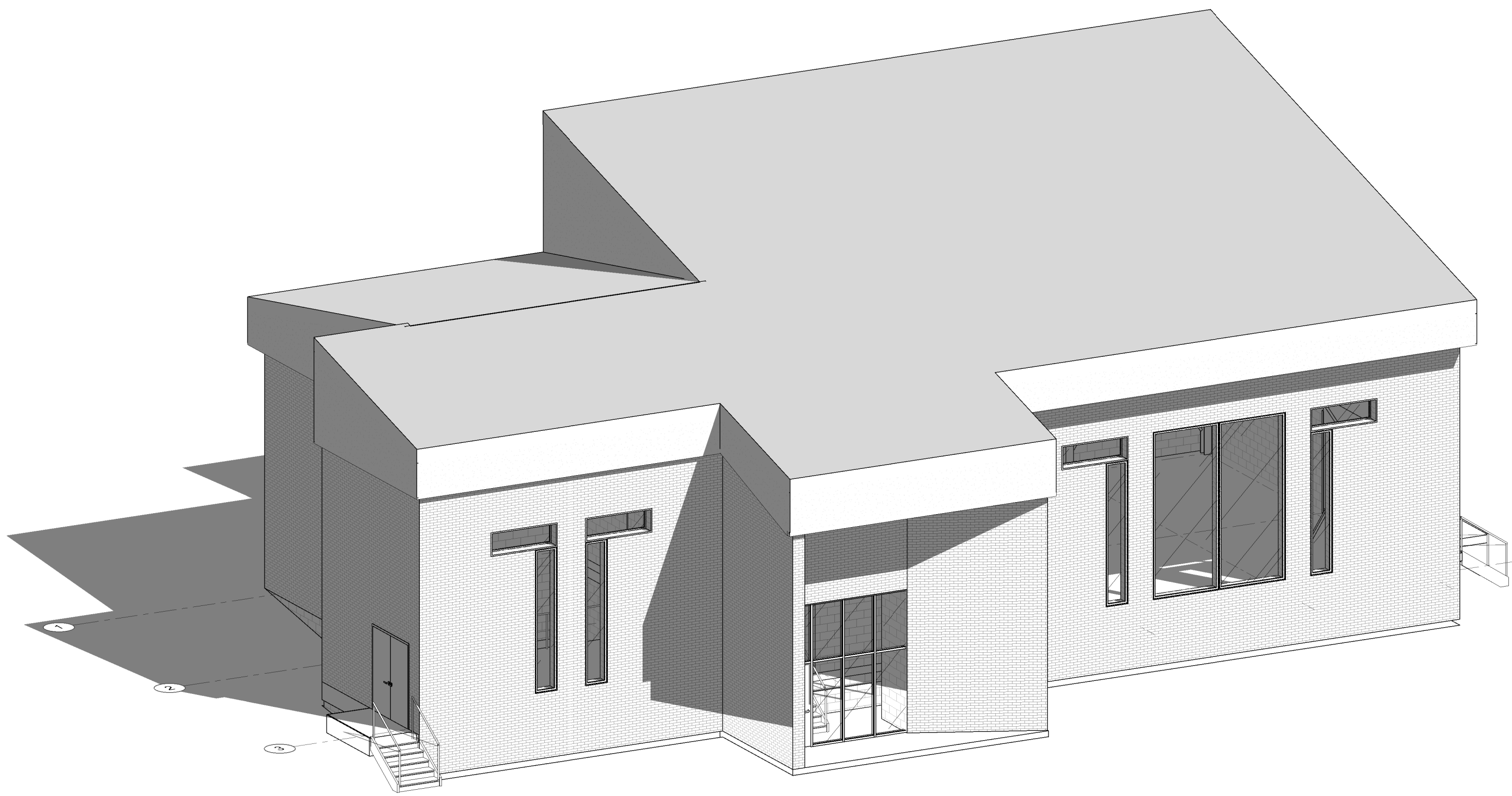


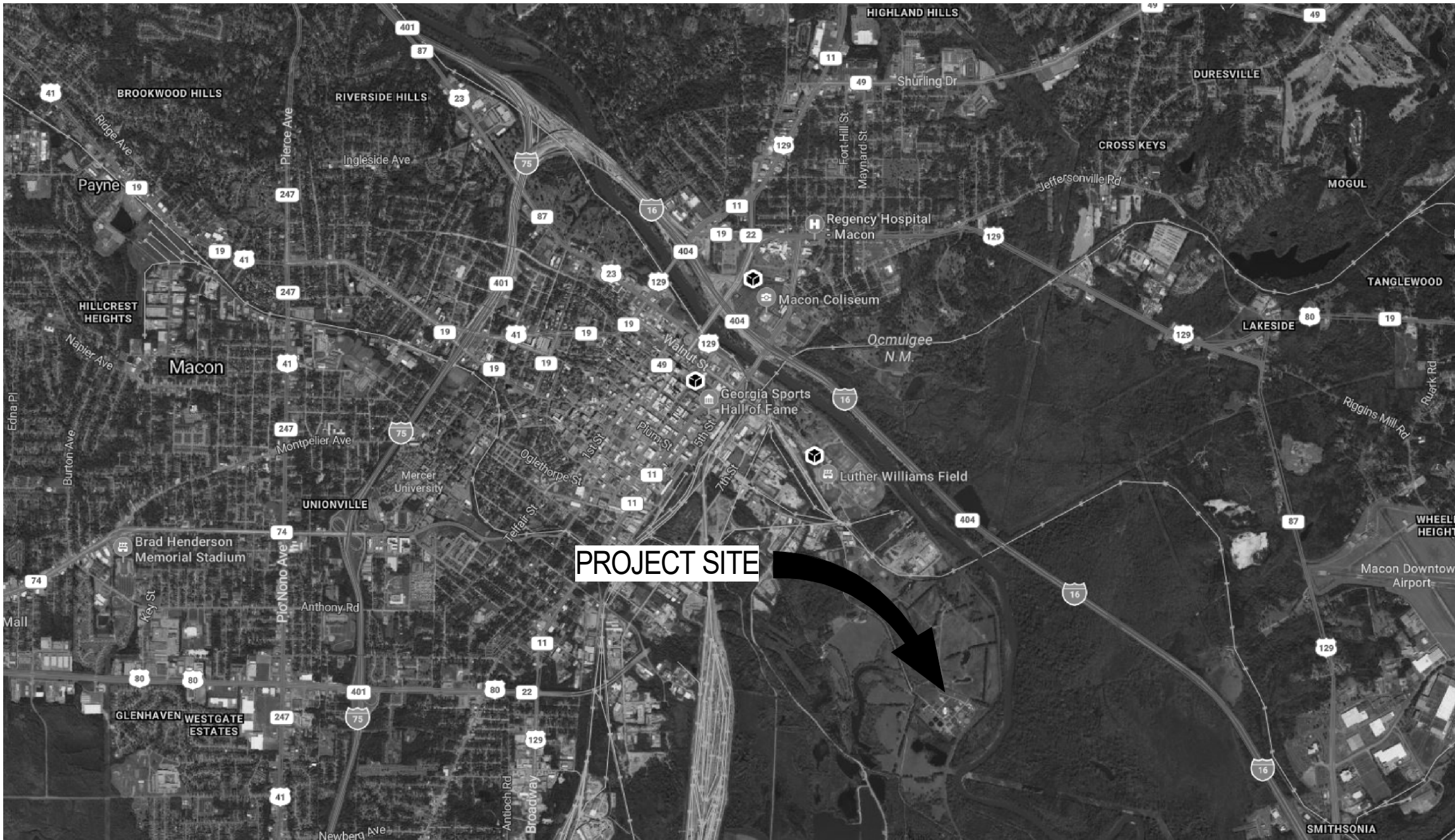
# REPLACE 4160V GEAR AND MOTOR CONTROL CENTER - BLOWER BUILDING | LOWER POPLAR WWTP

1101 LOWER POPLAR STREET  
MACON, GEORGIA 31201

FINAL SUBMITTAL



VICINITY MAP



SITE MAP



SHEET INDEX

SHEET NUMBER	SHEET NAME
GENERAL	
GI001	COVER SHEET
ARCHITECTURAL	
AE101	LEVEL 1 FLOOR PLAN
AE201	EXTERIOR ELEVATIONS
MECHANICAL	
M-001	MECHANICAL LEGEND, NOTES, SCHEDULES, AND DETAILS
MD101	LEVEL 1 MECHANICAL DEMOLITION PLAN
MH101	LEVEL 1 MECHANICAL NEW WORK PLAN
ELECTRICAL	
E-001	ELECTRICAL LEGEND, NOTES AND ABBREVIATIONS
ED101	ELECTRICAL DEMOLITION PLAN
EL101	LIGHTING PLAN
EP101	POWER PLAN
ES01	DETAILS
E601	MEDIUM VOLTAGE DISTRIBUTION ONE-LINE DIAGRAMS
E602	480-VOLT DISTRIBUTION ONE-LINE DIAGRAMS
E603	CONTROL WIRING DIAGRAMS

MACON WATER AUTHORITY  
**REPLACE 4160V GEAR AND MCC - BLOWER BLDG LOWER POPLAR WWTP**  
1101 LOWER POPLAR STREET  
MACON, GEORGIA 31201

Macon Water Authority

DESIGNER  
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PROFESSIONAL SEAL

SUBMITTAL  
**03/06/2025**  
FINAL SUBMITTAL

REVISIONS

KEY PLAN

SHEET  
**COVER SHEET**

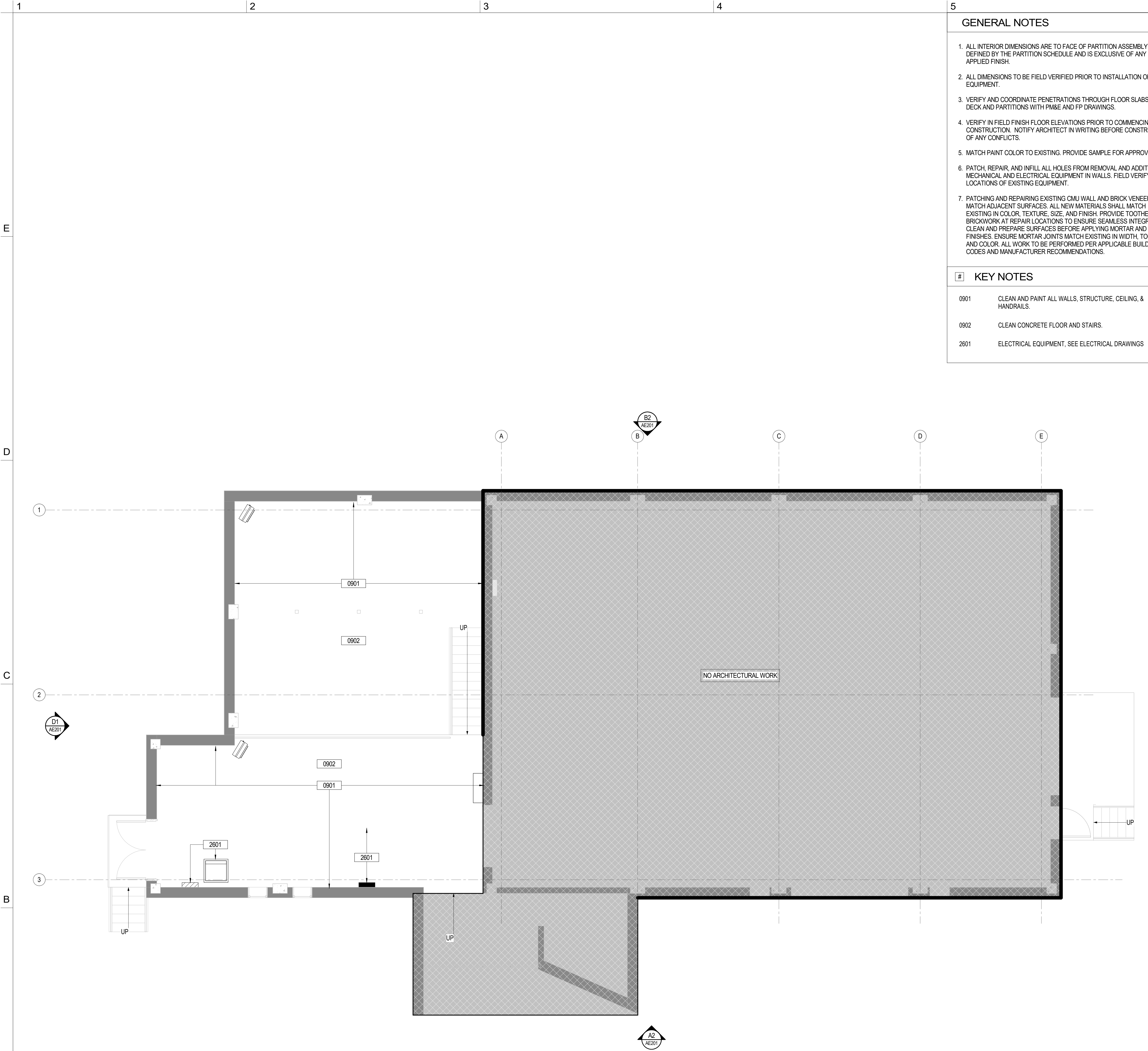
**GI001**

DESIGN: ALV  
DRAWN: ALV  
REVIEW: BC

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**A1** FIRST FLOOR PLAN  
SCALE: 1/4" = 1'-0"

GENERAL NOTES

- ALL INTERIOR DIMENSIONS ARE TO FACE OF PARTITION ASSEMBLY AS DEFINED BY THE PARTITION SCHEDULE AND IS EXCLUSIVE OF ANY APPLIED FINISH.
- ALL DIMENSIONS TO BE FIELD VERIFIED PRIOR TO INSTALLATION OF EQUIPMENT.
- VERIFY AND COORDINATE PENETRATIONS THROUGH FLOOR SLABS, ROOF DECK AND PARTITIONS WITH PM&E AND FP DRAWINGS.
- VERIFY IN FIELD FINISH FLOOR ELEVATIONS PRIOR TO COMMENCING CONSTRUCTION. NOTIFY ARCHITECT IN WRITING BEFORE CONSTRUCTION OF ANY CONFLICTS.
- MATCH PAINT COLOR TO EXISTING. PROVIDE SAMPLE FOR APPROVAL.
- PATCH, REPAIR, AND INFILL ALL HOLES FROM REMOVAL AND ADDITION OF MECHANICAL AND ELECTRICAL EQUIPMENT IN WALLS. FIELD VERIFY LOCATIONS OF EXISTING EQUIPMENT.
- PATCHING AND REPAIRING EXISTING CMU WALL AND BRICK VENEER TO MATCH ADJACENT SURFACES. ALL NEW MATERIALS SHALL MATCH EXISTING IN COLOR, TEXTURE, SIZE, AND FINISH. PROVIDE TOOTHED-IN BRICKWORK AT REPAIR LOCATIONS TO ENSURE SEAMLESS INTEGRATION. CLEAN AND PREPARE SURFACES BEFORE APPLYING MORTAR AND FINISHES. ENSURE MORTAR JOINTS MATCH EXISTING IN WIDTH, TOOLING, AND COLOR. ALL WORK TO BE PERFORMED PER APPLICABLE BUILDING CODES AND MANUFACTURER RECOMMENDATIONS.

# KEY NOTES

0901	CLEAN AND PAINT ALL WALLS, STRUCTURE, CEILING, & HANDRAILS.
0902	CLEAN CONCRETE FLOOR AND STAIRS.
2601	ELECTRICAL EQUIPMENT, SEE ELECTRICAL DRAWINGS

GENERAL NOTES

- CONCRETE FLOOR CLEANING EXAMINATION**
- INSPECT EXISTING CONCRETE SURFACES FOR CONTAMINANTS, COATINGS, AND DAMAGE.
  - IDENTIFY AREAS REQUIRING ADDITIONAL TREATMENT OR PATCHING BEFORE CLEANING.
  - VERIFY ALL ADJACENT FINISHES ARE PROTECTED FROM CLEANING PROCESS.
- PREPARATION**
- REMOVE LOOSE DEBRIS AND DUST USING HEPA-FILTERED VACUUM.
  - APPLY PROTECTIVE COVERINGS TO ADJACENT FINISHES, FIXTURES, AND WALLS.
  - CONDUCT TEST PATCH TO CONFIRM CLEANING METHOD EFFECTIVENESS.
- CLEANING PROCEDURE**
- PRE-WET SURFACE WITH CLEAN WATER.
  - APPLY DETERGENT OR CLEANING SOLUTION PER MANUFACTURER'S RECOMMENDATIONS.
  - SCRUB SURFACE USING AN AUTO SCRUBBER OR MECHANICAL SCRUBBER.
  - RINSE THOROUGHLY WITH CLEAN WATER AND REMOVE EXCESS MOISTURE.
  - REPEAT PROCESS IF NECESSARY TO ACHIEVE UNIFORM APPEARANCE.
- INTERIOR PAINTING EXAMINATION**
- EXAMINE SUBSTRATES AND CONDITIONS, WITH APPLICATOR PRESENT, FOR COMPLIANCE WITH REQUIREMENTS FOR MAXIMUM MOISTURE CONTENT AND OTHER CONDITIONS AFFECTING PERFORMANCE OF THE WORK.
  - MAXIMUM MOISTURE CONTENT OF SUBSTRATES: WHEN MEASURED WITH AN ELECTRONIC MOISTURE METER AS FOLLOWS:
    - CONCRETE: 12 PERCENT.
    - CEMENTITIOUS COMPOSITION BOARD: 12 PERCENT.
    - MASONRY (CLAY AND CMU): 12 PERCENT.
  - VERIFY SUITABILITY OF SUBSTRATES, INCLUDING SURFACE CONDITIONS AND COMPATIBILITY WITH FINISHES AND PRIMERS. PROCEED WITH COATING APPLICATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.
    - APPLICATION OF COATING INDICATES ACCEPTANCE OF SURFACES AND CONDITIONS.
- PREPARATION**
- COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS APPLICABLE TO SUBSTRATES AND PAINT SYSTEMS INDICATED.
  - CLEAN SUBSTRATES OF SUBSTANCES THAT COULD IMPAIR BOND OF PAINTS, INCLUDING DUST, DIRT, OIL, GREASE, AND INCOMPATIBLE PAINTS AND ENCAPSULANTS.
    - REMOVE INCOMPATIBLE PRIMERS AND REPRIME SUBSTRATE WITH COMPATIBLE PRIMERS OR APPLY TIE COAT AS REQUIRED TO PRODUCE PAINT SYSTEMS INDICATED.
  - CONCRETE SUBSTRATES: REMOVE RELEASE AGENTS, CURING COMPOUNDS, EFFLORESCENCE, AND CHALK. DO NOT PAINT SURFACES IF MOISTURE CONTENT OR ALKALINITY OF SURFACES TO BE PAINTED EXCEEDS THAT PERMITTED IN MANUFACTURER'S WRITTEN INSTRUCTIONS.
  - MASONRY SUBSTRATES: REMOVE EFFLORESCENCE AND CHALK. DO NOT PAINT SURFACES IF MOISTURE CONTENT OR ALKALINITY OF SURFACES OR MORTAR JOINTS TO BE PAINTED EXCEEDS THAT PERMITTED IN MANUFACTURER'S WRITTEN INSTRUCTIONS.
  - STEEL SUBSTRATES: REMOVE LOOSE RUST, LOOSE MILL SCALE, LOOSE SHOP PRIMER, AND OTHER LOOSE FOREIGN MATTER. CLEAN USING METHODS RECOMMENDED IN WRITING BY PAINT MANUFACTURER.]
  - GALVANIZED METAL SUBSTRATES: REMOVE GREASE AND OIL RESIDUE FROM GALVANIZED METAL BY MECHANICAL METHODS TO PRODUCE CLEAN, LIGHTLY ETCHED SURFACES THAT PROMOTE ADHESION OF SUBSEQUENTLY APPLIED PAINTS.
  - ALUMINUM SUBSTRATES: REMOVE LOOSE SURFACE OXIDATION.
- APPLICATION OF INTERIOR PAINT PRODUCTS**
- APPLY PAINTS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
    - USE APPLICATORS AND TECHNIQUES SUITED FOR PAINT AND SUBSTRATE INDICATED.
  - PAINT SURFACES BEHIND MOVABLE EQUIPMENT AND FURNITURE SAME AS SIMILAR EXPOSED SURFACES. BEFORE FINAL INSTALLATION, PAINT SURFACES BEHIND PERMANENTLY FIXED EQUIPMENT OR FURNITURE WITH PRIME COAT ONLY.
  - PAINT FRONT AND BACKSIDES OF ACCESS PANELS, REMOVABLE OR HINGED COVERS, AND SIMILAR HINGED ITEMS TO MATCH EXPOSED SURFACES.
  - DO NOT PAINT OVER LABELS OF INDEPENDENT TESTING AGENCIES OR EQUIPMENT NAME, IDENTIFICATION, PERFORMANCE RATING, OR NOMENCLATURE PLATES.
  - PRIMERS SPECIFIED IN THE APPLICABLE INTERIOR PAINTING SCHEDULE ARTICLES MAY BE OMITTED ON ITEMS THAT ARE FACTORY PRIMED OR FACTORY FINISHED IF COMPATIBLE WITH INTERMEDIATE AND TOPCOAT COATINGS AND ACCEPTABLE TO INTERMEDIATE AND TOPCOAT PAINT MANUFACTURERS.
- IF UNDERCOATS OR OTHER CONDITIONS SHOW THROUGH TOPCOAT, APPLY ADDITIONAL COATS UNTIL CURED FILM HAS A UNIFORM PAINT FINISH, COLOR, AND APPEARANCE.
  - APPLY PAINTS TO PRODUCE SURFACE FILMS WITHOUT CLOUDINESS, SPOTTING, HOLIDAYS, LAPS, BRUSH MARKS, ROLLER TRACKING, RUNS, SAGS, ROPINESS, OR OTHER SURFACE IMPERFECTIONS. CUT IN SHARP LINES AND COLOR BREAKS.
  - PAINTING FIRE SUPPRESSION, PLUMBING, HVAC, ELECTRICAL, COMMUNICATION, AND ELECTRONIC SAFETY AND SECURITY WORK:
    - PAINT THE FOLLOWING WORK WHERE EXPOSED TO VIEW IN EQUIPMENT ROOMS:
      - EQUIPMENT, INCLUDING PANELBOARDS AND SWITCH GEAR.
      - UNINSULATED METAL PIPING.
      - UNINSULATED PLASTIC PIPING.
      - PIPE HANGERS AND SUPPORTS.
      - METAL CONDUIT.
      - PLASTIC CONDUIT.
      - TANKS THAT DO NOT HAVE FACTORY-APPLIED FINAL FINISHES.
      - DUCT, EQUIPMENT, AND PIPE INSULATION HAVING COTTON OR CANVAS INSULATION COVERING OR OTHER PAINTABLE JACKET MATERIAL.
    - PAINT PORTIONS OF INTERNAL SURFACES OF METAL DUCTS, WITHOUT LINER, BEHIND AIR INLETS AND OUTLETS THAT ARE VISIBLE FROM OCCUPIED SPACES.
- INTERIOR PAINTING SCHEDULE, CONCRETE SUBSTRATES**
- NONTRAFFIC SURFACES:
    - LATEX SYSTEM:
      - PRIME COAT: MATCHING TOPCOAT.
      - TOPCOAT: INTERIOR LATEX PAINT.
    - LOCATION AND SHEEN: SATIN FOR WALLS, FLAT FOR CEILING
- INTERIOR PAINTING SCHEDULE, MASONRY SUBSTRATES**
- CMU SUBSTRATES:
    - LATEX SYSTEM:
      - BLOCK FILLER: INTERIOR/EXTERIOR LATEX BLOCK FILLER.
      - TOPCOAT: INTERIOR LATEX PAINT, SATIN.
- INTERIOR PAINTING SCHEDULE, METAL SUBSTRATES**
- STEEL AND IRON SUBSTRATES:
    - HIGH-PERFORMANCE ARCHITECTURAL LATEX SYSTEM:
      - PRIME COAT: ALKYD METAL PRIMER.
      - TOPCOAT: TOPCOAT: INTERIOR, HIGH-PERFORMANCE ARCHITECTURAL LATEX, SEMIGLOSS.
      - LOCATION: HANDRAILS AND EXPOSED STRUCTURE.

GRAPHIC SCALE(S)



MACON WATER AUTHORITY

REPLACE 4160V GEAR  
AND MCC - BLOWER  
BLDG LOWER POPLAR  
WWTP

1101 LOWER POPLAR STREET  
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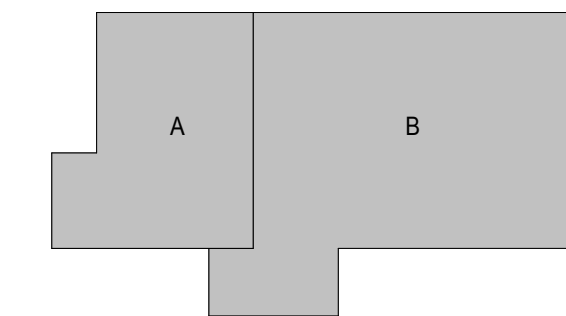
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03/06/2025

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REVISIONS


KEY PLAN



SHEET

LEVEL 1 FLOOR PLAN

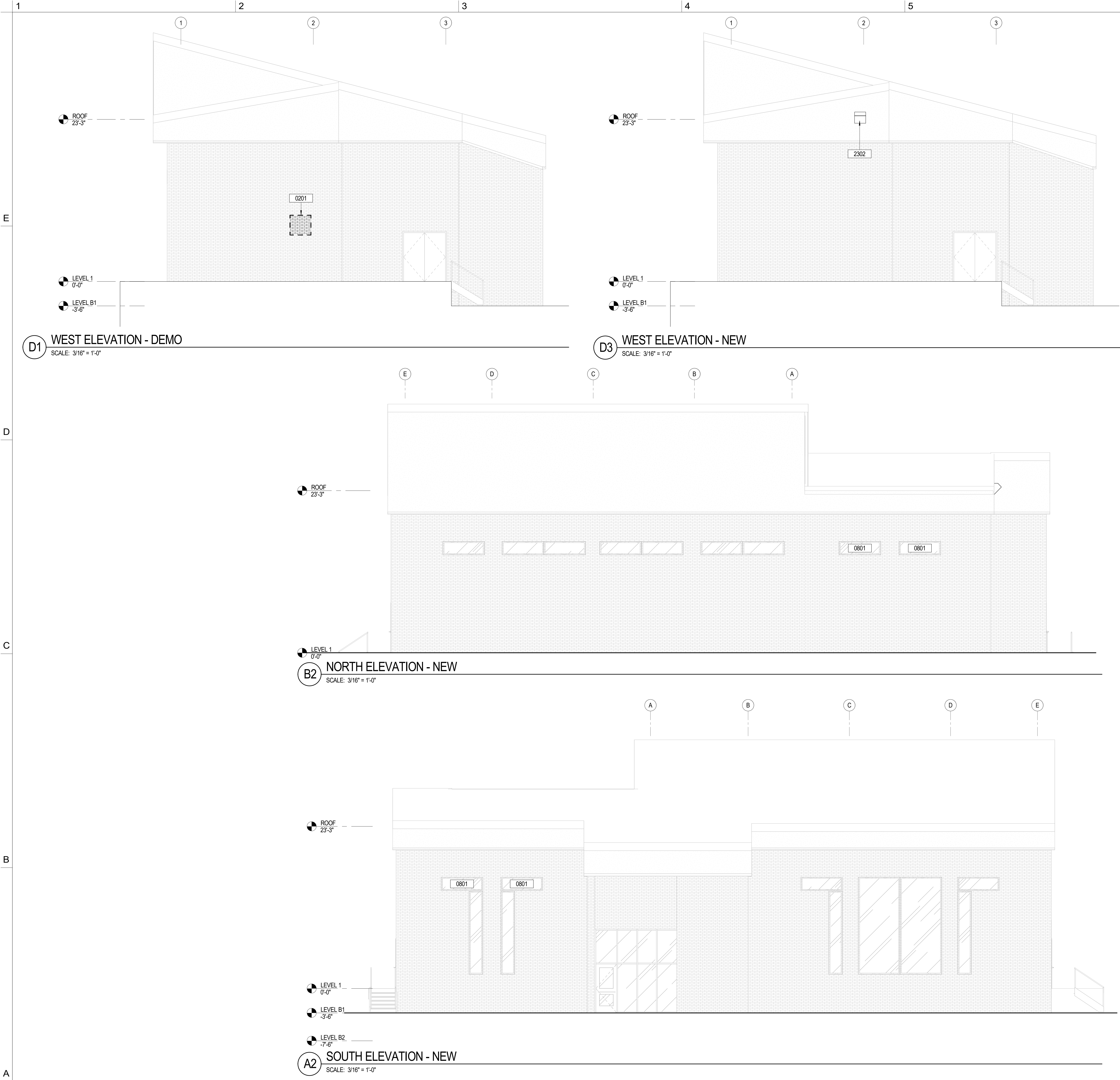
AE101

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GENERAL NOTES

1. REFER TO AND COORDINATE WITH STRUCTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL FOR ADDITIONAL INFORMATION NOT SHOWN ON THIS DRAWING.

2. PATCH, REPAIR, AND INFILL ALL HOLES FROM REMOVAL AND ADDITION OF MECHANICAL AND ELECTRICAL EQUIPMENT IN WALLS. FIELD VERIFY LOCATIONS OF EXISTING EQUIPMENT.

3. PATCHING AND REPAIRING EXISTING CMU WALL AND BRICK VENEER TO MATCH ADJACENT SURFACES. ALL NEW MATERIALS SHALL MATCH EXISTING IN COLOR, TEXTURE, SIZE, AND FINISH. PROVIDE TOOTHED-IN BRICKWORK AT REPAIR LOCATIONS TO ENSURE SEAMLESS INTEGRATION. CLEAN AND PREPARE SURFACES BEFORE APPLYING MORTAR AND FINISHES. ENSURE MORTAR JOINTS MATCH EXISTING IN WIDTH, TOOLING, AND COLOR. ALL WORK TO BE PERFORMED PER APPLICABLE BUILDING CODES AND MANUFACTURER RECOMMENDATIONS.

# KEY NOTES

0201 REMOVE EQUIPMENT, REFER TO MECHANICAL DRAWINGS. INFILL TO MATCH EXISTING, SEE GENERAL NOTES.

0801 PROVIDE 0.28 MM DIAMETER, 18X18 MESH, PLAIN WEAVE, POWDER COATED STAINLESS STEEL INSECT SCREENS IN ALUMINUM FRAMES. FIELD MEASURE EXISTING OPENINGS.

2302 MECHANICAL EQUIPMENT, REFER TO MECHANICAL DRAWINGS. FLASH AND SEAL AROUND EQUIPMENT PER MANUFACTURER'S RECOMMENDATION.

GRAPHIC SCALE(S)

3/16" = 1' - 0" 0 5' 10' 20'

MACON WATER AUTHORITY

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**Macon Water Authority**

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**EXTERIOR ELEVATIONS**

**AE201**

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DRAWN: ALV  
REVIEW: AB/CR

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GENERAL

- ①

CONSTRUCTION NOTE IDENTIFICATION
- INDICATES EXISTING ITEM
- INDICATES NEW ITEM
- - -

INDICATES ITEM TO BE REMOVED
- REMOVE TO THIS POINT
- CONNECT NEW TO EXISTING

DUCTWORK

RETURN, EXHAUST, OR TRANSFER AIRFLOW

DUCTWORK ACCESSORIES

M

 MOTORIZED CONTROL DAMPER

DUCTWORK SYSTEM ABBREVIATIONS

SA

 SUPPLY AIR

EA

 EXHAUST AIR

PIPING

SINGLE LINE

2" DCW

PIPE

PIPE (DIAMETER AND SYSTEM ABBREVIATION)

PIPE TURN DOWN

PIPE TURN UP

PIPE TEE

PIPE TOP CONNECTION

PIPE BOTTOM CONNECTION

CAPPED PIPE

VALVES AND PIPING ACCESSORIES

BALL VALVE

ISOLATION VALVE (BALL VALVE FOR 2" & UNDER, BUTTERFLY VALVE FOR 2-1/2" AND LARGER)

PIPING SYSTEM ABBREVIATIONS

DCW DOMESTIC WATER

GENERAL NOTES

1. GENERAL NOTES ON THIS DRAWING ARE APPLICABLE TO EACH MECHANICAL DRAWING OF THIS SET. NOTES SPECIFIC TO INDIVIDUAL MECHANICAL DRAWINGS WILL BE SHOWN ON THE RESPECTIVE MECHANICAL DRAWING.
2. PROVIDE A COMPLETE HVAC SYSTEM TO INCLUDE ALL LABOR, MATERIALS, TOOLS, CONTROLS, AND EQUIPMENT FOR A COMPLETE AND FUNCTIONAL SYSTEM INCLUDING ALL NECESSARY APPURTENANCES CUSTOMARILY INCLUDED IF NOT SPECIFICALLY CALLED OUT.
3. CONFORM WITH ALL APPLICABLE LAWS, CODES, AND REGULATIONS OF MUNICIPAL, STATE AND FEDERAL AUTHORITIES.
4. CONFORM TO APPLICABLE ASHRAE, NFPA, AND SMACNA STANDARDS AND OTHER REGULATORY BODIES HAVING JURISDICTION OVER THE CLASS OF WORK.
5. MATERIALS AND EQUIPMENT SHALL HAVE STAMPS OR SEALS OF ARI, ASME, UL, AND ASTM.
6. MAKE TESTS FOR ACCEPTANCE AND APPROVAL AS REQUIRED BY CODE AND THE REQUIREMENTS OF APPLICABLE REGULATORY AGENCIES. REQUIRED TESTS SHALL BE PERFORMED IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE UNLESS OTHERWISE WAIVED IN WRITING.
7. OBTAIN AND PAY FOR ALL PERMITS, LICENSES, DOCUMENTS, AND SERVICES RELATED TO INSTALLATION OF THE WORK.
8. COORDINATE WORK WITH THE OTHER TRADES IN ORDER TO RESOLVE ANY CONFLICT THAT MIGHT ARISE DUE TO THE LOCATION OF EQUIPMENT OR THE USE OF SPACE.
9. EQUIPMENT OF HIGHER ELECTRICAL CHARACTERISTICS MAY BE SUBSTITUTED PROVIDED SUCH PROPOSED EQUIPMENT IS APPROVED IN WRITING AND CONNECTING ELECTRICAL SERVICE, CIRCUIT BREAKERS AND CONDUIT SIZES ARE APPROPRIATELY MODIFIED AT NO COST TO THE OWNER.
10. CUT OPENINGS, AS REQUIRED, IN THE EXISTING CONSTRUCTION FOR THE INSTALLATION OF EQUIPMENT AND MATERIALS. PATCH AND REPAIR TO MATCH THE EXISTING ADJACENT CONSTRUCTION.
11. DO NOT INSTALL EQUIPMENT, PIPING OR DUCTWORK OVER ANY ELECTRICAL EQUIPMENT OR ELECTRICAL SERVICE SPACE.
12. INSTALL MECHANICAL EQUIPMENT TO FACILITATE SERVICING, MAINTENANCE, AND REPAIR OR REPLACEMENT OF EQUIPMENT COMPONENTS. CONNECT EQUIPMENT FOR EASE OF DISCONNECTING, WITH A MINIMUM OF INTERFERENCE WITH OTHER INSTALLATIONS. MAINTAIN EQUIPMENT MANUFACTURER'S RECOMMENDED MINIMUM SERVICE CLEARANCE.
13. MECHANICAL CONTRACTOR SHALL PROVIDE AUTOMATIC CONTROL DEVICES, SUCH AS TEMPERATURE SENSORS, RELAYS, AND SWITCHES WHICH ARE ASSOCIATED WITH MECHANICAL EQUIPMENT AND ASSOCIATED CONTROL WIRING FROM STARTER TO THE CONTROL DEVICE. ELECTRICAL CONTRACTOR SHALL PROVIDE CONDUIT AND WIRING FROM POWER SOURCE TO DISCONNECT SWITCH, FROM DISCONNECT SWITCH TO STARTER, AND FROM STARTER TO THE EQUIPMENT.
14. ALL CONTROL WIRING SHALL BE RUN SURFACE MOUNTED IN CONDUIT. ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH NATIONAL ELECTRICAL CODE.
15. LOCATE THERMOSTATS 48" TO 54" ABOVE FINISHED FLOOR.
16. ALL VALVES ARE FULL LINE SIZE.
17. ALL EQUIPMENT REMOVED FROM THE BUILDING, DURING DEMOLITION, SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE UNLESS OTHERWISE NOTED.
18. EXISTING PIPE AND EQUIPMENT SIZES NOTED ARE FOR THE CONVENIENCE OF THE CONTRACTOR ONLY AND ARE NOT WARRANTED TO BE CORRECT. FIELD VERIFY ALL EXISTING CONDITIONS BEFORE PROCEEDING WITH ANY ASSOCIATED WORK.
19. PRIOR TO SUBMITTING A PROPOSAL, THE CONTRACTOR IS STRONGLY ENCOURAGED TO VISIT THE SITE AND THOROUGHLY INSPECT ALL EXISTING CONDITIONS TO ENSURE THAT THE WORK REPRESENTED ON THE DRAWINGS CAN BE INSTALLED AS INDICATED.
20. REFER TO ELECTRICAL DRAWINGS FOR VOLTAGE AND PHASE REQUIREMENTS FOR ALL EQUIPMENT REQUIRING AN ELECTRICAL CONNECTION.

LOUVER SCHEDULE

MARK NO.	INTAKE AIRFLOW (CFM)	EXHAUST AIRFLOW (CFM)	MAX AIR FRICTION (IN. WC)	MAX VELOCITY (FPM)	REQUIRED FREE AREA (SQ. FT.)	DIMENSIONS W X H (IN.)	NOTES
LV-1	3,100		0.12	650	5.3	72 X 32	1,2,3
LV-2	3,100		0.12	650	5.3	72 X 32	1,2,3

NOTES:

1. COMBINATION LOUVER/DAMPER WITH DRAINABLE BLADE AND MIN. 6" FRAME THICKNESS.

2. PROVIDE WITH BIRD SCREEN, FACE FLANGE, AND MOTOR OPERATED DAMPER.

3. INTERLOCK DAMPER TO OPEN WITH OPERATION OF EF-1.

FAN SCHEDULE

MARK NO.	AIRFLOW (CFM)	ESP (IWC)	MOTOR SIZE		MAX OPER. WEIGHT (LBS)	MAX OPER. SPEED (RPM)	MAX NOISE (SONES, INLET)	DRIVE		ACCESSORIES				NOTES
			MAX HP	MAX WATTS				DIRECT	BELT	GRAY DAMPER	MOTORIZED DAMPER	VFD, IND DUTY MOTOR	BIRD SCREEN	
EF-1	6,200	0.25	1	--	375	725	25		X		X		X	1, 2, 3

NOTES

1. WALL PROPELLER FAN WITH WALL HOUSING, OSHA MOTOR GUARD, EXTERIOR WEATHERHOOD.

2. PROVIDE WITH DISCONNECT SWITCH.

3. CONTROLLED FROM ROOM THERMOSTAT WITH USER-ADJUSTABLE SETPOINT; RUNNING WHEN ROOM TEMPERTURE EXCEEDS SETPOINT. INTERLOCK WITH INTAKE LOUVER DAMPERS, LV-1 AND LV-2.

ELECTRIC HEATER SCHEDULE

MARK NO.	AIRSIDE PERFORMANCE		ELECTRIC COIL		FAN MOTOR		NOTES
	SUPPLY AIR (CFM)	HEAT CAPACITY (MBH)	CAPACITY (KW)	TEMP RISE (°F)	SIZE (HP)	THROW (FT)	
UH-1	350	10.2	3.0	26.9	1/100	12	1,2
UH-2	350	10.2	3.0	27.0	1/100	12	1,2

NOTES

1. HORIZONTAL THROW ELECTRIC UNIT HEATER WITH UNIT MOUNTED THERMOSTAT.

2. PROVIDE WITH MANUFACTURER'S MOUNTING BRACKET FOR WALL MOUNTED INSTALLATION.

MACON WATER AUTHORITY

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DESIGNER



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PROFESSIONAL SEAL

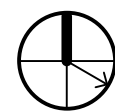
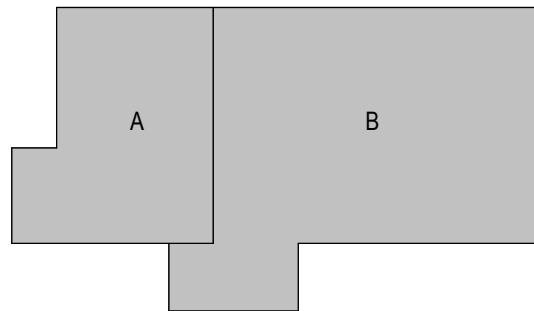


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03/06/2025  
FINAL SUBMITTAL

REVISIONS

KEY PLAN



SHEET

MECHANICAL LEGEND, NOTES, SCHEDULES, AND DETAILS

M-001

DESIGN: RHF  
DRAWN: GRW  
REVIEW: RHF

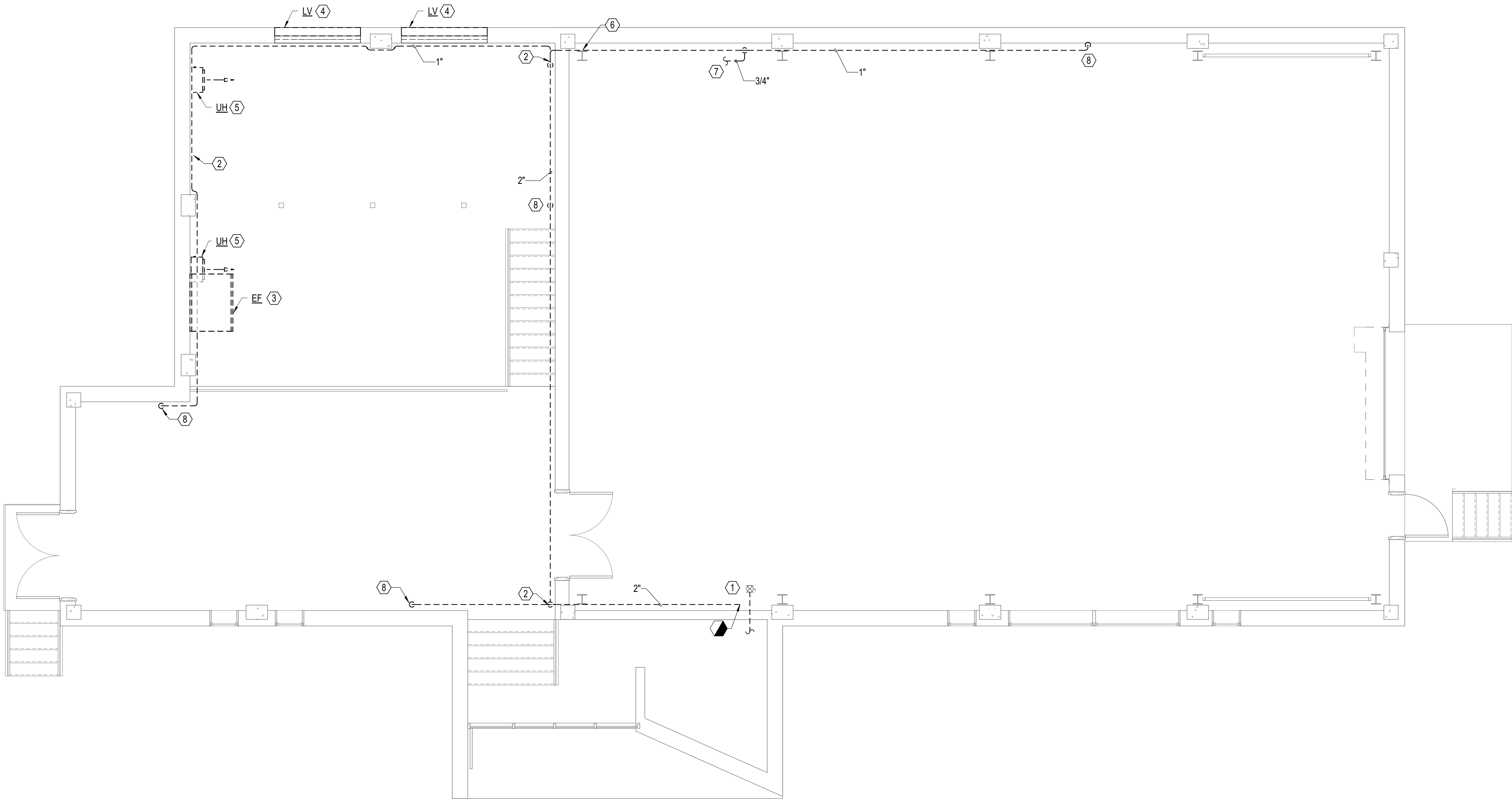
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**A1** LEVEL 1 MECHANICAL DEMOLITION PLAN

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



**GENERAL NOTES**

- A. REFER TO SHEET M-001 FOR ADDITIONAL NOTES THAT ARE APPLICABLE TO THE WORK SHOWN ON THIS DRAWING.
- B. REFERENCES TO PIPING OR EQUIPMENT SHALL BE UNDERSTOOD TO INCLUDE ALL ACCESSORIES, SUCH AS INSULATION, FITTINGS, HANGERS, AND SUPPORTS. SUPPLEMENTAL STEEL, CONTROLS, ETC.
- C. REFER TO ARCHITECTURAL DRAWINGS FOR WALL REPAIR REQUIRED AT LOCATIONS OF DEMOLISHED PIPING OR EQUIPMENT.

**KEY NOTES**

1. DOMESTIC WATER ENTERING RENOVATION AREA. PIPING DOWNSTREAM OF BALL VALVE IS DISCONNECTED. CAP VALVE'S OUTLET AND DEMOLISH DISCONNECTED PIPING.
2. DEMOLISH DOMESTIC WATER PIPING FROM LIMITS OF WORK SYMBOL, DOWNSTREAM TO THE LIMITS OF THE SYSTEM.
3. DEMOLISH WALL MOUNTED FAN AND WALL HOUSING, INCLUDING DAMPERS AND OUTDOOR WEATHER PROTECTION.
4. DEMOLISH WALL MOUNTED LOUVER AND MOTOR OPERATED DAMPER.
5. DEMOLISH WALL MOUNTED ELECTRIC UNIT HEATER.
6. DOMESTIC WATER PIPING SERVING PIPE AND HYDRANT IN NEIGHBORING ROOM.
7. DEMOLISH PIPING TO ABANDONED AIR COMPRESSOR HEAT EXCHANGER.
8. DEMOLISH PIPING DOWN TO HOSE BIBB.

**GRAPHIC SCALE(S)**

1/4" = 1' - 0" 0 1' 5' 10' 15'

MACON WATER AUTHORITY

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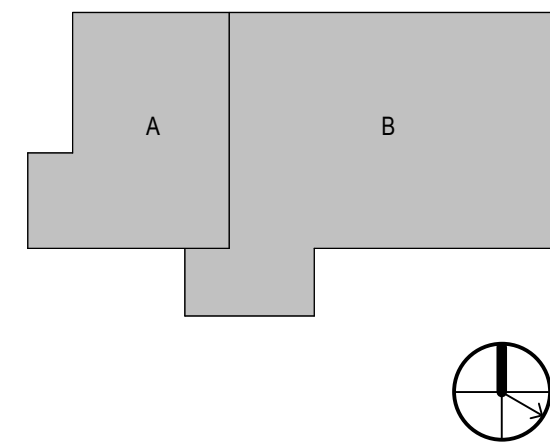
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REVISIONS

KEY PLAN



SHEET

LEVEL 1 MECHANICAL  
DEMOLITION PLAN

**MD101**

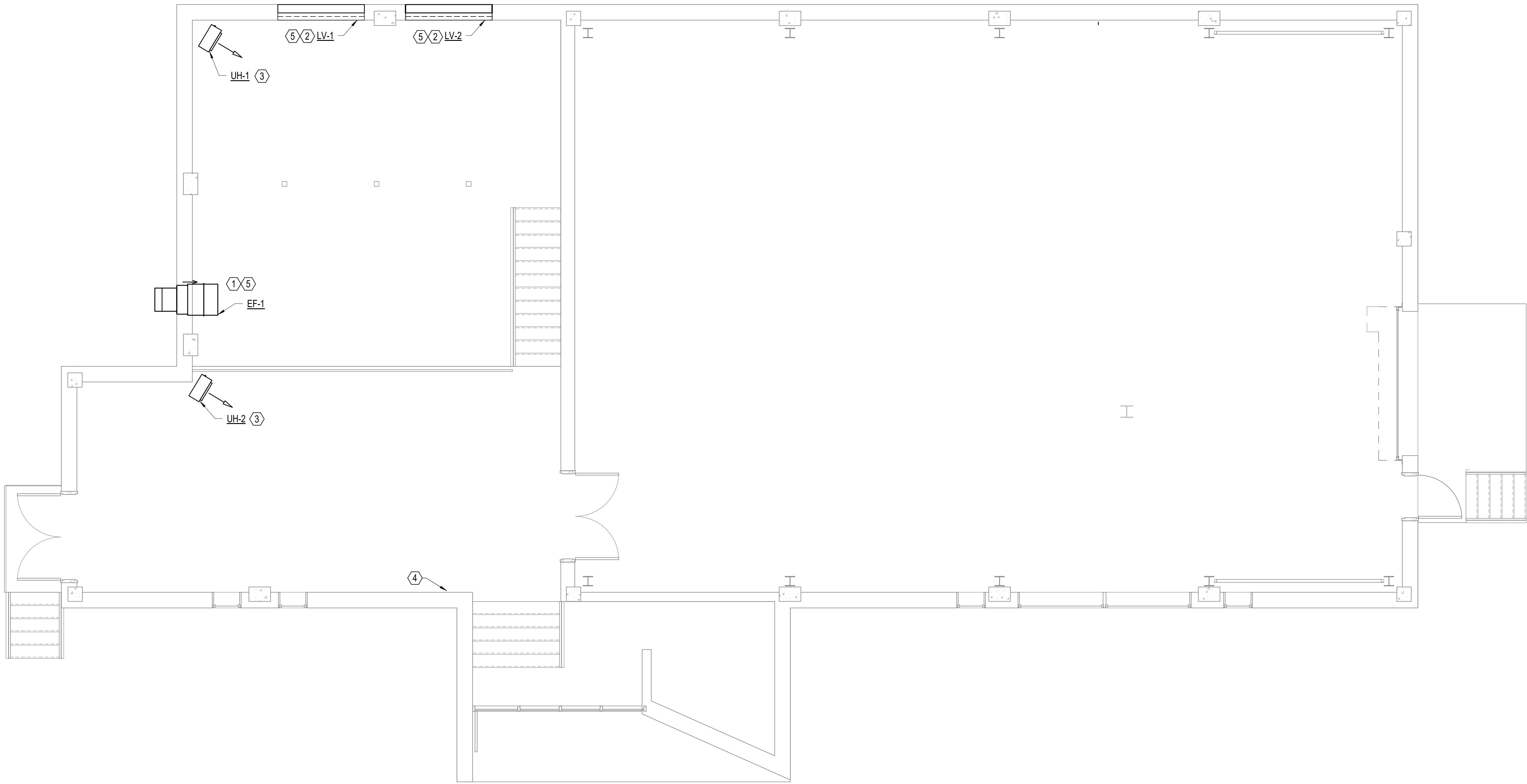
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REVIEW: RHF

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**A1** LEVEL 1 MECHANICAL NEW WORK PLAN  
SCALE: 1/4" = 1'-0"



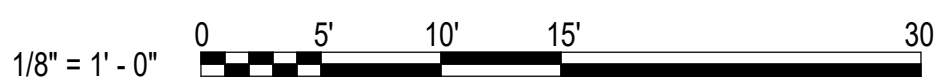
**GENERAL NOTES**

- A. REFER TO SHEET M-001 FOR ADDITIONAL NOTES THAT ARE APPLICABLE TO THE WORK SHOWN ON THIS DRAWING.
- B. REFERENCES TO PIPING OR EQUIPMENT SHALL BE UNDERSTOOD TO INCLUDE ALL ACCESSORIES, SUCH AS INSULATION, FITTINGS, HANGERS, AND SUPPORTS, SUPPLEMENTAL STEEL, CONTROLS, ETC.

**KEY NOTES**

- 1 PROVIDE WALL-MOUNTED FAN AND WALL HOUSING, INCLUDING ALL FEATURES AND ACCESSORIES SCHEDULED. MOUNT FAN IN EXISTING FAN'S HOLE.
- 2 PROVIDE WALL-MOUNTED LOUVER AND MOTOR-OPERATED DAMPER, INCLUDING ALL FEATURES AND ACCESSORIES SCHEDULED.
- 3 PROVIDE ELECTRIC UNIT HEATER, INCLUDING ALL FEATURES AND ACCESSORIES SCHEDULED. MOUNT BOTTOM OF HEATER AT 12'-0" AFF.
- 4 LOCATION OF SPACE TEMPERATURE THERMOSTAT FOR FAN.
- 5 LOCATION ALLOWS RE-USE OF EXISTING WALL OPENING.

**GRAPHIC SCALE(S)**



MACON WATER AUTHORITY

**REPLACE 4160V GEAR AND MCC - BLOWER BLDG LOWER POPLAR WWTP**

1101 LOWER POPLAR STREET  
MACON, GEORGIA 31201



DESIGNER



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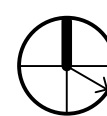
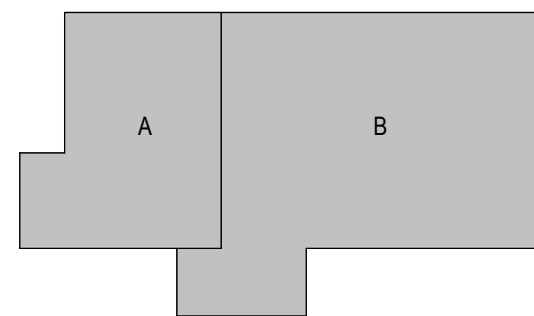


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**03/06/2025**  
**FINAL SUBMITTAL**

REVISIONS

KEY PLAN



SHEET

**LEVEL 1 MECHANICAL NEW WORK PLAN**

**MH101**

DESIGN: RHF  
DRAWN: GRW  
REVIEW: RHF





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







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## ONE LINE SYMBOLS

	CIRCUIT BREAKER
	MOTOR PROTECTION RELAY
	MEDIUM/LOW VOLTAGE FUSE
	PROTECTIVE RELAYING DEVICE FUNCTION NUMBERS






## GENERAL

	DEMOLITION NOTE IDENTIFICATION
	CONSTRUCTION NOTE IDENTIFICATION
	HALF-TONE AND SOLID INDICATES EXISTING TO REMAIN
	DARK AND DASHED INDICATES ITEM TO BE REMOVED
	DARK AND SOLID INDICATES NEW ITEM
	BREAK ROOM
	ROOM NAME/NUMBER
	POINT OF CONNECTION, NEW-TO-EXISTING (SEE LEGEND NOTE 4)
	POINT OF DEMOLITION





## ABBREVIATIONS

A	AMPERE	MCA	MINIMUM CIRCUIT AMPACITY
AF	AMPERE FRAME	MCB	MAIN CIRCUIT BREAKER
AFF	ABOVE FINISHED FLOOR	MIN	MINIMUM
AFG	ABOVE FINISHED GRADE	MLO	MAIN LUG ONLY
AT	AMPERE TRIP	MOC	MAXIMUM OVERCURRENT PROTECTION
AWG	AMERICAN WIRE GAUGE	MPR	MOTOR PROTECTION RELAY
BG	BELOW GRADE	MT	MOUNT
BLDG	BUILDING	MTD	MOUNTED
BRKR	BREAKER	MTG HT	MOUNTING HEIGHT
C	CONDUIT	MV	MEDIUM VOLTAGE
CB	CIRCUIT BREAKER	N/C	NORMALLY CLOSED
CCT	CORRELATED COLOR TEMPERATURE	N/O	NORMALLY OPEN
CKT	CIRCUIT	NEC	NATIONAL ELECTRICAL CODE
CRI	COLOR RENDERING INDEX	NESC	NATIONAL ELECTRICAL SAFETY CODE
DISC SW	DISCONNECT SWITCH	NEU	NEUTRAL
DT	DRY TYPE	NF	NON FUSIBLE
DWG	DRAWING	NIC	NOT IN CONTRACT
E,EXIST	EXISTING	NL	NIGHT LIGHT
EA	EACH	NTS	NOT TO SCALE
EC	EMPTY CONDUIT	P	PHASE
EF	EXHAUST FAN	PNL	PANEL
ELEC	ELECTRICAL	PVC	RIGID POLYVINYL CHLORIDE CONDUIT
EQUIP	EQUIPMENT	QTY	QUANTITY
EW	ELECTRIC WATER COOLER	RCPT,	RECEPTACLE
EW	ELECTRIC WATER HEATER	RECEPT	
FC	FOOTCANDLE	REQ'D	REQUIRED
FLA	FULL LOAD AMPS	RM	ROOM
FMC	FLEXIBLE METAL CONDUIT	RMC	RIGID METAL CONDUIT
FPR	FEEDER PROTECTION RELAY	S.E., SE	SERVICE ENTRANCE
FT	FEET	SIN	SOLID NEUTRAL
FVNR	FULL VOLTAGE, NON-REVERSING	SF	SUPPLY FAN
G	GROUND	SPD	SURGE PROTECTIVE DEVICE
GFI	GROUND FAULT INTERRUPTER	SW	SWITCH
GRS	GALVANIZED RIGID METAL CONDUIT	TYP	TYPICAL
HP	HORSEPOWER	UG	UNDERGROUND
IMC	INTERMEDIATE METAL CONDUIT	UON	UNLESS OTHERWISE NOTED
KAIC	THOUSAND AMP CAPACITY, RMS SYMMETRICAL	US	UNDERGROUND SECONDARY POWER
KCMIL	THOUSAND CIRCULAR MILS	V	VOLTAGE OR VOLTS
KVA	KILOVOLT AMPERE	VAC	VOLTS ALTERNATING CURRENT
KWH	KILOWATT HOUR	VDC	VOLTS DIRECT CURRENT
LED	LIGHT EMITTING DIODE	W	WIRE
LFMC	LIQUIDTIGHT FLEXIBLE METAL CONDUIT	WP	WEATHERPROOF
LS	CIRCUIT BREAKER ADJUSTMENT SETTINGS:	X	IN SCHEDULES, ITEM NOT APPLICABLE
LSI	(L) LONG TIME	XFMR	TRANSFORMER
LSIG	(S) SHORT TIME	Ø	PHASE
	(I) INSTANTANEOUS		
	(G) GROUND FAULT		
LTG	LIGHTING		
LTS	LUMINAIRE		
MC	METAL-CLAD CABLE		







## LIGHTING

	LIGHTING FIXTURE TAGS. • 'A' UPPERCASE LETTER INDICATES LIGHTING FIXTURE TYPE. SEE LIGHTING FIXTURE SCHEDULE ON SHEET E603. • 'a' LOWERCASE LETTER INDICATES LIGHTING CONTROL ZONE.
	LIGHTING FIXTURE (—I INDICATES BRACKET, WALL MOUNTED FIXTURES).
	EMERGENCY LIGHTING FIXTURE (—I INDICATES BRACKET, WALL MOUNTED FIXTURES), (SEE LEGEND NOTE 2).
	LINE VOLTAGE, SINGLE POLE SWITCH, 20A, 120/277V. MOUNT 46" AFF UON.
	MOTOR RATED SWITCH, 20A, 120/277V. MOUNT 46" AFF UON.



## DISTRIBUTION

	PANELBOARD - 208Y/120V, UON. DASHED AREA INDICATES CLEARANCE ZONE.
	PANELBOARD - 480Y/277V, UON. DASHED AREA INDICATES CLEARANCE ZONE.
	DRY-TYPE TRANSFORMER. SOLID HATCH INDICATES FRONT. 'T1' INDICATES NAME. OUTLINE INDICATES MOUNTED ON CONCRETE PAD.
	[EXAMPLE] PANELBOARD NAMING CONVENTION FLOOR LEVEL POWER SYSTEM (N=NORMAL, E=EMERGENCY (NEC 700), L=LEGALLY REQUIRED (NEC 701), S=OPTIONAL STANDBY(NEC 702) VOLTAGE SYSTEM (H=480Y/277V, L=208Y/120V) LOAD TYPE (D=DISTRIBUTION, L=LIGHTING, M=MECHANICAL, C=IT, P=ELECTRICAL) BUILDING AREA WHERE PANEL IS LOCATED INDIVIDUAL PANELBOARD NUMBER







## WIRE, CONDUIT AND RACEWAY

	BRANCH CIRCUIT OR FEEDER WIRING IN CONDUIT. NO LABEL INDICATES 2#12 CONDUCTORS & 1#12 GND IN 1/2" CONDUIT. CONDUIT LARGER THAN 1/2" CONDUIT, CONDUCTOR QUANTITY MORE THAN 3, OR WIRE SIZE LARGER THAN #12 SHALL BE AS INDICATED (SEE LEGEND NOTE 1). PROVIDE SWITCH LEG CONDUCTORS FOR LIGHTING FIXTURES CONTROLS WHERE REQUIRED.
	HOMERUNS TO PANEL. PANEL AND CIRCUIT DESIGNATIONS AS INDICATED.
	INDICATES A CONDUIT RUN CONCEALED IN CEILING, WALL, FLOOR OR ABOVE SUSPENDED CEILING UON.
	CONDUIT TURNED UP
	CONDUIT TURNED DOWN
	UNDERGROUND ELECTRICAL CIRCUIT.

## POWER DEVICES

	DUPLEX RECEPTACLE DEVICE
	SURGE PROTECTIVE DEVICE

## EQUIPMENT CONNECTIONS

	EQUIPMENT MARK - SEE EQUIPMENT CONNECTION SCHEDULE SHEET EP101.
	DISCONNECT SWITCH. REFER TO EQUIPMENT CONNECTION SCHEDULE ON SHEET EP101 FOR SIZE AND TYPE. OTHERWISE, PROVIDE 600V IN NEMA 1 ENCLOSURE UON. (SEE LEGEND NOTE 5).
	COMBINATION MOTOR STARTER/DISCONNECT SWITCH. REFER TO EQUIPMENT CONNECTION ON SHEET EP101 FOR SIZE AND TYPE.
	CONTROL PANEL AS INDICATED (ATS, GENERATOR ANNUNCIATOR, ETC)
	ELECTRICALLY-POWERED MECHANICAL/PLUMBING EQUIPMENT-SEE EQUIPMENT SCHEDULE ON SHEET EP101 FOR ADDITIONAL DETAILS.
	MOTOR STARTER. REFER TO EQUIPMENT CONNECTION ON SHEET EP101 FOR SIZE AND TYPE.

MACON WATER AUTHORITY

## REPLACE 4160V GEAR AND MCC - BLOWER BLDG LOWER POPLAR WWTP

1101 LOWER POPLAR STREET  
MACON, GEORGIA 31210



DESIGNER

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PROFESSIONAL SEAL



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03/06/2025  
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REVISIONS

KEY PLAN

SHEET

## ELECTRICAL LEGEND, NOTES AND ABBREVIATIONS

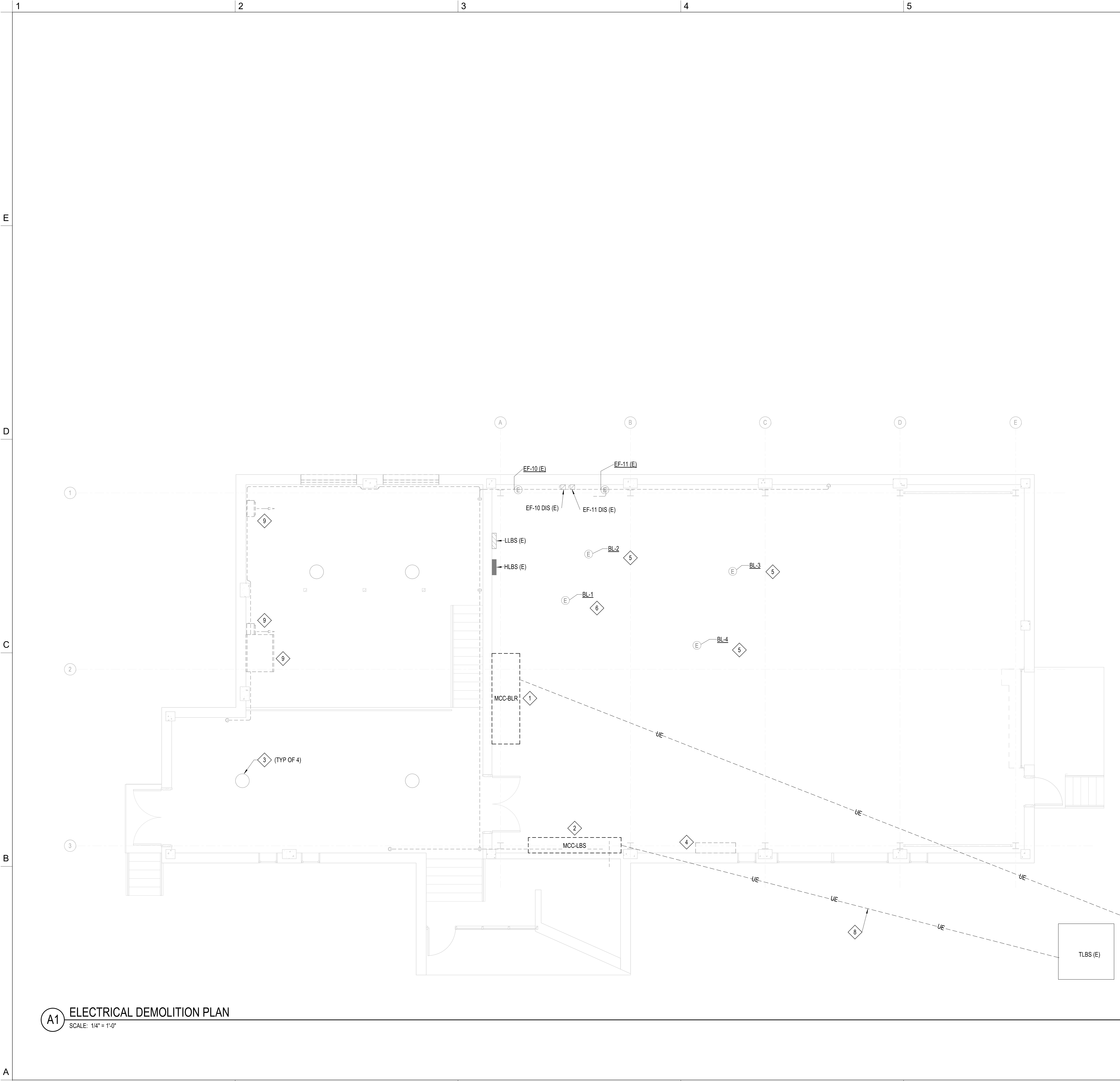
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**A1** ELECTRICAL DEMOLITION PLAN  
SCALE: 1/4" = 1'-0"

**GENERAL NOTES**

A. FOR MEDIUM VOLTAGE DISTRIBUTION DEMOLITION SCOPE, REFER TO DEMOLITION MEDIUM VOLTAGE ONE-LINE RISER DIAGRAM ON SHEET E601.  
B. FOR 480 VOLT DISTRIBUTION DEMOLITION SCOPE, REFER TO DEMOLITION 480 VOLT DISTRIBUTION ONE-LINE RISER DIAGRAM ON SHEET E602.  
C. FOR SEQUENCE OF CONSTRUCTION SCOPE FOR THE MEDIUM VOLTAGE AND 480 VOLT ELECTRICAL POWER DISTRIBUTION SYSTEM, REFER TO SHEETS E601 AND E602.


**KEY NOTES**

1. DISCONNECT AND REMOVE EXISTING 4160 VOLT SWITCHGEAR MCC-BLR.  
2. DISCONNECT AND REMOVE EXISTING 480 VOLT MOTOR CONTROL CENTER MCC-LBS. MAINTAIN RELATED BRANCH CIRCUITING BETWEEN EACH LOAD AND REMOVED MOTOR CONTROL CENTER. UNLESS OTHERWISE NOTED.  
3. EXISTING PENDANT MOUNTED HIGH BAY LIGHT FIXTURES SHALL REMAIN.  
4. EXISTING CONTROL PANEL TO BE REMOVED. DISCONNECT AND REMOVE RELATED BRANCH CIRCUITING BETWEEN CONTROL PANEL AND POWER SOURCE.  
5. DISCONNECT AND REMOVE EXISTING MEDIUM VOLTAGE BRANCH CIRCUITING BETWEEN UNIT AND POWER SOURCE (MCC-BLR). DISCONNECT AND REMOVE EXISTING CONTROL CIRCUITING BETWEEN UNIT AND CONTROL SOURCE. CAP AND ABANDON RACEWAY(S) EMBEDDED IN SLAB.  
6. DISCONNECT AND REMOVE EXISTING BRANCH CIRCUITING BETWEEN UNIT AND POWER SOURCE (MCC-LBS). DISCONNECT AND REMOVE EXISTING CONTROL CIRCUITING BETWEEN UNIT AND CONTROL SOURCE. CAP AND ABANDON RACEWAY(S) EMBEDDED IN SLAB.  
7. DISCONNECT AND REMOVE EXISTING MEDIUM VOLTAGE FEEDER BETWEEN TRANSFORMER TBLR AND MEDIUM VOLTAGE SWITCHGEAR MCC-BLR. CAP AND ABANDON RACEWAY(S) EMBEDDED IN SLAB.  
8. DISCONNECT AND REMOVE EXISTING 480 VOLT FEEDER BETWEEN TRANSFORMER TLBS AND 480 VOLT MOTOR CONTROL CENTER MCC-LBS. CAP AND ABANDON RACEWAY(S) EMBEDDED IN SLAB.  
9. EXISTING MECHANICAL EQUIPMENT TO BE REMOVED. DISCONNECT AND REMOVE LOCAL DISCONNECT. DISCONNECT AND REMOVE BRANCH CIRCUITING BETWEEN UNIT AND POWER SOURCE.


MACON WATER AUTHORITY

**REPLACE 4160V GEAR AND MCC - BLOWER BLDG LOWER POPLAR WWTP**

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CONSULTANT NAME (NO LOGO)

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KEY PLAN

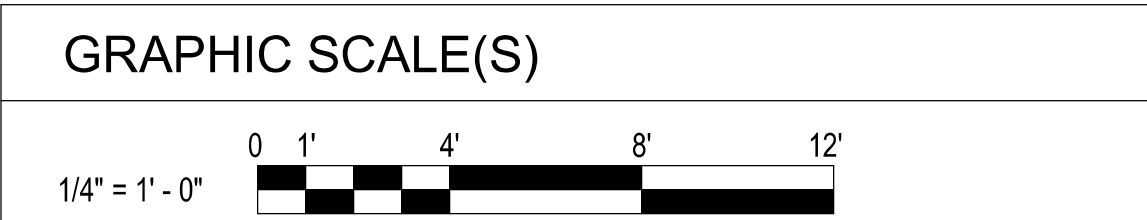
SHEET

**ELECTRICAL DEMOLITION PLAN**

**ED101**

DESIGN: DCG  
DRAWN: MSW  
REVIEW: PJR

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**A1** LIGHTING PLAN  
SCALE: 1/4" = 1'-0"

LUMINAIRE SCHEDULE											
TYPE	DESCRIPTION	MANUFACTURER	MODEL NO.	SOURCE TYPE	CCT	CRI	LUMEN OUTPUT	VOLTAGE	DRIVER / BALLAST TYPE	MOUNTING / ELEVATION	NOTES
A	LED INDUSTRIAL STRIP LIGHT FIXTURE	LITHONIA	CLX-L48-3000LM-SEF-WDL-MV/OLT-EDAB-TUWH-P ROR-80CRI-WH	LED	35 K	80	3,000 lm	120 V	0-10 V	PENDANT (AT 10' AFF)	1) PROVIDE HARDWARE FOR PENDANT MOUNT INSTALLATION.
AE	LED INDUSTRIAL STRIP LIGHT EMERGENCY FIXTURE	LITHONIA	CLX-L48-3000LM-SEF-WDL-MV/OLT-EDAB-TUWH-P ROR-80CRI-PS1050-WH	LED	35 K	80	3,000 lm	120 V	0-10 V	PENDANT (AT 10' AFF)	2) PROVIDE EMERGENCY BATTERY PACK.

GENERAL NOTES

- A. PROVIDE LIGHTING BRANCH CIRCUIT WIRING AND RACEWAY CONSISTING OF (2)#12, (1)#12G IN 3/4"C.
- B. BRACE SUSPENDED LUMINAIRE WHERE FIXTURE SUPPORTS ARE LONGER THEN 48 INCHES. REFER TO SECTION 265000 FOR ADDITIONAL INFORMATION.

KEY NOTES

- 1 PROVIDE PENDANT MOUNTED, LED INDUSTRIAL STRIP LIGHT FIXTURE.
- 2 PROVIDE PENDANT MOUNTED, LED INDUSTRIAL STRIP EMERGENCY LIGHT FIXTURE.
- 3 PROVIDE LIGHT SWITCH.

GRAPHIC SCALE(S)



MACON WATER AUTHORITY

**REPLACE 4160V GEAR AND MCC - BLOWER BLDG LOWER POPLAR WWTP**

1101 LOWER POPLAR STREET  
MACON, GEORGIA 31201



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PROFESSIONAL SEAL



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KEY PLAN

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**LIGHTING PLAN**

**EL101**

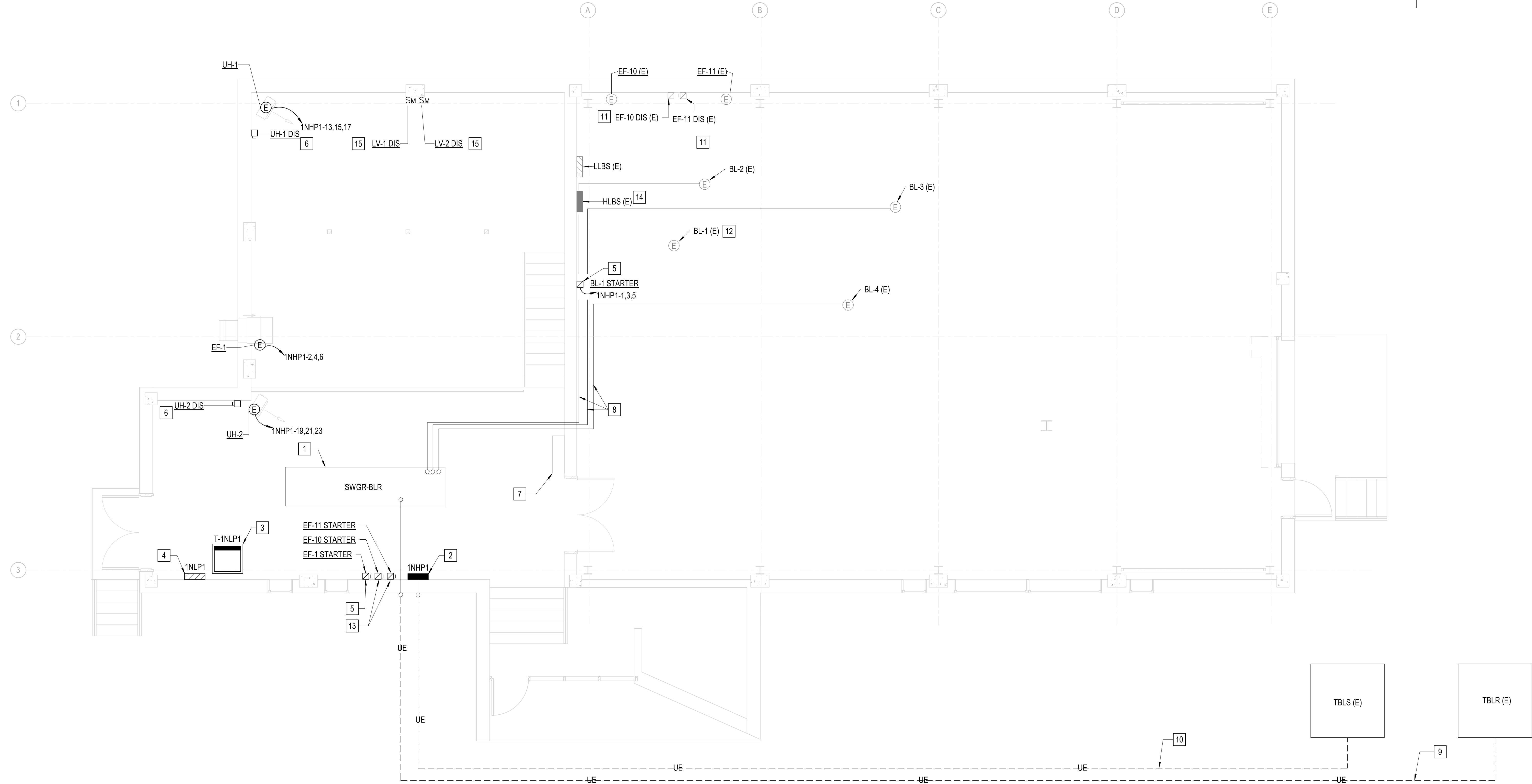
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EQUIPMENT CONNECTION SCHEDULE												
EQUIPMENT DESIGNATION	DESCRIPTION	LOAD RATING (HP, KW, ETC)	FLA	VOLTS	PHASE	DISCONNECT SWITCH			CIRCUIT INFORMATION			STARTER SIZE/ TYPE
						RATING (A)	FUSE SIZE (A)	NEMA TYPE	WIRE SIZE		CONDUIT SIZE	
									# SETS	CONDUCTORS		
BL-1	BLOWER NO. 1	100hp	124.0 A	480 V	3	200A	200A	4	1	3#3/0, 1#6G	2"	RVSS
EF-1	EXHAUST FAN NO.1	1 HP	2.1 A	480 V	3	30A	10A	1	1	3#10, 1#10G	3/4"	0.FVNR
EF-10 (E)	EXHAUST FAN NO. 10 ( EXISTING)	3HP	4.8 A	480 V	3	EXIST	EXIST	EXIST	1	3#10, 1#10G	3/4"	0.FVNR
EF-11 (E)	EXHAUST FAN NO. 11 ( EXISTING)	3HP	4.8 A	480 V	3	EXIST	EXIST	EXIST	1	3#10, 1#10G	3/4"	0.FVNR
UH-1	UNIT HEATER NO. 1	3KW	3.6 A	480 V	3	30A	NF	1	1	3#10, 1#10G	3/4"	N/A
UH-2	UNIT HEATER NO. 2	3KW	3.6 A	480 V	3	30A	NF	1	1	3#10, 1#10G	3/4"	N/A



**A1** POWER PLAN  
SCALE: 1/4" = 1'-0"



- GENERAL NOTES
- A. FOR MEDIUM VOLTAGE DISTRIBUTION NEW CONSTRUCTION SCOPE, EQUIPMENT AND RATING AND CIRCUIT SIZES, REFER TO NEW WORK MEDIUM VOLTAGE ONE-LINE DIAGRAM ON SHEET E601.

B. FOR 480 VOLT DISTRIBUTION NEW CONSTRUCTION SCOPE, EQUIPMENT AND RATING AND CIRCUIT SIZES, REFER TO 480 VOLT DISTRIBUTION ONE-LINE DIAGRAM ON SHEET E602.

C. FOR SEQUENCE OF CONSTRUCTION SCOPE FOR THE MEDIUM VOLTAGE AND 480 VOLT ELECTRICAL POWER DISTRIBUTION SYSTEM, REFER TO SHEET E801 AND E602.

- KEY NOTES
- 1 PROVIDE SERVICE ENTRANCE RATED, MEDIUM VOLTAGE SWITCHGEAR SWGR-BLR.

2 PROVIDE SERVICE ENTRANCE RATED, 480Y/277 VOLT, 3-PHASE PANELBOARD 1NHP1. CONNECT EXISTING LOADS MAINTAINED FROM DEMOLITION AND EXTEND RELATED CIRCUITING AS REQUIRED.

3 PROVIDE DRY-TYPE, 30KVA, 3-PHASE TRANSFORMER T-1NLP1 IN NEMA 1 ENCLOSURE.

4 PROVIDE 208Y/120 VOLT, 3-PHASE PANELBOARD 1NLP1.

5 PROVIDE COMBINATION MOTOR STARTER/DISCONNECT SWITCH.

6 PROVIDE DISCONNECT SWITCH.

7 PROVIDE BRANCH CIRCUITING FOR CONTROL PANEL CONSISTING OF (2)#12, (1)#12G IN 1/2" C. CONNECT TO CIRCUIT 2 AT PANEL 1NLP1.

8 PROVIDE MEDIUM VOLTAGE BRANCH CIRCUITING BETWEEN UNIT AND POWER SOURCE (SWGR-BLR).

9 PROVIDE MEDIUM VOLTAGE FEEDER BETWEEN EXISTING TRANSFORMER TBLR AND MEDIUM VOLTAGE SWITCHGEAR SWGR-BLR FOR OUTDOOR RACEWAY INSTALLATION, PROVIDE CONCRETE ENCASED DUCTBANK PER DETAIL A5 ON SHEET E-501. FOR INDOOR RACEWAY INSTALLATION, PROVIDE OVERHEAD CONDUIT INSTALLATION.

10 PROVIDE 480 VOLT FEEDER BETWEEN EXISTING TRANSFORMER TLBS AND PANEL 1NHP1. FOR OUTDOOR RACEWAY INSTALLATION, PROVIDE CONCRETE ENCASED DUCTBANK PER DETAIL A5 ON SHEET E-501. FOR INDOOR RACEWAY INSTALLATION, PROVIDE OVERHEAD CONDUIT INSTALLATION.

11 PROVIDE 480 VOLT, 3-PHASE CIRCUIT BETWEEN EXISTING EXHAUST FAN DISCONNECT AND MOTOR STARTER.

12 PROVIDE 480 VOLT, 3-PHASE CIRCUIT BETWEEN EXISTING BLOWER AND COMBINATION MOTOR STARTER/ DISCONNECT SWITCH.

13 PROVIDE MOTOR STARTER.

14 PROVIDE FEEDER CONDUCTORS AND CONDUIT BETWEEN PANEL 1NHP1 AND EXISTING PANELBOARD HLBS.

15 PROVIDE MOTOR RATED SWITCH AND RELATED BRANCH CIRCUIT CONDUCTORS CONSISTING OF (2)#12, (1)#12G IN 1/2" C. FOR LOUVER INDICATED AS REQUIRED.

MACON WATER AUTHORITY

REPLACE 4160V GEAR AND MCC - BLOWER BLDG LOWER POPLAR WWTP

1101 LOWER POPLAR STREET  
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REVISIONS

KEY PLAN

SHEET

POWER PLAN

DESIGN: DCG  
DRAWN: MSW  
REVIEW: PJR

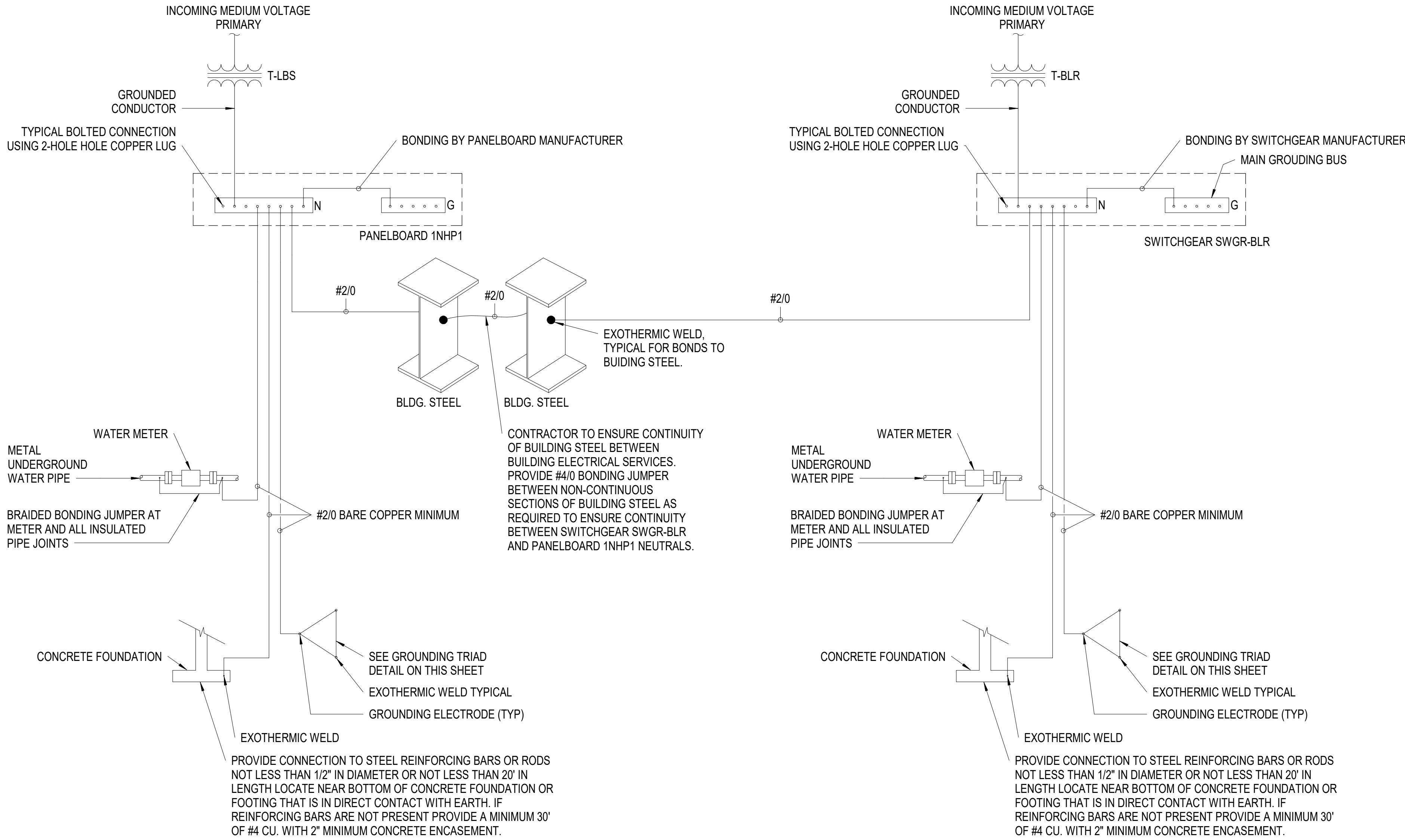
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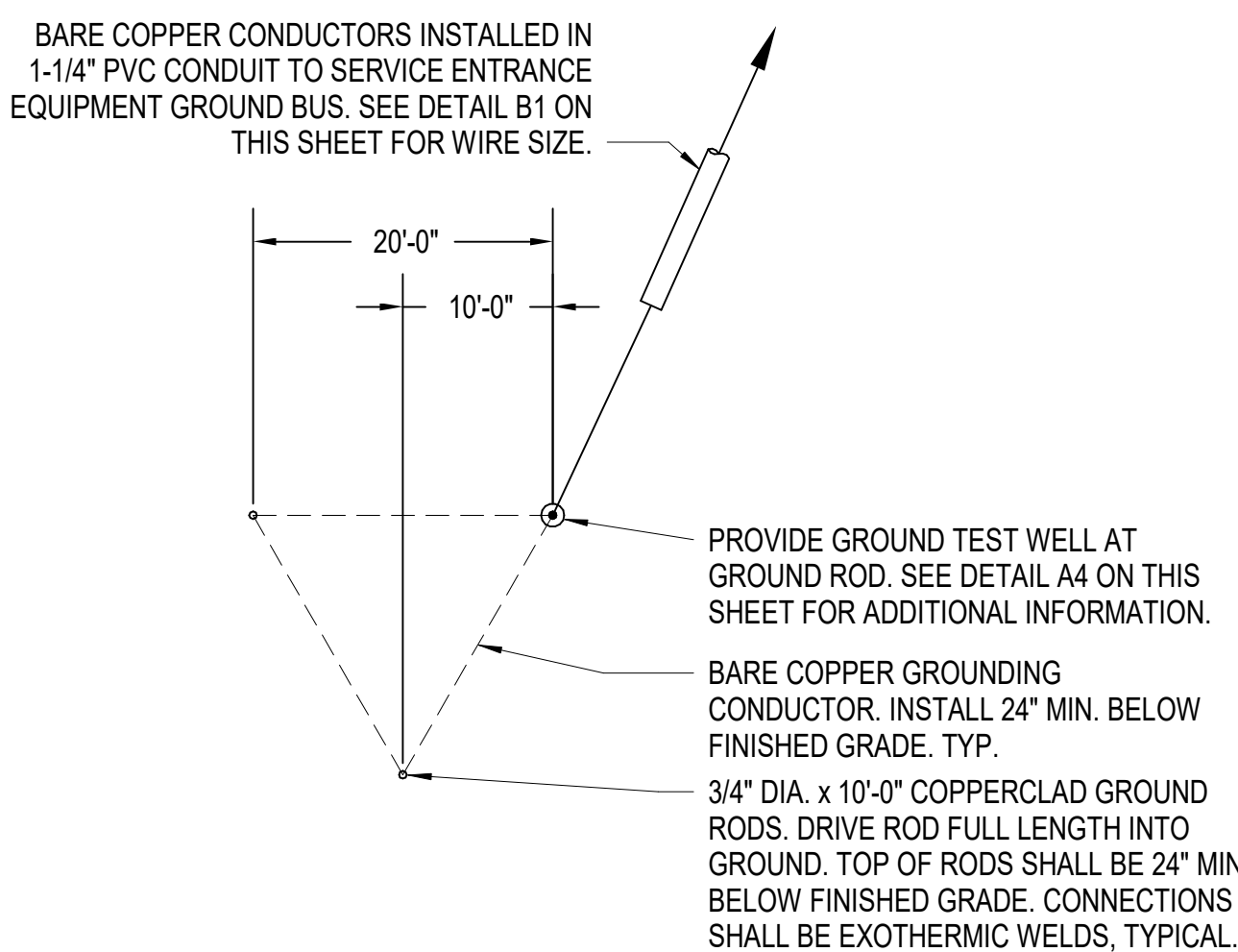
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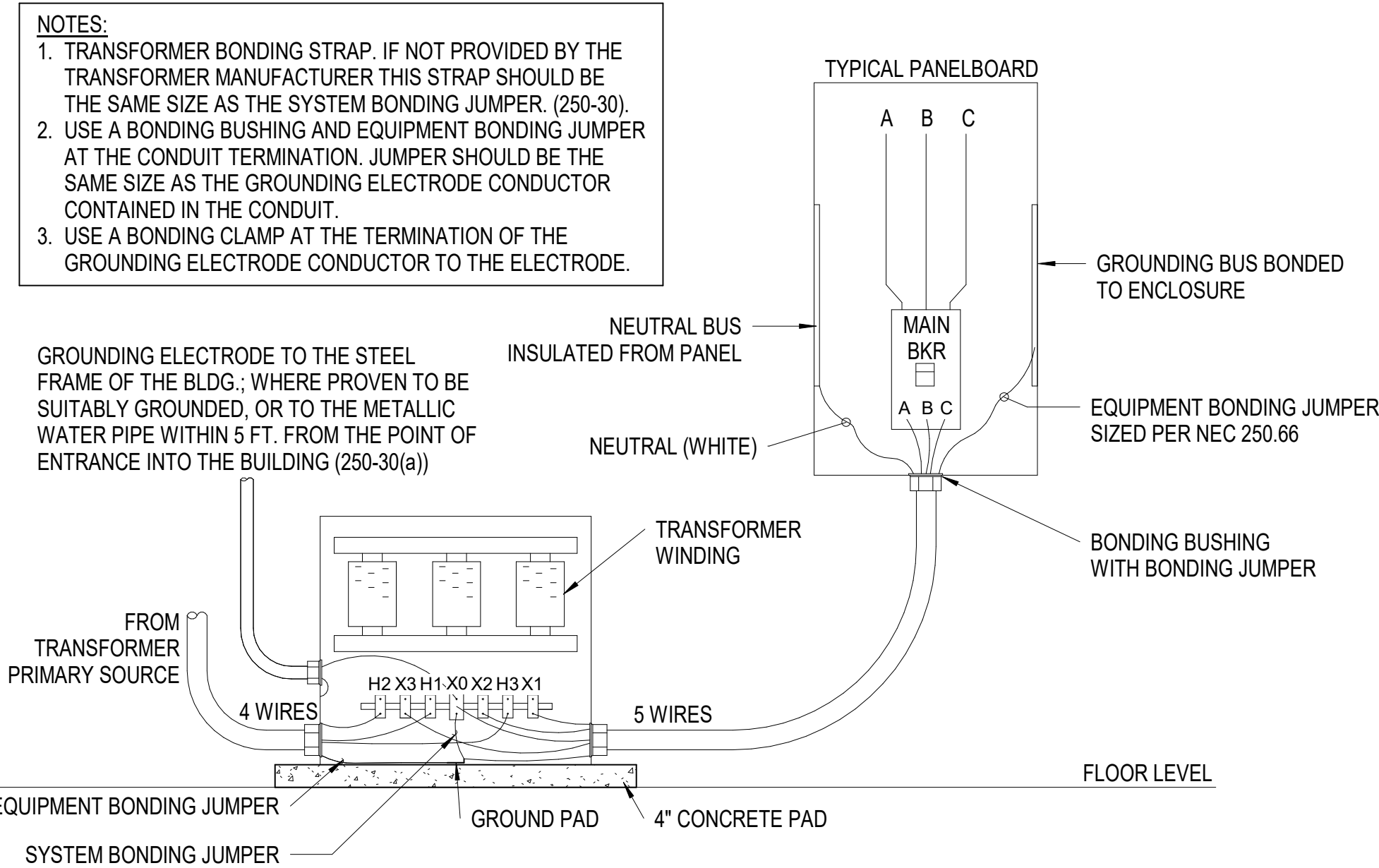


NOTE: GROUNDING ELECTRODE SYSTEM SHALL CONFORM TO NEC ARTICLE 250.

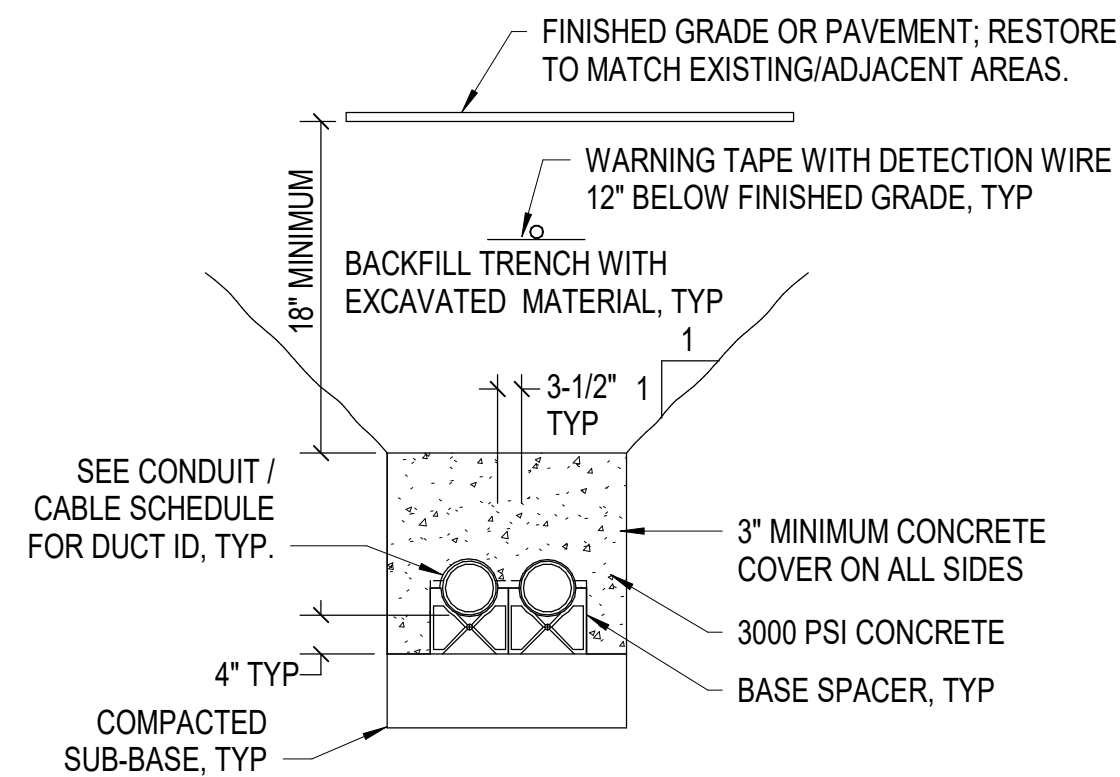
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NOT TO SCALE



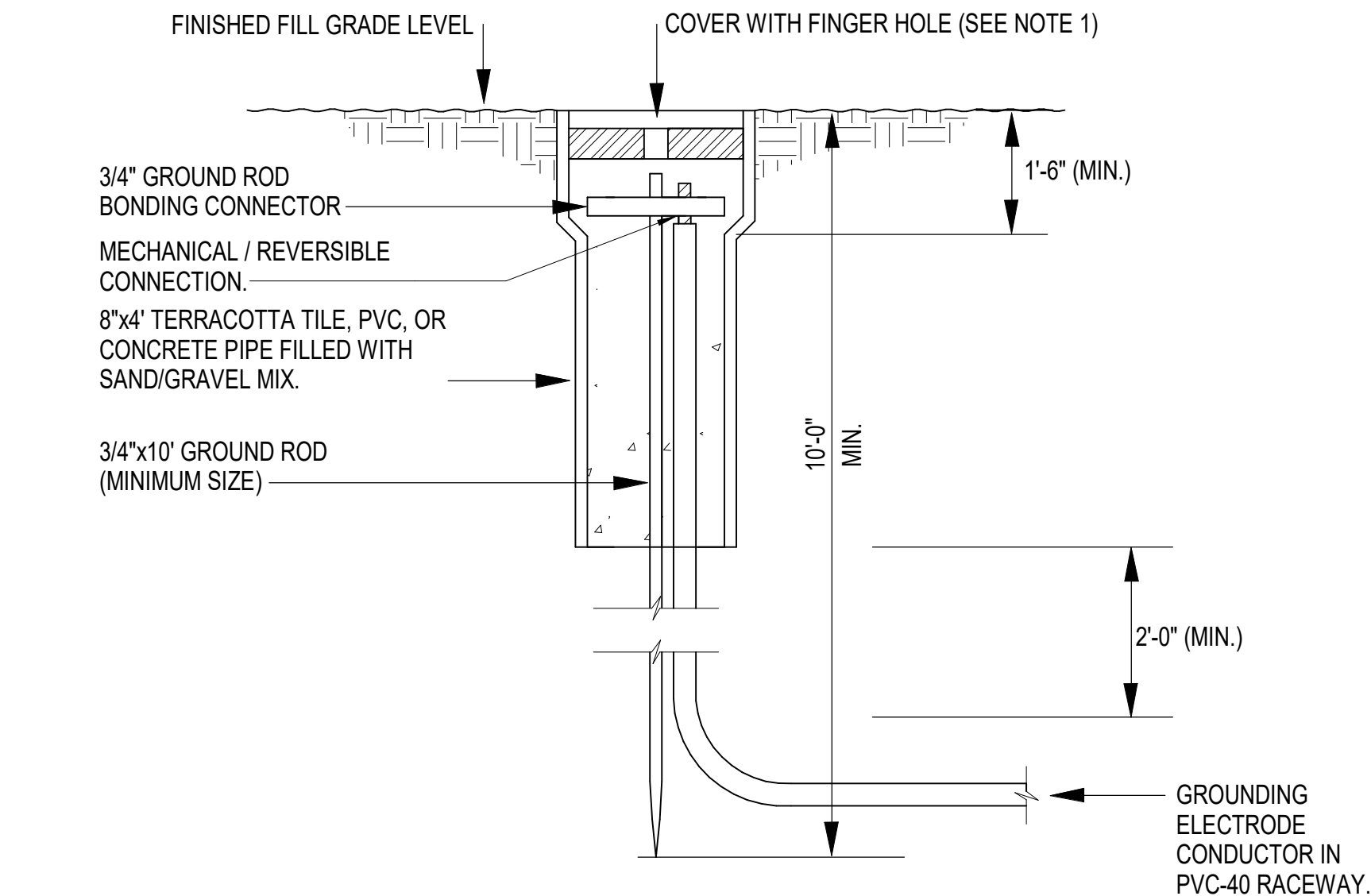
**A1** GROUNDING TRIAD  
NOT TO SCALE



**A3** DRY TYPE TRANSFORMER GROUNDING  
DETAIL  
NOT TO SCALE



**A5** DUCTBANK DETAIL  
NOT TO SCALE



**A4** GROUND TEST WELL INSTALLATION IN  
EARTH FILL  
NOT TO SCALE

MACON WATER AUTHORITY  
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BLDG LOWER POPLAR  
WWTP**

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**FINAL SUBMITTAL**

REVISIONS

KEY PLAN

SHEET

**DETAILS**

**E501**

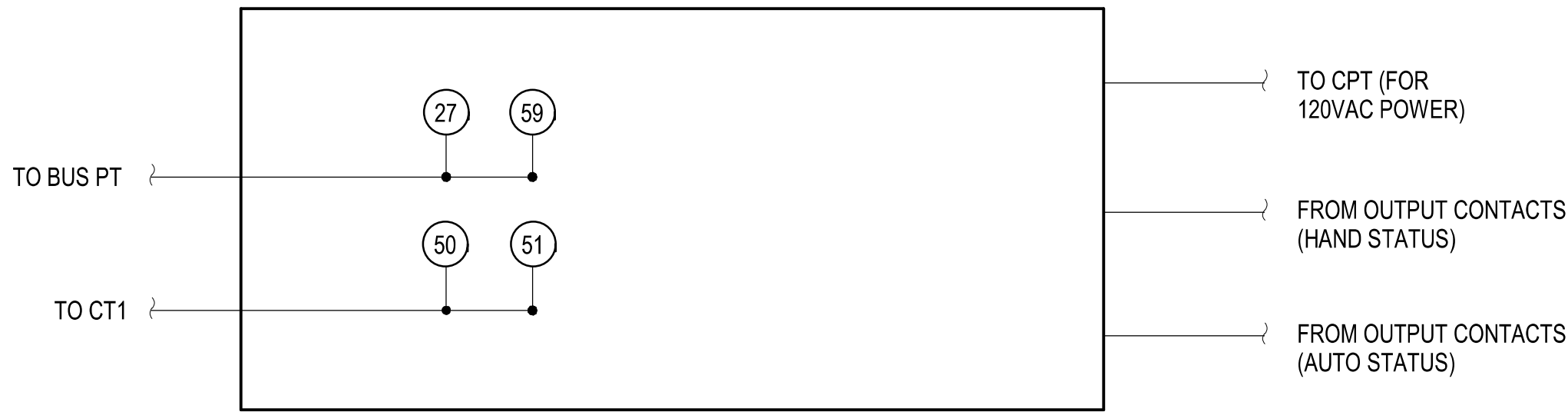
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REVIEW: PJR

CN 10646

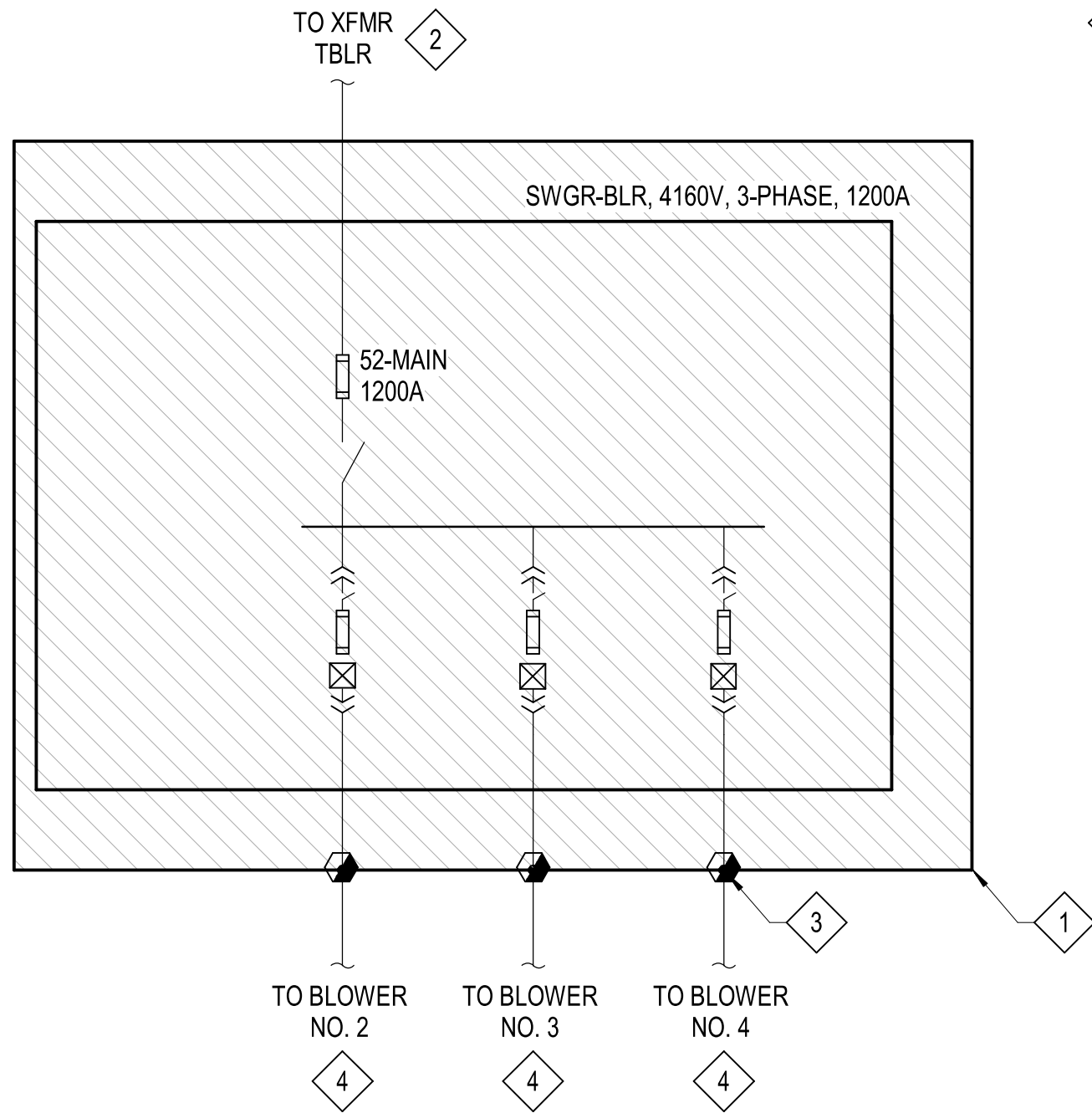


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SEQUENCE OF CONSTRUCTION – 4160VOLT DISTRIBUTION SYSTEM  
A. INSTALL MEDIUM VOLTAGE SWITCHGEAR SWGR-BLR. PLACE MEDIUM VOLTAGE CIRCUIT BREAKERS 52-MB, 52-FB-BL2, 52-FB-BL3 AND 52-FB-BL4 IN OPEN POSITION.  
B. PREPARE MEDIUM VOLTAGE FEEDER INCLUDING CABLING AND RACEWAY BETWEEN MEDIUM VOLTAGE SWITCHGEAR SWGR-BLR AND EXISTING SERVICE TRANSFORMER TBLR. (OVERHEAD INSTALLATION FOR INTERIOR APPLICATION; UNDERGROUND INSTALLATION FOR EXTERIOR APPLICATION)  
C. PREPARE MEDIUM VOLTAGE FEEDER INCLUDING CABLING AND RACEWAY BETWEEN MEDIUM VOLTAGE SWITCHGEAR SWGR-BLR AND EXISTING BLOWER BL-2. (OVERHEAD INSTALLATION FOR INTERIOR APPLICATION)  
D. PREPARE MEDIUM VOLTAGE FEEDER INCLUDING CABLING AND RACEWAY BETWEEN MEDIUM VOLTAGE SWITCHGEAR SWGR-BLR AND EXISTING BLOWER BL-3. (OVERHEAD INSTALLATION FOR INTERIOR APPLICATION)  
E. PREPARE MEDIUM VOLTAGE FEEDER INCLUDING CABLING AND RACEWAY BETWEEN MEDIUM VOLTAGE SWITCHGEAR SWGR-BLR AND EXISTING BLOWER BL-4. (OVERHEAD INSTALLATION FOR INTERIOR APPLICATION)  
F. FIRST TEMPORARY ELECTRICAL SERVICE INTERRUPTION: DISABLE PRIMARY ELECTRICAL SERVICE TO EXISTING SERVICE TRANSFORMER TBLR TO FACILITATE THE FINAL CONNECTION OF THE NEW SWGR-BLR MEDIUM VOLTAGE FEEDER TO SERVICE TRANSFORMER SECONDARY. RESTORE ELECTRICAL SERVICE UPON COMPLETION AND VERIFICATION OF THE INSTALLATION OF THE SWGR-BLR MEDIUM VOLTAGE FEEDER.  
G. CLOSE MEDIUM VOLTAGE CIRCUIT BREAKER 52-MB AT MEDIUM VOLTAGE SWITCHGEAR SWGR-BLR.  
H. VERIFY OPERATION OF EXISTING BLOWERS BL-2 AND BL-4 UPON RESTORATION OF POWER TO EXISTING MEDIUM VOLTAGE SWITCHGEAR MCC-BLR.  
I. OPEN AND LOCK OUT EXISTING MEDIUM VOLTAGE PROTECTIVE DEVICE AT EXISTING MEDIUM VOLTAGE SWITCHGEAR MCC-BLR SERVING BLOWER BL-3. DISCONNECT AND REMOVE EXISTING MEDIUM VOLTAGE FEEDER BETWEEN SWITCHGEAR AND BLOWER BL-3.  
J. COMPLETE FINAL CONNECTION OF MEDIUM VOLTAGE FEEDER BETWEEN MEDIUM VOLTAGE SWITCHGEAR SWGR-BLR AND BLOWER BL-3. UPON COMPLETION AND VERIFICATION OF THE MEDIUM VOLTAGE FEEDER INSTALLATION, CLOSE MEDIUM VOLTAGE CIRCUIT 52-FB-BL3 AT MEDIUM VOLTAGE SWITCHGEAR SWGR-BLR.  
K. VERIFY OPERATION OF EXISTING BLOWERS BL-3 (AT MEDIUM VOLTAGE SWITCHGEAR SWGR-BLR) AND BL-2 (AT MEDIUM VOLTAGE SWITCHGEAR MCC-BLR).  
L. OPEN AND LOCK OUT EXISTING MEDIUM VOLTAGE PROTECTIVE DEVICE AT EXISTING MEDIUM VOLTAGE SWITCHGEAR MCC-BLR SERVING BLOWER BL-4. DISCONNECT AND REMOVE EXISTING MEDIUM VOLTAGE FEEDER BETWEEN SWITCHGEAR AND BLOWER BL-4.  
M. COMPLETE FINAL CONNECTION OF MEDIUM VOLTAGE FEEDER BETWEEN MEDIUM VOLTAGE SWITCHGEAR SWGR-BLR AND BLOWER BL-4. UPON COMPLETION AND VERIFICATION OF THE MEDIUM VOLTAGE FEEDER INSTALLATION, CLOSE MEDIUM VOLTAGE CIRCUIT 52-FB-BL4 AT MEDIUM VOLTAGE SWITCHGEAR SWGR-BLR.  
N. VERIFY OPERATION OF EXISTING BLOWERS BL-3 AND BL-4 AT MEDIUM VOLTAGE SWITCHGEAR SWGR-BLR.  
O. OPEN AND LOCK OUT EXISTING MEDIUM VOLTAGE PROTECTIVE DEVICE AT EXISTING MEDIUM VOLTAGE SWITCHGEAR MCC-BLR SERVING BLOWER BL-2. DISCONNECT AND REMOVE EXISTING MEDIUM VOLTAGE FEEDER BETWEEN SWITCHGEAR AND BLOWER BL-2.  
P. COMPLETE FINAL CONNECTION OF MEDIUM VOLTAGE FEEDER BETWEEN MEDIUM VOLTAGE SWITCHGEAR SWGR-BLR AND BLOWER BL-2. UPON COMPLETION AND VERIFICATION OF THE MEDIUM VOLTAGE FEEDER INSTALLATION, CLOSE MEDIUM VOLTAGE CIRCUIT 52-FB-BL2 AT MEDIUM VOLTAGE SWITCHGEAR SWGR-BLR.  
Q. VERIFY OPERATION OF EXISTING BLOWERS BL-2, BL-3 AND BL-4 AT MEDIUM VOLTAGE SWITCHGEAR SWGR-BLR.  
R. OPEN MAIN PROTECTIVE DEVICE AT EXISTING MEDIUM VOLTAGE SWITCHGEAR MCC-BLR.  
S. FINAL TEMPORARY ELECTRICAL SERVICE INTERRUPTION: DISABLE PRIMARY ELECTRICAL SERVICE TO EXISTING SERVICE TRANSFORMER TBLR TO FACILITATE THE REMOVAL OF EXISTING MEDIUM VOLTAGE FEEDER BETWEEN THE SERVICE TRANSFORMER SECONDARY AND EXISTING MEDIUM VOLTAGE SWITCHGEAR MCC-BLR. RESTORE ELECTRICAL SERVICE UPON COMPLETION.  
T. REMOVE EXISTING MEDIUM VOLTAGE SWITCHGEAR MCC-BLR.

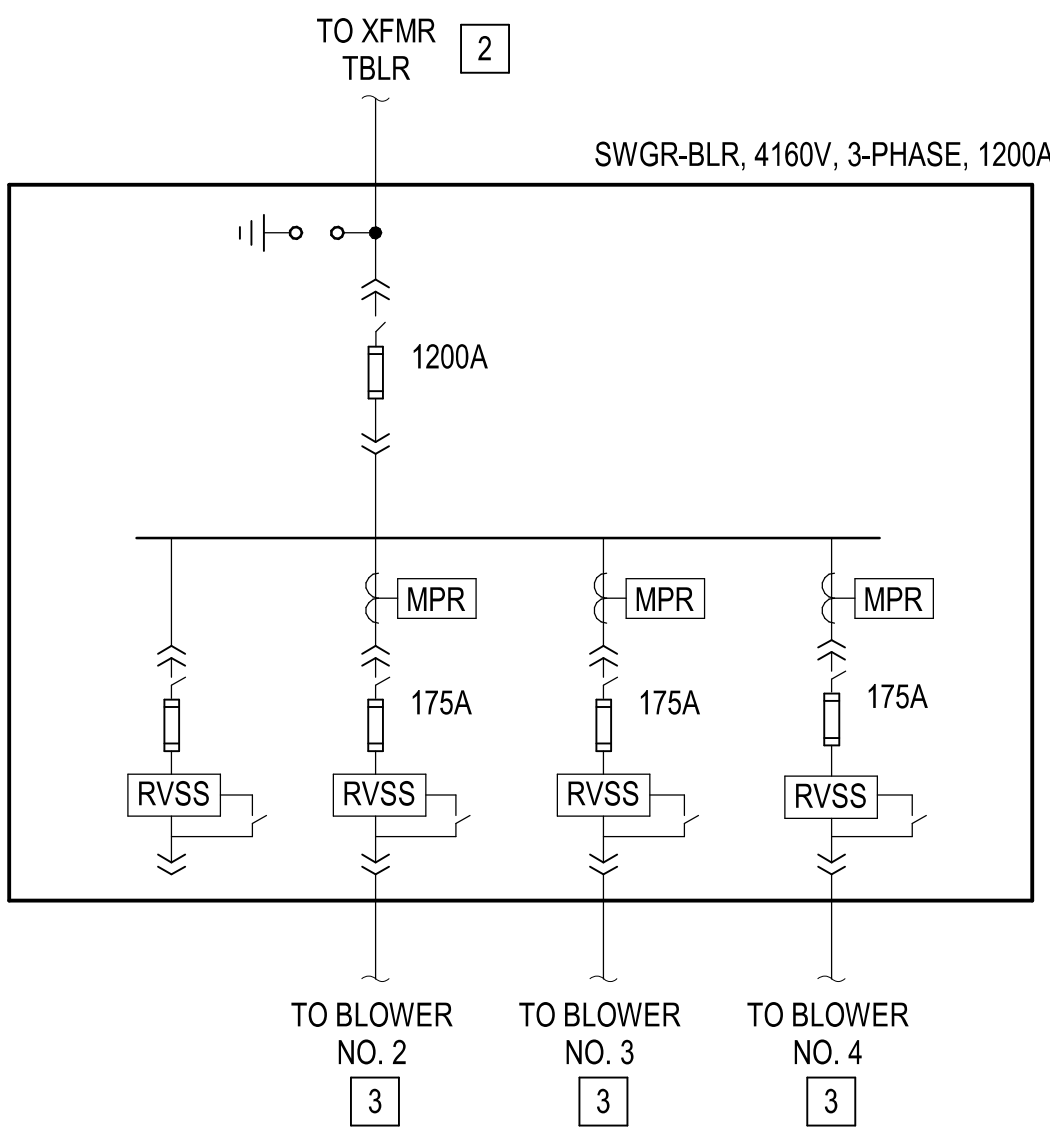


**A1** MOTOR PROTECTION RELAY  
NOT TO SCALE



**C4** 4160 VOLT DISTRIBUTION ONE-LINE  
DIAGRAM - DEMOLITION  
NOT TO SCALE

- NOTES:**
1. DISCONNECT AND REMOVE EXISTING 4160V SWITCHGEAR INCLUDING ALL INTEGRAL LIGHTNING ARRESTOR EQUIPMENT, PROTECTIVE RELAYING AND DEVICES, METERING, CONTROLS, INSTRUMENTATION AND INTEGRAL WIRING. DISCONNECT AND REMOVE 120 VOLT CIRCUITING ASSOCIATED WITH 4160V SWITCHGEAR.
  2. EXISTING PAD-MOUNTED SERVICE TRANSFORMER TBLR SHALL REMAIN. DISCONNECT AND REMOVE EXISTING MEDIUM VOLTAGE FEEDER CABLING BETWEEN TRANSFORMER AND 4160V SWITCHGEAR. CAP AND ABANDON IN PLACE MEDIUM VOLTAGE FEEDER RACEWAY EMBEDDED IN SLAB.
  3. EXISTING BLOWER LOAD SHALL REMAIN. DISCONNECT AND REMOVE EXISTING MEDIUM VOLTAGE CABLING BETWEEN 4160V SWITCHGEAR AND BLOWER EQUIPMENT SKID. CAP AND ABANDON IN PLACE MEDIUM VOLTAGE FEEDER RACEWAY EMBEDDED IN SLAB.
  4. DISCONNECT AND REMOVE 120V CONTROLS CIRCUITING ASSOCIATED WITH BLOWER EQUIPMENT.



**A4** 4160 VOLT DISTRIBUTION ONE-LINE  
DIAGRAM - NEW WORK  
NOT TO SCALE

- NOTES:**
1. PROVIDE 4160V METAL-ENCLOSED, MEDIUM VOLTAGE SWITCHGEAR INCLUDING ALL INTEGRAL DISTRIBUTION CLASS LIGHTNING ARRESTOR EQUIPMENT, PROTECTIVE RELAYING, DRAWOUT TYPE ISOLATION SWITCH, WITH PADLOCKING PROVISIONS IN THE OPEN POSITION MEDIUM VOLTAGE FUSING, REDUCED-VOLTAGE, SOLID-STATE (RVSS) MOTOR STARTER, METERING, CONTROLS, INSTRUMENTATION AND INTERNAL WIRING. PROVIDE GROUNDING AT SERVICE PER DETAIL B1 ON SHEET E501.
  2. PROVIDE MEDIUM VOLTAGE FEEDER CIRCUIT CONSISTING OF TWO (2) SETS OF (3)-1/C #250 KCMIL, (1)#1G IN 5°C + SPARE BETWEEN TRANSFORMER AND 4160V METAL-ENCLOSED SWITCHGEAR.
  3. PROVIDE MEDIUM VOLTAGE FEEDER CIRCUIT CONSISTING OF (3)-1/C #2, (1)#8G IN 2°C BETWEEN 4160V METAL-ENCLOSED SWITCHGEAR AND BLOWER EQUIPMENT LOAD.

PROTECTIVE RELAYING DEVICE FUNCTION NUMBERS	
27	UNDERVOLTAGE RELAY
50	INSTANTANEOUS OVERCURRENT RELAY
51	AC TIME OVERCURRENT RELAY
59	OVERVOLTAGE RELAY
86	LOCKOUT RELAY

MACON WATER AUTHORITY

## REPLACE 4160V GEAR AND MCC - BLOWER BLDG LOWER POPLAR WWTP

1101 LOWER POPLAR STREET  
MACON, GEORGIA 31201



DESIGNER



**CLARK NEXSEN**

3920 ARKWRIGHT ROAD, SUITE 385  
MACON, GEORGIA 31210  
478-743-8415

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CONSULTANT NAME (NO LOGO)

STREET ADDRESS  
CITY, STATE ZIPCODE  
PHONE NUMBER

PROFESSIONAL SEAL



SUBMITTAL

**03/06/2025**

**FINAL SUBMITTAL**

REVISIONS

KEY PLAN

SHEET

**MEDIUM VOLTAGE  
DISTRIBUTION ONE-LINE  
DIAGRAMS**

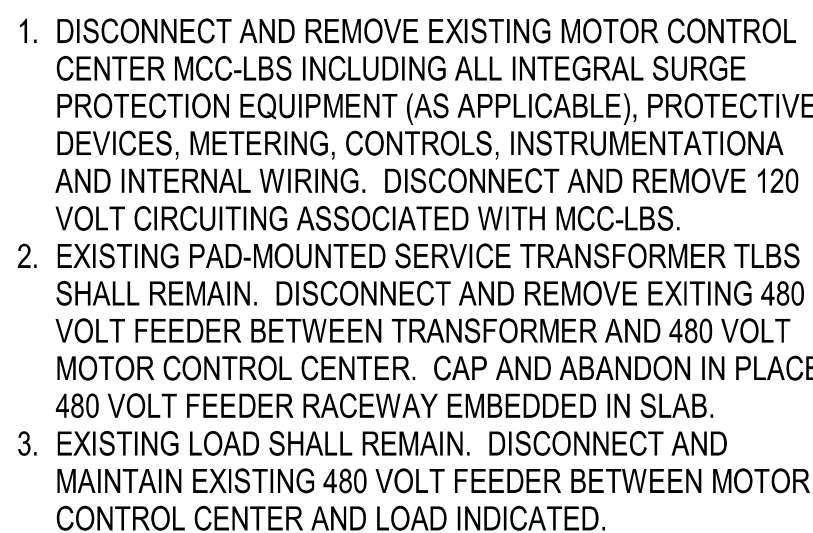
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H. REMOVE EXISTING MOTOR CONTROL CENTER MCC-LBS

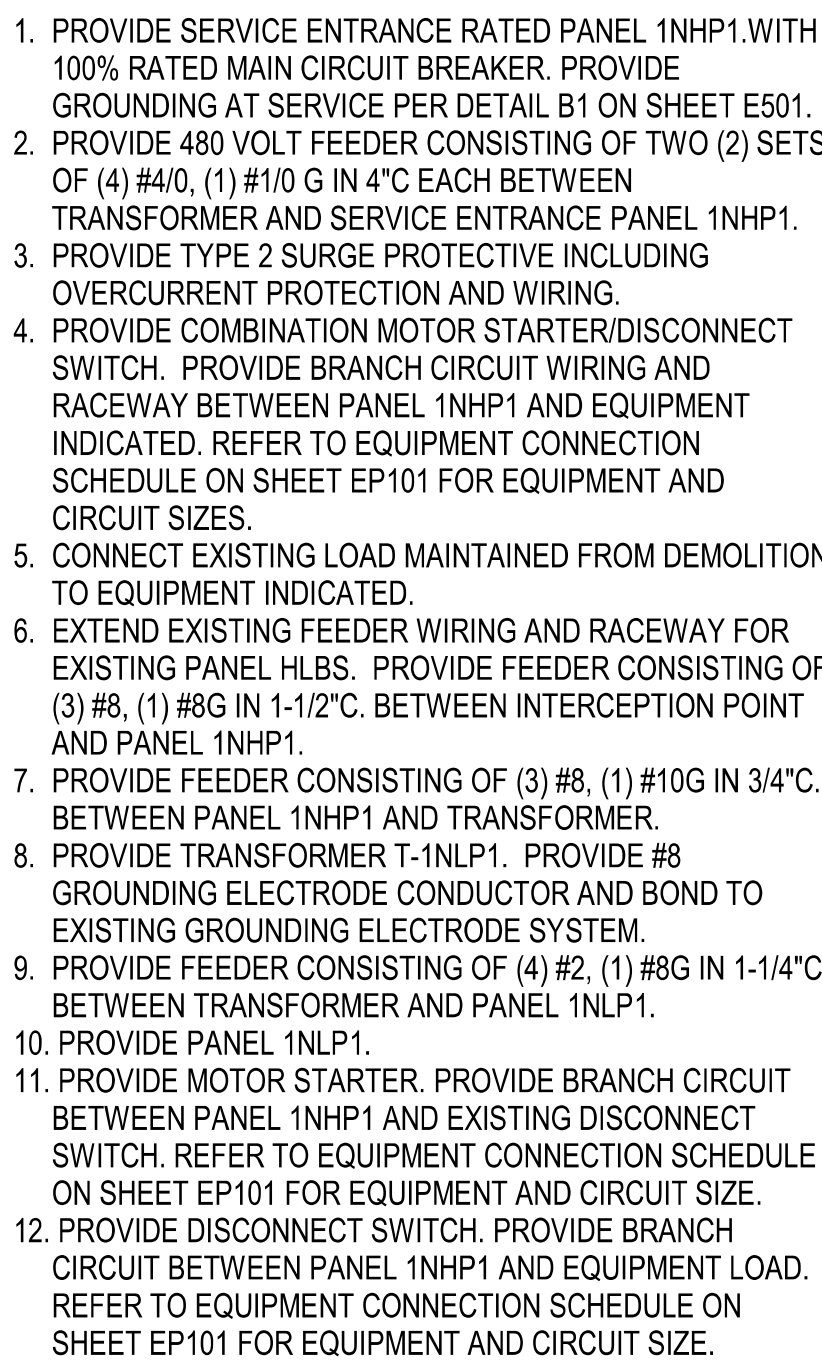


C4

NOT TO SCALE

PANEL BOARD OPTIONS:		PANEL BOARD NOTES:	
1 PROVIDE EXTERNALLY MOUNTED 800		1 LOCATION: RM. 50	

11	SPARE	20				
13	SPARE	20			A	

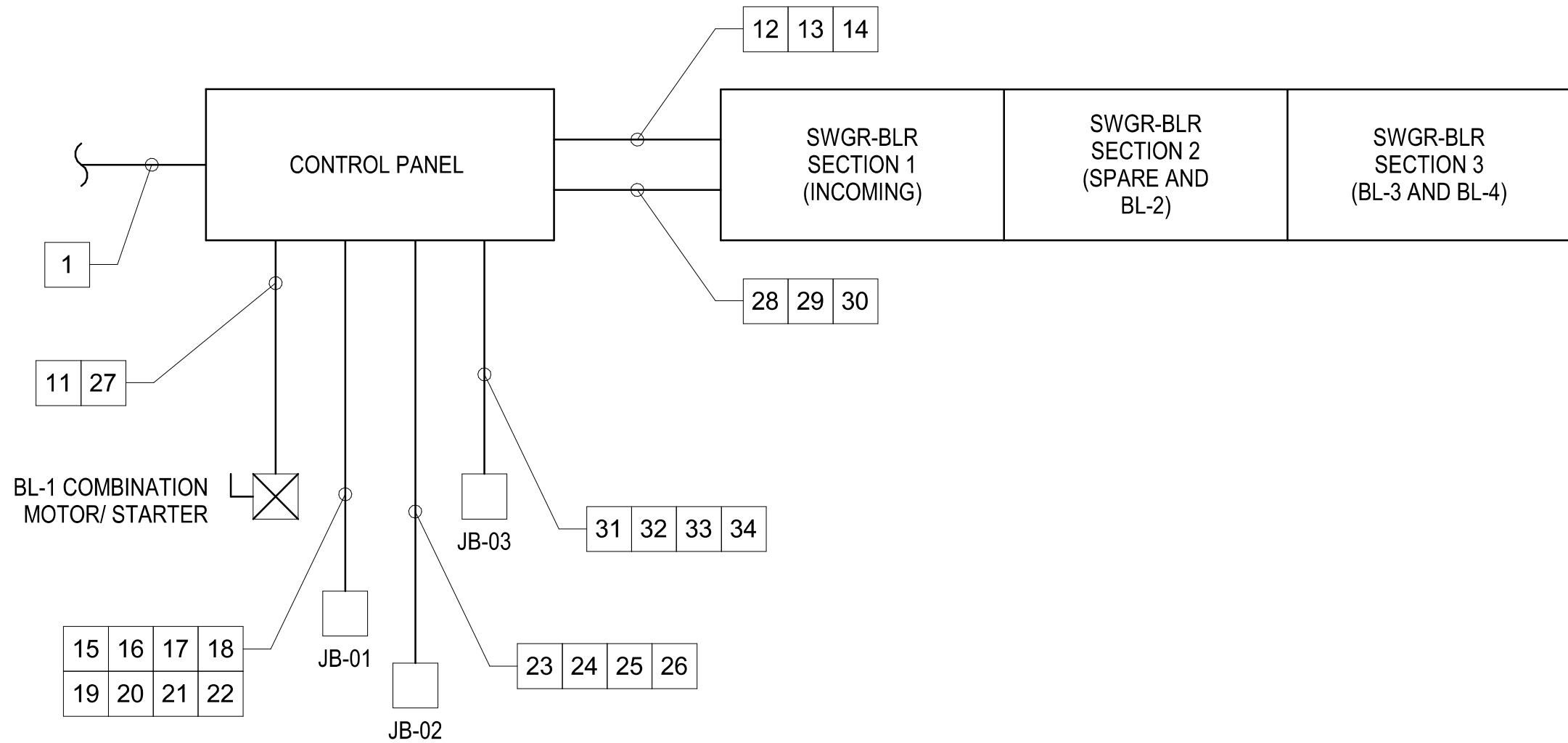


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GENERAL NOTES:

- A. FOR CIRCUIT WIRE AND RACEWAYS SIZES, REFER TO POWER AND CONTROL CABLE SCHEDULE ON THIS SHEET.
- B. PROVIDE JUNCTION BOXES AS INDICATED. EXTEND CONTROL AND/OR COMMUNICATIONS CABLING AS REQUIRED BETWEEN JUNCTION BOX AND FIELD DEVICES.
- C. FIELD COORDINATE EXACT LOCATION OF JUNCTION BOX JB-01 AND ROUTING OF RELATED CONDUITS BETWEEN THE CONTROL PANEL AND FIELD DEVICES. PROVIDE ONE (1) EMPTY 1/2" CONDUIT FOR EACH CONTROL CIRCUIT BETWEEN JUNCTION BOX JB-01 AND THE FOLLOWING FIELD DEVICES:
- BLOWER 1 VALVE
  - BLOWER 1 TRANSMITTER
  - BLOWER 2 VALVE
  - BLOWER 2 TRANSMITTER
  - BLOWER 3 VALVE
  - BLOWER 3 TRANSMITTER
  - BLOWER 4 VALVE
  - BLOWER 4 TRANSMITTER
- D. FIELD COORDINATE EXACT LOCATION OF JUNCTION BOX JB-02 AND ROUTING OF RELATED CONDUITS BETWEEN THE CONTROL PANEL AND FIELD DEVICES. PROVIDE ONE (1) EMPTY 1/2" CONDUIT FOR EACH CONTROL CIRCUIT BETWEEN JUNCTION BOX JB-02 AND THE FOLLOWING FIELD DEVICES:
- BLOWER 1 CONTROL VALVE
  - BLOWER 2 CONTROL VALVE
  - BLOWER 3 CONTROL VALVE
  - BLOWER 4 CONTROL VALVE
- E. FIELD COORDINATE EXACT LOCATION OF JUNCTION BOX JB-03 AND ROUTING OF RELATED CONDUIT BETWEEN THE CONTROL PANEL AND FIELD DEVICES. PROVIDE ONE (1) EMPTY 1/2" CONDUIT FOR EACH TELECOMMUNICATIONS CIRCUIT BETWEEN JUNCTION BOX JB-03 AND THE FOLLOWING FIELD DEVICES:

- BLOWER 1 VIBRATION TRANSMITTER
- BLOWER 2 VIBRATION TRANSMITTER
- BLOWER 3 VIBRATION TRANSMITTER
- BLOWER 4 VIBRATION TRANSMITTER

POWER AND CONTROL CABLE SCHEDULE				
TAG NO.	CABLE NUMBER	CABLE TERMINATION	CONDUIT	NOTES
1	120VAC	CONTROL PANEL POWER SUPPLY	1/2"	CONNECT TO PANEL INLP1
11	02030103010	COMBINATION MOTOR STARTERDISCONNECT SWITCH	1/2"	BLOWER 1 HAND STATUS (DI)
	02030103020			BLOWER 1 AUTO STATUS (DI)
	02030103030			BLOWER 1 RUN STATUS (DI)
	02030103040			BLOWER 1 FAULT STATUS (DI)
12	02030103050	SWGR-BLR (BLOWER 2 LV COMPARTMENT)	3/4"	BLOWER 2 HAND STATUS (DI)
	02030103060			BLOWER 2 AUTO STATUS (DI)
	02030103070			BLOWER 2 RUN STATUS (DI)
	02030103080			BLOWER 2 FAULT STATUS (DI)
13	02030103090	SWGR-BLR (BLOWER 3 LV COMPARTMENT)	3/4"	BLOWER 3 HAND STATUS (DI)
	02030103100			BLOWER 3 AUTO STATUS (DI)
	02030103110			BLOWER 3 RUN STATUS (DI)
	02030103120			BLOWER 3 FAULT STATUS (DI)
14	02030103130	SWGR-BLR (BLOWER 4 LV COMPARTMENT)	3/4"	BLOWER 4 HAND STATUS (DI)
	02030103140			BLOWER 4 AUTO STATUS (DI)
	02030103150			BLOWER 4 RUN STATUS INPUT (DI)
	02030103160			BLOWER 4 FAULT STATUS (DI)
15	0BL-03010	BLOWER 1 VALVE (Z-0301)	3/4"	BLOWER 1 DISCHARGE VALVE POSITION (AI)
16	0BL-03030	BLOWER 1 TRANSMITTER (F-0303)		BLOWER 1 AIR FLOW TRANSMITTER (AI)
17	0BL-03050	BLOWER 2 VALVE (Z-0305)		BLOWER 2 DISCHARGE VALVE POSITION (AI)
18	0BL-03070	BLOWER 2 TRANSMITTER (F-0307)		BLOWER 2 AIR FLOW TRANSMITTER (AI)
19	0BL-03090	BLOWER 3 VALVE (Z-0309)	3/4"	BLOWER 3 DISCHARGE VALVE POSITION (AI)
20	0BL-03410	BLOWER 3 TRANSMITTER (F-0341)		BLOWER 3 AIR FLOW TRANSMITTER (AI)
21	0BL-03430	BLOWER 4 VALVE (Z-0343)		BLOWER 4 DISCHARGE VALVE POSITION (AI)
22	0BL-03450	BLOWER 4 TRANSMITTER (F-0345)		BLOWER 4 AIR FLOW TRANSMITTER (AI)
23	0BL-531	CV-531	3/4"	BLOWER 1 CONTROL VALVE (AO)
24	0BL-533	CV-533		BLOWER 2 CONTROL VALVE (AO)
25	0BL-535	CV-535		BLOWER 3 CONTROL VALVE (AO)
26	0BL-537	CV-537		BLOWER 4 CONTROL VALVE (AO)
27	050101331	CS-5501 (COMBINATION MOTOR STARTERDISCONNECT SWITCH)	1/2"	BLOWER 1 START COMMAND (DO)
28	050201321	CS-5503 (SWGR-BLR (BLOWER 2 LV COMPARTMENT))	3/4"	BLOWER 2 START COMMAND (DO)
29	050301331	CS-5503 (SWGR-BLR (BLOWER 3 LV COMPARTMENT))	3/4"	BLOWER 3 START COMMAND (DO)
30	050401331	CS-5504 (SWGR-BLR (BLOWER 2 LV COMPARTMENT))	3/4"	BLOWER 4 START COMMAND (DO)
31	ETHCBL01490A	BLOWER 1 VIBRATION TRANSMITTER (EXG)		ETHERNET CABLE
32	ETHCBL01490A	BLOWER 2 VIBRATION TRANSMITTER (EXG)		ETHERNET CABLE
33	ETHCBL01470A	BLOWER 3 VIBRATION TRANSMITTER (EXG)		ETHERNET CABLE
34	ETHCBL01490A	BLOWER 4 VIBRATION TRANSMITTER (EXG)		ETHERNET CABLE

MACON WATER AUTHORITY

REPLACE 4160V GEAR  
AND MCC - BLOWER  
BLDG LOWER POPLAR  
WWTP

1101 LOWER POPLAR STREET  
MACON, GEORGIA 31201



DESIGNER



CLARK NEXSEN

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MACON, GEORGIA 31210  
478-743-8415

PROFESSIONAL SEAL



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SHEET

CONTROL WIRING DIAGRAMS

E603

DESIGN: DCG  
DRAWN: MSW  
REVIEW: PJR

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