GENERAL ELECTRICAL NOTES:

1. ALL WORK SHALL BE PERFORMED IN STRICT COMPLIANCE WITH LATEST ADOPTED VERSION OF THE NATIONAL ELECTRICAL CODE (NEC) (INCLUDING LOCAL AMENDMENTS), AND ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES. WHERE CONFLICTS ARISE, THE MOST STRINGENT REQUIREMENT SHALL APPLY.
2. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VISIT THE PROJECT SITE PRIOR TO SUBMITTING BID IN ORDER TO VERIFY THE EXTENT OF THE CONSTRUCTION WORK AND THE ACTUAL CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED. SUBMITTAL OF BID SHALL BE CONSIDERED PROOF THAT THE CONTRACTOR HAS VISITED THE JOB SITE AND IS FAMILIAR WITH THE SITE SPECIFIC CONSTRUCTION REQUIREMENTS.
3. CONTRACTOR IS RESPONSIBLE FOR PROCURING ALL NECESSARY PERMITS AND LICENSES REQUIRED FOR WORK. PAY ALL LAWFUL FEES, INCLUDING, BUT NOT LIMITED TO UTILITY DEPOSITS, INSPECTION FEES, AND TEMPORARY AND PERMANENT CONSTRUCTION FEES.
4. CONTRACTOR SHALL COORDINATE INSTALLATION OF ELECTRICAL SYSTEMS WITH OTHER TRADES. REFER TO MECHANICAL AND PLUMBING DRAWINGS FOR EXACT LOCATIONS OF MECHANICAL AND PLUMBING EQUIPMENT. FAILURE TO COORDINATE WITH OTHER TRADES SHALL NOT RESULT IN A CHANGE ORDER.
5. PROVIDE HANDLE TIES ON ALL MULTIWIRE BRANCH CIRCUITS TO MEET THE REQUIREMENTS OF NEC 210.4(B).
6. PROVIDE A SEPARATE EQUIPMENT GROUNDING CONDUCTOR (SIZED PER NEC) IN ALL CONDUITS CONTAINING POWER CIRCUITS. CONDUIT SHALL BE SIZED PER NEC BASED ON THWN 600 VOLT COPPER SINGLE CONDUCTORS, PLUS THE EQUIPMENT GROUNDING CONDUCTOR.
7. PROVIDE DEVICE LABELS (STICK ON MYLAR TAPE LABEL/ WITH PANEL AND BRANCH CIRCUIT–1/4" HIGH BLACK LETTER) FOR ALL ELECTRICAL DEVICES.
8. PROVIDE ARC FLASH WARNING LABELS ON ALL REQUIRED EQUIPMENT.
9. UPON COMPLETION OF ELECTRICAL INSTALLATION AND PRIOR TO ENERGIZING THE CIRCUIT:
   A. INSPECT WIRE AND CABLE FOR PHYSICAL DAMAGE.
   B. PERFORM CONTINUITY TEST.
   C. VERIFY PROPER PHASING CONNECTION TO ALL THREE PHASE MOTOR LOADS.
10. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. ACCEPTABLE MANUFACTURERS SHALL BE AS INDICATED FOR EQUIPMENT SCHEDULED UNLESS OTHERWISE NOTED. CONTRACTOR SHALL PROVIDE ALL NECESSARY WIRING AND EQUIPMENT AND MAKE ALL FINAL CONNECTIONS FOR A COMPLETE AND OPERATIONAL SYSTEM.
11. PROVIDE LIQUID–TIGHT FLEXIBLE METAL CONDUIT AND WIRING FROM DISCONNECT SWITCH OR JUNCTION BOX TO EQUIPMENT KNOCKOUT OR ELECTRICAL CONNECTION POINT FOR ALL OUTDOOR OR OTHER WET–LOCATION EQUIPMENT CONNECTIONS.
12. WHERE PROVIDED EQUIPMENT NAMEPLATE PROTECTIVE DEVICE RATING DIFFERS FROM SIZE SPECIFIED, PROVIDE WIRING AND OVERCURRENT DEVICE WITH APPROPRIATE RATING PER NEC.
13. CONTRACTOR SHALL MAKE ALL FINAL CONNECTIONS TO ALL EQUIPMENT IN CONFORMANCE WITH EQUIPMENT MANUFACTURER WIRING DIAGRAMS.

FIRE ALARM NOTES:

IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE MODIFICATIONS TO THE EXISTING FIRE ALARM SYSTEM COMPLIANT WITH NFPA 72 RESULTING IN A COMPLETE AND OPERABLE FIRE ALARM SYSTEM AND IS APPROVED BY THE OWNER AND THE AUTHORITIES HAVING JURISDICTION. FIRE ALARM SCOPE IS LIMITED TO MECHANICAL EQUIPMENT MODIFICATIONS DETAILED IN THESE DRAWINGS (AHU–1 RETURN AIR SMOKE DETECTORS). FIRE ALARM CONTRACTOR SHALL SUBMIT FIRE DRAWINGS DESIGNED BY NICET LEVEL IV INDIVIDUAL, EQUIPMENT CUT SHEETS, ETC. PER LOCAL CODE AND NFPA 72 TO LOCAL AUTHORITIES HAVING JURISDICTION AND ENGINEER FOR APPROVAL PRIOR TO ORDERING EQUIPMENT. INCLUDE IN BID ALL COSTS FOR PERMITS AND FEES. DEVICES SHALL BE STANDARD PRODUCT OF SINGLE MANUFACTURER, SHALL DISPLAY THE MANUFACTURER'S NAME ON EACH COMPONENT, AND SHALL BE COMPATIBLE WITH EXISTING SYSTEM. COORDINATE WITH OWNER FOR ACCEPTABLE MODELS AND DESIGN REQUIREMENTS.

ABBREVIATIONS:

ADJ	ADJUSTABLE
BAS	BUILDING AUTOMATION SYSTEM
BLDG	BUILDING
CFM	CUBIC FEET PER MINUTE
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
CW	COLD WATER
CWR	CONDENSER WATER RETURN
CWS	CONDENSER WATER SUPPLY
DOM	DOMESTIC
EXIST	EXISTING
HHWR	HEATING HOT WATER RETURN
HHWS	HEATING HOT WATER SUPPLY
TEMP	TEMPORARY
TYP	TYPICAL
VFD	VARIABLE FREQUENCY DRIVE

GENERAL MECHANCIAL NOTES:

1. PROVIDE ALL MATERIALS AND EQUIPMENT AND PERFORM ALL LABOR REQUIRED TO INSTALL COMPLETE AND OPERABLE MECHANICAL SYSTEMS AS INDICATED ON THE THE DRAWINGS, AND AS REQUIRED BY CODE.
2. DRAWINGS ARE DIAGRAMMATIC AND ARE INTENDED TO CONVEY SCOPE AND GENERAL ARRANGEMENT ONLY.
3. INSTALL ALL MECHANICAL EQUIPMENT AND APPURTENANCES IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATION, AND APPLICABLE CODES AND REGULATIONS.
4. COORDINATE CONSTRUCTION OF ALL MECHANICAL WORK WITH ARCHITECTURAL, STRUCTURAL, CIVIL, ELECTRICAL WORK, ETC., SHOWN ON OTHER CONTRACT DOCUMENT DRAWINGS.
5. TESTING, ADJUSTING, AND BALANCING AGENCY SHALL BE A MEMBER OF THE ASSOCIATED AIR BALANCE COUNCIL (AABC) OR THE NATIONAL. ENVIRONMENTAL BALANCING BUREAU (NEBB). TESTING, ADJUSTING, AND BALANCING SHALL BE PREFORMED IN ACCORDANCE WITH AABC STANDARDS.
6. CONTRACTOR TO COMPLY WITH ALL LOCAL CODES AND REQUIREMENTS.
7. ALL OUTSIDE AIR INTAKES TO BE A MINIMUM OF 10' FROM ANY MECHANICAL EXHAUST, FLUES, OR PLUMBING VENTS.
8. DUCTWORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH MOST RECENT SMACNA STANDARDS.
9. SUPPORTS FOR MECHANICAL SYSTEM PIPING MUST MEET THE HORIZONTAL AND VERTICAL SPACING PROVISIONS IN RESPECTIVE MECHANICAL CODE.
10. THESE DRAWINGS REFLECT A SYSTEM DESIGNED AROUND SPECIFIED REFERENCE PRODUCTS, THE SELECTION OF WHICH HAS INFLUENCED THE DESIGNS OF OTHER TRADES. IF SUBSTITUTE MANUFACTURERS, SIZES, OR MODEL NUMBERS ARE BID OR SUBMITTED, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE ALL DIFFERENCES PRIOR TO BID, ALL COSTS OF ALL TRADES ASSOCIATED WITH THE SUBSTITUTION SHALL BE INCLUDED IN THE BID.
11. COORDINATION FOR ALL MODIFICATIONS TO EACH DISCIPLINE WHICH RESULT FROM SUBSTITUTION OF EQUIPMENT OR MATERIALS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. SUBSTITUTIONS WHICH ARE INSTALLED AND SUBSEQUENTLY ARE PROVEN UNSATISFACTORY BY OWNER AND/OR ENGINEER WITHIN THE WARRANTY PERIOD, SHALL BE REMOVED COMPLETELY BY THE CONTRACTOR AND REPLACED WITH THE ORIGINAL DESIGN OR CORRECTED AS DIRECTED BY THE ENGINEER WITHOUT ADDITIONAL COST TO OWNER.
12. ALL DUCTWORK SHALL BE INSULATED WITH MATERIALS HAVING AN INSULATION VALUE NO LESS THAN R–5. DUCT SIZES SHOWN ARE CLEAR INSIDE DIMENSIONS OF DUCTWORK.
13. ALL EXPOSED CONTROL WIRING NOT LOCATED WITHIN EQUIPMENT SHALL BE INSTALLED IN CONDUIT.
14. ALL MISCELLANEOUS STEEL REQUIRED TO ENSURE PROPER INSTALLATION AND AS SHOWN IN DETAILS SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR

JOB SPECIFIC MECHANICAL NOTES:

1. ALL CHILLED WATER PIPING SHALL BE TYPE M OR TYPE L COPPER PIPING WITH SWEAT OR PRESS FITTINGS, OR SCHEDULE 40 BLACK STEEL WITH WELDED, SCREWED, OR GROOVED FITTINGS.
2. CHILLED WATER PIPING 1.5" AND SMALLER SHALL BE INSULATED WITH 1" INSULATION.
3. CHILLED WATER PIPING OVER 1.5" SHALL BE INSULATED WITH 1.5" INSULATION.
4. HOT WATER TO BE TYPE M OR TYPE L COPPER PIPING WITH SWEAT OR PRESS FITTINGS, OR SCHEDULE 40 BLACK STEEL WITH WELDED OR SCREWED FITTINGS. GROOVED FITTINGS SHALL NOT BE ALLOWED ON HOT WATER PIPING
5. HOT WATER PIPING 1.5" AND SMALLER SHALL BE INSULATED WITH 1" INSULATION.
6. HOT WATER PIPING OVER 1.5" SHALL BE INSULATED WITH 2" INSULATION.
7. ALL HOT WATER AND CHILLED WATER PIPING TO HAVE ALL SERVICE JACKETING.
8. ALL NEW SUPPLY DUCTWORK AND DUCT JOINTS SHALL BE RATED FOR 3" POSITIVE STATIC PRESSURE AND CONSTRUCTED PER SMACNA STANDARDS.
9. ALL NEW SUPPLY AND RETURN DUCTWORK AND DUCT JOINTS SHALL BE WRAPPED WITH R–5 INSULATION AND ALL SERVICE JACKET.
10. ALL NEW OUTDOOR AIR AND RETURN DUCTWORK AND DUCT JOINTS SHALL BE RATED FOR –2" STATIC PRESSURE AND CONSTRUCTED PER SMACNA STANDARDS.
11. ALL NEW OUTDOOR AIR DUCTWORK SHALL BE WRAPPED WITH R–8 INSULATION AND ALL SERVICE JACKET.
12. ALL NEW PIPING AND DUCTWORK SHALL BE CLEARLY LABELED WITH SYSTEM NAME AND FLOW ARROWS.
13. PROVIDE PERMANENT LABELS FOR EACH NEW PIECE OF MECHANICAL EQUIPMENT AND AFFIX TO EQUIPMENT.
14. CONTRACTOR SHALL NOT DISTURB ANY LOAD BEARING WALLS. CONTACT ENGINEER IF UNITS CANNOT BE INSTALLED WITHOUT DISRUPTION OF LOAD BEARING WALL.
15. FLOW CONTROL DEVICES FOR HYDRONIC COILS SHALL EITHER BE FACTORY CALIBRATED AND TESTED AUTO–FLOW VALVE (WITH TEST PORTS) OR SHALL BE MANUAL BALANCING VALVES SIMILAR TO VICTAULIC/TA 786/787/788
16. PROVIDE TURNING VANES IN ALL RECTANGULAR DUCT ELBOWS OR PROVIDE RADIUS ELBOWS.
11. CONTRACTOR SHALL COMMISSION ALL SYSTEMS TO ENSURE THEY ARE PROPERLY INTEGRATED INTO THE CONTROL SYSTEM AND PROPERLY PERFORM ALL SEQUENCES OF OPERATION.

BID NOTES:

1. THE AWARDED CONTRACTOR WILL BE RESPONSIBLE FOR THE ENTIRE SCOPE OF THIS PROJECT WHICH INCLUDES MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION, AND PROTECTION OF THE EXISTING BUILDING INTERIOR, EXTERIOR, AND SITE.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PERMITS AND ASSOCIATED FEES REQUIRED TO PERFORM THE SCOPE OF WORK.
3. THE CONTRACTOR SHALL WORK DIRECTLY WITH THE OWNER TO COORDINATE SCHEDULE, SITE ACCESS, SYSTEM SHUTDOWNS, TEMPORARY HEATING/COOLING/DEHUMIDIFICATION, AND CONTRACT TERMS.
   3.1. ALL AREAS SERVED BY THE AHU'S BEING REPLACED SHALL BE KEPT BETWEEN 68°F–76°F & 60% MAXIMUM RELATIVE HUMIDITY DURING CONSTRUCTION.
4. THE OWNER SHALL BE RESPONSIBLE FOR REMOVING NON–MECHANICAL AND NON–ELECTRICAL ITEMS FROM MECHANICAL ROOMS PRIOR TO CONSTRUCTION. NOTIFY OWNER 7 DAYS IN ADVANCE OF WHEN ITEMS MUST BE REMOVED.
5. THE OWNER SHALL BE RESPONSIBLE FROM REMOVING ASBESTOS FROM WORK AREAS PRIOR TO CONSTRUCTION. NOTIFY OWNER 14 DAYS IN ADVANCE OF WHEN ITEMS MUST BE REMOVED.
6. THE BASIS OF DESIGN AIR HANDLER MAY BE SUBSTITUTED FOR AN ALTERNATE MANUFACTURER WITHOUT PRIOR APPROVAL SO LONG AS THE PRODUCT MEETS THE PERFORMANCE AND FEATURES OF THE SPECIFIED UNIT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING ALL SUBSTITUTED PRODUCTS FIT IN THE ALLOTTED SPACE AND USE THE SAME OR LESS POWER. REFERENCE THE GENERAL MECHANICAL NOTES FOR MORE SUBSTITUTION REQUIREMENTS.

DEMOLITION DEFINITIONS:

- REMOVE: DETACH ITEMS FROM EXISTING CONSTRUCTION AND LEGALLY DISPOSE OF THEM OFF–SITE UNLESS INDICATED TO BE REMOVED AND SALVAGED OR REMOVED AND REINSTALLED.
- REMOVE AND SALVAGE: CAREFULLY DETACH FROM EXISTING CONSTRUCTION, IN A MANNER TO PREVENT DAMAGE, AND DELIVER TO OWNER.
- REMOVE AND REINSTALL: DETACH FROM EXISTING CONSTRUCTION, PREPARE FOR REUSE, AND REINSTALL WHERE INDICATED
- EXISTING TO REMAIN: EXISTING ITEMS OF CONSTRUCTION THAT ARE NOT TO BE PERMANENTLY REMOVED AND THAT ARE NOT OTHERWISE INDICATED TO BE REMOVED, REMOVED AND SALVAGED, OR REMOVED AND REINSTALL.

OVERALL PROJECT SCOPE:

THE SCOPE OF THIS PROJECT IS A LIKE–FOR–LIKE REPLACEMENT OF ONE EXISTING SINGLE ZONE CHILLED WATER / HOT WATER AIR HANDLER (AHU–1) IN MIDWEST CITY COMMUNITY CENTER. IT IS ANTICIPATED THE NEW AHU WILL NEED TO BE KNOCKDOWN CONSTRUCTION IN ORDER TO FIT INTO THE EXISTING MECHANICAL ROOM.

1. REMOVE EXISTING AHU
2. REMOVE EXISTING DUCTWORK WITHIN THE MECHANICAL ROOM AS SHOWN ON THE DRAWINGS. THE SUPPLY DUCT STUBS LEAVING THE ROOM, THE RETURN DUCT STUBS LEAVING THE ROOM, AND THE INTAKE LOUVER ARE EXISTING TO REMAIN.
3. REMOVE THE CHILLED WATER AND HEATING HOT WATER PIPING BACK TO THE CEILING SPACE.
4. REMOVE EXISTING AHU–1 VFD AND MOTOR STARTER. REUSING THE EXISTING WIRE, POWER THE NEW AHU–1 VFD FROM THE EXISTING 60A/3 BREAKER AND PROVIDE NEW POWER WIRING/CONDUIT TO THE NEW AHU–1 FAN CIRCUIT.
5. PROVIDE A NEW AHU SET ON NEW SUPPORTS TO ELEVATE THE UNIT OFF THE FLOOR. COORDINATE AHU HEIGHT ABOVE FLOOR WITH CONDENSATE TRAPPING REQUIREMENTS.
6. CONNECT NEW SUPPLY DUCTWORK TO THE EXISTING SUPPLY DUCTWORK.
7. CONNECT NEW RETURN DUCTWORK TO THE EXISTING RETURN DUCTWORK.
8. CONNECT NEW OUTSIDE AIR DUCTWORK TO THE EXISTING OUTSIDE AIR LOUVER.
9. CONNECT NEW CHILLED WATER AND HEATING HOT WATER PIPING AND VALVES TO EXISTING CHILLED WATER AND HOT WATER PIPING.
10. CONNECT NEW CONDENSATE PIPING TO THE NEW AHU, TRAP CONDENSATE, AND ROUTE TO THE EXISTING FLOOR DRAIN.
11. PROVIDE A NEW VFD IN THE SAME LOCATION AS THE OLD VFD AND CONNECT THE NEW VFD TO ELECTRICAL POWER. CONNECT POWER FROM THE NEW VFD TO THE NEW AHU.
12. PROVIDE NEW SPACE TEMPERATURE SENSORS IN THE SAME LOCATION AS THE OLD TEMPERATURE SENSORS.
13. CONNECT NEW AHU MOTORIZED DAMPERS, FAN VFD, CONTROL VALVES, TEMPERATURE SENSORS, AND SPACE SENSORS TO THE EXISTING BUILDING AUTOMATION SYSTEM AND ENSURE PROPER AHU CONTROL OPERATION.
14. PROVIDE TEST AND BALANCE FOR THE AIR HANDLER AIRFLOWS AND WATER FLOWS.
15. CLEAN EXISTING OUTSIDE AIR DUCTWORK AND PROVIDE VIDEO EVIDENCE OF CLEAN DUCTWORK.

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02.04.2026

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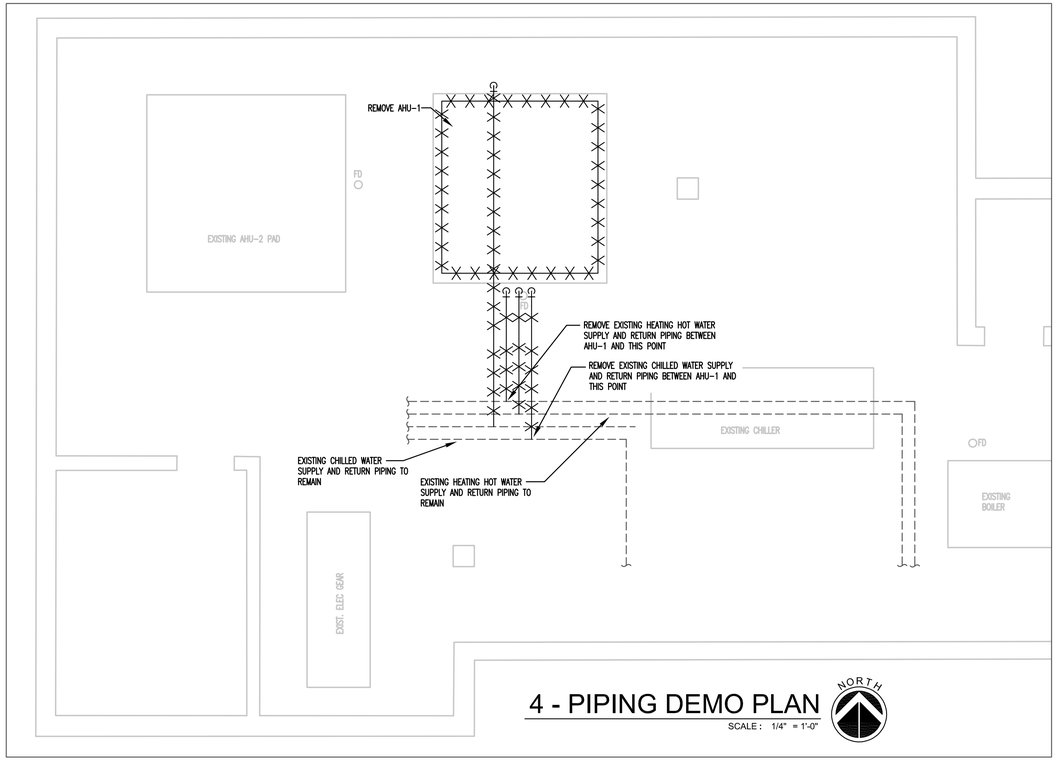
MIDWEST CITY COMMUNITY CENTER
AHU-1 HVAC UPGRADES

200 N MIDWEST BLVD
MIDWEST CITY, OK 73110

NOTES, ABBREVIATIONS & SCOPE SUMMARIES

INITIAL DATE:	JOB NO:
02.04.26	3147.01
DRAWN BY: HCS / CHECKED BY: AMM	SHEET: M-1
PRINT DATE: 2/4/2026	SHEET NO: 1 OF 4

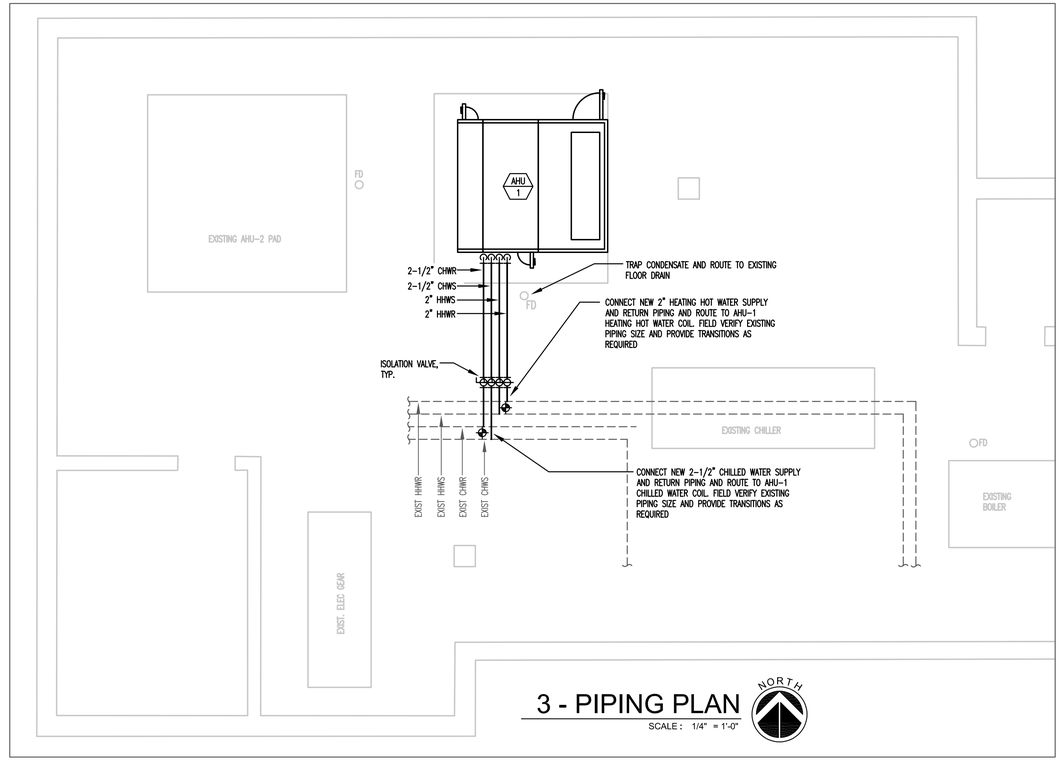
FILE NAME: 3147.01 – MWC COMMUNITY CENTER HVAC – AHU-1.pkg



4 - PIPING DEMO PLAN

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

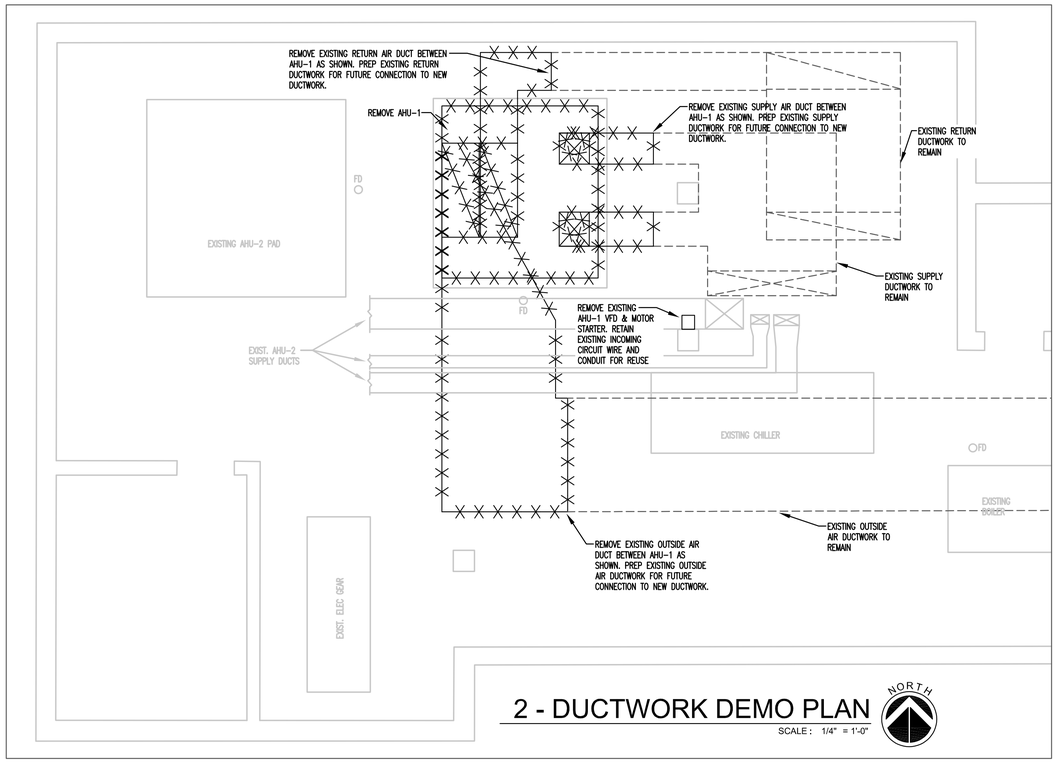
NORTH



3 - PIPING PLAN

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

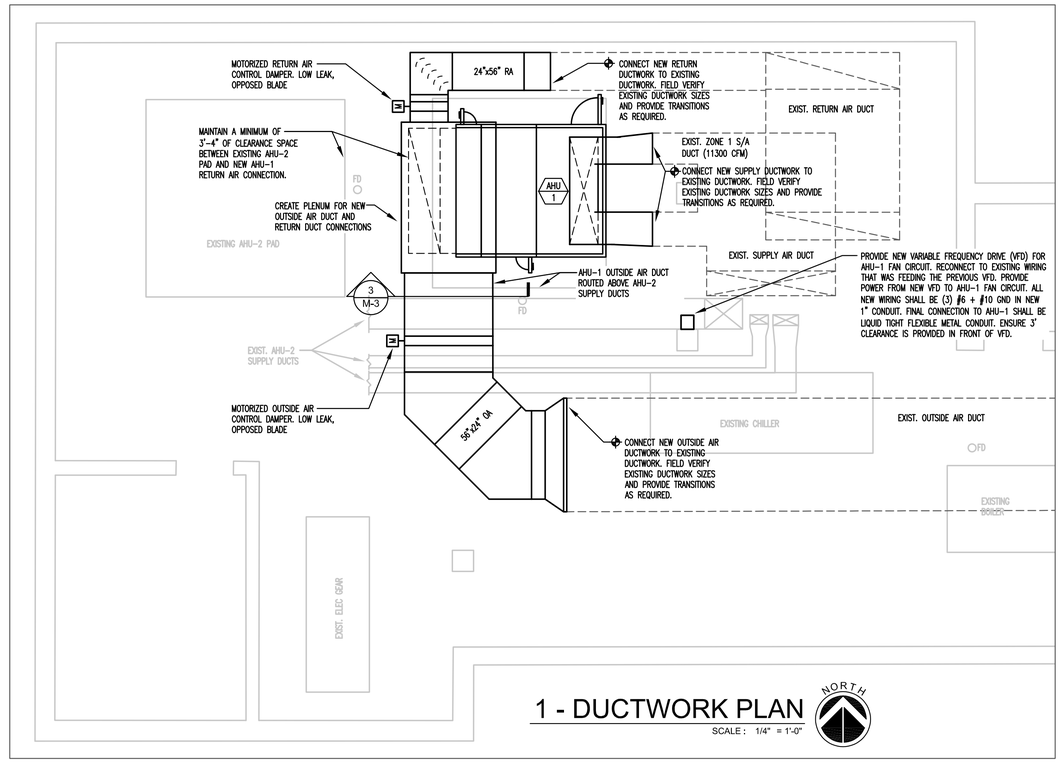
NORTH



2 - DUCTWORK DEMO PLAN

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

NORTH



1 - DUCTWORK PLAN

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

NORTH

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02.04.2026

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MIDWEST CITY COMMUNITY CENTER

AHU-1 HVAC UPGRADES

200 N MIDWEST BLVD
MIDWEST CITY, OK 73110

AHU-1 PLANS

INITIAL DATE:	JOB NO:
02.04.26	3147.01
DRAWN BY: HCS / CHECKED BY: AMM	SHEET: M-2
PRINT DATE: 2/4/2026	SHEET NO: 2 OF 4

FILE NAME: 3147.01 - MWC COMMUNITY CENTER HVAC - AHU-1.dwg

SINGLE ZONE AIR HANDLING UNIT SCHEDULE (AHU)

TAG	SERVICE	SUPPLY FAN DATA									COOLING COIL TAG(S)	HEATING COIL TAG(S)	FILTER % EFFICIENCY	FAN CIRCUIT			MANUFACTURER	MODEL	REMARKS
		TOTAL CFM	MIN OA CFM	TSP (IN. W.G.)	ESP (IN. W.G.)	FAN TYPE	QTY	BHP	HP	OPERATING RPM			MERV	V/PH/HZ	FLA				
AHU-1	FIRST FLOOR	11300	2825	5.19	2.50	AIRFOIL	1	13.64	15	1989	CC-1	HC-1	8	208/3/60	40		YORK	XTI-54x84	ALL

REMARKS:

1. SINGLE ZONE AIR HANDLING UNIT WITH R-13 DOUBLE WALL CONSTRUCTION.
2. RIGHT HAND COIL CONNECTIONS
3. LEFT HAND AND RIGHT HAND ACCESS DOORS
4. PROVIDE METAL SUPPORT STANDS TO ELEVATE AHU OFF FINISHED FLOOR AND PROVIDE ENOUGH HEIGHT TO PROPERLY TRAP CONDENSATE. AT A MINIMUM, STANDS SHALL BE PLACED AT EACH SHIP SPLIT AND LIFTING POINT ON THE AIR HANDLER FRAME
5. PROVIDE NEEDLEPOINT BIPOLAR IONIZATION FOR AIR-HANDLING UNITS (SIZED PER MANUFACTURER'S RECOMMENDATION) AND POWER OFF AHU FAN CIRCUIT. PROVIDE ANY TRANSFORMERS, WIRING, CONDUIT, ETC. FOR PROPER INSTALLATION
6. PROVIDE R/A SMOKE DETECTOR AND INTERLOCK FOR FAN SHUTDOWN AND INTERLOCK WITH FIRE ALARM SYSTEM
7. COORDINATE WITH EQUIPMENT SUPPLIER TO ENSURE AHU CAN BE BROKEN DOWN AND REASSEMBLED PROPERLY TO FIT THROUGH THE EXISTING DOORWAYS AND STAIRWELL.
8. SINGLE FAN CIRCUIT WITH REMOTE MOUNTED VARIABLE FREQUENCY DRIVE (VFD). VFD TO HAVE BACNET CONNECTION.
9. MAGNEHELIC DIFFERENTIAL PRESSURE GAUGE ACROSS AIR FILTER
10. PROVIDE THERMOMETER FOR SUPPLY DUCT
11. FAN TOTAL STATIC PRESSURE SHALL ACCOUNT FOR A DIRTY FILTER ALLOWANCE OF 0.5" WC

COOLING COIL SCHEDULE (CC)

TAG	LOCATION	CFM	TOTAL MBH	SENS. MBH	FACE AREA (SQ FT)	MAX FACE VEL (FPM)	ROWS	FPI	TUBE DIA. (IN.)	TUBE THICK. (IN.)	AIR DATA					FLUID DATA					MANUFACTURER	REMARKS
											EAT		LAT		MAX PD (IN.)	FLUID	EWT (°F)	LWT (°F)	GPM	MAX WATER PD (FT.)		
											DB °F	WB °F	DB °F	WB °F								
CC-1	AHU-1	11300	472	351	22.5	502	6	11	0.5	0.016	81.3	65.9	53.2	51.9	0.76	WATER	45	55	94.1	13.6	YORK	ALL

REMARKS:

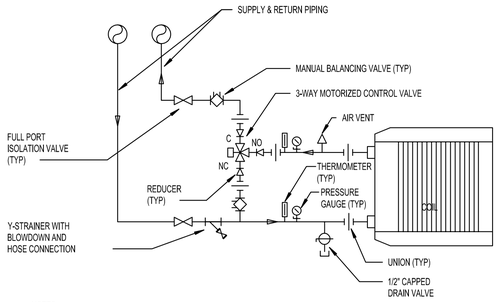
1. STAINLESS STEEL DRAIN PAN
2. TRAP CONDENSATE PER MANUFACTURERS INSTRUCTIONS
3. REFERENCE 1/M-3 FOR COIL CONNECTION DETAIL

HEATING COIL SCHEDULE (HC)

TAG	LOCATION	TYPE	CFM	TOTAL MBH	FACE AREA (SQ FT)	MAX FACE VEL (FPM)	ROWS	FPI	TUBE DIA. (IN.)	TUBE THICK. (IN.)	AIR DATA			FLUID DATA					MANUFACTURER	REMARKS
											EAT DB °F	LAT DB °F	MAX PD (IN.)	EWT °F	LWT °F	FLUID	GPM	MAX PD (FT.)		
HC-1	AHU-1	HOT WATER	11300	523	22.5	1526	3	12	0.5	0.016	52.5	95.2	0.27	120	100	WATER	52.9	6.1	YORK	ALL

REMARKS:

1. REFERENCE 1/M-3 FOR COIL CONNECTION DETAIL

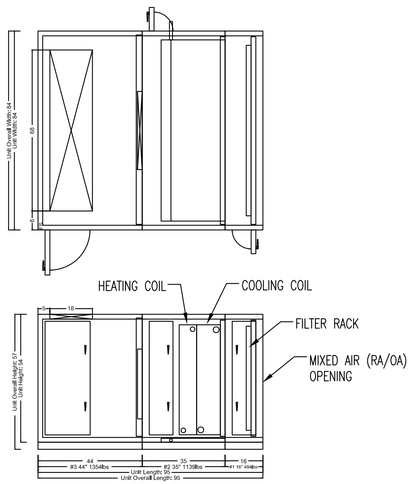


NOTES:

1. MANUAL BALANCING VALVE SHALL BE A "Y" PATTERN GLOBE VALVE WITH DIGITAL HAND WHEEL WITH 4 TURNS TO OPEN AND MEMORY STOP. VICTAULIC TA SERIES 786 OR SIMILAR.
2. PIPE SIZES SHALL BE AS SHOWN ON THE DRAWINGS. PROVIDE REDUCER AT COIL CONNECTION (AFTER UNION) IF NECESSARY
3. NC = NORMALLY CLOSED, NO = NORMALLY OPEN, C = COMMON

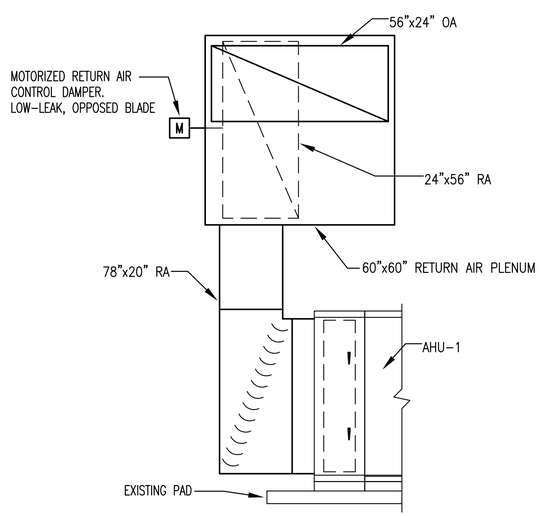
1 - COIL CONN. DETAIL (3-WAY VALVE)

SCALE: NTS



2 - AHU-1 DIMENSIONAL DWG.

SCALE: 3/8" = 1'-0"



3 - MIXING BOX DETAIL

SCALE: 1/2" = 1'-0"

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MIDWEST CITY COMMUNITY CENTER

AHU-1 HVAC UPGRADES

200 N MIDWEST BLVD
MIDWEST CITY, OK 73110

AHU-1 SCHEDULES

INITIAL DATE:	JOB NO:
02.04.26	3147.01
DRAWN BY: HCS / CHECKED BY: AMM	SHEET: M-3
PRINT DATE: 2/4/2026	SHEET NO: 3 OF 4

FILE NAME: 3147.01 - MWC COMMUNITY CENTER HVAC - AHU-1.dwg

CONTROLS SYSTEM OVERVIEW:
CONTROLS ARE DESIGN/BUILD WITH DESIGN OF THE CONTROL SYSTEM DELEGATED TO THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A COMPLETELY FUNCTIONAL CONTROL SYSTEM THAT PERFORMS THE SERVICES BELOW. FURNISH ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY FOR A COMPLETE AND OPERATING BUILDING MANAGEMENT SYSTEM (BAS), UTILIZING DIRECT DIGITAL CONTROLS AS SHOWN ON THE DRAWINGS AND AS DESCRIBED HEREIN. ALL CONTROLLERS FURNISHED IN THIS SECTION SHALL COMMUNICATE ON A PEER-TO-PEER BUS OVER AN OPEN PROTOCOL BUS OR IP NETWORK THAT COMPLIES WITH ANSI/ASHRAE STANDARD 135 NATIVE BACNET DEVICES. CONTRACTOR TO PULL POWER REQUIRED FOR CONTROLS FROM SPARE BREAKERS IN THE LIGHTING PANEL.

FRONT END:
CONTROLS SHALL BE INTEGRATED INTO THE EXISTING BUILDING AUTOMATION SYSTEM FRONT-END

GENERAL ITEMS:
- OWNER CONTROL SYSTEM TRAINING AND OWNER DESIRED SYSTEM REPROGRAMMING SHALL BE PROVIDED AT THE FOLLOWING INTERVALS:
  - AFTER AHU-1 INSTALLATION
  - 3 MONTHS AFTER ALL INSTALLATIONS HAVE BEEN COMPLETED
- INCLUDE 20 HOURS OF REPROGRAMMING TIME DURING THE FIRST YEAR OF OCCUPANCY TO BE USED AT THE OWNER'S DISCRETION.
- PROVIDE ONE YEAR WARRANTY ON PARTS AND LABOR.
- PROVIDE CONTROL'S SUBMITTAL FOR REVIEW BY OWNER AND ENGINEER THAT INCLUDE THE FOLLOWING:
  - NETWORK COMMUNICATIONS DIAGRAM
  - FRONT END GRAPHICS
  - SEQUENCE OF OPERATIONS
  - POINTS LIST
  - SETPOINTS
- PROVIDE AS-BUILT CONTROL DRAWINGS
  - NETWORK COMMUNICATIONS DIAGRAM
  - FRONT END GRAPHICS
  - SEQUENCE OF OPERATIONS
  - POINTS LIST
  - SETPOINTS
  - POINT-TO-POINT COMMISSIONING REPORT
  - PERFORMANCE VERIFICATION SHEETS
  - CONTROLLER CHECKOUT/CALIBRATION SHEETS
- ANY CONTROL WIRING THAT WILL NOT BE CONCEALED SHALL BE INSTALLED IN CONDUIT
- COORDINATE CONTROL PANEL LOCATION(S) WITH OWNER
- CONTROLS SERVING UNIT SHALL BE ON AN UNINTERRUPTED POWER SUPPLY (UPS) WITH SURGE PROTECTION. LOCATE UPS WITHIN THE CONTROL PANEL.

GENERAL SETPOINTS: THE CONTROL SYSTEM SHALL HAVE THE ABILITY TO RESET ALL SETPOINTS GLOBALLY AND BE ADJUSTED INDIVIDUALLY.
- OCCUPIED HEATING SETPOINT = 70°F (ADJ)
- OCCUPIED COOLING SETPOINT = 74°F (ADJ)
- UNOCCUPIED HEATING SETPOINT = 66°F (ADJ)
- UNOCCUPIED COOLING SETPOINT = 78°F (ADJ)
- MAXIMUM RELATIVE HUMIDITY SETPOINT = 60% RH (ADJ)

AHU-1 USER INTERFACE: EACH TEMPERATURE/HUMIDITY SENSOR IN THE SPACE SHALL HAVE THE FOLLOWING ABILITIES:
- ADJUST THE OCCUPIED TEMPERATURE SETPOINT ANYWHERE IN THE RANGE OF 66°F-78°F (ADJ)
- ADJUST THE MAXIMUM RELATIVE HUMIDITY SETPOINT IN THE RANGE OF 50% MAX – 60% MAX
- OVERRIDE THE OCCUPANCY SCHEDULE FOR 2 HOURS (ADJ)
- DISPLAY SPACE TEMPERATURE
- DISPLAY RELATIVE HUMIDITY
- DISPLAY OCCUPIED/UNOCCUPIED STATUS

CONSTANT VOLUME SINGLE ZONE AIR HANDLING UNIT AHU-1:
- AHU-1 SHALL BE INTEGRATED INTO THE CONTROL SYSTEM.
- PROVIDE ALL SENSORS, CONTROLLERS, VALVES, AND ACTUATORS REQUIRED FOR MONITORING AND CONTROL TO ACHIEVE THE SEQUENCES AND POINTS BELOW.
- BELOW IS A LIST OF REQUIRED CONTROL POINT. ALL POINTS SHALL BE SET UP FOR TRENDING.
  - RETURN AIR TEMPERATURE
  - OUTDOOR AIR TEMPERATURE
  - MIXED AIR TEMPERATURE
  - RETURN AIR DAMPER COMMAND
  - RETURN AIR DAMPER POSITION
  - OUTSIDE AIR DAMPER COMMAND
  - OUTSIDE AIR DAMPER POSITION
  - PRESSURE DROP ACROSS AIR FILTER
  - COOLING COIL CONTROL VALVE COMMAND
  - COOLING COIL CONTROL VALVE POSITION
  - HEATING COIL CONTROL VALVE COMMAND
  - HEATING COIL CONTROL VALVE POSITION
  - SUPPLY AIR TEMPERATURE
  - SUPPLY FAN COMMAND
  - SUPPLY FAN STATUS
  - SPACE TEMPERATURE SETPOINT
  - SPACE TEMPERATURE
  - SPACE RELATIVE HUMIDITY SETPOINT
  - SPACE RELATIVE HUMIDITY
  - OCCUPIED/UNOCCUPIED COMMAND
  - OCCUPIED/UNOCCUPIED STATUS
- SEQUENCE OF OPERATIONS:
  - OCCUPIED MODE: WHEN THE BUILDING IS OCCUPIED PER THE OCCUPANCY SCHEDULE OR A SCHEDULE OVERRIDE:
    - RUN SUPPLY FAN AT SPEED DETERMINED DURING BALANCING TO PROVIDE FULL DESIGN AIRFLOW. THE FAN SPEED TO ACHIEVE FULL AIRFLOW AS DETERMINED DURING BALANCING SHOULD BE NOTED ON THE CONTROL GRAPHIC AS AN UNEDITABLE NOTE AND THE PROGRAMMING SHALL NOT ALLOW THE FAN SPEED TO GO OVER THE FULL FLOW.
    - WHEN ECONOMIZING IS NOT AVAILABLE MODULATE OUTDOOR AIR AND RETURN AIR DAMPER TO PROVIDE THE OUTSIDE AIRFLOW SHOWN IN THE AHU SCHEDULE. THE DAMPER POSITIONS TO ACHIEVE THE OUTSIDE AIRFLOW SHOWN ON THE SCHEDULE SHOULD BE NOTED ON THE CONTROL GRAPHICS AS AN UN-EDITABLE NOTE.
    - WHEN ECONOMIZING IS AVAILABLE MODULATE OUTDOOR AIR AND RETURN AIR DAMPER TO PROVIDE 55°F DISCHARGE AIR (ADJ).
    - IF ZONE TEMPERATURE IS ABOVE THE COOLING TEMPERATURE SETPOINT, MODULATE THE COOLING COIL CONTROL VALVE TO MEET THE COOLING TEMPERATURE SETPOINT.
    - IF ZONE TEMPERATURE IS BELOW THE HEATING TEMPERATURE SETPOINT, MODULATE THE HEATING COIL CONTROL VALVE TO MEET THE HEATING TEMPERATURE SETPOINT.
    - IF ZONE RELATIVE HUMIDITY IS ABOVE MAXIMUM RELATIVE HUMIDITY SETPOINT, OPEN COOLING COIL CONTROL VALVE TO 100% AND MODULATE HEATING CONTROL VALVE TO MAINTAIN THE HEATING TEMPERATURE SETPOINT.
  - UNOCCUPIED MODE: WHEN THE BUILDING IS UNOCCUPIED PER THE OCCUPANCY SCHEDULE:
    - CLOSE OUTSIDE AIR DAMPER AND FULLY OPEN RETURN AIR DAMPER.
    - IF TEMPERATURE WITHIN ZONE IS WITHIN UNOCCUPIED SETPOINTS, TURN SUPPLY FAN OFF.
    - IF ZONE TEMPERATURE IS ABOVE THE COOLING TEMPERATURE SETPOINT, MODULATE THE COOLING COIL CONTROL VALVE TO MEET THE COOLING TEMPERATURE SETPOINT.
    - IF ZONE TEMPERATURE IS BELOW THE HEATING TEMPERATURE SETPOINT, MODULATE THE HEATING COIL CONTROL VALVE TO MEET THE HEATING TEMPERATURE SETPOINT.
    - IF ZONE RELATIVE HUMIDITY IS ABOVE MAXIMUM RELATIVE HUMIDITY SETPOINT, OPEN COOLING COIL CONTROL VALVE TO 100% AND MODULATE HEATING CONTROL VALVE TO MAINTAIN THE HEATING TEMPERATURE SETPOINT.

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LICENSED PROFESSIONAL ENGINEER
ALLEN MERK
31032
OKLAHOMA
02.04.2026

NO.	ISSUE LOG	DATE & INITIALS
1	100% CDs	02.04.26

MIDWEST CITY COMMUNITY CENTER
AHU-1 HVAC UPGRADES

200 N MIDWEST BLVD
MIDWEST CITY, OK 73110

CONTROL NOTES

INITIAL DATE:	JOB NO:
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PRINT DATE: 2/4/2026	SHEET NO: 4 OF 4

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