Replace Boiler and HVAC Bellefontaine Habilitation Center St. Louis, Missouri

OWNER:

STATE OF MISSOURI

MICHAEL L. PARSON,

GOVERNOR

DEPARTMENT OF MENTAL HEALTH

PROJECT

OFFICE OF ADMINISTRATION

MANAGEMENT: DIVISION OF FACILITIES MANAGEMENT,

DESIGN AND CONSTRUCTION

Bernhard TME

Engineering

DESIGNER:

Bernhard TME Engineering

PROJECT NUMBER:

M2307-01

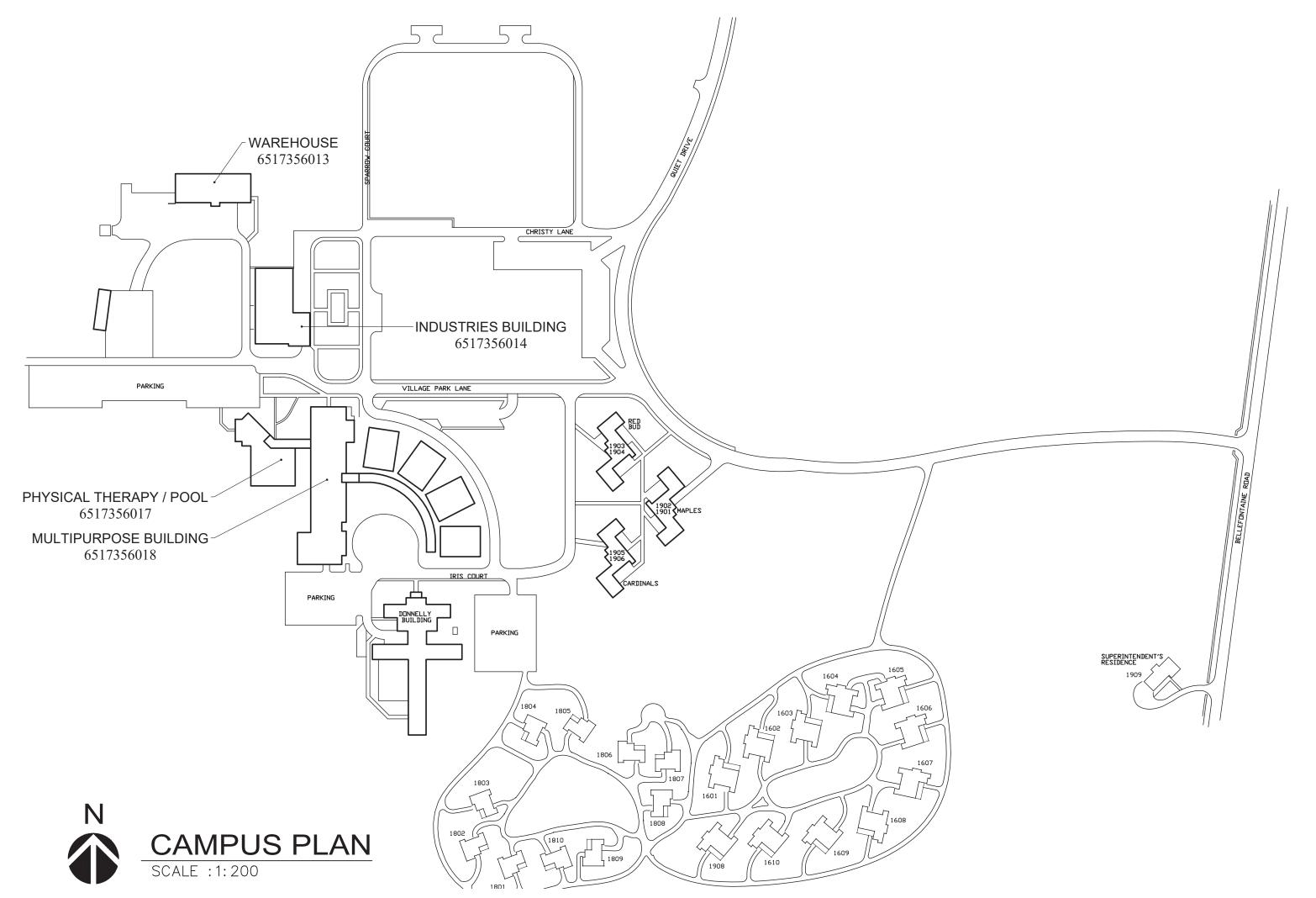
SITE NUMBER:

7356

ASSET NUMBER:

6517356013

6517356014 6517356017 6517356018



SHEET LIST G-001 COVER SHEET SHEET LIST, SYMBOLS AND ABBREVIATIONS MD-101 WAREHOUSE FLOOR PLANS - DEMOLITION MD-102 INDUSTRIES FLOOR PLANS - DEMOLITION MD-103 MULTIPURPOSE FLOOR PLANS - DEMOLITION MD-104 MULTIPURPOSE FLOOR PLANS - DEMOLITION MD-105 ENLARGED FLOOR PLANS - DEMOLITION WAREHOUSE FLOOR PLANS - NEW WORK INDUSTRIES FLOOR PLANS - NEW WORK MULTIPURPOSE FLOOR PLANS - NEW WORK MULTIPURPOSE FLOOR PLANS - NEW WORK ENLARGED FLOOR PLANS - NEW WORK PARTIAL BUILDING SECTIONS M-501 DETAILS SCHEDULES AND HEATING WATER COIL AND FTR DIAGRAMS HEATING WATER FLOW DIAGRAMS & TEMPERATURE CONTROL POINTS HVAC ZONE CONTROL DIAGRAM & TEMPERATURE CONTROL POINTS WIRING DIAGRAMS AND DETAILS MOTOR CONTROL, RELAY LOCIC & VFD WIRING DIAGRAMS WAREHOUSE UPPER LEVEL REFLECTED CEILING PLAN INDUSTRIES REFLECTED CEILING PLAN MULTIPURPOSE REFLECTED CEILING PLAN MULTIPURPOSE REFLECTED CEILING PLAN ELECTRICAL SYMBOLS, DETAILS & SCHEDULES ED-101 WAREHOUSE ELECTRICAL PLANS - DEMOLITION ED-102 INDUSTRIES ELECTRICAL PLANS - DEMOLITION ED-103 MULTIPURPOSE ELECTRICAL PLANS - DEMOLITION ED-104 MULTIPURPOSE ELECTRICAL PLANS - DEMOLITION WAREHOUSE ELECTRICAL PLANS - NEW WORK INDUSTRIES ELECTRICAL PLANS - NEW WORK

MULTIPURPOSE ELECTRICAL PLANS - NEW WORK MULTIPURPOSE ELECTRICAL PLANS - NEW WORK

APPLICABLE CODES, STANDARDS AND ORDINANCES:

APPLICABLE CODES AND STANDARDS SHALL INCLUDE ALL STATE LAWS, LOCAL ORDINANCES, UTILITY COMPANY REGULATIONS, AND THE APPLICABLE REQUIREMENTS OF THE FOLLOWING ADOPTED CODES AND STANDARDS.

1. BUILDING CODES FOR STATE OF MISSOURI, OFFICE OF ADMINISTRATION, DIVISION OF FACILITIES MANAGEMENT, DESIGN AND

a. INTERNATIONAL BUILDING CODE 2021

b. INTERNATIONAL FIRE CODE 2021

c. NATIONAL FUEL GAS CODE 2021 (NFPA 54)

d. NATIONAL ELECTRICAL CODE 2023 (NFPA 70)e. INTERNATIONAL ENERGY CONSERVATION CODE 2021

f. INTERNATIONAL PLUMBING CODE 2021

g. INTERNATIONAL MECHANICAL CODE 2021

h. BOILER AND PRESSURE VESSEL ACT OF THE STATE OF MISSOURI1) BOILER AND PRESSURE VESSEL STATE STATUTE RSMO 650.200 THROUGH 650.295

2) BOILER AND PRESSURE VESSEL CODE OF STATE REGULATIONS 11 CSR 40-2.010 THROUGH 40-2.065

3) 2012 LEGISLATIVE CHANGES HB 1251 AND HB 1647

SHEET NUMBER:

G-001

JULY 1, 2024

GENERAL DEMOLITION AND NEW WORK NOTES:

- 1. REMOVE EQUIPMENT, PIPING AND DUCTWORK AS INDICATED INCLUDING PIPE SUPPORTS, HANGERS, RODS, BRACKETS, ANCHOR BOLTS, SEISMIC BRACES AND CABLES AND OTHER ASSOCIATED SUPPORTS, BASES, ACCESSORIES AND SPECIALTIES.
- 2. REMOVE CONCRETE PADS ASSOCIATED WITH ALL EQUIPMENT REMOVED. REMOVE REBAR AND DOWELS. CLEAN FLOOR AND PROVIDE CONCRETE PATCHING COMPOUND TO PROVIDE SMOOTH FINISH TO MATCH EXISTING.
- 3. CAP ALL OPEN ENDS OF EXISTING PIPE THAT REMAIN IN SERVICE. WHERE PIPING IS REMOVED TO EXISTING SERVICE VALVES, CAP SERVICE VALVES USING CAP, PLUGS, OR BLIND FLANGES.
- 4. PATCH HOLES IN WALLS, PARTITIONS AND CEILINGS WHERE PIPING, DUCTWORK, FLUES, ETC. ARE REMOVED. WALL, PARTITION AND CEILING PATCHES SHALL MATCH EXISTING CONSTRUCTION AND FIRE RATING INCLUDING LEVEL OF SURFACE FINISH. PATCH BRICK/MASONRY WALLS, FULL THICKNESS WITH BRICK AND/OR MASONRY PRODUCTS.
- 5. PATCH HOLES IN FLOOR WHERE PIPING AND DUCTWORK ARE REMOVED. PROVIDE CONCRETE OR GROUT INFILL WITH REINFORCING AND SUPPORT STRUCTURAL STEEL. PROVIDE FORMS AS REQUIRED. SURFACE FINISH AND FIRE RATING SHALL MATCH EXISTING SURROUNDINGS.
- 6. CONTRACTOR SHALL PROTECT ANY ITEM REMOVED WITH THE INTENT TO SALVAGE AND REINSTALL INCLUDING LIGHT FIXTURES, EXIT LIGHTS, FIRE ALARM DEVICES, OTHER ELECTRONIC DEVICES, SPRINKLER ESCUTCHEON PLATES, ETC. CONTRACTOR SHALL REPLACE ITEMS DAMAGED BY THEIR OWN FORCES OR NEGLECT IN PROTECTING STORED ITEMS.
- 7. THE PLANS INDICATE, GENERALLY, THE DESIGN AND ARRANGEMENT OF DUCTWORK, PIPING, EQUIPMENT, AND ACCESSORIES, AND ARE DIAGRAMMATIC IN NATURE. THE EXACT LOCATION OF THESE ITEMS IS SUBJECT TO CHANGE DUE TO FIELD CONDITIONS WHICH SHALL BE VERIFIED BY THE CONTRACTOR. IF REQUIRED, THESE CHANGES SHALL BE MADE IN COMPLIANCE WITH THE INTERNATIONAL PLUMBING AND MECHANICAL CODES, AND WITHOUT ADDITIONAL COST TO THE OWNER.
- 8. EQUIPMENT SHALL BE INSTALLED, AND ADEQUATE CLEARANCES FOR MAINTENANCE AND REPLACEMENT SHALL BE PROVIDED, IN ACCORDANCE WITH THE MANUFACTURERS INSTALLATION INSTRUCTIONS AND RECOMMENDATIONS.
- 9. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE SHUT-OFF VALVES, ISOLATE AND DRAIN PIPING AS NEEDED FOR DEMOLITION, TIE-INS, CONNECTIONS TO EXISTING, ETC.
- 10. MAINTAIN MINIMUM ELECTRICAL CLEARANCES ABOVE AND IN FRONT OF ALL ELECTRICAL PANELS AND EQUIPMENT.
- 11. PROVIDE BLANK COVER PLATES FOR REMOVED THERMOSTATS WHERE LOCATIONS ARE NOT BEING REUSED.
- 12. CONTRACTOR SHALL PROVIDE ALL WATER TREATMENT SERVICES FOR MODIFIED OR NEW CLOSED-LOOP HYDRONIC SYSTEMS INCLUDING CLEANING AND WATER TREATMENT CHEMICALS. CONTRACTOR SHALL PROVIDE THE SERVICES OF WALTER LOUIS FLUID TECHNOLOGIES NO EXCEPTIONS, 530 S. 5TH STREET, QUINCY, IL 62301, (217) 223-2017, SALES@WALTERLOUIS.COM FOR HVAC WATER TREATMENT SERVICES AND CHEMICALS PROVIDER.

MECHANICAL SYMBOLS AND ABBREVIATIONS ACCESS PANEL **MECHANICAL** EXISTING PIPING OR EQUIPMENT APPROXIMATE MFC MANUFACTURING TO REMAIN MFR MANUFACTURER AUTOMATIC BOILER FEED WATER MIN MINIMUM EXISTING PIPING OR EQUIPMENT -----MEDIUM PRESSURE CONDENSATE BOILER TO BE REMOVED MEDIUM PRESSURE STEAM BEAM воттом MTD MOUNTED NEW PIPING OR EQUIPMENT NATURAL GAS CHV CHECK VALVE CONC CONCRETE NOT IN CONTRACT CONST CONSTRUCTION NO NORMALLY OPEN - TYPE OF EQUIPMENT CONTRACTOR NTS NOT TO SCALE EQUIPMENT DESIGNATION CONDENSER WATER RETURN ON CENTER CS CONDENSER WATER SUPPLY OD OUTSIDE DIAMETER -NUMBER OF EQUIPMENT OFCI OWNER FURNISHED CONTRACTOR INSTALLED CONNECT TO EXISTING OFOI OWNER FURNISHED OWNER INSTALLED CONTROL VALVE CONNECT TO EXISTING EQUIPMENT CHILLED WATER RETURN OPNG OPENING CHILLED WATER SUPPLY CWS -FINNED TUBE DESIGNATION DIAMETER PLUMBING CONTRACTOR FTR 3'-6" - IFNGTH OF FIFMENT DISCHARGE PCR PUMP CONDENSATE RETURN A 10'-0" - LENGTH OF COVER (WT/WT TO WALL) PIPE GUIDE DIFFERENTIAL PRESSURE PRESSURE REGULATOR SYMBOL DRAIN LINE PRV PRESSURE REDUCING VALVE DV DRAIN VALVE PSI POUNDS PER SQUARE INCH DWG DRAWING PSIG POUNDS PER SQUARE INCH GAUGE THERMOMETER WELL ELEVATION QTY QUANTITY **ELECTRIC** ELEC REDUCER EQUIPMENT RD ROOF DRAIN EXISTING REQ'D REQUIRED CONCENTRIC REDUCER FLANGE CONNECTION REV REVISION DEGREE FAHRENHEIT RV RELIEF VALVE FLEXIBLE CONNECTION SEC SECTION THERMOMETER FINISHED FLOOR SMH STEAM MANHOLE FINISHED FLOOR ELEVATION SPEC **SPECIFICATIONS** DRAIN VALVE FLOOR SQUARE FURN FURNISH SQFT SQUARE FEET NATURAL GAS SS STAINLESS STEEL GAUGE STORM SEWER GALVANIZED GALV STM STEAM HANGER GAUGE AND GAUGE COCK STR STRAINER HORSEPOWER SERVICE VALVE HIGH PRESSURE CONDENSATE PIPE LINE, TURN UP THERMOSTAT HIGH PRESSURE STEAM TESTING AND BALANCING HEATING PIPE LINE, TURN DOWN THERMOMETER HEATING WATER RETURN THERMOMETER WELL HEATING WATER SUPPLY TYP TYPICAL HEAT EXCHANGER UNION INSIDE DIAMETER UNDER CONSTRUCTION BOILER FEED WATER INV INVERT UNIT HEATER JST VENT — CONDENSER WATER SUPPLY LB/HR POUNDS PER HOUR VFD VARIABLE FREQUENCY DRIVE LIGHT POLE VERT VERTICAL — CR — CONDENSER WATER RETURN LOW PRESSURE CONDENSATE LPC WITH LOW PRESSURE SUPPLY WITHOUT W/o CWR — CWR — CHILLED WATER RETURN SAN —— SANITARY SEWER BELOW GRADE --- DR------ DRAIN LINE SANITARY SEWER ABOVE GRADE LPS LOW PRESSURE STEAM V ----- VENT LPC — LPC — LOW PRESSURE CONDENSATE HW ---- HOT WATER — - - - — HOT WATER CIRCULATING -- SOFT COLD WATER BALANCE VALVE 2 WAY CONTROL VALVE PIPE LINE, TURN UP MECHANICAL COUPLING — PIPE LINE, TURN DOWN PRESSURE REGULATOR VALVE --- RELIEF VALVE SERVICE VALVE SUPPLY AIR DUCT, DOWN CEILING EXHAUST OR RETURN AIR DIFFUSER SUPPLY AIR DUCT, UP CEILING SUPPLY DIFFUSER RETURN, OUTSIDE, RELIEF OR EXH DUCT DN FLEXIBLE DUCT BOOT CONNECTION RETURN, OUTSIDE, RELIEF OR EXH DUCT UP AIR FLOW WITH DAMPER FLEXIBLE DUCTWORK VOLUME DAMPER RECTANGULAR DUCT DIMENSION 24"x12" (IN PLAN WIDTH x HEIGHT - SHEET METAL SIZE) AUTOMATIC CONTROL DAMPER ROUND DUCT DIMENSION 12"ø DUCT - CHANGE IN ELEVATION ├ HIGH |── LOW (ARROW INDICATES DIRECTION OF DROP) FIRE DAMPER DUCTWORK WITH LINER WITH ACM AIR FLOW MEASURING STATION

STATE OF MISSOURI MICHAEL L. PARSON, GOVERNOR



ERICH BLAUFUSS - ENGINEER MO#E30116



622 EMERSON SUITE 250 ST LOUIS, MO 63141 Phone: (314) 727-8760 bernhard.com

MO CERTIFICATE OF AUTHORITY
NO. 2014025011

OFFICE OF ADMINISTRATION DIVISION OF FACILITIES MANAGEMENT, DESIGN AND CONSTRUCTION

DEPARTMENT OF MENTAL HEALTH

REPLACE BOILER AND HVAC

BELLEFONTAINE HABILITATION CENTER ST. LOUIS, MO

PROJECT # M2307-01 SITE # 7356 FACILITY # 6517356013 6517356014, 6517356017 6517356018

REVISION:
DATE:
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ISSUE DATE: 07/01/2024

CAD DWG FILE: M2307-01-7356-

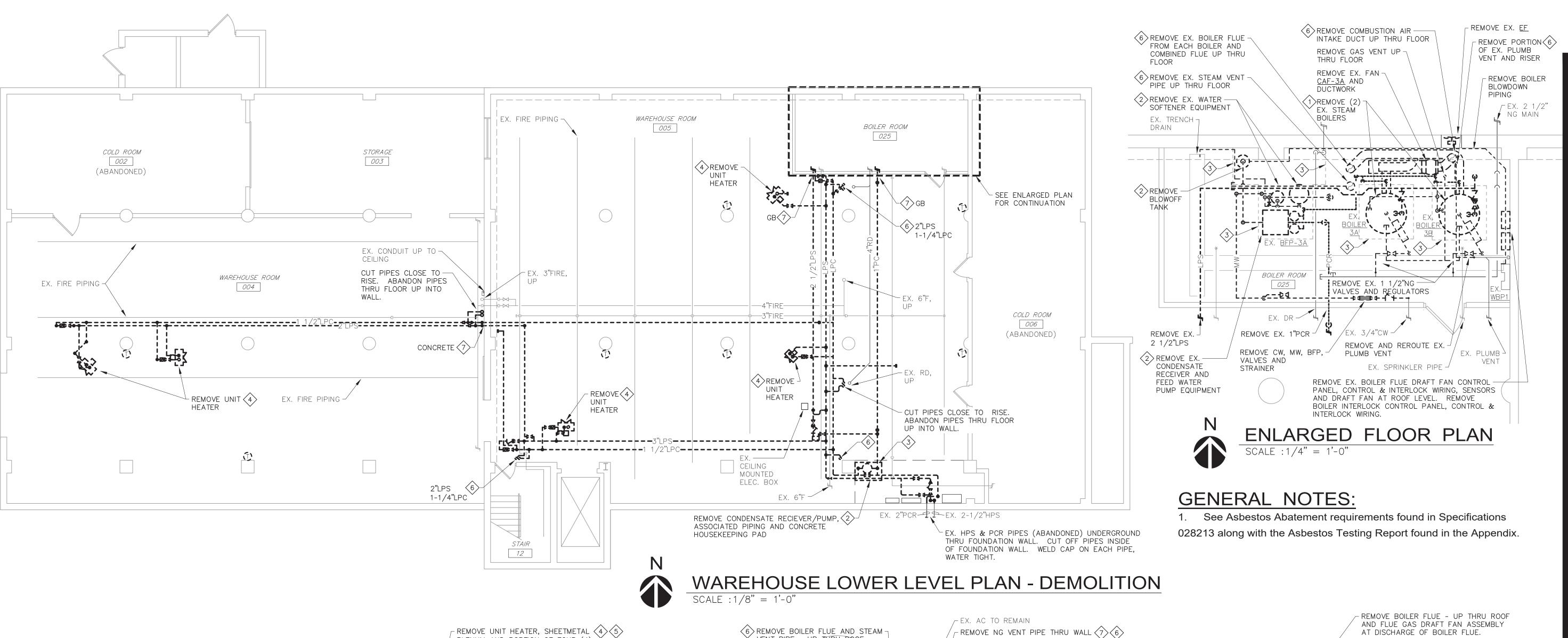
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DRAWN BY: RJS
CHECKED BY: EJB
DESIGNED BY: EJB

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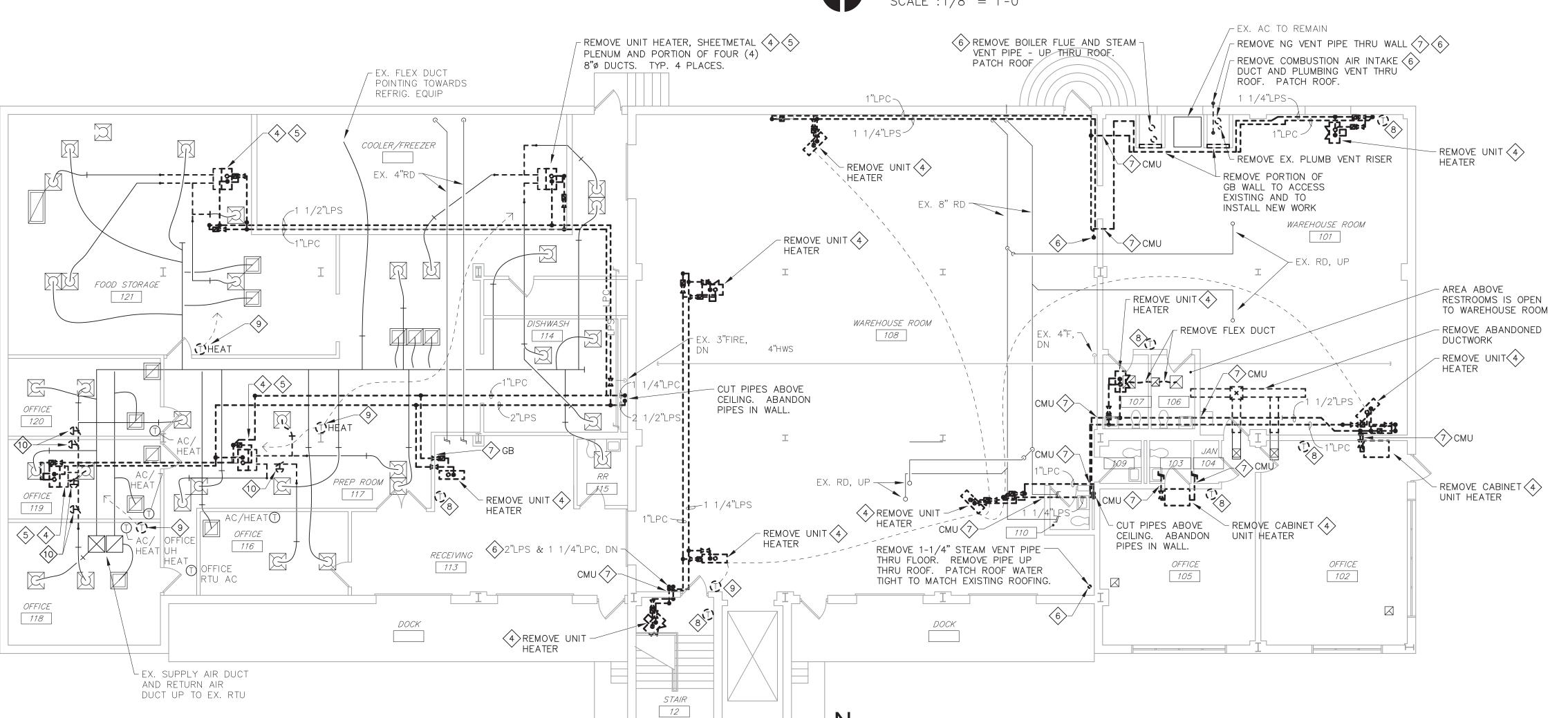
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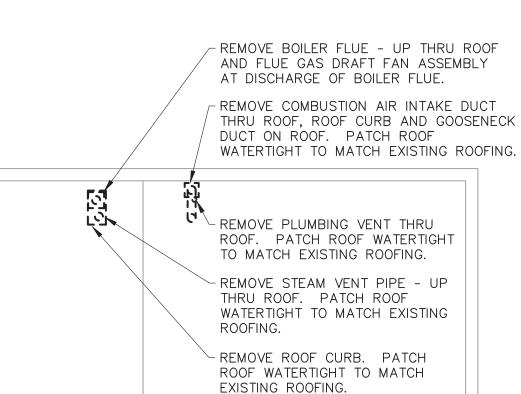
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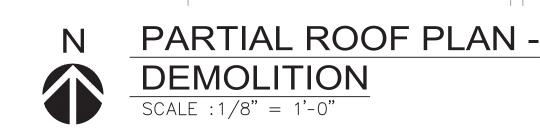
M-001



WAREHOUSE UPPER LEVEL PLAN - DEMOLITION







DEMOLITION KEYED NOTES:

(THIS SHEET ONLY)

- REMOVE GAS FIRED STEAM BOILER INCLUDING, ALL ASSOCIATED STEAM, FEEDWATER, BLOW DOWN AND DRAIN PIPING, GAS PIPING, VALVES, CONTROL/SOLENOID VALVES, GAS REGULATORS, FLUES, CONTROLS, CONTROL AND INTERLOCK WIRING.
- REMOVE ALL BOILER ASSOCIATED EQUIPMENT INCLUDING CONDENSATE RECEIVER/PUMPS, WATER SOFTENERS, CHEMICAL TREATMENT EQUIPMENT, BLOW-OFF TANK, ASSOCIATED PIPING, VALVES, CONTROL/SOLENOID VALVES, CONTROL AND INTERLOCK WIRING.
- REMOVE CONCRETE HOUSEKEEPING PAD, REBAR AND DOWELS. CLEAN AND REMOVE LOOSE CONCRETE AND DIRT FROM FLOOR AND RESTORE AND PATCH FLOOR SURFACE WITH CONCRETE PATCHING COMPOUND TO PROVIDE SMOOTH SURFACE TO MATCH SURROUNDING FLOOR.
- REMOVE UNIT HEATER OR CABINET UNIT HEATER AS INDICATED. REMOVE ASSOCIATED STEAM AND CONDENSATE PIPING, VALVES, TRAPS, SOLENOID VALVES. REMOVE PIPE SURFACE TEMPERATURE SWITCHES, WALL THERMOSTATS/TEMPERATURE SWITCHES. REMOVE ELECTRIC THERMOSTATS, CONTROL WIRING, RELAYS.
- REMOVE SHEETMETAL AIR PLENUM ATTACHED TO DISCHARGE OF UNIT HEATER.
 REMOVE SUFFICIENT PORTION OF FOUR (4) EXISTING 8" ROUND SUPPLY HEATING AIR
 DUCTWORK TO ACCOMMODATE INSTALLING NEW EQUIPMENT AND RECONNECTING SUPPLY
 HEATING AIR DUCTWORK. REMOVE AND SALVAGE FOR REINSTALLATION 8" ROUND
 ELECTRIC CONTROL DAMPERS WERE INDICATED.
- REMOVE PIPES THRU FLOOR. PATCH HOLES IN FLOOR. PROVIDE CONCRETE OR GROUT INFILL WITH REINFORCING AND SUPPORT STRUCTURAL STEEL. PROVIDE FORMS AS REQUIRED. SURFACE FINISH AND FIRE RATING SHALL MATCH EXISTING SURROUNDINGS.
- REMOVE PIPES THRU WALL. PATCH HOLES IN WALL BOTH SIDES. PATCHES SHALL MATCH EXISTING CONSTRUCTION AND FIRE RATING INCLUDING LEVEL OF SURFACE FINISH. PATCH BRICK OR MASONRY WALLS FULL THICKNESS WITH BRICK OR MASONRY PRODUCTS. PAINT PATCHES TO MATCH SURROUNDINGS.
- 8 REMOVE LINE VOLTAGE THERMOSTAT. COORDINATE WITH ELECTRICAL CONTRACTOR.

 9 REMOVE LOW VOLTAGE DIGITAL THERMOSTAT AND ASSOCIATED CONTROL WIRING.
- REMOVE LOW VOLTAGE MOTORIZED ZONE DAMPER. STORE AND PROTECT FOR REINSTALLATION IN NEW WORK. SEE NEW WORK DRAWINGS.

STATE OF MISSOURI MICHAEL L. PARSON, GOVERNOR



ERICH BLAUFUSS - ENGINEER MO#E30116



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MO CERTIFICATE OF AUTHORITY
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DEPARTMENT OF MENTAL HEALTH

REPLACE BOILER AND HVAC

BELLEFONTAINE HABILITATION CENTER ST. LOUIS, MO

PROJECT # M2307-01 SITE # 7356 FACILITY # 6517356013 6517356014, 6517356017

REVISION:
DATE:
REVISION:
DATE:
REVISION:

6517356018

DATE: ISSUE DATE: 07/01/2024

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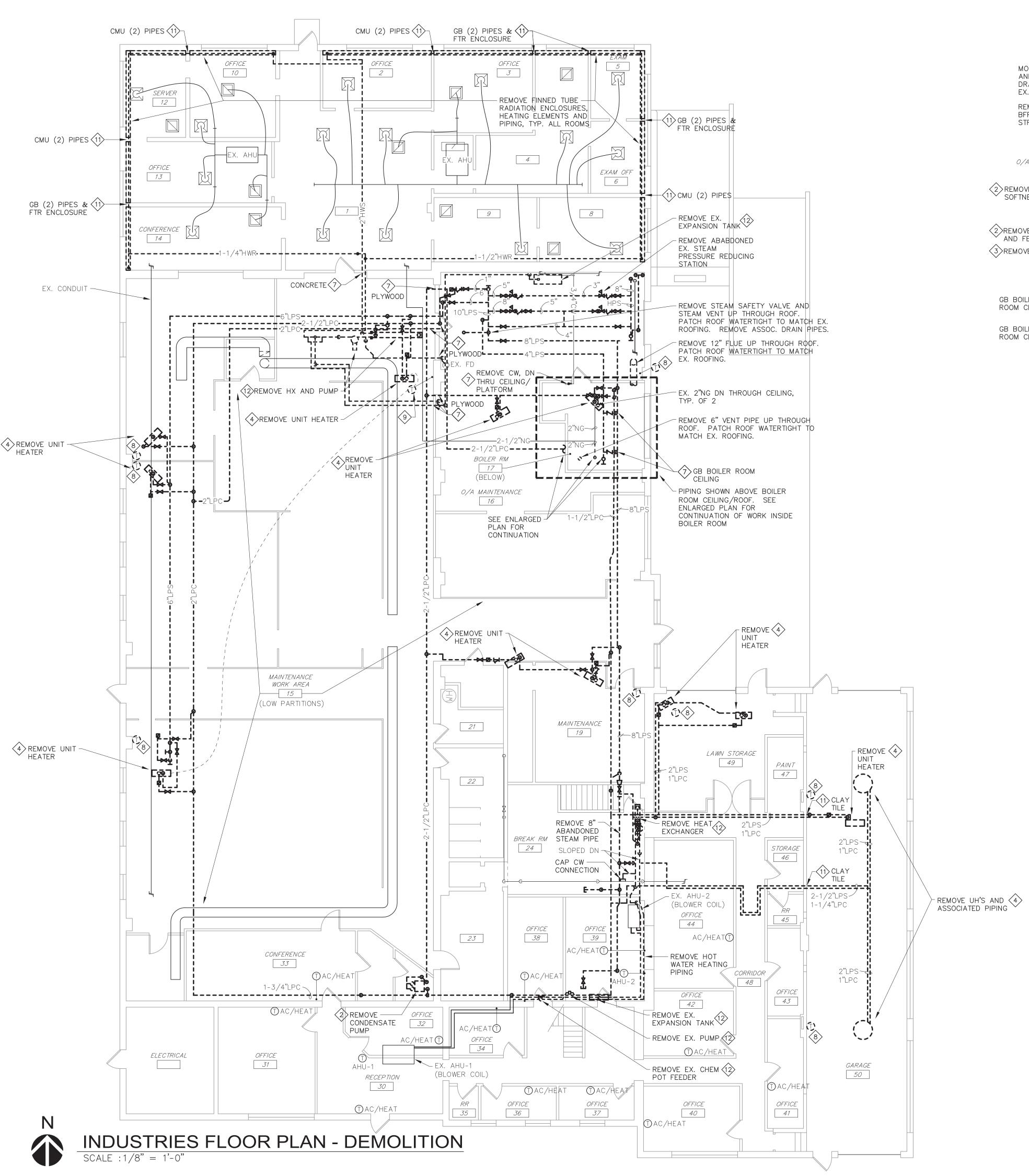
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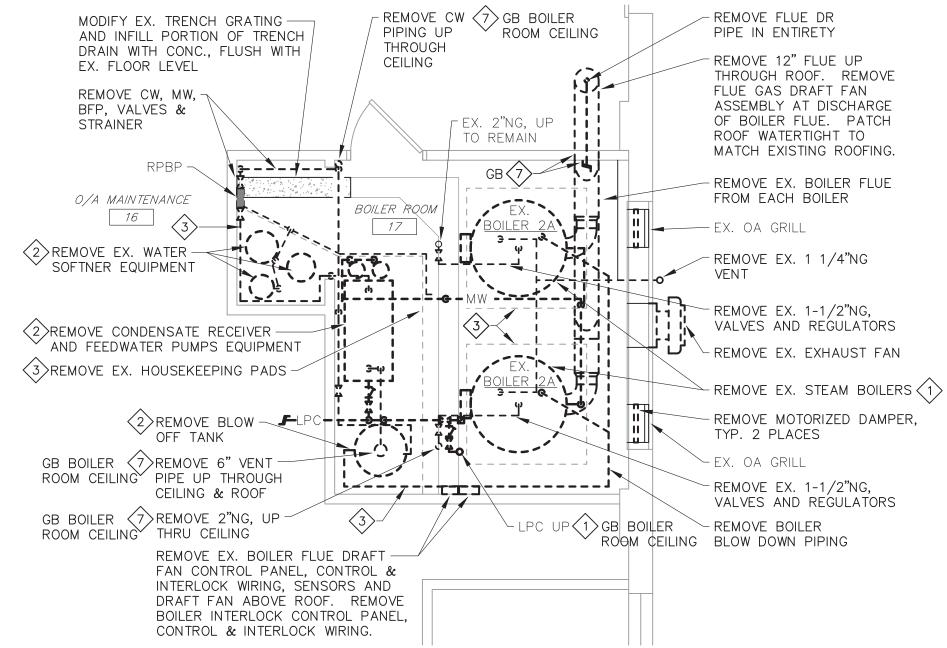
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WAREHOUSE FLOOR PLANS -DEMOLITION

SHEET NUMBER:

MD-101





ENLARGED FLOOR PLAN

DEMOLITION KEYED NOTES: (THIS SHEET ONLY)

<1> REMOVE GAS FIRED STEAM BOILER INCLUDING, ALL ASSOCIATED STEAM, FEEDWATER, BLOW DOWN AND DRAIN PIPING, GAS PIPING, VALVES, CONTROL/SOLENOID VALVES, GAS REGULATORS, FLUES, CONTROLS, CONTROL AND INTERLOCK WIRING.

(2) REMOVE ALL BOILER ASSOCIATED EQUIPMENT INCLUDING CONDENSATE RECEIVER/PUMPS, WATER SOFTENERS, CHEMICAL TREATMENT EQUIPMENT, BLOW-OFF TANK, ASSOCIATED PIPING, VALVES, CONTROL/SOLENOID VALVES, CONTROLS CONTROL AND INTERLOCK WIRING.

REMOVE CONCRETE HOUSEKEEPING PAD, REBAR AND DOWELS. CLEAN AND REMOVE LOOSE CONCRETE AND DIRT FROM FLOOR AND RESTORE AND PATCH FLOOR SURFACE WITH CONCRETE PATCHING COMPOUND TO PROVIDE SMOOTH SURFACE TO MATCH

SURROUNDING FLOOR. 4 REMOVE UNIT HEATER OR CABINET UNIT HEATER AS INDICATED. REMOVE ASSOCIATED STEAM AND CONDENSATE PIPING, VALVES, TRAPS, SOLENOID VALVES. REMOVE PIPE SURFACE TEMPERATURE SWITCHES, WALL THERMOSTATS/TEMPERATURE SWITCHES. REMOVE ELECTRIC THERMOSTATS, CONTROL WIRING, RELAYS.

(5) NOT USED.

6 NOT USED.

REMOVE PIPES THRU WALL OR HARD CEILING. PATCH HOLES IN WALL OR CEILING BOTH SIDES. PATCHES SHALL MATCH EXISTING CONSTRUCTION AND FIRE RATING INCLUDING LEVEL OF SURFACE FINISH. PATCH BRICK OR MASONRY WALLS FULL THICKNESS WITH BRICK OR MASONRY PRODUCTS. PAINT PATCHES TO MATCH

(8) REMOVE LINE VOLTAGE THERMOSTAT. COORDINATE WITH ELECTRICAL CONTRACTOR. P> REMOVE LOW VOLTAGE DIGITAL THERMOSTAT AND ASSOCIATED CONTROL WIRING.

NOTE USED.

REMOVE FINNED TUBE RADIATION PIPES AND ELEMENTS THRU WALL. WHERE INDICATED, REMOVE FINNED TUBE ENCLOSURE THRU WALL. PATCH HOLES IN WALL BOTH SIDES. PATCHES SHALL MATCH EXISTING CONSTRUCTION AND FIRE RATING INCLUDING LEVEL OF SURFACE FINISH. PATCH BRICK OR MASONRY WALLS FULL THICKNESS WITH BRICK OR MASONRY PRODUCTS. PAINT PATCHES TO MATCH

REMOVE STEAM TO HEATING HOT WATER HEAT EXCHANGER, HOT WATER PUMP, EXPANSION TANK, CHEMICAL POT FEEDER. REMOVE ASSOCIATED STEAM, CONDENSATE, HEATING WATER, MAKEUP WATER, DRAINS AND VENT PIPING, VALVES, CONTROL VALVES, BACK FLOW PREVENTERS, RELIEF VALVES, TRAPS AND REGULATORS. REMOVE CONTROLS, SENSORS AND CONTROL WIRING.

GENERAL NOTES:

See Asbestos Abatement requirements found in Specifications 028213 along with the Asbestos Testing Report found in the Appendix.

STATE OF MISSOURI MICHAEL L. PARSON, **GOVERNOR**



ERICH BLAUFUSS - ENGINEER MO#E30116



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OFFICE OF ADMINISTRATION DIVISION OF FACILITIES MANAGEMENT, **DESIGN AND CONSTRUCTION**

DEPARTMENT OF MENTAL HEALTH

REPLACE BOILER AND HVAC

BELLEFONTAINE **HABILITATION** CENTER ST. LOUIS, MO

7356 FACILITY # 6517356013 6517356014, 6517356017 6517356018

PROJECT # M2307-01

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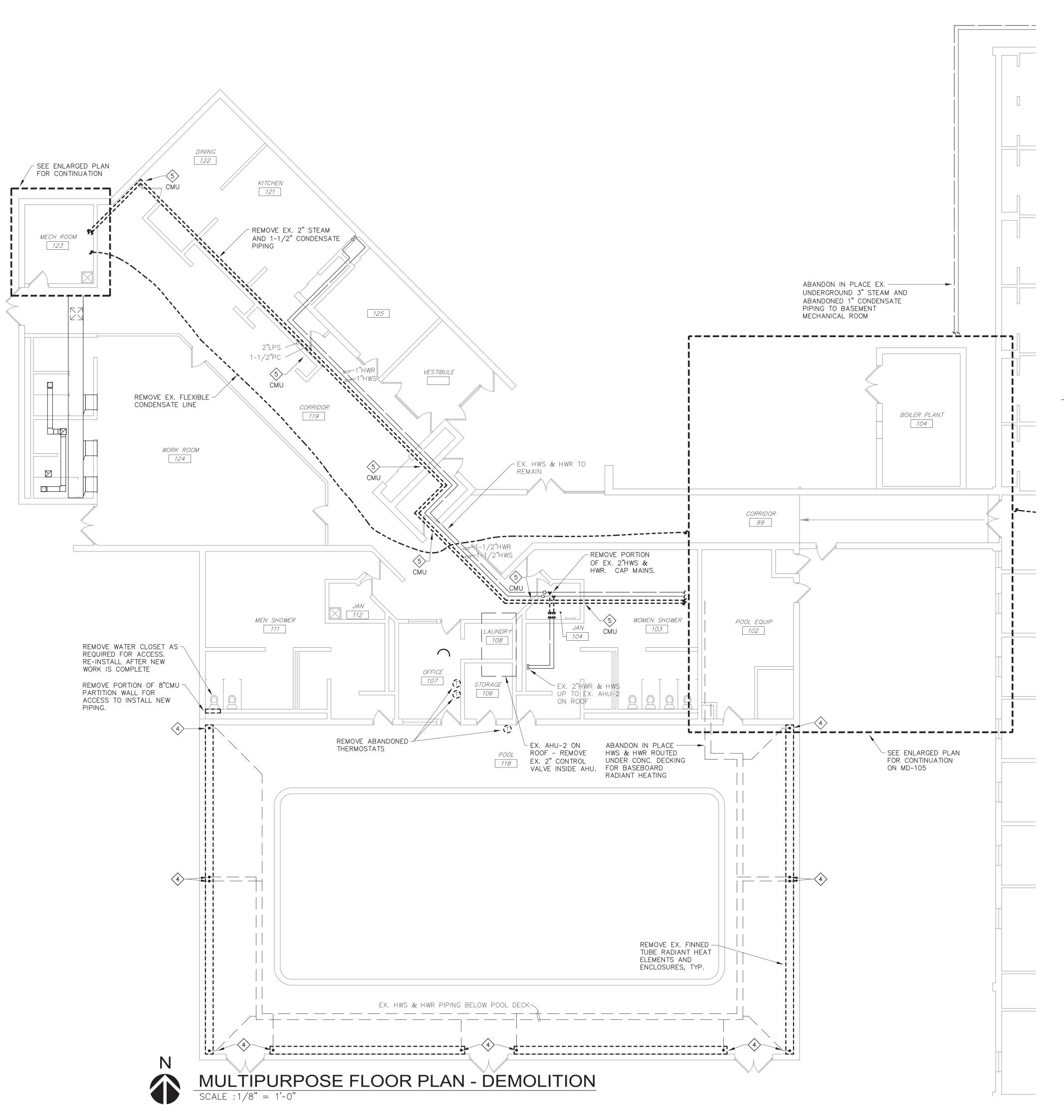
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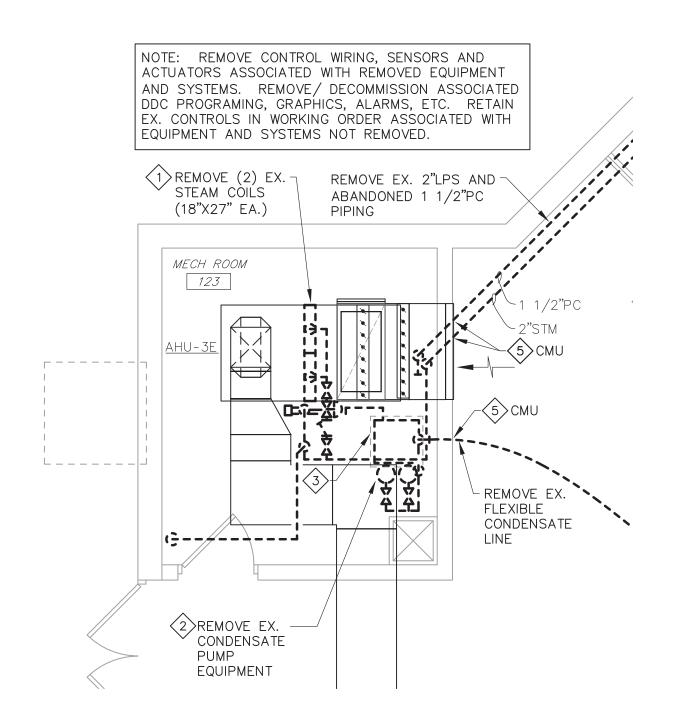
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SHEET TITLE:

INDUSTRIES FLOOR PLANS -**DEMOLITION**

SHEET NUMBER:





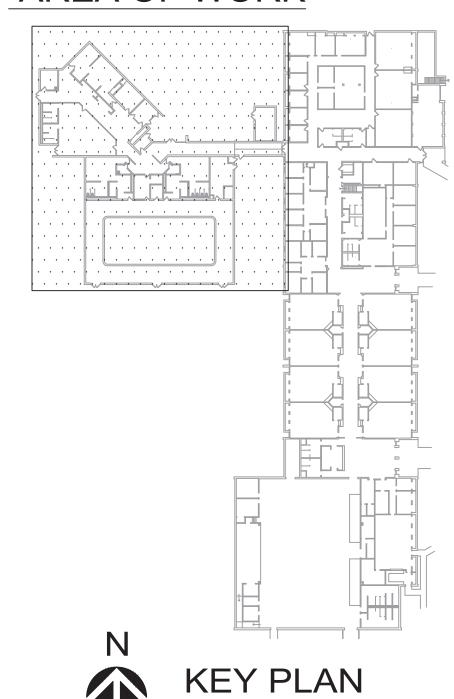
ENLARGED FLOOR PLAN-DEMOLITION SCALE: 1/4" = 1'-0"

KEYED NOTES:

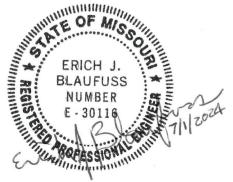
(THIS SHEET ONLY)

- REMOVE STEAM HEATING COIL. REMOVE ASSOCIATED STEAM AND CONDENSATE PIPING, VALVES, TRAPS. REMOVE CONTROL VALVE AND ASSOCIATED DDC CONTROLS AND
- REMOVE ALL BOILER ASSOCIATED EQUIPMENT INCLUDING CONDENSATE RECEIVER/PUMPS, WATER SOFTENERS, CHEMICAL TREATMENT EQUIPMENT, BLOW-OFF TANK, ASSOCIATED PIPING, VALVES, CONTROL/SOLENOID VALVES, CONTROL AND INTERLOCK WIRING.
- REMOVE CONCRETE HOUSEKEEPING PAD, REBAR AND DOWELS. CLEAN AND REMOVE LOOSE CONCRETE AND DIRT FROM FLOOR AND RESTORE AND PATCH FLOOR SURFACE WITH CONCRETE PATCHING COMPOUND TO PROVIDE SMOOTH SURFACE TO MATCH SURROUNDING FLOOR.
- REMOVE HEATING HOT WATER PIPE STUB FROM MAINS BELOW FLOOR TO FINNED TUBE ELEMENTS. CUT PIPES JUST BELOW THE FLOOR LEVEL. REMOVE RUBBER TYPE SEALANT IN ANNULAR SPACE BETWEEN THE FLOOR'S CORE DRILL HOLE AND THE PIPE. CLEAN AND ROUGH UP CORE DRILL HOLE'S SURFACE AND PATCH HOLE/FILL PIPE WITH CONCRETE OR GROUT LEVEL WITH FLOOR.
- REMOVE PIPES THRU WALL. PATCH HOLES IN WALL BOTH SIDES. PATCHES SHALL MATCH EXISTING CONSTRUCTION AND FIRE RATING INCLUDING LEVEL OF SURFACE FINISH. PATCH BRICK OR MASONRY WALLS FULL THICKNESS WITH BRICK OR MASONRY PRODUCTS. PAINT PATCHES TO MATCH SURROUNDINGS.

AREA OF WORK







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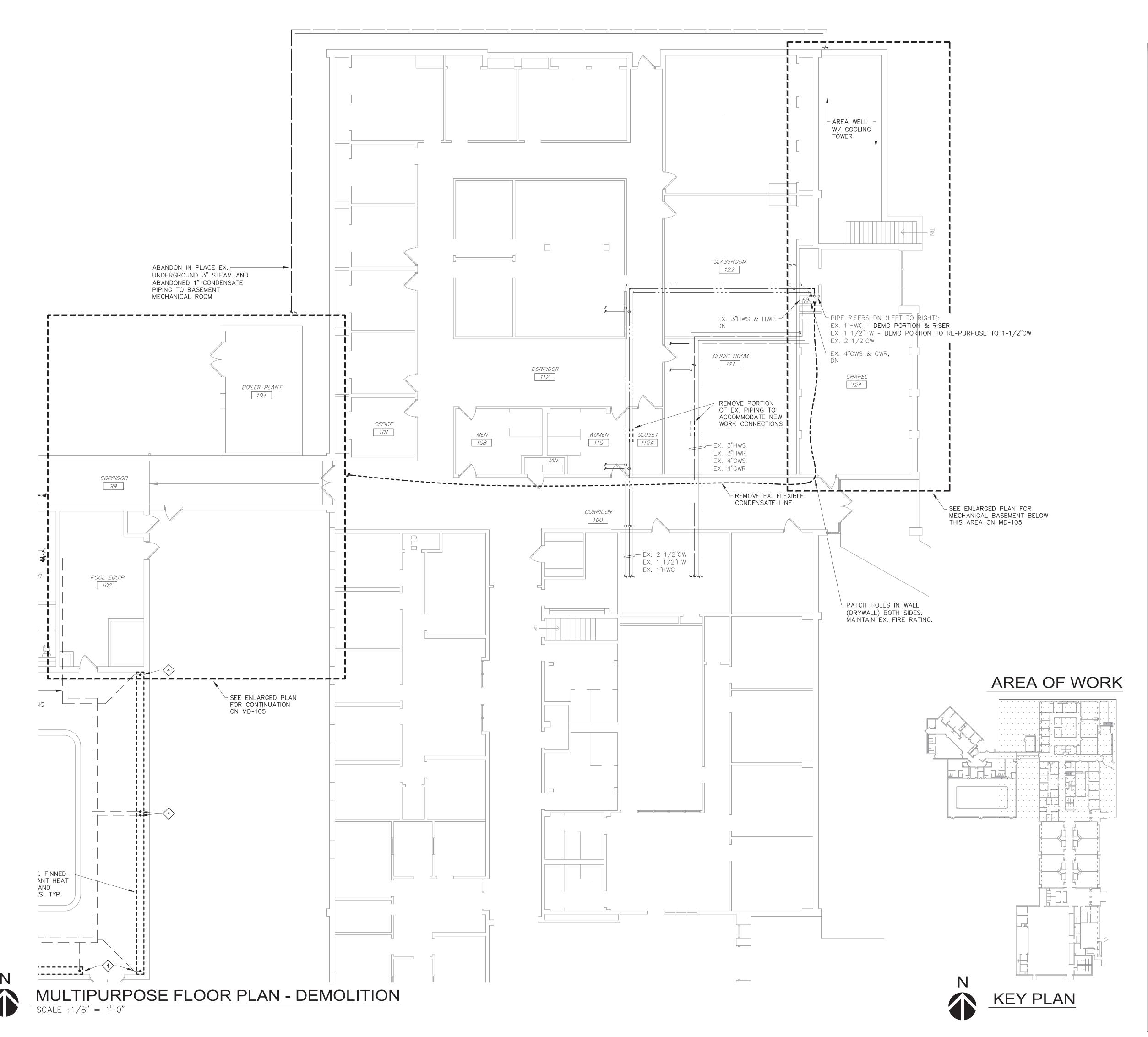
CAD DWG FILE: 651735601X-MD-103
DRAWN BY: RJS
CHECKED BY: EJB
DESIGNED BY: EJB

SHEET TITLE:

MULTIPURPOSE FLOOR PLANS -DEMOLITION

SHEET NUMBER:

MD-103



STATE OF MISSOURI MICHAEL L. PARSON, GOVERNOR



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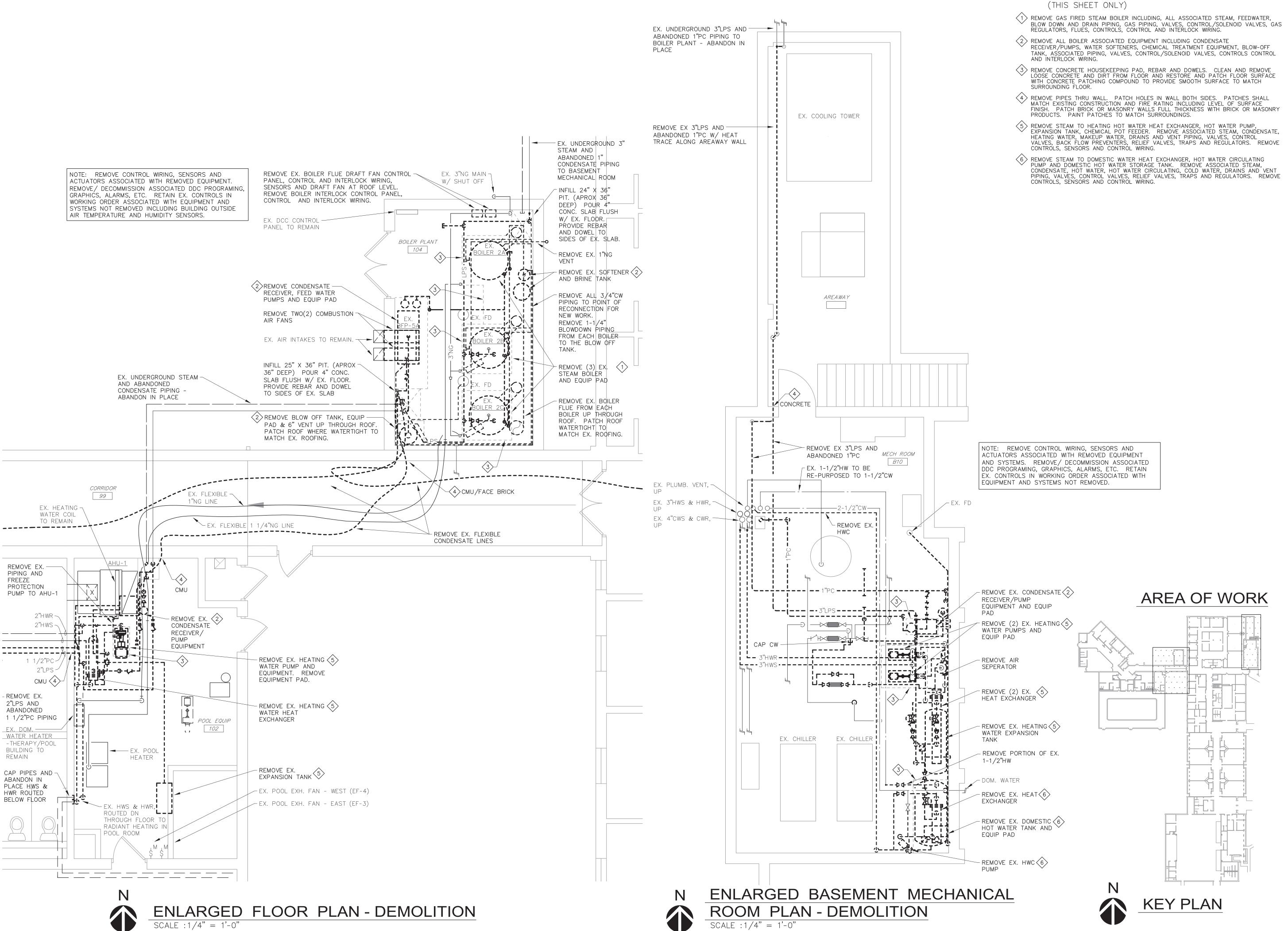
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DRAWN BY: RJS
CHECKED BY: EJB
DESIGNED BY: EJB

SHEET TITLE:

MULTIPURPOSE FLOOR PLANS -DEMOLITION

SHEET NUMBER:

MD-104



KEYED NOTES:

- RECEIVER/PUMPS, WATER SOFTENERS, CHEMICAL TREATMENT EQUIPMENT, BLOW-OFF TANK, ASSOCIATED PIPING, VALVES, CONTROL/SOLENOID VALVES, CONTROLS CONTROL
- REMOVE CONCRETE HOUSEKEEPING PAD, REBAR AND DOWELS. CLEAN AND REMOVE LOOSE CONCRETE AND DIRT FROM FLOOR AND RESTORE AND PATCH FLOOR SURFACE
- VALVES, BACK FLOW PREVENTERS, RELIEF VALVES, TRAPS AND REGULATORS. REMOVE
- CONDENSATE, HOT WATER, HOT WATER CIRCULATING, COLD WATER, DRAINS AND VENT PIPING, VALVES, CONTROL VALVES, RELIEF VALVES, TRAPS AND REGULATORS. REMOVE CONTROLS, SENSORS AND CONTROL WIRING.

DIVISION OF FACILITIES MANAGEMENT, **DESIGN AND CONSTRUCTION**

STATE OF MISSOURI

MICHAEL L. PARSON, **GOVERNOR**

ERICH J.

BLAUFUSS

NUMBER

E - 30116

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Phone: (314) 727-8760

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MO CERTIFICATE OF AUTHORITY

NO. 2014025011

OFFICE OF ADMINISTRATION

Engineering

DEPARTMENT OF MENTAL HEALTH

REPLACE BOILER AND HVAC

BELLEFONTAINE **HABILITATION** CENTER ST. LOUIS, MO

PROJECT # M2307-01 7356 FACILITY # 6517356013 6517356014, 6517356017

6517356018

REVISION DATE **REVISION** DATE **REVISION** DATE:

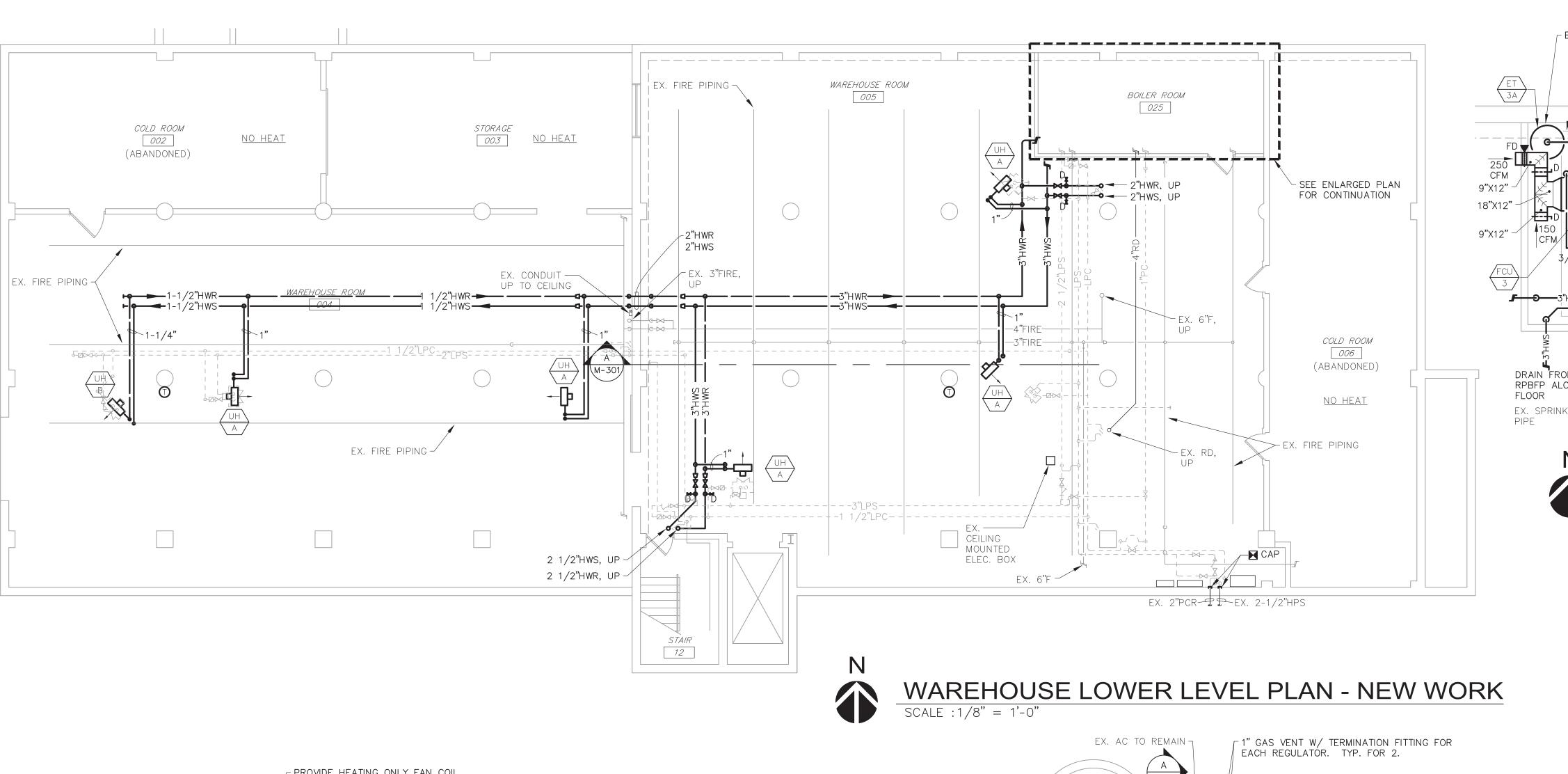
ISSUE DATE: 07/01/2024

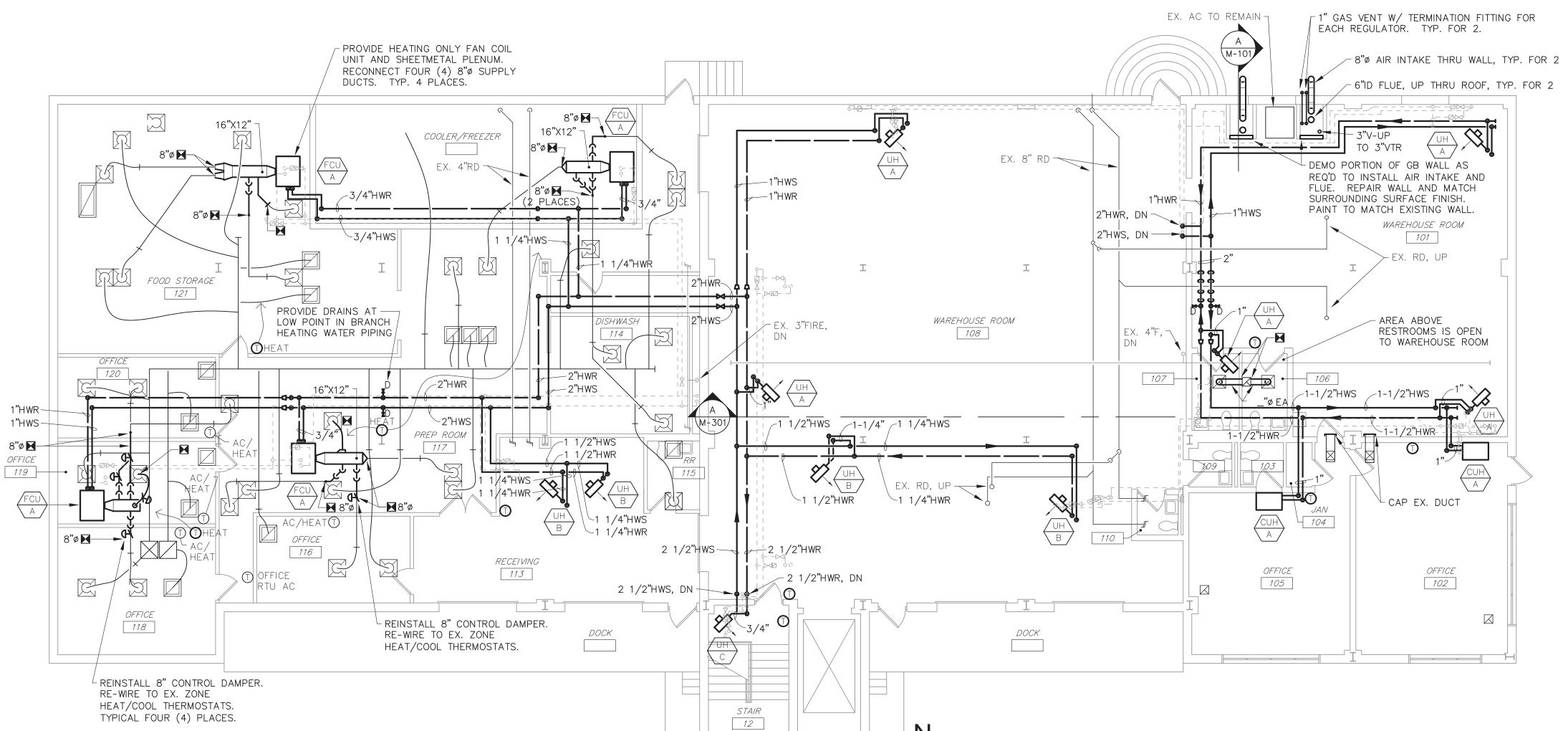
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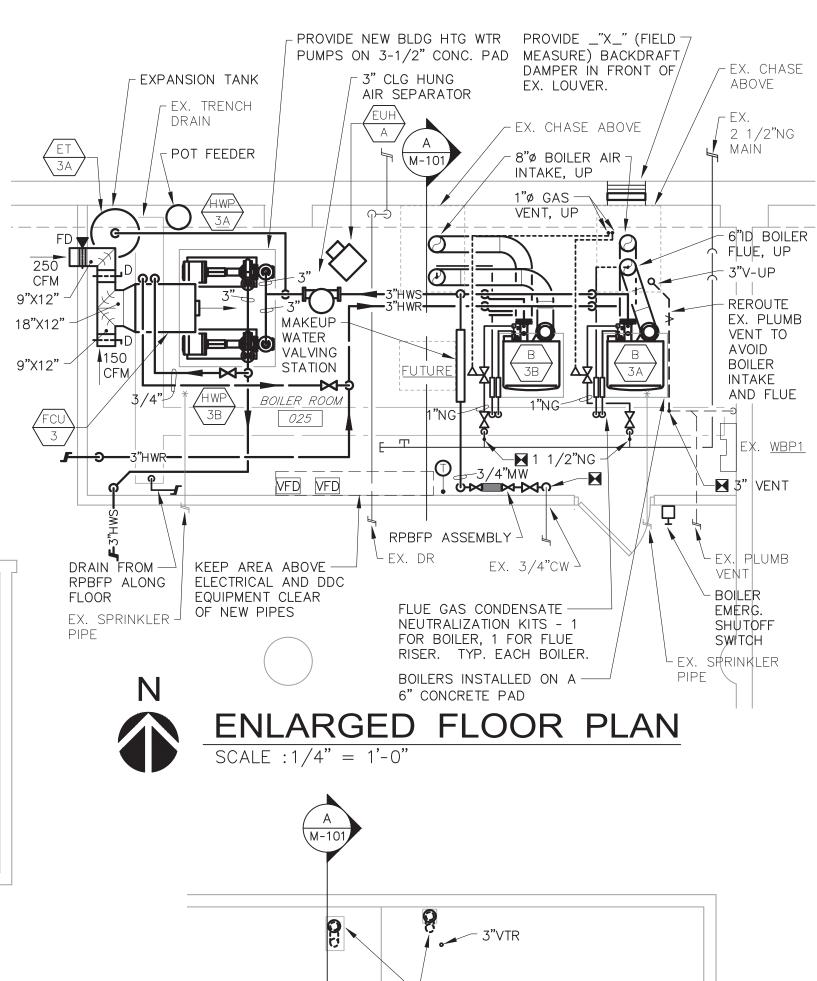
SHEET TITLE:

ENLARGED FLOOR PLANS -**DEMOLITION**

SHEET NUMBER:



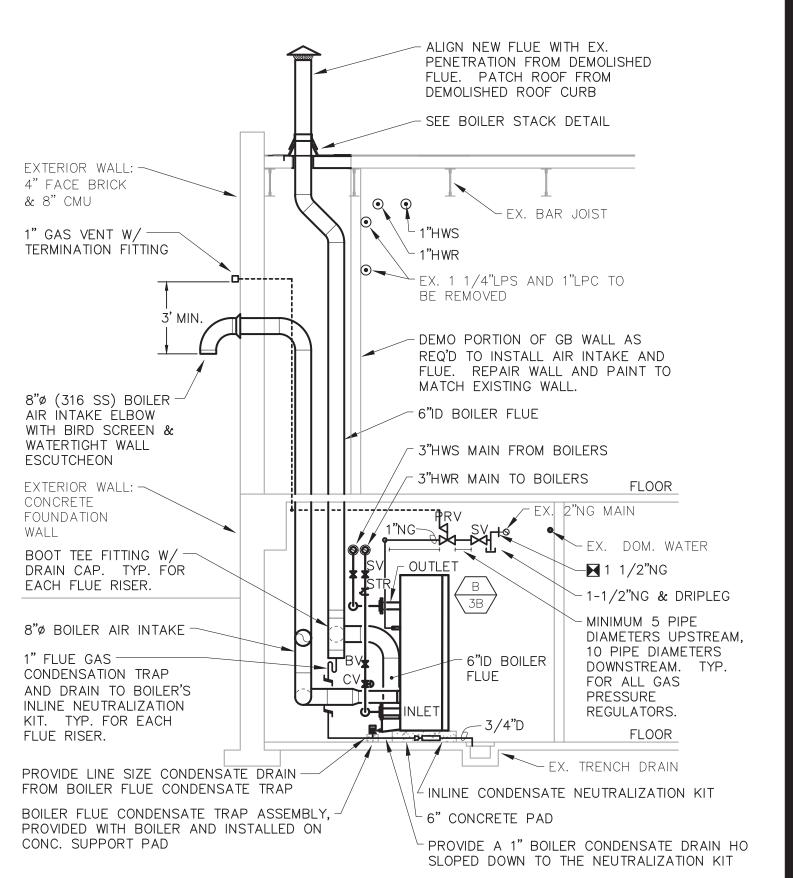




ALIGN BOILER FLUE
WITH EX. ROOF OPENING

PARTIAL ROOF PLAN -

NEW WORK







ERICH BLAUFUSS - ENGINEER

MO#E30116



Engineering

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DEPARTMENT OF MENTAL HEALTH

REPLACE BOILER AND HVAC

BELLEFONTAINE HABILITATION CENTER ST. LOUIS, MO

PROJECT # M2307-01 SITE # 7356 FACILITY # 6517356013 6517356014, 6517356017 6517356018

REVISION:
DATE:
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DATE:
ISSUE DATE: 07/01/2024

CAD DWG FILE: M2307-01-7356CAD DWG FILE: 651735601X-M-101
DRAWN BY: RJS
CHECKED BY: EJB

DESIGNED BY: EJB
SHEET TITLE:

WAREHOUSE FLOOR PLANS -

NEW WORK

SHEET NUMBER:

M-101

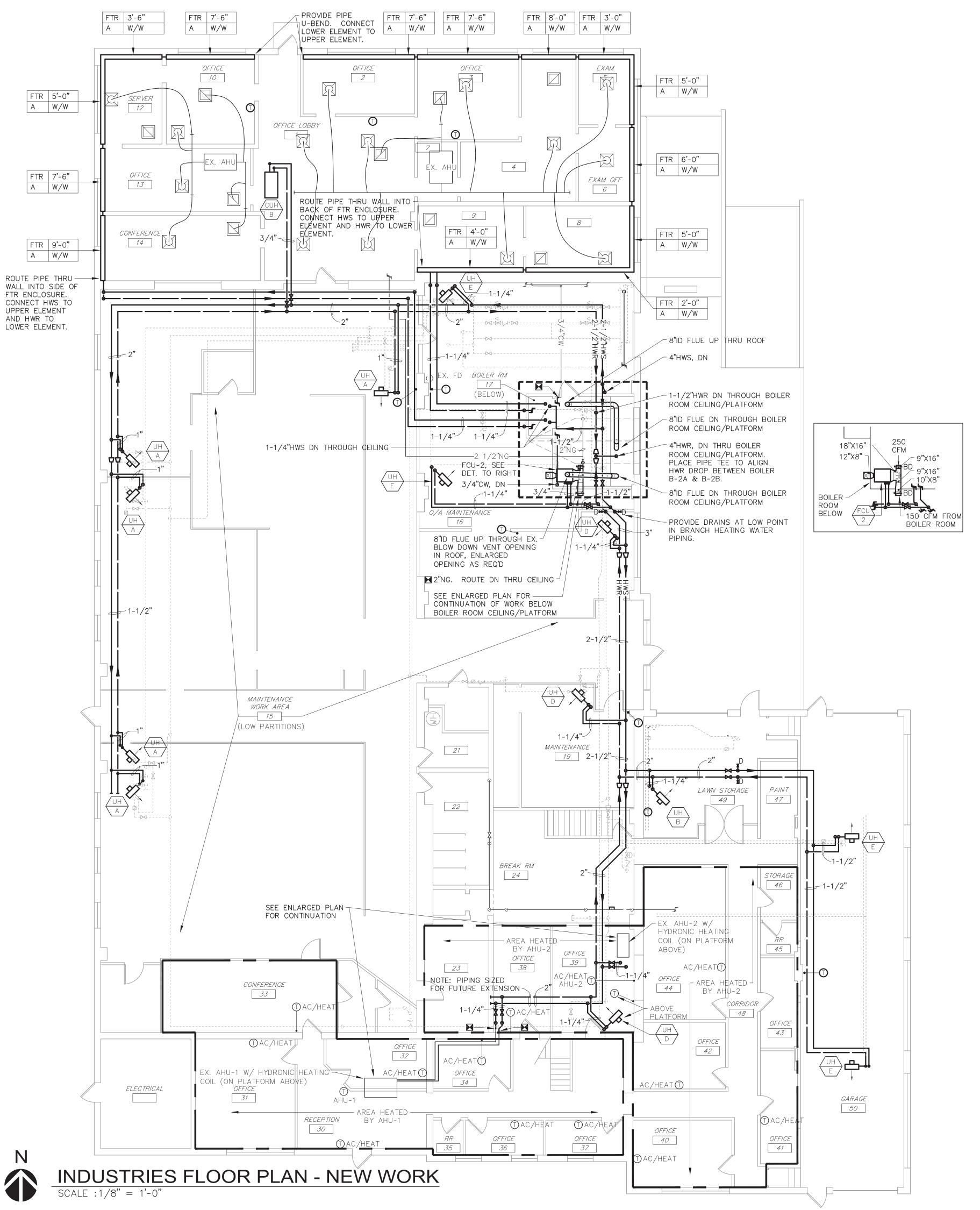
8 OF 42 SHEETS 07/01/2024

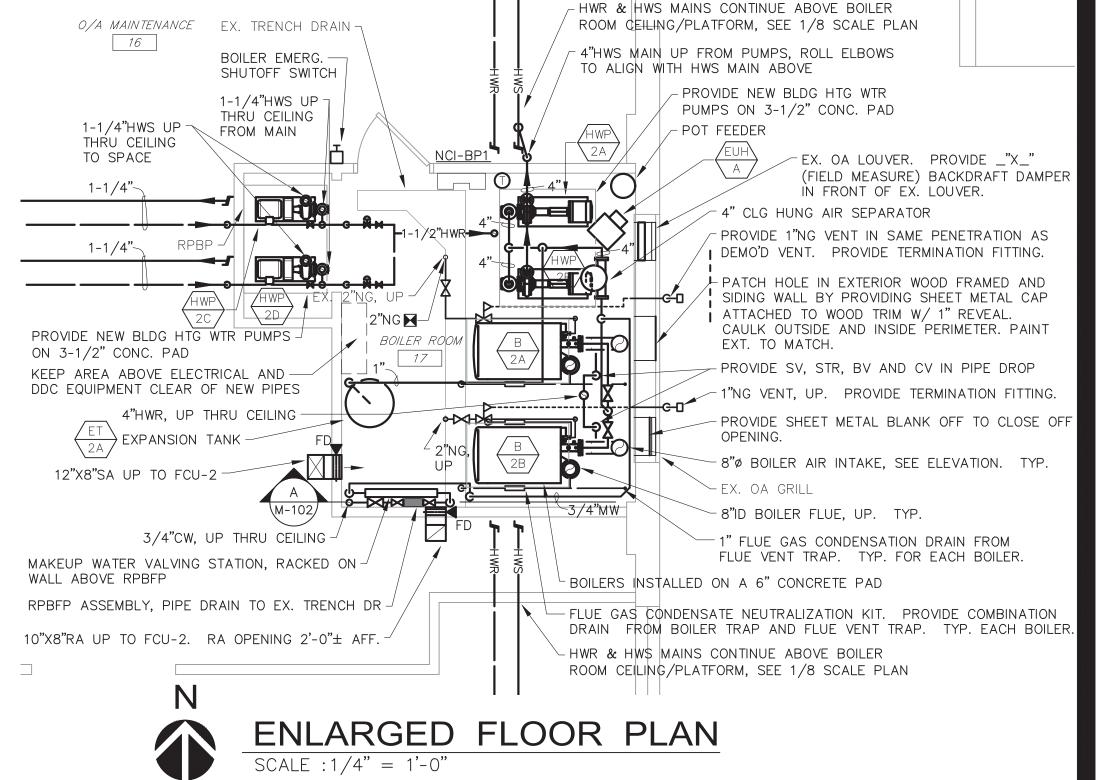
A BOILER ROOM ELEVATION

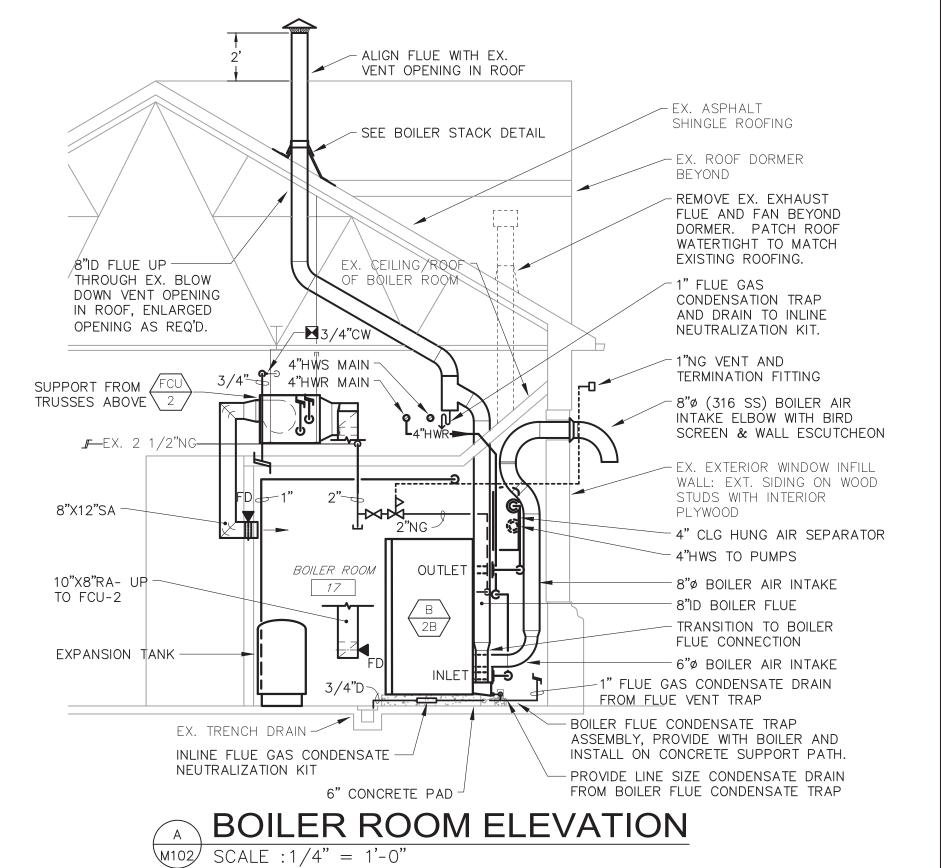
SCALE : 1/4" = 1'-0"

WAREHOUSE UPPER LEVEL PLAN - NEW WORK

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







STATE OF MISSOURI MICHAEL L. PARSON, GOVERNOR



ERICH BLAUFUSS - ENGINEER MO#E30116



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REPLACE BOILER AND HVAC

BELLEFONTAINE HABILITATION CENTER ST. LOUIS, MO

PROJECT # M2307-01 SITE # 7356 FACILITY # 6517356013

6517356014, 6517356017 6517356018

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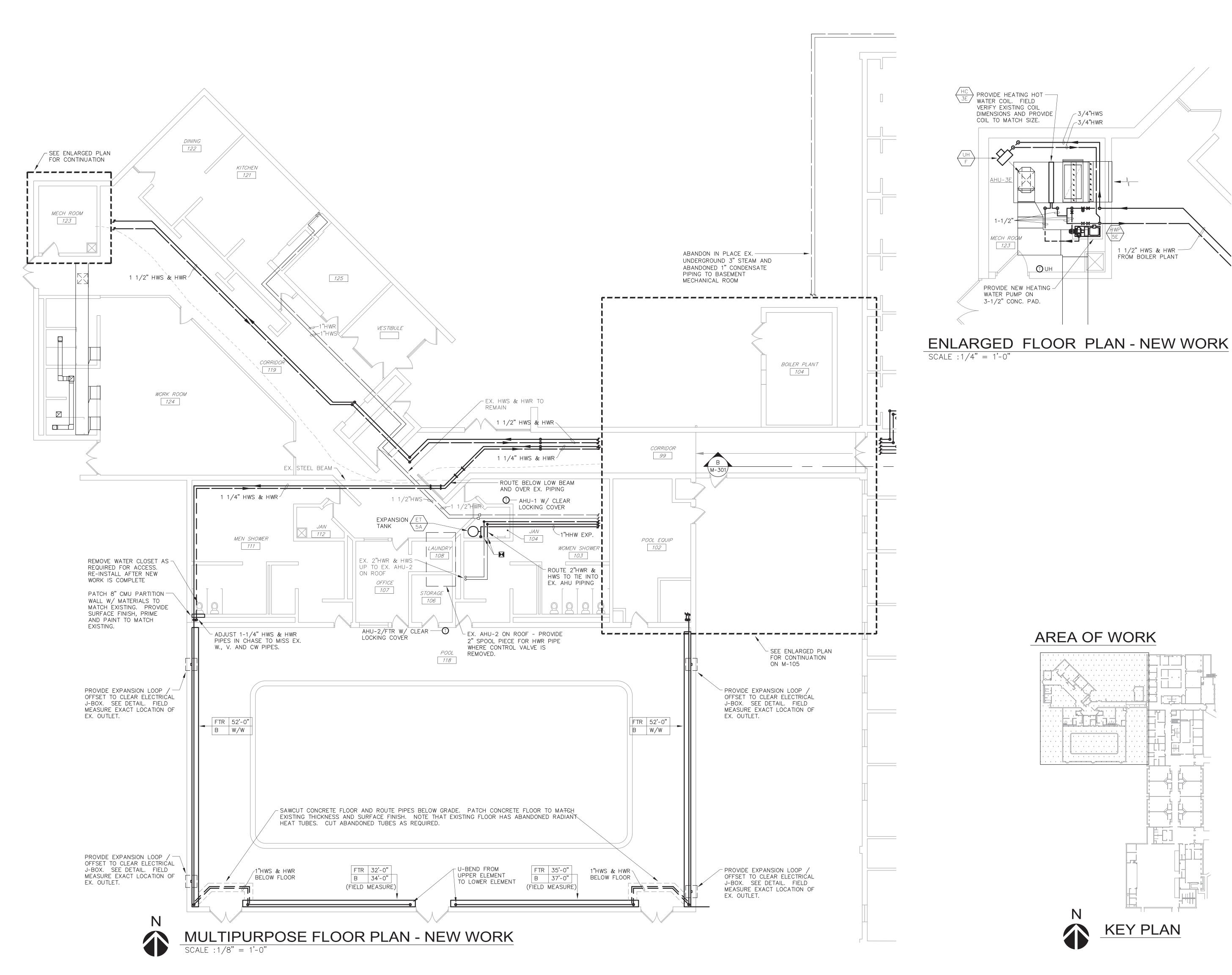
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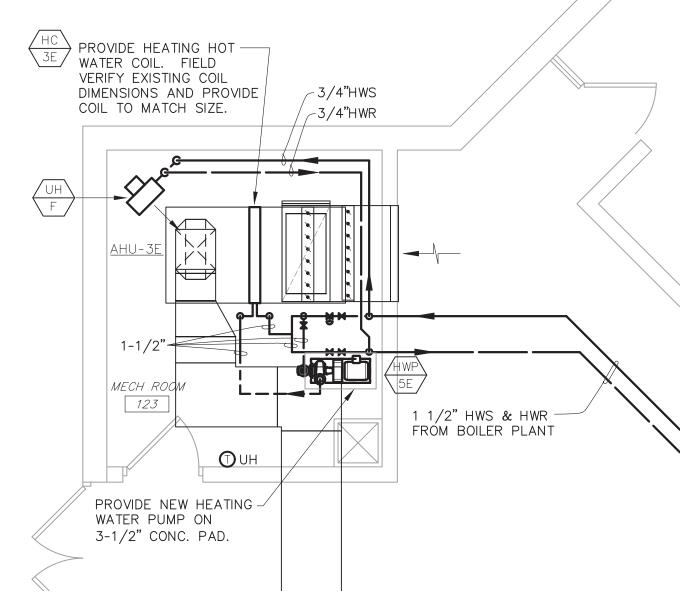
SHEET TITLE:

INDUSTRIES FLOOR PLANS -NEW WORK

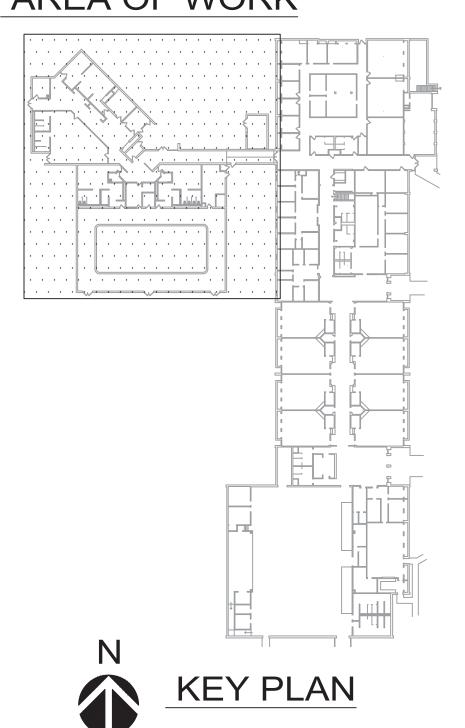
SHEET NUMBER:

M-102





AREA OF WORK



STATE OF MISSOURI MICHAEL L. PARSON, **GOVERNOR**



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REPLACE BOILER AND HVAC

BELLEFONTAINE HABILITATION CENTER ST. LOUIS, MO

PROJECT # M2307-01 7356 FACILITY # 6517356013 6517356014, 6517356017 6517356018

REVISION: DATE REVISION: DATE: **REVISION:**

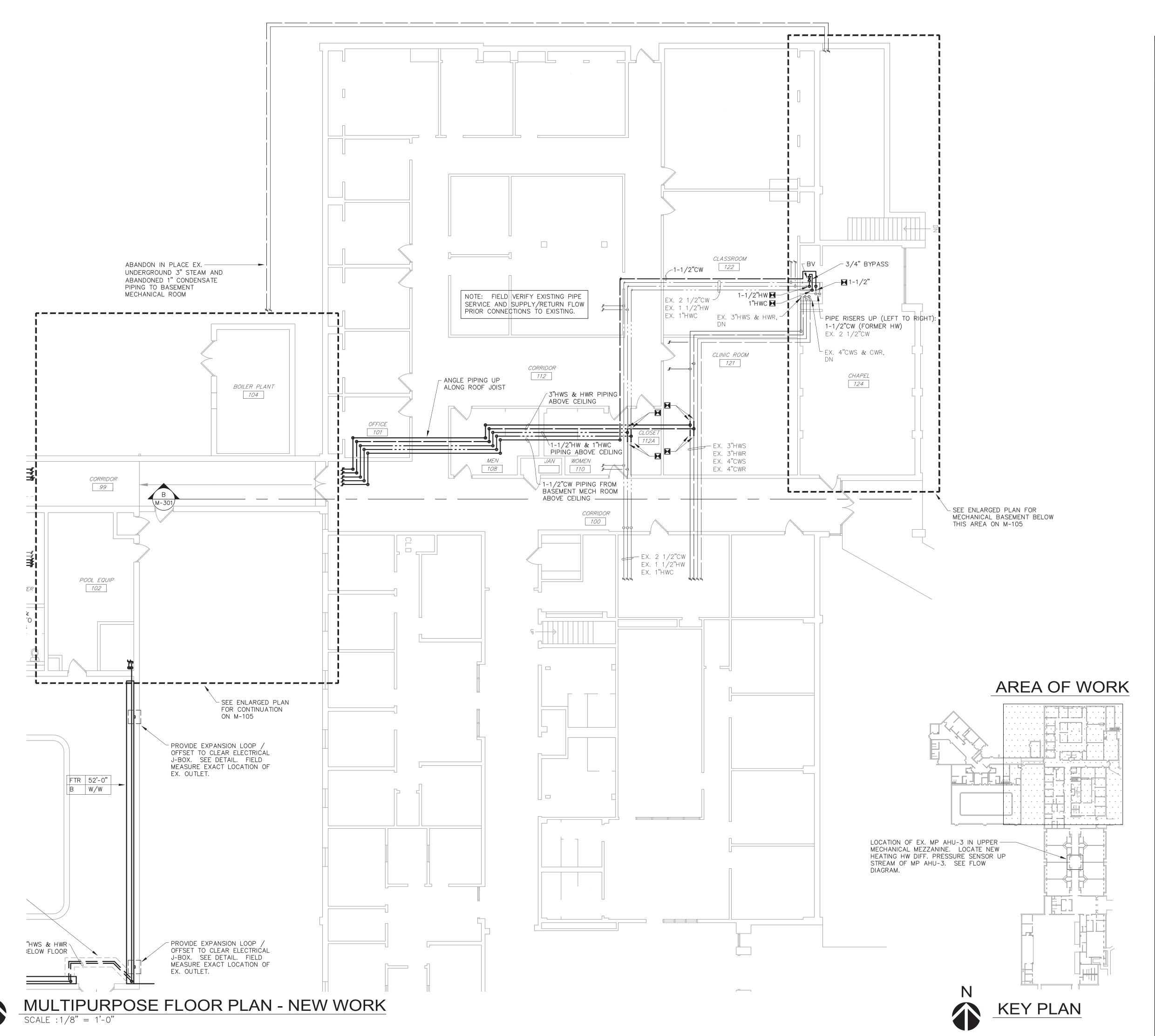
DATE: ISSUE DATE: 07/01/2024

CAD DWG FILE: 651735601X-M-103 DRAWN BY: CHECKED BY: DESIGNED BY: EJB

SHEET TITLE:

MULTIPURPOSE FLOOR PLANS -**NEW WORK**

SHEET NUMBER:



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REPLACE BOILER AND HVAC

BELLEFONTAINE HABILITATION CENTER ST. LOUIS, MO

PROJECT # M2307-01 SITE # 7356 FACILITY # 6517356013 6517356014, 6517356017 6517356018

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DATE:

ISSUE DATE: 07/01/2024

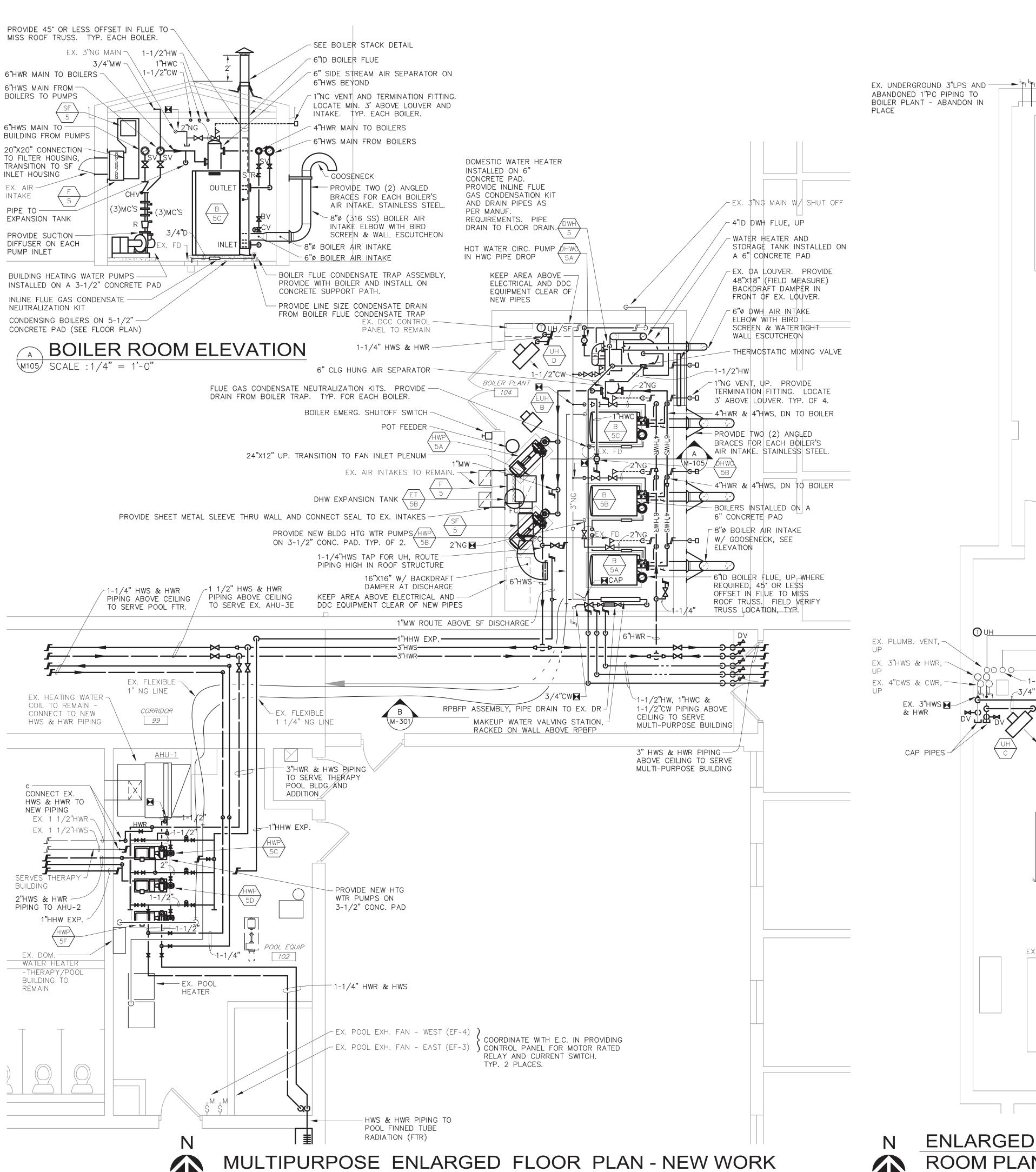
CAD DWG FILE: M2307-01-7356CAD DWG FILE: 651735601X-M-104
DRAWN BY: RJS
CHECKED BY: EJB
DESIGNED BY: EJB

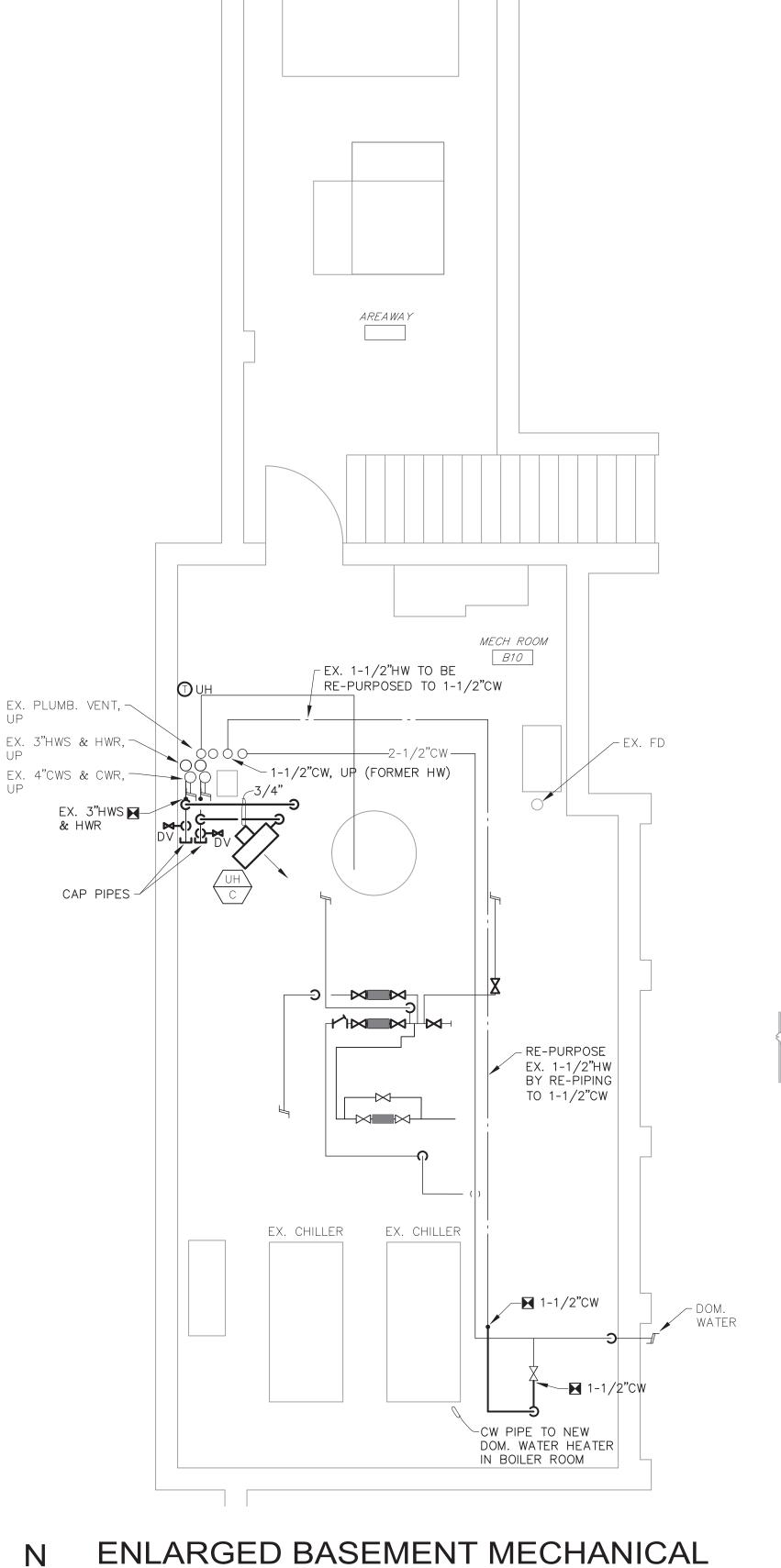
SHEET TITLE:

MULTIPURPOSE FLOOR PLANS -NEW WORK

SHEET NUMBER:

M-104





ROOM PLAN - NEW WORK

EXISTING

COOLING

TOWER

AREA OF WORK

KEY PLAN

STATE OF MISSOURI MICHAEL L. PARSON, GOVERNOR



MO#E30116



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DEPARTMENT OF MENTAL HEALTH

REPLACE BOILER AND HVAC

BELLEFONTAINE
HABILITATION
CENTER
ST. LOUIS, MO

PROJECT # M2307-01 SITE # 7356 FACILITY # 6517356013 6517356014, 6517356017 6517356018

REVISION:
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DATE:
DATE:

CAD DWG FH F: M2307-01-7356-

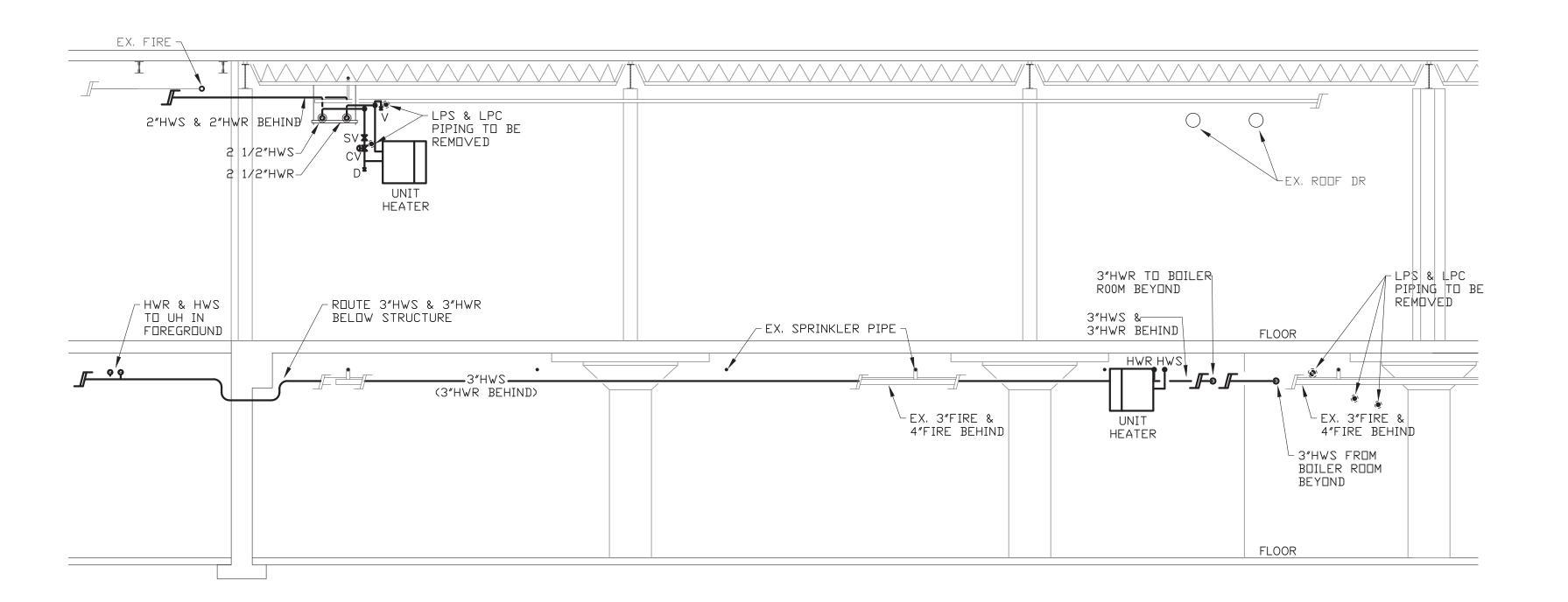
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DRAWN BY: RJS
CHECKED BY: EJB
DESIGNED BY: EJB

SHEET TITLE:

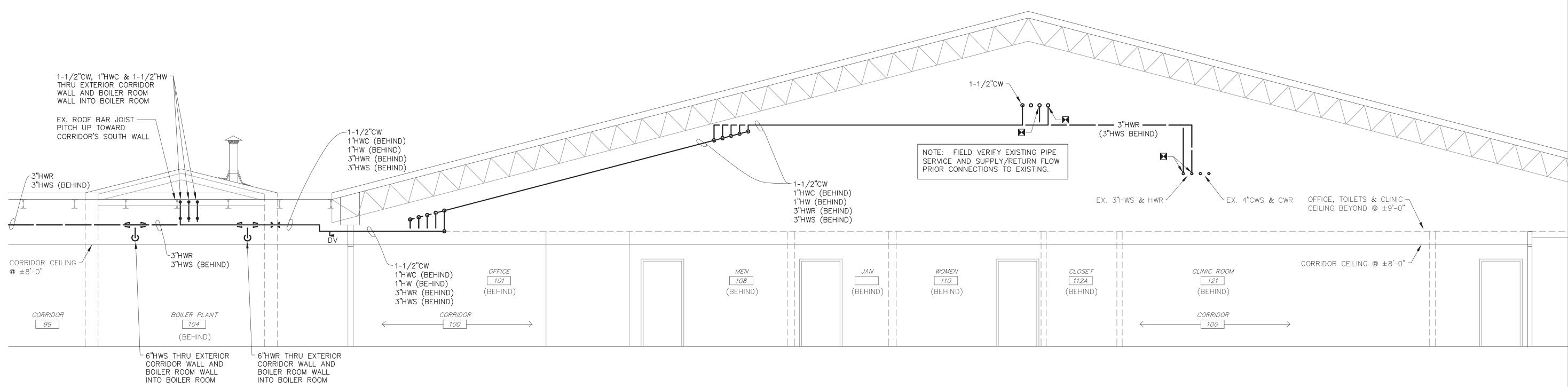
ENLARGED FLOOR PLANS -NEW WORK

SHEET NUMBER:

M-105



PARTIAL WAREHOUSE BUILDING SECTION SCALE: 1/4" = 1'-0"



BOILER ROOM WALL

INTO BOILER ROOM

PARTIAL MULTIPURPOSE BUILDING SECTION M301 SCALE : 1/4" = 1'-0"

STATE OF MISSOURI MICHAEL L. PARSON, **GOVERNOR**



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DEPARTMENT OF MENTAL HEALTH

REPLACE BOILER AND HVAC

BELLEFONTAINE HABILITATION CENTER ST. LOUIS, MO

6517356018

PROJECT # M2307-01 7356 FACILITY # 6517356013 6517356014, 6517356017

REVISION: DATE: REVISION: DATE: REVISION: DATE:

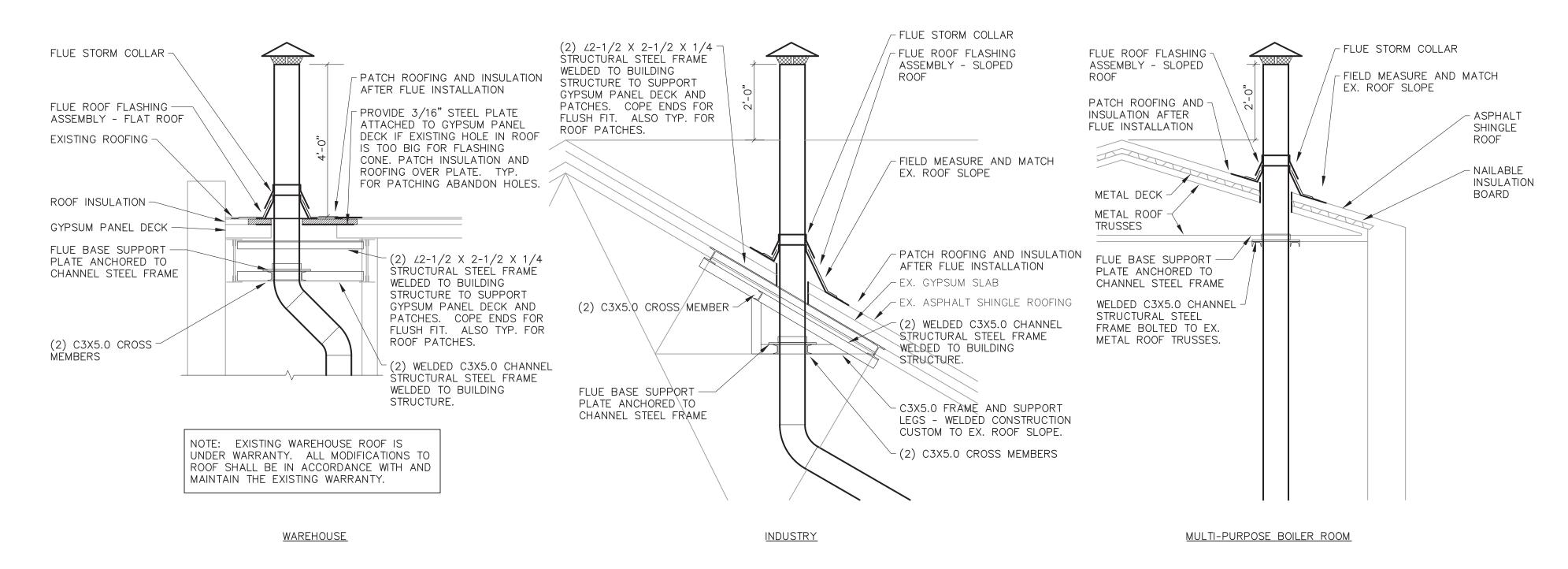
ISSUE DATE: 07/01/2024

CAD DWG FILE: M2307-01-7356-651735601X-M-501 DRAWN BY: CHECKED BY: DESIGNED BY: EJB

SHEET TITLE:

PARTIAL BUILDING SECTIONS

SHEET NUMBER:



BOILER STACK DETAIL

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

- EX. CMU WALL

____1"HWS (FROM SOURCE)

____1"HWS (RETURNING WATER)

FINNED TUBE RADIATION DETAIL

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

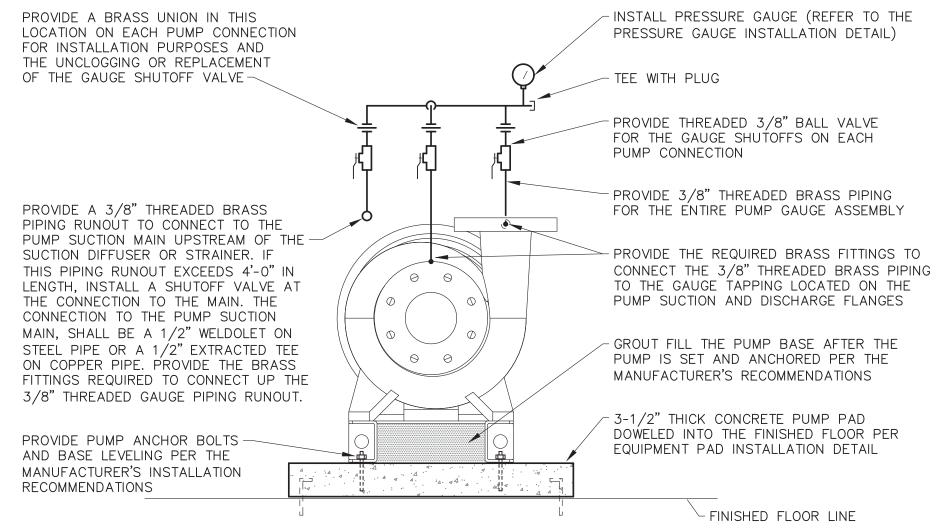
- ANCHOR FINNED TUBE ELEMENT

SUPPORTS AND ENCLOSURE TO

CONCEALED DAMPER W/ TEMPER

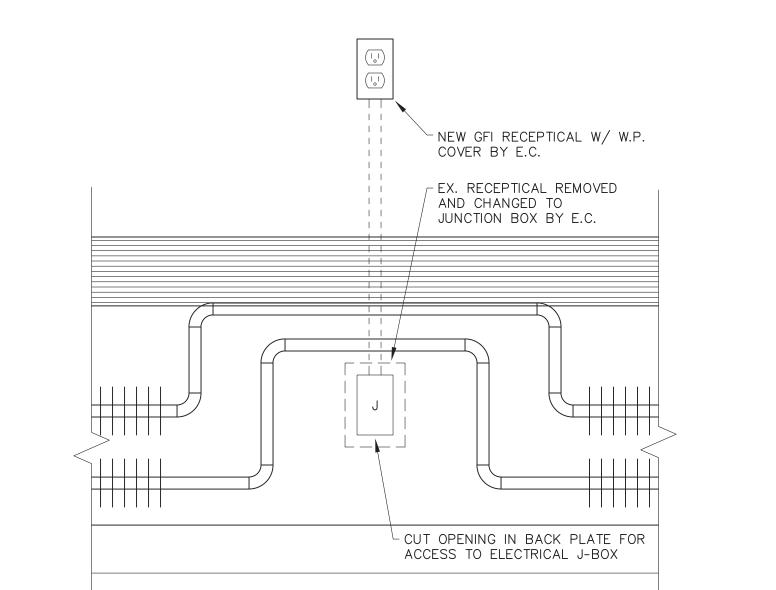
SEE SCHEDULE IN SPECIFICATIONS.

RESISTANT ADJUST WHERE SPECIFIED.



PUMP SETTING INSTALLATION DETAIL NO SCALE

NOTE: INSTALLATION IS SIMILAR FOR DOUBLE SUCTION PUMPS



FINNED TUBE RADIATION OFFSET EXPANSION LOOP AND OFFSET AROUND ELECTRICAL OUTLET SCALE: 1-1/2" = 1'-0"

PROVIDE ANCHOR BOLTS -6" MINIMUM DISTANCE FOR EQUIPMENT PER MANUFACTURER'S __ EQUIPMENT TO THE EDGE OF THE CONCRETE PAD -INSTALLATION REQUIREMENTS BOILERS & WATER HEATERS -MIN 6" CONCRETE PAD PROVIDE A CHAMFERED -THICKNESS EDGE TO ALL SIDES OF PUMPS - MIN. 3-1/2" THE CONCRETE PAD CONCRETE PAD THICKNESS EXISTING CONCRETE FLOOR SLAB (FIELD VERIFY THICKNESS) PROVIDE NEW PERIMETER DOWELS AT CONCRETE PAD SIZE SHALL BE VERIFIED -BY THE MECHANICAL CONTRACTOR 12" ON CENTERS (SEE NOTES BELOW)

CONCRETE EQUIPMENT PAD DETAIL

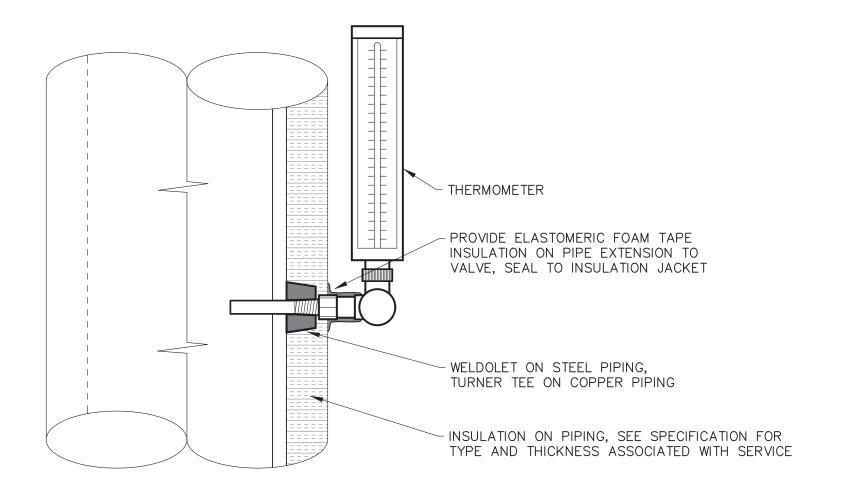
CONCRETE PAD ON AN EXISTING FLOOR SLAB

NOTES: CLEAN ALL EXISTING SURFACES OF DIRT AND DEBRIS PRIOR TO PLACING NEW PAD.

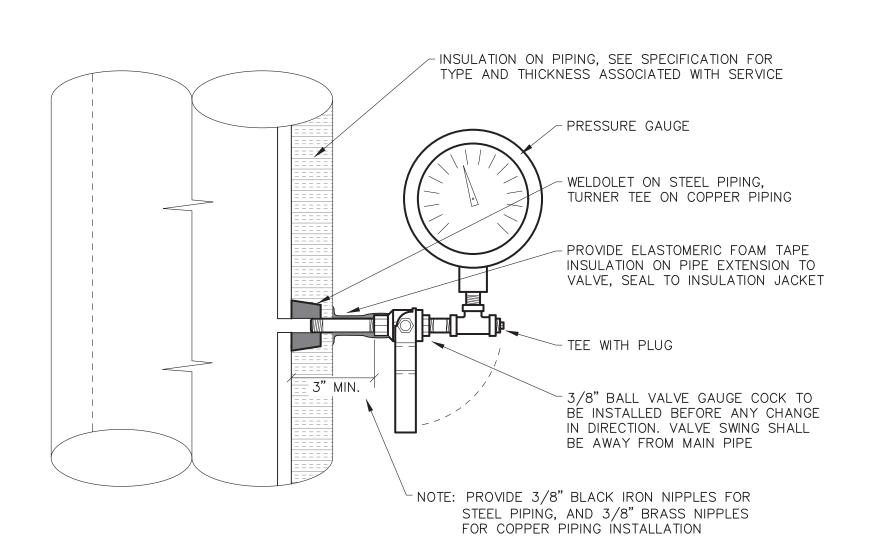
REINFORCING NEW CONCRETE PAD WITH # 4 REBAR AT 6" ON CENTER EACH WAY. PROVIDE PERIMETER CONCRETE PAD ANCHORS TO THE EXISTING SLAB WITH #3 HOOKED REBAR DOWELS AT 12" ON CENTER, EMBEDDED 3" INTO THE EXISTING SLAB AND ANCHOR WITH ADHESIVE.

CONCRETE STRENGTH f'c = 4.000 psi @ 28 days REINFORCING STRENGTH fy = 60,000 KSI GRADE 60 ADHESIVE = HILTI HIT-HY 200 SAFE SET SYSTEM (ICC-ES ESR 3187)

NO SCALE



THERMOMETER INSTALLATION DETAIL NO SCALE



PRESSURE GAUGE INSTALLATION DETAIL NO SCALE

STATE OF MISSOURI MICHAEL L. PARSON, **GOVERNOR**



ERICH BLAUFUSS - ENGINEER MO#E30116



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REPLACE BOILER AND HVAC

BELLEFONTAINE HABILITATION CENTER ST. LOUIS, MO

PROJECT # M2307-01 7356 FACILITY # 6517356013 6517356014, 6517356017

REVISION DATE: **REVISION** DATE: REVISION: DATE:

6517356018

ISSUE DATE: 07/01/2024

CAD DWG FILE: 651735601X-M-501 DRAWN BY: CHECKED BY: DESIGNED BY: EJB

SHEET TITLE:

DETAILS

SHEET NUMBER:

	BOILER SCHEDULE														
BOILER			MANUFACTURER		MAXIMUM	MINIMUM GROSS	ENTERING	LEAVING	WATER FLOW	VENT			RNER DATA		
DESIGNATION	BUILDING	SERVICE	MODEL NUMBER	TYPE	INPUT (MBH)	OUTPUT (MBH)	WATER (°F)	WATER (*F)		TYPE	TYPE	FUEL	FULL LOAD AMPS	ELECTRIC	REMARKS
B-2A	INDUSTRIES	BUILDING HEATING	AERCO BMK 1500	NOTE 1	1500	1305	150	170	250 MAX	NOTE 2	MODULATING	NG	16	120/1	
B-2B	INDUSTRIES	BUILDING HEATING	AERCO BMK 1500	NOTE 1	1500	1305	150	170	250 MAX	NOTE 2	MODULATING	NG	16	120/1	
B-3A	WAREHOUSE	BUILDING HEATING	AERCO BMK 1000	NOTE 1	1000	870	150	170	175 MAX	NOTE 2	MODULATING	NG	13	120/1	
B-3B	WAREHOUSE	BUILDING HEATING	AERCO BMK 1000	NOTE 1	1000	870	150	170	175 MAX	NOTE 2	MODULATING	NG	13	120/1	
B-5A	MULTIPURPOSE/THERAPY	BUILDING HEATING	AERCO BMK 1500	NOTE 1	1500	1305	150	170	250 MAX	NOTE 2	MODULATING	NG	16	120/1	
B-5B	MULTIPURPOSE/THERAPY	BUILDING HEATING	AERCO BMK 1500	NOTE 1	1500	1305	150	170	250 MAX	NOTE 2	MODULATING	NG	16	120/1	
B-5C	MULTIPURPOSE/THERAPY	BUILDING HEATING	AERCO BMK 1500	NOTE 1	1500	1305	150	170	250 MAX	NOTE 2	MODULATING	NG	16	120/1	

NOTES:

SEALED COMBUSTION, CONDENSING WATER BOILER - NATURAL GAS.

2. UL 1738, DOUBLE WALL, AL-29-4K SS INNER, POSITIVE PRESSURE, CONDENSING VENT SYSTEM.

	PUMP SCHEDULE														
55															
PUMP ESIGNATION	BUILDING	SERVICE		LOCATION	TYPE	BHP	WATER FLOW (GPM)	HEAD (FEET)	IMPELLER DIA. (IN)	NPSHA (FEET)	HP	RPM	VOLTS/PH	VFD	REMARKS
HWP-2A	INDUSTRIES	HEATING WATER SYSTEM	B&G E-1510-2BD	BOILER ROOM	BASE MOUNTED	3.3	174	52.4	8.000	-	5	1750	208/3	YES	-
HWP-2B	INDUSTRIES	HEATING WATER SYSTEM	B&G E-1510-2BD	BOILER ROOM	BASE MOUNTED	3.3	174	52.4	8.000	-	5	1750	208/3	YES	-
HWP-2C	INDUSTRIES	OFFICES NORTH EAST PERIMETER HEAT	B&G E-1510-1.25AD	BOILER ROOM	BASE MOUNTED	.1	8.0	16.4	6.000	-	1/2	1200	208/3	NO	-
HWP-2D	INDUSTRIES	OFFICES NORTH WEST PERIMETER HEAT	B&G E-1510-1.25AD	BOILER ROOM	BASE MOUNTED	.1	8.0	16.4	6.000	-	1/2	1200	208/3	NO	-
HWP-3A	WAREHOUSE	HEATING WATER SYSTEM	B&G E-1510-2BD	BOILER ROOM	BASE MOUNTED	2.1	116	50.1	7.375	-	3	1750	208/3	YES	-
HWP-3B	WAREHOUSE	HEATING WATER SYSTEM	B&G E-1510-2BD	BOILER ROOM	BASE MOUNTED	2.1	116	50.1	7.375	-	3	1750	208/3	YES	-
HWP-5A	MULTIPURPOSE/THERAPY	HEATING WATER SYSTEM	B&G E-1510-3BD	BOILER ROOM	BASE MOUNTED	7.7	348	66.9	8.500	-	10	1750	208/3	YES	-
HWP-5B	MULTIPURPOSE/THERAPY	HEATING WATER SYSTEM	B&G E-1510-3BD	BOILER ROOM	BASE MOUNTED	7.7	348	66.9	8.500	-	10	1750	208/3	YES	-
HWP-5C	MULTIPURPOSE/THERAPY	AHU-1 COIL	B&G E-1510-1.25AD	POOL MECH	BASE MOUNTED	.16	16.2	18.2	6.25	-	1/2	1200	208/3	NO	-
HWP-5D	MULTIPURPOSE/THERAPY	AHU-2 COIL	B&G E-1510-1.25AD	POOL MECH	BASE MOUNTED	.69	56.4	27.6	5.75	-	3/4	1750	208/3	NO	-
HWP-5E	MULTIPURPOSE/THERAPY	AHU-3 COIL	B&G E-1510-1.25AD	MECH ROOM	BASE MOUNTED	.1	12.6	12.6	5.25	-	1/2	1200	208/3	NO	-
HWP-5F	MULTIPURPOSE/THERAPY	POOL PERIMETER HEAT	B&G E-1510-1.25AD	POOL MECH	BASE MOUNTED	.42	17.0	41.6	6.125	-	1	1750	208/3	NO	-
DHWC-5A	MULTIPURPOSE	DOMESTIC HOT WATER TANK CIRC.	GRUNDFOS UP43-110	BOILER ROOM	INLINE	.5KW	30.0	30.0	-		-	-	120/1	NO	NOTE 1
DHWC-5B	MULTIPURPOSE	DOMESTIC HOT WATER CIRC.	GRUNDFOS UP43-70	BOILER ROOM	INLINE	.25KW	8.0	20.0	-	-	-	-	120/1	NO	NOTE 1

NOTE 1: LEAD FREE BRONZE BODY FOR DOMESTIC WATER.

				F	AN	SC	HEDU	JLE							
FANI		MANUEACTURE	AIRFLOW	FAN	\\\ \ \ \ \ \ \ \ \ \ \ \ \	WHEEL	FAN STATIC					МОТ	OR DATA		
FAN DESIGNATION	SERVICE	MANUFACTURER MODEL NUMBER	(CFM)	FAN TYPE	WHEEL TYPE	DIAMETER (INCHES)	PRESSURE (INCHES)	RPM	BHP	CLASS	HP	RPM	VOLTS/PH	VFD	REMARKS
SF-5	BOILER ROOM COOLING	COOK 100SQN-D	780	INLINE	-	10.0	.75	2000	.257	I	.33	2800	120/1	NO	W/ EC MOTOR AND EXTERNAL SPEED CONTROL W/ 1-10VDC INPUT FROM DDC

	DOMESTIC WATER HEATER SCHEDULE														
ם ביי	BOILER BUILDING SERVICE MANUFACTURER TYPE INDICT THEORY WATER SHOW (DISE VENT SHOW (DISE														
DESIGNATION	BUILDING	SERVICE	MODEL NUMBER	TYPE	INPUT (MBH)	THERMAL EFFICIENCY	WATER (°F)	FLOW/RISE (H@F RISE)	TYPE	TYPE	FUEL	FULL LOAD AMPS	ELECTRIC	REMARKS	
DWH-5	MULTIPURPOSE	DOM. WTR HEATER	LOCHIVAR AWN286	NOTE 1	285	96%	140	332 GPH@ 100°F RISE	NOTE 2	MODULATING	NG	<5.0	120/1		

NOTE 1: SEALED COMBUSTION, CONDENSING WATER HEATER - NATURAL GAS.

NOTE 2: UL 1738, DOUBLE WALL, AL-29-4K SS INNER, POSITIVE PRESSURE, CONDENSING VENT SYSTEM.

				FILTER	HOUS	SINC	SCI	HED	ULE				
EII TED	MANUEACTURER	A F. F. I. A T. F. D.	AIRFLOW	FILTER HOUSING			PRE-FII	LTERS	FINAL-F	ILTERS	INITIAL AIR PRESSURE	MAXIMUM AIR PRESSURE	
FILTER DESIGNATION	MANUFACTURER MODEL NUMBER	AFFILIATED UNIT	(CFM)	ARRANGEMENT (WIDTH x HEIGHT)	FACE VELOCITY (FPM)	FILTER QUANTITY	SIZE WxHxD (INCHES)	EFFICIENCY	SIZE WxHxD (INCHES)	EFFICIENCY	DROP (INCHES)	DROP (INCHES)	REMARKS
F-5	CAMFIL-FARR 4P GLIDE/PACK	SF-5	780	1 × 1	200	1	24 × 24 × 4	MERV 8	-	-	.05	.3	-

				FAN	С	OIL	U	NIT	SCH	IED	UL	E					
	MANUFACTURER NATION MODEL NUMBER TYPE AIRFLOW (CFM) EXTERNAL FAN STATIC PRESS. (INCHES) TOTAL SENSIBLE FLOW ENTERING MAXIMUM MINIMUM FLOW ENTERING MAXIMUM MINIMUM FLOW ENTERING MAXIMUM SPEED HP VOLTS/PH REMARKS																
UNIT DESIGNATION	MANUFACTURER MODEL NUMBER TYPE AIRFLOW (CFM) STATIC PRESS. (INCHES) TOTAL SENSIBLE MBH (GPM) WATER (*F) WPD (FT) MBH WPD (FT) MBH WPD (FT) WAXIMUM WATER (*F) WAXIMUM WATER (*F) WPD (FT) WAXIMUM WATER (*F) WPD (FT) WAXIMUM WATER (*F) WPD (FT) WAXIMUM WATER (*F) WAXIMUM WATER (*F) WAXIMUM WATER (*F) WAXIMUM WATER (*F) WPD (FT) WAXIMUM WATER (*F) WPD (FT) WAXIMUM WATER (*F) WAXIMUM WATER (*F										REMARKS						
FCU-A	TRANE BCHE 36	HDT- DIRECT DRIVE	1200	1.0	-	-	-	-	-	51.84	3.5	160	-	-	1/2	208/1	-
FCU-2	TRANE BCHE 36	HDT- DIRECT DRIVE	400	0.5	-	-	-	-	-	18.06	1.8	160	-	-	1/2	208/1	-
FCU-3	TRANE BCHE 36	HDT- DIRECT DRIVE	400	0.5	_	-	_	-	-	18.06	1.8	160	_	-	1/2	208/1	-

UNIT HEATER SCHEDULE													
						E. ITES. 1.0		ENTERING	МС	TOR DATA			
UNIT DESIGNATION	MANUFACTURER MODEL NUMBER	TYPE	AIRFLOW (CFM)	MINIMUM MBH	WATER FLOW (GPM)	ENTERING WATER (°F)	MAXIMUM WPD (FT)	AIR TEMP. (*F)	SPEED	HP	VOLTS/PH	REMARKS	
UH-A	MODINE HC-86	HORIZONTAL	1,340	38.3	6.3	160	1.0	70	1625	1/8	120/1	_	
UH-B	MODINE HC-121	HORIZONTAL	1,775	59.1	9.7	160	3.3	70	1075	1/5	120/1	_	
UH-C	MODINE HC-47	HORIZONTAL	730	19.7	3.2	160	.4	70	1550	1/12	120/1	_	
UH-D	MODINE HC-108	HORIZONTAL	2,010	53.2	8.7	160	2.8	70	1625	1/8	120/1	-	
UH-E	MODINE HC-165	HORIZONTAL	3,240	83.3	13.6	160	8.6	70	1075	1/3	120/1	_	
UH-F	MODINE HC-18	HORIZONTAL	340	8.0	1.3	160	.5	70	1550	1/60	120/1		
CUH-A	AIRTHERM C-1180 SIZE 06	CABINET UNIT HEATER- NON-RECESS CEILING MOUNTED	495 (LOW SPEED)	39.4	6.0	160	3.3	70	1050/875	1.4 AMPS	120/1	SELECT AT LOW SPEED	
CUH-B	AIRTHERM RC-1200 SIZE 04	CABINET UNIT HEATER- RECESS CEILING MOUNTED	335 (LOW SPEED)	24.0	2.5	160	.6	70	1050/875	1/10	120/1	SELECT AT LOW SPEED	

			ELECT	RIC	UNI [°]	T HE	EATER SCHEDULE						
				HEATING	ELEC	TRIC							
UNIT DESIGNATION	MANUFACTURER MODEL NUMBER	TYPE	AIRFLOW (CFM) CAPACITY (KW) FAN HP			VOLTS/PH	REMARKS						
EUH-A	MODINE HER-50	HORIZONTAL	380	5	1/40	208/3PH	PROVIDE WITH 24V CONTROL TRANSFORMER, CONTRACTOR FOR LOW VOLTAGE CONTROL AND LOW VOLTAGE THERMOSTAT.						
EUH-B	MODINE HER-75	HORIZONTAL	530	7.5	1/40	208/3PH	PROVIDE WITH 24V CONTROL TRANSFORMER, CONTRACTOR FOR LOW VOLTAGE THERMOSTAT.						

						C	OIL SO	CHEDU	JLE						
UNIT DESIGNATION															
HC-3E	HC-3E AHU-3E HEATING COIL 1 2800 7.13 2 8 25.1 86.5 160 12.6 .11 9 27.0 38 NOTE 1														
NOTE 1: REF	NOTE 1: REPLACEMENT COIL FOR EXISTING AHU. FIELD VERIFY EXISTING COIL DIMENSIONS AND PROVIDE COIL TO MATCH SIZE.														

STATE OF MISSOURI MICHAEL L. PARSON, GOVERNOR





Engineering

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MO CERTIFICATE OF AUTHORITY NO. 2014025011

OFFICE OF ADMINISTRATION DIVISION OF FACILITIES MANAGEMENT, DESIGN AND CONSTRUCTION

DEPARTMENT OF MENTAL HEALTH

REPLACE BOILER AND HVAC

BELLEFONTAINE HABILITATION CENTER ST. LOUIS, MO

PROJECT # M2307-01 SITE # 7356 FACILITY # 6517356013 6517356014, 6517356017 6517356018

REVISION:
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DATE:
ISSUE DATE: 07/01/2024

CAD DWG FILE: M2307-01-7356-CAD DWG FILE: 651735601X-M-601 DRAWN BY: RJS

CHECKED BY: EJB
DESIGNED BY: EJB

SHEET TITLE:

SCHEDULES

SHEET NUMBER:

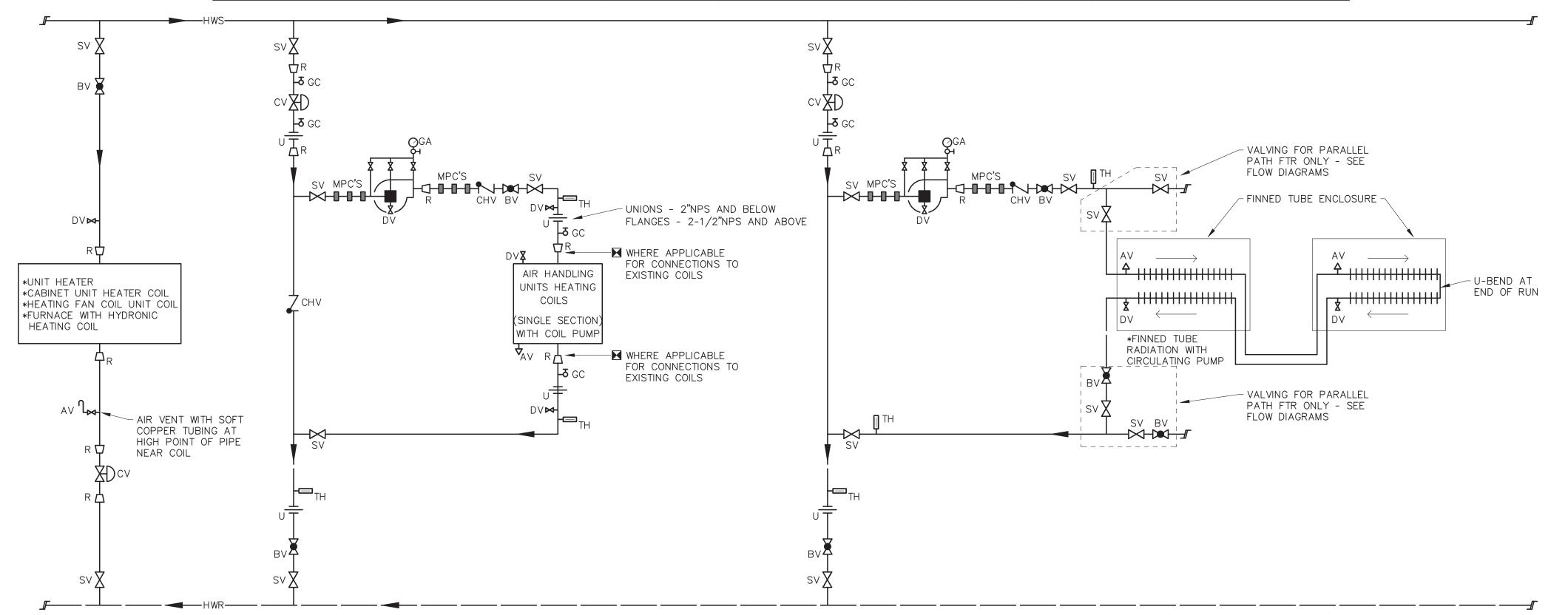
M-60

			CON	TR	OL	VALV	/E	SC	HEDU	LE			
\/A1\/F	MANUEACTURER	\/A \/_	\	ΔΡ		WATER	SIZ	E		ACTUATO	R		
VALVE DESIGNATION	MANUFACTURER MODEL NUMBER	VALVE TYPE	VALVE CONFIGURATION		FLOW (GPM)	MIN CLOSEOFF ^ P (PSI)	VALVE	C _v	CONTROL TYPE	SPRING RETURN	FAIL POSITION	VOLTAGE	REMARKS
CV-B2A HW	BELIMO 6100HDU GKX24-MFT	BUTTERFLY	2-WAY	0.1	250	200	4	600	MODULATING	NO	-	NOTE 1	NOTE 2-BOILER HEATING WATER ISOLATION
CV-B2B HW	BELIMO 6100HDU GKX24-MFT	BUTTERFLY	2-WAY	0.1	250	200	4	600	MODULATING	NO	-	NOTE 1	NOTE 2-BOILER HEATING WATER ISOLATION
CV-B3A HW	BELIMO 680HDU GKX24-MFT	BUTTERFLY	2-WAY	0.1	175	200	3	302	MODULATING	NO	-	NOTE 1	NOTE 2-BOILER HEATING WATER ISOLATION
CV-B3B HW	BELIMO 680HDU GKX24-MFT	BUTTERFLY	2-WAY	0.1	175	200	3	302	MODULATING	NO	-	NOTE 1	NOTE 2-BOILER HEATING WATER ISOLATION
CV-B5A HW	BELIMO 6100HDU GKX24-MFT	BUTTERFLY	2-WAY	0.1	250	200	4	600	MODULATING	NO	-	NOTE 1	NOTE 2-BOILER HEATING WATER ISOLATION
CV-B5B HW	BELIMO 6100HDU GKX24-MFT	BUTTERFLY	2-WAY	0.1	250	200	4	600	MODULATING	NO	-	NOTE 1	NOTE 2-BOILER HEATING WATER ISOLATION
CV-B5C HW	BELIMO 6100HDU GKX24-MFT	BUTTERFLY	2-WAY	0.1	250	200	4	600	MODULATING	NO	-	NOTE 1	NOTE 2-BOILER HEATING WATER ISOLATION
CV-UHA HW	BELIMO B217 LRX24-MFT	BALL	2-WAY	3	8.1	200	.75	4.7	MODULATING	-	NA	24V	UH, CUH, FTR COIL VALVE DESIGNATION
CV-UHB HW	BELIMO B218 LRX24-MFT	BALL	2-WAY	3	12.8	200	.75	7.4	MODULATING	-	NA	24V	UH, CUH, FTR COIL VALVE DESIGNATION
CV-UHC HW	BELIMO B212 LRX24-MFT	BALL	2-WAY	3	5.2	200	.5	3.0	MODULATING	-	NA	24V	UH, CUH, FTR COIL VALVE DESIGNATION
CV-UHD HW	BELIMO B218 LRX24-MFT	BALL	2-WAY	3	12.8	200	.75	7.4	MODULATING	-	NA	24V	UH, CUH, FTR COIL VALVE DESIGNATION
CV-UHE HW	BELIMO B219 LRX24-MFT	BALL	2-WAY	3	17.3	200	.75	10.0	MODULATING	-	NA	24V	UH, CUH, FTR COIL VALVE DESIGNATION
CV-UHF HW	BELIMO B210 LRX24-MFT	BALL	2-WAY	3	2.1	200	.5	1.2	MODULATING	-	NA	24V	UH, CUH, FTR COIL VALVE DESIGNATION
CV-CUHA HW	BELIMO B217 LRX24-MFT	BALL	2-WAY	3	8.1	200	.75	4.7	MODULATING	-	NA	24V	UH, CUH, FTR COIL VALVE DESIGNATION
CV-CUHB HW	BELIMO B211 LRX24-MFT	BALL	2-WAY	3	3.3	200	.5	1.9	MODULATING	-	NA	24V	UH, CUH, FTR COIL VALVE DESIGNATION
CV-FCU-2 HW	BELIMO B210 LRX24-MFT	BALL	2-WAY	1.5	1.8	200	.5	1.2	MODULATING	-	NA	24V	UH, CUH, FTR COIL VALVE DESIGNATION
CV-FCU-3 HW	BELIMO B210 LRX24-MFT	BALL	2-WAY	1.5	1.8	200	.5	1.2	MODULATING	-	NA	24V	UH, CUH, FTR COIL VALVE DESIGNATION
CV-FCUA HW	BELIMO B212 LRX24-MFT	BALL	2-WAY	3	5.2	200	.5	3.0	MODULATING	-	NA	24V	UH, CUH, FTR COIL VALVE DESIGNATION
CV-FTR2C HW	BELIMO B218 LRX24-MFT	BALL	2-WAY	3	12.8	200	.75	7.4	MODULATING	-	NA	24V	INDUSTRIES FTR
CV-FTR2D HW	BELIMO B218 LRX24-MFT	BALL	2-WAY	3	12.8	200	.75	7.4	MODULATING	-	NA	24V	INDUSTRIES FTR
CV-FTR5F HW	BELIMO B220 LRX24-MFT	BALL	2-WAY	3	24.2	200	.75	14.0	MODULATING	-	NA	24V	THERAPY POOL FTR
CV-AHU1 HW	BELIMO B217 LRB24-3	BALL	2-WAY	2.2	7.0	200	.75	4.7	2-POSITION	-	NA	24V	INDUSTRIES AHU-1 HEATING COIL
CV-AHU2 HW	BELIMO B217 LRB24-3	BALL	2-WAY	2.2	7.0	200	.75	4.7	2-POSITION	-	NA	24V	INDUSTRIES AHU-2 HEATING COIL
CV-AHU1 HW	BELIMO B224 LFX24-MFT US	BALL	2-WAY	3	16.2	200	1.0	19	MODULATING	YES	NO	24V	THERAPY AHU-1 HEATING COIL
CV-AHU2 HW	BELIMO B240 AFRX24-MFT	BALL	2-WAY	3	56.4	200	1.5	37	MODULATING	YES	NO	24V	THERAPY POOL AHU-2 HEATING COIL
CV-AHU3E HW	BELIMO B223 LF24-MFT US	BALL	2-WAY	3	12.6	200	1.0	10	MODULATING	YES	NO	24V	THERAPY AHU-3E HEATING COIL
CV-DWH5 DHW	BELIMO B240 AFRB24	BALL	2-WAY	0.65	30	200	1.5	37	2-POSITION	YES	NC	24V	MULTIPURPOSE DOMESTIC WATER CUT-OFF
	NATE ACTUATOR VOLTAGE WITH											· ·	

NOTE 1: COORDINATE ACTUATOR VOLTAGE WITH EQUIPMENT MANUFACTURER'S REQUIREMENTS.

NOTE 2: PROVIDE ACTUATORS WITH INTERNAL END SWITCH CONTACTS.

		EXF	PANSION	I TAN	IK SCH	EDULE			
TANK DESIGNATION	BUILDING	SERVICE	MANUFACTURER MODEL NUMBER	TYPE	MINIMUM ACCEPTANCE VOLUME (GALLONS)	MINIMUM TANK VOLUME (GALLONS)	CHARGE PRESSURE (PSIG)	MOUNTING	REMARKS
ET-2A	INDUSTRIES	HEATING WATER SYSTEM	B & G B-100	BLADDER	26.0	26.0	30	VERTICAL - FLR MOUNT	ASME RATED
ET-3A	WAREHOUSE	HEATING WATER SYSTEM	B & G B-85	BLADDER	23.0	23.0	25	VERTICAL - FLR MOUNT	ASME RATED
ET-5A	MULTIPURPOSE / THERAPY	HEATING WATER SYSTEM	B & G B-300	BLADDER	80.0	80.0	30	VERTICAL - FLR MOUNT	ASME RATED
ET-5B	MULTIPURPOSE / THERAPY	DOM. HOT WATER SYSTEM	B & G PTA-42V	DIAPHRAGM	4.9	17.0	60	VERTICAL - FLR MOUNT	ASME RATED NSF-61



TYPICAL HEATING WATER COIL AND FTR CONNECTIONS NO SCALE

MICHAEL L. PARSON, GOVERNOR

STATE OF MISSOURI



ERICH BLAUFUSS - ENGINEER MO#E30116



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PROJECT # M2307-01 SITE # 7356 FACILITY # 6517356013 6517356014, 6517356017 6517356018

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ISSUE DATE: 07/01/2024

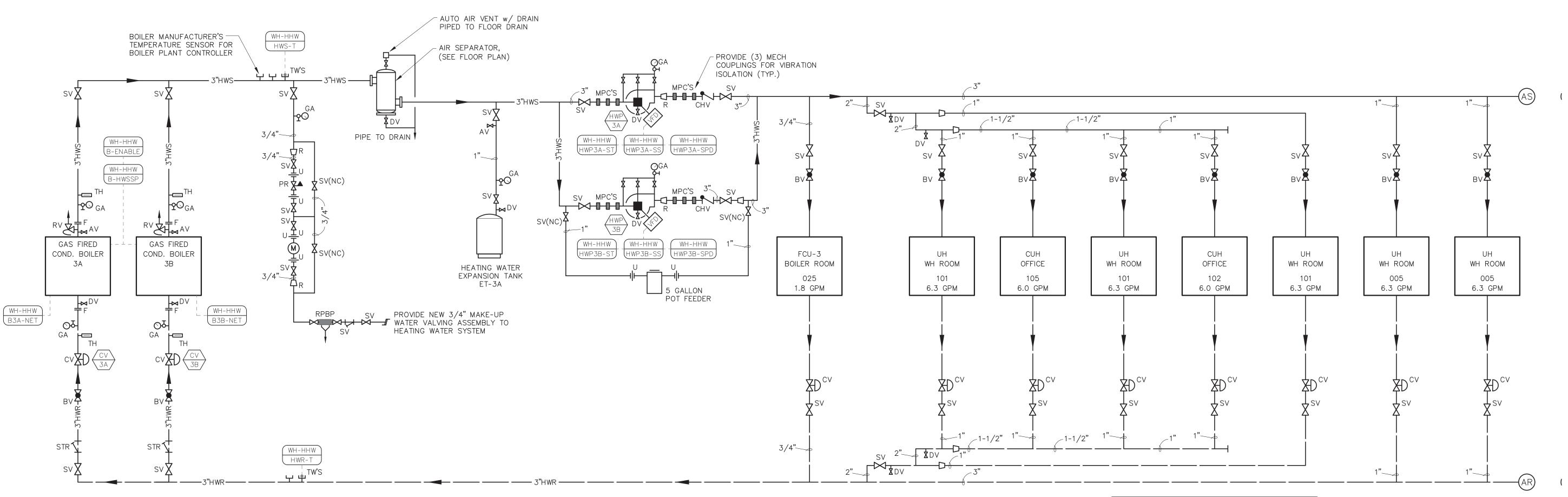
CAD DWG FILE: M2307-01-7356651735601X-M-602

DRAWN BY: RJS
CHECKED BY: EJB
DESIGNED BY: EJB

SHEET TITLE:
SCHEDULES AND
HEATING WATER
COIL AND FTR
DIAGRAMS

SHEET NUMBER:

M-602



HEATING WATER SYSTEM FLOW DIAGRAM
NO SCALE WAREHOUSE

NOTE: SEE "TYPICAL HEATING WATER COIL AND FTR CONNECTIONS" DETAIL FOR ADDITIONAL PIPING ATTACHMENTS, ACCESSORIES AND SPECIALTIES.

			TEMPER	ATUR	E CO	NTROL F	PC	NIC	TS	LIST - HEA	TI	NG \	NA 1	ER SYSTEM			
POINT	NAME		PO	INT DESCRIPTION						ALARM		TREND		FIELD DEVICE DES	CRIPTION		
POINT DESIGNATION	CONTROLLER NAME	INPUT OUTPUT TYPE	DESCRIPTION	TYPE	SET POINT	UNITS	MONITOR	ADJU:	ST ST ST	THRESHOLD	TREND	FREQUENCY	ARCHIVE	INSTRUMENT TYPE	SIGNAL	RANGE	REMARKS
HWP3A-ST	WH-HHW	DI	HEATING WATER PUMP STATUS	STATUS	-	RUNNING/NOT RUNNING	Х	OVERR	RIDE X	STATUS OFF WHEN CMD IS ON	Х	COS	1 WEEK	CURRENT SENSING RELAY AT MOTOR VFD	CONTACT	OPEN/CLOSED	1
HWP3A-SS	WH-HHW	DO	HEATING WATER PUMP START/STOP COMMAND	START/STOP	-	ON/OFF	Х	OVERR	RIDE -	-	X	COS	1 WEEK	RELAY AT MOTOR VFD	CONTACT	OPEN/CLOSED	
HWP3A-SPD	WH-HHW	AO	HEATING WATER PUMP SPEED COMMAND	COMMAND	_	% SPEED	X	OVERR	RIDE -	-	Х	15 MIN.	1 WEEK	DIRECT CONNECTION TO VFD	0-10VDC	0-100%	
HWP3B-ST	WH-HHW	DI	HEATING WATER PUMP STATUS	STATUS	-	RUNNING/NOT RUNNING	Х	OVERR	RIDE X	STATUS OFF WHEN CMD IS ON	X	COS	1 WEEK	CURRENT SENSING RELAY AT MOTOR VFD	CONTACT	OPEN/CLOSED	
HWP3B-SS	WH-HHW	DO	HEATING WATER PUMP START/STOP COMMAND	START/STOP	-	ON/OFF	X	OVERR	RIDE -	-	Х	COS	1 WEEK	RELAY AT MOTOR VFD	CONTACT	OPEN/CLOSED	
HWP3B-SPD	WH-HHW	AO	HEATING WATER PUMP SPEED COMMAND	COMMAND	-	% SPEED	Х	OVERR	RIDE -	-	X	15 MIN.	1 WEEK	DIRECT CONNECTION TO VFD	0-10VDC	0-100%	
HWS-T	WH-HHW	Al	HEATING WATER SUPPLY TEMPERATURE	TEMPERATURE	-	DEGREE F°	Х	OVERR	RIDE X	10°F < SETPOINT	X	15 MIN.	1 WEEK	RIGID TEMPERATURE SENSOR WITH THERMOWELL	OHMS	-30 TO 250 F°	
HWR-T	WH-HHW	Al	HEATING WATER RETURN TEMPERATURE	TEMPERATURE	-	DEGREE F°	Х	OVERR	RIDE -	5 PSI < SETPOINT	X	15 MIN.	1 WEEK	RIGID TEMPERATURE SENSOR WITH THERMOWELL	OHMS	-30 TO 250 F°	
HWW-P	WH-HHW	Al	DIFFERENTIAL PRESSURE	PRESSURE	-	PSI	X	OVERR	RIDE X	5 PSI < SETPOINT	Х	15 MIN.	1 WEEK	DIFFERENTIAL PRESSURE SENSOR	4-20MA	0-50 PSID	1
B3A-NET	WH-HHW	NET	BOILER NETWORK CONNECTION	NA	-	NA	NA	NA	-	-	X	15 MIN.	1 WEEK	BACNET CONNECTION TO BOILER	NA	NA	2
B3B-NET	WH-HHW	NET	BOILER NETWORK CONNECTION	NA	-	NA	NA	NA	-	-	X	15 MIN.	1 WEEK	BACNET CONNECTION TO BOILER	NA	NA	2
B-ENABLE	WH-HHW	DO	BOILER SYSTEM ENABLER COMMAND	COMMAND		ENABLE/DISABLE	X	OVERR	RIDE		X	COS	1 WEEK	RELAY/DIRECT CONNECTION TO MASTER CONTROLLER	CONTACT	ON/OFF	
B-HWSSP	WH-HHW	AO	BOILER SYSTEM HEATING SUPPLY TEMP. SETPOINT	-	_	DEGREES °F	X	OVERR	RIDE -	-	X	15 MIN.	1 WEEK	DIRECT CONNECTION TO MASTER CONTROLLER	4-20MA	-	1

POINTS LIST SYMBOLS AND ABBREVIATIONS

DI DIGITAL INPUT TO BAS
DO DIGITAL OUTPUT TO BAS
AI ANALOG INPUT TO BAS
AO ANALOG OUTPUT TO BAS

NET NETWORKED POINTS
BAS BUILDING AUTOMATION SYSTEM
HW HARD WIRED INTERLOCK/SAFETY

POINTS COS CHANGE OF STATE

JTOMATION SYSTEM CMD COMMAND

D INTERLOCK/SAFETY MIN MINUTES

<u>NOTES</u>

1. LOCATE PRESSURE SENSOR IN ACCESSIBLE LOCATION IN RECEIVING #113.

2. INTEGRATE ALL AVAILABLE CONTROL POINTS FROM THE BOILER TO THE BAS OVER BACNET INTERFACE. AS A MINIMUM THE FOLLOWING POINT INFORMATION SHALL BE DISPLAYED: ENTERING WATER TEMPERATURE, LEAVING WATER TEMPERATURE, TEMPERATURE SETPOINT FIRING RATE, FLUE GAS TEMPERATURE, FLUE GAS 02, ISOLATION CONTROL VALVE POSITION AND ALARM STATUS

STATE OF MISSOURI MICHAEL L. PARSON, GOVERNOR



ERICH BLAUFUSS - ENGINEER MO#E30116



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DEPARTMENT OF MENTAL HEALTH

REPLACE BOILER AND HVAC

BELLEFONTAINE HABILITATION CENTER ST. LOUIS, MO

PROJECT # M2307-01 SITE # 7356 FACILITY # 6517356013 6517356014, 6517356017 6517356018

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CAD DWG FILE: M2307-01-7356651735601X-M-603

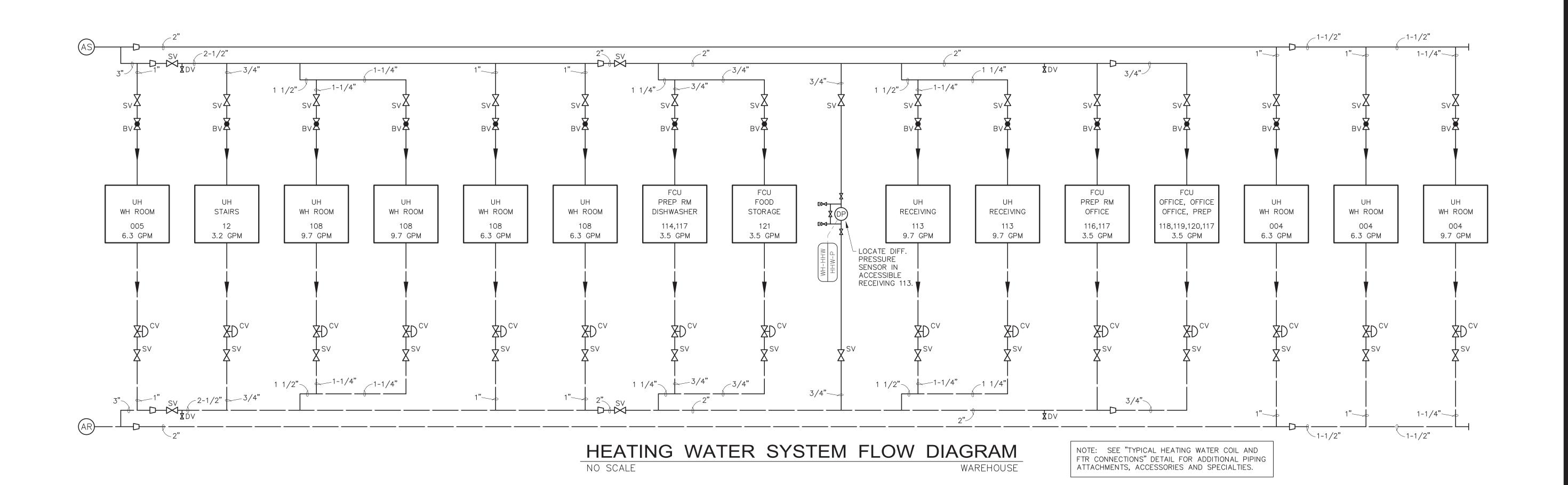
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DESIGNED BY: EJB

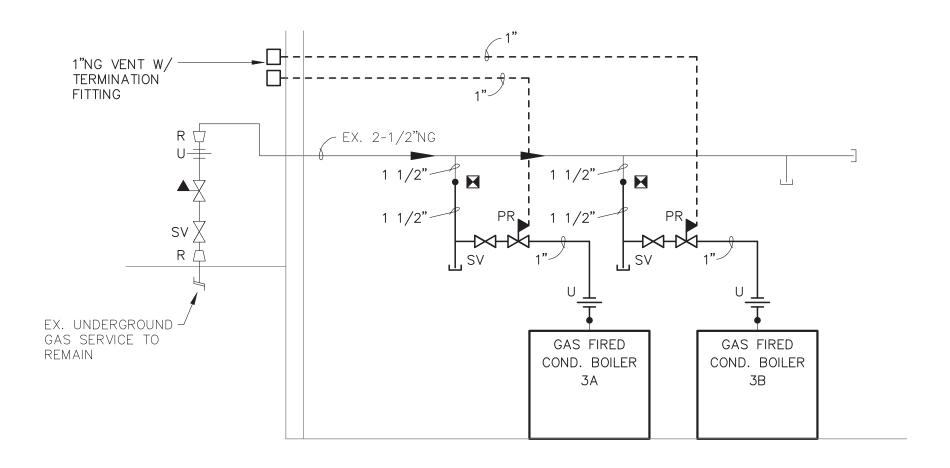
SHEET TITLE:

HEATING WATER FLOW DIAGRAM & TC POINTS

SHEET NUMBER:

M-603





NATURAL GAS SERVICE FLOW DIAGRAM
NO SCALE
WAREHOUSE

STATE OF MISSOURI MICHAEL L. PARSON, GOVERNOR



ERICH BLAUFUSS - ENGINEER MO#E30116



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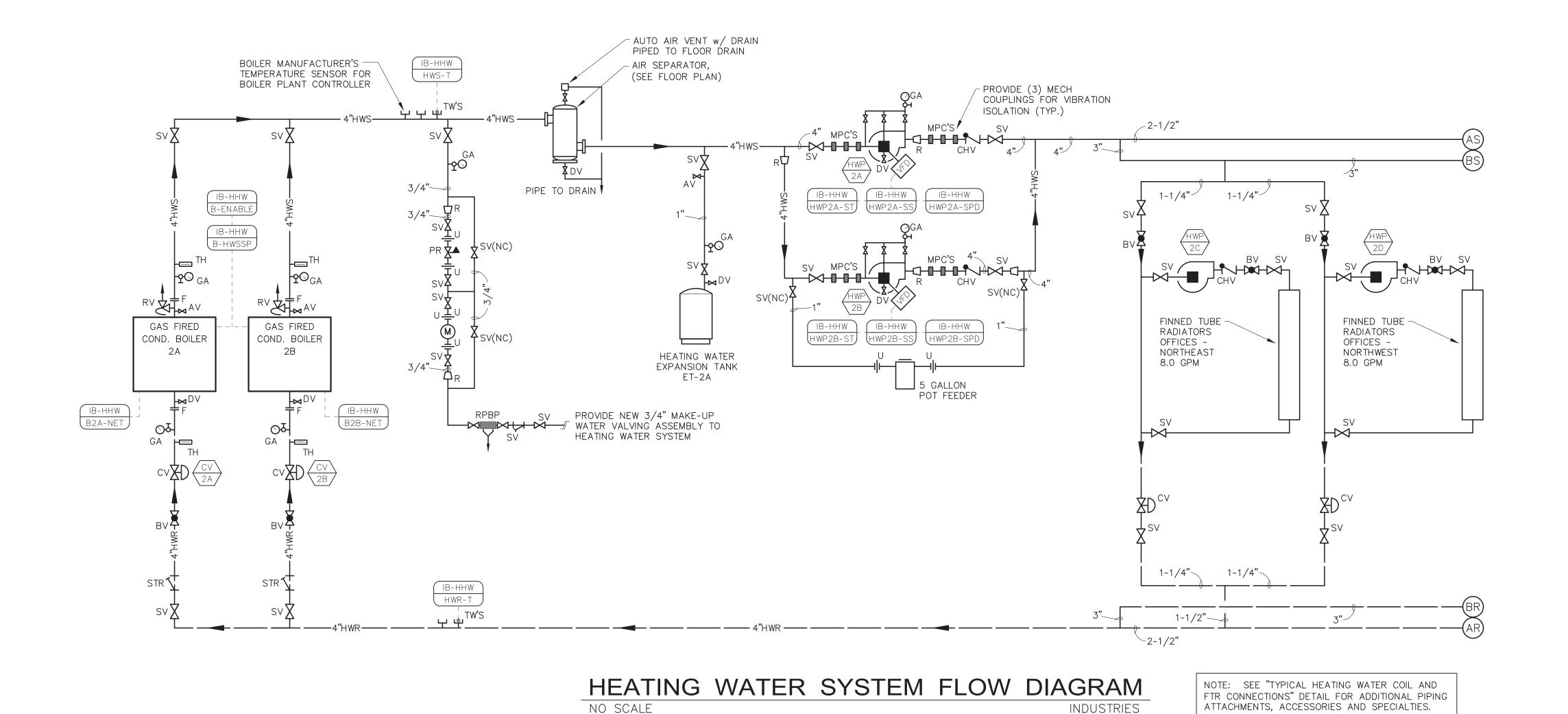
CAD DWG FILE: M2307-01-7356-651735601X-M-604 DRAWN BY: RJS CHECKED BY: EJB DESIGNED BY: EJB

SHEET TITLE:

HEATING WATER FLOW DIAGRAM & TC POINTS

SHEET NUMBER:

M-604



NO SCALE

CHANGE OF STATE

COMMAND

MIN MINUTES

COS

CMD

POINTS LIST SYMBOLS AND ABBREVIATIONS

DIGITAL INPUT TO BAS

AI ANALOG INPUT TO BAS

AO ANALOG OUTPUT TO BAS

DIGITAL OUTPUT TO BAS

NET NETWORKED POINTS

BAS BUILDING AUTOMATION SYSTEM

HW HARD WIRED INTERLOCK/SAFETY

			TEMPER	ATUR	E CO	NTROL P	1109	NTS	S L	IST - HEA	TII	NG '	VAT	ER SYSTEM			
POINT	NAME		PO	INT DESCRIPTION						ALARM		TRENI)	FIELD DEVICE DES	CRIPTION		
POINT DESIGNATION	CONTROLLER NAME	INPUT OUTPUT TYPE	DESCRIPTION	TYPE	SET POINT	UNITS	MONITOR	DJUST	NOTIFY	THRESHOLD	TREND	FREQUENCY	ARCHIVE	INSTRUMENT TYPE	SIGNAL	RANGE	REMARKS
HWP2A-ST	IB-HHW	DI	HEATING WATER PUMP STATUS	STATUS	-	RUNNING/NOT RUNNING	X OVE	ERRIDE :	X STATU	TUS OFF WHEN CMD IS ON	Х	COS	1 WEEK	CURRENT SENSING RELAY AT MOTOR VFD	CONTACT	OPEN/CLOSED	
HWP2A-SS	IB-HHW	DO	HEATING WATER PUMP START/STOP COMMAND	START/STOP	-	ON/OFF	X OVE	ERRIDE	-	-	Х	COS	1 WEEK	RELAY AT MOTOR VFD	CONTACT	OPEN/CLOSED	
HWP2A-SPD	IB-HHW	AO	HEATING WATER PUMP SPEED COMMAND	COMMAND	-	% SPEED	X OVE	ERRIDE	-	-	Х	15 MIN.	1 WEEK	DIRECT CONNECTION TO VFD	0-10VDC	0-100%	
HWP2B-ST	IB-HHW	DI	HEATING WATER PUMP STATUS	STATUS	-	RUNNING/NOT RUNNING	X OVE	ERRIDE :	X STATI	TUS OFF WHEN CMD IS ON	Х	COS	1 WEEK	CURRENT SENSING RELAY AT MOTOR VFD	CONTACT	OPEN/CLOSED	
HWP2B-SS	IB-HHW	DO	HEATING WATER PUMP START/STOP COMMAND	START/STOP	-	ON/OFF	X OVE	ERRIDE	-	-	Х	COS	1 WEEK	RELAY AT MOTOR VFD	CONTACT	OPEN/CLOSED	
HWP2B-SPD	IB-HHW	AO	HEATING WATER PUMP SPEED COMMAND	COMMAND	-	% SPEED	X OVE	ERRIDE	-	-	Х	15 MIN.	1 WEEK	DIRECT CONNECTION TO VFD	0-10VDC	0-100%	
HWS-T	IB-HHW	Al	HEATING WATER SUPPLY TEMPERATURE	TEMPERATURE	-	DEGREE F°	X OVE	ERRIDE :	X	10°F < SETPOINT	Х	15 MIN.	1 WEEK	RIGID TEMPERATURE SENSOR WITH THERMOWELL	OHMS	-30 TO 250 F°	
HWR-T	IB-HHW	Al	HEATING WATER RETURN TEMPERATURE	TEMPERATURE	-	DEGREE F°	X OVE	ERRIDE	-	5 PSI < SETPOINT	Х	15 MIN.	1 WEEK	RIGID TEMPERATURE SENSOR WITH THERMOWELL	OHMS	-30 TO 250 F°	
HWW-P	IB-HHW	Al	DIFFERENTIAL PRESSURE	PRESSURE	-	PSI	X OVE	ERRIDE :	X	5 PSI < SETPOINT	Х	15 MIN.	1 WEEK	DIFFERENTIAL PRESSURE SENSOR	4-20MA	0-50 PSID	1
B2A-NET	IB-HHW	NET	BOILER NETWORK CONNECTION	NA	-	NA	NA	NA	-	-	Х	15 MIN.	1 WEEK	BACNET CONNECTION TO BOILER	NA	NA	2
B2B-NET	IB-HHW	NET	BOILER NETWORK CONNECTION	NA	-	NA	NA	NA	-	-	Х	15 MIN.	1 WEEK	BACNET CONNECTION TO BOILER	NA	NA	2
B-ENABLE	IB-HHW	DO	BOILER SYSTEM ENABLER COMMAND	COMMAND	-	ENABLE/DISABLE	X OVE	ERRIDE	-	-	Х	COS	1 WEEK	RELAY/DIRECT CONNECTION TO MASTER CONTROLLER	CONTACT	ON/OFF	
B-HWSSP	IB-HHW	AO	BOILER SYSTEM HEATING SUPPLY TEMP. SETPOINT	-	-	DEGREES °F	X OVE	ERRIDE	-	-	Х	15 MIN.	1 WEEK	DIRECT CONNECTION TO MASTER CONTROLLER	4-20MA	-	

<u>NOTES</u>

1. LOCATE PRESSURE SENSOR IN MECHANICAL SPACE IN UPPER PLATFORM AREA.

2. INTEGRATE ALL AVAILABLE CONTROL POINTS FROM THE BOILER TO THE BAS OVER BACNET INTERFACE. AS A MINIMUM THE FOLLOWING POINT INFORMATION SHALL BE DISPLAYED: ENTERING

WATER TEMPERATURE, LEAVING WATER TEMPERATURE, TEMPERATURE SETPOINT FIRING RATE, FLUE GAS TEMPERATURE, FLUE GAS 02, ISOLATION CONTROL VALVE POSITION AND ALARM STATUS

INDUSTRIES

STATE OF MISSOURI MICHAEL L. PARSON, **GOVERNOR**



ERICH BLAUFUSS - ENGINEER MO#E30116



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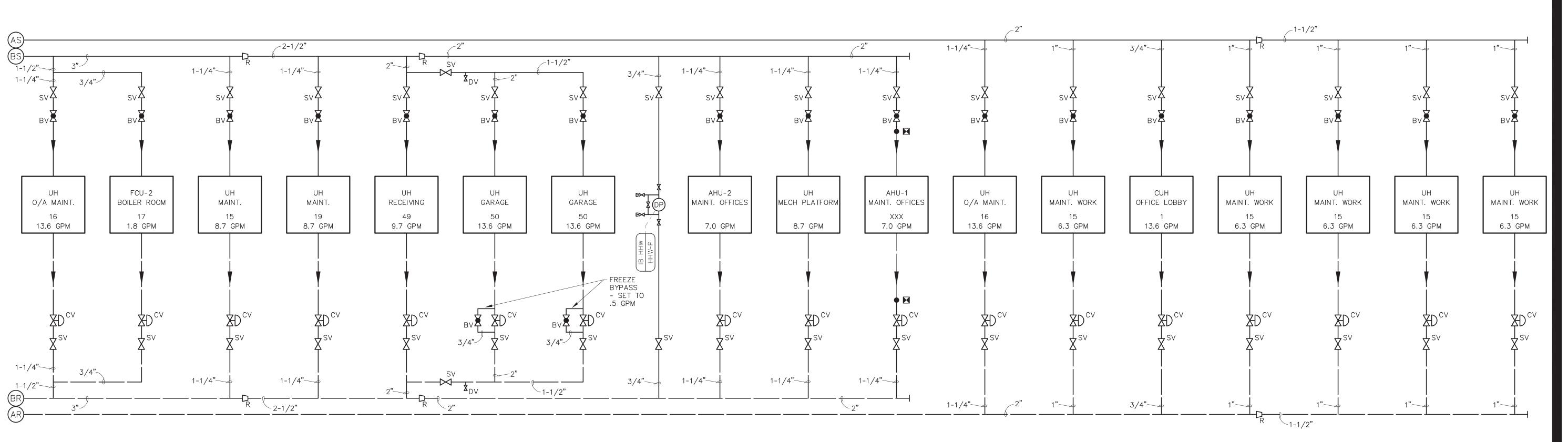
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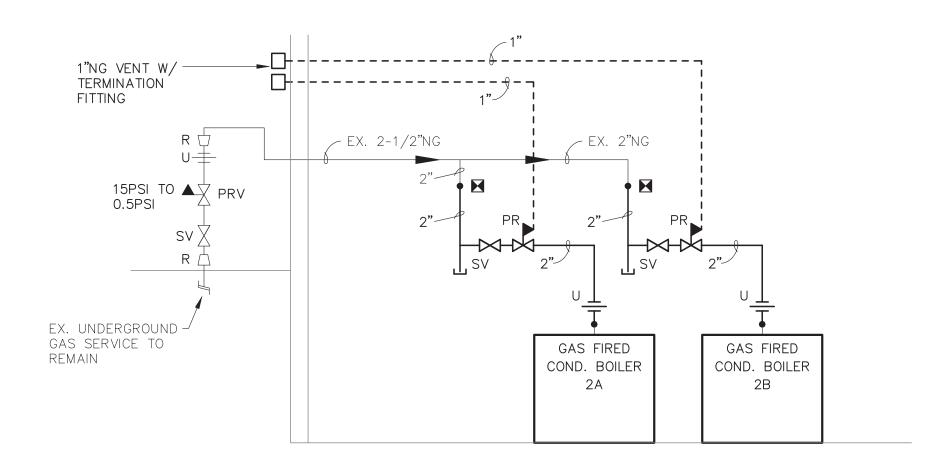
HEATING WATER FLOW DIAGRAM & TC POINTS

SHEET NUMBER:



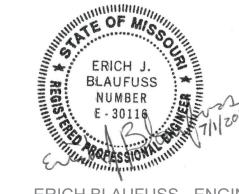
HEATING WATER SYSTEM FLOW DIAGRAM
NO SCALE INDUSTRIES

NOTE: SEE "TYPICAL HEATING WATER COIL AND FTR CONNECTIONS" DETAIL FOR ADDITIONAL PIPING ATTACHMENTS, ACCESSORIES AND SPECIALTIES.



NATURAL GAS SERVICE FLOW DIAGRAM
NO SCALE
INDUSTRIES

STATE OF MISSOURI MICHAEL L. PARSON, GOVERNOR



ERICH BLAUFUSS - ENGINEER MO#E30116



622 EMERSON SUITE 250 ST LOUIS, MO 63141 Phone: (314) 727-8760 bernhard.com

MO CERTIFICATE OF AUTHORITY NO. 2014025011

OFFICE OF ADMINISTRATION DIVISION OF FACILITIES MANAGEMENT, DESIGN AND CONSTRUCTION

DEPARTMENT OF MENTAL HEALTH

REPLACE BOILER AND HVAC

BELLEFONTAINE HABILITATION CENTER
ST. LOUIS, MO

PROJECT # M2307-01 SITE # 7356 FACILITY # 6517356013 6517356014, 6517356017

6517356018

REVISION:
DATE:
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DATE:
DATE:

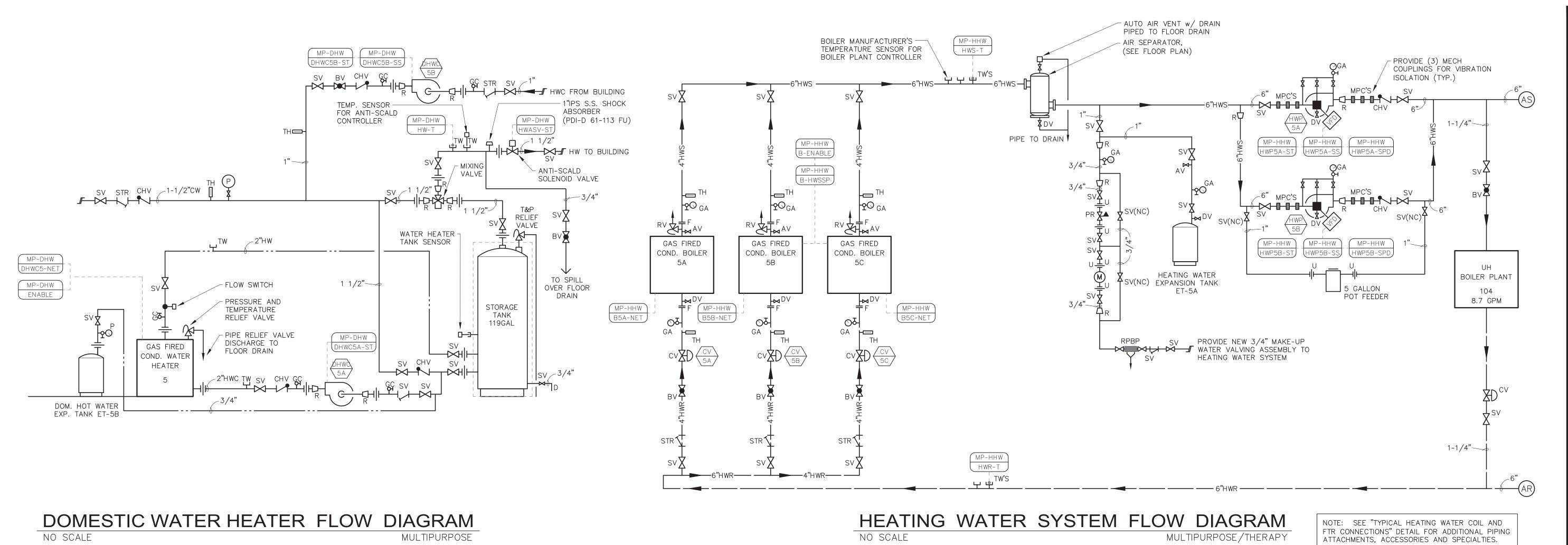
CAD DWG FILE: M2307-01-7356CAD DWG FILE: 651735601X-M-606
DRAWN BY: RJS
CHECKED BY: EJB
DESIGNED BY: EJB

SHEET TITLE:

HEATING WATER FLOW DIAGRAM & TC POINTS

SHEET NUMBER:

M-606



POINT	NAME		PC	DINT DESCRIPTION]					ALARM		TRENI)	FIELD DEVICE DES	SCRIPTION		
POINT DESIGNATION	CONTROLLER NAME	INPUT OUTPUT TYPE	DESCRIPTION	TYPE	SET POINT	UNITS	MONITOR	ADJUST	NOTIFY	THRESHOLD	TREND	FREQUENCY	ARCHIVE	INSTRUMENT TYPE	SIGNAL	RANGE	REMARK
HWP5A-ST	MP-HHW	DI	HEATING WATER PUMP STATUS	STATUS	-	RUNNING/NOT RUNNING	X	OVERRIDE	Х	STATUS OFF WHEN CMD IS ON	X	COS	1 WEEK	CURRENT SENSING RELAY AT MOTOR VFD	CONTACT	OPEN/CLOSED	
HWP5A-SS	MP-HHW	DO	HEATING WATER PUMP START/STOP COMMAND	START/STOP	-	ON/OFF	X	OVERRIDE	-	-	Х	cos	1 WEEK	RELAY AT MOTOR VFD	CONTACT	OPEN/CLOSED	
HWP5A-SPD	MP-HHW	AO	HEATING WATER PUMP SPEED COMMAND	COMMAND	-	% SPEED	X	OVERRIDE	1 - 1	-	Х	15 MIN.	1 WEEK	DIRECT CONNECTION TO VFD	0-10VDC	0-100%	
HWP5B-ST	MP-HHW	DI	HEATING WATER PUMP STATUS	STATUS	-	RUNNING/NOT RUNNING	; X	OVERRIDE	X	STATUS OFF WHEN CMD IS ON	X	cos	1 WEEK	CURRENT SENSING RELAY AT MOTOR VFD	CONTACT	OPEN/CLOSED	
HWP5B-SS	MP-HHW	DO	HEATING WATER PUMP START/STOP COMMAND	START/STOP	-	ON/OFF	X	OVERRIDE	1 - 1	-	Х	COS	1 WEEK	RELAY AT MOTOR VFD	CONTACT	OPEN/CLOSED	
HWP5B-SPD	MP-HHW	AO	HEATING WATER PUMP SPEED COMMAND	COMMAND	-	% SPEED	X	OVERRIDE	1 - 1	-	Х	15 MIN.	1 WEEK	DIRECT CONNECTION TO VFD	0-10VDC	0-100%	
HWS-T	MP-HHW	Al	HEATING WATER SUPPLY TEMPERATURE	TEMPERATURE	-	DEGREE F°	X	OVERRIDE	X	10°F < SETPOINT	Х	15 MIN.	1 WEEK	RIGID TEMPERATURE SENSOR WITH THERMOWELL	OHMS	-30 TO 250 F°	
HWR-T	MP-HHW	Al	HEATING WATER RETURN TEMPERATURE	TEMPERATURE	-	DEGREE F°	X	OVERRIDE	1 - 1	5 PSI < SETPOINT	Х	15 MIN.	1 WEEK	RIGID TEMPERATURE SENSOR WITH THERMOWELL	OHMS	-30 TO 250 F°	
HWW-P	MP-HHW	Al	DIFFERENTIAL PRESSURE	PRESSURE	-	PSI	X	OVERRIDE	X	5 PSI < SETPOINT	Х	15 MIN.	1 WEEK	DIFFERENTIAL PRESSURE SENSOR	4-20MA	0-50 PSID	1
B5A-NET	MP-HHW	NET	BOILER NETWORK CONNECTION	NA	-	NA	NA	NA	1 - 1	-	Х	15 MIN.	1 WEEK	BACNET CONNECTION TO BOILER	NA	NA	2
B5B-NET	MP-HHW	NET	BOILER NETWORK CONNECTION	NA	-	NA	NA	NA	1 - 1	-	Х	15 MIN.	1 WEEK	BACNET CONNECTION TO BOILER	NA	NA	2
B5C-NET	MP-HHW	NET	BOILER NETWORK CONNECTION	NA	-	NA	NA	NA	-	-	Х	15 MIN.	1 WEEK	BACNET CONNECTION TO BOILER	NA	NA	2
B-ENABLE	MP-HHW	DO	BOILER SYSTEM ENABLER COMMAND	COMMAND	-	ENABLE/DISABLE	X	OVERRIDE	-	-	Х	COS	1 WEEK	RELAY/DIRECT CONNECTION TO MASTER CONTROLLER	CONTACT	ON/OFF	
B-HWSSP	MP-HHW	AO	BOILER SYSTEM HEATING SUPPLY TEMP. SETPOINT	-	-	DEGREES °F	X	OVERRIDE	1 - 1	-	X	15 MIN.	1 WEEK	DIRECT CONNECTION TO MASTER CONTROLLER	4-20MA	-	

NO SCALE

WATER TEMPERATURE, LEAVING WATER TEMPERATURE, TEMPERATURE SETPOINT FIRING RATE, FLUE GAS TEMPERATURE, FLUE GAS 02, ISOLATION CONTROL VALVE POSITION AND ALARM STATUS

MULTIPURPOSE/THERAPY

NO SCALE

AO ANALOG OUTPUT TO BAS

MULTIPURPOSE

			TEMPERATUR	RE CO	NTRC	L POIN	ΓS	LIS	T - DOMESTI	C	WAT	ER F	HEATING SYSTEM			
POINT	NAME		PC	DINT DESCRIPTION	1				ALARM		TREND		FIELD DEVICE DES	SCRIPTION		
POINT DESIGNATION	CONTROLLER NAME	INPUT OUTPUT TYPE	DESCRIPTION	TYPE	SET POINT	UNITS	MONITOR	ADJUST	THRESHOLD	TREND	FREQUENCY	ARCHIVE	INSTRUMENT TYPE	SIGNAL	RANGE	REMARKS
HW-T	MP-DHW	Al	HOT WATER TEMPERATURE	TEMPERATURE	-	DEGREE F°	Х	OVERRIDE	X >120°F	Х	15 MIN.	1 WEEK	RIGID TEMPERATURE SENSOR WITH THERMOWELL	OHMS	-30 TO 250 F°	
HWASV-ST	MP-DHW	DI	HOT WATER ANTI-SCALD SOLENIOD MONITOR	STATUS	-	NORMAL/ALARM	X	OVERRIDE	- ALARM	Х	cos	1 WEEK	RELAY	CONTACT	OPEN/CLOSED	
DHWC5A-ST	MP-DHW	DI	STORAGE TANK CIRC. PUMP STATUS	STATUS	-	RUNNING/NOT RUNNIN	IG X	OVERRIDE		X	cos	1 WEEK	CURRENT SENSING RELAY	CONTACT	OPEN/CLOSED	
DHWC5B-SS	MP-DHW	DO	HOT WATER CIRC. PUMP START/STOP COMMAND	COMMAND	-	ON/OFF	X	OVERRIDE		X	cos	1 WEEK	MOTOR RATED RELAY	CONTACT	OPEN/CLOSED	
DHWC5B-ST	MP-DHW	DI	HOT WATER CIRC. PUMP STATUS	STATUS	-	RUNNING/NOT RUNNIN	IG X	OVERRIDE	- STATUS OFF WHEN CMD IS ON	۷ X	cos	1 WEEK	CURRENT SENSING RELAY	CONTACT	OPEN/CLOSED	
DWH5-NET	MP-DHW	NET	WATER HEATER NETWORK CONNECTION	NA	-	NA	NA	NA		X	15 MIN.	1 WEEK	BACNET CONNECTION TO WH	NA	NA	1
WH5-ENABLE	MP-DHW	DO	WATER HEATER SYSTEM ENABLE	COMMAND	-	ENABLE/DISABLE	X	OVERRIDE		X	cos	1 WEEK	RELAY/DIRECT CONNECTION TO WH	CONTACT	ON/OFF	
DO DIGITAL AI ANALOG	MBOLS AND A INPUT TO BA OUTPUT TO BA SINPUT TO BA OUTPUT TO BA	S AS AS	TIONS NET NETWORKED POINTS BAS BUILDING AUTOMATION SYSTEM HW HARD WIRED INTERLOCK/SAFETY	COS CHANG CMD COMMA MIN MINUTE									CNET INTERFACE. AS A MINIMUM, THE FOLLOWING POIN OINT, FIRING RATE, FLUE GAS TEMP., TANK TEMP., CIRC			•

STATE OF MISSOURI MICHAEL L. PARSON, **GOVERNOR**



ERICH BLAUFUSS - ENGINEER MO#E30116



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MO CERTIFICATE OF AUTHORITY NO. 2014025011

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DEPARTMENT OF MENTAL HEALTH

REPLACE BOILER AND HVAC

BELLEFONTAINE HABILITATION CENTER ST. LOUIS, MO

PROJECT # M2307-01 SITE # 7356 FACILITY # 6517356013 6517356014, 6517356017 6517356018

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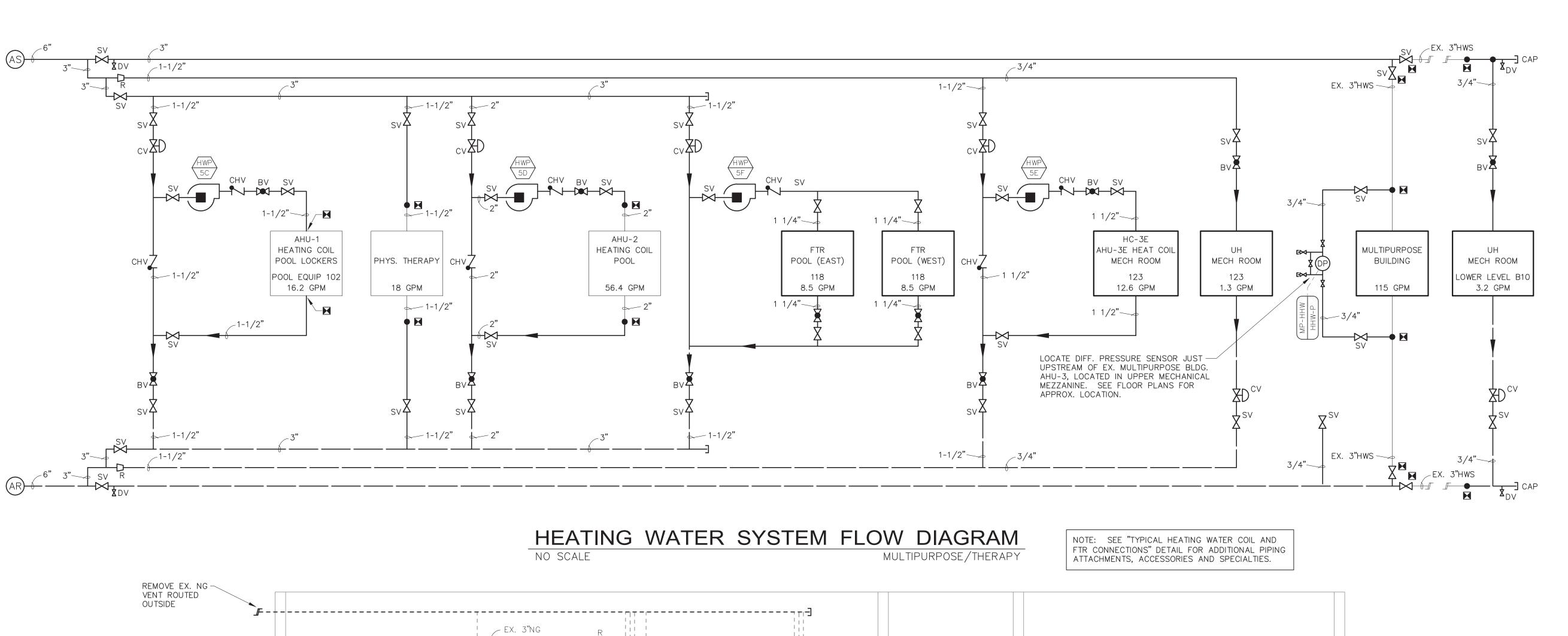
ISSUE DATE: 07/01/2024

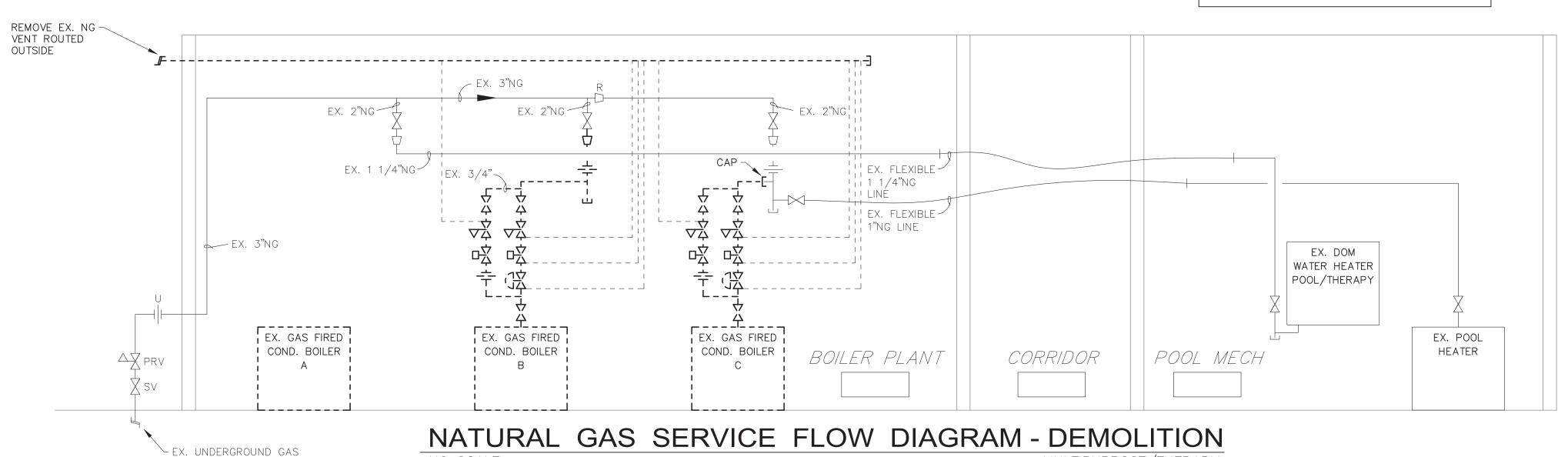
CAD DWG FILE: M2307-01-7356-651735601X-M-607 DRAWN BY: CHECKED BY: DESIGNED BY: EJB

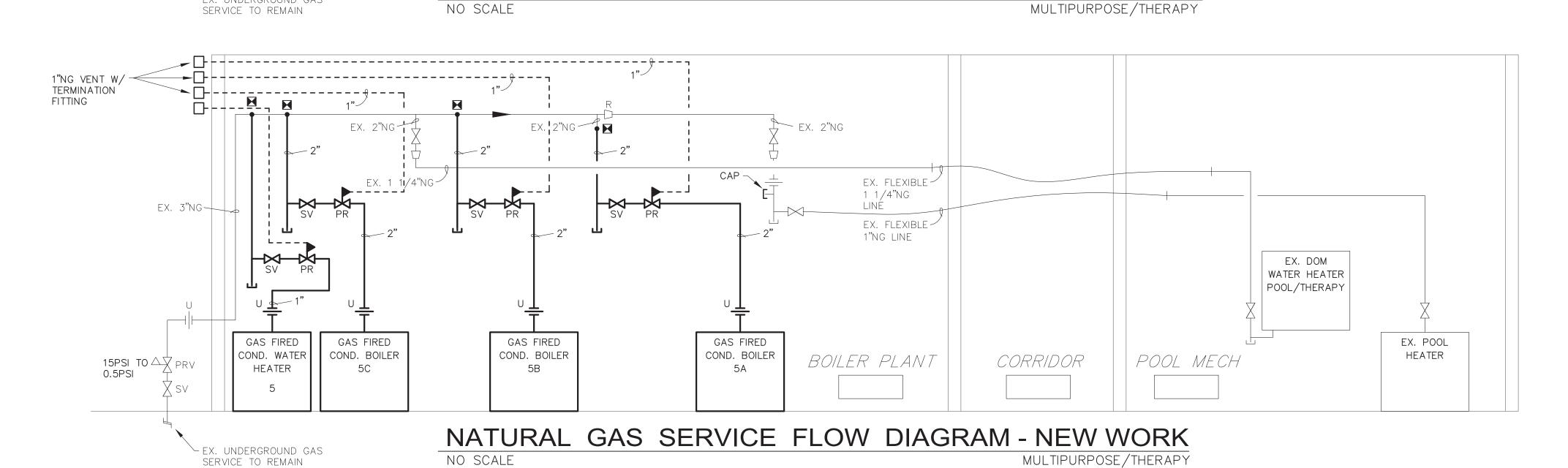
SHEET TITLE:

HEATING WATER FLOW DIAGRAM & TC POINTS

SHEET NUMBER:







STATE OF MISSOURI MICHAEL L. PARSON, GOVERNOR



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DEPARTMENT OF MENTAL HEALTH

REPLACE BOILER AND HVAC

BELLEFONTAINE
HABILITATION
CENTER
ST. LOUIS, MO

PROJECT # M2307-01 SITE # 7356 FACILITY # 651735601

FACILITY # 6517356013 6517356014, 6517356017 6517356018

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ISSUE DATE: 07/01/2024

CAD DWG FILE: M2307-01-7356-CAD DWG FILE: 651735601X-M-608 DRAWN BY: RJS CHECKED BY: EJB

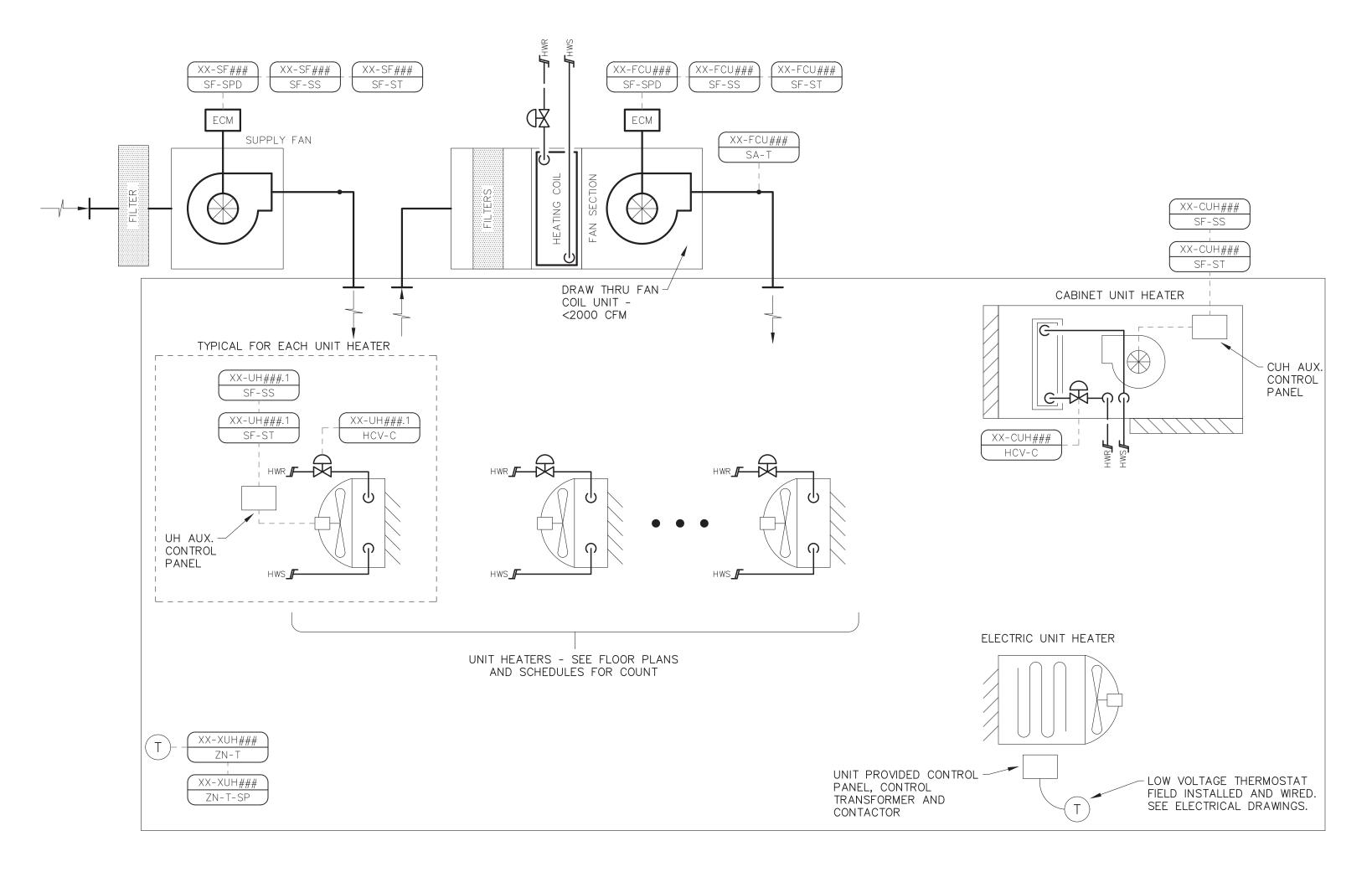
DESIGNED BY: EJE

SHEET TITLE:

HEATING WATER FLOW DIAGRAM & TC POINTS

SHEET NUMBER:

M-608



HVAC ZONE CONTROL - UNIT HEATERS AND FAN COIL UNITS NO SCALE

		ESCRIPTION	FIELD DEVICE DE)	TREN		ALARM				POINT DESCRIPTION	PO		NAME	POINT
REMAR	RANGE	SIGNAL	INSTRUMENT TYPE	ARCHIVE	FREQUENCY	TREND	THRESHOLD	ADJUST NOTIFY	UNITS	SET POINT	TYPE	DESCRIPTION	INPUT OUTPUT TYPE	CONTROLLER NAME	POINT DESIGNATION
						NT	NS AND SCHEDULES FOR COU	- SEE FLOOR PLA	R EACH THERMOSTAT	TYPICAL			<u> </u>		
	-	OHMS	WALL MOUNTED THERMOSTAT	1 WEEK	15 MIN.	X	-	X OVERRIDE -	DEGREE F°	-	TEMPERATURE	ZONE TEMPERATURE	Al	XX-UH###	ZN-T
	_	RESISTER	WITH (DIGITAL DISPLAY?), SETPOINT ADJUST	1 WEEK	15 MIN.	X	-	X OVERRIDE -	DEGREE F°	-	-	ZONE TEMPERATURE SETPOINT ADJUST	Al	XX-UH###	ZN-T-SP
			(UNOCCUPANCY OVERRIDE)												
•		'		-		NT	NS AND SCHEDULES FOR COU	- SEE FLOOR PLA	R EACH UNIT HEATER	TYPICAL F			<u>'</u>		
	ON/OFF	CONTACT	MOTOR RATED RELAY	1 WEEK	15 MIN.	X	-	X OVERRIDE -	ON/OFF	-	COMMAND	UH FAN START/STOP COMMAND	DO	XX-UH###	SF-SS
	ON/OFF	CONTACT	CURRENT SWITCH	1 WEEK	15 MIN.	Х	-	X OVERRIDE -	ON/OFF	-	STATUS	UH FAN STATUS	DI	XX-UH###	SF-ST
	0 TO 100%	CONTACT	ELECTRONIC CONTROL VALVE	1 WEEK	15 MIN.	Х	-	X OVERRIDE -	%OPEN	-	COMMAND	HEATING COIL VALVE COMMAND	AO	XX-UH###	HCV-C
•		•				COUNT	PLANS AND SCHEDULES FOR	ATER - SEE FLOOR	CH CABINET UNIT HE	TYPICAL FOR			•		
1	ON/OFF	CONTACT	MOTOR RATED RELAY	1 WEEK	15 MIN.	X	-	X OVERRIDE -	ON/OFF	-	COMMAND	CUH FAN START/STOP COMMAND	DO	XX-CUH###	SF-SS
1	ON/OFF	CONTACT	CURRENT SWITCH	1 WEEK	15 MIN.	Х	-	X OVERRIDE -	ON/OFF	-	STATUS	CUH FAN STATUS	DI	XX-CUH###	SF-ST
	0 TO 100%	CONTACT	ELECTRONIC CONTROL VALVE	1 WEEK	15 MIN.	Х	-	X OVERRIDE -	%OPEN	-	COMMAND	HEATING COIL VALVE COMMAND	AO	XX-CUH###	HCV-C
•		•			OUNT	FOR C	OOR PLANS AND SCHEDULES	ING ONLY - SEE F	AN COIL UNIT - HEA	YPICAL FOR EACH	7		•		
	-30 TO 250 F°	CONTACT	RIGID DUCT TEMPERATURE SENSOR	NO	15 MIN.	X	-	X OVERRIDE -	DEGREE F°	-	TEMPERATURE	SUPPLY AIR TEMPERATURE	Al	XX-FCU###	SA-T
	ON/OFF	CONTACT	RELAY	NO	COS	Х	-	X OVERRIDE -	ON/OFF	-	START/STOP	FCU FAN START/STOP COMMAND	DO	XX-FCU###	SF-SS
	ON/OFF	2-10VDC	CURRENT SENSING RELAY AT FCU/ECM MOTOR	NO	COS	Х	-	X OVERRIDE -	INING/NOT RUNNING	- R	STATUS	FCU FAN STATUS	DI	XX-FCU###	SF-ST
	0 TO 100%	2-10VDC	DIRECT CONNECTION TO FCU/ECM MOTOR	NO	15 MIN.	Х	-	X OVERRIDE -	% SPEED	-	COMMAND	FCU FAN SPEED COMMAND	AO	XX-FCU###	SF-SPD
	0 TO 100%	2-10VDC	ELECTRONIC CONTROL VALVE	NO	15 MIN.	X	-	X OVERRIDE -	% OPEN	-	COMMAND	COOLING COIL VALVE COMMAND	AO	XX-FCU###	FCU-HCV
						NT	NS AND SCHEDULES FOR COU	- SEE FLOOR PLA	R EACH SUPPLY FAN	TYPICAL					
	ON/OFF	CONTACT	RELAY	NO	COS	X	-	X OVERRIDE -	ON/OFF	-	START/STOP	SF FAN START/STOP COMMAND	DO	XX-FCU###	SF-SS
	ON/OFF	2-10VDC	CURRENT SENSING RELAY AT FCU/ECM MOTOR	NO	COS	X	-	X OVERRIDE -	INING/NOT RUNNING	- R	STATUS	SF FAN STATUS	DI	XX-FCU###	SF-ST
	0 TO 100%	2-10VDC	DIRECT CONNECTION TO FCU/ECM MOTOR	NO	15 MIN.	X	-	X OVERRIDE -	% SPEED	-	COMMAND	SF FAN SPEED COMMAND	AO	XX-FCU###	SF-SPD

STATE OF MISSOURI MICHAEL L. PARSON, GOVERNOR



ERICH BLAUFUSS - ENGINEER MO#E30116



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MO CERTIFICATE OF AUTHORITY NO. 2014025011

OFFICE OF ADMINISTRATION DIVISION OF FACILITIES MANAGEMENT, DESIGN AND CONSTRUCTION

DEPARTMENT OF MENTAL HEALTH

REPLACE BOILER AND HVAC

BELLEFONTAINE HABILITATION CENTER ST. LOUIS, MO

PROJECT # M2307-01 SITE # 7356 FACILITY # 6517356013 6517356014, 6517356017 6517356018

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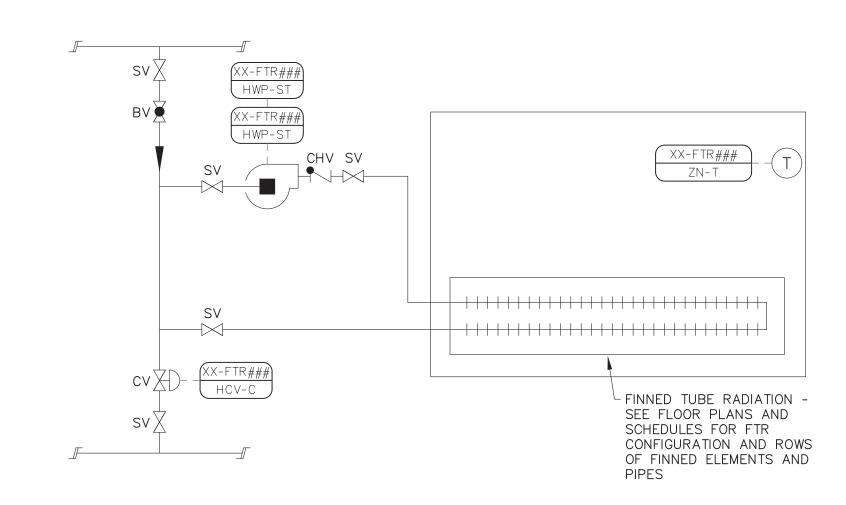
CAD DWG FILE: M2307-01-7356651735601X-M-609
DRAWN BY: RJS
CHECKED BY: EJB
DESIGNED BY: EJB

SHEET TITLE:

HVAC ZONE
CONTROL
DIAGRAM
& TC POINTS

SHEET NUMBER:

M-609



HVAC ZONE CONTROL - FINNED TUBE RADIATION HEATING NO SCALE

POINT	NAME		PO	DINT DESCRIPTION				ALARM		TREND		FIELD DEVIC	E DESCRIPTION		\dashv
POINT DESIGNATION	CONTROLLER NAME	INPUT OUTPUT TYPE	DESCRIPTION	TYPE	SET POINT	UNITS	ADJUST STEEL	THRESHOLD	TREND	FREQUENCY	ARCHIVE	INSTRUMENT TYPE	SIGNAL	RANGE	REMARK
				-	TYPI	CAL FOR EACH THERMOST	AT - SEE FLOOR P	PLANS AND SCHEDULES FOR COUNT							
ZN-T	XX-FTR###	Al	ZONE TEMPERATURE	TEMPERATURE	-	DEGREE F°	X OVERRIDE -	-	Х	15 MIN.	1 WEEK	WALL MOUNTED TEMP. SENSOR	OHMS	-	
ZN-T-SP	XX-FTR###	Al	ZONE TEMPERATURE SETPOINT ADJUST	-	_	DEGREE F°	X OVERRIDE -	-	Х	15 MIN.	1 WEEK	WALL MOUNTED TEMP. SENSOR	RESISTER	-	
												(UNOCCUPANCY OVERRIDE)			
		<u> </u>			TYPICAL FOR	EACH PUMPED FTR HEAT	TER CIRCUIT- SEE I	FLOOR PLANS AND SCHEDULES FOR COU	JNT		•		•		_
HWP-SS	XX-FTR###	DO	FTR CIRC. PUMP START/STOP COMMAND	START/STOP	_	ON/OFF	X OVERRIDE -	-	Х	COS	1 WEEK	RELAY	CONTACT	OPEN/CLOSED	
HWP-ST	XX-FTR###	DI	FTR CIRC. PUMP STATUS	STATUS	-	RUNNING/NOT RUNNING	X OVERRIDE X	STATUS OFF WHEN COMMAND IS ON	Х	COS	1 WEEK	CURRENT SWITCH	CONTACT	OPEN/CLOSED	
HCV-C	XX-FTR###	AO	FTR CIRC. PUMP VALVE COMMAND	COMMAND	_	%OPEN	X OVERRIDE -	-	Х	15 MIN.	1 WEEK	ELECTRONIC CONTROL VALVE	2-10V DC	0 TO 100%	
DIGITAL DO DIGITAL NI ANALO	YMBOLS AND A INPUT TO BA OUTPUT TO BA GINPUT TO BA OUTPUT TO BA	S AS S	ONS NET NETWORKED POINTS BAS BUILDING AUTOMATION SYSTEM HW HARD WIRED INTERLOCK/SAFETY	COS CHANGE CMD COMMA MIN MINUTE		NOTES_	<u> </u>						<u>'</u>		

STATE OF MISSOURI MICHAEL L. PARSON, GOVERNOR



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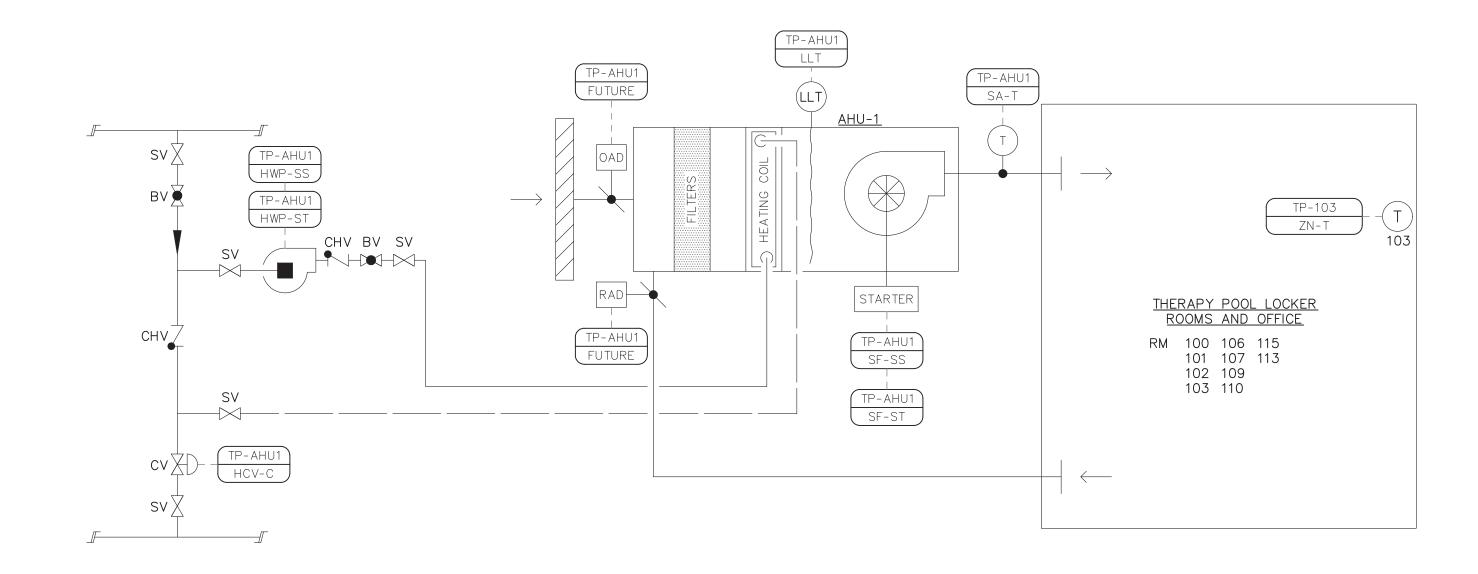
CAD DWG FILE: M2307-01-7356651735601X-M-610
DRAWN BY: RJS
CHECKED BY: EJB
DESIGNED BY: EJB

SHEET TITLE:

HVAC ZONE
CONTROL
DIAGRAM
& TC POINTS

SHEET NUMBER:

M-610



HVAC ZONE CONTROL - THERAPY POOL LOCKER ROOMS HVAC THERAPY POOL LOCKER ROOMS AND OFFICE° NO SCALE (AHU-1)

AO ANALOG OUTPUT TO BAS

1		ESCRIPTION	FIELD DEVICE D		TREND	ALARM					OINT DESCRIPTION	Po		NAME	POINT
REMARKS	RANGE	SIGNAL	INSTRUMENT TYPE	ARCHIVE	FREQUENCY	THRESHOLD	NOTIFY TS		UNITS	SET POINT	TYPE	DESCRIPTION	INPUT OUTPUT TYPE	CONTROLLER NAME	POINT ESIGNATION
	-	OHMS	WALL MOUNTED TEMP. SENSOR	1 WEEK	15 MIN.	- X	IDE -	OVERR	DEGREE F° X	-	TEMPERATURE	ZONE TEMPERATURE	Al	TP-107	ZN-T
	OPEN/CLOSED	CONTACT	RELAY	1 WEEK	COS	- X	IDE -	OVERR	ON/OFF X	-	COMMAND	SUPPLY FAN START/STOP COMMAND	DO	TP-AHU1	SF-SS
	OPEN/CLOSED	CONTACT	CURRENT SWITCH	1 WEEK	COS.	STATUS OFF WHEN COMMAND IS ON X	IDE X	OVERR	RUNNING/OFF X	-	STATUS	SUPPLY FAN STATUS	DI	TP-AHU1	SF-ST
	-30 TO 250 F°	OHMS	RIGID DUCT TEMPERATURE SENSOR	1 WEEK	15 MIN.	- X	IDE -	OVERR	DEGREE F° X	-	TEMPERATURE	SUPPLY AIR TEMPERATURE	Al	TP-AHU1	SA-T
	OPEN/CLOSED	CONTACT	LOW LIMIT TEMPERATURE SWITCH	1 WEEK	COS	STATUS = ALARM X	X	(NO	NORMAL/ALARM X	40°F	SAFETY	LOW LIMIT TEMPERATURE SWITCH	HW	TP-AHU1	LLT
	OPEN/CLOSED	CONTACT	RELAY	1 WEEK	COS	- X	IDE -	OVERR	ON/OFF X	-	START/STOP	COIL CIRC. PUMP START/STOP COMMAND	DO	TP-AHU1	HWP-SS
	OPEN/CLOSED	CONTACT	CURRENT SWITCH	1 WEEK	COS	STATUS OFF WHEN COMMAND IS ON X	IDE X	OVERR	RUNNING/NOT RUNNING X	-	STATUS	COIL CIRC. PUMP STATUS	DI	TP-AHU1	HWP-ST
	0 TO 100%	2-10V DC	ELECTRONIC CONTROL VALVE	1 WEEK	15 MIN.	- X	IDE -	OVERR	%OPEN X	-	COMMAND	HEATING CONTROL VALVE COMMAND	AO	TP-AHU1	HCV-C
1	-	-	FUTURE ELECTRONIC DAMPER ACTUATOR	-	-		-			-	-	FUTURE OUTDOOR AIR DAMPER	AO	TP-AHU1	OAD-C
1	-	-	FUTURE ELECTRONIC DAMPER ACTUATOR	-	-		-			-	-	FUTURE RETURN AIR DAMPER	AO	TP-AHU1	RAD-C
	OPEN/CLOSED	CONTACT	RELAY IN AUX. PANEL	1 WEEK	COS	IN ALARM X	IDE X	OVERR	NORMAL/ALARM X	-	SAFETY	SUPPLY FAN SAFETY CIRCUIT STATUS	DI	TP-AHU1	SAFETY

STATE OF MISSOURI MICHAEL L. PARSON, **GOVERNOR**



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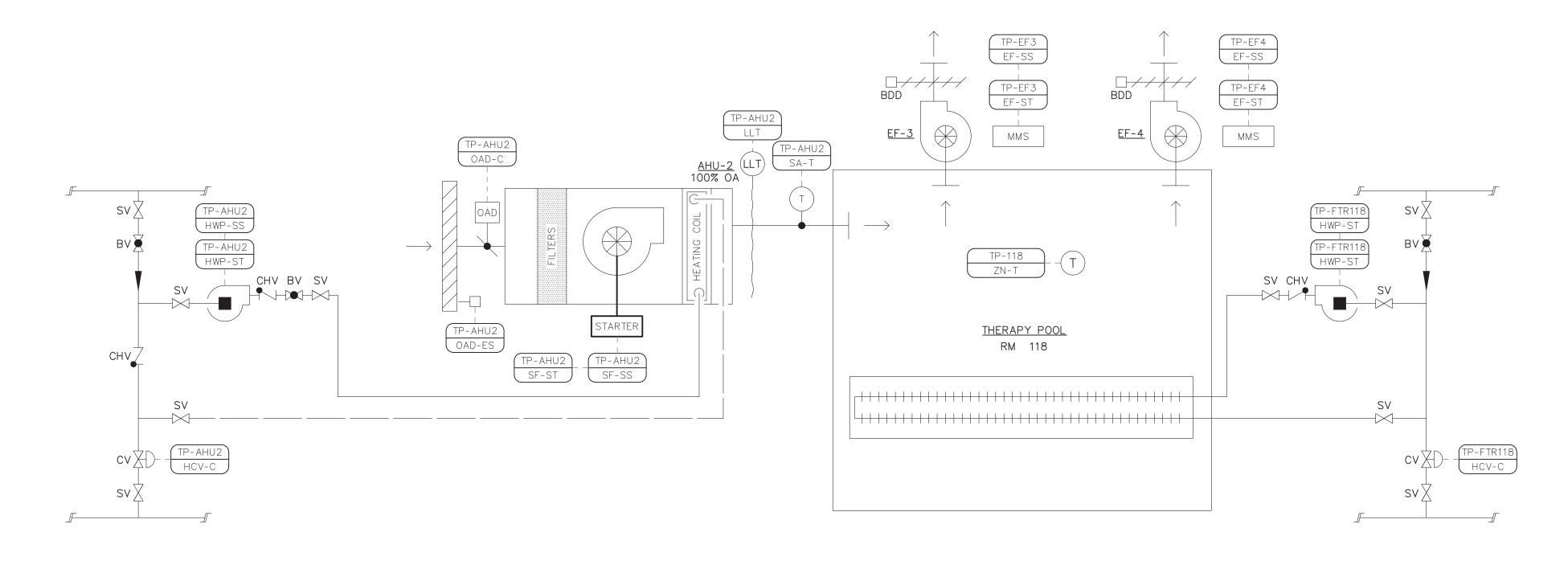
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CAD DWG FILE: M2307-01-7356-651735601X-M-611 DRAWN BY: RJS CHECKED BY: EJB DESIGNED BY: EJB

SHEET TITLE:

HVAC ZONE CONTROL DIAGRAM & TC POINTS

SHEET NUMBER:



HVAC ZONE CONTROL - THERAPY POOL 118 HVAC NO SCALE (AHU-2, EF-3, EF-4, FTR)

POINT NAME POINT DESCRIPTION						ALARM	TREND		FIELD DEVICE DESCRIPTION						
POINT DESIGNATION	CONTROLLER NAME	INPUT OUTPUT TYPE	DESCRIPTION	TYPE	SET POINT	UNITS	ADJUST	NOTIFY	THRESHOLD	FREQUENCY	ARCHIVE	INSTRUMENT TYPE	SIGNAL	RANGE	REMARKS
ZN-T	TP-118	Al	ZONE TEMPERATURE	TEMPERATURE	-	DEGREE F° X	OVERRIDE	-	- X	15 MIN.	1 WEEK	WALL MOUNTED TEMP. SENSOR	OHMS	-	
HWP-SS	TP-FTR118	DO	FTR CIRC. PUMP START/STOP COMMAND	START/STOP	-	ON/OFF X	OVERRIDE	-	- X	COS	1 WEEK	RELAY	CONTACT	OPEN/CLOSED	
HWP-ST	TP-FTR118	DI	FTR CIRC. PUMP STATUS	STATUS	-	RUNNING/NOT RUNNING X	OVERRIDE	X	STATUS OFF WHEN COMMAND IS ON X	cos	1 WEEK	CURRENT SWITCH	CONTACT	OPEN/CLOSED	
HCV-C	TP-FTR118	AO	FTR HEATING CONTROL VALVE COMMAND	COMMAND	-	%OPEN >	OVERRIDE	-	- X	15 MIN.	1 WEEK	ELECTRONIC CONTROL VALVE	2-10V DC	0 TO 100%	
SF-SS	TP-AHU2	DO	SUPPLY FAN START/STOP COMMAND	COMMAND	_	ON/OFF X	OVERRIDE	-	- X	COS	1 WEEK	RELAY	CONTACT	OPEN/CLOSED	
SF-ST	TP-AHU2	DI	SUPPLY FAN STATUS	STATUS	-	RUNNING/OFF X	OVERRIDE	X	STATUS OFF WHEN COMMAND IS ON X	COS.	1 WEEK	CURRENT SWITCH	CONTACT	OPEN/CLOSED	
SA-T	TP-AHU2	Al	SUPPLY AIR TEMPERATURE	TEMPERATURE	-	DEGREE F° X	OVERRIDE	-	- X	15 MIN.	1 WEEK	RIGID DUCT TEMPERATURE SENSOR	OHMS	-30 TO 250 F°	2
LLT	TP-AHU2	HW	LOW LIMIT TEMPERATURE SWITCH	HW	40°F	HW -		-		-	-	LOW LIMIT TEMPERATURE SWITCH	CONTACT	OPEN/CLOSED	2
HWP-SS	TP-AHU2	DO	COIL CIRC. PUMP START/STOP COMMAND	START/STOP	-	ON/OFF X	OVERRIDE	-	- X	cos	1 WEEK	RELAY	CONTACT	OPEN/CLOSED	
HWP-ST	TP-AHU2	DI	COIL CIRC. PUMP STATUS	STATUS	-	RUNNING/NOT RUNNING X	OVERRIDE	Х	STATUS OFF WHEN COMMAND IS ON X	COS	1 WEEK	CURRENT SWITCH	CONTACT	OPEN/CLOSED	
HCV-C	TP-AHU2	AO	HEATING CONTROL VALVE COMMAND	COMMAND	-	%OPEN >	OVERRIDE	-	- X	15 MIN.	1 WEEK	ELECTRONIC CONTROL VALVE	2-10V DC	0 TO 100%	
OAD-C	TP-AHU2	HW	OUTSIDE AIR DAMPER COMMAND	HW	-	HW -		-		-	-	ELECTRONIC DAMPER ACTUATOR	CONTACT	OPEN/CLOSED	1
OAD-ES	TP-AHU2	HW	OUTSIDE AIR DAMPER END SWITCH	HW	-	HW -		-		-	-	END SWITCH	CONTACT	OPEN/CLOSED	
SAFETY	TP-AHU2	DI	SUPPLY FAN SAFETY CIRCUIT STATUS	SAFETY	-	NORMAL/ALARM X	OVERRIDE	X	IN ALARM X	cos	1 WEEK	RELAY IN AUX. PANEL	CONTACT	OPEN/CLOSED	
EF-SS	TP-EF3	DO	EXHAUST FAN START/STOP COMMAND	COMMAND	-	ON/OFF X	OVERRIDE	-	- X	cos	1 WEEK	RELAY	CONTACT	OPEN/CLOSED	3
EF-ST	TP-EF3	DI	EXHAUST FAN STATUS	STATUS	-	RUNNING/OFF X	OVERRIDE	X	STATUS OFF WHEN COMMAND IS ON X	COS.	1 WEEK	CURRENT SWITCH	CONTACT	OPEN/CLOSED	3
EF-SS	TP-EF4	DO	EXHAUST FAN START/STOP COMMAND	COMMAND	-	ON/OFF X	(OVERRIDE	-	- X	COS	1 WEEK	RELAY	CONTACT	OPEN/CLOSED	3
EF-ST	TP-EF4	DI	EXHAUST FAN STATUS	STATUS	-	RUNNING/OFF X	OVERRIDE	X	STATUS OFF WHEN COMMAND IS ON X	COS.	1 WEEK	CURRENT SWITCH	CONTACT	OPEN/CLOSED	3

POINTS LIST SYMBOLS AND ABBREVIATIONS

NET NETWORKED POINTS DIGITAL INPUT TO BAS

DO DIGITAL OUTPUT TO BAS BAS BUILDING AUTOMATION SYSTEM AI ANALOG INPUT TO BAS HW HARD WIRED INTERLOCK/SAFETY AO ANALOG OUTPUT TO BAS

COS CHANGE OF STATE

CMD COMMAND

MIN MINUTES

1. PROVIDE DAMPER ACTUATOR AND LINKAGE TO OPEN AND CLOSE THE EXISTING OUTSIDE AIR DAMPER. EX. DAMPER IS APPOX. 12"X54". PROVIDE WEATHER HOUSING FOR OUTDOOR MOUNTING OF SENSOR. . COORDINATE WITH E.C. IN RELOCATING RECESSED MANUAL MOTOR STARTER OUT FROM CMU WALL AND PROVIDE NEW CONTROL BOX FOR MOTOR RATED RELAY AND CURRENT SWITCH. EX. MANUAL MOTOR STARTERS ARE LOCATED IN POOL EQUIPMENT ROOM 102. **GOVERNOR**

STATE OF MISSOURI MICHAEL L. PARSON,



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MO CERTIFICATE OF AUTHORITY NO. 2014025011

OFFICE OF ADMINISTRATION DIVISION OF FACILITIES MANAGEMENT, **DESIGN AND CONSTRUCTION**

DEPARTMENT OF MENTAL HEALTH

REPLACE BOILER AND HVAC

BELLEFONTAINE HABILITATION CENTER ST. LOUIS, MO

PROJECT # M2307-01 7356 FACILITY # 6517356013 6517356014, 6517356017 6517356018

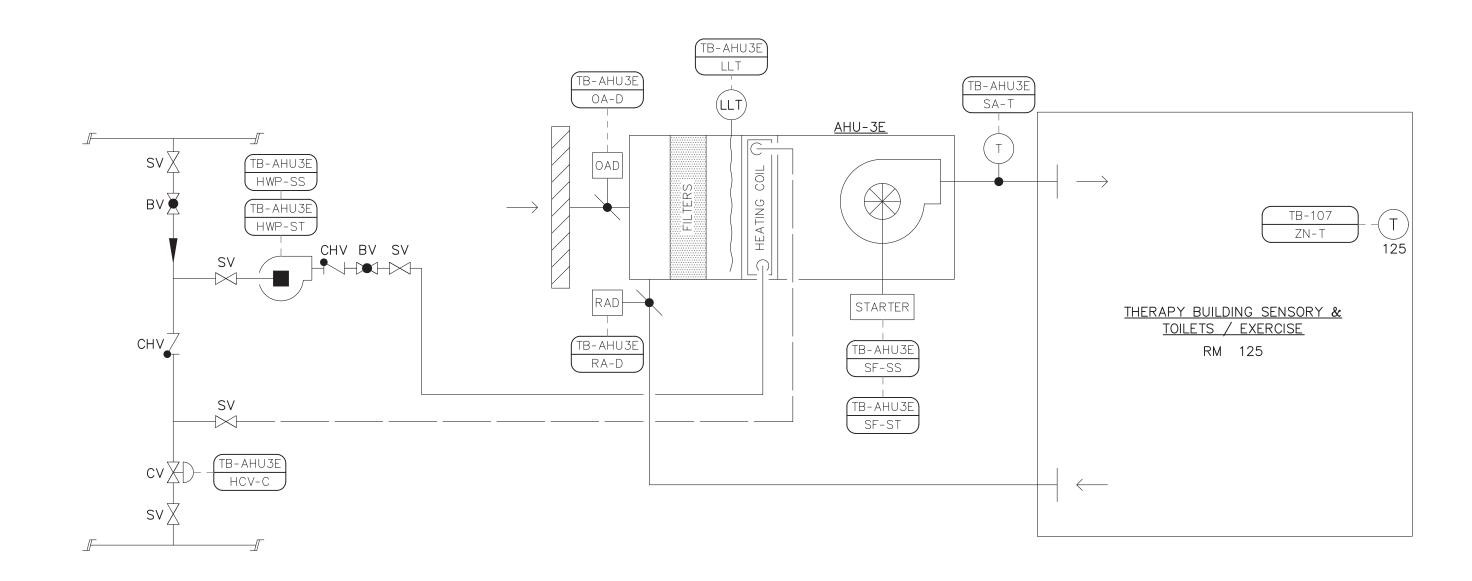
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CAD DWG FILE: M2307-01-7356-651735601X-M-612 DRAWN BY: RJS CHECKED BY: EJB

DESIGNED BY: EJB SHEET TITLE:

HVAC ZONE CONTROL DIAGRAM & TC POINTS

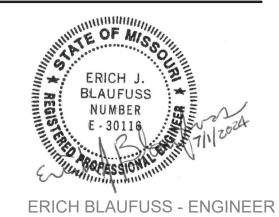
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HVAC ZONE CONTROL - THERAPY BUILDING SENSORY / EXERCISE HVAC NO SCALE (AHU-3E)

POINT	NAME		P	OINT DESCRIPTION					ALARM		TREND		FIELD DEVICE DESCRIPTION			
POINT DESIGNATION	CONTROLLER NAME	INPUT OUTPUT TYPE	DESCRIPTION	TYPE	SET POINT	UNITS	MONITOR	ADJUST ZELON	THRESHOLD	TREND	FREQUENCY	ARCHIVE	INSTRUMENT TYPE	SIGNAL	RANGE	REMARKS
ZN-T	TP-125	Al	ZONE TEMPERATURE	TEMPERATURE	-	DEGREE F°	ХО	VERRIDE -	-	Х	15 MIN.	1 WEEK	WALL MOUNTED TEMP. SENSOR	OHMS	-	1
ZN-T-SP	TP-125	Al	ZONE TEMPERATURE SETPOINT ADJUST	-	-	DEGREE F°	ХО	VERRIDE -	-	X	15 MIN.	1 WEEK	WALL MOUNTED TEMP. SENSOR	RESISTER	-	1
SF-SS	TP-AHU3E	DO	SUPPLY FAN START/STOP COMMAND	COMMAND	-	ON/OFF	X O	VERRIDE -	-	X	cos	1 WEEK	RELAY	CONTACT	OPEN/CLOSED	1
SF-ST	TP-AHU3E	DI	SUPPLY FAN STATUS	STATUS	-	RUNNING/OFF	ХО	VERRIDE X	STATUS OFF WHEN COMMAND IS ON	X	COS.	1 WEEK	CURRENT SWITCH	CONTACT	OPEN/CLOSED	1
SA-T	TP-AHU3E	Al	SUPPLY AIR TEMPERATURE	TEMPERATURE	-	DEGREE F°	ХО	VERRIDE -	-	X	15 MIN.	1 WEEK	RIGID DUCT TEMPERATURE SENSOR	OHMS	-30 TO 250 F°	1
LLT	TP-AHU3E	HW	LOW LIMIT TEMPERATURE SWITCH	HW	35°F	HW	-		-	-	-	-	LOW LIMIT TEMPERATURE SWITCH	CONTACT	OPEN/CLOSED	1
HWP-SS	TP-AHU3E	DO	COIL CIRC. PUMP START/STOP COMMAND	START/STOP	-	ON/OFF	ΧО	VERRIDE -	-	X	cos	1 WEEK	RELAY	CONTACT	OPEN/CLOSED	2
HWP-ST	TP-AHU3E	DI	COIL CIRC. PUMP STATUS	STATUS	-	RUNNING/NOT RUNNING	X 0	VERRIDE X	STATUS OFF WHEN COMMAND IS ON	X	cos	1 WEEK	CURRENT SWITCH	CONTACT	OPEN/CLOSED	2
HCV-C	TP-AHU3E	AO	HEATING CONTROL VALVE COMMAND	COMMAND	-	%OPEN	ХО	VERRIDE -	-	X	15 MIN.	1 WEEK	ELECTRONIC CONTROL VALVE	2-10V DC	0 TO 100%	2
OA-D	TP-AHU3E	AO	OUTSIDE AIR DAMPER COMMAND	COMMAND	_	%OPEN	ХО	VERRIDE -	_	X	15 MIN.	1 WEEK	ELECTRONIC DAMPER ACTUATOR	2-10V DC	0 TO 100%	1
RA-D	TP-AHU3E	AO	RETURN AIR DAMPER COMMAND	COMMAND	-	%OPEN	ХО	VERRIDE -	-	X	15 MIN.	1 WEEK	ELECTRONIC DAMPER ACTUATOR	2-10V DC	0 TO 100%	1
DO DIGITAL AI ANALOG	MBOLS AND A INPUT TO BA OUTPUT TO BA OUTPUT TO BA OUTPUT TO BA	S BAS AS	ONS NET NETWORKED POINTS BAS BUILDING AUTOMATION SYSTEM HW HARD WIRED INTERLOCK/SAFETY	COS CHANGE CMD COMMA MIN MINUTE					MIRED CONTROL POINT TO REMAIN. IATED WITH DEMOLISHED STEAM VALVE.	. PR	OVIDE NEW CO	NTROLS FOR H	IEATING HOT WATER EQUIPMENT AND MODIFY CO	NTROLS PROGRAM	IMING.	

STATE OF MISSOURI MICHAEL L. PARSON, GOVERNOR



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OFFICE OF ADMINISTRATION DIVISION OF FACILITIES MANAGEMENT, DESIGN AND CONSTRUCTION

DEPARTMENT OF MENTAL HEALTH

REPLACE BOILER AND HVAC

BELLEFONTAINE HABILITATION CENTER ST. LOUIS, MO

PROJECT # M2307-01 SITE # 7356 FACILITY # 6517356013 6517356014, 6517356017 6517356018

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ISSUE DATE: 07/01/2024

M2307-01-735

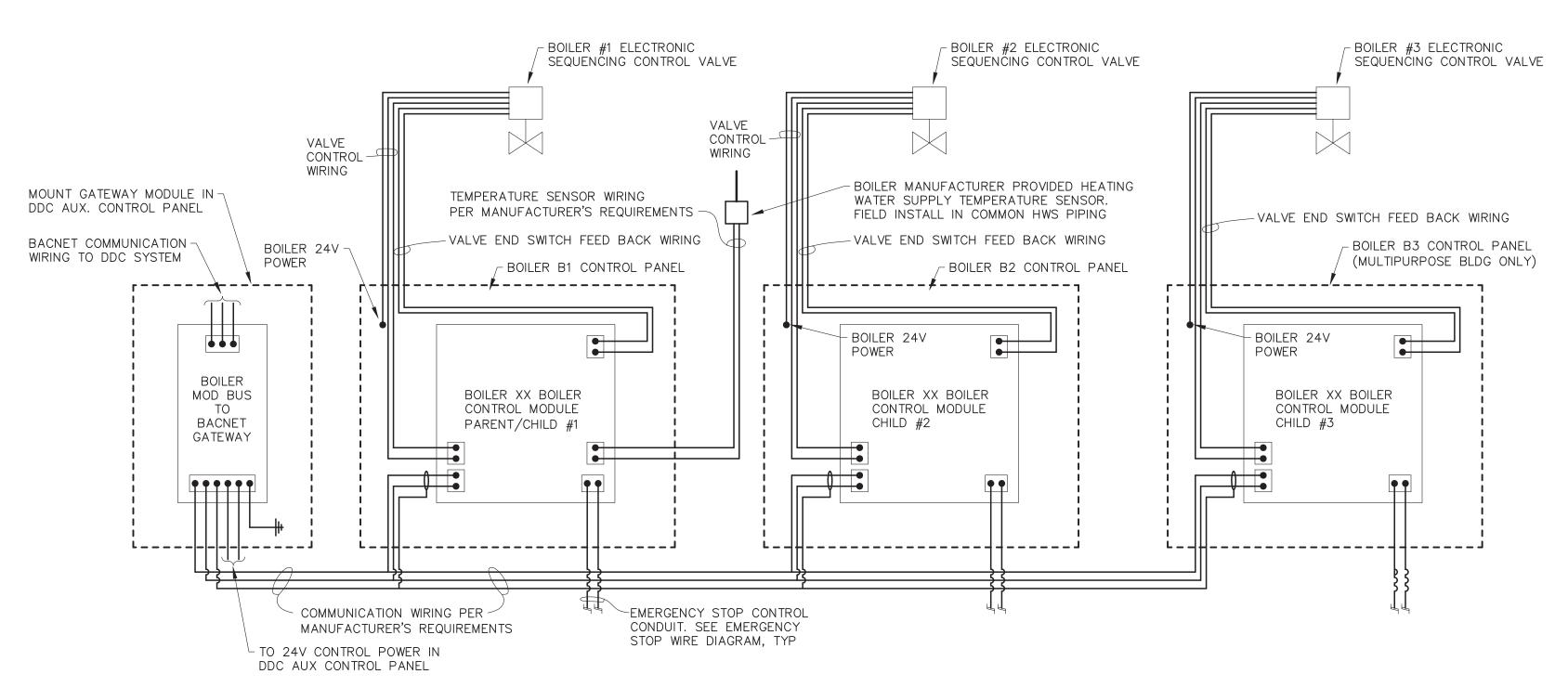
CAD DWG FILE: M2307-01-73561651735601X-M-613
DRAWN BY: RJS
CHECKED BY: EJB
DESIGNED BY: EJB

SHEET TITLE:

HVAC ZONE
CONTROL
DIAGRAM
& TC POINTS

SHEET NUMBER:

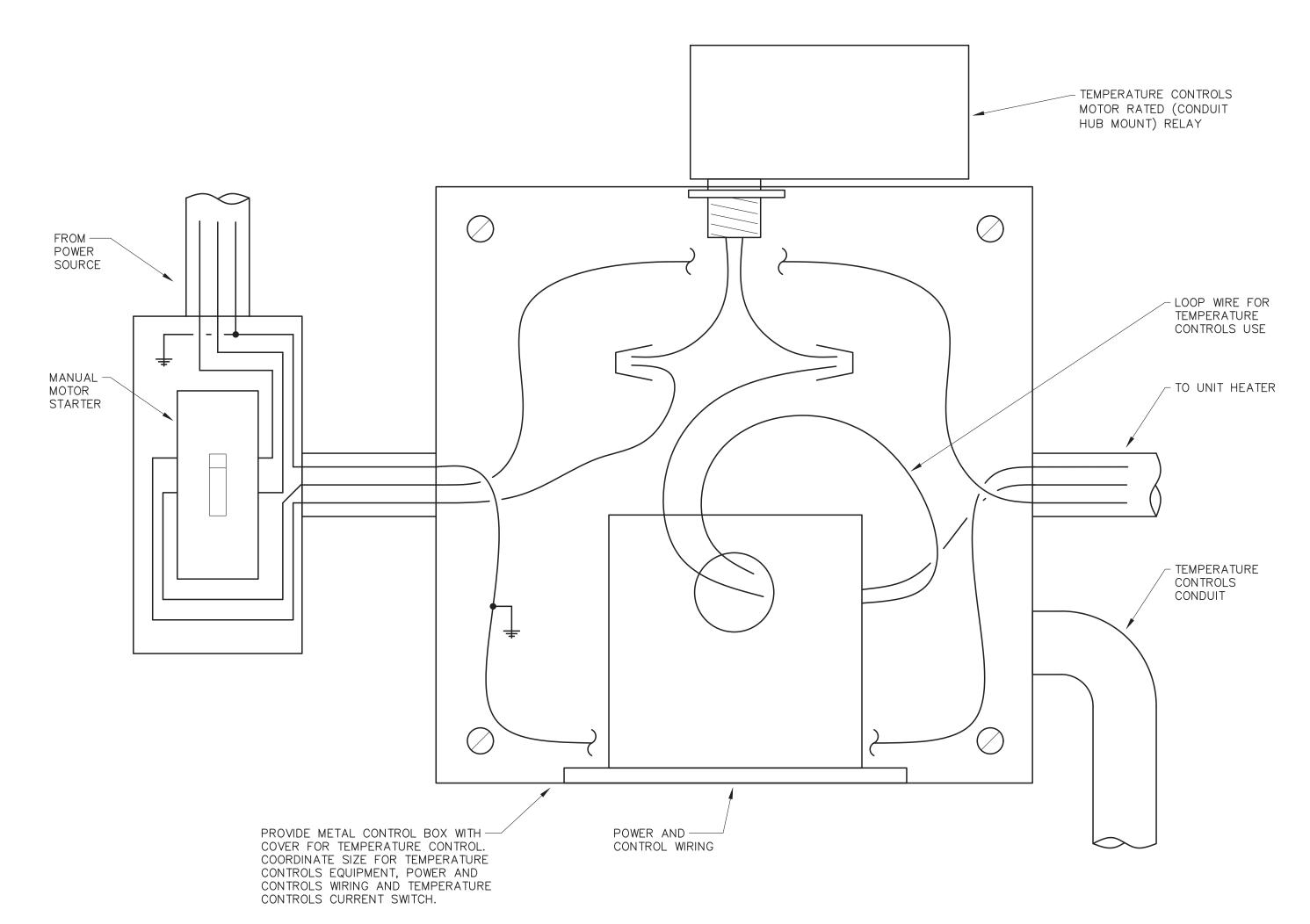
M-613



BOILER SYSTEM SEQUENCING AND TEMPERATURE CONTROL WIRE DIAGRAM

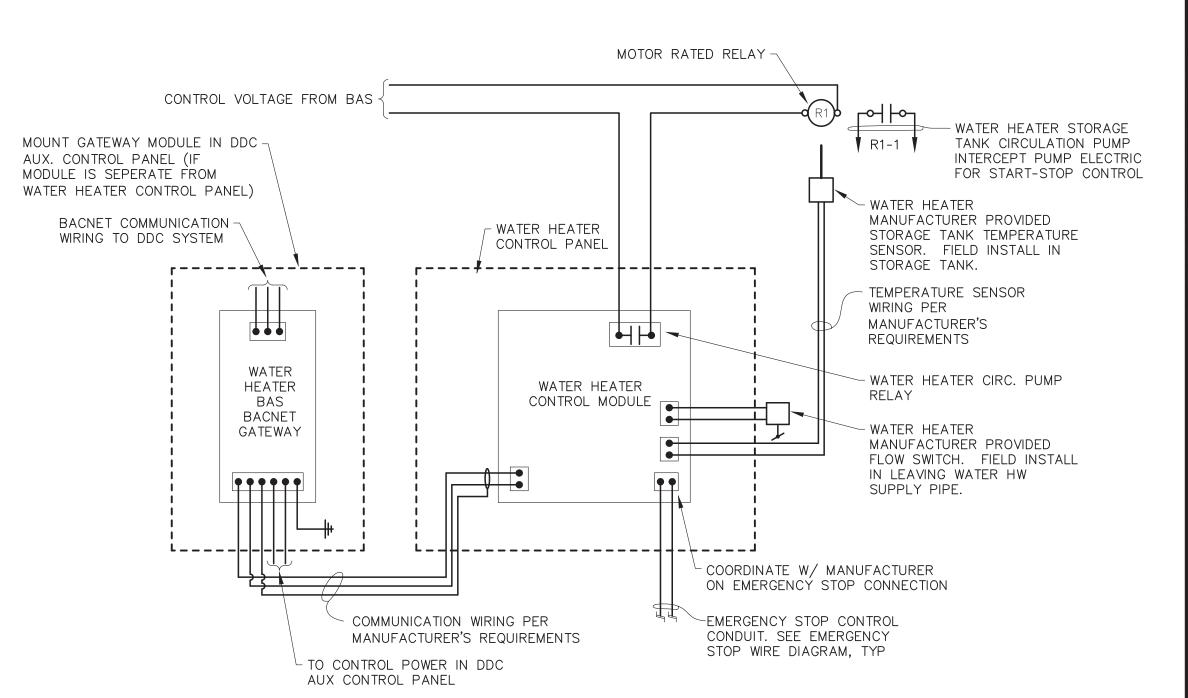
VERIFY ALL CONNECTIONS AND WIRING REQUIREMENTS WITH BOILER MANUFACTURER NOTE: WIRING SHOWN IS FIELD WIRED

WAREHOUSE - TWO (2) BOILERS INDUSTRIES - TWO (2) BOILERS MULTIPURPOSE - THREE (3) BOILERS



UNIT HEATER POWER AND CONTROLS DETAIL

NO SCALE



WATER HEATER TEMPERATURE CONTROL WIRE DIAGRAM

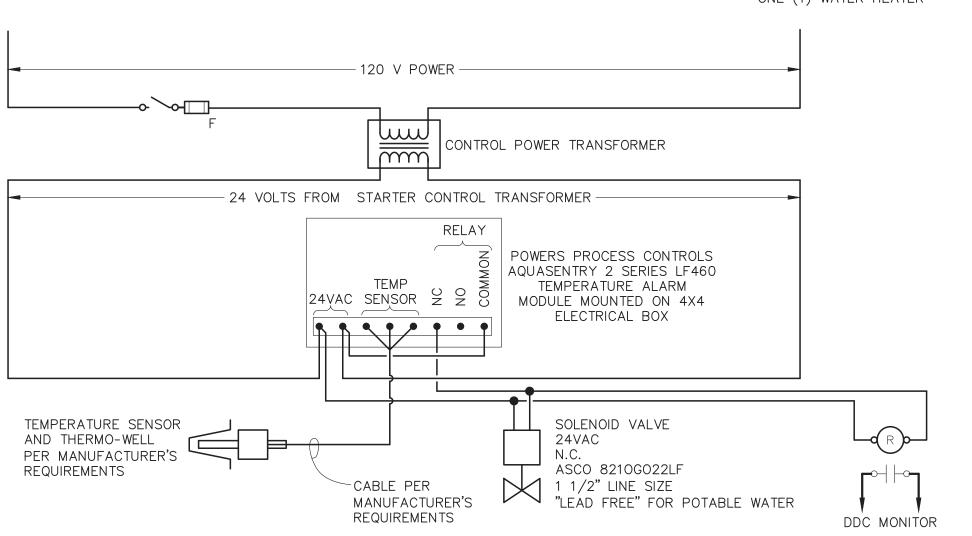
VERIFY ALL CONNECTIONS AND WIRING REQUIREMENTS WITH WATER HEATER MANUFACTURER NOTE: WIRING SHOWN IS FIELD WIRED

MULTIPURPOSE - ONE (1) WATER HEATER

EXTEND FROM AUX. PANEL INTERIOR - PUSH/PULL - MULTI-POLE RELAY EMERGENCY SHUT-OFF MOUNT IN AUX. PANEL ▼ R1-1 EXTERIOR - BREAK LENS - PUSH BUTTON BOILER B-1 EMERGENCY SHUT-OFF **EMERGENCY** SWITCH (LOCATE AT SHUTOFF CONTACT BOILER ROOM DOOR, SEE FLOOR PLANS) **▼** R1-2 BOILER B-2 EMERGENCY SHUTOFF CONTACT ▼ R1-3 BOILER B-3 EMERGENCY SHUTOFF CONTACT MULTIPURPOSE BUILDING ONLY ▼ R1-4 WATER HEATER WH-5 EMERGENCY SHUTOFF CONTACT

BOILERS EMERGENCY STOP WIRE DIAGRAM

WAREHOUSE - TWO (2) BOILERS INDUSTRIES - TWO (2) BOILERS MULTIPURPOSE - THREE (3) BOILERS - ONE (1) WATER HEATER



DOMESTIC HOT WATER ANT-SCALD CONTROLLER WIRE DIAGRAM NO SCALE

STATE OF MISSOURI MICHAEL L. PARSON, **GOVERNOR**



ERICH BLAUFUSS - ENGINEER MO#E30116



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OFFICE OF ADMINISTRATION DIVISION OF FACILITIES MANAGEMENT, **DESIGN AND CONSTRUCTION**

DEPARTMENT OF MENTAL HEALTH

REPLACE BOILER AND HVAC

BELLEFONTAINE HABILITATION CENTER ST. LOUIS, MO

PROJECT # M2307-01 7356

FACILITY # 6517356013 6517356014, 6517356017 6517356018

REVISION DATE **REVISION** DATE: REVISION DATE:

ISSUE DATE: 07/01/2024

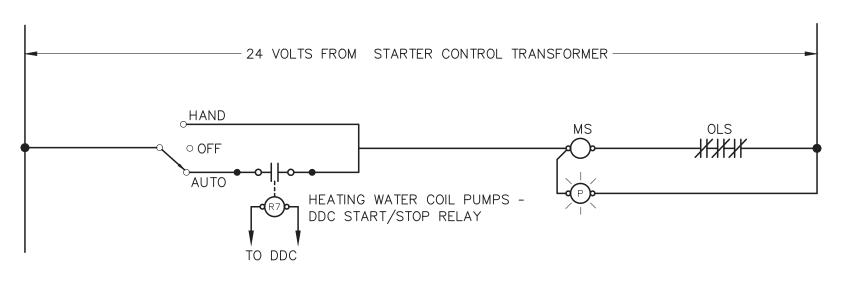
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CHECKED BY: DESIGNED BY: EJE

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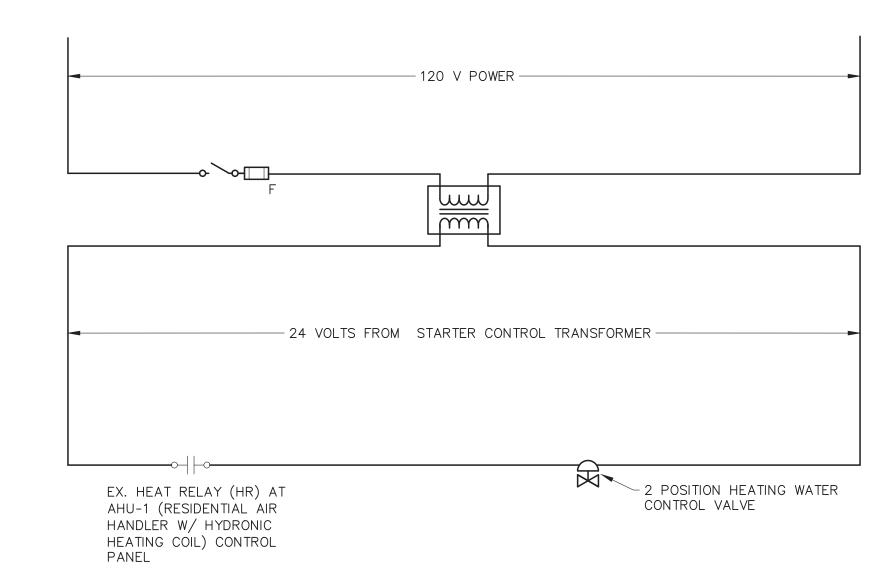
WIRING DIAGRAMS AND DETAILS

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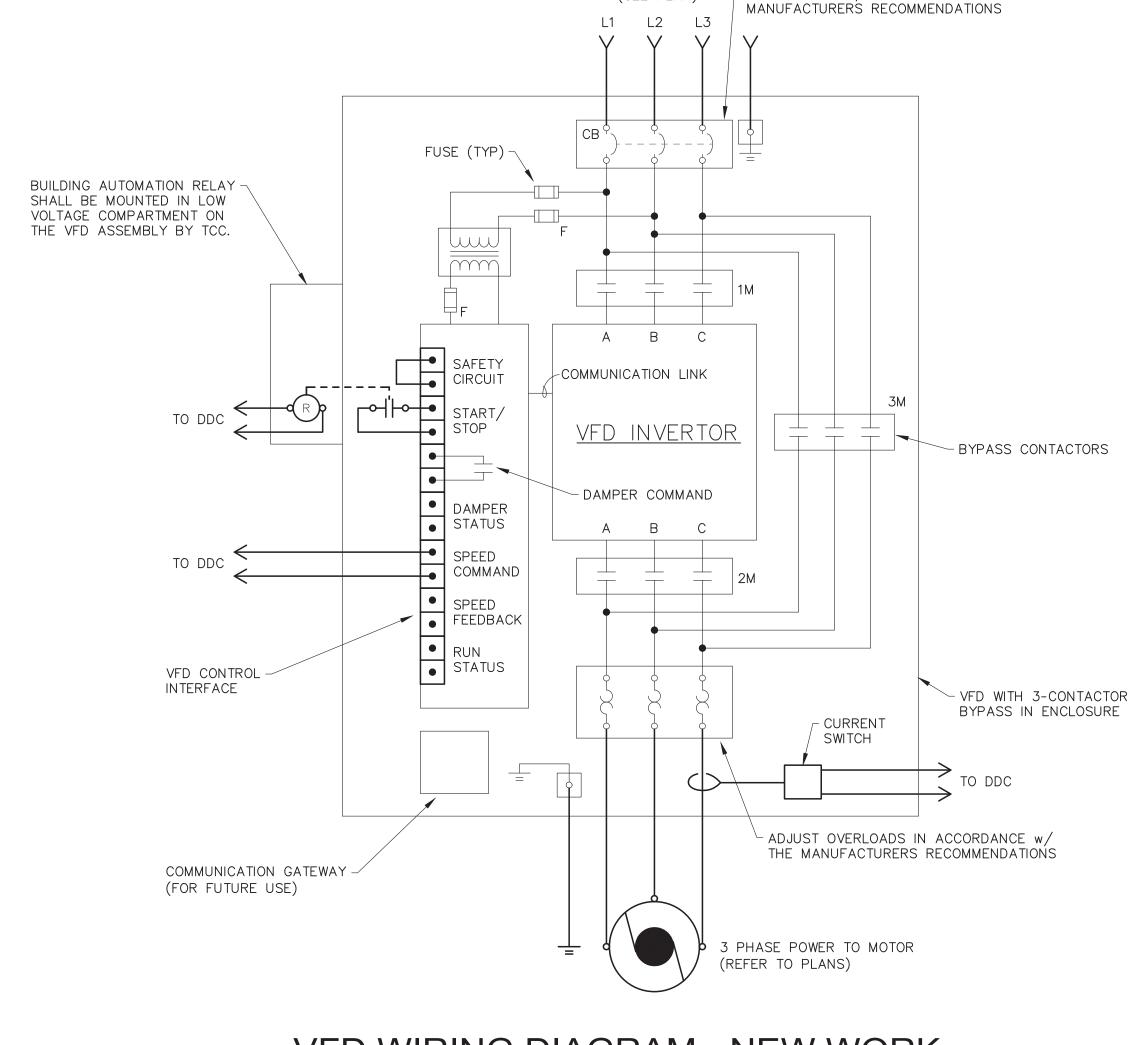


MOTOR CONTROL STARTER CONNECTION DIAGRAM - NEW WORK

NO SCALE HEATING WATER COIL AND FTR CIRC. PUMPS - NEW MOTOR STARTERS



HVAC ZONE CONTROL - INDUSTRIES OFFICES NO SCALE (AHU-1, AHU-2)



3 PHASE POWER

SOURCE

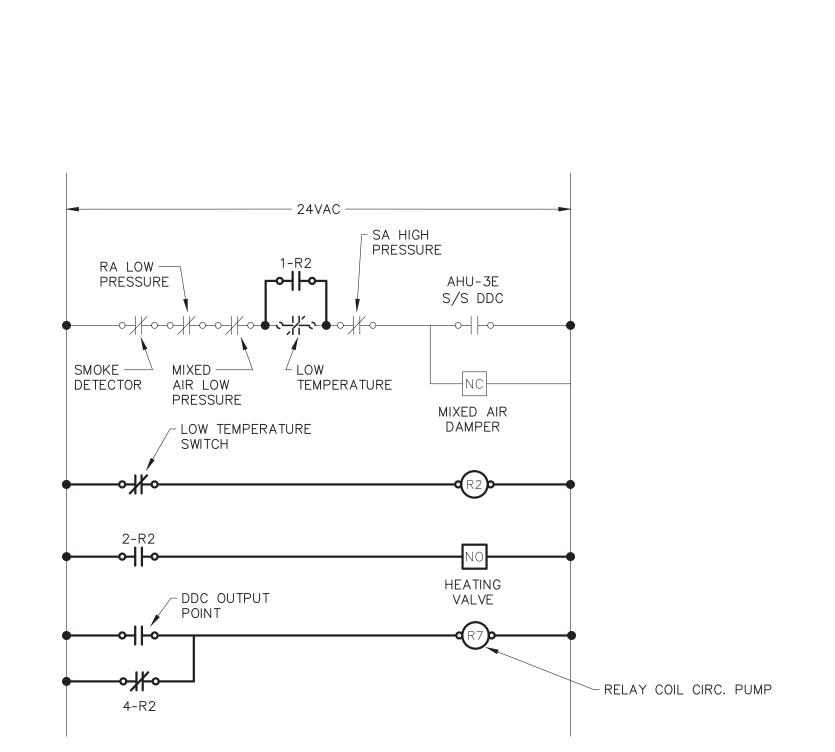
(SEE PLAN)

- ADJUST CIRCUIT BREAKERS IN

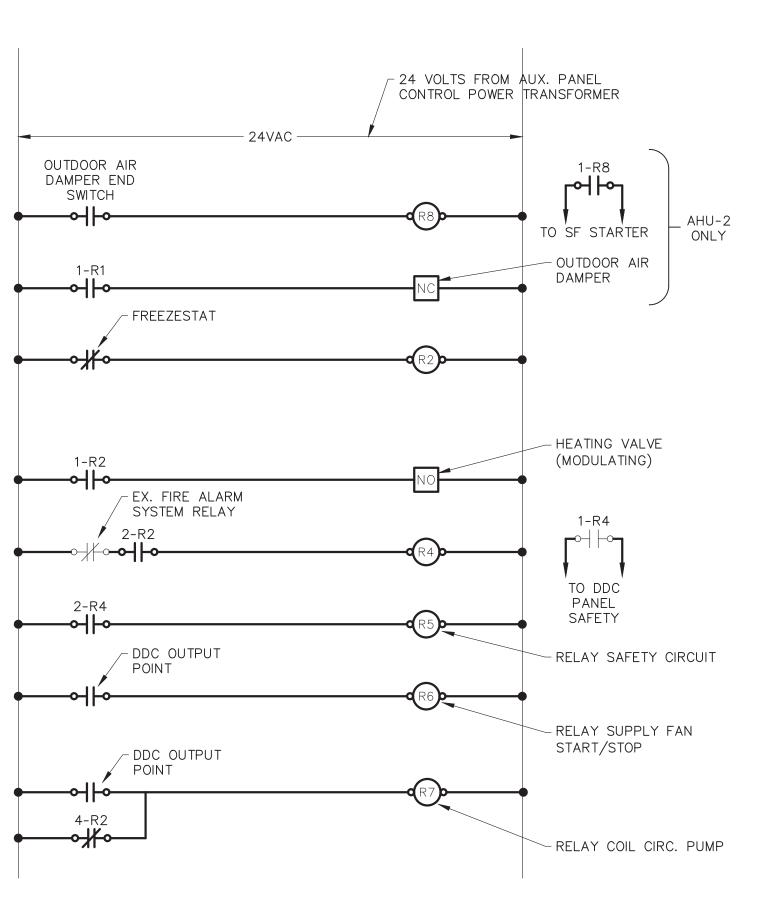
ACCORDANCE w/ THE

VFD WIRING DIAGRAM - NEW WORK

NO SCALE HEATING WATER BUILDING PUMPS

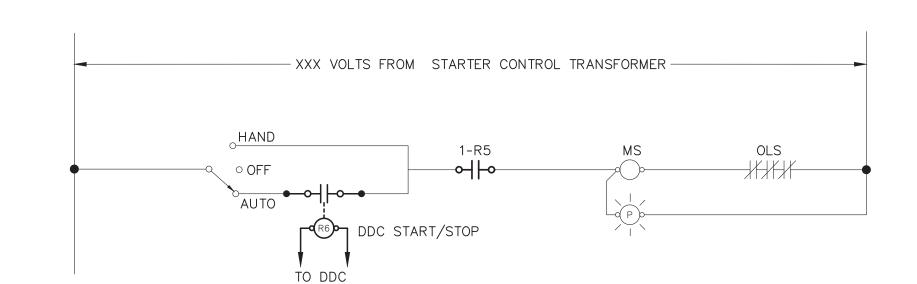


RELAY LOGIC DIAGRAM - NEW WORK NO SCALE EXISTING THERAPY BUILDING AHU-3E



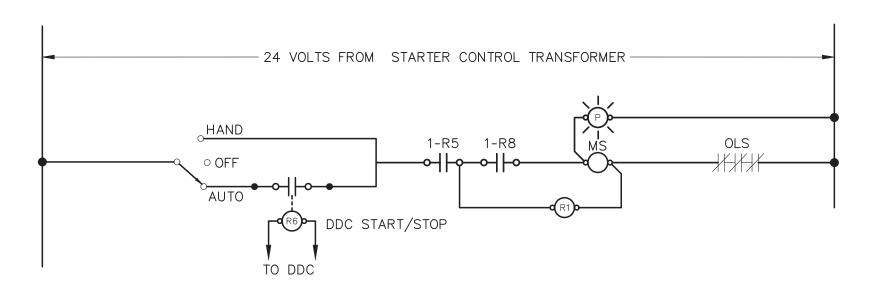
RELAY LOGIC DIAGRAM - NEW WORK NO SCALE EXISTING THERAPY POOL AHU-2
EXISTING LOCKER ROOMS AHU-1 SIMILAR

CONNECTION DIAGRAM - NEW WORK NO SCALE EXISTING THERAPY POOL, AHU-2 W/ NEW MOTOR STARTER



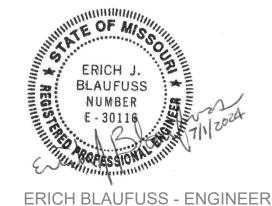
MOTOR CONTROL STARTER CONNECTION DIAGRAM - NEW WORK

NO SCALE EXISTING THERAPY BUILDING AHU-1, EXISTING MOTOR STARTER



MOTOR CONTROL STARTER

STATE OF MISSOURI MICHAEL L. PARSON, **GOVERNOR**



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DEPARTMENT OF MENTAL HEALTH

REPLACE BOILER AND HVAC

BELLEFONTAINE HABILITATION CENTER ST. LOUIS, MO

PROJECT # M2307-01 7356 FACILITY # 6517356013 6517356014, 6517356017

6517356018

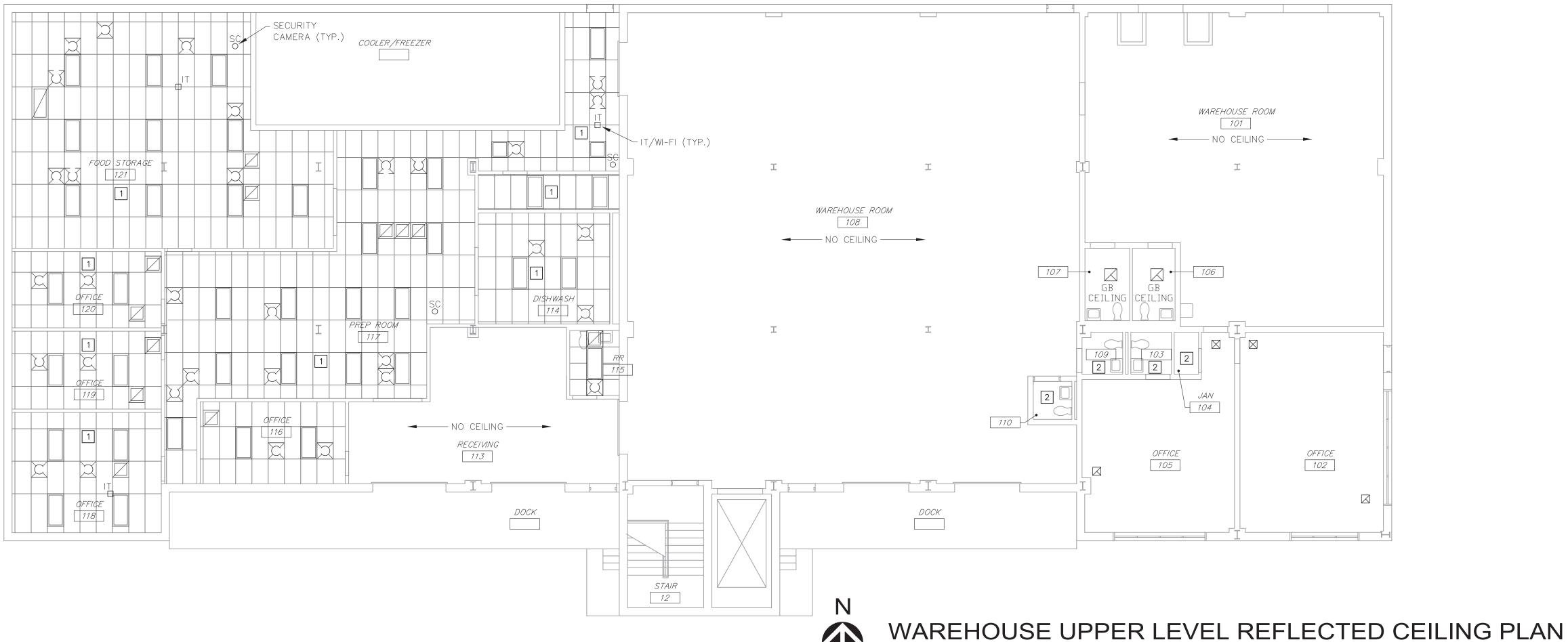
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ISSUE DATE: 07/01/2024

CAD DWG FILE: M2307-01-7356-651735601X-M-615 DRAWN BY: CHECKED BY: DESIGNED BY: EJE

SHEET TITLE: MOTOR CONTROL, RELAY LOGIC & VFD WIRING DIAGRAMS

SHEET NUMBER:



(THIS SHEET ONLY)

- 1. CONTRACTOR SHALL PROTECT ANY ITEM REMOVED WITH THE INTENT TO REPLACE INCLUDING LAY-IN CEILING SUSPENSION PIECES AND TILES (WHERE INDICATED TO BE SALVAGED), LIGHT FIXTURES, EXIT LIGHTS, FIRE ALARM DEVICES, SPRINKLER ESCUTCHEON PLATES, ETC. CONTRACTOR SHALL REPLACE ITEMS DAMAGED BY THEIR OWN FORCES OR NEGLECT IN PROTECTING STORED ITEMS.
- 2.CONTRACTOR SHALL PROTECT ALL EXISTING FLOOR, WALL AND CEILING SURFACES IN AREAS OF WORK AND EQUIPMENT AND PERSONNEL ACCESS. CONTRACTOR SHALL REPAIR OR REPLACE DAMAGED FLOOR, WALL AND CEILING SURFACES AND BUILDING COMPONENTS.
- 3. THIS IS A FULLY SPRINKLED BUILDING. SPRINKLER HEADS ARE NOT SHOWN ON THESE REFLECTED CEILING PLANS. ASSUME ALL SPRINKLER HEADS ARE RECESSED PENDANT HEADS. REMOVE, SALVAGE AND REPLACE SPRINKLER HEAD ESCUTCHEON AS REQUIRED FOR CEILING ACCESS.
- 4.CONTRACTOR SHALL COORDINATE WITH ABATEMENT SUB-CONTRACTOR REGARDING EXTENT OF CEILING REMOVE TO PROVIDE CLEARANCES FOR WORKER ACCESS AND SPACE FOR CONTAINMENT SYSTEMS.

KEYED NOTES:

(THIS SHEET ONLY)

- 1 REMOVE THE ROOM'S EXISTING LAY-IN CEILING INCLUDING CEILING TILES AND SUSPENSION SYSTEM AS REQUIRED TO GAIN ACCESS TO MECHANICAL, ELECTRICAL AND ABATEMENT/DEMOLITION WORK. REMOVED LAY-IN CEILING SHALL BE SALVAGED AND REINSTALLED AFTER IS MECHANICAL EQUIPMENT IS INSTALLED. TEMPORARILY REMOVE OR TEMPORARILY SUPPORT EXISTING LIGHT FIXTURES AND FIRE ALARM/ELECTRONIC DEVICES AS REQUIRED TO GAIN ACCESS TO MECHANICAL WORK. REFER TO MECHANICAL DRAWINGS FOR THE EXTENT OF MECHANICAL WORK, INCLUDING REPLACEMENT OF MECHANICAL EQUIPMENT AND ASSOCIATED DUCTWORK AND PIPING. REFER TO ELECTRICAL DRAWINGS FOR ASSOCIATED ELECTRICAL EQUIPMENT. REMOVABLE SPRINKLER ESCUTCHEON PLATES SHALL BE SALVAGED FOR REINSTALLATION. REINSTALL EXISTING LAY-IN CEILING INCLUDING SALVAGED CEILING TILES AND SUSPENSION SYSTEM AFTER NEW EQUIPMENT IS INSTALLED. FURNISH AND INSTALL MATCHING REPLACEMENT CEILING COMPONENTS THAT CANNOT BE REUSED. REINSTALL OR REPOSITION EXISTING LIGHT FIXTURES AND FIRE ALARM/ELECTRONIC
- 2 REMOVE THE ROOM'S EXISTING 12"X12" ACOUSTIC CEILING TILE INCLUDING CEILING TILES AND SUSPENSION SYSTEM AS REQUIRED TO GAIN ACCESS TO MECHANICAL, ELECTRICAL AND ABATEMENT/DEMOLITION WORK. REMOVED CEILING TILES SHALL BE DISPOSED AND NEW TILES PROVIDED TO PATCH BACK CEILING AFTER MECHANICAL EQUIPMENT IS INSTALLED. TEMPORARILY REMOVE OR TEMPORARILY SUPPORT EXISTING LIGHT FIXTURES AND FIRE ALARM/ELECTRONIC DEVICES AS REQUIRED TO GAIN ACCESS TO MECHANICAL WORK. REFER TO MECHANICAL DRAWINGS FOR THE EXTENT OF MECHANICAL WORK, INCLUDING REPLACEMENT OF MECHANICAL EQUIPMENT AND ASSOCIATED DUCTWORK AND PIPING. REFER TO ELECTRICAL DRAWINGS FOR ASSOCIATED ELECTRICAL EQUIPMENT. REMOVABLE SPRINKLER ESCUTCHEON PLATES SHALL BE SALVAGED FOR REINSTALLATION. FURNISH AND INSTALL MATCHING REPLACEMENT CEILING COMPONENTS THAT CANNOT BE REUSED. REINSTALL OR REPOSITION EXISTING LIGHT FIXTURES AND FIRE ALARM/ELECTRONIC DEVICES.

STATE OF MISSOURI MICHAEL L. PARSON, **GOVERNOR**



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DEPARTMENT OF MENTAL HEALTH

REPLACE BOILER AND HVAC

BELLEFONTAINE HABILITATION CENTER ST. LOUIS, MO

7356 FACILITY # 6517356013 6517356014, 6517356017 6517356018

PROJECT # M2307-01

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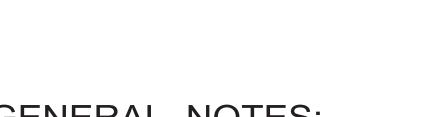
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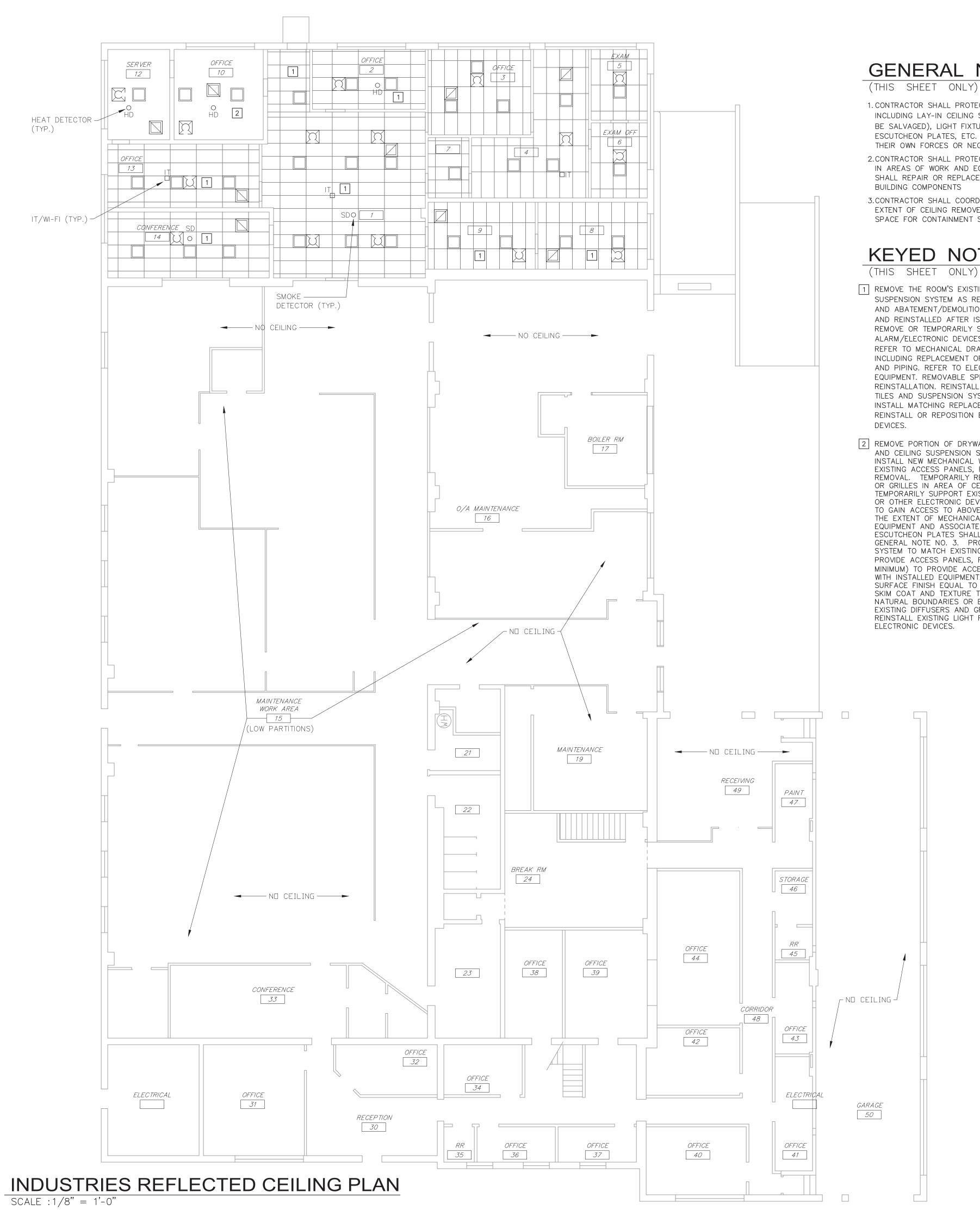
CAD DWG FILE: M2307-01-7356-DRAWN BY: CHECKED BY: DESIGNED BY: EJB

SHEET TITLE:

WAREHOUSE UPPER LEVEL REFLECTED CEILING PLAN

SHEET NUMBER:





(THIS SHEET ONLY)

1. CONTRACTOR SHALL PROTECT ANY ITEM REMOVED WITH THE INTENT TO REPLACE INCLUDING LAY-IN CEILING SUSPENSION PIECES AND TILES (WHERE INDICATED TO BE SALVAGED), LIGHT FIXTURES, EXIT LIGHTS, FIRE ALARM DEVICES, SPRINKLER ESCUTCHEON PLATES, ETC. CONTRACTOR SHALL REPLACE ITEMS DAMAGED BY THEIR OWN FORCES OR NEGLECT IN PROTECTING STORED ITEMS.

2.CONTRACTOR SHALL PROTECT ALL EXISTING FLOOR, WALL AND CEILING SURFACES IN AREAS OF WORK AND EQUIPMENT AND PERSONNEL ACCESS. CONTRACTOR SHALL REPAIR OR REPLACE DAMAGED FLOOR, WALL AND CEILING SURFACES AND BUILDING COMPONENTS

3.CONTRACTOR SHALL COORDINATE WITHE ABATEMENT SUB-CONTRACTOR REGARDING EXTENT OF CEILING REMOVE TO PROVIDE CLEARANCES FOR WORKER ACCESS AND SPACE FOR CONTAINMENT SYSTEMS.

KEYED NOTES:

- 1 REMOVE THE ROOM'S EXISTING LAY-IN CEILING INCLUDING CEILING TILES AND SUSPENSION SYSTEM AS REQUIRED TO GAIN ACCESS TO MECHANICAL, ELECTRICAL AND ABATEMENT/DEMOLITION WORK. REMOVED LAY-IN CEILING SHALL BE SALVAGED AND REINSTALLED AFTER IS MECHANICAL EQUIPMENT IS INSTALLED. TEMPORARILY REMOVE OR TEMPORARILY SUPPORT EXISTING LIGHT FIXTURES AND FIRE ALARM/ELECTRONIC DEVICES AS REQUIRED TO GAIN ACCESS TO MECHANICAL WORK. REFER TO MECHANICAL DRAWINGS FOR THE EXTENT OF MECHANICAL WORK, INCLUDING REPLACEMENT OF MECHANICAL EQUIPMENT AND ASSOCIATED DUCTWORK AND PIPING. REFER TO ELECTRICAL DRAWINGS FOR ASSOCIATED ELECTRICAL EQUIPMENT. REMOVABLE SPRINKLER ESCUTCHEON PLATES SHALL BE SALVAGED FOR REINSTALLATION. REINSTALL EXISTING LAY-IN CEILING INCLUDING SALVAGED CEILING TILES AND SUSPENSION SYSTEM AFTER NEW EQUIPMENT IS INSTALLED. FURNISH AND INSTALL MATCHING REPLACEMENT CEILING COMPONENTS THAT CANNOT BE REUSED. REINSTALL OR REPOSITION EXISTING LIGHT FIXTURES AND FIRE ALARM/ELECTRONIC
- 2 REMOVE PORTION OF DRYWALL CEILING (OR PLASTER CEILING WHERE INDICATED) AND CEILING SUSPENSION SYSTEM AS REQUIRED TO REMOVE EXISTING AND/OR INSTALL NEW MECHANICAL WORK INCLUDING ABATEMENT DEMOLITION. REMOVE EXISTING ACCESS PANELS, FRAMING AND TRIM IF IN THE AREA OF CEILING REMOVAL. TEMPORARILY REMOVE OR TEMPORARILY SUPPORT EXISTING DIFFUSERS OR GRILLES IN AREA OF CEILING REMOVAL. TEMPORARILY REMOVE OR TEMPORARILY SUPPORT EXISTING LIGHT FIXTURES, EXIT LIGHTS, FIRE ALARM DEVICES OR OTHER ELECTRONIC DEVICES IN THE AREA OF CEILING REMOVE OR AS REQUIRED TO GAIN ACCESS TO ABOVE THE CEILING. REFER TO MECHANICAL DRAWINGS FOR THE EXTENT OF MECHANICAL WORK INCLUDING THE REPLACEMENT OF MECHANICAL EQUIPMENT AND ASSOCIATED DUCTWORK AND PIPING. REMOVABLE SPRINKLER ESCUTCHEON PLATES SHALL BE SALVAGED FOR REINSTALLATION, ELSE SEE GENERAL NOTE NO. 3. PROVIDE NEW CEILING DRYWALL AND CEILING SUSPENSION SYSTEM TO MATCH EXISTING THICKNESS AFTER NEW EQUIPMENT IS INSTALLED. PROVIDE ACCESS PANELS, FRAMING AND TRIM SIZED AS INDICATED (18" X 18" MINIMUM) TO PROVIDE ACCESS TO MECHANICAL EQUIPMENT. COORDINATE LOCATION WITH INSTALLED EQUIPMENT. MUD, SAND AND PREP PATCHED DRYWALL TO SURFACE FINISH EQUAL TO EXISTING. FOR PATCHING PLASTER CEILINGS, PROVIDE SKIM COAT AND TEXTURE TO MATCH EXISTING SURFACE. PAINT CEILING TO NATURAL BOUNDARIES OR BREAK-POINT. COLOR TO MATCH EXISTING. REINSTALL EXISTING DIFFUSERS AND GRILLES PROVIDING FRAMING AND TRIM AS REQUIRED. REINSTALL EXISTING LIGHT FIXTURES, EXIT LIGHTS, FIRE ALARM DEVICES AND OTHER ELECTRONIC DEVICES.

STATE OF MISSOURI MICHAEL L. PARSON, **GOVERNOR**



ERICH BLAUFUSS - ENGINEER MO#E30116



Engineering

622 EMERSON SUITE 250 ST LOUIS, MO 63141 Phone: (314) 727-8760 bernhard.com

MO CERTIFICATE OF AUTHORITY NO. 2014025011

OFFICE OF ADMINISTRATION DIVISION OF FACILITIES MANAGEMENT, **DESIGN AND CONSTRUCTION**

DEPARTMENT OF MENTAL HEALTH

REPLACE BOILER AND HVAC

BELLEFONTAINE HABILITATION CENTER ST. LOUIS, MO

PROJECT # M2307-01 SITE# 7356 FACILITY # 6517356013 6517356014, 6517356017

REVISION: REVISION: DATE: **REVISION:** DATE:

6517356018

ISSUE DATE: 07/01/2024

CAD DWG FILE: M2307-01-7356-DRAWN BY: CHECKED BY: DESIGNED BY: EJB

SHEET TITLE:

INDUSTRIES REFLECTED CEILING PLAN

SHEET NUMBER:

(THIS SHEET ONLY)

1. CONTRACTOR SHALL PROTECT ANY ITEM REMOVED WITH THE INTENT TO REPLACE INCLUDING LAY-IN CEILING SUSPENSION PIECES AND TILES (WHERE INDICATED TO BE SALVAGED), LIGHT FIXTURES, EXIT LIGHTS, FIRE ALARM DEVICES, SPRINKLER ESCUTCHEON PLATES, ETC. CONTRACTOR SHALL REPLACE ITEMS DAMAGED BY THEIR OWN FORCES OR NEGLECT IN PROTECTING STORED ITEMS.

2.CONTRACTOR SHALL PROTECT ALL EXISTING FLOOR, WALL AND CEILING SURFACES IN AREAS OF WORK AND EQUIPMENT AND PERSONNEL ACCESS. CONTRACTOR SHALL REPAIR OR REPLACE DAMAGED FLOOR, WALL AND CEILING SURFACES AND BUILDING COMPONENTS

3.CONTRACTOR SHALL COORDINATE WITHE ABATEMENT SUB-CONTRACTOR REGARDING EXTENT OF CEILING REMOVE TO PROVIDE CLEARANCES FOR WORKER ACCESS AND SPACE FOR CONTAINMENT SYSTEMS.

KEYED NOTES:

(THIS SHEET ONLY)

REMOVE THE ROOM'S EXISTING LAY-IN CEILING INCLUDING CEILING TILES AND SUSPENSION SYSTEM AS REQUIRED TO GAIN ACCESS TO MECHANICAL, ELECTRICAL AND ABATEMENT/DEMOLITION WORK. REMOVED LAY-IN CEILING SHALL BE SALVAGED AND REINSTALLED AFTER IS MECHANICAL EQUIPMENT IS INSTALLED. TEMPORARILY REMOVE OR TEMPORARILY SUPPORT EXISTING LIGHT FIXTURES AND FIRE ALARM/ELECTRONIC DEVICES AS REQUIRED TO GAIN ACCESS TO MECHANICAL WORK. REFER TO MECHANICAL DRAWINGS FOR THE EXTENT OF MECHANICAL WORK, INCLUDING REPLACEMENT OF MECHANICAL EQUIPMENT AND ASSOCIATED DUCTWORK AND PIPING. REFER TO ELECTRICAL DRAWINGS FOR ASSOCIATED ELECTRICAL EQUIPMENT. REMOVABLE SPRINKLER ESCUTCHEON PLATES SHALL BE SALVAGED FOR REINSTALLATION. REINSTALL EXISTING LAY-IN CEILING INCLUDING SALVAGED CEILING TILES AND SUSPENSION SYSTEM AFTER NEW EQUIPMENT IS INSTALLED. FURNISH AND INSTALL MATCHING REPLACEMENT CEILING COMPONENTS THAT CANNOT BE REUSED. REINSTALL OR REPOSITION EXISTING LIGHT FIXTURES AND FIRE ALARM/ELECTRONIC DEVICES.

2 NO CEILING. EXPOSED TO STRUCTURE.



STATE OF MISSOURI MICHAEL L. PARSON, GOVERNOR



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DEPARTMENT OF MENTAL HEALTH

REPLACE BOILER AND HVAC

BELLEFONTAINE HABILITATION CENTER ST. LOUIS, MO

PROJECT # M2307-01 SITE # 7356 FACILITY # 6517356013 6517356014, 6517356017

6517356018

REVISION:
DATE:
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DATE:
REVISION:
DATE:

ISSUE DATE: 07/01/2024

CAD DWG FILE: M2307-01-7356CAD DWG FILE: 651735601X-M-703
DRAWN BY: RJS
CHECKED BY: EJB
DESIGNED BY: EJB

SHEET TITLE:

MULTIPURPOSE REFLECTED CEILING PLAN

SHEET NUMBER:

M-703



(THIS SHEET ONLY)

- 1. CONTRACTOR SHALL PROTECT ANY ITEM REMOVED WITH THE INTENT TO REPLACE INCLUDING LAY-IN CEILING SUSPENSION PIECES AND TILES (WHERE INDICATED TO BE SALVAGED), LIGHT FIXTURES, EXIT LIGHTS, FIRE ALARM DEVICES, SPRINKLER ESCUTCHEON PLATES, ETC. CONTRACTOR SHALL REPLACE ITEMS DAMAGED BY THEIR OWN FORCES OR NEGLECT IN PROTECTING STORED ITEMS.
- 2.CONTRACTOR SHALL PROTECT ALL EXISTING FLOOR, WALL AND CEILING SURFACES IN AREAS OF WORK AND EQUIPMENT AND PERSONNEL ACCESS. CONTRACTOR SHALL REPAIR OR REPLACE DAMAGED FLOOR, WALL AND CEILING SURFACES AND BUILDING COMPONENTS
- 3.CONTRACTOR SHALL COORDINATE WITHE ABATEMENT SUB-CONTRACTOR REGARDING EXTENT OF CEILING REMOVE TO PROVIDE CLEARANCES FOR WORKER ACCESS AND SPACE FOR CONTAINMENT SYSTEMS.

KEYED NOTES:

(THIS SHEET ONLY)

- REMOVE THE ROOM'S EXISTING LAY-IN CEILING INCLUDING CEILING TILES AND SUSPENSION SYSTEM AS REQUIRED TO GAIN ACCESS TO MECHANICAL, ELECTRICAL AND ABATEMENT/DEMOLITION WORK. REMOVED LAY-IN CEILING SHALL BE SALVAGED AND REINSTALLED AFTER IS MECHANICAL EQUIPMENT IS INSTALLED. TEMPORARILY REMOVE OR TEMPORARILY SUPPORT EXISTING LIGHT FIXTURES AND FIRE ALARM/ELECTRONIC DEVICES AS REQUIRED TO GAIN ACCESS TO MECHANICAL WORK. REFER TO MECHANICAL DRAWINGS FOR THE EXTENT OF MECHANICAL WORK, INCLUDING REPLACEMENT OF MECHANICAL EQUIPMENT AND ASSOCIATED DUCTWORK AND PIPING. REFER TO ELECTRICAL DRAWINGS FOR ASSOCIATED ELECTRICAL EQUIPMENT. REMOVABLE SPRINKLER ESCUTCHEON PLATES SHALL BE SALVAGED FOR REINSTALLATION. REINSTALL EXISTING LAY-IN CEILING INCLUDING SALVAGED CEILING TILES AND SUSPENSION SYSTEM AFTER NEW EQUIPMENT IS INSTALLED. FURNISH AND INSTALL MATCHING REPLACEMENT CEILING COMPONENTS THAT CANNOT BE REUSED. REINSTALL OR REPOSITION EXISTING LIGHT FIXTURES AND FIRE ALARM/ELECTRONIC
- 2 NO CEILING. EXPOSED TO STRUCTURE.

STATE OF MISSOURI MICHAEL L. PARSON, GOVERNOR



ERICH BLAUFUSS - ENGINEER MO#E30116



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OFFICE OF ADMINISTRATION DIVISION OF FACILITIES MANAGEMENT, DESIGN AND CONSTRUCTION

DEPARTMENT OF MENTAL HEALTH

REPLACE BOILER AND HVAC

BELLEFONTAINE HABILITATION CENTER ST. LOUIS, MO

PROJECT # M2307-01 SITE # 7356 FACILITY # 6517356013 6517356014, 6517356017

REVISION:
DATE:

ISSUE DATE: 07/01/2024

CAD DWG FILE: M2307-01-7356-1651735601X-M-704 DRAWN BY: RJS CHECKED BY: EJB DESIGNED BY: EJB

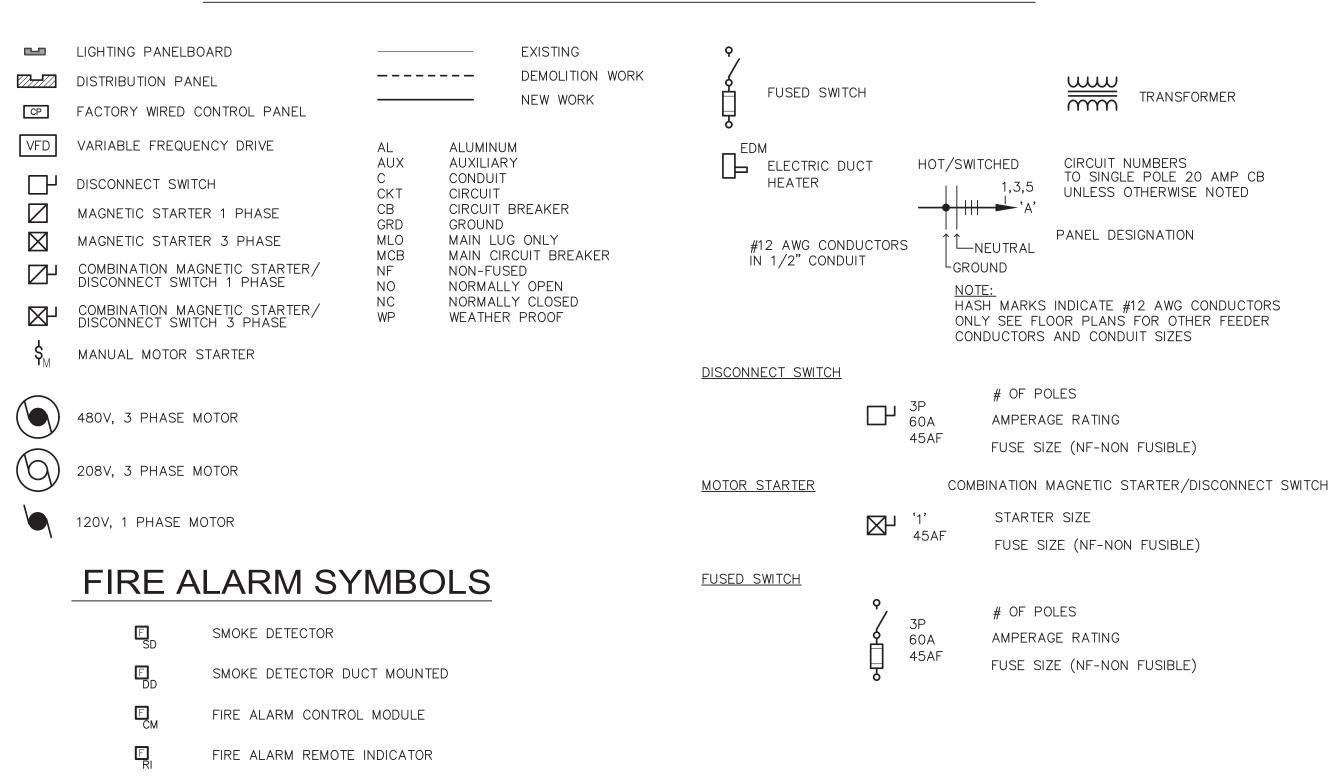
SHEET TITLE:

MULTIPURPOSE REFLECTED CEILING PLAN

SHEET NUMBER:

M-704

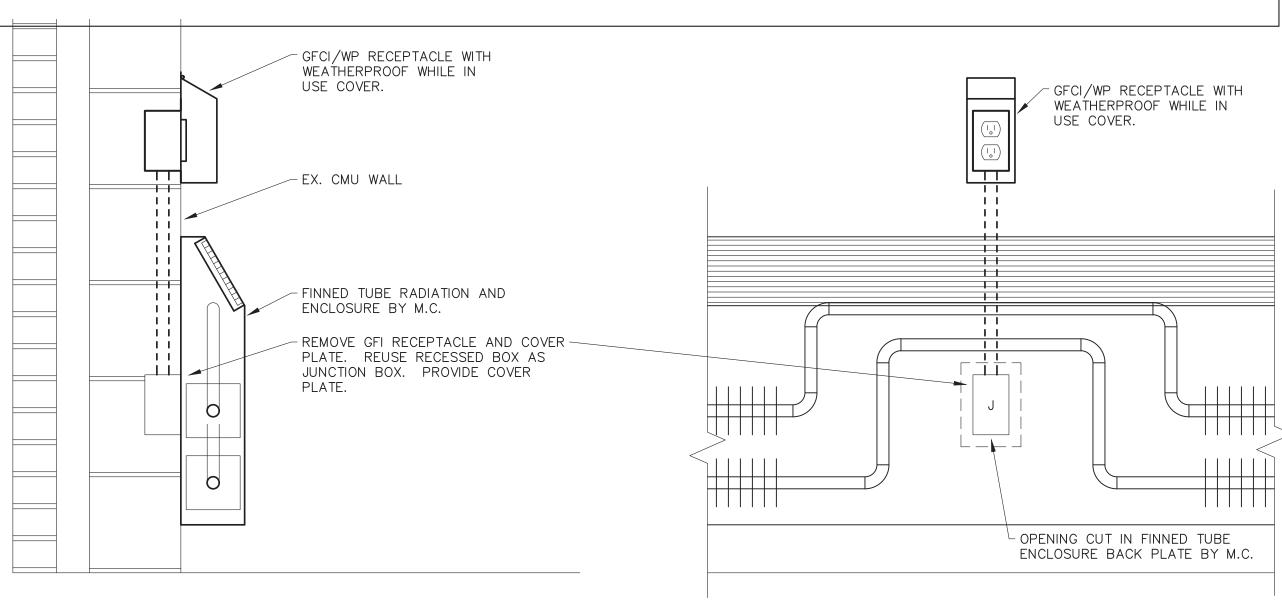
ELECTRICAL SYMBOLS AND ABBREVIATIONS



		LIGHT FIX	DULE			
FIXTURE DESIGNATION	MANUFACTURER	MODEL NUMBER	LAMP	VOLTAGE	LOAD	DESCRIPTION
Α	METALUX	4SNLED-LDSL44SL-LW-UNV-L480-CD1-U	LED	120V	38 VA	4' LED STRIP, AYC 36" CHAIN OPTION, FULL FROSTED LENS
В	SURE-LITES	APC7RSQ	LED	120V	3.7W	LED COMBO EXIT & EMER., UL924, SELF-POWERED NICKEL CADMIUM BATTERY, TEST SWITCH / POWER INDICATOR LIGHT

FIRE ALARM HORN/STROBE

	PANELBOARD SCHEDULE											
PANEL	PANEL LOCATION	PANEL	PANEL	PANEL SIZE	CIRCUIT BREAKERS			TOTAL	DESCRIPTION			
DESIGNATION	PANLE LOCATION	MOUNTING	VOLTAGE	TYPE/AMP	1 POLE	2 POLE	3 POLE	POLES	DESCRIPTION			
NCI-BP1	INDUSTRIES BOILER ROOM 17	SURFACE	120/208V 3ø 4W	MLO/225 (TOP FEED)	18-20A	-	2-30A 2-20A	42				
NOTE 1: AL	NOTE 1: ALL SHORT CIRCUIT RATING SHALL BE FULL RATED DEVICE RATING <u>NOT SERIES RATED</u> .											



THERAPY POOL OUTLET RELOCATION DETAIL SCALE: 1-1/2" = 1'-0"

ELECTRICAL GENERAL NOTES:

(ALL SHEETS)

- REFER TO WIRING DIAGRAMS ON MECHANICAL DRAWINGS FOR ELECTRICAL REQUIREMENTS ASSOCIATED WITH SAFETY WIRING, INTERLOCK WIRING, CONTROL OR SIGNAL WIRING, STARTER WIRE DIAGRAMS AND VFD DIAGRAMS. COORDINATE WORK WITH MECHANICAL CONTRACTOR AND TEMPERATURE CONTROLS CONTRACTOR.
- 2. TEMPORARILY REMOVE AND PROTECT OR TEMPORARILY SUPPORT LIGHT FIXTURES, FIRE ALARM DEVICES, EXIT LIGHTS, OTHER ELECTRONIC DEVICES, ETC. AS NEEDED TO ALLOW FOR REMOVAL OF EXISTING MECHANICAL EQUIPMENT AND/OR CEILINGS AND FOR INSTALLATION OF NEW EQUIPMENT. RE-INSTALL LIGHT FIXTURES, FIRE ALARM DEVICES, EXIST LIGHTS, OTHER ELECTRONIC DEVICES, ETC. AND RECONNECT TO EXISTING CIRCUITRY UPON COMPLETION OF MECHANICAL EQUIPMENT INSTALLATION AND/OR CEILING REPLACEMENT. SEE DRAWINGS FOR REFLECTED CEILING PLANS AND AREA OF WORK. COORDINATE WITH THE MECHANICAL CONTRACTOR IN ALL AREAS OF WORK CONCERNING THEIR ACCESS REQUIREMENTS.
- 3. WHEN WORK IS REQUIRED TO BE INSTALLED ABOVE EXISTING CEILINGS THAT ARE NOT ALREADY REMOVED FOR OTHER TRADES, REMOVE THE ROOM'S EXISTING LAY-IN CEILING INCLUDING CEILING TILES AND SUSPENSION SYSTEM AS REQUIRED TO GAIN ACCESS FOR ELECTRICAL WORK FOR SALVAGE AND REINSTALLATION AFTER ELECTRICAL EQUIPMENT IS INSTALLED. REINSTALL EXISTING LAY-IN CEILING INCLUDING SALVAGED CEILING TILES AND SUSPENSION SYSTEM AFTER NEW EQUIPMENT IS INSTALLED. FURNISH AND INSTALL MATCHING REPLACEMENT CEILING COMPONENTS THAT CANNOT BE REUSED.
- 4. REMOVE EQUIPMENT, CONDUIT, RACEWAYS AND WIRING AS INDICATED INCLUDING HANGERS, RODS, BRACKETS, ANCHOR BOLTS, SEISMIC BRACES AND CABLES AND OTHER ASSOCIATED SUPPORTS, BASES, ACCESSORIES AND SPECIALTIES.
- 5. PATCH HOLES IN WALLS AND PARTITIONS WHERE CONDUITS AND RACEWAYS ARE REMOVED. WALL AND PARTITION PATCHES SHALL MATCH EXISTING CONSTRUCTION AND FIRE RATING INCLUDING LEVEL OF SURFACE FINISH. PATCH BRICK/MASONRY WALLS, FULL THICKNESS WITH BRICK AND/OR MASONRY PRODUCTS. PATCHES EXPOSED TO VIEW SHALL BE PAINTED TO MATCH SURROUNDINGS.
- 6. PATCH HOLES IN FLOOR WHERE CONDUITS AND RACEWAYS ARE REMOVED. PROVIDE CONCRETE OR GROUT INFILL WITH REINFORCING AND SUPPORT STRUCTURAL STEEL. PROVIDE FORMS AS REQUIRED. SURFACE FINISH AND FIRE RATING SHALL MATCH EXISTING SURROUNDINGS.
- 7. CONTRACTOR SHALL PROTECT ANY ITEM REMOVED WITH THE INTENT TO SALVAGE AND REINSTALL INCLUDING LAY-IN CEILING SUSPENSION PIECES AND TILES, LIGHT FIXTURES, EXIT LIGHTS, FIRE ALARM DEVICES AND OTHER ELECTRONIC DEVICES. CONTRACTOR SHALL REPLACE ITEMS DAMAGED BY THEIR OWN FORCES OR NEGLECT IN PROTECTING STORED ITEMS.
- 8. EQUIPMENT SHALL BE INSTALLED WITH ADEQUATE CLEARANCES FOR MAINTENANCE AND SERVICE REQUIREMENTS IN ACCORDANCE WITH THE MANUFACTURES INSTALLATION INSTRUCTIONS AND RECOMMENDATIONS AND AS REQUIRED PER CODE.
- 9. SCOPE OF DEMOLITION WORK INCLUDES TRACING CIRCUITS FOR ALL ITEMS THAT ARE TO BE DISCONNECTED, REMOVED, ABANDONED OR RE-ROUTED TO THEIR SOURCE OF DISCONNECT.

LOCATION: SUPPLY FR MOUNTING: ENCLOSURE	ROM: NCI-MD SURFAC			L-L PHAS WIRES		208 3 4					BUS RA	TING: 10 ATING: 2 ATING: M	25A	
CIRCUIT NUMBER	CIRCU	IT DESCRIPTION	TRIP (AMPS)	POLES	(VOLT			B AMPS)		C AMPS)	POLES	TRIP (AMPS)	CIRCUIT DESCRIPTION	CIRCUIT NUMBER
1	RESERVED	FOR TEMPERATURE CONTROLS	20	1	1,920	1,920					1	20	RECEPTACLES	2
3	BOILER 2A		20	1			1,920	190			1	20	LIGHTS	4
5	BOILER 2B		20	1					1,920	_	1	20	SPARE	6
7	HWP-2B (V	FD @ 17A)	30	3	2,042	2,042					3	30	HWP-2B (VFD @ 17A)	8
9	-						2,042	2,042					-	10
11	-								2,042	2,042			-	12
13	HWP-2C		20	3	370	370					3	20	HWP-2D	14
15	-						370	370					-	16
17	-								370	370			-	18
19	UNIT HEATE	ERS - 2	20	1	828	828					1	20	UNIT HEATERS - 2	20
21	UNIT HEATE	ERS - 2	20	1			828	828			1	20	UNIT HEATERS - 2	22
23	UNIT HEATE	ERS - 2	20	1					828	416	2	20	FCU-2	24
25	ELECT UNIT	HEATER	20	3	1,667	416					-	-	-	26
27	-		-	-			1,667				1	20	SPARE	28
29	-		-	-					1,667		1	20	SPARE	30
31	SPARE		20	1									SPACE	32
33	SPARE		20	1									SPACE	34
35	SPACE												SPACE	36
37	SPACE												SPACE	38
39	SPACE												SPACE	40
41	SPACE												SPACE	42
·		TOTAL	LOAD:	12,403 10,			,257 9,655				•			
			TOTAL	AMPS:	3	4	2	.8	2	7				
LOAD CLAS	SSIFICATION	CONNECTED LOAD (VA)		DEMAND	/ DESIG	N FACTO	RS	ESTIMAT	ED DEMA	ND (VA)]			
LIGHTING: 190		190			125%	Ś			238					
POWER, OTHER 6,921		6,921			100%	Ś		6,921			1		TOTAI	C
RECEPTACLES: 1,920		1,920	10	0% @ 10	KVA + 5	50% @ >	10KVA	1,920					TOTAL	
MOTORS:		23,284	1	25% LAR	RGEST +	100% OT	HERS		24,816				CONNECTED LOAD:	
KITCHEN E	QUIPMENT:	0		NEC	C TABLE	220 56			0				ESTIMATED LOAD: CONNECTED CURRENT:	
		0		NEC	C TABLE	620 14			0				EST. DEMAND CURRENT:	

STATE OF MISSOURI MICHAEL L. PARSON, GOVERNOR



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OFFICE OF ADMINISTRATION DIVISION OF FACILITIES MANAGEMENT, DESIGN AND CONSTRUCTION

DEPARTMENT OF MENTAL HEALTH

REPLACE BOILER AND HVAC

BELLEFONTAINE HABILITATION CENTER
ST. LOUIS, MO

PROJECT # M2307-01 SITE # 7356 FACILITY # 6517356013 6517356014, 6517356017 6517356018

REVISION:
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DATE:

ISSUE DATE: 07/01/2024

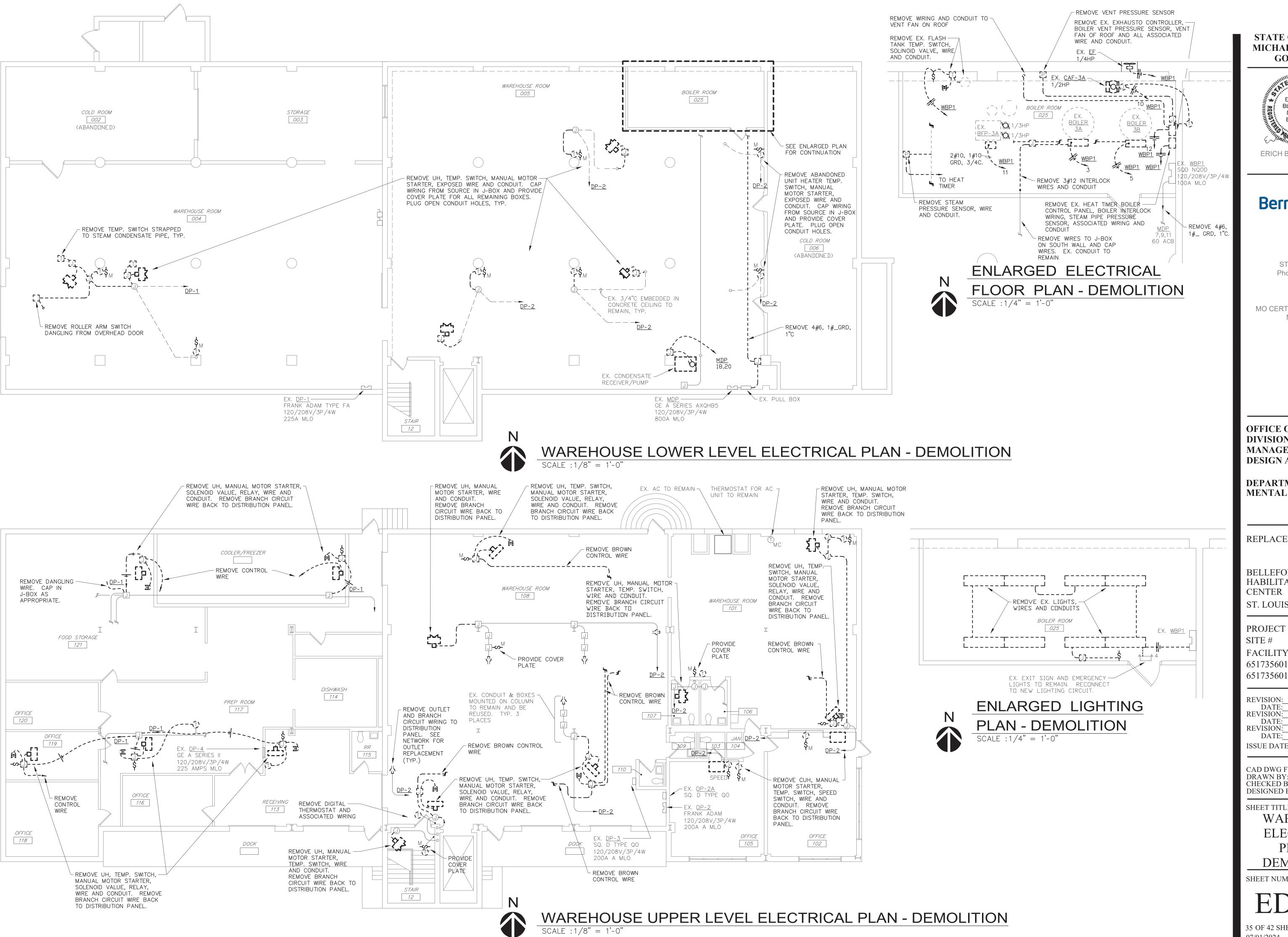
CAD DWG FILE: M2307-01-7356651735601X-E-001
DRAWN BY: RJS
CHECKED BY: EJB
DESIGNED BY: EJB

SHEET TITLE:

ELECTRICAL SYMBOLS, DETAILS & SCHEDULES

SHEET NUMBER:

E-00



STATE OF MISSOURI MICHAEL L. PARSON, **GOVERNOR**



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Engineering

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REPLACE BOILER AND HVAC

BELLEFONTAINE HABILITATION ST. LOUIS, MO

PROJECT # M2307-01 7356

FACILITY # 6517356013 6517356014, 6517356017 6517356018

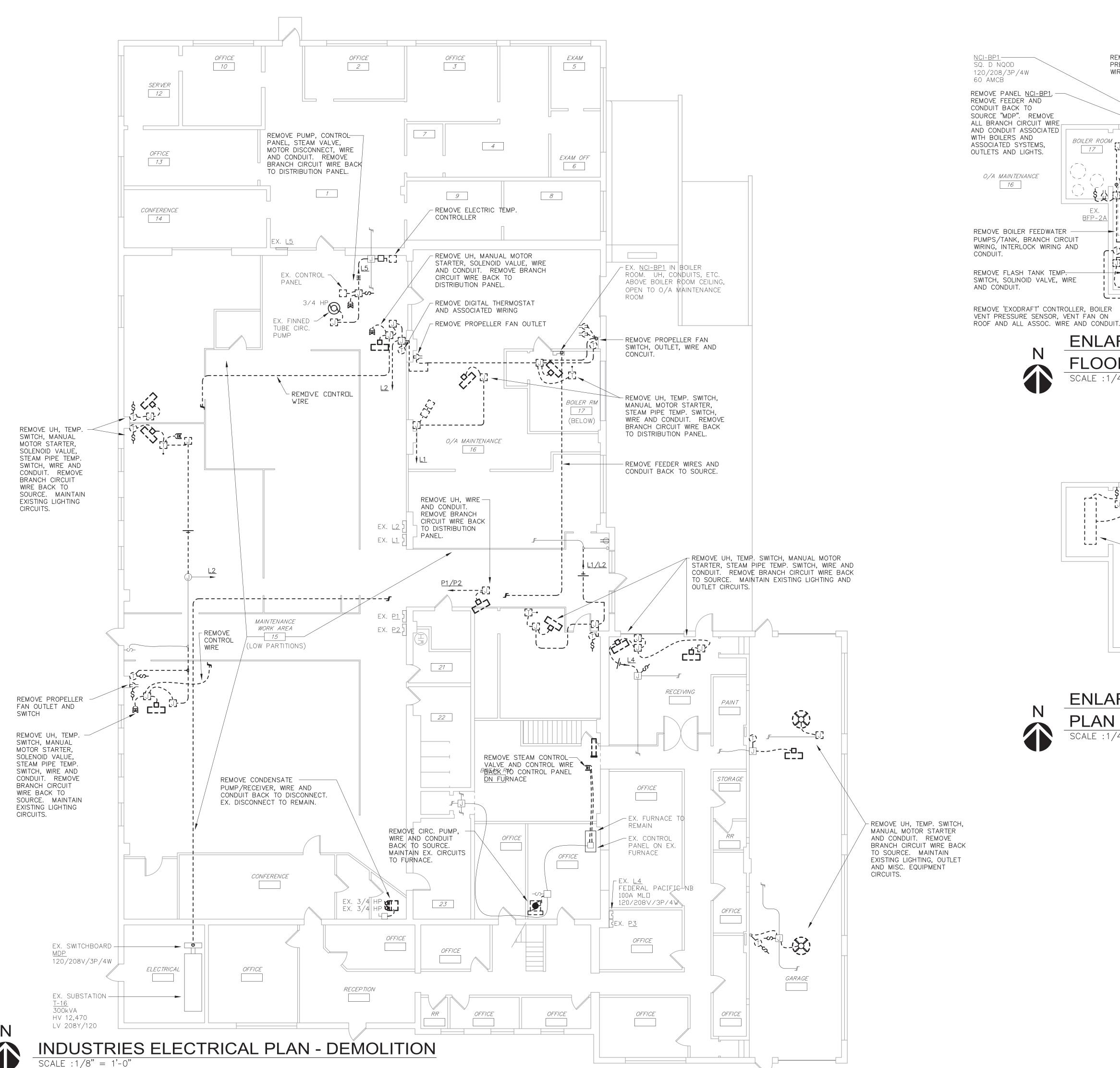
ISSUE DATE: 07/01/2024

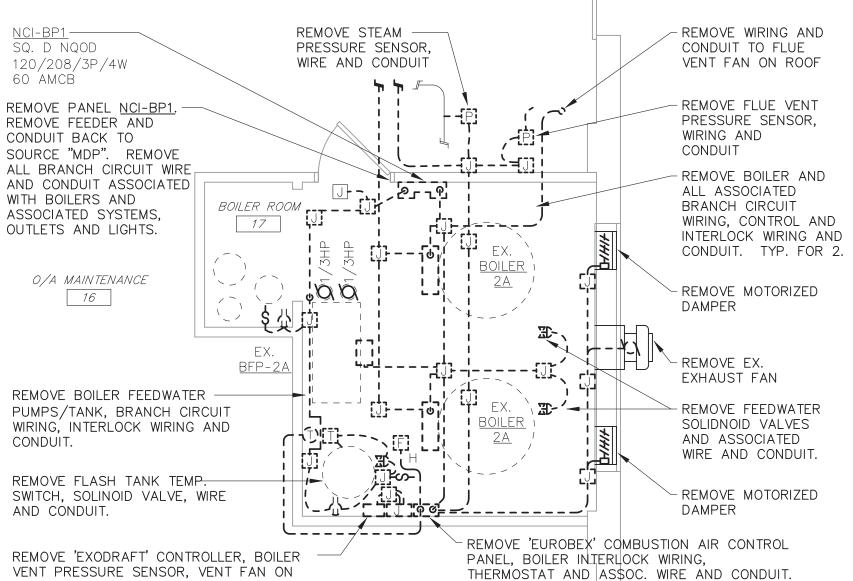
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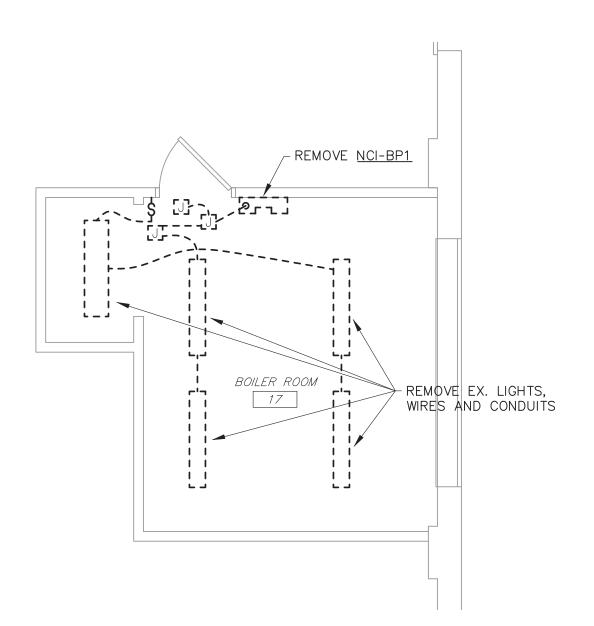
WAREHOUSE ELECTRICAL PLANS -**DEMOLITION**

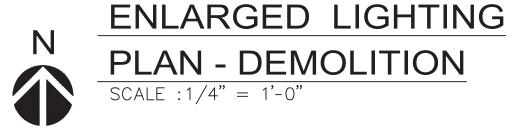
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FLOOR PLAN - DEMOLITION SCALE : 1/4" = 1'-0"





STATE OF MISSOURI MICHAEL L. PARSON, GOVERNOR



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BELLEFONTAINE
HABILITATION
CENTER
ST. LOUIS, MO

PROJECT # M2307-01 SITE # 7356

FACILITY # 6517356013 6517356014, 6517356017 6517356018

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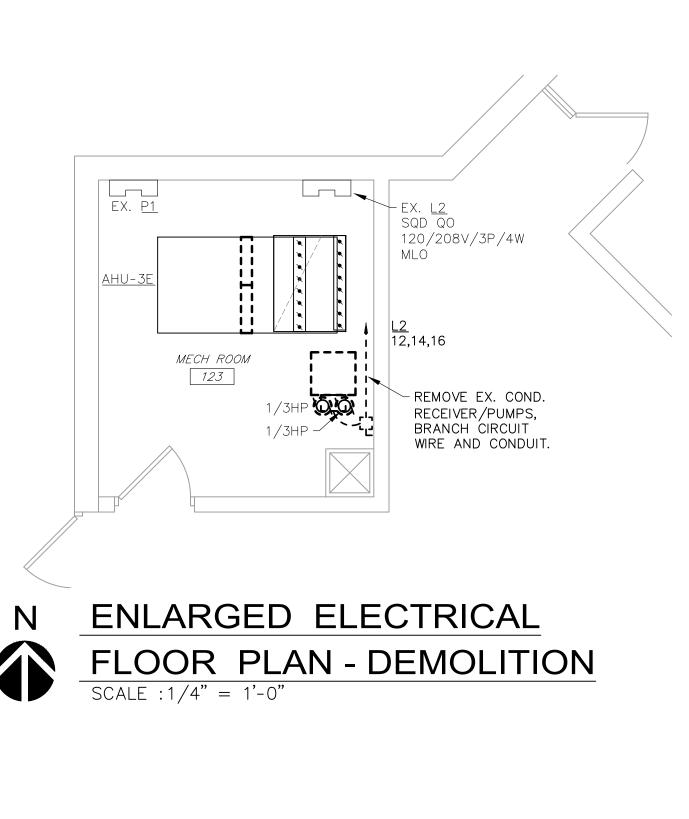
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SHEET TITLE:

INDUSTRIES
ELECTRICAL
PLANS DEMOLITION

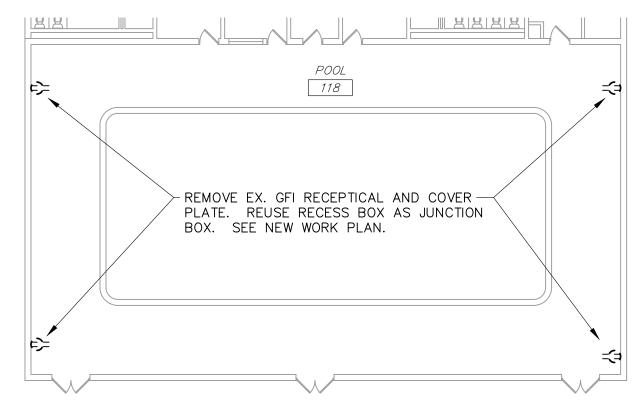
SHEET NUMBER:

ED-102



REMOVE EX. VFD
AND WIRES BACK TO
SPLICE LOCATION.
REUSE EX. CONDUIT.

EX. <u>AHU-2</u> ON ROOF TO REMAIN



 $\int EX. \frac{T-BP-1}{NQOD}$ EX. DCC CONTROL EX. OUTSIDE LIGHT TO REMAIN FOR RE-USE PANEL TO REMAIN 120/208V/3P/4W - EX. EMERG. LIGHT AND EXIT SIGN TO REMOVE BOILER 100A MLO REMAIN FOR RE-USE SHUTDOWN CONTROL BRANCH CIRCUIT WIRING, PANEL, EX. <u>T-BP-1</u> BOILER INTERLOCK WIRING AND ASSOCIATED WIRING AND CONDUIT. BOILER PLANT **~** 104 REMOVE 'EXODRAFT' CONTROLLER, BOILER VENT PRESSURE SENSOR, VENT FAN EX. EX. ON ROOF AND ALL ASSOC. WIRE AND CONDUIT. REMOVE BOILER AND ALL ASSOCIATED BRANCH -----i CIRCUIT WIRING, CONTROL AND INTERLOCK WIRING AND CONDUIT. TYP. FOR 3. REMOVE FEEDWATER SOLINOID VALVES AND ASSOCIATED WIRE AND REMOVE FLUE VENT PRESSURE SENSOR, WIRING AND CONDUIT REMOVE WIRING AND CONDUIT TO FLUE VENT FAN ON ROOF



AREA OF WORK

BOILER PLANT

104

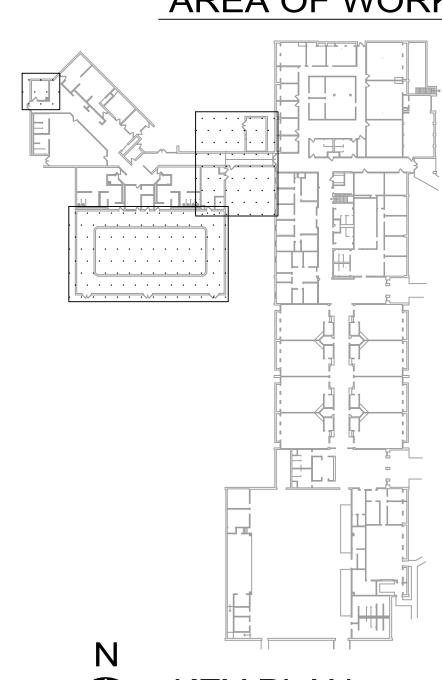
- REMOVE EX. -

ENLARGED LIGHTING

PLAN - DEMOLITION

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

LIGHTS, WIRES AND CONDUITS









ERICH BLAUFUSS - ENGINEER MO#E30116



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DEPARTMENT OF MENTAL HEALTH

REPLACE BOILER AND HVAC

BELLEFONTAINE HABILITATION CENTER ST. LOUIS, MO

PROJECT # M2307-01 FACILITY # 6517356013 6517356014, 6517356017 6517356018

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ISSUE DATE: 07/01/2024

CAD DWG FILE: M2307-01-7356-651735601X-ED-103 DRAWN BY: CHECKED BY: DESIGNED BY: EJE

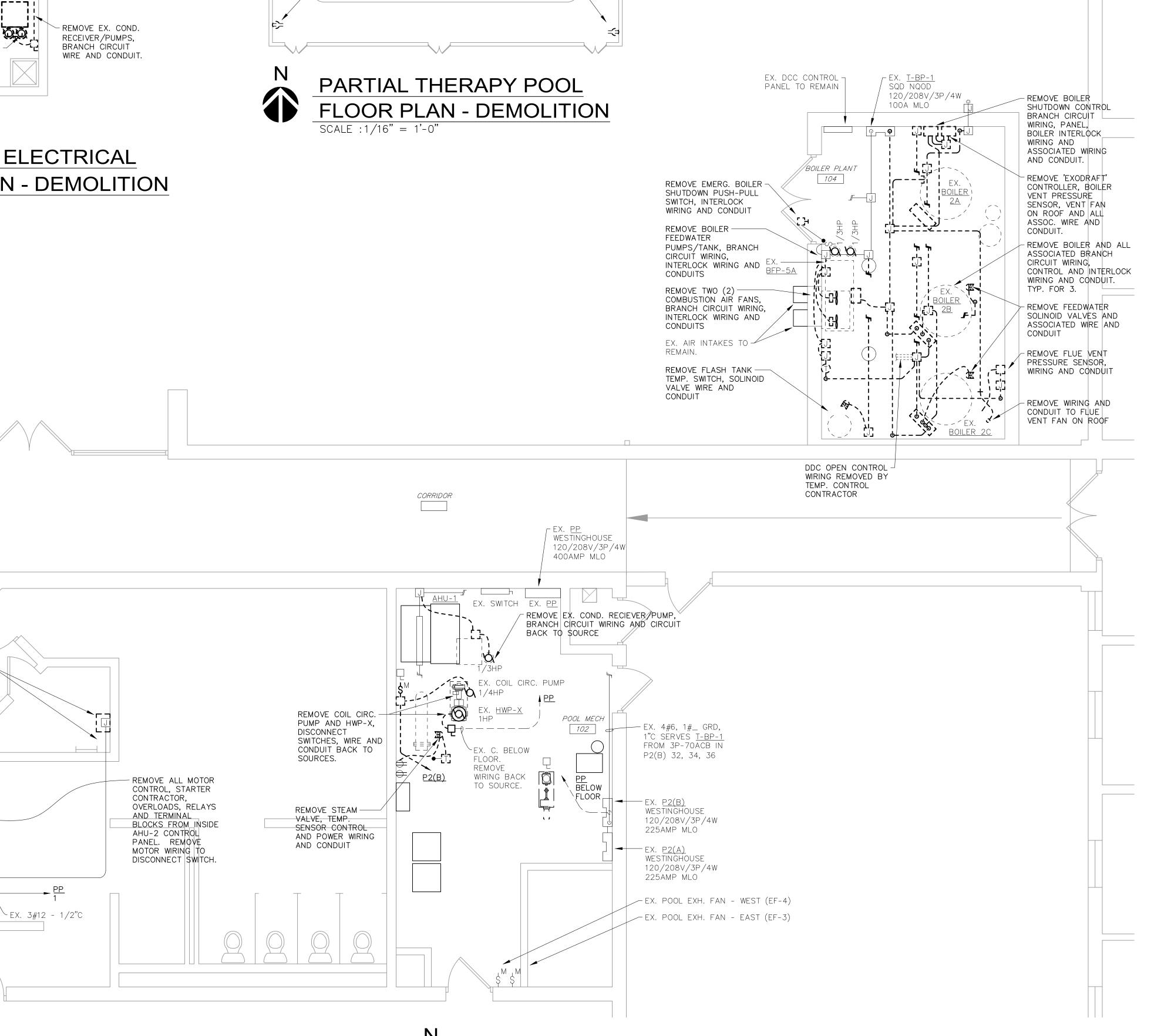
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MULTIPURPOSE ELECTRICAL PLANS -**DEMOLITION**

SHEET NUMBER:

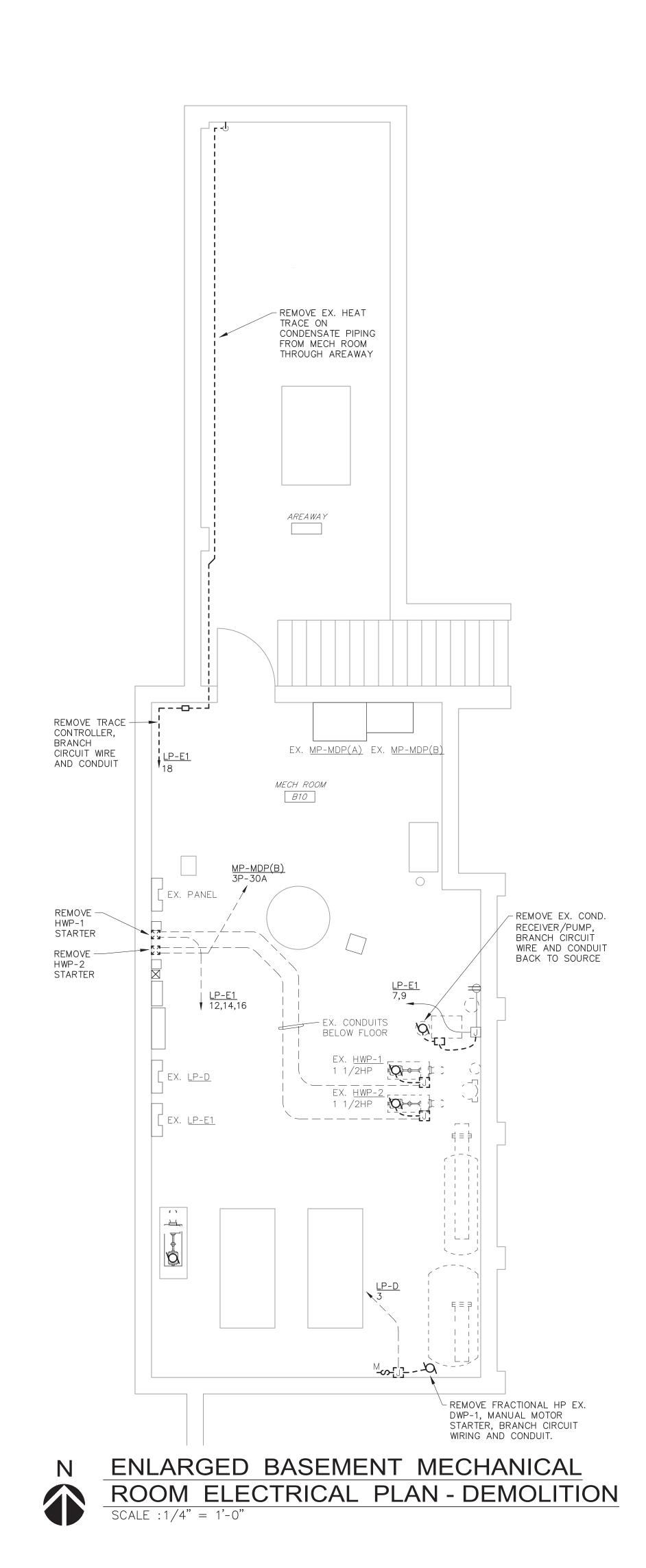
ED-103

37 OF 42 SHEETS 07/01/2024

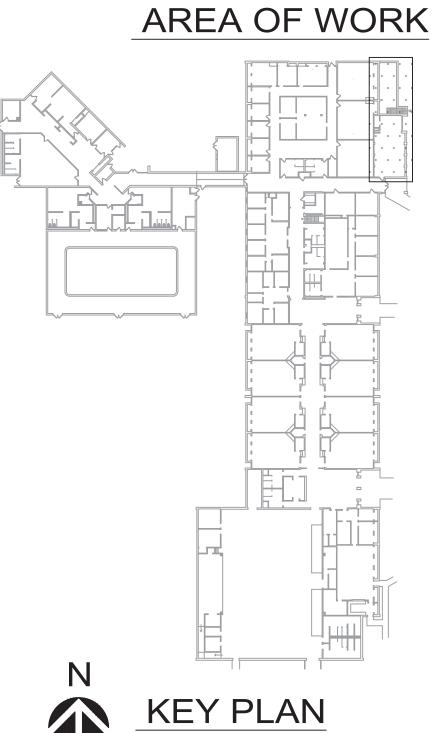


ENLARGED ELECTRICAL FLOOR PLAN - DEMOLITION

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



AREA OF WORK



STATE OF MISSOURI MICHAEL L. PARSON, GOVERNOR



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BELLEFONTAINE HABILITATION CENTER ST. LOUIS, MO

6517356018

PROJECT # M2307-01 SITE # 7356 FACILITY # 6517356013 6517356014, 6517356017

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ISSUE DATE: 07/01/2024

CAD DWG FILE: M2307-01-7356CAD DWG FILE: 651735601X-ED-103
DRAWN BY: RJS
CHECKED BY: EJB
DESIGNED BY: EJB

SHEET TITLE:

MULTIPURPOSE

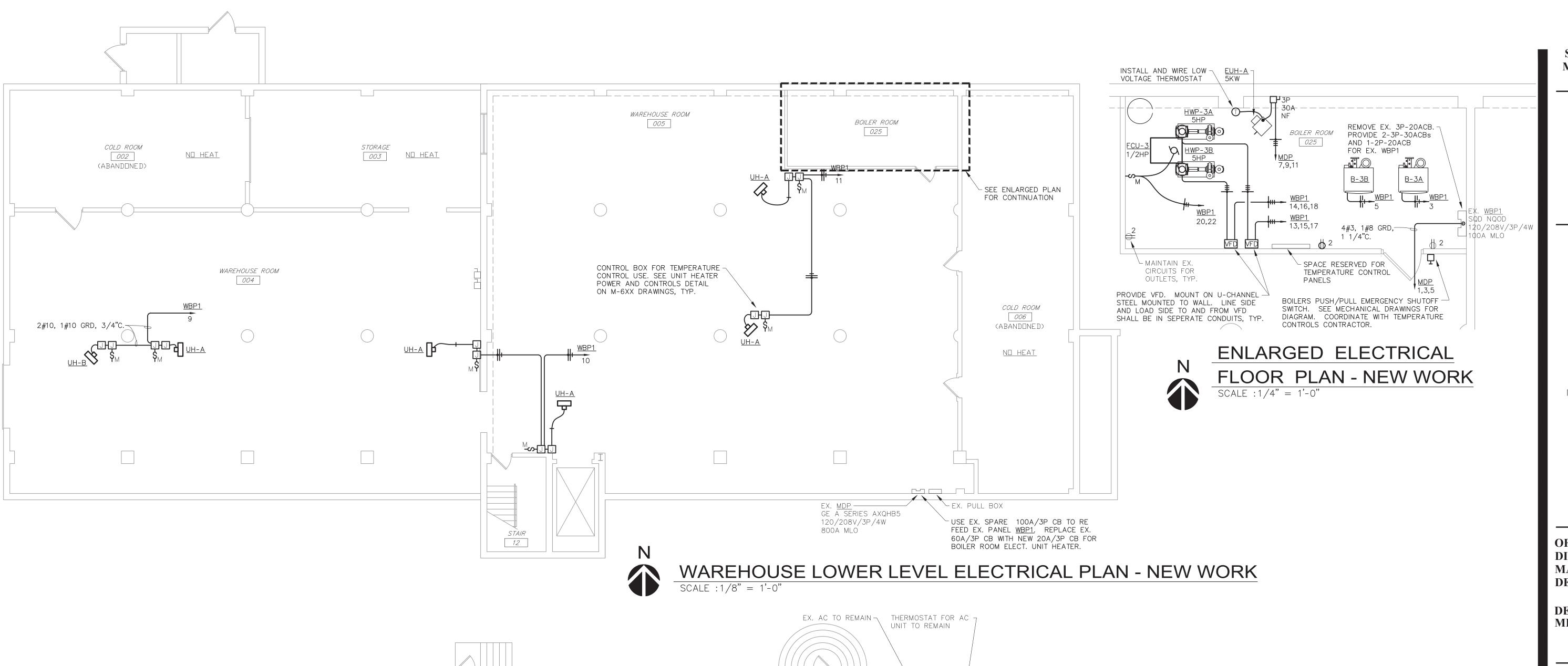
ELECTRICAL

PLANS -

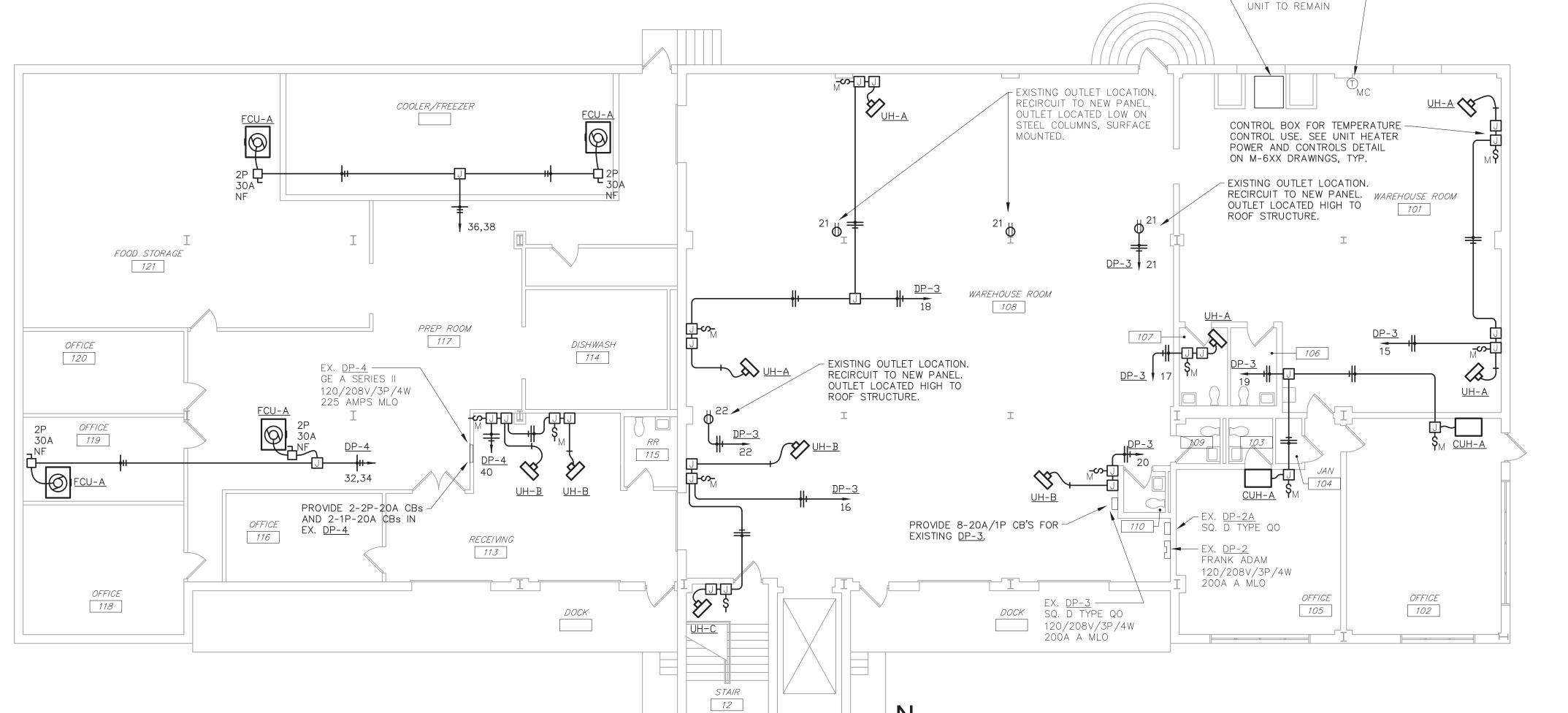
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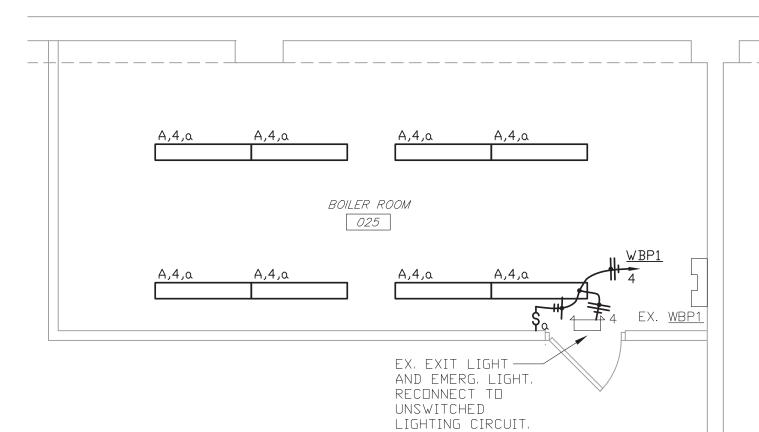
ED-104

DEMOLITION



WAREHOUSE UPPER LEVEL ELECTRICAL PLAN - NEW WORK







STATE OF MISSOURI MICHAEL L. PARSON, GOVERNOR



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BELLEFONTAINE HABILITATION CENTER ST. LOUIS, MO

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ISSUE DATE: 07/01/2024

CAD DWG FILE: M2307-01-7356-CAD DWG FILE: 651735601X-E-10

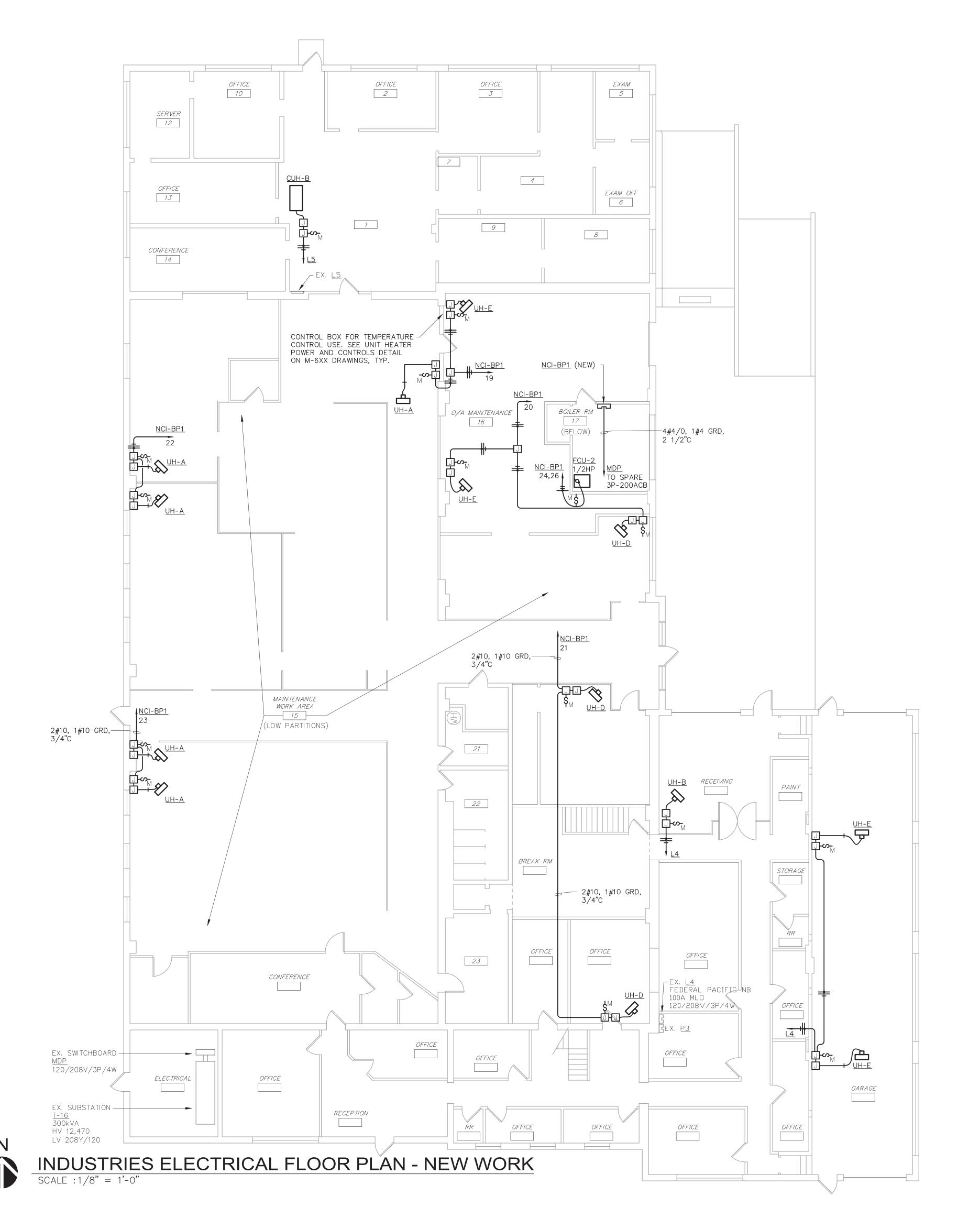
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DRAWN BY: RJS
CHECKED BY: EJB
DESIGNED BY: EJB

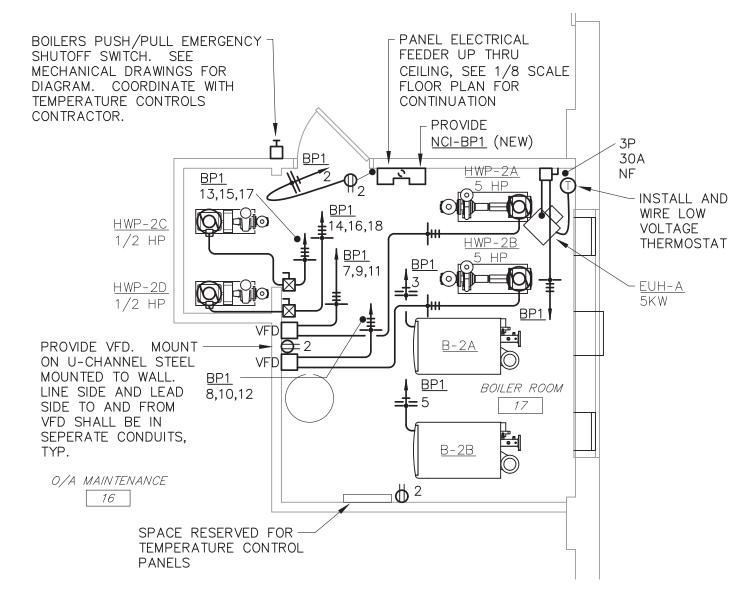
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WAREHOUSE ELECTRICAL PLANS -NEW WORK

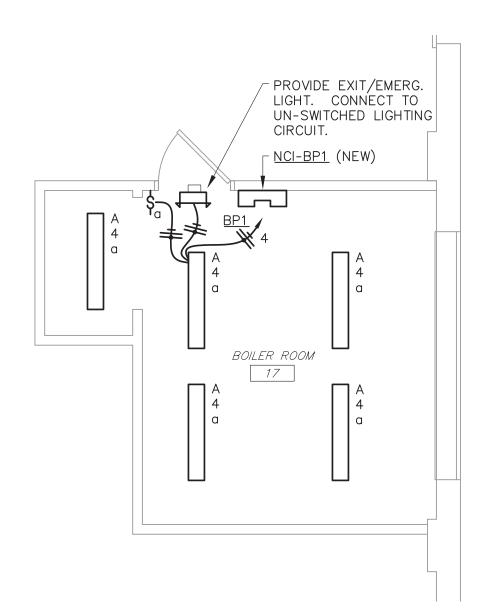
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E-101





ENLARGED ELECTRICAL FLOOR PLAN - NEW WORK SCALE : 1/4" = 1'-0"



ENLARGED LIGHTING
PLAN - NEW WORK

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

STATE OF MISSOURI MICHAEL L. PARSON, GOVERNOR



ERICH BLAUFUSS - ENGINEER MO#E30116



622 EMERSON SUITE 250 ST LOUIS, MO 63141 Phone: (314) 727-8760 bernhard.com

MO CERTIFICATE OF AUTHORITY NO. 2014025011

OFFICE OF ADMINISTRATION DIVISION OF FACILITIES MANAGEMENT, DESIGN AND CONSTRUCTION

DEPARTMENT OF MENTAL HEALTH

REPLACE BOILER AND HVAC

BELLEFONTAINE
HABILITATION
CENTER
ST. LOUIS, MO

PROJECT # M2307-01 SITE # 7356 FACILITY # 6517356013 6517356014, 6517356017

6517356018

REVISION:
DATE:
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ISSUE DATE: 07/01/2024

CAR DWG FH F M2307-01-735

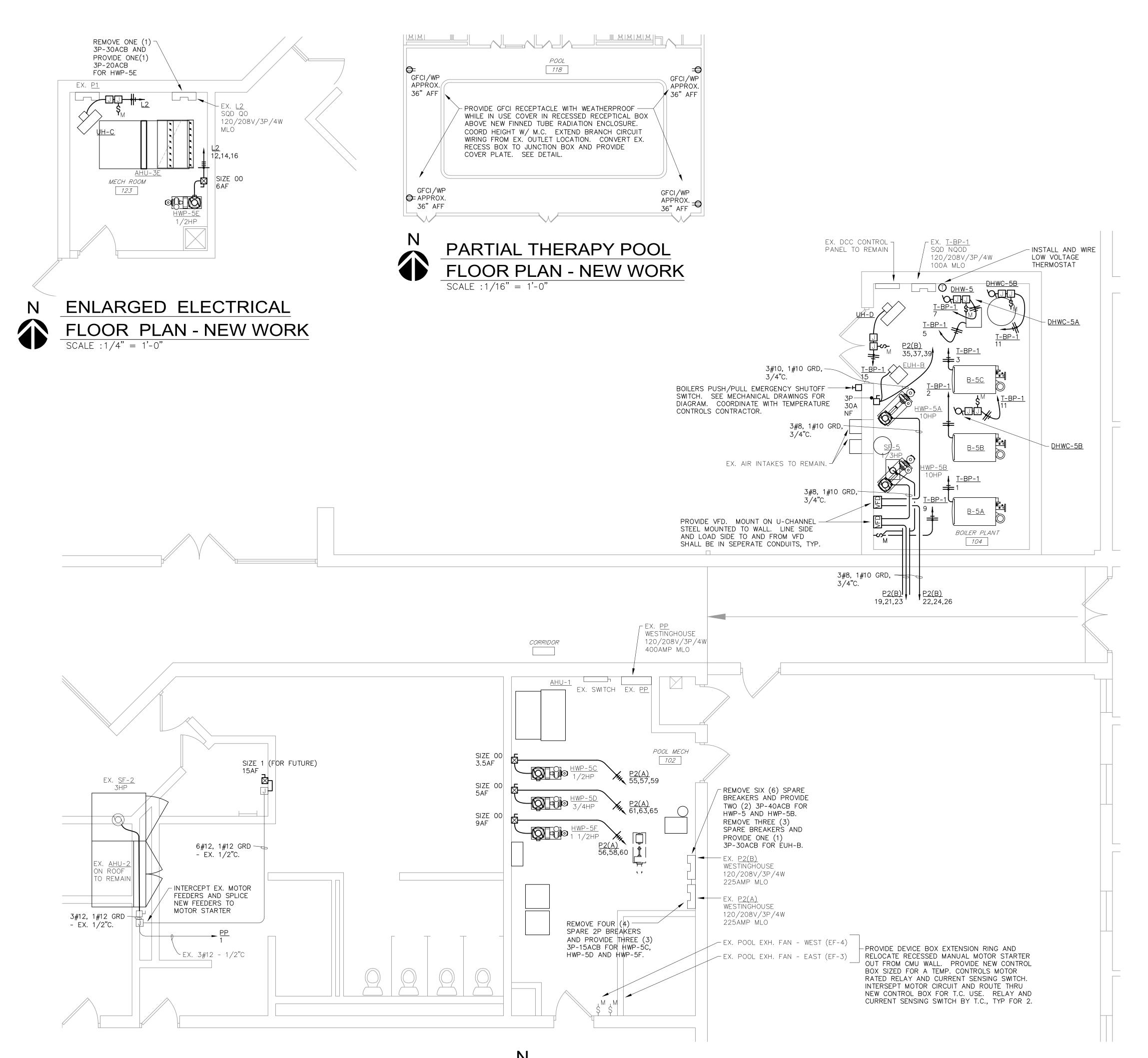
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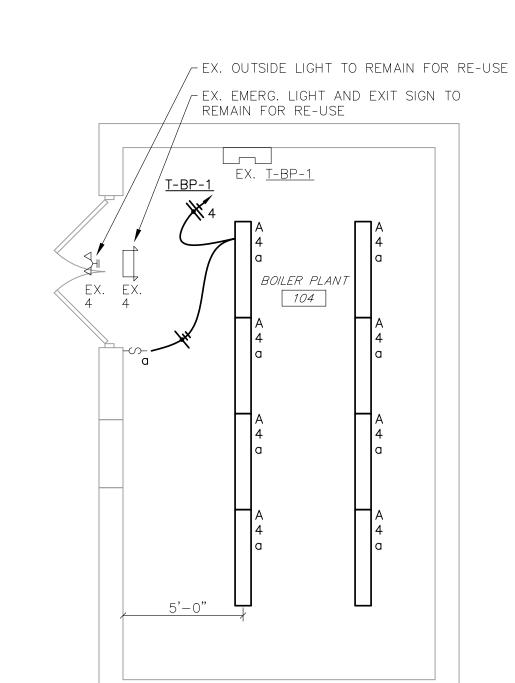
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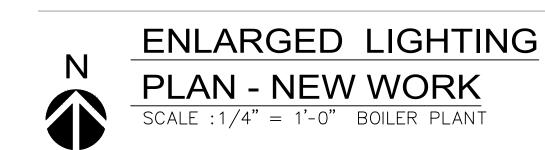
INDUSTRIES
ELECTRICAL
PLANS NEW WORK

SHEET NUMBER:

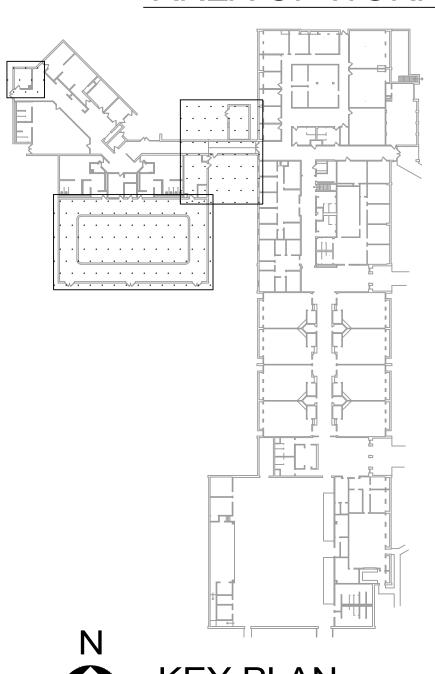
E-102





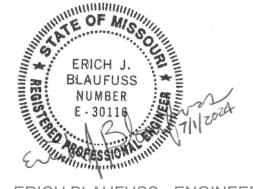


AREA OF WORK





STATE OF MISSOURI MICHAEL L. PARSON, GOVERNOR



ERICH BLAUFUSS - ENGINEER MO#E30116



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OFFICE OF ADMINISTRATION DIVISION OF FACILITIES MANAGEMENT, DESIGN AND CONSTRUCTION

DEPARTMENT OF MENTAL HEALTH

REPLACE BOILER AND HVAC

BELLEFONTAINE HABILITATION CENTER ST. LOUIS, MO

PROJECT # M2307-01 SITE # 7356 FACILITY # 6517356013 6517356014, 6517356017 6517356018

REVISION:	
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CAD DWG FILE: M2307-01-7356SECRET BY: EJB
DESIGNED BY: EJB

DESIGNED BY: EJB

SHEET TITLE:

MULTIPURPOSE
ELECTRICAL
PLANS NEW WORK

SHEET NUMBER:

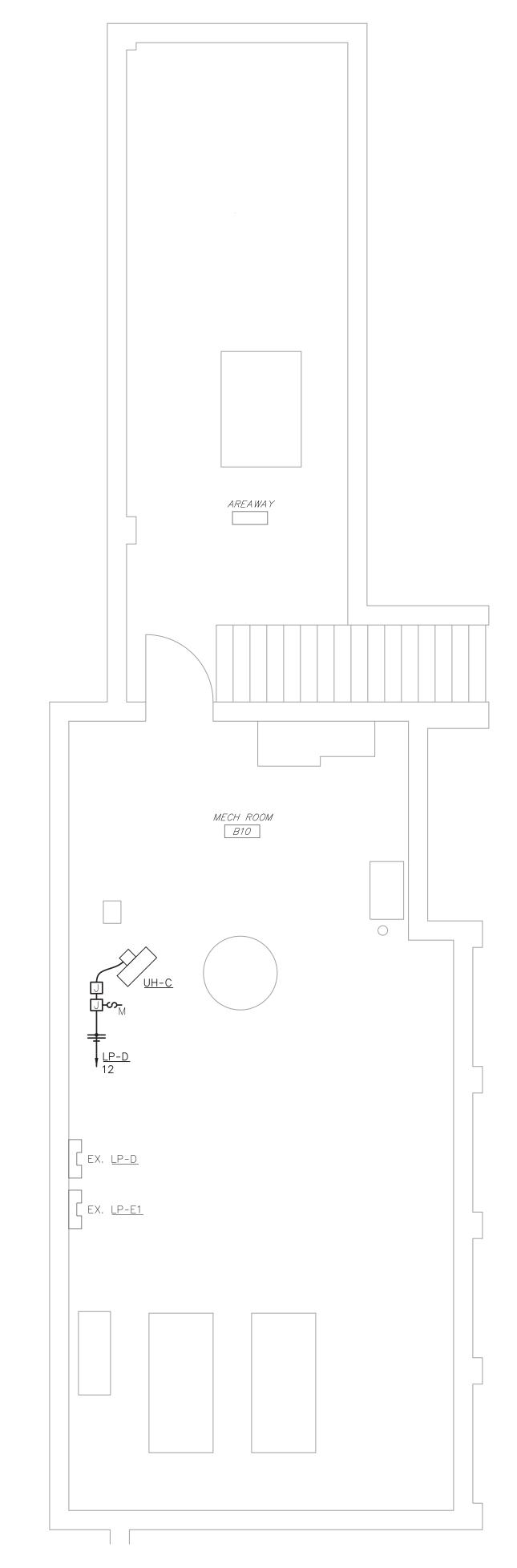
E-103

41 OF 42 SHEETS 07/01/2024

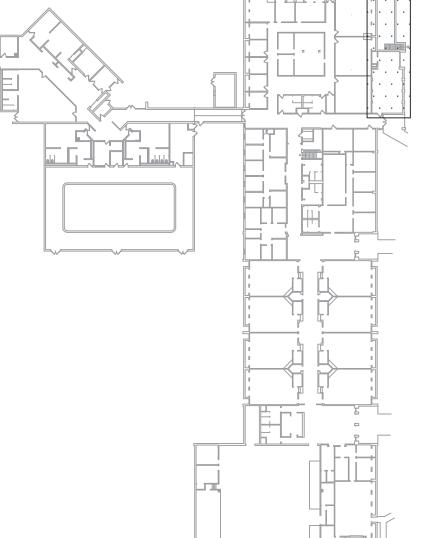


MULTIPURPOSE ENLARGED FLOOR PLAN - NEW WORK

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







AREA OF WORK

KEY PLAN

STATE OF MISSOURI MICHAEL L. PARSON, GOVERNOR



ERICH BLAUFUSS - ENGINEER MO#E30116



Engineering

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PROJECT # M2307-01 SITE # 7356 FACILITY # 6517356013 6517356014, 6517356017

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ISSUE DATE: 07/01/2024

CAD DWG FILE: M2307-01-7356CAD DWG FILE: 651735601X-E-103
DRAWN BY: RJS
CHECKED BY: EJB
DESIGNED BY: EJB

SHEET TITLE:
MULTIPURPOSE
ELECTRICAL
PLANS NEW WORK

SHEET NUMBER:

E-104