DATE: March 11th, 2026

FROM: The Schemmer Associates
1044 North 115th Street, Suite 300
Omaha, Nebraska 68154
Phone: (402) 493-4800

TO: Prospective Bidders and Plan Holders

RE: Addendum No. 1 to the Bidding Documents for:
NPS Gateway National Park Maintenance Building
Schemmer Project No. 009258.012

This addendum is issued by the Architect to the Contractor. This Addendum shall be made a part of the Contract Documents. Acknowledge receipt of this Addendum shall be provided on the Bid Form. Failure to do so may subject Bidder to disqualification.

This addendum consists of two (2) pages of written addendum items and twelve (12) pages of supplemental drawings.

THE SCHEMMER ASSOCIATES INC.

DRAWINGS

MECHANICAL

Item No. DM-1, Sheet M001
Changed view title to include the Contract Line Item Number (CLIN) associated with the work depicted in the view. Modified keynotes, added view showing VAV-11 scope, removed tags from equipment being removed.

Item No. DM-2, Sheet M002
Changed view title to include the Contract Line Item Number (CLIN) associated with the work depicted in the view. Modified keynotes, modified demo to existing tags, removed tags from equipment being removed.

Item No. DM-3, Sheet M101
Changed view title to include the Contract Line Item Number (CLIN) associated with the work depicted in the view. Modified keynotes, added view showing VAV-11 scope,

Item No. DM-4, Sheet M102
Changed view title to include the Contract Line Item Number (CLIN) associated with the work depicted in the view. Modified keynotes and new to existing symbols.

Item No. DM-5, Sheet M401
Added detail for gas flue through roof.

Item No. DM-6, Sheet M501
Revised notes for gas-fired hot water boiler and pump schedules. Corrected associated AHU designation in Air Terminal Unit Schedule.

ELECTRICAL

Item No. DE-1, Sheet E 01
Updated and added referenced notes.

Item No. DE-2, Sheet E001
Changed view title to include the Contract Line Item Number (CLIN) associated with the work depicted in the view.

Item No. DE-3, Sheet E002
Changed view titles to include the CLIN associated with the work depicted in the views.

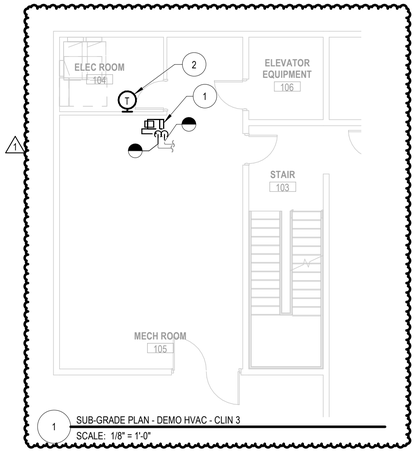
Item No. DE-4, Sheet E201
Changed view titles to include the CLIN associated with the work depicted in the views.
Updated and added referenced notes.

Item No. DE-5, Sheet E201
Added boiler shut-off emergency switches.

Item No. DE-6, Sheet E601
Updated cooling tower starters to VFD/disconnects, added notes VFD/disconnects to be provided by Mech, And to provide non-fused disconnect if VFD's were not installed within sight of cooling tower.

Item No. DE-5, Sheet E701
Added circuit to panel "PP-1" for contactor control power.

END OF ADDENDUM NO. 1

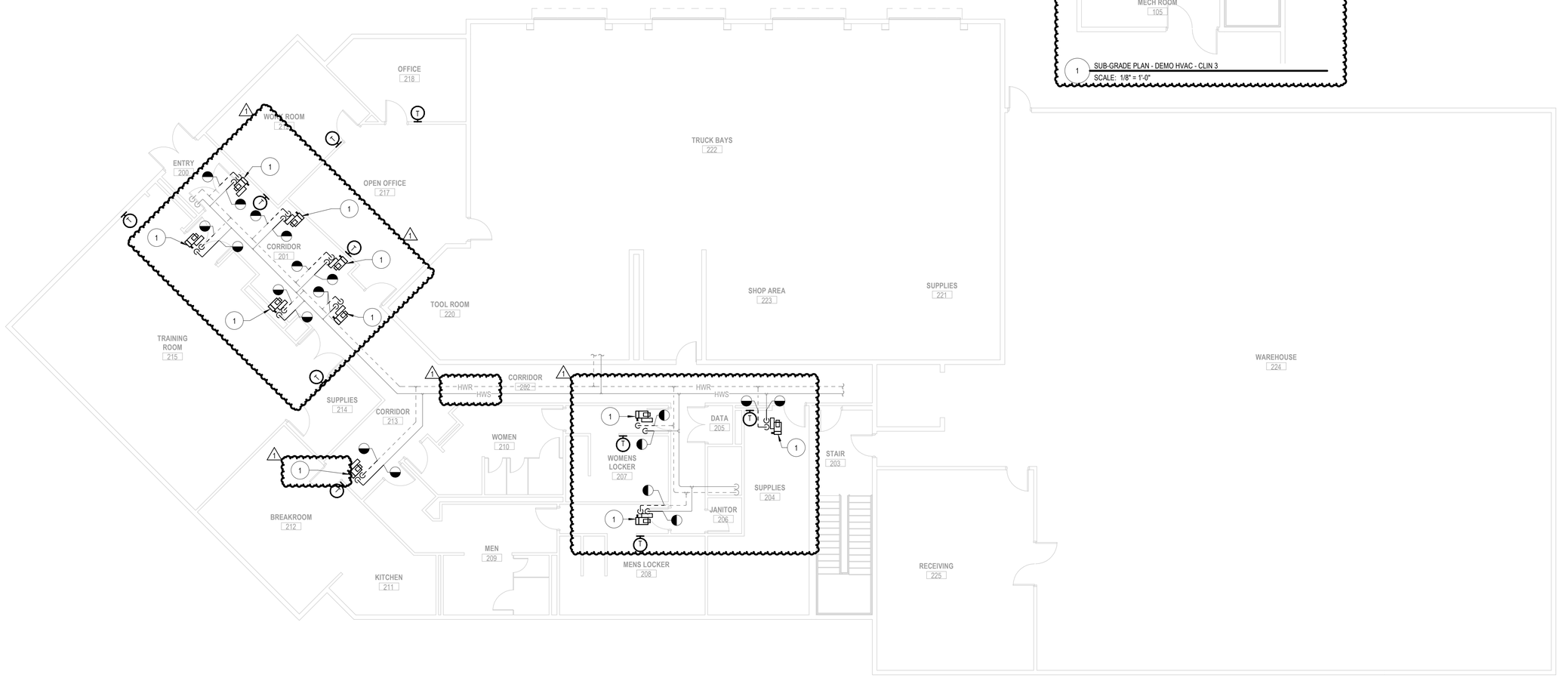


1 SUB-GRADE PLAN - DEMO HVAC - CLIN 3
SCALE: 1/8" = 1'-0"

REF. DEMO NOTES (X):

1 REMOVE EXISTING VAV BOX AND ASSOCIATED PIPING SPECIALTIES. PROTECT CONNECTED DUCTWORK FOR RECONNECTION TO NEW VAV BOX. SEE M101 FOR ADDITIONAL INFORMATION. REMOVE ASSOCIATED THERMOSTAT. PROVIDE BLANK OFF PLATE OVER EXISTING THERMOSTAT OPENING IF REQUIRED FOR NEW THERMOSTAT.

2 CONTRACTOR TO FIELD VERIFY VAV-11 THERMOSTAT LOCATION.



2 FIRST FLOOR PLAN - DEMO HVAC - CLIN 3
SCALE: 1/8" = 1'-0"

STATE OF MISSOURI
JEFFREY E KULHANEK
NUMBER
PE-2022017087
3/11/26
PROFESSIONAL ENGINEER

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02/03/2026
DATE

TITLE OF SHEET
DEMOLITION FLOOR PLAN - MECHANICAL
REPLACE COOLING TOWER AND BOILER UNITS

GATEWAY ARCH NATIONAL PARK
11 NORTH 4TH STREET
ST. LOUIS, MO 63102

ARCH/ENG PROJ # 09258.012
SUB SHEET NO. **M001**
DRAWING NO. 366 / 80034
PMIS / PKG. NO. **320855**
SHEET **4** OF **16**

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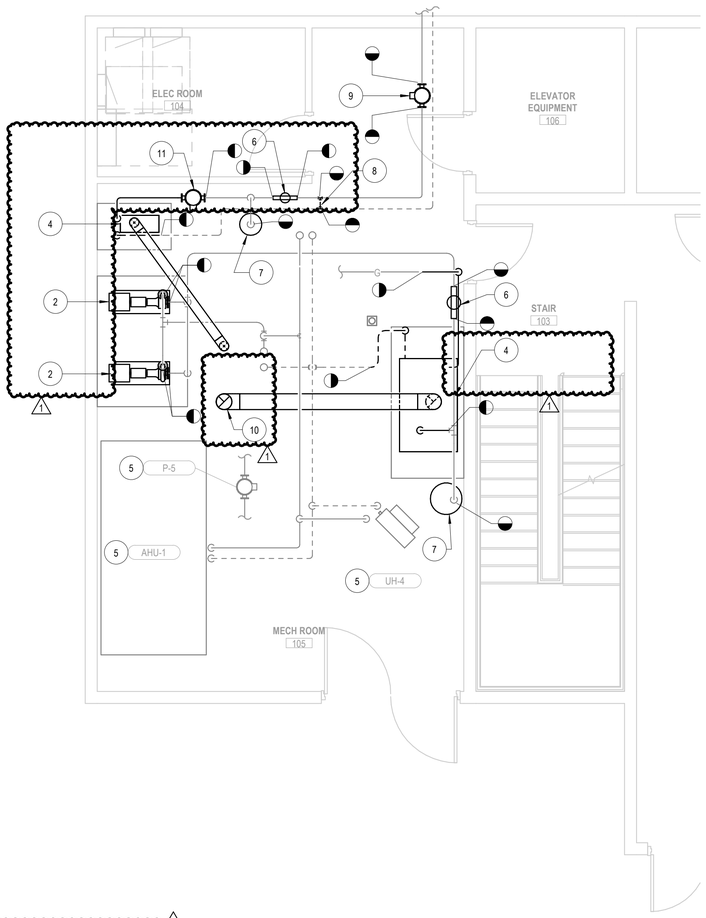
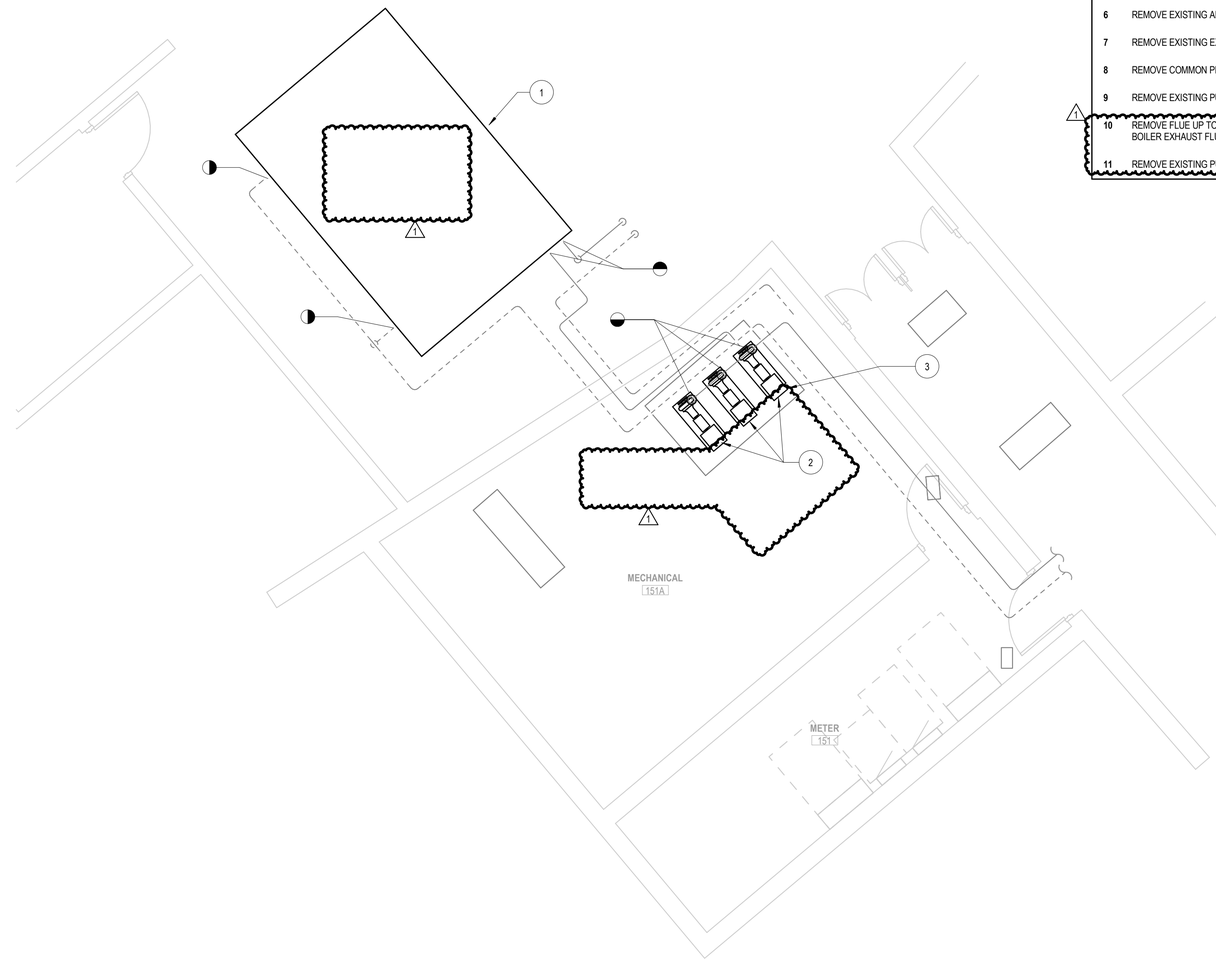
REF. DEMO NOTES (X):

1. REMOVE EXISTING COOLING TOWER. ASSOCIATED PIPING AND BY-PASS SYSTEM IS TO BE REUSED. CONTRACTOR TO DOCUMENT PIPING LAYOUT PRIOR TO REMOVAL OF COOLING TOWER. CONTRACTOR TO BE RESPONSIBLE FOR MODIFICATIONS TO EXISTING STEEL STRUCTURE FOR NEW COOLING TOWER.
2. REMOVE EXISTING PUMPS AND ASSOCIATED ACCESSORIES.
3. EXISTING WATER METER CONNECTED TO CONDENSER DRAIN LINE TO BE REUSED FOR WITH NEW PUMPS. TEMPORARILY DISCONNECT DURING CONSTRUCTION.
4. REMOVE BOILER AND ASSOCIATED FLUE, CONDENSATE DRAIN LINE, AND ASSOCIATED ACCESSORIES. REMOVE GAS PIPING BACK TO MAIN AND CAP. REMOVE GAS FLUE BACK TO VERTICAL STACK. VERTICAL STACK TO BE REUSED.
5. EXISTING EQUIPMENT TO REMAIN.
6. REMOVE EXISTING AIR/DIRT SEPARATOR AND PREPARE FOR INSTALLATION OF NEW UNIT.
7. REMOVE EXISTING EXPANSION TANK AND PREPARE FOR INSTALLATION OF NEW UNIT.
8. REMOVE COMMON PIPE SECTION OF EXISTING IN-FLOOR RADIANT HEAT SYSTEM.
9. REMOVE EXISTING PUMP AND PREPARE FOR INSTALLATION OF NEW UNIT.
10. REMOVE FLUE UP TO ROOF. EXISTING PENETRATIONS ARE TO BE REUSED FOR NEW BOILER EXHAUST FLUE. COORDINATE ASSOCIATED WORK WITH OWNER.
11. REMOVE EXISTING PUMP AND ALL ASSOCIATED ACCESSORIES.



1 SUB-GRADE PLAN - DEMO HVAC - CLIN 2
SCALE: 1/4" = 1'-0"



2 FIRST FLOOR PLAN - DEMO HVAC - CLIN 1
SCALE: 1/4" = 1'-0"

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TITLE OF SHEET
DEMOLITION FLOOR PLAN - MECHANICAL
REPLACE COOLING TOWER AND BOILER UNITS
GATEWAY ARCH NATIONAL PARK
11 NORTH 4TH STREET
ST. LOUIS, MO 63102

ARCH/ENG PROJ # 09258.012
SUB SHEET NO. **M002**
DRAWING NO. 366 / 80034
PMIS / PKG. NO. **320855**
SHEET **5** OF **16**

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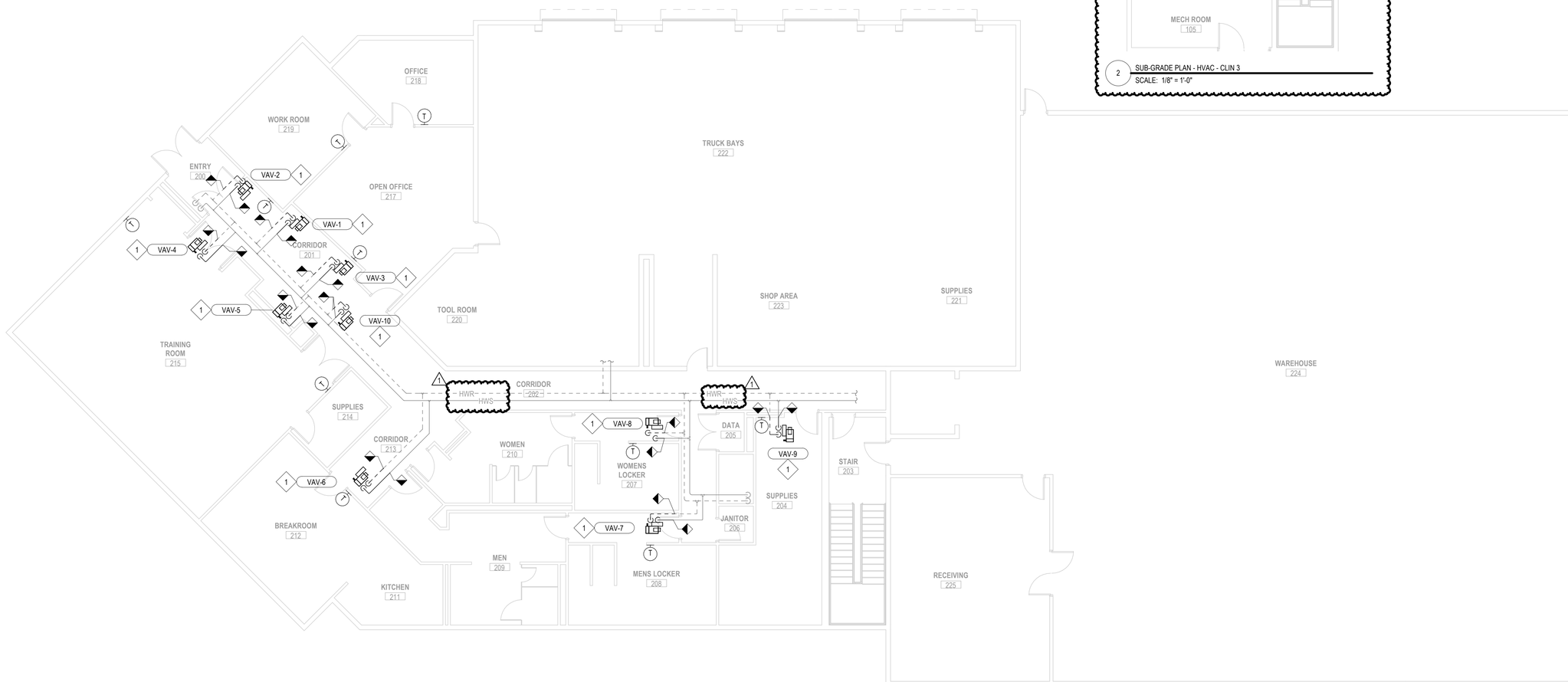
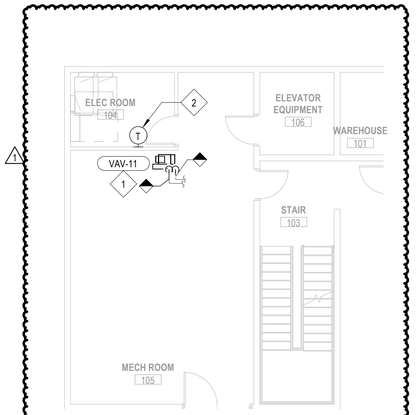


1 FIRST FLOOR PLAN - HVAC - CLIN 3 1
SCALE: 1/8" = 1'-0"



1

2 SUB-GRADE PLAN - HVAC - CLIN 3
SCALE: 1/8" = 1'-0"

REF. NOTES (X):

1

1 REPLACE VAV BOX AS SHOWN. PROVIDE NEW PIPING SPECIALTIES AND CONNECT TO EXISTING PIPING AND DUCTWORK. PIPING CONNECTIONS FOR EVERY VAV BOX IS TO BE 3/4". INSTALL NEW THERMOSTAT IN PREVIOUS THERMOSTAT LOCATION. PROVIDE BLANK OFF PLATE OVER EXISTING THERMOSTAT OPENING IF REQUIRED FOR NEW THERMOSTAT.

2 CONTRACTOR TO FIELD VERIFY VAV-11 THERMOSTAT LOCATION.

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TITLE OF SHEET
FLOOR PLAN - MECHANICAL
REPLACE COOLING TOWER AND BOILER UNITS
GATEWAY ARCH NATIONAL PARK
11 NORTH 4TH STREET
ST. LOUIS, MO 63102

ARCH/ENG PROJ # 09258.012
SUB SHEET NO. **M101**
DRAWING NO. 366 / 80034
PMIS / PKG. NO. **320855**
SHEET **6** OF **16**

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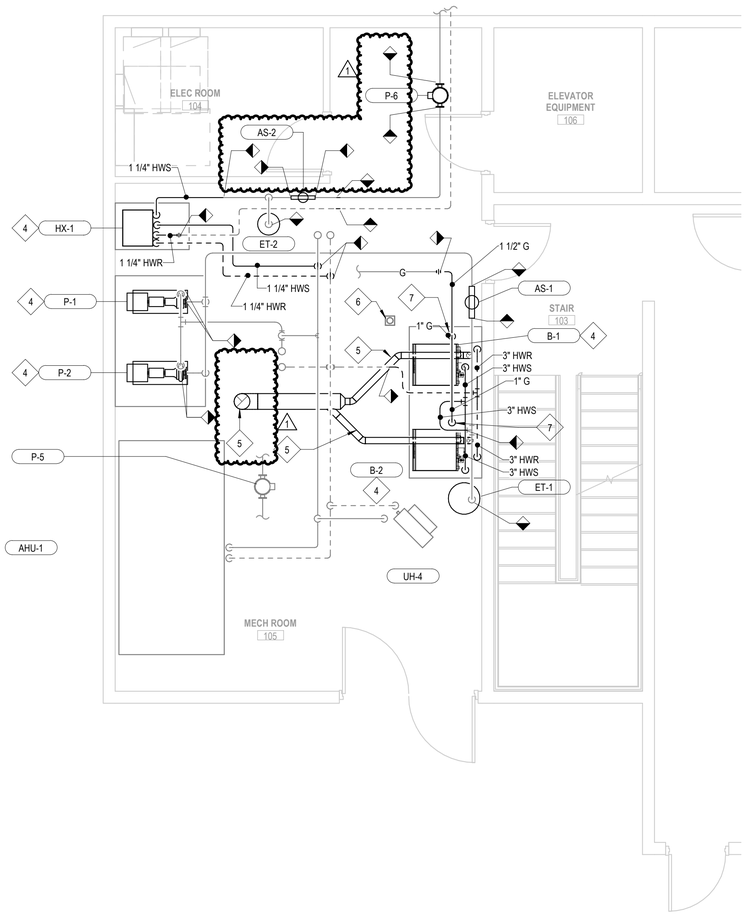
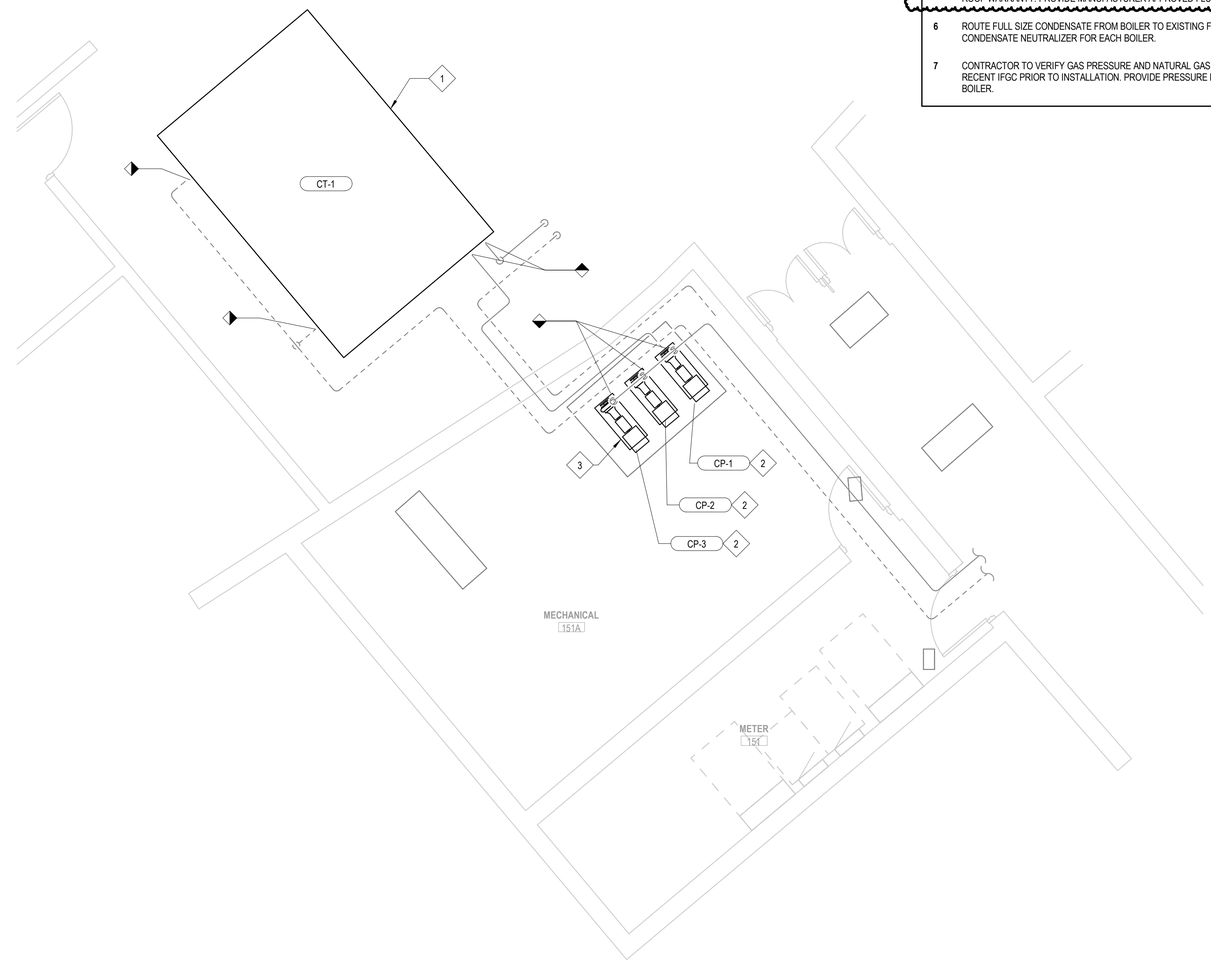
REF. NOTES (X):

1. INSTALL NEW COOLING TOWER IN PREVIOUS UNITS LOCATION. EXISTING PIPING TO BE REUSED. CONTRACTOR TO MODIFY PIPING AS REQUIRED FOR NEW EQUIPMENT CONNECTIONS. CONTRACTOR TO DOCUMENT ANY PIPING LAYOUTS PRIOR TO REMOVAL OF COOLING TOWER. COOLING TOWER BYPASS LOOP TO BE USED FOR NEW COOLING TOWER. CONTRACTOR TO BE RESPONSIBLE FOR MODIFICATIONS TO EXISTING STEEL STRUCTURE FOR NEW COOLING TOWER.
2. INSTALL NEW PUMPS ON EXISTING HOUSEKEEPING PAD.
3. REINSTALL CONDENSER WATER METER AS PREVIOUSLY INSTALLED.
4. INSTALL EQUIPMENT ON EXISTING HOUSEKEEPING PAD.
5. SIZE AND INSTALL EXHAUST FLUE PIPING PER MANUFACTURER REQUIREMENTS. MATERIAL TO BE AL 29-4C OR 316L STAINLESS STEEL LISTED AND LABELED TO UL-1738 /C-UL S636 FOR USE WITH CATEGORY III/IV APPLIANCES. ROUTE FLUE UP TO ROOF THROUGH EXISTING OPENING. ALL PENETRATIONS SHALL BE MADE WATER TIGHT. ANY ROOF FLASHING REQUIRED SHALL BE DONE CLEAN AND NEAT AND SHALL NOT VOID ROOF WARRANTY. PROVIDE MANUFACTURER APPROVED FLUE TERMINATION ON ROOF.
6. ROUTE FULL SIZE CONDENSATE FROM BOILER TO EXISTING FLOOR DRAIN. PROVIDE CONDENSATE NEUTRALIZER FOR EACH BOILER.
7. CONTRACTOR TO VERIFY GAS PRESSURE AND NATURAL GAS PIPE SIZE WITH MOST RECENT IFGC PRIOR TO INSTALLATION. PROVIDE PRESSURE REGULATOR AT EACH BOILER.



1 SUB-GRADE PLAN - HVAC - CLIN 2
SCALE: 1/4" = 1'-0"



2 FIRST FLOOR PLAN - HVAC - CLIN 1
SCALE: 1/4" = 1'-0"

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TITLE OF SHEET
FLOOR PLAN - MECHANICAL
REPLACE COOLING TOWER AND BOILER UNITS
GATEWAY ARCH NATIONAL PARK
11 NORTH 4TH STREET
ST. LOUIS, MO 63102

ARCH/ENG PROJ # 09258.012
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SHEET **7** OF **16**

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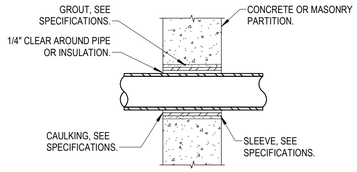
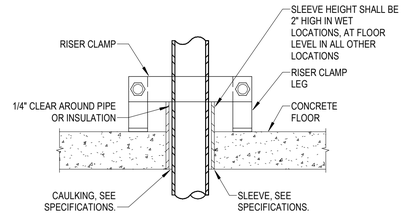


NOTE:
1. CAULK FULL PERIMETER OF PIPE AT BOTH INSIDE & OUTSIDE OF WALL.

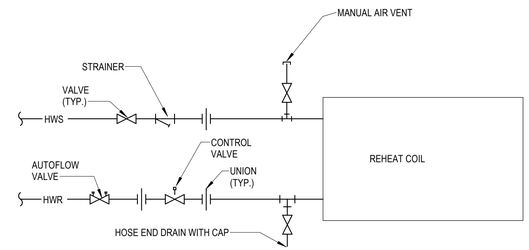
DETAIL OF SLEEVE FOR PIPING PENETRATION OF VERTICAL PARTITIONS



NOTE:
1. CAULK FULL PERIMETER OF PIPE AT BOTH TOP AND BOTTOM OF FLOOR.

DETAIL OF SLEEVE FOR PIPING PENETRATION OF FLOOR

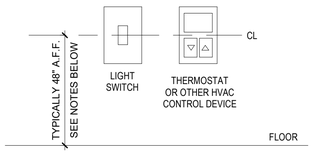
1 INTERIOR PIPE SLEEVE DETAILS
SCALE: NOT TO SCALE



NOTE: SEE PLANS FOR PIPE SIZE, MINIMUM 3/4".

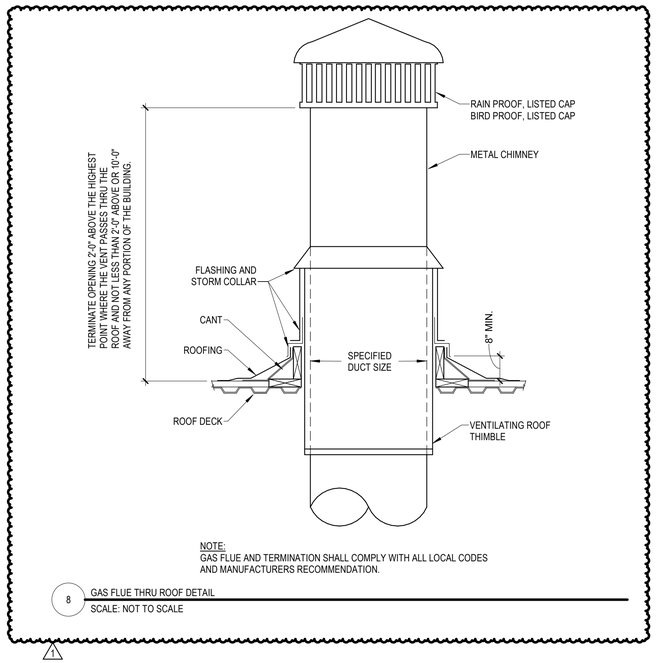
2 REHEAT COIL PIPING DETAIL
SCALE: NOT TO SCALE

TYPICAL HVAC CONTROL DEVICE INSTALLATION



NOTES:
1. WHEN THERMOSTAT IS LOCATED ADJACENT TO LIGHT SWITCH OR OTHER WALL MOUNTED ELECTRICAL OR CONTROL DEVICE, DEVICES TO BE INSTALLED AT THE SAME ELEVATION.
2. ALL USER INPUT BUTTONS OR SWITCHES ON CONTORL DEVICE TO BE LOCATED BELOW 48" A.F.F. TO MEET ADA REQUIREMENTS.
3. WHEN INSTALLED NEAR DOOR, LIGHT SWITCH SHALL BE DEVICE CLOSEST TO DOOR FRAME.
4. IF DEVICE IS LOCATED ABOVE COUNTER, INSTALL AT 40" A.F.F.

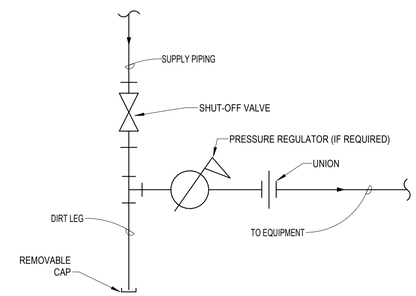
3 THERMOSTAT DETAIL
SCALE: 12" = 1'-0"



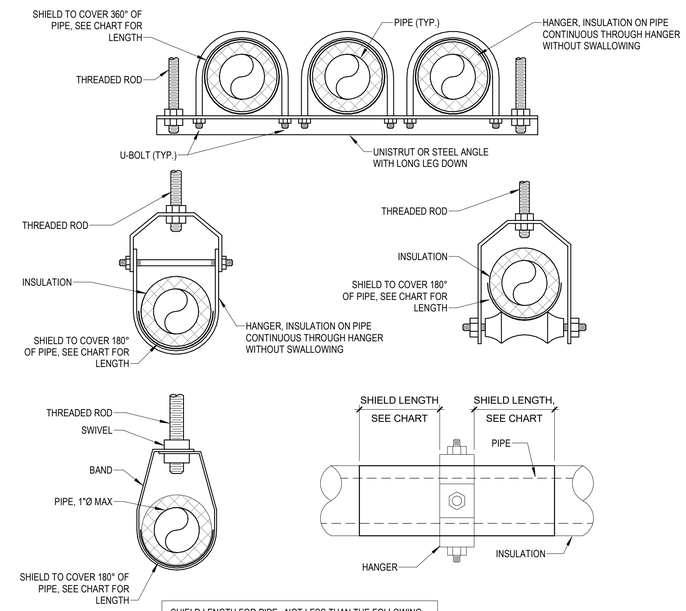
NOTE:
GAS FLUE AND TERMINATION SHALL COMPLY WITH ALL LOCAL CODES AND MANUFACTURERS RECOMMENDATION.

8 GAS FLUE THRU ROOF DETAIL
SCALE: NOT TO SCALE

1



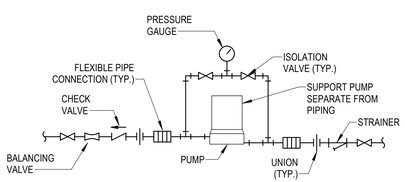
4 TYPICAL GAS PIPING DETAIL
SCALE: NOT TO SCALE



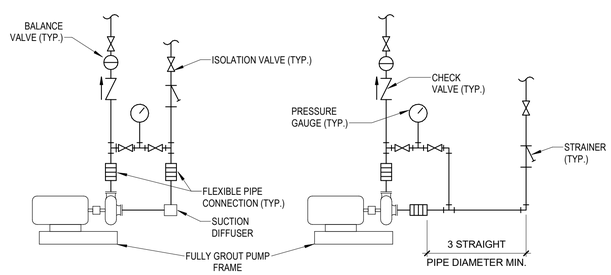
SHIELD LENGTH FOR PIPE - NOT LESS THAN THE FOLLOWING:		
a.	NPS 1/4" TO 3-1/2"	12" LONG AND .048" THICK
b.	NPS 4"	12" LONG AND .06" THICK
c.	NPS 5" TO 6"	18" LONG AND .06" THICK
d.	NPS 8" TO 14"	24" LONG AND .075" THICK
e.	NPS 16" TO 24"	24" LONG AND .105" THICK

NOTE:
1. PIPES NPS 8" AND LARGER: INCLUDE WOOD OR REINFORCED CALCIUM-SILICATE-INSULATION INSERTS OF LENGTH AT LEAST AS LONG AS PROTECTIVE SHIELD.
2. THERMAL-HANGER SHIELDS: INSTALL WITH INSULATION SAME THICKNESS AS PIPING INSULATION.

7 PIPE HANGER DETAIL
SCALE: NOT TO SCALE



5 IN-LINE CIRCULATING PUMP PIPING (VFD) DETAIL
SCALE: NOT TO SCALE



6 BASE MOUNTED END SUCTION PUMP DETAIL
SCALE: NOT TO SCALE

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TITLE OF SHEET
DETAILS - MECHANICAL
REPLACE COOLING TOWER AND BOILER UNITS
GATEWAY ARCH NATIONAL PARK
11 NORTH 4TH STREET
ST. LOUIS, MO 63102

ARCH/ENG PROJ # 09258.012
SUB SHEET NO. **M401**
DRAWING NO. 366 / 80034
PMIS / PKG. NO. **320855**
SHEET **8** OF **16**

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GAS FIRED HOT WATER BOILER SCHEDULE

				HEATING DATA					WATERSIDE DATA				ELECTRICAL DATA			PHYSICAL DATA					
MARK	LOCATION	TYPE	FUEL	INPUT (MBH)	OUTPUT (MBH)	MIN OUTPUT (MBH)	TURNDOWN	MAX EFFICIENCY (%)	GPM	EWT (°F)	LWT (°F)	MAX PD (FT WAT)	VOLT	PHASE	FLA	LENGTH (IN)	WIDTH (IN)	HEIGHT (IN)	OPERATING WEIGHT (LB)	BASIS OF DESIGN	REMARKS
B-1,2	MECH	FIRETUBE	NAT. GAS	650	625.95	48.15	13:1	96.3	62	160	180	3.23	120	1	8	29	27	74	674	FULTON ENDURA EXE-650	1-7

NOTES:
1. PROVIDE BOILER WITH CONDENSATE NEUTRILIZATION KIT. VENT AND COMBUSTION AIR TO BE INSTALLED PER THE MANUFACTURER'S REQUIREMENTS SEE PLANS FOR INSTALLATION.
2. BOILER TO OPERATE ON ITS OWN INTERNAL CONTROLS WITH CONNECTION TO BAS. BOILER SEQUENCES ARE TO MATCH EXISTING BOILER SEQUENCE OF OPERATIONS.
3. PROVIDE WITH ROOM AIR KIT FOR COMBUSTION AIR. CONTRACTOR TO VERIFY EXISTING COMBUSTION AIR INLET CONDITIONS MEET REQUIREMENTS OF BOILER.
4. PROVIDE WITH SYSTEM TEMP SENSOR, OUTDOOR AIR SENSOR, SYSTEM PUMP RELAY AND ALARM BELL.
5. PROVIDE CSD-1 EMERGENCY SHUTOFF SWITCH(ES) AT EACH MECH ROOM EXIST. SWITCH TO SHUTOFF GAS AND ELECTRICAL TO BOILERS.
6. CONFIGURE AS LEAD/LAG IN CASCADE MODE.
7. CONNECT TO EXISTING BACNET-IP BAS SYSTEM.

BRAZED PLATE HEAT EXCHANGER SCHEDULE

					HOT-SIDE DATA						COLD-SIDE DATA							
MARK	SERVES	TYPE	LOAD (MBH)	# OF PLATES	FLUID	FLOWRATE (GPM)	EWT (°F)	LWT (°F)	# OF PASSES	MAX PD (PSI)	FLUID	FLOWRATE (GPM)	EWT (°F)	LWT (°F)	# OF PASSES	MAX PD (PSI)	MANUFACTURER AND MODEL NUMBER	REMARKS
HX-1	RADIANT FLOOR	COUNTER-CURRENT	59.6	16	WATER	6.095	180	160	7	1.53	WATER	8	90	105	8	2.16	TACO TB10Tx16	---

COOLING TOWER SCHEDULE

										ELECTRICAL					PHYSICAL DATA						
MARK	LOCATION	SERVES	FAN CFM	FLUID FLOW (GPM)	EWT (°F)	LWT (°F)	MAX PD (PSI)	WET BULB TEMP (°F)	TOTAL CAPACITY (MBH)	FAN HP	FAN QTY	BASIN HEATER (kW)	VOLT	PH	CONFIGURATION	HEIGHT (FT)	WIDTH (FT)	DEPTH (FT)	OPERATING WEIGHT (LB)	BASIS OF DESIGN	REMARKS
CT-1	SEE PLANS	CH-1,2	170,300	2400	95	85	7.81	78	12,000	50	2	2x10	460	3	COUNTERFLOW	16'-2.25"	11'-10"	24'-0.5"	34,170	BAC VT1-800-Q	1-7

NOTES:
1. PROVIDE WITH SOUND REDUCING OULET, VIBRATION ISOLATION AND VIBRATION CUT-OFF SWITCH.
2. PROVIDE WITH ACCCESS LADDERS FOR TOWER MAINTENANCE. PROVIDE WITH JIB CRANE HOIST FOR MOTOR AND FAN REPLACEMENT
3.BASIN HEATER TO BE STAINLESS STEEL CONSTRUCTION WITH AUTOMATIC LOW VOLTAGE CONTROL AND TEMPERATURE SENSOR.
4. PROVIDE COOLING TOWER WITH BASIN FLOAT.
5. PROVIDE INDIVIDUAL ELECTRICAL CONNECTIONS FOR EACH COOLING TOWER FAN, AND SINGLE POWER CONNECTION FOR AMBIENT HEATERS. PROVIDE FAN WITH VFD WITH INTERGRAL DISCONNECT. SEE ELECTRICAL FOR ADDITIONAL INFORMATION
6. PROVIDE ALL STAINLESS STEEL CONSTRUCTION OPTION.
7. CONNECT UNIT TO EXISTING BACNET-IP BAS SYSTEM.

PUMP SCHEDULE

								ELECTRICAL DATA							
MARK	LOCATION	SERVES	TYPE	FLUID TYPE	FLOW GPM	HEAD FT WG	MIN % EFF	RPM	HP	VOLTS	PH	HZ	CONTROL TYPE	BASIS OF DESIGN	REMARKS
CP-1,2,3	ARCH	CT-1	BASE MOUNTED END SUCTION	WATER	1200	65	87	1160	25	460	3	60	VFD	TACO FI6013D	1,2,3
P-1,2	GROUNDS	SECONDARY LOOP	BASE MOUNTED END SUCTION	WATER	86	65	56	1760	3	208	3	60	VFD	TACO FI1209C	1,2,3
P-6	GROUNDS	RADIANT FLOOR	INLINE	WATER	8	30	5	3450	1/3	115	1	60	BAS	TACO 2400-45	1

NOTES:
1. UNIT IS TO BE CONNECTED TO EXISTING BACNET-IP BAS SYSTEM.
2. PROVIDE PUMP WITH UPRIGHT PIPING CONFIGURATION WITH 3 STRAIGTH DIAMETERS AT INLET AND OULET. PUMP TO BE LASTER ALIGNED AFTER INSTALLATION.
3. VFD WITH INTEGRAL DISCONNECT TO BE PROVIDED BY MECHANICAL CONTRACTOR. CONTRACTOR TO COORDINATE INSTALLATION WITH ELECTRICAL CONTRACTOR.

AIR TERMINAL UNIT SCHEDULE

			CFM		STATIC PRESSURE (IN WG)		NC LEVELS		REHEAT COIL DATA											
MARK	AHU	INLET SIZE (IN)	MAX	MIN	MIN	INLET	RAD	DIS	CFM	EAT (°F)	LAT (°F)	CAP (MBH)	NO ROWS	MAX PD	LWT (°F)	GPM	PRESS DROP FT WAT	BASIS OF DESIGN	REMARKS
VAV-1	AHU-1	05	250	160	0.15	1	13	25	160	55	96.7	7.2	1	0.05	165.1	1	0.43	KRUEGER LMHS	1,2
VAV-2	AHU-1	07	410	200	0.13	1	16	20	200	55	97.4	9.2	1	0.07	161.1	1	0.56	KRUEGER LMHS	1,2
VAV-3	AHU-1	07	390	120	0.12	1	16	20	170	55	95.6	7.5	1	0.07	149.2	0.5	0.19	KRUEGER LMHS	1,2
VAV-4	AHU-1	12	1080	960	0.28	1	15	13	960	55	100.2	47.1	2	0.23	141.3	2.5	0.48	KRUEGER LMHS	1,2
VAV-5	AHU-1	12	960	960	0.23	1	15	11	960	55	100.2	47.1	2	0.19	141.3	2.5	0.48	KRUEGER LMHS	1,2
VAV-6	AHU-1	12	1060	500	0.16	1	16	13	500	55	94.7	21.5	1	0.12	165.3	3	1.1	KRUEGER LMHS	1,2
VAV-7	AHU-1	10	370	370	0.04	1	-	-	370	55	92.3	15	1	0.03	162.4	1.8	0.32	KRUEGER LMHS	1,2
VAV-8	AHU-1	12	455	455	0.03	1	12	-	455	55	94.6	19.5	1	0.02	160	2	0.51	KRUEGER LMHS	1,2
VAV-9	AHU-1	09	600	250	0.11	1	12	15	250	55	96.9	11.4	1	0.07	156.7	1	0.13	KRUEGER LMHS	1,2
VAV-10	AHU-1	05	200	200	0.09	1	11	20	200	55	93	8.3	1	0.03	166.5	1.3	0.66	KRUEGER LMHS	1,2
VAV-11	AHU-1	08	500	250	0.15	1	16	19	250	55	92.5	10.2	1	0.1	159.1	1	0.56	KRUEGER LMHS	1,2

NOTES:
1. PROVIDE UNIT WITH INSULATION AND FOIL FACED LINER, CROSS-FLOW AIR SENSOR, AND CONTROL ENCLOSURE.
2. CONNECT UNITS TO EXISTING BACNET-IP BAS SYSTEM.

EXPANSION TANK SCHEDULE

MARK	SERVES	LOCATION	TYPE	TEMP RANGE (°F)	FILL PRESSURE (PSIG)	MAX OPER. PRESSURE (PSIG)	TANK VOLUME (GAL)	ACCEPTANCE VOLUME (GAL)	BASIS OF DESIGN	REMARKS
ET-1	HW SYSTEM	BOILER ROOM	DIAPHRAGM	40-200	15	125	57	27	TACO CX215-125	---
ET-2	RADIANT FLOOR	BOILER ROOM	DIAPHRAGM	40-200	15	125	8	5	TACO CX30-125	---

MISCELLANEOUS MECHANICAL EQUIPMENT SCHEDULE

MARK	FUNCTION	SERVES	LOCATION	OPERATING CONDITIONS	BASIS OF DESIGN	REMARKS
AS-1	AIR SEPARATOR	HOT WATER SYSTEM	BOILER ROOM	86 GPM @ 1 FT WAT PD	SPIROTHERM VDT-300	1
AS-2	AIR SEPARATOR	RADIANT FLOOR	BOILER ROOM	8 GPM @ 0.1 FT WAT PD	SPIROTHERM VDT-200	1

NOTES:
1. PROVIDE UNIT WITH ACCESSORIES TO SUPPORT UNIT FROM STRUCTURE.

EXISTING BAS SYSTEM: ASVS, BACNET-IP AUTOMATED LOGIC SYSTEMS.
LOCAL PROVIDER: AUTOMATIC CONTROLS.

ALL NEW EQUIPIMENT IS TO BE PROGRAMMED TO MATCH EXISTING CONTROL SEQUENCES.

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PE-2022017087
3/11/26
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TITLE OF SHEET
SCHEDULE - MECHANICAL
REPLACE COOLING TOWER AND BOILER UNITS
GATEWAY ARCH NATIONAL PARK
11 NORTH 4TH STREET
ST. LOUIS, MO 63102

ARCH/ENG PROJ # 09258.012
SUB SHEET NO. **M501**
DRAWING NO. 366 / 80034
PMIS / PKG. NO. 320855
SHEET 9 OF 16

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GENERAL DEMO NOTES

A. ITEMS WHICH ARE INTENDED TO BE REMOVED, RELOCATED, OR SALVAGED ARE SHOWN AS FULL-TONE LINES ON DEMO PLANS. ALL OTHER ITEMS ARE INTENDED TO REMAIN IN PLACE AND ARE SHOWN AS HALF-TONE.

B. DEMOLITION SHOWN IS AS REQUIRED FOR THE COMPLETE PROJECT. COORDINATE DEMOLITION WITH THE WORK OF OTHER TRADES. PROVIDE TEMPORARY POWER AND LIGHTS AS REQUIRED TO ALLOW THE WORK OF OTHER TRADES TO PROCEED OR AS REQUIRED TO ALLOW THE OWNER TO OCCUPY THE SPACE.

C. ALL OF THE EQUIPMENT AND DEVICES SHOWN ON THIS DRAWING ARE EXISTING. THE LOCATIONS OF THE EQUIPMENT AND DEVICES WERE OBTAINED FROM EXISTING DRAWING AND FIELD INVESTIGATION. THE LOCATIONS OF THE EXISTING EQUIPMENT AND DEVICES ARE SHOWN FOR THE CONVENIENCE. ACCURACY OF THE INFORMATION SHOWN IS NOT GUARANTEED. VERIFICATION OF EXISTING CONDITIONS PRIOR TO SUBMITTING BIDS IS ENCOURAGED. SITE VISITS PRIOR TO SUBMISSION OF BIDS NEED TO BE FULLY COORDINATED WITH THE OWNER.

D. CIRCUIT INFORMATION FOR ALL AFFECTED CIRCUITS SHALL BE VERIFIED PRIOR TO COMMENCING WORK. ACCURACY OF THE INFORMATION SHOWN AND INCLUDED ON THE PANEL SCHEDULES IS NOT GUARANTEED.

E. LUMINAIRES AND DEVICES INDICATED TO BE REMOVED, WHICH ARE LOCATED ON CEILINGS OR WALLS, SHALL HAVE LUMINAIRES, DEVICE AND ALL ASSOCIATED CIRCUIT WIRING AND CONDUIT REMOVED BACK TO NEAREST JUNCTION BOX, OR DEVICE NOT INDICATED TO BE REMOVED. ACTUAL CIRCUITING MUST BE DETERMINED IN THE FIELD. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY WIRE, CONDUIT, DEVICES AND CONNECTIONS NECESSARY TO ENSURE CIRCUIT CONTINUITY OF THE REMAINING DEVICES.

F. THE OWNER HAS THE RIGHT TO RETAIN ALL SALVAGEABLE MATERIAL. ANY MATERIAL THE OWNER CHOOSES NOT TO ACCEPT SHALL BE REMOVED FROM THE SITE AND PROPERLY DISPOSED OF IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS. REMOVE ALL PCB BALLAST OR HAZARDOUS LAMPS.

G. LABEL ALL SPARE OR ABANDONED CIRCUITS AND/OR CIRCUIT BREAKERS IN ALL PANELBOARDS AFFECTED BY THE DEMOLITION. SPARE CIRCUITS AND/OR CIRCUIT BREAKERS MAY BE REUSED FOR THE CIRCUITING OF THE NEW OR REMODELED AREA AS SPACE AND PANEL LOADING WILL ALLOW.

H. RESTORE ALL EXISTING SURFACES REQUIRING PATCHING, PLASTERING, PAINTING AND/OR OTHER REPAIR DUE TO THE DEMOLITION WORK, UNDER THE TERMS OF THIS SPECIFICATION. CLOSE AND SEAL ALL OPENINGS, REPAIR ALL SURFACES, ETC., AS REQUIRED.

I. EXISTING FIRE ALARM DEVICES, EMERGENCY LIGHTS, AND EXIT SIGNS SHALL BE COMPLETE AND OPERABLE AT ALL TIMES. PROVIDE TEMPORARY DEVICES IN AREAS BEING WORKED ON TO ALLOW FOR A WORKABLE SYSTEM DURING CONSTRUCTION.

J. PROVIDE MINIMUM [2] DAYS ADVANCE NOTICE OF OUTAGES. COORDINATE WITH OWNER FOR ALL ANTICIPATED OUTAGES. OWNER HAS FINAL APPROVAL ON TIME AND EXTENT OF POWER OUTAGE.

K. PROTECT EXISTING FURNITURE, CARPET, EQUIPMENT, DEVICES, AND OTHER APPURTENANCES FROM DAMAGE DURING THE COURSE OF CONSTRUCTION. REPLACE DAMAGED ITEMS FREE OF COST TO THE OWNER.

GENERAL NOTES

A. DRAWINGS DO NOT SHOW TOTAL NUMBER OF CONDUCTORS FOR CIRCUITS REQUIRED. PROVIDE THE NUMBER OF CONDUCTORS NEEDED TO COMPLETE INSTALLATION OF SPECIFIC EQUIPMENT FURNISHED. A GREEN GROUND CONDUCTOR, SIZED PER NEC, SHALL ALSO BE INCLUDED IN EACH CIRCUIT. ADJUST CONDUCTOR SIZES AS NEEDED TO LIMIT VOLTAGE DROP TO LEVELS RECOMMENDED BY NEC. COORDINATE INSPECTIONS WITH THE OWNER AND AHJ.

B. SEE ARCHITECTURAL SHEETS FOR REFLECTED CEILING PLANS.

C. ALL CIRCUITS SHALL HAVE SEPARATE NEUTRAL WIRES BUT CAN SHARE AN INSULATED GREEN GROUND WIRE IN MINIMUM 3/4" EMT CONDUIT.

D. SEAL ALL PENETRATIONS THROUGH FIRE OR FIRE/SMOKE RATED WALLS AND FLOORS.

E. ALL RACEWAYS SHALL BE SEALED AS REQUIRED BY AND IN ACCORDANCE WITH NEC PARAGRAPHS 230.8, 300.5(G) AND 300.7(A). ALL RACEWAYS SHALL BE SEALED AS REQUIRED BY NEC AND NFPA.

F. CABLE AND CONDUIT SHALL NOT INTERFERE WITH EQUIPMENT ACCESS.

G. ALL CABLING ABOVE CEILING SHALL BE PROPERLY SUPPORTED (NOT FROM CEILING SYSTEM).

H. COORDINATE FINAL PANELBOARD DIRECTORIES WITH ENGINEER AND OWNER.

GENERAL LIGHTING NOTES

GEN. POWER & AUX SYS. NOTES

A. ALL DEVICES SHOWN SHALL BE MOUNTED AT 18" A.F.F. UNLESS INDICATED OTHERWISE.

B. ALL AUXILIARY CABLE ABOVE CEILING SHALL BE PLENUM RATED WHERE REQUIRED.

C. CEILING MOUNTED DEVICES SHALL BE CENTERED IN CEILING TILE WHERE INSTALLED IN ACOUSTICAL TILE CEILING.

D. PROVIDE 120 VOLT POWER CIRCUIT(S) FOR AUXILIARY SYSTEMS AS REQUIRED FOR COMPLETE AND OPERATIONAL SYSTEMS.

REF. DEMO NOTES (DX)

PROJECT ELECTRICAL REFERENCED DEMOLITION NOTES

D1 DISCONNECT EXISTING EQUIPMENT FOR REMOVAL BY MECHANICAL. EXISTING CIRCUIT MAY BE REUSED TO EXTENT POSSIBLE FOR NEW EQUIPMENT INSTALLATION AT THIS LOCATION.

D2 REMOVE AND REINSTALL, OR PROVIDE SUPPORT FOR, LIGHTING AND DEVICES IN/ON CEILING AS REQUIRED FOR CEILING WORK ASSOCIATED WITH REMOVAL AND INSTALLATION OF VAVS BY MECHANICAL.

D3 DISCONNECT EXISTING EQUIPMENT FOR REMOVAL BY MECHANICAL.

D4 DISCONNECT EXISTING EQUIPMENT FOR REMOVAL BY MECHANICAL. EXISTING CIRCUIT FOR BASIN HEATER MAY BE REUSED TO EXTENT POSSIBLE FOR NEW EQUIPMENT INSTALLATION AT THIS LOCATION.

REF. NOTES (X)

PROJECT ELECTRICAL REFERENCED NOTES

1 REUSE EXISTING CONDUIT AND CONDUCTORS TO PREVIOUSLY SERVING EQUIPMENT AT THIS LOCATION, TO EXTENT POSSIBLE. EXTEND CIRCUITING AS REQUIRED FOR NEW EQUIPMENT CONNECTION.

2 CONNECT TO EXISTING CIRCUIT BREAKER MADE SPARE BY DEMOLITION.

3 PROVIDE NEW CIRCUIT BREAKER IN SPACE MADE AVAILABLE BY DEMOLITION TO SERVE NEW EQUIPMENT. PROVIDE NEW BRANCH CIRCUIT WIRING.

4 PROVIDE 4-POLE (2-ACTIVE, 2 SPARE) 120V COIL ELECTRICALLY HELD CONTACTOR FOR CONTROL OF BOILER POWER CIRCUITS. PROVIDE TWO (2) MUSHROOM STYLE, TWIST TO RELEASE PUSH BUTTONS WITH NORMALLY CLOSED CONTACTS. PROVIDE CONDUIT, BOXES, CLEAR BUTTON COVERS AND WIRING AS NECESSARY FOR COMPLETE EMERGENCY SHUTDOWN FOR BOILERS. PROVIDE LABELS FOR BUTTONS TO READ "EMERGENCY BOILER SHUT OFF". (1)

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TITLE OF SHEET
ELECTRICAL INFO SHEET
REPLACE COOLING TOWER AND BOILER UNITS
GATEWAY ARCH NATIONAL PARK
11 NORTH 4TH STREET
ST. LOUIS, MO 63102

ARCH/ENG PROJ # 09258.012
SUB SHEET NO. **E 01**
DRAWING NO. 366 / 80034
PMIS / PKG. NO. **320855**
SHEET **11** OF **16**

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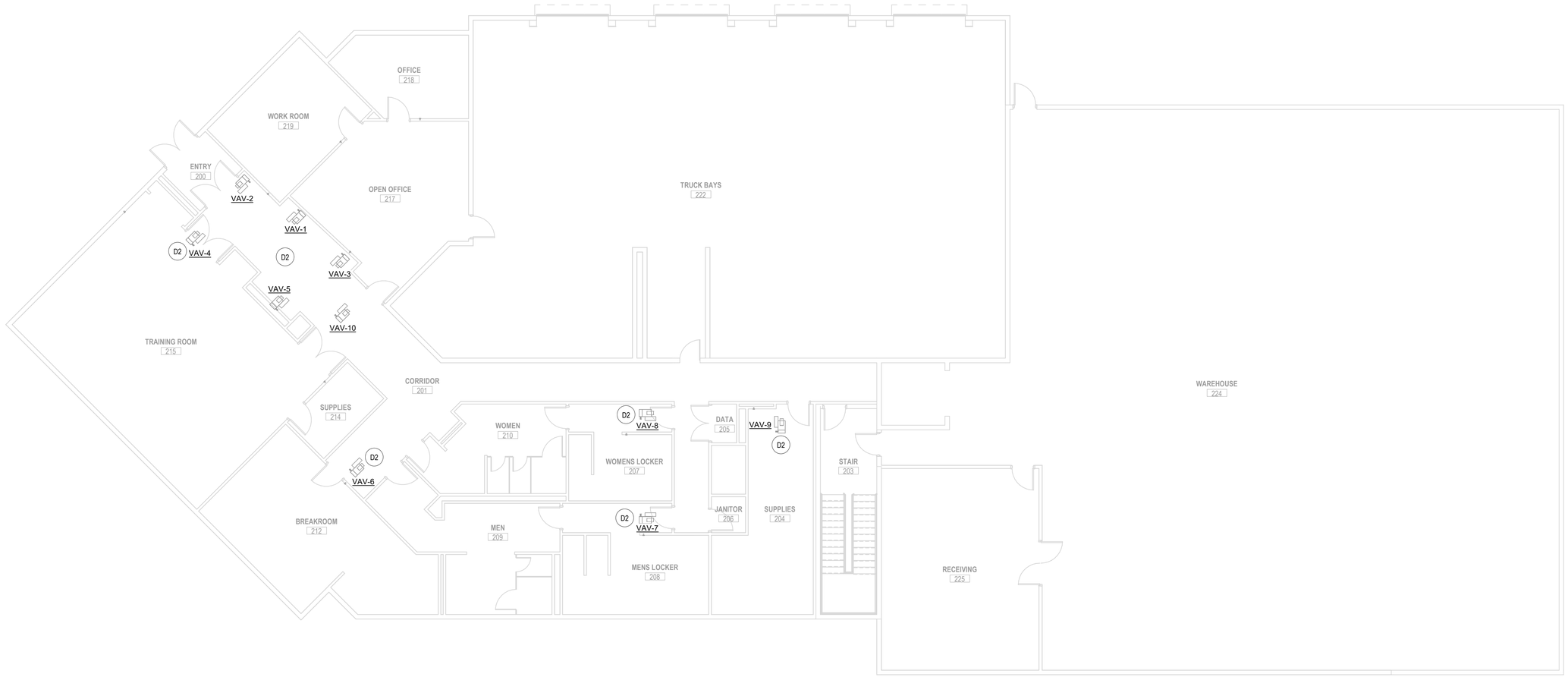
REF. DEMO NOTES (DX):

D2 REMOVE AND REINSTALL, OR PROVIDE SUPPORT FOR, LIGHTING AND DEVICES IN/ON CEILING AS REQUIRED FOR CEILING WORK ASSOCIATED WITH REMOVAL AND INSTALLATION OF VAVS BY MECHANICAL.



2 FIRST FLOOR PLAN - ELECTRICAL DEMOLITION - CLIN 3 (1)
SCALE: 1/8" = 1'-0"

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TITLE OF SHEET
FLOOR PLAN - DEMOLITION

REPLACE COOLING TOWER AND BOILER UNITS

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SUB SHEET NO. **E001**
DRAWING NO. 366 / 80034
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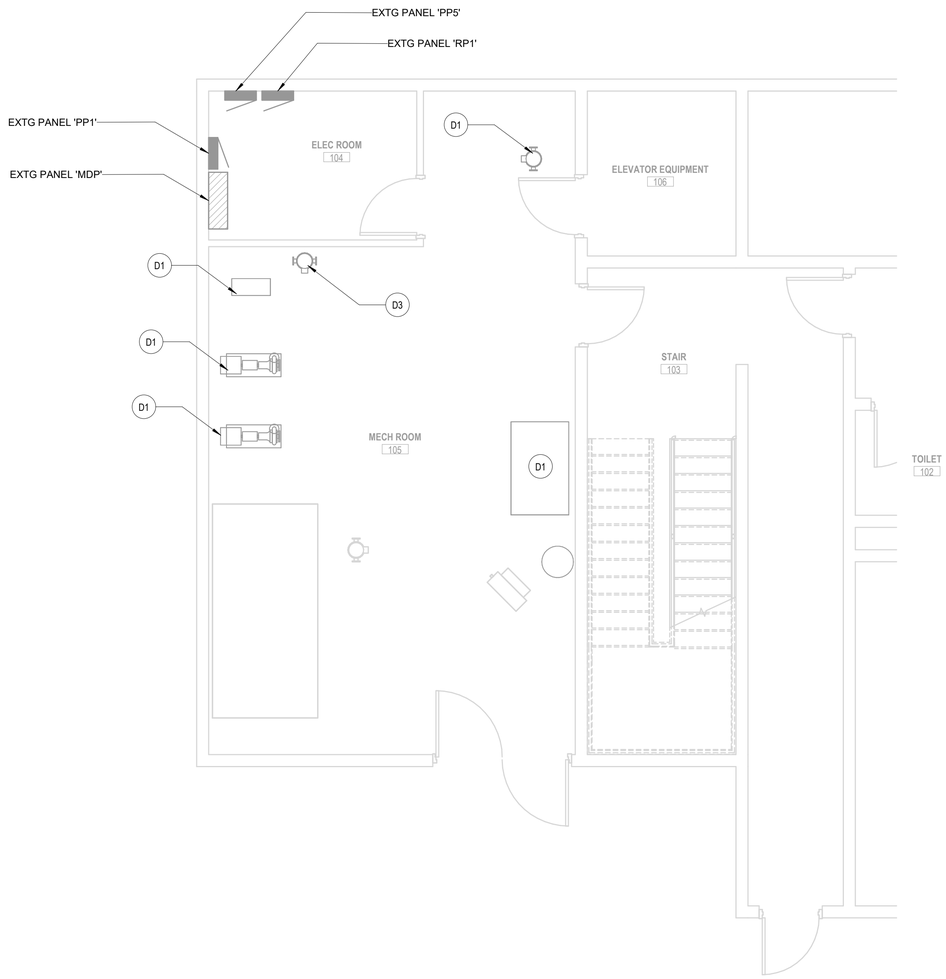
REF. DEMO NOTES (DX):

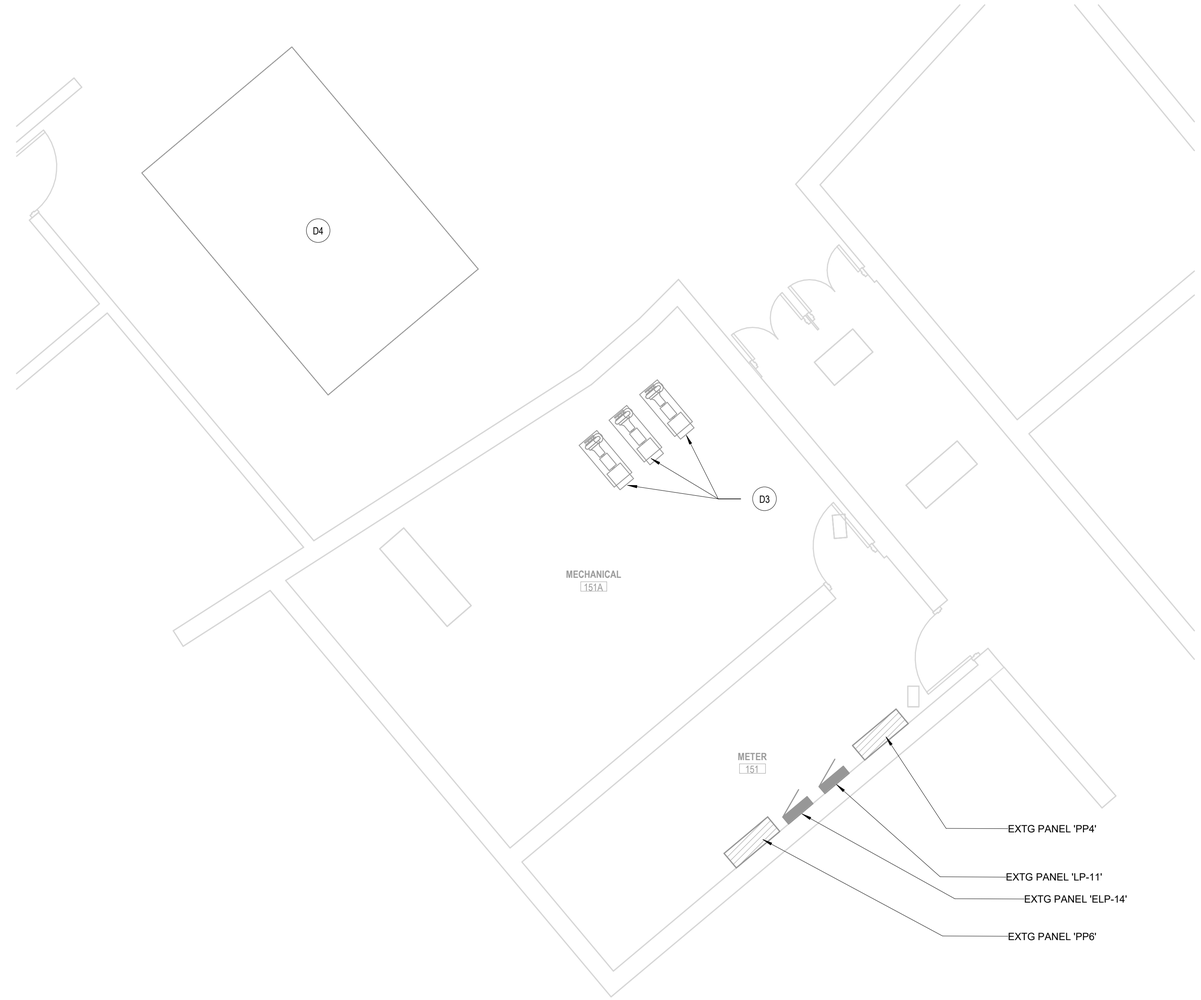
D1 DISCONNECT EXISTING EQUIPMENT FOR REMOVAL BY MECHANICAL. EXISTING CIRCUIT MAY BE REUSED TO EXTENT POSSIBLE FOR NEW EQUIPMENT INSTALLATION AT THIS LOCATION.

D3 DISCONNECT EXISTING EQUIPMENT FOR REMOVAL BY MECHANICAL.

D4 DISCONNECT EXISTING EQUIPMENT FOR REMOVAL BY MECHANICAL. EXISTING CIRCUIT FOR BASIN HEATER MAY BE REUSED TO EXTENT POSSIBLE FOR NEW EQUIPMENT INSTALLATION AT THIS LOCATION.



1 BASEMENT FLOOR PLAN - ELECTRICAL DEMOLITION - CLIN 2
SCALE: 1/4" = 1'-0"



2 FIRST FLOOR PLAN - ELECTRICAL DEMOLITION - CLIN 1
SCALE: 1/4" = 1'-0"

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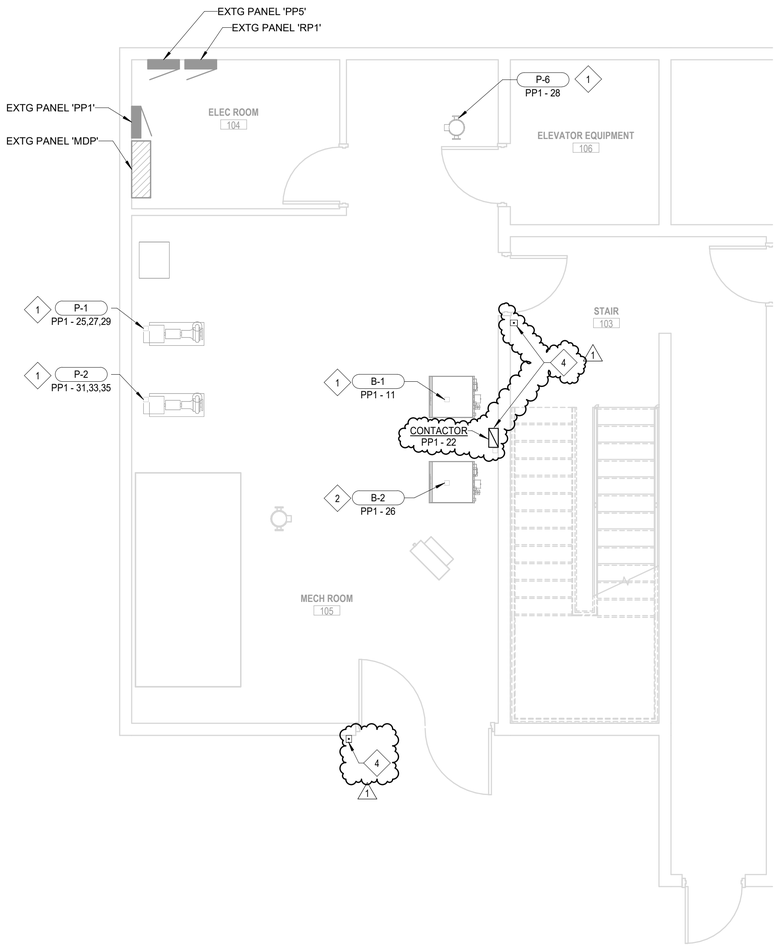
ALL POWERED RECEPTACLES, DEVICES, AND EQUIPMENT SHOWN SHALL BE CIRCUITED AS OUTLINED IN THIS NOTE, UNLESS INDICATED OTHERWISE. PANELBOARD CIRCUITING, INCLUDING IDENTIFYING SEPARATE PANELBOARDS' BRANCH CIRCUIT AREAS, IS DELINEATED WITH A DASH-DOT LINE BOUNDARY, WITH PANEL NAMES IDENTIFIED AT BOUNDARY LINE. CIRCUIT NUMBERS ARE IDENTIFIED ADJACENT TO RECEPTACLE, DEVICE, OR EQUIPMENT. REFER TO PANEL SCHEDULES FOR ADDITIONAL INFORMATION.

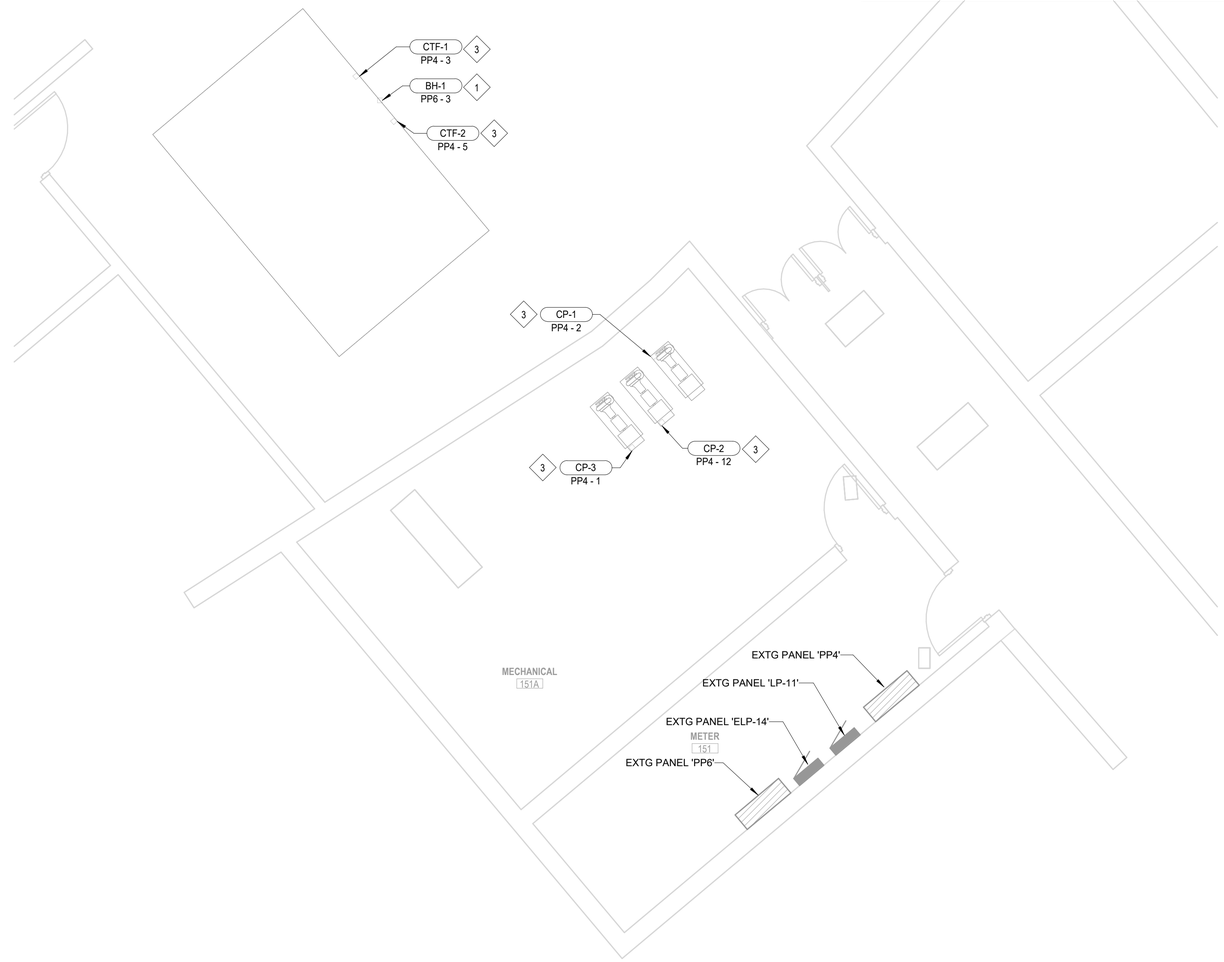
PANELBOARD CIRCUITING

REF. NOTES (X):

1. REUSE EXISTING CONDUIT AND CONDUCTORS TO PREVIOUSLY SERVING EQUIPMENT AT THIS LOCATION, TO EXTENT POSSIBLE. EXTEND CIRCUITING AS REQUIRED FOR NEW EQUIPMENT CONNECTION.
2. CONNECT TO EXISTING CIRCUIT BREAKER MADE SPARE BY DEMOLITION.
3. PROVIDE NEW CIRCUIT BREAKER IN SPACE MADE AVAILABLE BY DEMOLITION TO SERVE NEW EQUIPMENT. PROVIDE NEW BRANCH CIRCUIT WIRING.
4. PROVIDE 4-POLE (2-ACTIVE, 2 SPARE) 120V COIL ELECTRICALLY HELD CONTACTOR FOR CONTROL OF BOILER POWER CIRCUITS. PROVIDE TWO (2) MUSHROOM STYLE, TWIST TO RELEASE PUSH BUTTONS WITH NORMALLY CLOSED CONTACTS. PROVIDE CONDUIT, BOXES, CLEAR BUTTON COVERS AND WIRING AS NECESSARY FOR COMPLETE EMERGENCY SHUTDOWN FOR BOILERS. PROVIDE LABELS FOR BUTTONS TO READ "EMERGENCY BOILER SHUT-OFF".



1 BASEMENT FLOOR PLAN - POWER - CLIN 2
SCALE: 1/4" = 1'-0"



2 FIRST FLOOR PLAN - POWER - CLIN 1
SCALE: 1/4" = 1'-0"

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TITLE OF SHEET
FLOOR PLAN - POWER
REPLACE COOLING TOWER AND BOILER UNITS
GATEWAY ARCH NATIONAL PARK
11 NORTH 4TH STREET
ST. LOUIS, MO 63102

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DRAWING NO. 366 / 80034
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EQUIPMENT SCHEDULE

DEVICE	DEVICE DESCRIPTION	VOLTAGE	PH	KW	FLA	HP	STARTER / DISCONNECT TYPE	STARTER / DISCONNECT SIZE	STARTER / DISCONNECT FUSE	PLUG CONFIG	RECEPT CONFIG	FEEDER SIZE	NOTES
B-1	BOILER	120 V	1	-	8	-	NFD	30A/2P	-	-	-	2#12, 1#12G - 3/4"C	
B-2	BOILER	120 V	1	-	8	-	NFD	30A/2P	-	-	-	2#12, 1#12G - 3/4"C	
BH-1	BASIN HEATER	480 V	3	20	-	-	INT	-	-	-	-	3#8, 1#10G - 1"C	
CP-1	CONDENSING PUMP	480 V	3	-	-	25	VFD	-	-	-	-	3#4, 1#10G - 1-1/4"C	1
CP-2	CONDENSING PUMP	480 V	3	-	-	25	VFD	-	-	-	-	3#4, 1#10G - 1-1/4"C	1
CP-3	CONDENSING PUMP	480 V	3	-	-	25	VFD	-	-	-	-	3#4, 1#10G - 1-1/4"C	1
CTF-1	COOLING TOWER	480 V	3	-	-	50	VFD	-	-	-	-	3#2, 1#8G - 1-1/4"C	1,2
CTF-2	COOLING TOWER	480 V	3	-	-	50	VFD	-	-	-	-	3#2, 1#8G - 1-1/4"C	1,2
P-1	SECONDARY LOOP PUMP	208 V	3	-	-	3	VFD	-	-	-	-	3#10, 1#10G - 3/4"C	1
P-2	SECONDARY LOOP PUMP	208 V	3	-	-	3	VFD	-	-	-	-	3#10, 1#10G - 3/4"C	1
P-6	RADIANT FLOOR PUMP	120 V	1	-	-	1/3	CS/FD	NEMA 0/1P	15	-	-	2#12, 1#12G - 3/4"C	

GENERAL EQUIPMENT SCHEDULE NOTES:

A. THIS SCHEDULE DISPLAYS SIZING INFORMATION THAT IS GENERIC IN NATURE. SCHEDULE DOES NOT ITEMIZE ALL INSTANCES OF EQUIPMENT. CONTRACTOR SHALL REFER TO THE PLANS FOR FINAL QUANTITIES AND LOCATIONS.

B. MOUNT ALL DISCONNECTS AND STARTERS ON ASSOCIATED EQUIPMENT UNLESS SHOWN OTHERWISE. MAINTAIN WORKING CLEARANCES PER NEC; COORDINATE WITH MECHANICAL CONTRACTOR.

C. NFD OR FD = NON-FUSED OR FUSED DISCONNECT SWITCH.

D. CS/NFD, FD = COMBINATION STARTER/ NON OR FUSED DISCONNECT SWITCH.

E. INT = INTEGRAL DISCONNECT FURNISHED WITH EQUIPMENT.

F. EXP = DEVICE TO BE EXPLOSION-PROOF.

G. ALL SWITCHES, DISCONNECTS, ETC SHALL BE LOCKABLE.

H. ALL SWITCHES, DISCONNECTS, ETC SHALL BE NEMA 3R WHERE REQUIRED.

I. PROVIDE FUSES AS SHOWN; REVISE SIZES PER ACTUAL NAMEPLATE DATA.

J. STARTER ACCESSORIES:STARTER ACCESSORIES:
1. CONTROL TRANSFORMER
2. H-O-A SWITCH
3. RED RUN LIGHT
4. 2 NO CONTACTS; 2 NC CONTACTS

K. PROVIDE DUCT DETECTOR, SHUTDOWN RELAY, AND ACCESSORIES AS REQUIRED TO SHUTDOWN HVAC EQUIPMENT 2000 CFM OR HIGHER PER NFPA AND AHJ.

EQUIPMENT SCHEDULE NOTES:

1. VFD PROVIDED BY MECH, INSTALLED BY ELEC.
2. VERIFY LOCATION OF VFD/DISCONNECT WITH MECH. IF MECH PROVIDED VFD/DICONNECT IS LOCATED REMOTELY NOT WITHIN SIGHT OF COOLING TOWER. PROVIDE 100/3 NFD DISCONNECT AT TOWER. 1

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GATEWAY ARCH NATIONAL PARK
11 NORTH 4TH STREET
ST. LOUIS, MO 63102

ARCH/ENG PROJ # 09258.012
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DRAWING NO. 366 / 80034
PMIS / PKG. NO. **320855**
SHEET **15** OF **16**

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Extg Branch Panel: PP1

Location: ELEC ROOM 104 **Volts:** 208Y/120 **A.I.C. Rating:** UNKNOWN
Supply From: MDP **Phases:** 3 **MLO / MCB:** MLO
Mounting: SURFACE **Wires:** 4 **FCB / MCB Rating:** 225 A

CKT	Circuit Description	Trip	P	A		B		C		P	Trip	Circuit Description	CKT
1	RECEPTACLES	20 A	1	0	0					1	20 A	ACCESS CONTROL	2
3	RECEPTACLES	20 A	1			0	0			1	20 A	FACP	4
5	RECEPTACLES	20 A	1					0	0	1	20 A	LIGHTING	6
7	O.H. DOORS	20 A	1	0	0					1	20 A	LIGHTING	8
9	DOCK LOCKS	20 A	1			0	0			1	20 A	LIGHTING	10
11	**EQP_CONT MECH ROOM 105 B-1**	20 A	1					960	0	1	20 A	LIGHTING	12
13	CCTV	20 A	1	0	0					1	20 A	LIGHTING	14
15	ELEVATOR PIT RECEPTACLE / FLAG LIGHT	20 A	1			0	0			1	20 A	ELEVATOR CAR LIGHTS	16
17	RP1, UH-1,2,3,4,CUH1	20 A	1					0	0	1	20 A	ELEVATOR SHAFT LIGHTS	18
19	EF1	30 A	3	0	0					1	20 A	AC CONTROL UNIT	20
21	--	--	--			0	100			1	20 A	**EQP_CONT CONTACTOR MECH ROOM 105**	22
23	--	--	--					0	0	1	20 A	BIG FAN	24
25	**EQP_CONT MECH ROOM 105 P-1**	30 A	3	167	960					1	20 A	**EQP_CONT MECH ROOM 105 B-2**	26
27	--	--	--			167	864			1	20 A	**EQP_CONT MECH ROOM 105 P-6**	28
29	--	--	--					167	0	1	20 A	P5	30
31	**EQP_CONT MECH ROOM 105 P-2**	30 A	3	167	0					3	30 A	RF1	32
33	--	--	--			167	0			--	--	--	34
35	--	--	--					167	0	--	--	--	36
37	SF1	20 A	1	0	0					3	20 A	ROLLING GRILLE	38
39	EWC	20 A	1			0	0			--	--	--	40
41	EXT. RECEPTACLE	20 A	1					0	0	--	--	--	42
			Total Load:	1293 VA		1297 VA		1293 VA					
			Total Amps:	11 A		11 A		11 A					

1

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
EQP_CONT	3884 VA	100.00%	3884 VA	**Total Est. Demand:**	3884 VA
				Total Est. Demand Current (100% Rated):	11 A
				Non-Cont. Current @ 100%:	0 A
				Continuous Current @ 125%:	13 A
				Total Est. Demand Current (80% Rated):	13 A

Legend:
FCB: Feeder Circuit Breaker
GFI: GFCI Circuit Breaker
LOCK: Lockable Circuit Breaker
MCB: Main Circuit Breaker
MCCB: Molded Case Circuit Breaker
MLO: Main Lug Only
EXTG: Existing Circuit Breaker

Notes:
1. VERIFY CIRCUIT LOADS AND CONFIRM EACH CIRCUIT IS IN ACTIVE USE. SUBMIT FINDINGS TO PROJECT ENGINEER PRIOR TO FINAL LOAD ASSESSMENT AND BALANCING.
2. EXISITNG LOADS ARE SHOWN FOR CONVENIENCE AND ARE NOT CALCULATED IN FINAL LOADING.
3. NEW LOADS/CIRCUIT BREAKERS SHOWN IN BOLD TEXT.

Extg Power Panel: PP4

Location: METER 151 **Volts:** 480Y/277 **A.I.C. Rating:** UNKNOWN
Supply From: **Phases:** 3 **MLO / MCB:** MLO
Mounting: **Wires:** 4 **FCB / MCB Rating:** 400 A

CKT	Circuit Description	# of Poles	Trip Rating	Load	Remarks
1	**EQP_CONT MECHANICAL 151A CP-3**	3	**45 A**	28254 VA	
2	**EQP_CONT MECHANICAL 151A CP-1**	3	**45 A**	28254 VA	
3	**EQP_CONT COOLING TOWER FAN 1**	3	**90 A**	54000 VA	
4	T3 / LP11	3	40 A	0 VA	
5	**EQP_CONT COOLING TOWER FAN 2**	3	**90 A**	54000 VA	
6	SPARE	3	30 A	0 VA	
7	SPARE	3	40 A	0 VA	
8	DAYTON HEATER	3	50 A	0 VA	
9	NW GEN. BLDG. WALL DISCONNECT	3	100 A	0 VA	
10	SPARE	3	20 A	0 VA	
11	SPACE HEATER GEN. BLDG.	3	40 A	0 VA	
12	**EQP_CONT MECHANICAL 151A CP-2**	3	**45 A**	28254 VA	
13					
14					
15					
				192762 VA	
				232 A	

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
EQP_CONT	192762 VA	100.00%	192762 VA	**Total Est. Demand:**	192762 VA
				Total Est. Demand Current (100% Rated):	232 A
				Non-Cont. Current @ 100%:	0 A
				Continuous Current @ 125%:	290 A
				Total Est. Demand Current (80% Rated):	290 A

Legend:
FCB: Feeder Circuit Breaker
GFI: GFCI Circuit Breaker
LOCK: Lockable Circuit Breaker
MCB: Main Circuit Breaker
MCCB: Molded Case Circuit Breaker
MLO: Main Lug Only
EXTG: Existing Circuit Breaker

Notes:
1. VERIFY CIRCUIT LOADS AND CONFIRM EACH CIRCUIT IS IN ACTIVE USE. SUBMIT FINDINGS TO PROJECT ENGINEER PRIOR TO FINAL LOAD ASSESSMENT AND BALANCING.
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3. NEW LOADS/CIRCUIT BREAKERS SHOWN IN BOLD TEXT.

Extg Power Panel: PP6

Location: METER 151 **Volts:** 480 **A.I.C. Rating:** UNKNOWN
Supply From: **Phases:** 3 **MLO / MCB:** MCB
Mounting: **Wires:** 3 **FCB / MCB Rating:** 150 A

CKT	Circuit Description	# of Poles	Trip Rating	Load	Remarks
1	NORTH STORM PUMP PANEL	3	125 A	0 VA	
2	CHILL WATER RECIRCULATING PUMP	3	30 A	0 VA	
3	**COOLING TOWER BASIN HEATER BH-1**	3	40 A	20000 VA	
4	WATER HEATER	3	60 A	0 VA	
5	TRANSFORMER T-4 PUMP ROOM	3	30 A	0 VA	
6	TRANFORMER T-5 GENERATOR BUILDING	3	20 A	0 VA	
				20000 VA	
				24 A	

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
EQP_CONT	20000 VA	100.00%	20000 VA	**Total Est. Demand:**	20000 VA
				Total Est. Demand Current (100% Rated):	24 A
				Non-Cont. Current @ 100%:	0 A
				Continuous Current @ 125%:	30 A
				Total Est. Demand Current (80% Rated):	30 A

Legend:
FCB: Feeder Circuit Breaker
GFI: GFCI Circuit Breaker
LOCK: Lockable Circuit Breaker
MCB: Main Circuit Breaker
MCCB: Molded Case Circuit Breaker
MLO: Main Lug Only
EXTG: Existing Circuit Breaker

Notes:
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2. EXISITNG LOADS ARE SHOWN FOR CONVENIENCE AND ARE NOT CALCULATED IN FINAL LOADING.
3. NEW LOADS/CIRCUIT BREAKERS SHOWN IN BOLD TEXT.

STATE OF MISSOURI
JOSEPH C. BINGE
NUMBER PE-2014012014
03/11/2026
PROFESSIONAL ENGINEER

NATIONAL PARK SERVICE
Department of the Interior

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DATE	INITIAL
03/11/2026	

PREPARED
JCB DESIGNED
JCB DRAWN
KJS CHECKED
02/03/2026 DATE

TITLE OF SHEET
ELECTRICAL PANEL SCHEDULES
REPLACE COOLING TOWER AND BOILER UNITS
GATEWAY ARCH NATIONAL PARK
11 NORTH 4TH STREET
ST. LOUIS, MO 63102

ARCH/ENG PROJ # 09258.012
SUB SHEET NO. **E701**
DRAWING NO. 366 / 80034
PMIS / PKG. NO. **320855**
SHEET **16** OF **16**

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