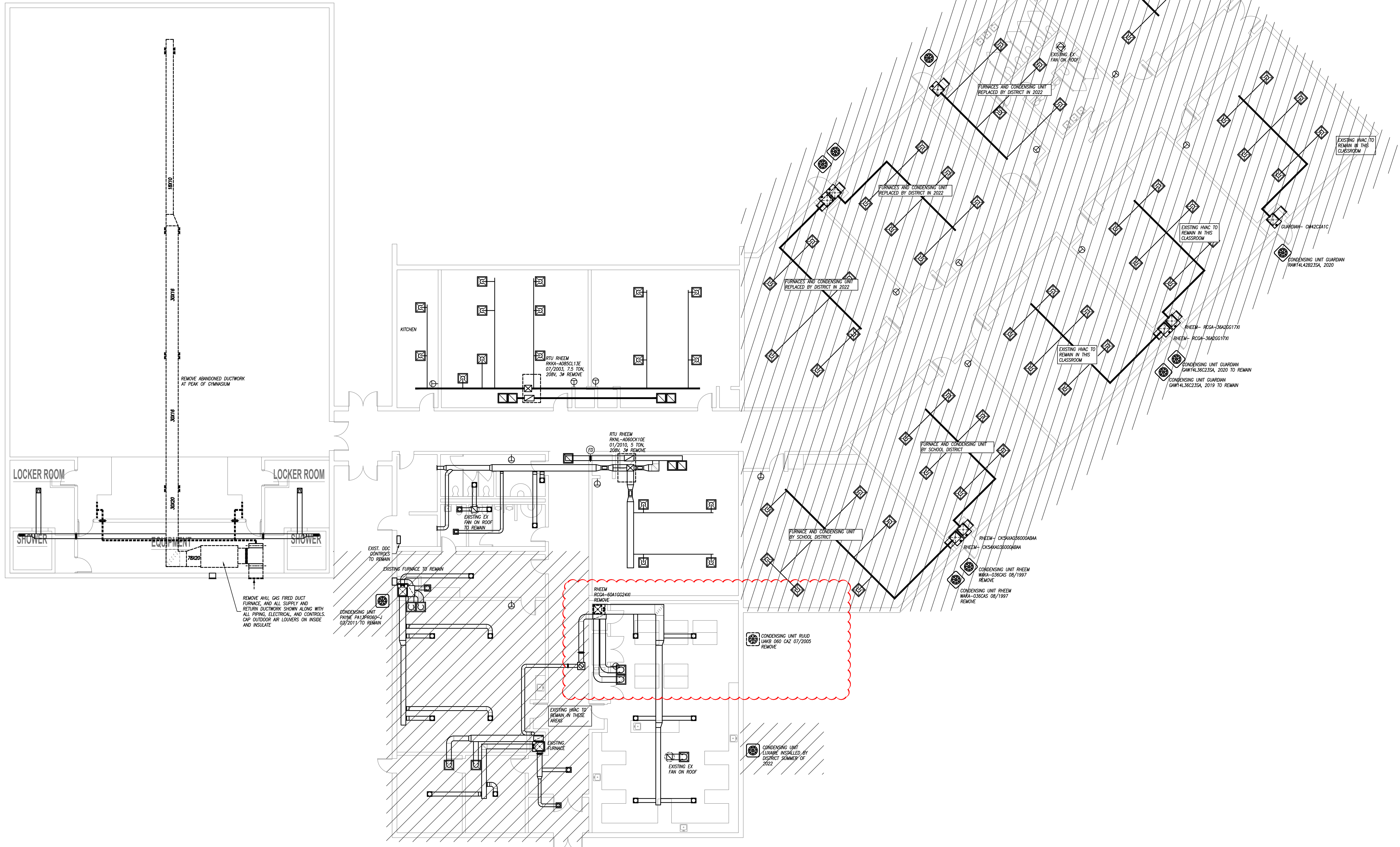
BARTLETT GRADE SCHOOL



PEARSON KENT MCKINLEY RAAF ENGINEERS LLC
2933 SW WOODSIDE DR., STE 104 TOPEKA, KS 66614
785.273.2447 WWW.PKMRENG.COM

USD 506 LABETTE CO SCHOOLS
HVAC UPGRADES

BARTLETT GRADE SCHOOL
201 2ND ST.
BARTLETT, KS 67332



FLOOR PLAN - EXISTING HVAC - DEMOLITION PLAN
1/8" = 1'-0"

ISSUED FOR:	
DESCRIPTION	DATE
1	
2	
3	
© PEARSON KENT MCKINLEY RAAF ENGINEERS, LLC	
DRAWN BY:	EJT
CHECKED BY:	SWM
SHEET TITLE:	
HVAC DEMO PLAN	
DATE:	PKMR PROJECT:
12/2/22	22.175
SHEET NUMBER:	

M1

BARTLETT GRADE SCHOOL

BARTLETT GRADE SCHOOL
OWNER WILL PURCHASE THIS EQUIPMENT, CONTRACTOR TO RECEIVE AND INSTALL EQUIPMENT

ROOF TOP UNIT SCHEDULE - THREE PHASE ELECTRIC WITH GAS HEAT																
PLAN MARK	MANUFACTURER	MODEL NUMBER	SIZE	REFRIGERANT	MINIMUM EFFICIENCY	AIRFLOW	COMPRESSORS	COOLING CAPACITY	CFM	EXTERNAL STATIC	OA CFM	HEATING CAPACITY	ELECTRICAL	WEIGHT	FILTER	NOTES
RTU-1	LUXARE	ZD-046782	4 TON	R-410A	14 SEER	DOWN OR HORIZONTAL	(1) SCROLL	49,000 BTUH	1,600	0.7"	160	75 MBH	208 V, 3 PH, 30 AMP	800 LBS	MERV 13	1,2,3
RTU-2	LUXARE	ZD-05H1082	5 TON	R-410A	14 SEER	DOWN OR HORIZONTAL	(1) SCROLL	60,100 BTUH	2,000	1.0"	200	100 MBH	208 V, 3 PH, 35 AMP	800 LBS	MERV 13	1,2,3

- NOTES LEGEND
- REFER TO PLANS FOR QUANTITIES - PROVIDE ROOF ADAPTER CURB, DISCONNECT SWITCH, HAIL GUARDS, HOT GAS HUMIDITY CONTROL, AND ECONOMIZER
 - PROVIDE WALL MOUNTED 7 DAY PROGRAMMABLE THERMOSTAT
 - PROVIDE INTERNAL VIBRATION ISOLATION FOR THE RTU FAN AND COMPRESSORS

OWNER WILL PURCHASE THIS EQUIPMENT, CONTRACTOR TO RECEIVE AND INSTALL EQUIPMENT

PLAN MARK	MANUFACTURER	MODEL NUMBER	CABINET WIDTH	TOTAL CFM	OUTDOOR AIR CFM	STATIC PRESSURE	MOTOR HP/1 EFF	HEAT INPUT BTUH	HEAT OUTPUT BTUH	FLUE OUTLET	COMBUSTION AIR INLET	EVAPORATOR	COOLING CAPACITY	ENTERING AIR DRYWET	LEAVING AIR DRYWET	ELECTRICAL	FILTER	NOTES
F-1	LUXARE	FLR0606012UM1	18"	1200	140	0.5"	1/2 HP/ECM	60	57	2"	2"	3 TON	3.0 TON	78/65	57/55	120 V, 1 Ph.	MERV 13	1

- NOTES LEGEND
- PROVIDE 7 DAY PROGRAMMABLE THERMOSTAT

OWNER WILL PURCHASE THIS EQUIPMENT, CONTRACTOR TO RECEIVE AND INSTALL EQUIPMENT

PLAN MARK	MANUFACTURER	MODEL NUMBER	NOMINAL SIZE	TOTAL MBH	AMBIENT	SUCTION	LIQUID	COMPRESSORS	ELECTRICAL	MOC/P AMPS	MIN CIRCUIT AMPS	DISCONNECT	NOTES
CU-1	LUXARE	702 3683	3 TONS	36	100	3/4"	3/8"	1	208/240V, 3PH.	20	15	YES	1,2,3

- NOTES LEGEND
- PROVIDE TWO VALVE, SERVICE VALVES, AND REFRIGERANT ACCUMULATOR AT SUCTION LINE
 - PROVIDE COIL HAIL GUARDS
 - VERIFY EXACT REFRIGERANT LINE SIZES WITH MANUFACTURER

OWNER WILL PURCHASE THIS EQUIPMENT, CONTRACTOR TO RECEIVE AND INSTALL EQUIPMENT

MINI-SPLIT DUCTLESS EVAPORATOR/HEAT PUMP SCHEDULE												
PLAN MARK	MANUFACTURER	MODEL NUMBER	NOMINAL SIZE	MAX CFM	ENTERING AIR DRYWET	COOLING MBH	HEATING MBH	ELECTRICAL	MOC/P AMPS	MIN CIRCUIT AMPS	DISCONNECT	NOTES
MSV/MSV-1	MTSUBISHI	CELANC RECESSED HAPER HGT	3.0 TON	900	80/72	35.0	25.0	208/240V, 1P	40	25	YES	1,2,3

- NOTES LEGEND
- REFER TO PLANS FOR QUANTITIES PER SCHOOL - PROVIDE WIRED REMOTE THERMOSTAT, AND CONDENSATE PUMP
 - PROVIDE ALL NEEDED ACCESSORIES FOR A COMPLETE INSTALLATION WITH LOW AMBIENT COOLING DOWN TO 0 DEG AMBIENT FOR IT ROOMS AND HYPER HEAT IN ALL UNITS
 - VERIFY EXACT REFRIGERANT LINE SIZES WITH MANUFACTURER

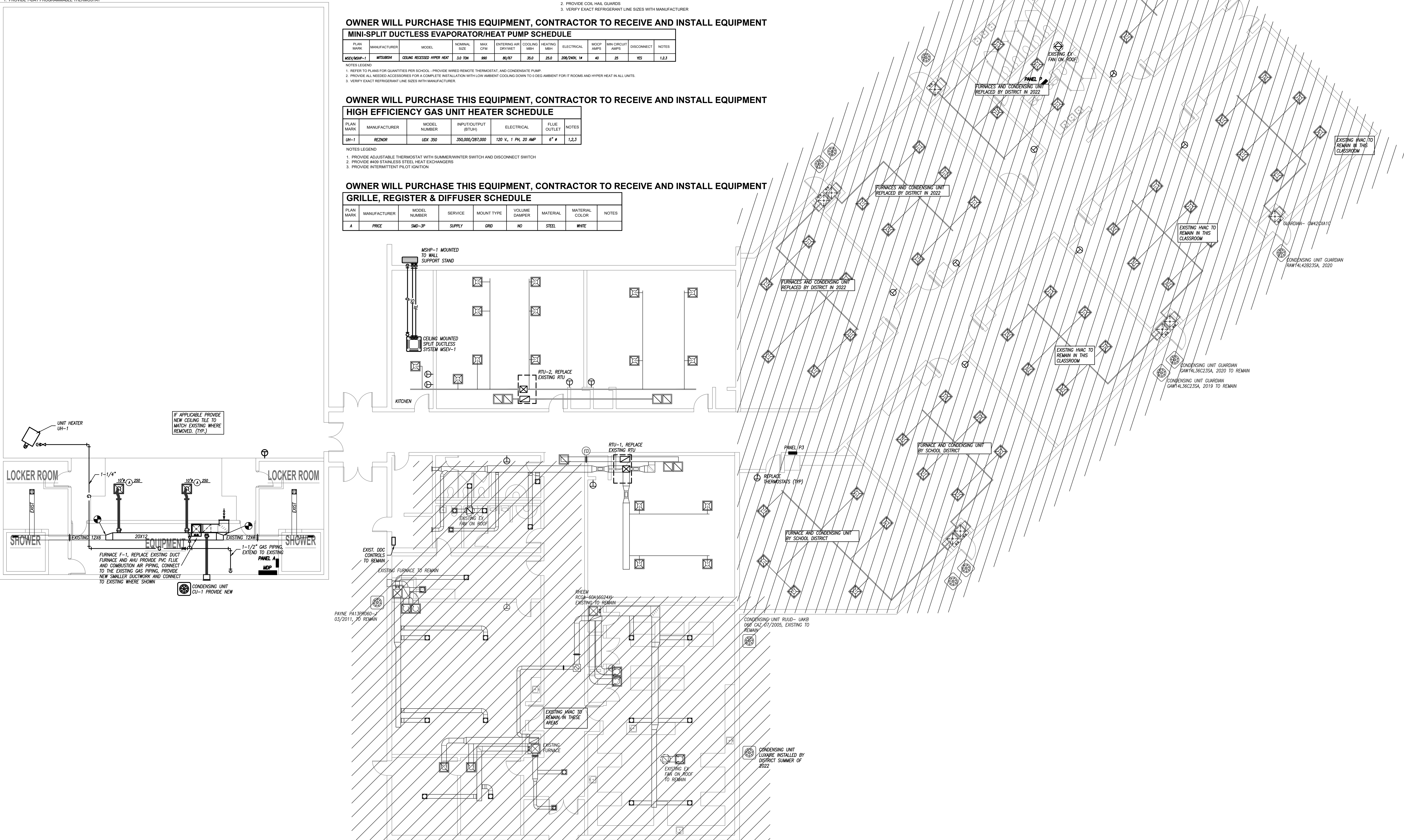
OWNER WILL PURCHASE THIS EQUIPMENT, CONTRACTOR TO RECEIVE AND INSTALL EQUIPMENT

HIGH EFFICIENCY GAS UNIT HEATER SCHEDULE				
PLAN MARK	MANUFACTURER	MODEL NUMBER	INPUT/OUTPUT (BTUH)	FLUE OUTLET
UH-1	RENDOR	UDW_350	350,000/287,000	120 V, 1 PH, 20 AMP, 6" #

- NOTES LEGEND
- PROVIDE ADJUSTABLE THERMOSTAT WITH SUMMER/WINTER SWITCH AND DISCONNECT SWITCH
 - PROVIDE #409 STAINLESS STEEL HEAT EXCHANGERS
 - PROVIDE INTERMITTENT PILOT IGNITION

OWNER WILL PURCHASE THIS EQUIPMENT, CONTRACTOR TO RECEIVE AND INSTALL EQUIPMENT

GRILLE, REGISTER & DIFFUSER SCHEDULE							
PLAN MARK	MANUFACTURER	MODEL NUMBER	SERVICE	MOUNT TYPE	VOLUME DAMPER	MATERIAL	NOTES
A	PRICE	SMD-3P	SUPPLY	GRD	NO	STEEL	WHITE



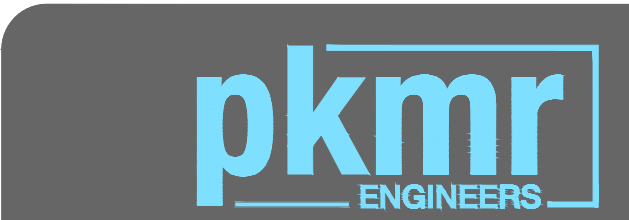
FLOOR PLAN - HVAC PLAN
1/8" = 1'-0"

USD 506 LABETTE CO SCHOOLS
HVAC UPGRADES

BARTLETT GRADE SCHOOL
201 2ND ST.
BARTLETT, KS 67332

ISSUED FOR:		DESCRIPTION	DATE
1			
2			
3			
© PEARSON KENT MCKINLEY RAAF ENGINEERS, LLC			
DRAWN BY:		EJT	
CHECKED BY:		SWM	
SHEET TITLE:			
HVAC PLAN			
DATE:	12/2/22	PKMR PROJECT:	22.175
SHEET NUMBER:			

M2



PEARSON KENT MCKINLEY RAAF ENGINEERS LLC
2933 SW WOODSIDE DR., STE 104 TOPEKA, KS 66614
785.273.2447 WWW.PKMRENG.COM

USD 506 LABETTE CO SCHOOLS HVAC UPGRADES

**BARTLETT GRADE SCHOOL
201 2ND ST.
BARTLETT, KS 67332**

ISSUED FOR:	
DESCRIPTION	DATE
1	
2	
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DRAWN BY:	EJT
CHECKED BY:	SWM
SHEET TITLE:	
<div style="text-align: center;"> <h1>POWER PLAN</h1> </div>	
DATE:	PKMR PROJECT:
12/2/22	22.175
SHEET NUMBER:	

E1



BARTLETT GRADE SCHOOL