

ADDENDUM NO. 2

TO: PLANS AND SPECIFICATIONS FOR THE STATE OF MISSOURI

Improvements to HVAC/Chiller
Troop C Service Center
Park Hills, Missouri
Project No.: R2515-01

Bid Opening Date: 1:30 PM, May 14th, 2026 (Unchanged)

Bidders are hereby informed that the construction Plans and/or Specifications are modified as follows:

SPECIFICATION CHANGES:

1. Revise specification section 230519 – Meters and Gages for HVAC Piping as follows:
 - a. **ADD** Paragraph 2.6 as follows:

“2.6 Calibrated-Orifice Balancing Valves: Comply with requirements specified in Section 232113.”
 - b. **DELETE** Paragraph 3.3-K and **REPLACE** as follows:

“K. Install calibrated-orifice balancing valves at discharge of hydronic system pumps and at outlet of hydronic coils.”

DRAWING CHANGES:

1. **DELETE** Sheet M102 and **REPLACE** with the attached sheet M102 dated 05/07/2026.
2. **DELETE** Sheet M601 and **REPLACE** with the attached sheet M601 dated 05/07/2026.
3. **DELETE** Sheet E102 and **REPLACE** with the attached sheet E102 dated 05/07/2026.

BIDDERS QUESTIONS AND RESPONSES:

1. Looking for clarification as to required thermometer and gauge locations for hydronic piping. Specs also call out for flow meters at pumps and coils, is this required? If so, what are the specs for the flow meters??

Response: Refer to piping and connection details on sheet M501 and supplemental requirements specified in specification Section 230519 as modified above.

2. Regarding the trinity unity construct, would we be an authorized user under your subscription or would we have to purchase our own subscription??

Response: If awarded the contract, you will be granted access under our subscription. You will have to fill out a provided new user form.

ADDENDUM NO. 2

GENERAL COMMENTS:

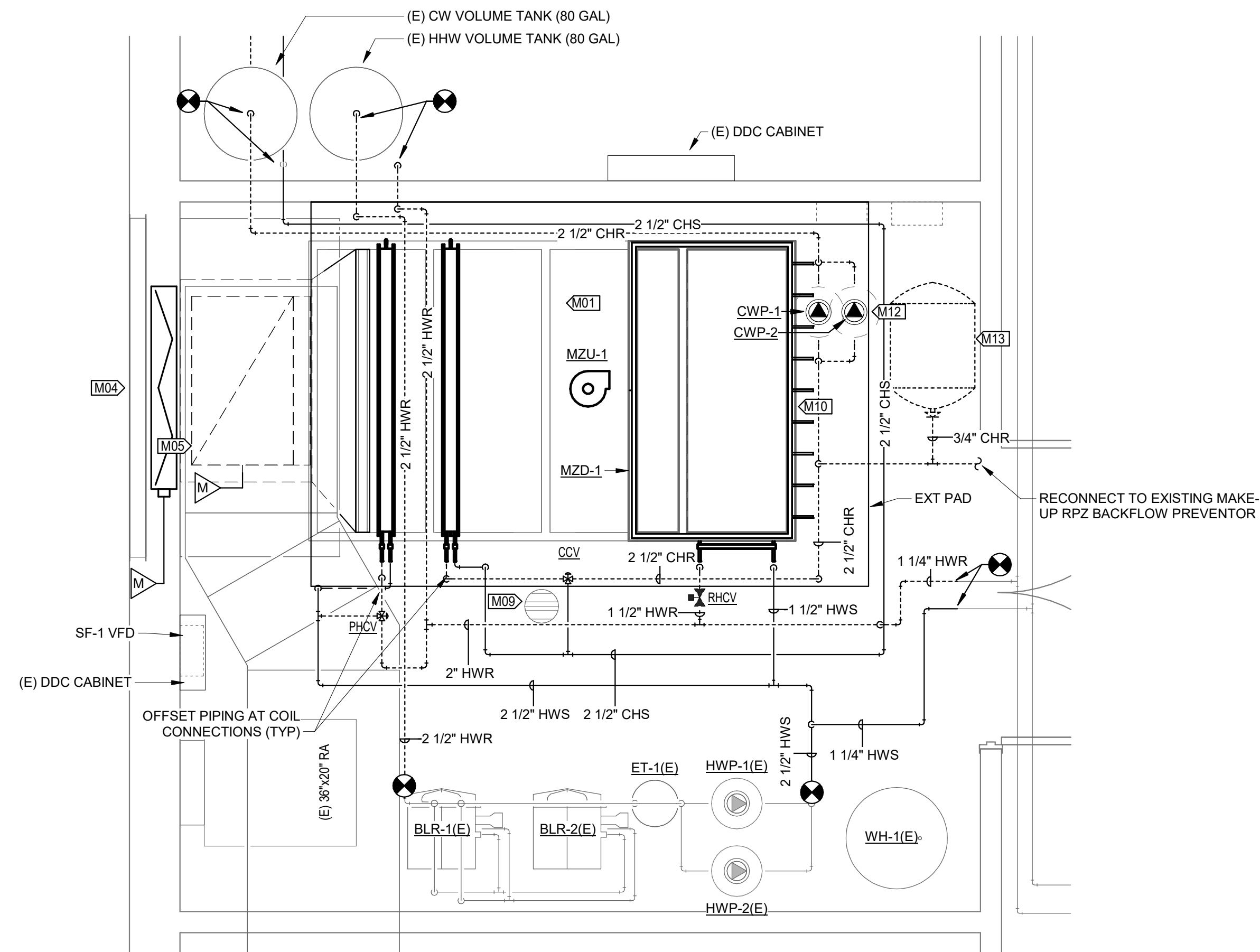
1. The Pre-Bid Meeting was held April 27, 2026, followed by a walk-through of the project site.
2. If an additional site visit is necessary, please contact Gabriel Barlow, 573-315-1361, gabriel.barlow@mshp.dps.mo.gov, who will coordinate with the on-site personnel.
3. Please contact Mandy Roberson, contract specialist, at Mandy.Roberson@oa.mo.gov for questions about bidding procedures, MBE/WBE/SDVE goals, good faith effort forms, and bid submittal requirements.
4. All bids shall be submitted on the provided bid forms without additional terms and conditions, modifications, or stipulations. Each space on the bid forms shall be properly filled. Failure to do so will result in rejection of the bid.
5. MBE/WBE/SDVE participation requirements can be found in DIVISION 00. The MBE/WBE/SDVE participation goals are 10%/10%/3%, respectively. All MBE, WBE, and SDVE contractors, subcontractors, and suppliers must be certified by the State of Missouri, Office of Equal Opportunity. No other certifications from other Missouri certifying agencies will be accepted. If a bidder is unable to meet a participation goal, a Good Faith Effort Determination Form must be completed. Failure to complete this process will result in rejection of the bid.
6. Changes to, or clarification of, the bid documents are only made as issued in the addenda.
7. All correspondence with respect to this project must include the State of Missouri project number as indicated above.
8. Current Planholders list available online at: <https://oa.mo.gov/facilities/bid-opportunities/bid-listing-electronic-plans> Prospective Bidders contact American Document Solutions, 1400 Forum Blvd Suite 7A, Columbia MO 65203, 573-446-7768 to order official plans and specifications.

ATTACHMENTS:

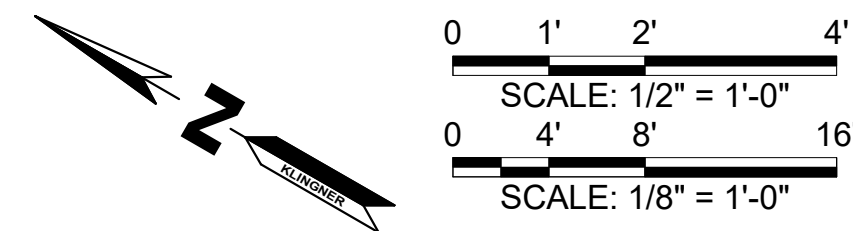
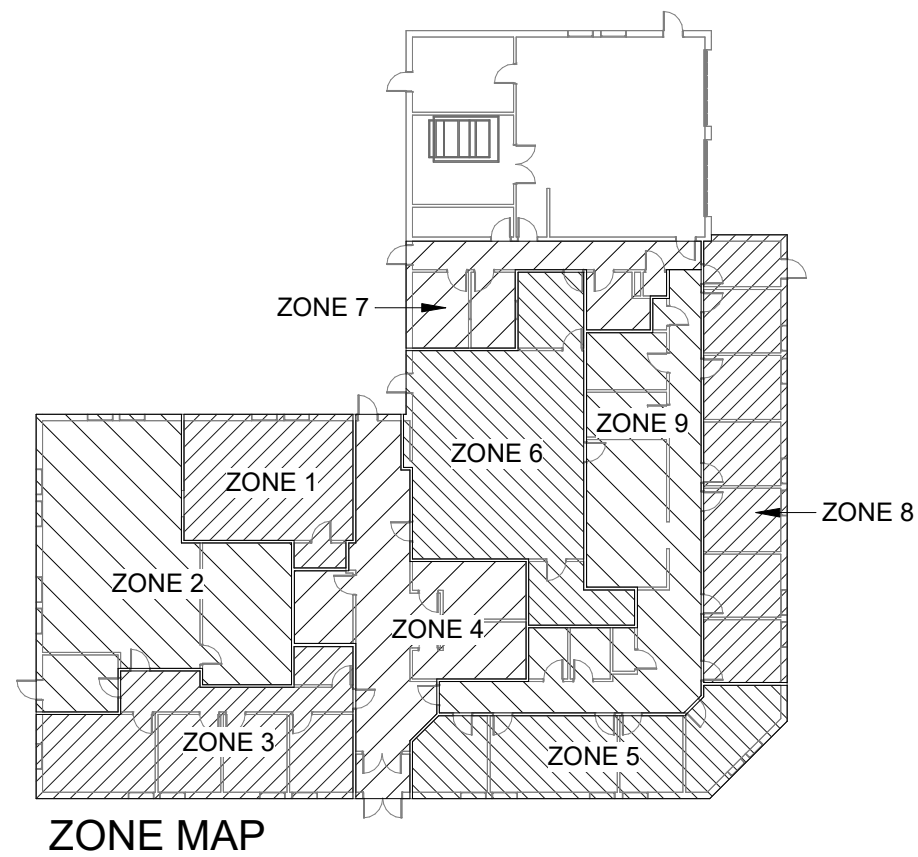
1. Revised Sheet M102 dated 05/07/2026
2. Revised Sheet M601 dated 05/07/2026
3. Revised Sheet E102 dated 05/07/2026

END ADDENDUM NO. 2

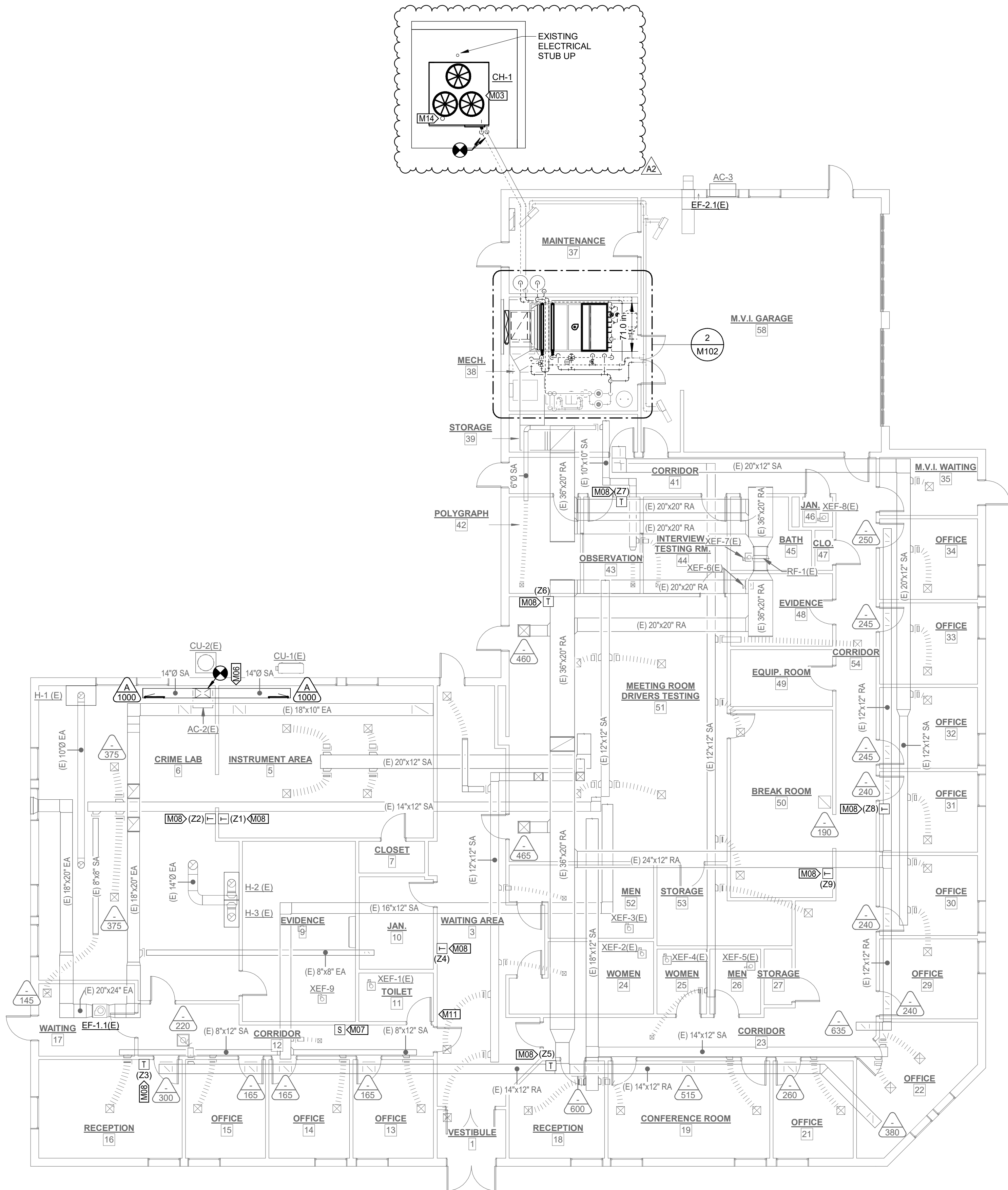
KEYNOTE LEGEND	
VALUE	DESCRIPTION
M01	INSTALL NEW MULTI-ZONE AIR HANDLING UNIT AND WITH NEW 48"x48" OUTSIDE AIR CONTROL DAMPER AND 40"x24" RETURN AIR CONTROL DAMPER. CONNECT TO EXISTING DUCTWORK. INSTALL UNIT AS TIGHT TO THE NORTH-MOST CORNER OF THE EXISTING PAD AS IS PRACTICAL IN ORDER TO FACILITATE MAINTENANCE ACCESS TO SOUTHWEST AND SOUTHEAST FACES OF THE UNIT. REINSTALL EXISTING FIRE ALARM DEVICES. REFER TO COIL PIPING DETAILS ON M501.
M03	INSTALL CHILLER ON EXISTING CONCRETE PAD AND CONNECT TO EXISTING STUBOUTS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS AND CLEARANCE REQUIREMENTS.
M04	ENLARGE EXISTING OUTSIDE AIR OPENING TO 48"x48" WITHIN FACE AREA OF EXISTING 80"x54" LOUVER TO REMAIN. SEAL AIRTIGHT.
M05	PROVIDE NEW TRANSITION/MIKING BOX WITH 12"x24" ACCESS DOOR. OUTDOOR AIR INTAKE SHALL BE 48"x48" AND RETURN AIR OPENING SHALL BE SIZED TO MATCH EXISTING 40"x24" RA DUCT. OUTLET SHALL BE SIZED TO MATCH UNIT INTAKE (BASIS OF DESIGN: 67"x67").
M06	INSTALL NEW SPIRAL DUCT. INFILL WALL WITH GYP. BOARD AND PAINT TO MATCH EXISTING CONSTRUCTION.
M07	INSTALL SALVAGED DP SENSING PLATE IN CEILING AT THIS LOCATION. RE-ROUTE NEW TUBING TO CONNECT TO DP-1 AND DP-3 HIGH SIDE SENSING PORTS.
M08	INSTALL NEW ZONE TEMPERATURE SENSOR.
M09	ROUTE CONDENSATE LINE FROM NEW AIR HANDLING UNIT, MZU-1, TO EXISTING FLOOR DRAIN.
M10	IDENTIFY LOCATIONS AND PROVIDE IDENTIFICATION LABELS FOR BALANCE DAMPERS IN EACH OF NINE ZONE SUPPLY DUCTS IN ATTIC SPACE ABOVE. PROVIDE AND INSTALL NEW BALANCE DAMPER FOR ANY ZONE THAT DOES NOT CURRENTLY HAVE ONE. BASE BID TO INCLUDE FOUR (4) NEW 14"x12" BALANCE DAMPERS. FIELD VERIFY DUCT SIZES BEFORE PURCHASE. CLEARLY MARK FINAL LOCATION OF ALL BALANCE DEVICES UPON COMPLETION OF TEST AND BALANCE.
M11	PATCH GYP CEILING AND PAINT TO MATCH EXISTING.
M12	CW PUMPS SHOWN SIDE-BY-SIDE FOR CLARITY. CWP-1 SHALL BE STACKED ABOVE CWP-2 TO FACILITATE ACCESS.
M13	MOUNT CHILLED WATER EXPANSION TANK TIGHT TO STRUCTURE ABOVE
M14	CUT OFF ABANDON GAS LINE AND SLEEVE FLUSH WITH EXISTING PAD. SEAL WATER TIGHT AND INFILL ANY REMAINING VOIDS WITH GROUT.



2 ENLARGED FIRST FLOOR MECHANICAL PLAN - MECHANICAL ROOM
1/2" = 1'-0"



1 FIRST FLOOR MECHANICAL PLAN
1/8" = 1'-0"



AIR HANDLING UNIT SCHEDULE																														
MARK	DESCRIPTION	BASIS OF DESIGN		SUPPLY FAN			COOLING COIL							PREHEAT COIL						REHEAT COIL					ELECTRICAL					NOTES
		MANUF	MODEL	TOTAL AIR FLOW (CFM)	OCCUPIED/UNOCCUPIED OUTSIDE AIR (CFM)	E.S.P. (IN. WG.)	CAPACITY (BTU/HR)	SENS. CAP. (BTU/HR)	EWT (DEG. F)	LWT (DEG. F)	FLOWRATE (GPM)	EAT (DEG. F)	LAT (DEG. F)	CAPACITY (BTU/HR)	EWT (DEG. F)	LWT (DEG. F)	FLOWRATE (GPM)	EAT (DEG. F)	LAT (DEG. F)	CAPACITY (BTU/HR)	EWT (DEG. F)	LWT (DEG. F)	FLOWRATE (GPM)	EAT (DEG. F)	VOLTAGE	PHASE	HZ	MCA	MOCP	
MZU-1	MULTIZONE AIR HANDLING UNIT	KLIMOR	EVO-S	10,000	4,200/3,525	2.0	464,200	313,400	44	56	82	84 DB/69 WB	55 DB/55WB	115,400	140	120	12	44	55	247,800	140	120	25	55	208	3	60	48	60	1, 2, 3

1. 2" PLEATED, MERV 8 FILTERS.
2. PROVIDE SUPPLY FAN VED WITH INTEGRAL DISCONNECT.
3. BASIS OF DESIGN DIMENSIONS: 115" LONG x 71" WIDE x 91" HIGH

AIR-COOLED CHILLER SCHEDULE																					
BASIS OF DESIGN				CAPACITY (TONS)	MINIMUM CAPACITY (%)	MAXIMUM NPLV (BTU/(W*HR))	DESIGN FLOW (GPM)	EVAPORATOR DESIGN EWT (DEG. F)	DESIGN LWT (DEG. F)	DESIGN PD (FT W.G.)	ELECTRICAL					NOTES					
MARK	MANUFACTURER	MODEL	DESCRIPTION								VOLTAGE	PHASE	HZ	MCA	MOCP						
CH-1	CARRIER	30RC-0405610-0623	AIR COOLED SCROLL CHILLER	38.4	8.8	14.79	81.7	54	4.67		208	3	60	188.3	225	1,2,3,4					

1. DIGITAL SCROLL COMPRESSOR WITH SOUND BLANKETS
2. 30% PROPYLENE GLYCOL SOLUTION
3. PROVIDE UNIT MOUNTED, NON-USED DISCONNECT
4. BASIS OF DESIGN DIMENSIONS: 95" LONG x 88" WIDE x 66" HIGH

CHILLED WATER PUMP SCHEDULE													
MARK	DESCRIPTION	FLOW	HEAD	ELECTRICAL				FLA	MCA	MOCP	MAKE	MODEL	WEIGHT
				POWER	VOLT	FREQ	PHASE						
CWP-1	ECM HIGH EFFICIENCY CIRCULATOR	82 GPM	30 ftH2O	2.1 HP	208 V	60 Hz	1	7.5	10	20	TACO	VR25H	53
CWP-2	ECM HIGH EFFICIENCY CIRCULATOR	82 GPM	30 ftH2O	2.1 HP	208 V	60 Hz	1	7.5	10	20	TACO	VR25H	53

GRILLES, REGISTERS, AND DIFFUSERS SCHEDULE												
TAG	TYPE	DESCRIPTION	FACE SIZE		CONNECTION SIZE		MATERIAL	FINISH	FRAME/BORDER	DAMPER	BASIS OF DESIGN	
			RECTANGULAR		RECTANGULAR						MAKE	MODEL
			WIDTH	HEIGHT	WIDTH	HEIGHT						
A	SUPPLY REGISTER	DOUBLE DEFLECTION , 1/2" BLADE SPACE, FRONT BLADES PARALLELS WITH LONG DIMENSION	29 1/2"	12"	28"	10"	ALUMINUM	WHITE	DUCT	OPPOSED BLADE	PRICE	SDGE

MULTIZONE DAMPER SCHEDULE																		
MARK	DESCRIPTION	LENGTH (IN.)			WIDTH (IN.)										MAKE	MODEL	REMARKS	
		OVERALL LENGTH	HOT DECK LENGTH	COLD DECK LENGTH	OVERALL WIDTH	Z1	Z2	Z3	Z4	Z5	Z6	Z7	Z8	Z9				
MZD-1	DUAL DUCT MIXING DAMPER, TRIPLE V BLADES, 9 ZONES	37"	12"	24"	67"	12"	6"	6"	6"	10"	5"	5"	10"	6"	POTTORFF	MX-40	1	
1. DIMENSIONS SHOWN REFER TO INNER DIMENSION OF DAMPER.																		

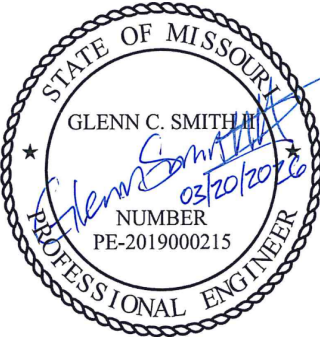
EXPANSION TANK SCHEDULE									
MARK	DESCRIPTION	MAX. PRES.	MAX. TEMP.	TANK VOLUME	ACCEPTANCE VOLUME	BASIS OF DESIGN			REMARKS
						MAKE	MODEL	WEIGHT	
ET-2	CW EXPANSION TANK	125 PSI	240°F	23 GAL	23 GAL	TACO	CA90-125	312 LB	

CONTROL VALVE SCHEDULE							
MARK	DESCRIPTION	CONTROL	VALVE FAIL POSITION	COIL WATER PRESSURE DROP (FT)	FLOW RATE (GPM)	TYPE	CV
CCV	CHILLED WATER CONTROL VALVE	2-10 VDC	CLOSED	7.3	82	3-WAY (MIXING)	62
PHCV	PRE-HEAT CONTROL VALVE	2-10 VDC	OPEN	6.3	12	3-WAY (MIXING)	42
RHCV	RE-HEAT CONTROL VALVE	2-10 VDC	OPEN	1.7	25	2-WAY	11

CONTROL DAMPER SCHEDULE				
MARK	DESCRIPTION	SIZE	TYPE	FAIL POSITION
OAD	OUTSIDE AIR DAMPER	48" X 48"	OPPOSED BLADE	CLOSED
RAD	RETURN AIR DAMPER	24" X 40"	OPPOSED BLADE	OPEN

ZONE SCHEDULE		
TAG	DESCRIPTION	AIRFLOW (CFM)
Z1	INSTRUMENT LAB	1,800
Z2	CRIME LAB	1,000
Z3	SW OFFICES	1,090
Z4	LOBBY	725
Z5	SE OFFICES	1,440
Z6	DRIVER TESTING	800
Z7	INTERROGATION	450
Z8	EAST OFFICES	1,630
Z9	KITCHENETTE AND COORIDOR	775

STATE OF MISSOURI
MIKE KEHOE,
GOVERNOR



GLENN C. SMITH II, P.E. - ENGINEER
MO # 2019000215

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OFFICE OF ADMINISTRATION
DIVISION OF FACILITIES
MANAGEMENT, DESIGN AND
CONSTRUCTION

MISSOURI STATE
HIGHWAY PATROL

IMPROVEMENTS TO
HVAC/CHILLER
TROOP C SERVICE CENTER
BUILDING

5268 FLAT RIVER ROAD
PARK HILLS, MISSOURI

PROJECT # R2515-01
SITE # 6013
ASSET # 8136013002

REVISION: ADDENDUM 02/A2
DATE: 05/07/2026
REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
ISSUE DATE: 03/20/2026

CAD DWG FILE: _____
DRAWING BY: CRB
CHECKED BY: MHB
DESIGNED BY: GCS

SHEET TITLE:

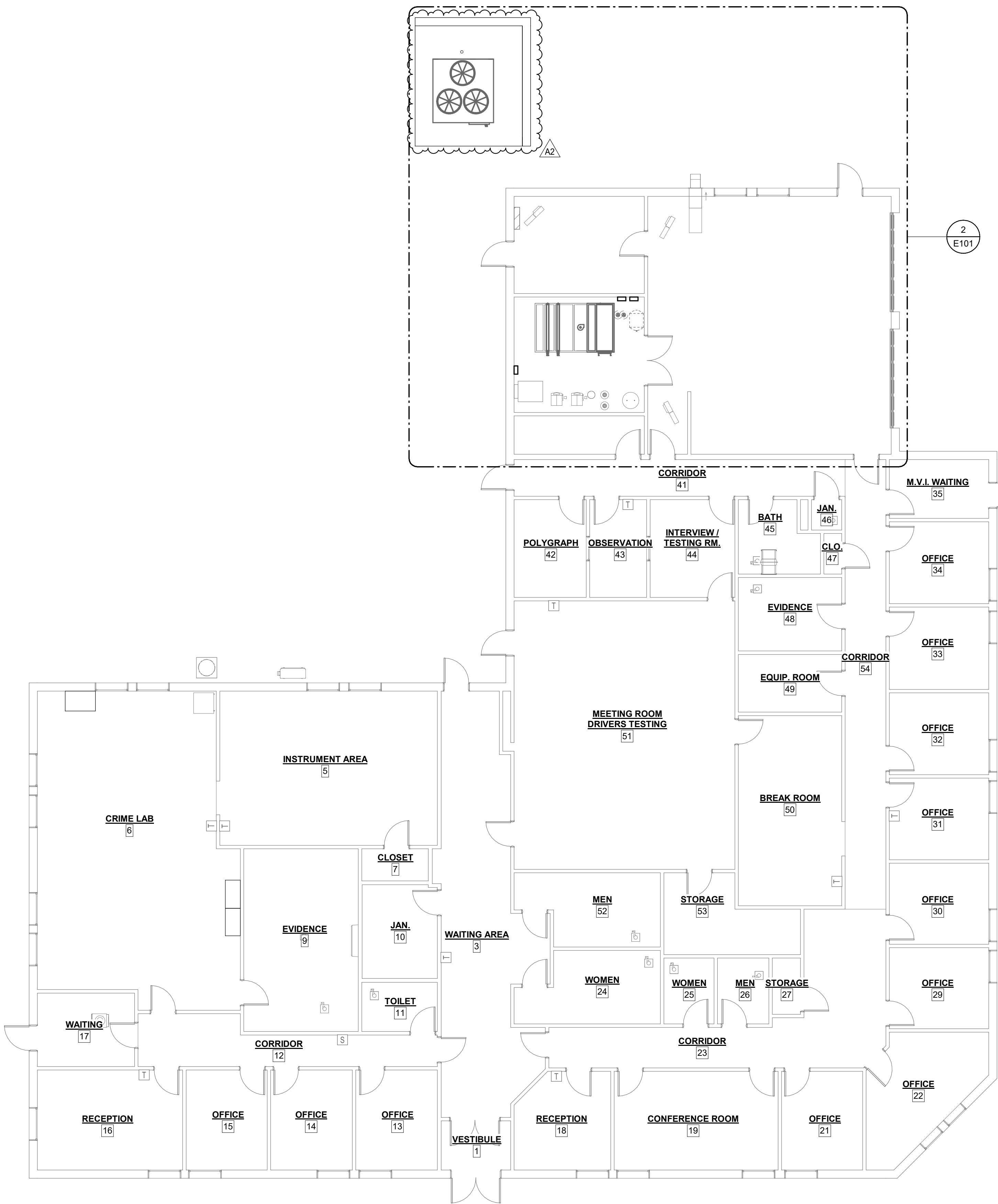
MECHANICAL
SCHEDULES

SHEET NUMBER:

M601

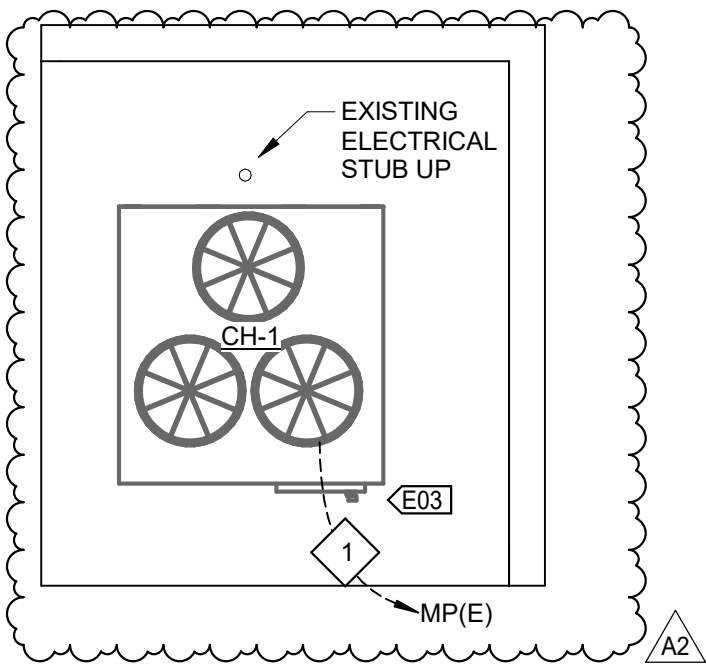
SHEET 6 of 12
MARCH 20, 2026

1 FIRST FLOOR POWER PLAN
1/8" = 1'-0"

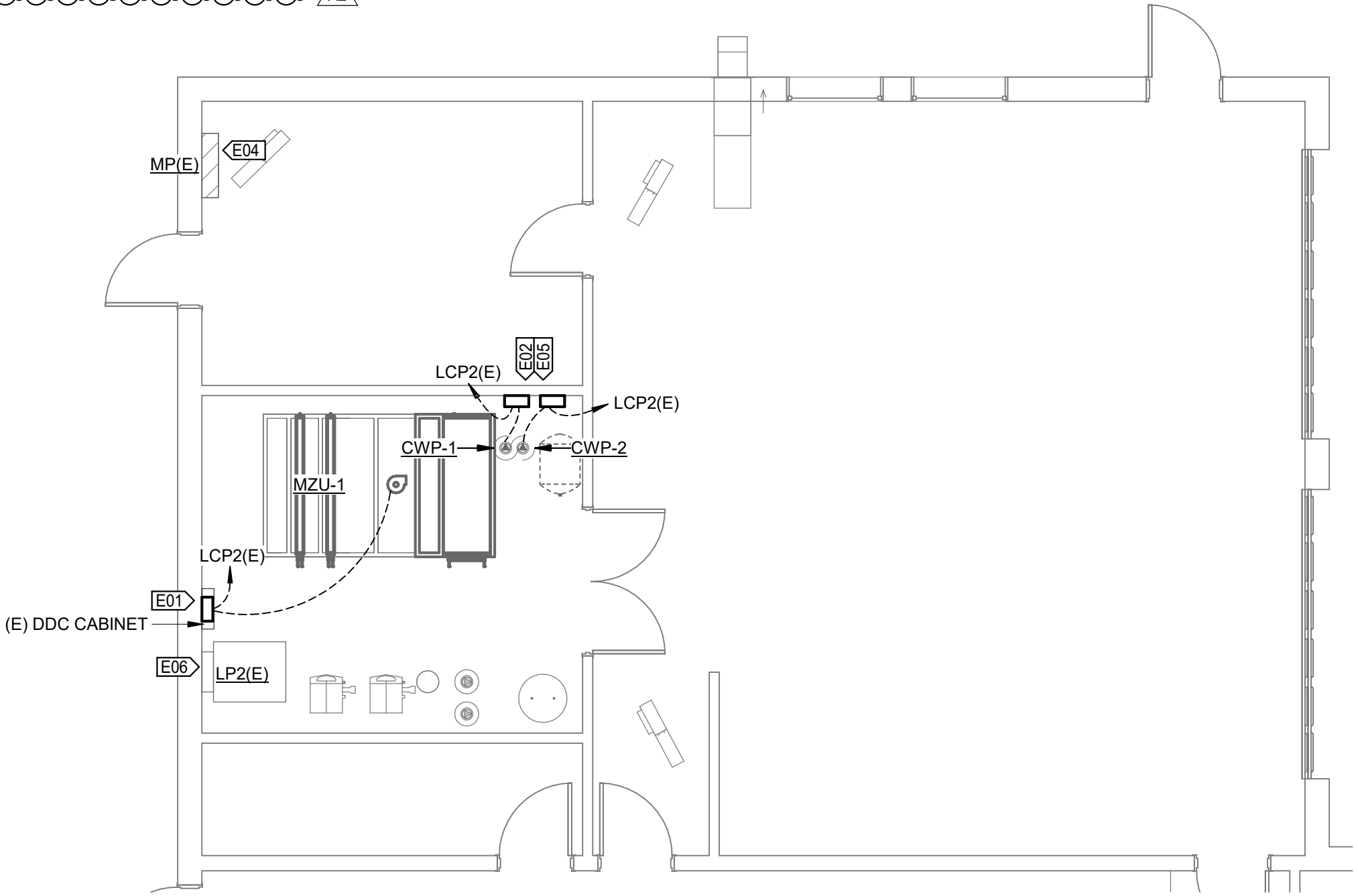


KEYNOTE LEGEND	
VALUE	DESCRIPTION
E01	FURNISH AND INSTALL NEW SUPPLY FAN VFD BELOW EXISTING CONTROL CABINET.
E02	FURNISH AND INSTALL TWO (2) NEW CHILLED WATER PUMP H.O.A. MOTOR STARTERS.
E03	ROUTE NEW CONDUIT FROM EXISTING STUB UP TO EQUIPMENT CONNECTION LOCATION PULL AND TERMINATE NEW CONDUCTORS.
E04	INSTALL NEW 225A SWITCH TO FEED CH-1 IN EXISTING PANEL.
E05	PROVIDE AND INSTALL (2) NEW 20A, 2 POLE BREAKERS TO SERVE NEW CHILLED WATER CIRCULATION PUMPS (LP2-31,33 & LP2-32,34).
E06	PROVIDE AND INSTALL (2) NEW SPARE 20A, SINGLE POLE BREAKERS (LP2-35, LP2-36).

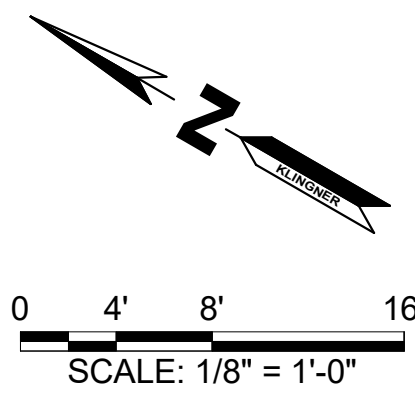
BRANCH PANEL: LP2(E)													
LOCATION: MECH. 38				VOLTS: 120/208				A.I.C. RATING: 10,000 AMPS SYMMETRICAL					
SUPPLY FROM: 400, 120 V/208 V, Three Phase...				PHASES: 3				PANEL TYPE: MAIN CB					
MOUNTING: SURFACE				WIRES: 4				MAINS RATING: 200 A					
ENCLOSURE: NEMA 1				ACCESSORIES:				MAIN BREAKER: 200 A					
CKT	CIRCUIT DESCRIPTION	TRIP	POLES	A		B		C		POLES	TRIP	CIRCUIT DESCRIPTION	CKT
1	LIGHTS	20 A	1	1,800 VA	600 VA					2	20 A	POWER	2
3	LIGHTS	20 A	1			1,800 VA	600 VA						4
5	POWER & RELAYS	20 A	1					0 VA	1,200 VA	1	20 A	FLAG POLE LIGHTS	6
7	OVERHEAD DOOR OP	20 A	1	1,200 VA	700 VA					1	20 A	SOFFIT LIGHTS	8
9	OVERHEAD DOOR OP	20 A	1			1,200 VA	900 VA			1	20 A	RCPT RMS. 36-37	10
11	AHU ACCESSORY POWER	20 A	1					1,260 VA	1,260 VA	1	20 A	RCPT RMS. 36-37	12
13	X-FAN	20 A	1	0 VA	0 VA					1	20 A	POWER HVAC CONTROLS	14
15	WHEEL BALANCER	20 A	2			0 VA	0 VA			2	20 A	WINDOW UNIT GARAGE	16
17								0 VA	0 VA				18
19	EXHAUST FAN ON ROOF	20 A	1	0 VA	816 VA								20
21	EXHAUST FAN ON ROOF	20 A	1			0 VA	816 VA			3	15 A	POWER AUTO LIFT	22
23	EXHAUST FAN ON ROOF	20 A	1					0 VA	816 VA				24
25	DOMESTIC HOT WATER PUMP	15 A	1	912 VA	366 VA					1	15 A	POWER UNIT HEATERS	26
27	BOILER #1	20 A	1			1,800 VA	1,800 VA			1	20 A	BOILER #2	28
29	HOT WATER CIRC. PUMP #1	15 A	1					1,372 VA	1,372 VA	1	15 A	HOT WATER CIR. PUMP #2	30
31	CHILLED WATER CIRC. PUMP #1	20 A	2	1,226 VA	1,226 VA					2	20 A	CHILLED WATER CIRC. PUMP #2	32
33						1,226 VA	1,226 VA						34
35	SPARE	20 A	1					0 VA	0 VA	1	20 A	SPARE	36
37				4,200 VA	7,452 VA								38
39	SPARE	45 A	3			4,200 VA	7,452 VA			3	80 A	MZU BLOWER	40
41								4,200 VA	7,452 VA				42
PHASE LOAD:				20,497 VA		23,019 VA		18,932 VA		**TOTAL LOAD: 62,448 VA			
PHASE AMPS:				173 A		194 A		158 A		**TOTAL AMPS: 173 A			
* FIELD VERIFY BREAKER SIZE WITH ACTUAL EQUIPMENT PROVIDED. COORDINATE WITH OTHER CONTRACTORS AS NECESSARY.													
**TOTAL LOAD AND TOTAL AMPS DO NOT INCLUDE DEMAND FACTOR CALCULATIONS.													
***BOLD TEXT DENOTES NEW EQUIPMENT													



FEEDER SCHEDULE				
FEEDER TAG	PHASE CONDUCTORS QUANTITY	SIZE	NEUTRAL SIZE	EGC SIZE
1	3	3/0 AWG	N/A	4 AWG



2 FIRST FLOOR ENLARGED POWER PLAN - MECHANICAL ROOM
3/16" = 1'-0"



STATE OF MISSOURI
MIKE KEHOE,
GOVERNOR



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MO # 2019000215

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& ASSOCIATES, P.C.

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5268 FLAT RIVER ROAD
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PROJECT # R2515-01
SITE # 6013
ASSET # 8136013002

REVISION: ADDENDUM 02/A2
DATE: 05/07/2026
REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
ISSUE DATE: 03/20/2026

CAD DWG FILE:
DRAWING BY: CRB
CHECKED BY: MHB
DESIGNED BY: GCS

SHEET TITLE:
**POWER PLAN - NEW
WORK**

SHEET NUMBER:

E102

SHEET 12 of 12
MARCH 20, 2026