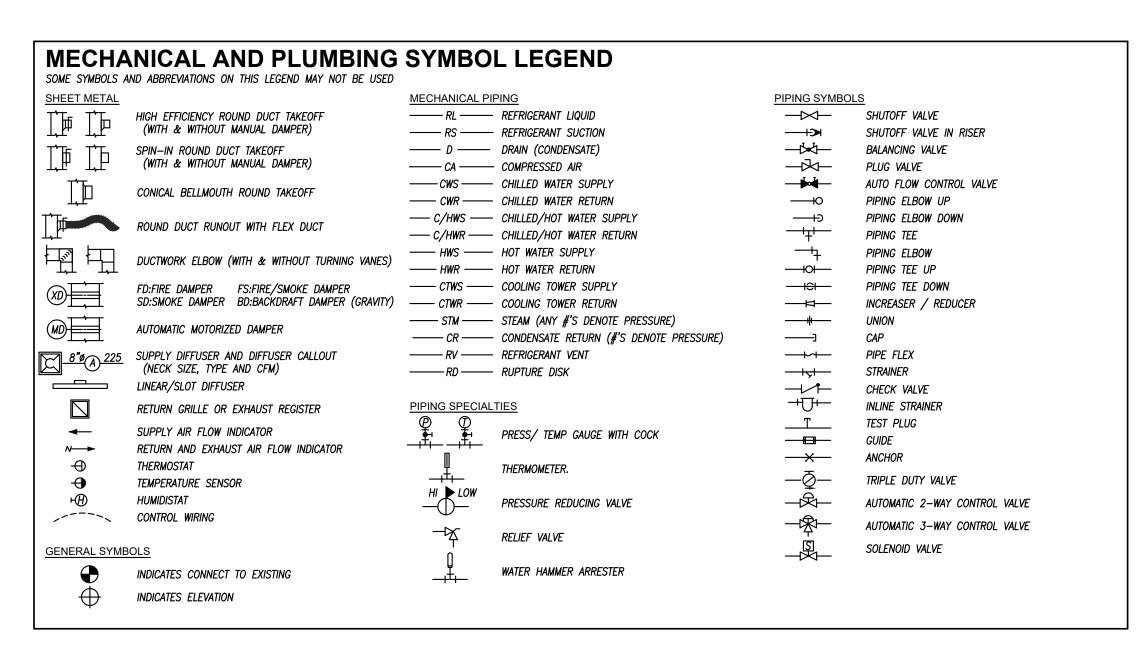
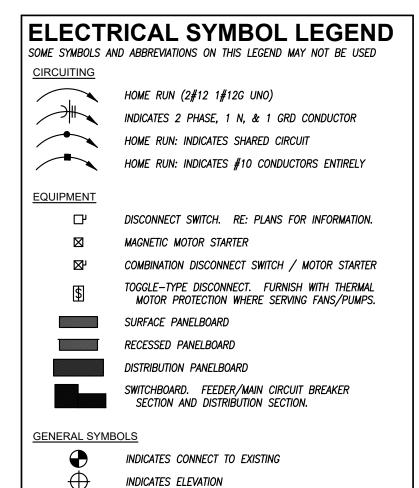
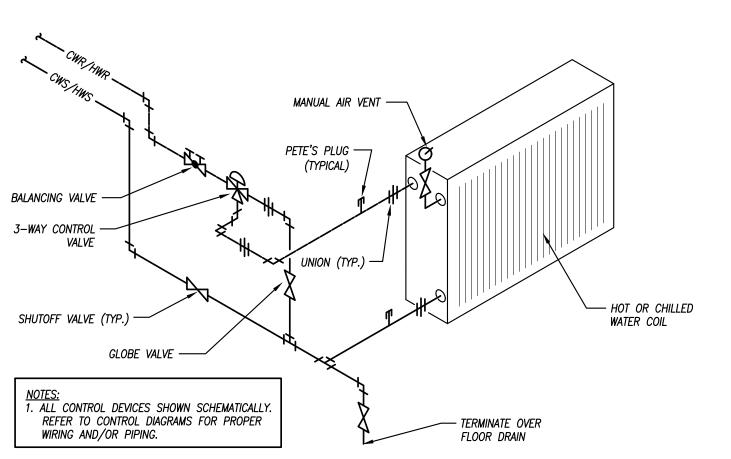


REQUEST FOR BIDS QSS HVAC Equipment Upgrade TO-25-03

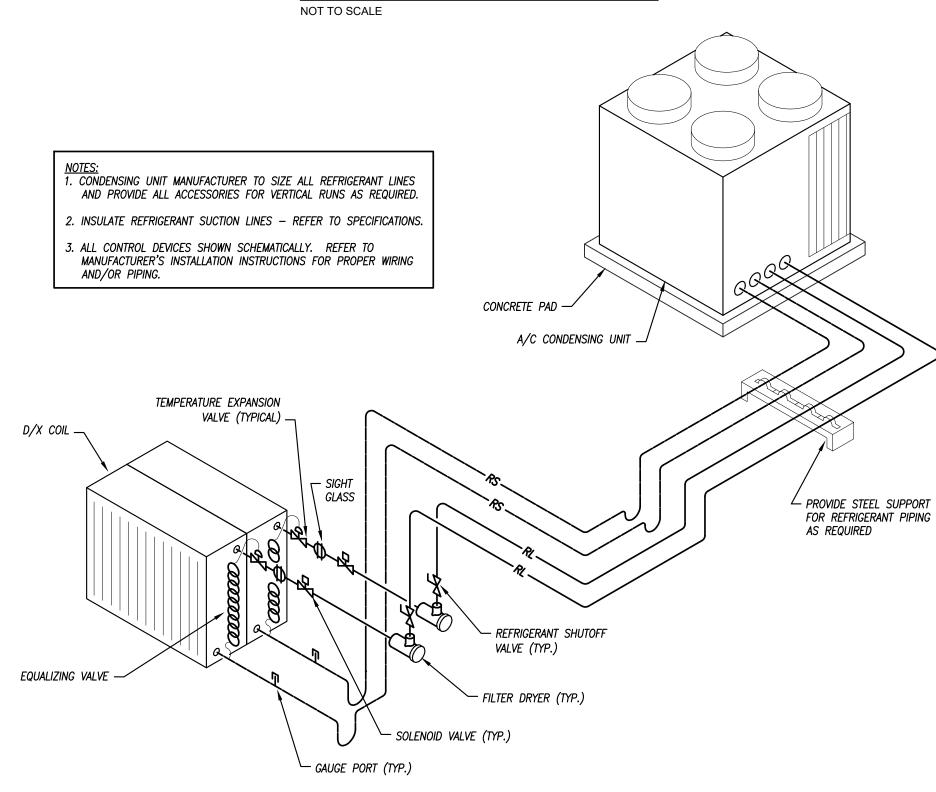
Appendix 3 Engineering Plans







SINGLE WATER COIL DETAIL



AHU D/X COIL & AIR-COOLED CONDENSING DETAIL

AB	BREVIATIONS				
A/E	ARCHITECT / ENGINEER	ELEV	ELEVATION	MLO	MAIN LUGS ONLY
ĀFF	ABOVE FINISHED FLOOR	EM	EMERGENCY FIXTURE/DEVICE	NFA	NET FREE AREA
AFG	ABOVE FINISHED GRADE	EWT	ENTERING WATER TEMPERATURE	NL	NIGHT LIGHT
AG	ABOVE GRADE	EΧ	EXISTING ITEM	OA	OUTSIDE AIR
AHJ	AUTHORITY HAVING JURISDICTION	FFA	FROM FLOOR ABOVE	ORD	OVERFLOW ROOF DRAIN
AHU	AIR HANDLING UNIT	FFB	FROM FLOOR BELOW	P/C	PLUMBING CONTRACTOR
ARCH	ARCHITECT	FFC0	FINISHED FLOOR CLEAN OUT	PSI	POUNDS PER SQUARE INCH
BFP	BACKFLOW PREVENTER	FGC0	FLUSH GRADE CLEAN OUT	PVC	POLYVINYLCHLORIDE
BG	BELOW GRADE	FL	FLOW LINE	RA	RETURN AIR
BLDG	BUILDING	FLR	FLOOR	RE/REF	REFER / REFERENCE
BMS	BUILDING MANAGEMENT SYSTEM	FP	FIRE PROTECTION	RF	RELIEF FAN
C	CONDUIT	FPM	FEET PER MINUTE	RL	RELOCATED ITEM
CD	CANDELA	<i>FWCO</i>	FLUSH WALL CLEAN OUT	RPZ	REDUCED PRESSURE ZONE
CD	COLD DECK	G	GROUND / GANG	RR	RESTROOM
CLG	COOLING	G/C	GENERAL CONTRACTOR	SA	SUPPLY AIR
CM	COORDINATE MOUNTING HEIGHT	ĠFCI	GROUND FAULT CIRCUIT INTERUPTER	SPD	SURGE PROTECTIVE DEVICE
CO	CLEAN OUT	GPM	GALLONS PER MINUTE	ST	SHUNT TRIP
CTE	CONNECT TO EXISTING	HD	HOT DECK	TA	TRANSFER AIR
DCVA	DOUBLE CHECK VALVE ASSEMBLY	HTG	HEATING	TFA	TO FLOOR ABOVE
DCW	DOMESTIC COLD WATER	IG	ISOLATED GROUND	TFB	TO FLOOR BELOW
DDC	DIRECT DIGITAL CONTROLS	JB	JUNCTION BOX	ΤP	TAMPERPROOF
DF	DRINKING FOUNTAIN	LED	LIGHT EMITTING DIODE	TYP	TYPICAL
DHW	DOMESTIC HOT WATER	LWT	LEAVING WATER TEMPERATURE	UNO	UNLESS NOTED OTHERWISE
DHWR	DOMESTIC HOT WATER RETURN	M/C	MECHANICAL CONTRACTOR	VRF	VARIABLE REFRIGERANT FLO
DIA	DIAMETER	ΜA	MIXED AIR	VTR	VENT THROUGH ROOF
DN	DOWN	MAU	MAKE UP AIR UNIT	WCO	WALL CLEANOUT

E/C ELECTRICAL CONTRACTOR EXHAUST AIR

FIRESTOP SYSTEMS.

AUTHORITIES HAVING JURISDICTION.

TESTING AND FIELD EXPERIENCE.

THROUGH FIRE RATED WALLS.

FOR CONSTRUCTION.

FIRE SEALING NOTES

1. COORDINATE CONSTRUCTION OF OPENINGS AND PENETRATING ITEMS

2. COORDINATE SIZING OF SLEEVES, OPENINGS, CORE-DRILLED HOLES,

3. DO NOT COVER UP THROUGH—PENETRATION FIRESTOP SYSTEM

4 COMPATIBILITY: PROVIDE THROUGH—PENETRATION FIRESTOP SYSTEMS

OR CUT OPENINGS TO ACCOMMODATE THROUGH-PENETRATION

INSTALLATIONS UNTIL EXAMINED BY NSPECTOR, IF REQUIRED BY

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

SYSTEM THAT ARE NEEDED TO INSTALL FILL MATERIALS. USE ONLY COMPONENTS SPECIFIED BY THROUGH-PENETRATION FIRESTOP

SYSTEM MANUFACTURER AND APPROVED BY QUALIFIED TESTING AND

5. PROVIDE COMPONENTS FOR EACH THROUGH-PENETRATION FIRESTOP

6. PROVIDE SLEEVES THROUGH ALL FIRE_RATED WALLS AND FILL VOIDS

7. FIRE SEAL ALL PIPING, CONDUIT, CABLE, ETC PENETRATIONS ROUTED

8. 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

SURROUNDING SLEEVES AND INTERIOR TO SLEEVES AROUND PIPING

WITH FIRE STOP PUTTY WITH U.L. LISTED 3 HOUR RATING INSTALLED

INSPECTING AGENCY FOR FIRESTOP SYSTEMS INDICATED.

AS PER MANUFACTURERS RECOMMENDATIONS.

TO ENSURE THAT THROUGH-PENETRATION FIRESTOP SYSTEMS ARE

INSTALLED ACCORDING TO SPECIFIED AND APPLICABLE UL

MCB MAIN CIRCUIT BREAKER MECH MECHANICAL EDF ELECTRIC DRINKING FOUNTAIN

GEN. MECHANICAL NOTES

WEATHERPROOF

- 1. COMPLETE INSTALLATION SHALL BE IN ACCORDANCE WITH THE LATEST ADOPTED VERISION OF THE INTERNATIONAL MECHANICAL CODE, LOCAL AND STATE CODES, AND REQUIREMENTS OF THE AHJ.
- 2. 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.
- 3. ALL EQUIPMENT SHALL BE ADEQUATELY AND PROPERLY SUPPORTED AND FASTENED FROM STRUCTURE.
- 4. 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
- 5. START UP AND ADJUST ALL EQUIPMENT AND VERIFY ALL MECHANICAL SYSTEMS IN OPERATE IN ACCORDANCE WITH THEIR INTENDED PURPOSES. SUBMIT BALANCE AND START UP REPORTS TO THE A/E. REFER TO SPECIFICATIONS FOR ANY ADDITIONAL REQUIREMENTS.

GENERAL ELECTRICAL NOTES

1. COMPLETE INSTALLATION SHALL BE IN ACCORDANCE WITH THE LATEST ADOPTED VERSION OF THE NATIONAL ELECTRICAL CODE, LOCAL AND STATE CODES, AND REQUIREMENTS OF THE AHJ. 2. CONTRACTOR SHALL CONCEAL ALL CONDUIT, FITTINGS, AND DEVICES FROM VIEW WHERE REASONABLY POSSIBLE.

COORDINATION NOTES

1. COORDINATE REQUIREMENTS FOR INSTALLATION OF SYSTEMS AND EQUIPMENT WITH ALL OTHER TRADES. 2. 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

15000 - MECHANICAL SPECIFICATIONS

A. ALL WORK SHALL BE IN ACCORDANCE W/ LATEST EDITION OF INTERNATIONAL BUILDING,

MECHANICAL & PLUMBING CODES, CODES AS ADOPTED BY CITY, COUNTY, STATE & ALL

FURNISH & INSTALL ALL LABOR & MATERIALS REQUIRED FOR COMPLETE, FUNCTIONING,

MECHANICAL & PLUMBING SYSTEMS W/ ALL ASSOCIATED EQUIPMENT & APPARATUS AS

OBTAIN & PAY FOR ALL PERMITS REQUIRED FOR EXECUTION OF THIS WORK & SHALL

MAKE ARRANGEMENTS FOR MODIFICATIONS TO WATER, GAS & SEWER CONNECTIONS TO

VISIT SITE & OBSERVE CONDITIONS UNDER WHICH WORK WILL BE DONE. ANY

DISCREPANCIES SHALL BE CALLED TO ARCHITECT'S ATTENTION. NO SUBSEQUENT

ALLOWANCE WILL BE MADE IN CONTRACT FOR ANY ERROR OR NEGLIGENCE ON

FINAL ACCEPTANCE OF WORK SHALL BE SUBJECT TO CONDITION THAT ALL SYSTEMS.

EQUIPMENT, APPARATUS & APPLIANCES OPERATE SATISFACTORILY AS DESIGNED &

INTENDED. WORK SHALL INCLUDE REQUIRED ADJUSTMENT OF SYSTEMS & CONTROL

WARRANT TO OWNER QUALITY OF MATERIAL. EQUIPMENT, WORKMANSHIP & OPERATION

OF EQUIPMENT PROVIDED UNDER THESE SPECIFICATIONS FOR ONE YEAR FROM &

ALL MATERIALS INSTALLED IN PLENUMS SHALL BE NONCOMBUSTIBLE OR HAVE

FLAME/SMOKE INDEX OF NO MORE THAN 25/50 IN ACCORDANCE W/ ASTM E 84.

H. ROOF PENETRATIONS — MADE BY AUTHORIZED ROOFING CONTRACTOR WHEN REQUIRED.

A. PROVIDE COMPLETE HVAC SYSTEM AS SHOWN ON DRAWINGS INCLUDING ALL

NECESSARY EQUIPMENT, DUCTWORK, DIFFUSERS, GRILLES, & FILTERS. PROVIDE

ALL HVAC WORK SHALL BE DONE IN STRICT ACCORDANCE W/ ALL REQUIREMENTS OF

LOCAL BUILDING CODE, ASHRAE, NEC, NFPA, & ALL OTHER APPLICABLE CODES HAVING

REFRIGERANT TUBE, ASTM B-88. TYPE L OR K. BRAZED JOINTS. INSULATE W/

ARMAFLEX IN THICKNESS PER ASHRAE 90.1. PROVIDE EXTERIOR RATED OR COATED

HOT WATER PIPING - SCHED 40 CARBON STEEL ASTM-A53/A106 W/ CORRESP

FITTINGS. PROVIDE THREADED FITTINGS THROUGH 2-1/2", WELDED JOINTS 3" &

LARGER. CONTRACTOR OPTION TO USE COPPER TYPE L. INSULATE W/ FIBERGLASS PIPE

A. SPLIT SYSTEM AHUS, EVAPORATORS, & CONDENSING UNITS AS SCHEDULED. MODIFY EXISTING AHUS. CONDENSING UNIT - HEAVY GAUGE BASE, SCROLL COMPRESSOR(S).

B. COORDINATE W/ E/C TO PROVIDE ALL WIRING BETWEEN EQUIPMENT, DAMPERS, THERMOSTATS & ALL OTHER REQUIRED CONTROLS & DEVICES. PROVIDE ANY

RATED SEER NOT LESS THAN 10.3. (1) YR PARTS & LABOR SYSTEM WARRANTY &

ADDITIONAL 4 YR COMPRESSOR ONLY WARRANTY. ANTI-SHORT CYCLE PREVENTION

PROVIDE FACTORY-AUTHORIZED SERVICE START UP ON EQUIPMENT. TRAIN OWNER'S

MAINTENANCE PERSONNEL ON STARTUP, SHUTDOWN, TROUBLESHOOTING, SERVICING,

A. REFRIGERANT PIPING - COPPER TUBE TYPE ACR, HARD TEMPER NITROGENIZED

AFTER COMPLETION OF BUILDING & ACCEPTANCE OF MECHANICAL SYSTEMS BY OWNER.

SHOWN ON PLANS. "PROVIDE" MEANS TO FURNISH & INSTALL.

EQUIPMENT INSTALLED UNDER THESE SPECIFICATIONS

OPERATING & MAINTENANCE INSTRUCTIONS ON ALL EQUIPMENT.

INSULATION W/ ASJ JACKET IN THICKNESS PER ASHRAE 90.1.

CONTROLS. LOUVERED COIL HAIL GUARDS. 30 DEG LOW AMBIENT.

REQUIRED INTERFACES TO FIRE ALARM OR SIMILAR SYSTEMS.

<u>SECTION 15000 — MECHANICAL REQUIREMENTS</u>

GENERAL REQUIREMENTS

OTHER APPLICABLE CODES.

CONTRACTOR'S PART

SECTION 15300 - HVAC

JURISDICTION.

ARMAFLEX OUTDOORS.

PREVENTIVE MAINTENANCE.

- FOR PROVIDING NECESSARY OFFSETS, TURNS, RISES AND DROPS FOR SYSTEMS AND COMPONENTS AS NEEDED TO INSTALL THE MEP SYSTEMS TO CLEAR STRUCTURE, CEILINGS, ETC AND OTHER SYSTEMS IN POTENTIAL CONFLICT WITH ROUTING.
- 3. 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 CEILINGS AND OTHER SPACES, CHASES, ETC WITHIN THE BUILDING. MAKE MODIFICATIONS THERETO AS REQUIRED AND APPROVED.
- TRANSMIT TO OTHER TRADES ALL INFORMATION REQUIRED FOR WORK TO BE PROVIDED UNDER THEIR RESPECTIVE SECTIONS IN AMPLE TIME FOR INSTALLATION.
- 5. WHEREVER 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
- 6. 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. 8. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION AND REPAIR OF SURFACES, AREAS AND PROPERTY THAT MAY BE DAMAGED AS A RESULT OF CONSTRUCTION ACTIVITIES.
- 9. 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.
- 10. WHEREVER THE WORK IS OF SUFFICIENT COMPLEXITY, PREPARE ADDITIONAL COORDINATION DRAWINGS AND ORGANIZE ON-SITE MEETINGS WITH ALL RELATED SUBCONTRACOTRS TO COORDINATE THE WORK BETWEEN TRADES . DRAWINGS SHALL CLEARLY SHOW THE WORK AND ITS RELATION TO THE WORK OF OTHER TRADES. AND BE SUBMITTED FOR REVIEW PRIOR TO COMMENCING SHOP FABRICATION
- 11. COORDINATE WITH LOCAL UTILITY PROVIDERS FOR THEIR REQUIREMENTS FOR SERVICE CONNECTIONS AND PROVIDE ALL NECESSARY PAYMENTS, MATERIALS, LABOR AND TESTING TO ACCOMPLISH THE WORK.

OR ERECTION IN THE FIELD.

16000 - ELECTRICAL SPECIFICATIONS

<u>SECTION 16000 - ELECTRICAL REQUIREMENTS</u>

- GENERAL REQUIREMENTS A. ALL WORK SHALL BE IN ACCORDANCE W/ LATEST EDITION OF INTERNATIONAL BUILDING CODE, NATIONAL ELECTRICAL CODE, NFPA, CODES AS ADOPTED BY CITY, COUNTY,
- STATE & ALL OTHER APPLICABLE CODES. B. ALL MATERIALS & EQUIPMENT SHALL BE NEW & SHALL BEAR U.L. LABEL WHERE APPLICABLE. PROVIDE WATERPROOF EQUIPMENT ENCLOSURES WHERE REQUIRED.
- C. OBTAIN & PAY FOR ALL PERMITS REQUIRED FOR EXECUTION OF THIS WORK & SHALL MAKE ARRANGEMENTS FOR MODIFICATIONS TO ELECTRICAL CONNECTIONS TO BUILDING AS REQUIRED. D. CONTRACTOR SHALL PROVIDE ALL LABOR & MATERIALS REQUIRED TO HAVE COMPLETE FUNCTIONING ELECTRICAL LIGHTING & POWER SYSTEMS TOGETHER W/ ALL ASSOCIATED
- EQUIPMENT & APPARATUS AS SHOWN ON PLANS. E. WHERE AN ELECTRICAL DEVICE IS REQUIRED BY CODE BUT NOT SHOWN. IT SHALL BE PROVIDED AS THOUGH FULLY SHOWN & SPECIFIED. F. CONTRACTOR SHALL VISIT SITE & OBSERVE CONDITIONS UNDER WHICH WORK WILL BE
- DONE. ANY DISCREPANCIES SHALL BE CALLED TO ARCHITECT'S ATTENTION. NO SUBSEQUENT ALLOWANCE WILL BE MADE IN THIS CONNECTION FOR ANY ERROR OR NEGLIGENCE ON CONTRACTOR'S PART. G. FINAL ACCEPTANCE OF WORK SHALL BE SUBJECT TO CONDITION THAT ALL SYSTEMS. EQUIPMENT, APPARATUS & APPLIANCES OPERATE SATISFACTORILY AS DESIGNED &
- INTENDED. WORK SHALL INCLUDE REQUIRED ADJUSTMENT OF SYSTEMS & CONTROL EQUIPMENT INSTALLED UNDER THESE SPECIFICATIONS. H. WARRANT TO OWNER QUALITY OF MATERIALS, EQUIPMENT, WORKMANSHIP & OPERATION OF EQUIPMENT PROVIDED UNDER THESE SPECIFICATIONS FOR ONE YEAR FROM & AFTER COMPLETION OF BUILDING & ACCEPTANCE OF MECHANICAL SYSTEMS BY OWNER.
- I. ALL MATERIALS INSTALLED IN PLENUMS SHALL BE NONCOMBUSTIBLE OR HAVE FLAME/SMOKE INDEX OF NO MORE THAN 25/50 IN ACCORDANCE W/ ASTM E 84. SECTION 16100 - CONDUIT & CONDUCTORS
- A. FOLLOW CIRCUITING SHOWN ON PLANS. USE NO CONDUIT SMALLER THAN 1/2" & NO CONDUCTORS SMALLER THAN #12 GA. UNLESS NOTED OTHERWISE. B. WIRE SHALL BE IN NON-FLEXIBLE METALLIC CONDUIT (EMT, IMC OR RMC) FOR ALL CIRCUITS AND FEEDERS GREATER THAN 30A, LIGHT SWITCH RISERS, KITCHEN CIRCUITS
- C. MC CABLE ACCEPTABLE FOR BRANCH CONVENIENCE CIRCUITS AND LIGHTING CIRCUITS. DO NOT DAISY CHAIN LIGHT FIXTURES. D. CONDUIT INSTALLED BELOW GRADE SHALL BE SCHEDULE 80 PVC HEAVY WALL PLASTIC CONDUIT MEETING NEMA STANDARDS & UL LISTED FOR UNDERGROUND & EXPOSED
- USE. PROVIDE GRS RADIUS BENDS & RISERS AS CONDUITS RISE ABOVE GRADE OR ABOVE FLOOR SLAB. E. PROVIDE INTERLOCKING SPACERS FOR MULT RUNS OF UG CONDUITS IN SAME TRENCH. F. LIGHTING & RECEPTACLE CIRCUIT CONDUCTORS SHALL BE COPPER THWN/THHN 600 VOLT. 75 DEG C. COLOR CODED AS DESCRIBED UNDER APPLICABLE CODES. NO ROMEX, PLASTIC FLEX TUBING ETC PERMITTED. LIGHT FIXTURE WIRE INSULATION SHALL HAVE TEMP RATING NOT LESS THAN INDIVIDUAL FIXTURE MANUF RECOMMENDED
- G. CIRCUITS W/ NO. 8 OR LARGER CONDUCTORS, MOTOR CIRCUITS, POWER & FEEDER CIRCUITS & BUILDING SERVICE FEEDERS SHALL BE COPPER THWN/THHN 600 VOLT.
- H. ALL CONDUIT, JUNCTION BOXES, ETC. ABOVE CEILINGS SHALL BE SUPPORTED FROM STRUCTURE. PIPE SLEEVES, HANGERS & SUPPORTS SHALL BE FURNISHED & SET & CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER & PERMANENT LOCATIONS.
- <u>SECTION 16200 GROUNDING</u> A. SUPPLEMENT GROUNDED NEUTRAL OF SECONDARY DISTRIBUTION SYSTEM W/ EQUIPMENT GROUNDING SYSTEM, INSTALLED SO THAT METALLIC STRUCTURES, ENCLOSURES, RACEWAYS, JUNCTION BOXES, OUTLET BOXES, CABINETS, MACHINE FRAMES. PORTABLE EQUIPMENT & OTHER CONDUCTIVE ITEMS OPERATE CONTINUOUSLY AT GROUND POTENTIAL & PROVIDE LOW IMPEDANCE PATH FOR GROUND FAULT
- B. SYSTEM SHALL COMPLY W/ NATIONAL ELECTRICAL CODE, DRAWINGS & AS SPECIFIED. C. PROVIDE EQUIPMENT GROUND BUS IN BASE OF LOW VOLTAGE, SWITCHGEAR BRAZED OR OTHERWISE ADEQUATELY CONNECTED BY AN APPROVED METHOD TO GROUND RODS. D. PROVIDE IN CONDUIT GREEN INSULATED COPPER GROUND CONDUCTOR TO MAIN METALLIC WATER SERVICE ENTRANCE & CONNECT BY MEANS OF ADEQUATE GROUND
- E. EQUIPMENT GROUNDING CONDUCTORS FOR BRANCH CIRCUIT HOME RUNS SHOWN ON DRAWINGS SHALL INDICATE AN INDIVIDUAL & SEPARATE GROUND CONDUCTOR FOR THAT BRANCH CIRCUIT WHICH SHALL BE TERMINATED AT BRANCH CIRCUIT PANELBOARD, SWITCHBOARD, OR OTHER DISTRIBUTION EQUIPMENT. F. PROVIDE LOW VOLTAGE DISTRIBUTION SYSTEM W/ SEPARATE GREEN INSULATED EQUIPMENT GROUNDING CONDUCTOR FOR EACH SINGLE OR THREE-PHASE FEEDER.
- SINGLE PHASE 120 VOLT BRANCH CIRCUITS FOR LIGHTING & POWER SHALL CONSIST OF PHASE & NEUTRAL CONDUCTORS & GREEN GROUND CONDUCTOR INSTALLED IN COMMON CONDUIT WHICH SHALL SERVE AS GROUNDING CONDUCTOR. G. GROUNDING CONDUCTORS SHALL BE AS SHOWN ON PLANS OR IF NOT SPECIFICALLY

SHOWN SHALL BE NO SMALLER THAN THAT REQUIRED BY NEC.

GENERAL NOTES

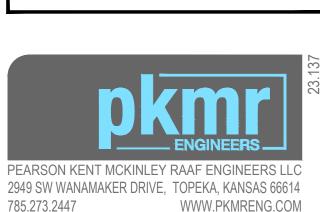
- 1. SOME ROOM NAMES MAY NOT BE SHOWN FOR PURPOSE OF CLARIFYING PLAN.
- 2. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN AND KEEP AT THE JOB SITE, AN UP TO DATE SET OF "RECORD DRAWINGS" SHOWING ALL CHANGES FROM THE ORIGINAL PLANS. THE CONTRACTOR SHALL DELIVER THE "RECORD DRAWINGS" TO THE ENGINEER AT THE CONCLUSION OF THE PROJECT
- 3. 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.
- 4. 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

- 1. EXISTING UNDERGROUND PIPING LOCATIONS ARE ESTIMATED BASED UPON ANTICIPATED ROUTINGS. FIELD VERIFY EXACT LOCATIONS DURING CONSTRUCTION AND PROVIDE ALL NECESSARY MODIFICATIONS.
- 2. EXISTING CIRCUITING MAY BE RE-USED WHERE POSSIBLE. 3. CONCEAL NEW CIRCUITING IN WALLS 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 CONCEALLED AND/OR ROUTED IN A NEAT AND ORGANIZED CONSISTENT MANNER.







QO

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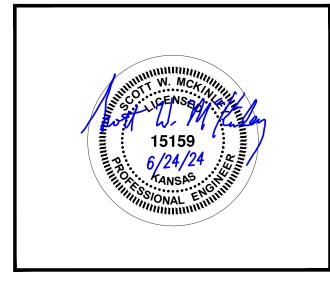
DATE DESCRIPTION © PEARSON KENT MCKINLEY RAAF ENGINEERS. LLC

DRAWN BY: CHECKED BY: SWM

NOTES & **SYMBOLS**

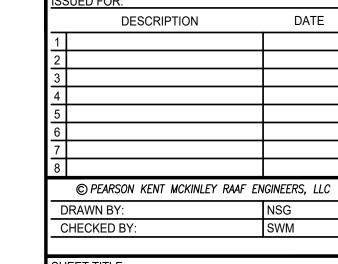
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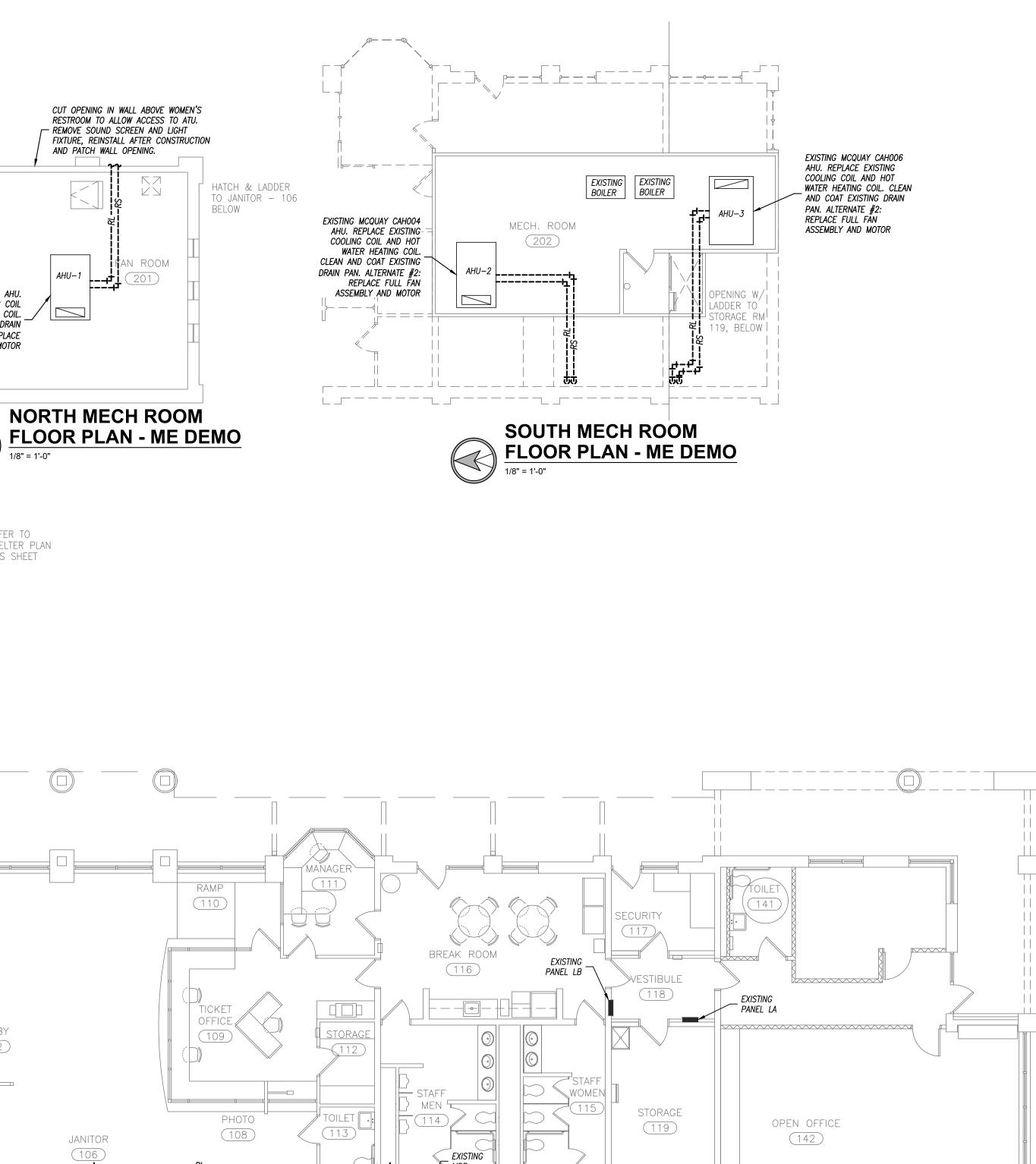
DATE DESCRIPTION © PEARSON KENT MCKINLEY RAAF ENGINEERS, LLC CHECKED BY: SWM SHEET TITLE: DEMO PLAN



6/24/24

ME2

24.137



EXISTING LENNOX

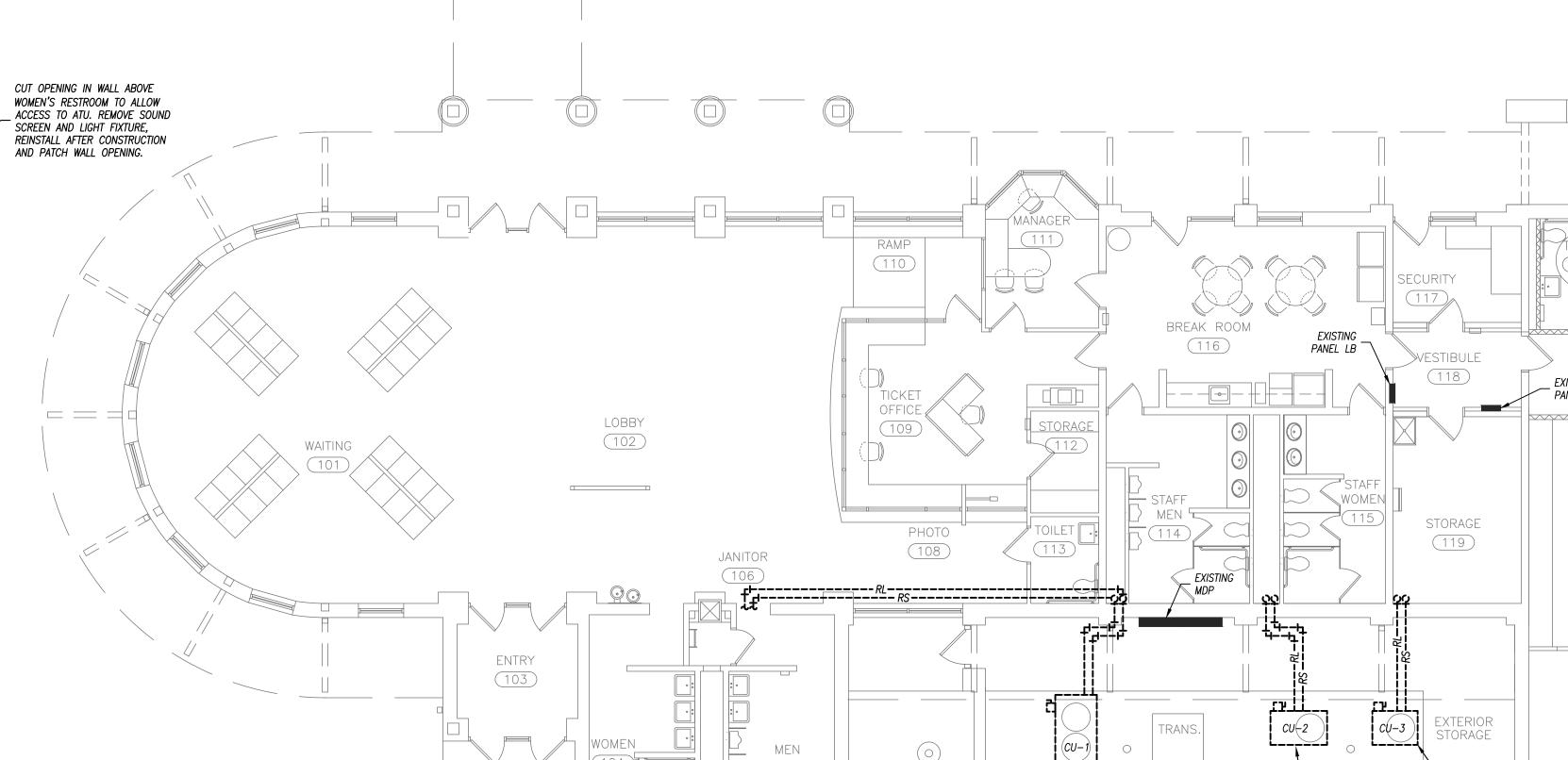
HS29-72 CONDENSING
UNIT AND REFRIGERANT
PIPING TO BE REPLACED.

I.T. / STOR.

(143)

EXISTING LENNOX _ HS29-120 CONDENSING UNIT AND REFRIGERANT PIPING TO BE REPLACED.

OFFICE 144



CUT OPENING IN WALL ABOVE WOMEN'S RESTROOM TO ALLOW ACCESS TO ATU.

REMOVE SOUND SCREEN AND LIGHT FIXTURE, REINSTALL AFTER CONSTRUCTION AND PATCH WALL OPENING.

AHU-1

NORTH MECH ROOM

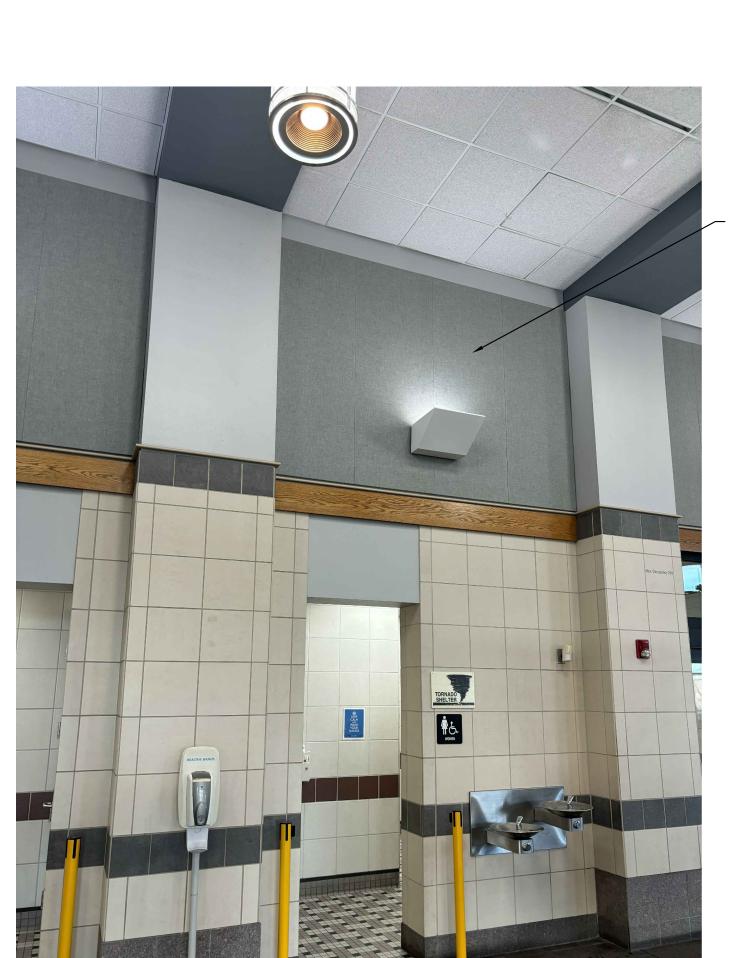
EXISTING MCQUAY CAHO10 AHU.
REPLACE EXISTING COOLING COIL
AND HOT WATER HEATING COIL.
CLEAN AND COAT EXISTING DRAIN
PAN. ALTERNATE #2: REPLACE
FULL FAN ASSEMBLY AND MOTOR

REFER TO SHELTER PLAN THIS SHEET

REFER TO SHELTER PLAN THIS SHEET

MATCH LINE

► REUSE EXISTING BLOCK SUPPORT



FLOOR PLAN - ME DEMO

1/8" = 1'-0"

EXISTING MCQUAY ACZ025
CONDENSING UNIT AND
REFRIGERANT PIPING TO BE
REPLACED. REUSE BLOCK
SUPPORT FOR NEW
CONDENSING UNITS.

EXIS	TING AIR HANDLING UNIT								
				FA	N			MOTOF	₹
MARK	MANUFACTURER	MODEL	CFM	BHP	RMP	ESP	HP	RPM	ELECTRICAL
EX AHU-1	MCQUAY	CAH010FDAC	4,930	4.8	1495	1.1"	7.5	1800	208/3ø
EX AHU-2	MCQUAY	CAH004FDAC	1,960	2.2	2053	1.0"	3.0	1800	208/3ø
EX AHU-3	MCQUAY	CAH006FDAC	2,390	1.3	1365	1.0"	2.0	1800	208/3ø

BASE BID: EXISTING FAN AND MOTOR TO REMAIN ALTERNATE #2: REPLACE EXISTING FULL FAN ASSEMBLY AND MOTOR

НОТ	HOT WATER HEATING COIL									
MARK	MANUFACTURER	MODEL	CFM	GPM	CAPACITY	WPD	EAT/LAT	EWT/LWT	ROWS	FIN DIMENSION
EX AHU-1	DAIKIN	5WB0802B	4,930	14.1	219 MBH	1.1 FT	50/90.7	170/139.5	2	27" H X 48" L
EX AHU-2	DAIKIN	5WH0702B	1,960	4.3	64 MBH	0.1 FT	60/90.2	170/139.8	2	18" H X 28" L
EX AHU-3	DAIKIN	5WH0802B	2,390	5.3	79 MBH	0.2 FT	60/90.3	170/139.9	2	18" H X 28" L

COC	LING CC	IL SCHEDULE						
PLAN MARK	MANUFACTURER	MODEL NUMBER	CFM	REFRIGERANT	COOLING CAPACITY	ENTERING AIR DRY/WET	LEAVING AIR DRY/WET	FIN DIMENSIONS
EX AHU-1	DAIKIN	5EJ0806B	4,930	R-410A	183 MBH	80.0/67.0	57.0/55.0	27" H X 51" L
EX AHU-2	DAIKIN	5EN0704B	1,960	R-410A	63 MBH	80.0/67.0	60.3/57.1	24" H X 32" L
EX AHU-3	DAIKIN	5EN1204B	2,390	R-410A	96 MBH	78.7/64.7	52.8/50.9	21" H X 39" L

BASE BID: CONDENSING UNITS AS SCHEDULED ABOVE WITH R-410A REFRIGERANT

ALTERNATE #1: CONDENSING UNITS ABOVE TO BE USED WITH EITHER REFRIGERANT R32 OR R454B. PROVIDE WITH REFRIGERANT MONITORS IN COIL SECTIONS TO SHUT THE SYSTEM OFF IN THE EVENT OF A LEAK DETECTION (REQUIRED BY ASHRAE 15 FOR A2L REFRIGERANTS).

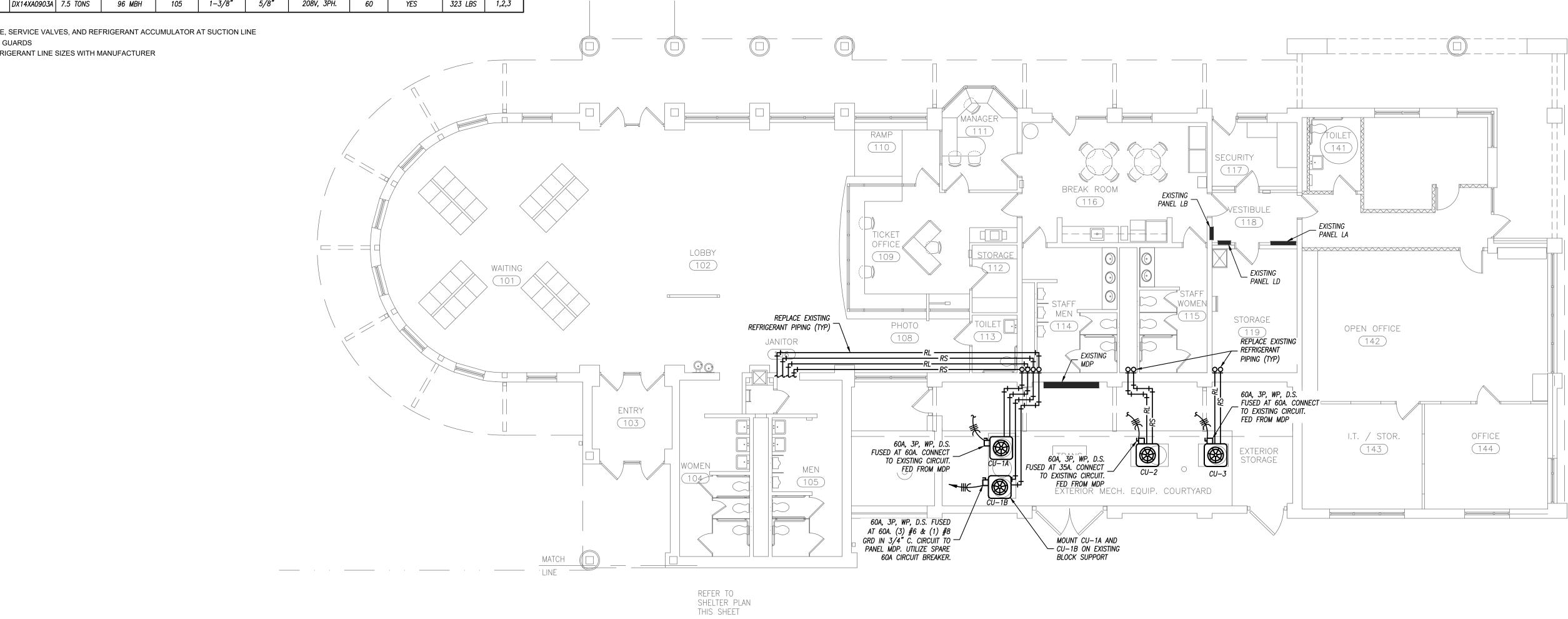
CC	ONDENS	ING UN	NIT SC	HEDUL	E							
PLAN MARK	MANUFACTURER	MODEL NUMBER	NOMINAL SIZE	TOTAL CAPACITY	AMBIENT	SUCTION	LIQUID	ELECTRICAL	MOCP AMPS	DISCONNECT	WEIGHT	NOTES
CU-1A	DAIKIN	DX14XA0903A	7.5 TONS	96 MBH	105	1-3/8"	5/8"	208V, 3PH.	60	YES	323 LBS	1,2,3
CU-1B	DAIKIN	DX14XA0903A	7.5 TONS	96 MBH	105	1-3/8"	5/8"	208V, 3PH.	60	YES	323 LBS	1,2,3
CU-2	DAIKIN	DX13SA0603	5 TONS	56 M BH	105	7/8"	3/8"	208V, 3PH.	35	YES	233 LBS	1,2,3
011 7	DAUZINI	DV4.4V400074	7.5 TONG	OC MOU	105	1 7/0"	5 /o"	2007 2011	60	VEC	707 / DC	107

NOTES LEGEND

1. PROVIDE TXV VALVE, SERVICE VALVES, AND REFRIGERANT ACCUMULATOR AT SUCTION LINE

2. PROVIDE COIL HAIL GUARDS

3. VERIFY EXACT REFRIGERANT LINE SIZES WITH MANUFACTURER



CUT OPENING IN WALL ABOVE WOMEN'S RESTROOM TO ALLOW ACCESS TO ATU.

REMOVE SOUND SCREEN AND LIGHT

NORTH MECH ROOM

FLOOR PLAN - ME

REFER TO SHELTER PLAN

THIS SHEET

ALTERNATE #2: REPLACE FULL FAN —

REPLACE EXISTING COOLING
COIL AND HOT WATER HEATING

COIL. EXISTING REFRIGERANT

RECONNECT TO EXISTING HOT

MATCH LINE

WATER PIPING. CLEAN AND

COAT EXISTING DRAIN PAN.

PIPING TO BE REPLACE. -

ASSEMBLY AND MOTOR

FIXTURE, REINSTALL AFTER CONSTRUCTION AND PATCH WALL OPENING.

HATCH & LADDER TO JANITOR — 106 BELOW

ALTERNATE #2: REPLACE FULL FAN -

REPLACE EXISTING COOLING

PIPING TO BE REPLACE.=

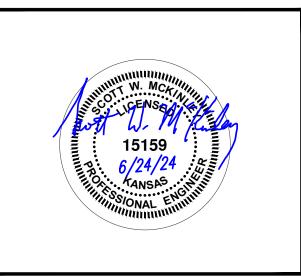
COIL AND HOT WATER HEATING COIL. EXISTING REFRIGERANT

RECONNECT TO EXISTING HOT WATER PIPING. CLEAN AND

COAT EXISTING DRAIN PAN.

ASSEMBLY AND MOTOR_





REPLACE EXISTING COOLING

COAT EXISTING DRAIN PAN.

LADDER TO

STORAGE RM

COIL AND HOT WATER HEATING COIL. EXISTING REFRIGERANT PIPING TO BE REPLACE. RECONNECT TO EXISTING HOT WATER PIPING. CLEAN AND

EXISTING BOILER BOILER

SOUTH MECH ROOM
FLOOR PLAN - ME

1/8" = 1'-0"

MECH. ROOM



TOPEKA | AUTHOI

SE Q TOF

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