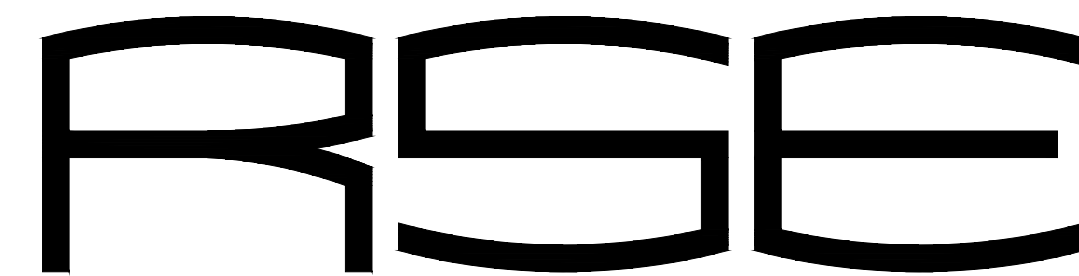


VOLUME 2 -  
REPLACE BOILERS AND CONTROLS,  
POWER PLANT  
FARMINGTON CORRECTIONAL CENTER  
FARMINGTON, MISSOURI

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ROGERS-SCHMIDT ENGINEERING CO., P.C.

CONSULTING ENGINEERS  
MISSOURI STATE CERTIFICATE  
OF AUTHORITY #000408

OWNER: STATE OF MISSOURI  
MICHAEL L. PARSON,  
GOVERNOR  
  
DEPARTMENT OF CORRECTIONS

PROJECT  
MANAGEMENT: OFFICE OF ADMINISTRATION  
DIVISION OF FACILITIES MANAGEMENT,  
DESIGN AND CONSTRUCTION

DESIGNER: ROGERS-SCHMIDT ENGINEERING CO., PC.  
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PROJECT NUMBER: C2006-01  
SITE NUMBER: 7008  
ASSET NUMBER: POWER PLANT - 9327008094

SHEET NUMBER:

**G-001**

01 OF 24 SHEETS  
APRIL 26, 2023



CHRISTOPHER L. BARTH  
Registered Professional Engineer  
MO # E-28880  
Expires 12-31-2023

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FARMINGTON, MO 63640

PROJECT # C2006-01  
SITE # 7008  
ASSET # 9327008094

REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
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DATE: \_\_\_\_\_

ISSUE DATE: 04/26/2023

CAD DWG FILE: C2007-01-9237-9327008094-G-002.DWG

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CHECKED BY: CLB  
DESIGNED BY: CLB

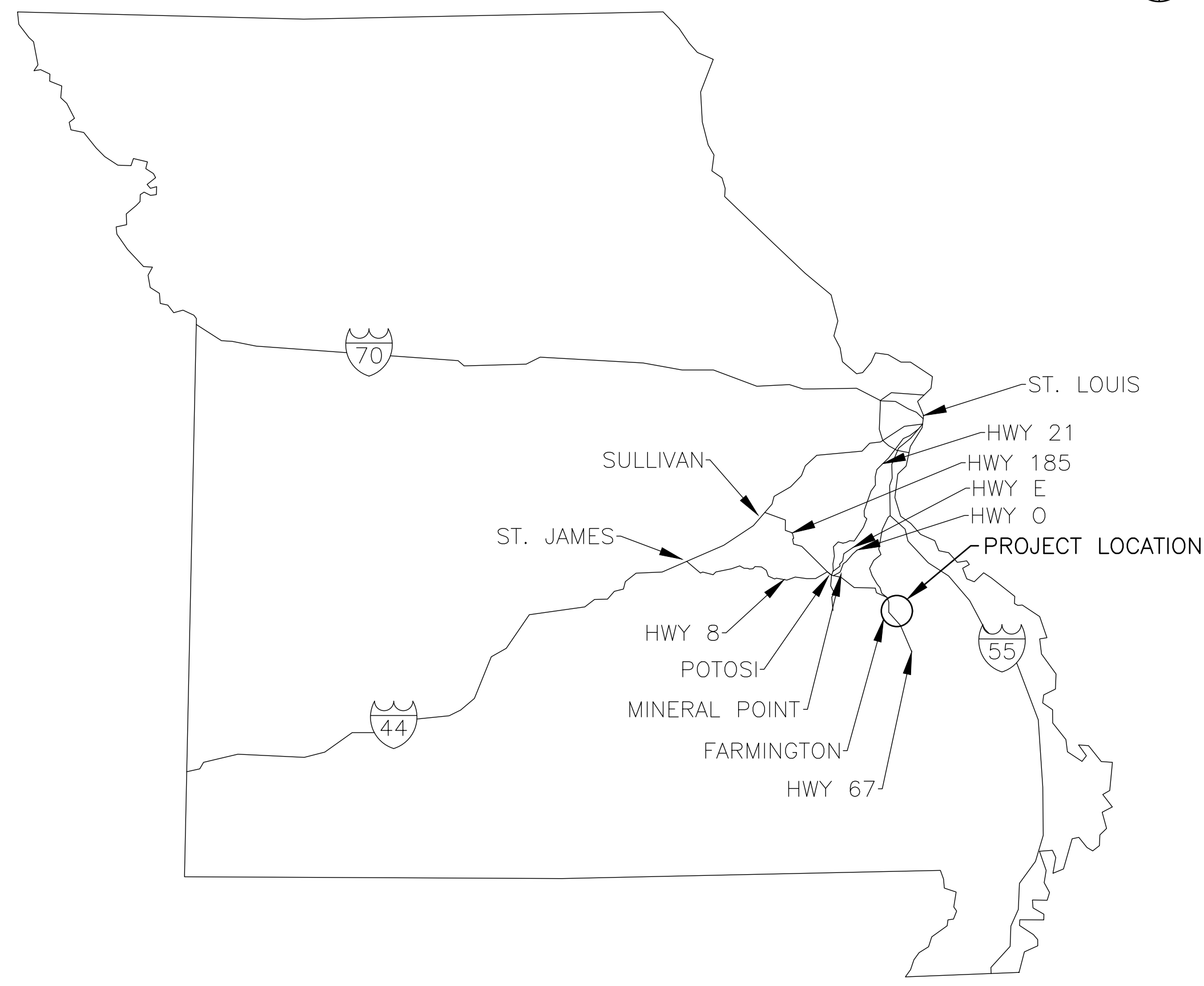
SHEET TITLE:  
SITE MAPS AND  
DRAWING INDEX

SHEET NUMBER:

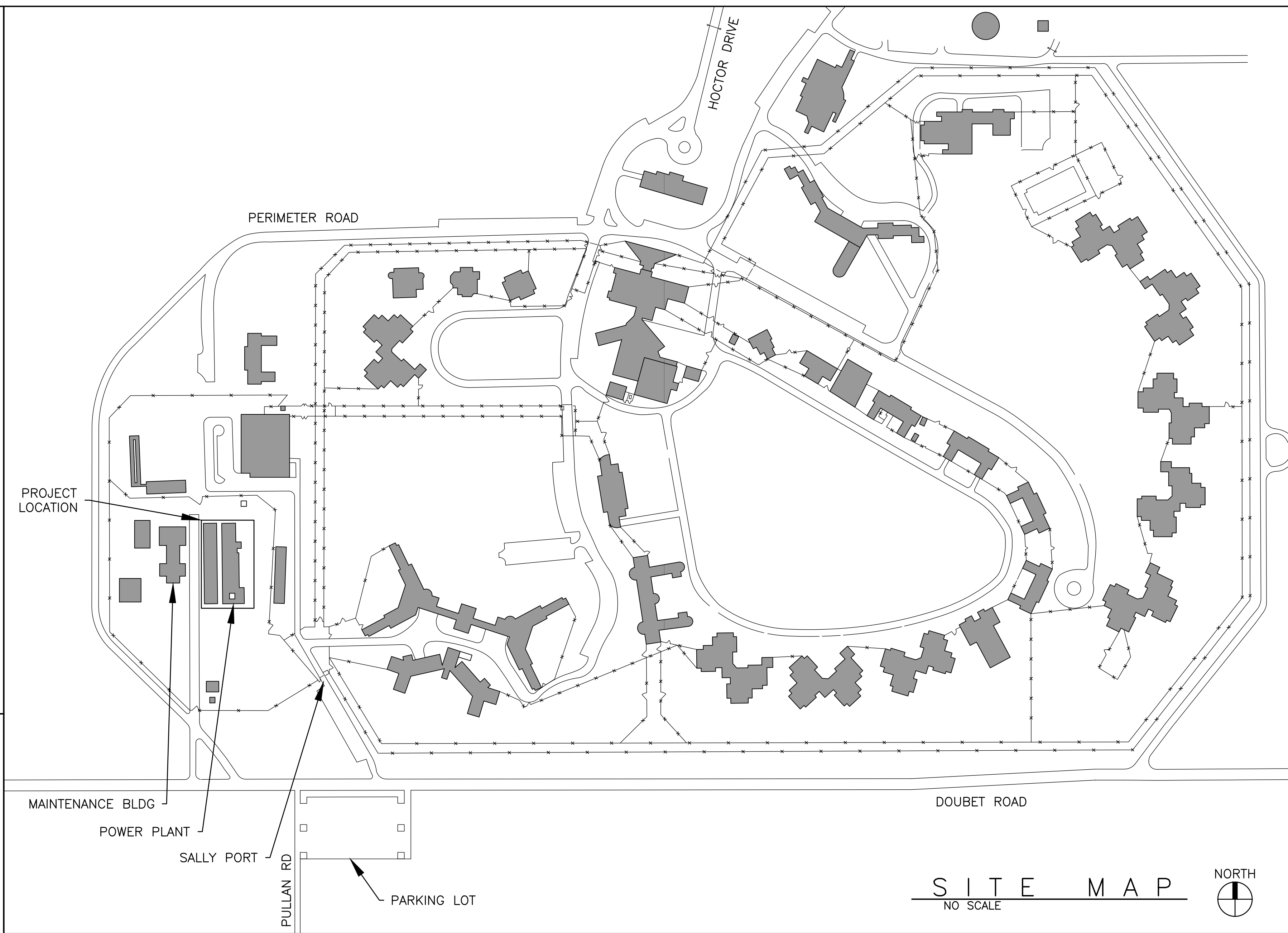
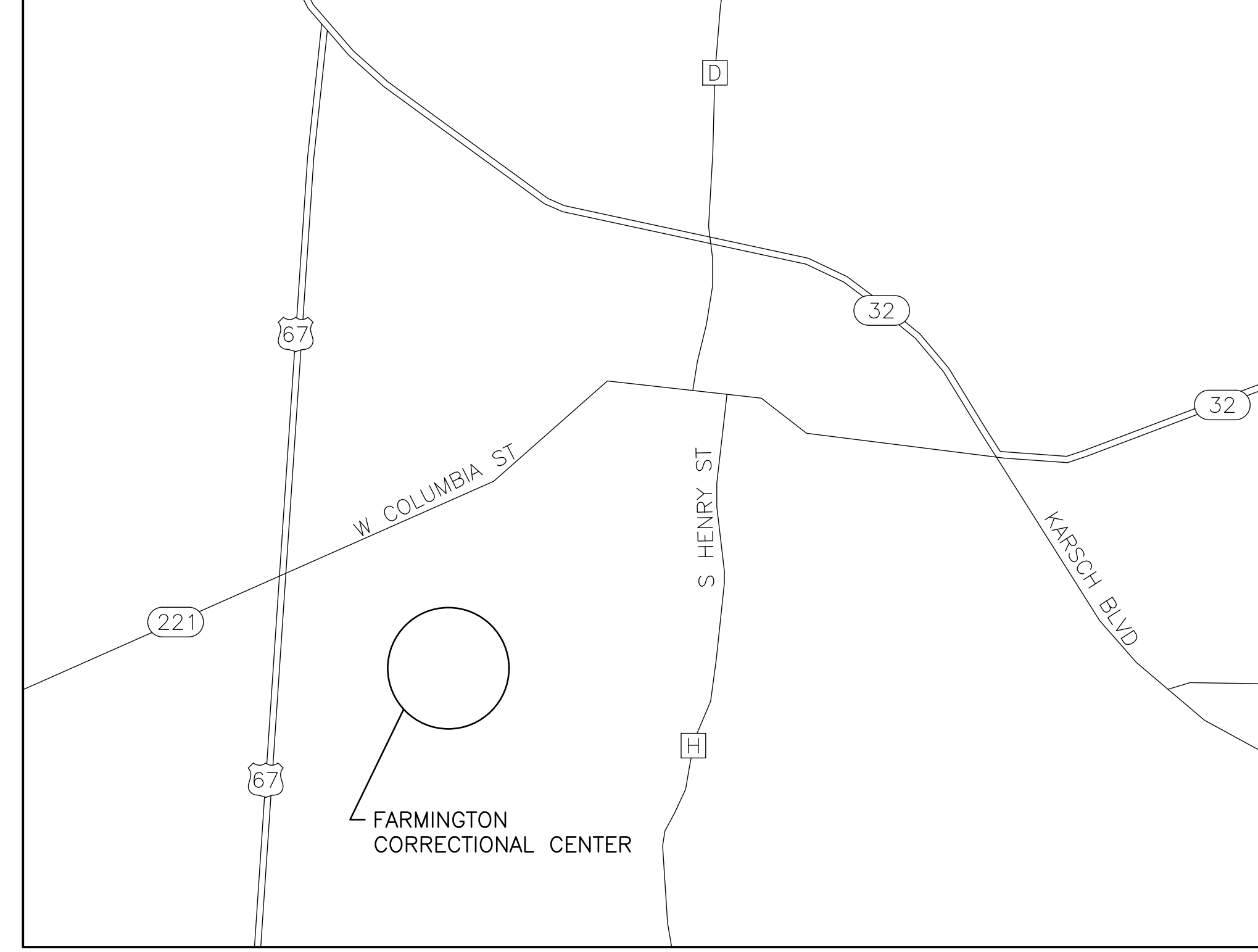
**G-002**

02 OF 24 SHEETS  
APRIL 26, 2023

LOCATION MAP  
NO SCALE



LOCATION MAP  
NO SCALE



SITE MAP  
NO SCALE

DRAWING INDEX			DRAWING INDEX		
SHT	DRAWING NO.	DRAWING TITLE	SHT	DRAWING NO.	DRAWING TITLE
01	G-001	TITLE SHEET	19	E-001	ELECTRICAL SYMBOLS, ABBREVIATIONS & GENERAL NOTES
02	G-002	SITE MAPS AND DRAWING INDEX	20	ED-401	ELECTRICAL DEMOLITION PLAN - POWER PLANT
03	G-003	CONSTRUCTION LIMITS, SCHEDULE & PHASING	21	E-401	ELECTRICAL PLAN - POWER PLANT
04	SD-401	STRUCTURAL DEMOLITION PLAN - POWER PLANT - H2O TREATMENT	22	E-501	SCHEDULES, DETAILS & ELEVATIONS
05	SD-402	STRUCTURAL DEMOLITION PLAN - POWER PLANT - BASEMENT	23	E-601	ONE-LINE DIAGRAM - NORTH
06	S-401	STRUCTURAL PLAN - POWER PLANT - H2O TREATMENT	24	E-602	MOTOR WIRING SCHEMATIC
07	S-402	STRUCTURAL SECTIONS & DETAILS			
08	MD-401	MECHANICAL DEMOLITION PLAN - POWER PLANT			
09	MD-601	FLOW DIAGRAM - DEMOLITION - H2O TREATMENT			
10	M-401	MECHANICAL PLAN - POWER PLANT - H2O TREATMENT			
11	M-501	MECHANICAL - DETAILS			
12	M-600	MECHANICAL - SYMBOLS & SCHEDULES			
13	M-601	FLOW DIAGRAM - H2O TREATMENT			
14	M-602	FLOW DIAGRAM - RO WATER SYSTEM			
15	MP-401	MECHANICAL PIPING PLAN - POWER PLANT - LOW			
16	MP-402	MECHANICAL PIPING PLAN - POWER PLANT - HIGH			
17	MP-403	MECHANICAL PIPING PLANS - POWER PLANT - EAST			
18	P-401	PLUMBING PLAN - POWER PLANT - H2O TREATMENT			



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DRAWN BY: CLB  
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SHEET TITLE:  
**CONSTRUCTION  
LIMITS, SCHEDULE  
& PHASING**

SHEET NUMBER:

**G-003**

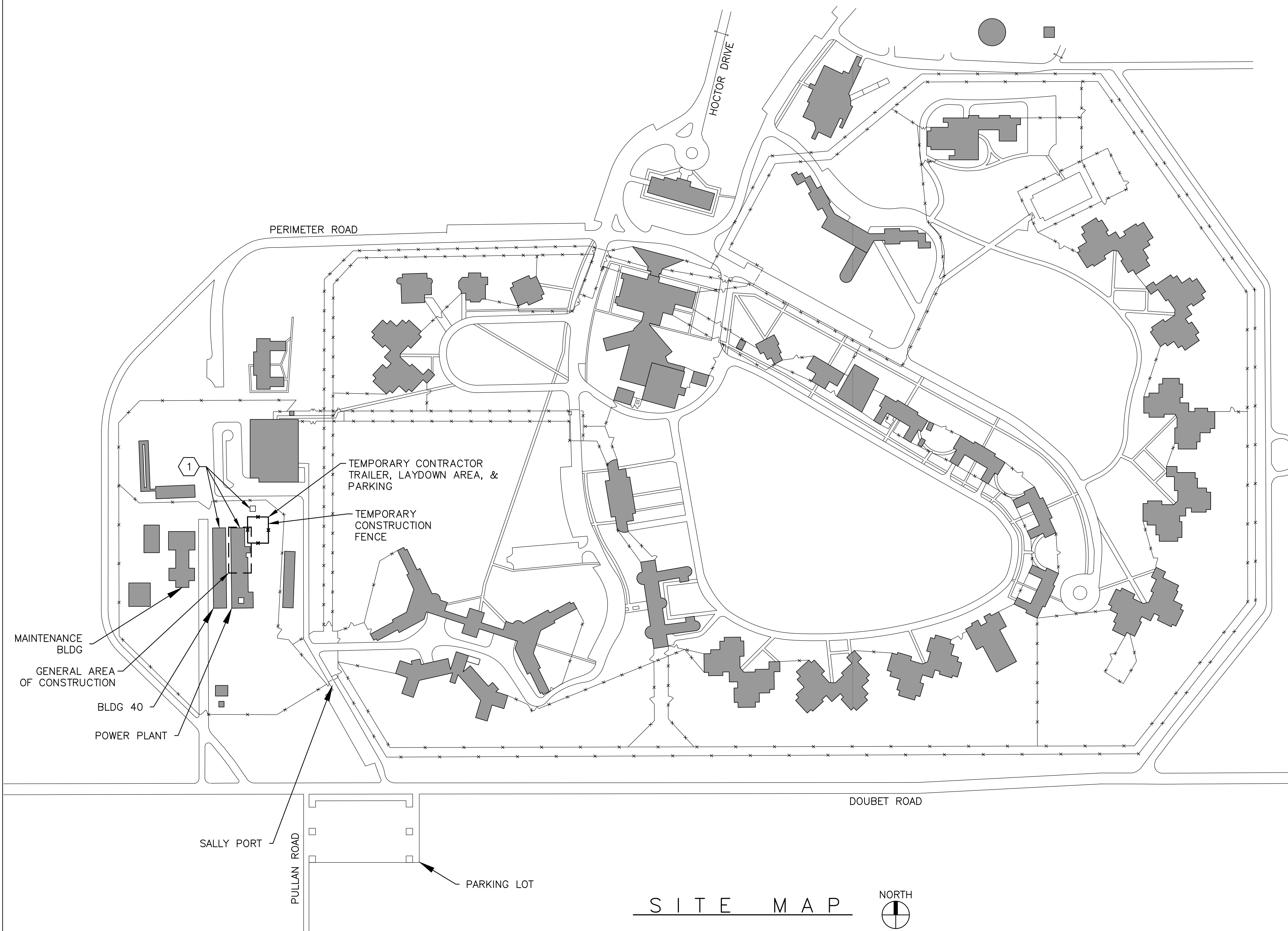
03 OF 24 SHEETS  
APRIL 26, 2023

**PROJECT GENERAL NOTES:**

- COORDINATE CONSTRUCTION FENCE, LAYDOWN AREA AND CONTRACTOR PARKING WITH CONSTRUCTION REPRESENTATIVE.
- LAYDOWN AREA SHALL BE APPROVED BY THE CONSTRUCTION REPRESENTATIVE & RESTORED TO ORIGINAL CONDITION AFTER CONSTRUCTION IS COMPLETE.
- CONTRACTOR SHALL NOT BLOCK ACCESS TO ANY MANHOLE OR VALVE BOX.
- USE RUBBER TIRE EQUIPMENT IN PLANTED AREAS.
- DO NOT STORE EQUIPMENT OR MATERIAL IN AREA OF TREES. PROTECT TREES FROM DAMAGE UNLESS NOTED OTHERWISE. TRIM TREES AS REQUIRED PRIOR TO CONSTRUCTION, SUBJECT TO APPROVAL OF CONSTRUCTION REPRESENTATIVE.
- INSTALL CONSTRUCTION FENCING AROUND THE DRIP LINES OF ALL TREES IN WORK AREAS.
- DOCUMENT EXISTING CONDITIONS WITH PHOTOGRAPHS PRIOR TO PROCEEDING.
- REPAIR ALL DAMAGE TO EXISTING FACILITIES CAUSED BY CONSTRUCTION TO SATISFACTION OF THE CONSTRUCTION REPRESENTATIVE. MATCH EXISTING CONSTRUCTION AND FINISH.
- COMPLY WITH THE INTERNATIONAL FIRE CODE INCLUDING THE REQUIREMENTS FOR FIRE SAFETY DURING CONSTRUCTION AND DEMOLITION AND FOR WELDING AND OTHER HOT WORK. MAINTAIN A HOT WORK PROGRAM PERMIT SYSTEM.
- MINIMIZE HOT WORK WITHIN THE BUILDING.
- PROVIDE A FIRE WATCH FOR ALL DEMOLITION AND CONSTRUCTION HOT WORK (CUTTING, GRINDING, WELDING, SOLDERING, ETC.). MAINTAIN FIRE WATCH FOR AT LEAST 1 HOUR AFTER COMPLETION OF HOT WORK.
- IDENTIFY & PROTECT ALL CONSTRUCTION AREAS WITH SIGNS AND SAFETY BARRIERS TO THE SATISFACTION OF THE CONSTRUCTION REPRESENTATIVE.
- SECURE ALL CONSTRUCTION AREAS WITH BARRIERS & LOCKS AS REQUIRED TO PREVENT ACCESS BY RESIDENTS OR UNAUTHORIZED PERSONS AT ALL TIMES.
- SECURE ALL MECHANICAL & ELECTRICAL ROOMS WHEN UNOCCUPIED.
- SECURE ALL HAND TOOLS IN LOCKED TOOL BOXES & LOCK ALL EQUIPMENT WHEN NOT IN USE.
- ALL UNSECURED MATERIAL, TOOLS, ETC. MUST BE REMOVED FROM THE FACILITY AT THE END OF EACH WORK DAY.
- AVAILABLE INFORMATION INDICATES PROJECT WORK AREAS HAVE BEEN ABATED OF HAZARDOUS MATERIALS, EXCEPT FOR ITEMS SPECIFICALLY NOTED ON THE DEMOLITION DRAWINGS. ADDRESS ANY ADDITIONAL SUSPECTED HAZARDOUS MATERIALS WITH OWNER'S REPRESENTATIVE.

**KEY NOTES:**

- MAINTAIN ACCESS TO BLDG 40, POWER PLANT, AND HAZARDOUS MATERIAL STORAGE.

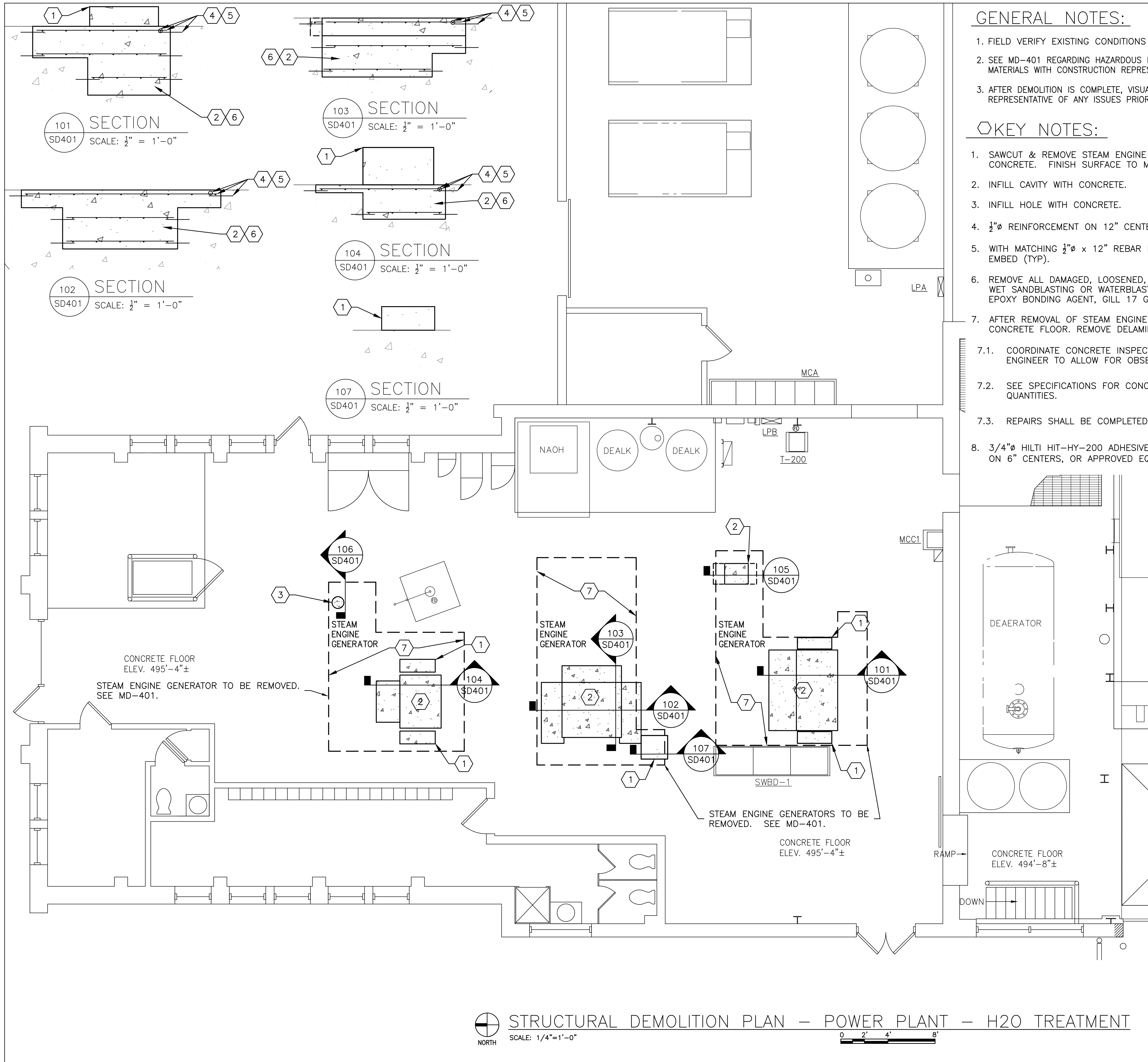


**S I T E M A P**



**CONSTRUCTION PHASING & SCHEDULING:**

- THE PROJECT SHALL BE COMPLETED AS NECESSARY TO PROVIDE UNINTERRUPTED OPERATION OF THE FACILITY. THE SEQUENCING, PHASING AND SCHEDULING OF ALL WORK SHALL BE DEPENDENT ON AND SUBJECT TO FACILITY OPERATIONS.
- THE NATURE OF THIS PROJECT REQUIRES A HIGH LEVEL OF COORDINATION BY CONTRACTOR WITH OWNER.
- ALL WORK SHALL BE SCHEDULED WITH THE CONSTRUCTION REPRESENTATIVE AND BE SUBJECT TO FACILITY APPROVAL PRIOR TO PROCEEDING.
- THE PROJECT REQUIRES OUTAGES TO BUILDING SYSTEMS. CONTRACTOR SHALL COMPLETE ALL RELATED WORK TO THE MAXIMUM EXTENT POSSIBLE PRIOR TO THE START OF OUTAGES. CONTRACTOR SHALL HAVE ALL REQUIRED MATERIALS ON SITE PRIOR TO START OF OUTAGES.
- TIE-INS TO BUILDING SYSTEMS SHALL BE MADE DURING APPROVED OUTAGES AND WORK SHALL BE DONE AROUND-THE-CLOCK UNTIL THE TIE-IN IS COMPLETED.
- ANY OUTAGES OVER 4 HOURS IN DURATION WHICH AFFECT FIRE PROTECTION, FIRE ALARM, DEDICATED TELEPHONE, OR EMERGENCY MANAGEMENT SYSTEMS REQUIRE FIRE WATCHES. CONTRACTOR IS RESPONSIBLE FOR CONDUCTING FIRE WATCHES IN ALL AFFECTED AREAS.
- OUTAGES SHALL BE COORDINATED WITH THE CONSTRUCTION REPRESENTATIVE AND ARE WEATHER DEPENDENT. CONTRACTOR SHALL NOTIFY CONSTRUCTION REPRESENTATIVE TWO (2) WEEKS IN ADVANCE OF DESIRED OUTAGE TIME. CONSTRUCTION REPRESENTATIVE WILL GIVE CONTRACTOR 72 HOURS ADVANCE NOTICE OF ACTUAL TIME FOR OUTAGE.
- STEAM OUTAGES SHALL BE COMPLETED DURING ACCEPTABLE WEATHER CONDITIONS (ABOVE 50°F OUTDOOR AIR TEMPERATURE), UNLESS APPROVED OTHERWISE BY CONSTRUCTION REPRESENTATIVE.
- EXISTING MAKE-UP WATER AND CONDENSATE SYSTEMS SHALL REMAIN IN SERVICE UNTIL NEW SYSTEMS ARE INSTALLED & READY FOR SERVICE & APPROVED FOR REMOVAL BY CONSTRUCTION REPRESENTATIVE. PHASE DEMOLITION & CONSTRUCTION AS REQUIRED.
- LIMIT DEARATOR, MAKE-UP WATER, CONDENSATE SYSTEM, AND ELECTRICAL OUTAGES TO NO MORE THAN 8 HOURS, UNLESS APPROVED OTHERWISE BY CONSTRUCTION REPRESENTATIVE.
- ALL SITE CONSTRUCTION ACTIVITIES SHALL BE LIMITED TO 7:00 AM TO 3:30 PM ON MONDAY THRU FRIDAY, UNLESS APPROVED OTHERWISE IN ADVANCE BY CONSTRUCTION REPRESENTATIVE.
- NO WORK IS TO TAKE PLACE ON WEEKENDS OR STATE OBSERVED HOLIDAYS UNLESS APPROVED IN WRITING IN ADVANCE BY CONSTRUCTION REPRESENTATIVE.

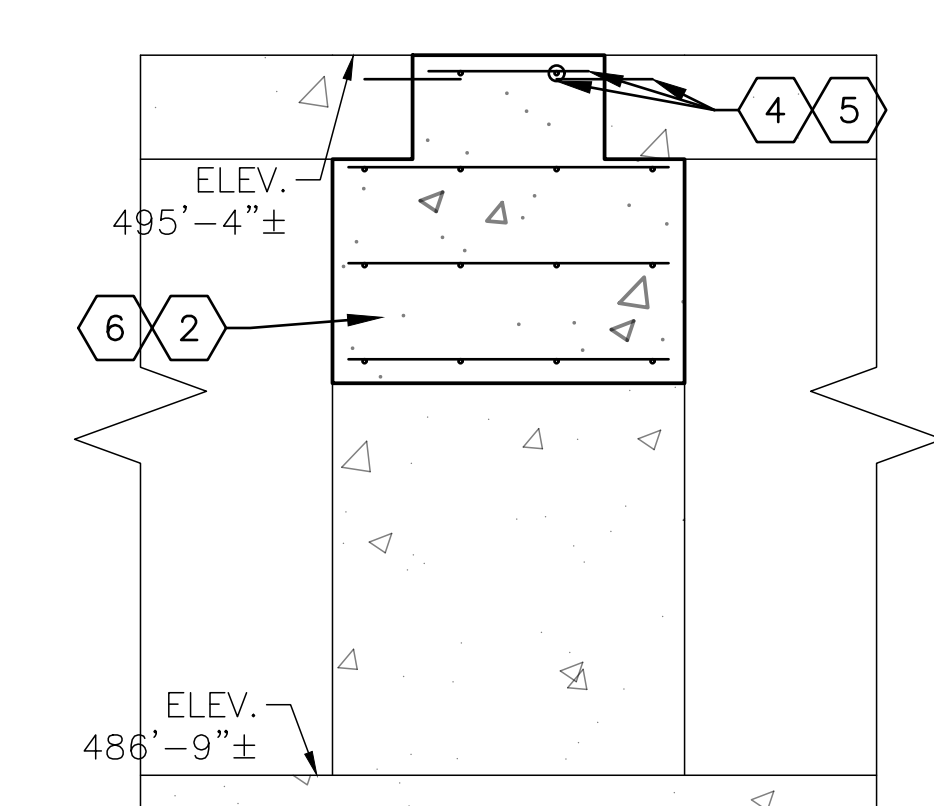


**GENERAL NOTES:**

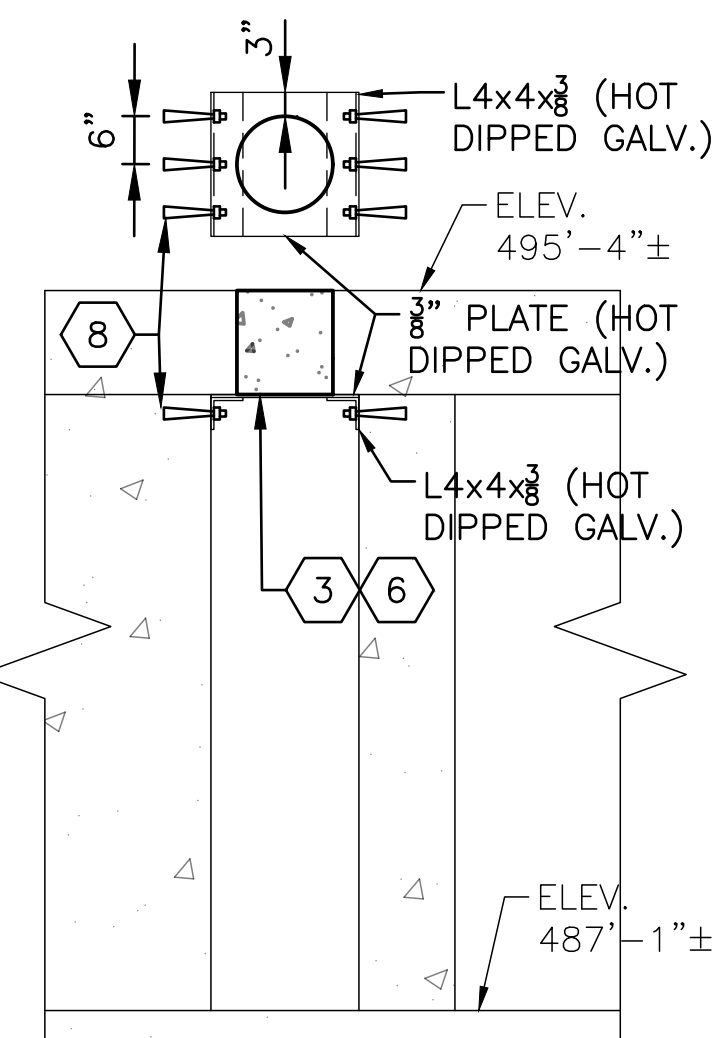
1. FIELD VERIFY EXISTING CONDITIONS PRIOR TO PROCEEDING.
2. SEE MD-401 REGARDING HAZARDOUS MATERIALS. ADDRESS ANY SUSPECTED ADDITIONAL HAZARDOUS MATERIALS WITH CONSTRUCTION REPRESENTATIVE.
3. AFTER DEMOLITION IS COMPLETE, VISUALLY INSPECT INFRASTRUCTURE TO REMAIN & ADVISE OWNER'S REPRESENTATIVE OF ANY ISSUES PRIOR TO PROCEEDING WITH NEW CONSTRUCTION.

**KEY NOTES:**

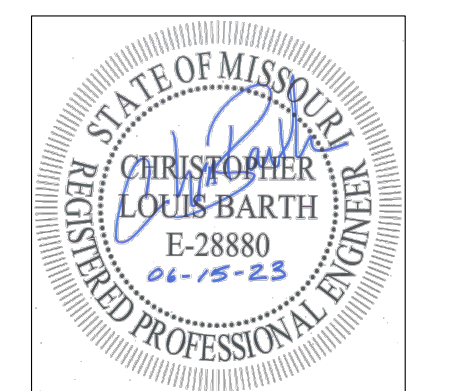
1. SAWCUT & REMOVE STEAM ENGINE GENERATOR CONCRETE PEDESTAL. REPAIR DAMAGED CONCRETE. FINISH SURFACE TO MATCH ADJACENT CONCRETE.
2. INFILL CAVITY WITH CONCRETE.
3. INFILL HOLE WITH CONCRETE.
4. 3/4"Ø REINFORCEMENT ON 12" CENTERS, EACH WAY (TYP).
5. WITH MATCHING 1/2"Ø x 12" REBAR DOWELS. EPOXY GROUT INTO EXISTING CONCRETE WITH 6" EMBED (TYP).
6. REMOVE ALL DAMAGED, LOOSENED, OR SPALLING CONCRETE & CLEAN EXISTING CONCRETE WITH WET SANDBLASTING OR WATERBLASTING TO OBTAIN GOOD BOND WITH NEW CONCRETE. APPLY EPOXY BONDING AGENT, GILL 17 GILL LOCK, OR APPROVED EQUAL, PRIOR TO PLACING CONCRETE.
7. AFTER REMOVAL OF STEAM ENGINE GENERATOR, CLEAN & VISUALLY INSPECT AND HAMMER SOUND CONCRETE FLOOR. REMOVE DELAMINATED OR DAMAGED CONCRETE & REPAIR AS REQUIRED.
  - 7.1. COORDINATE CONCRETE INSPECTION, REMOVAL, & REPAIRS WITH OWNER'S REPRESENTATIVE & ENGINEER TO ALLOW FOR OBSERVATION.
  - 7.2. SEE SPECIFICATIONS FOR CONCRETE & REINFORCEMENT REPAIR UNIT PRICES & BASE BID QUANTITIES.
  - 7.3. REPAIRS SHALL BE COMPLETED PRIOR TO INSTALLING NEW EQUIPMENT.
8. 3/4"Ø HILTI HIT-HY-200 ADHESIVE WITH HIT-TZ THREADED ANCHORS, MINIMUM 6" EMBEDMENT, ON 6" CENTERS, OR APPROVED EQUAL BY POWERS, OR RED HEAD.



105 SECTION  
SD401 SCALE: 1/2" = 1'-0"



106 SECTION  
SD401 SCALE: 1/2" = 1'-0"



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SITE # 7008  
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CHECKED BY: CLB  
DESIGNED BY: CLB

SHEET TITLE:  
**STRUCTURAL  
DEMOLITION PLAN  
- POWER PLANT -  
H2O TREATMENT**

SHEET NUMBER:

**SD-401**

04 OF 24 SHEETS  
APRIL 26, 2023



CHRISTOPHER L. BARTH  
Registered Professional Engineer  
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SHEET TITLE:  
**STRUCTURAL  
DEMOLITION PLAN  
- POWER PLANT -  
BASEMENT**

SHEET NUMBER:

**SD-402**

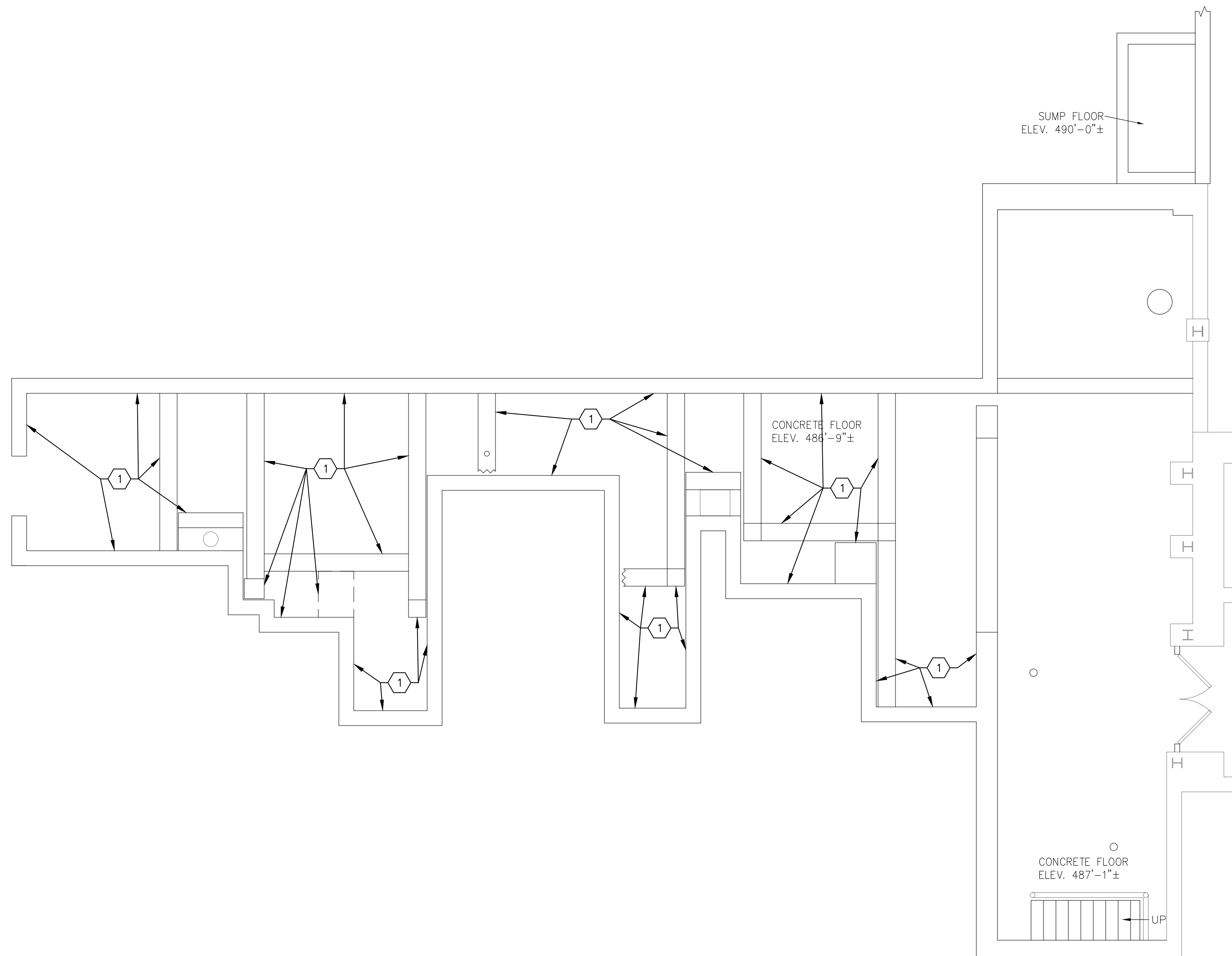
05 OF 24 SHEETS  
APRIL 26, 2023

GENERAL NOTES:

1. FIELD VERIFY EXISTING CONDITIONS PRIOR TO PROCEEDING.
2. SEE MD-401 REGARDING HAZARDOUS MATERIALS. ADDRESS ANY SUSPECTED ADDITIONAL HAZARDOUS MATERIALS WITH CONSTRUCTION REPRESENTATIVE.
3. AFTER DEMOLITION IS COMPLETE, VISUALLY INSPECT INFRASTRUCTURE TO REMAIN & ADVISE OWNER'S REPRESENTATIVE OF ANY ISSUES PRIOR TO PROCEEDING WITH NEW CONSTRUCTION.

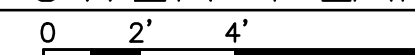
KEY NOTES:

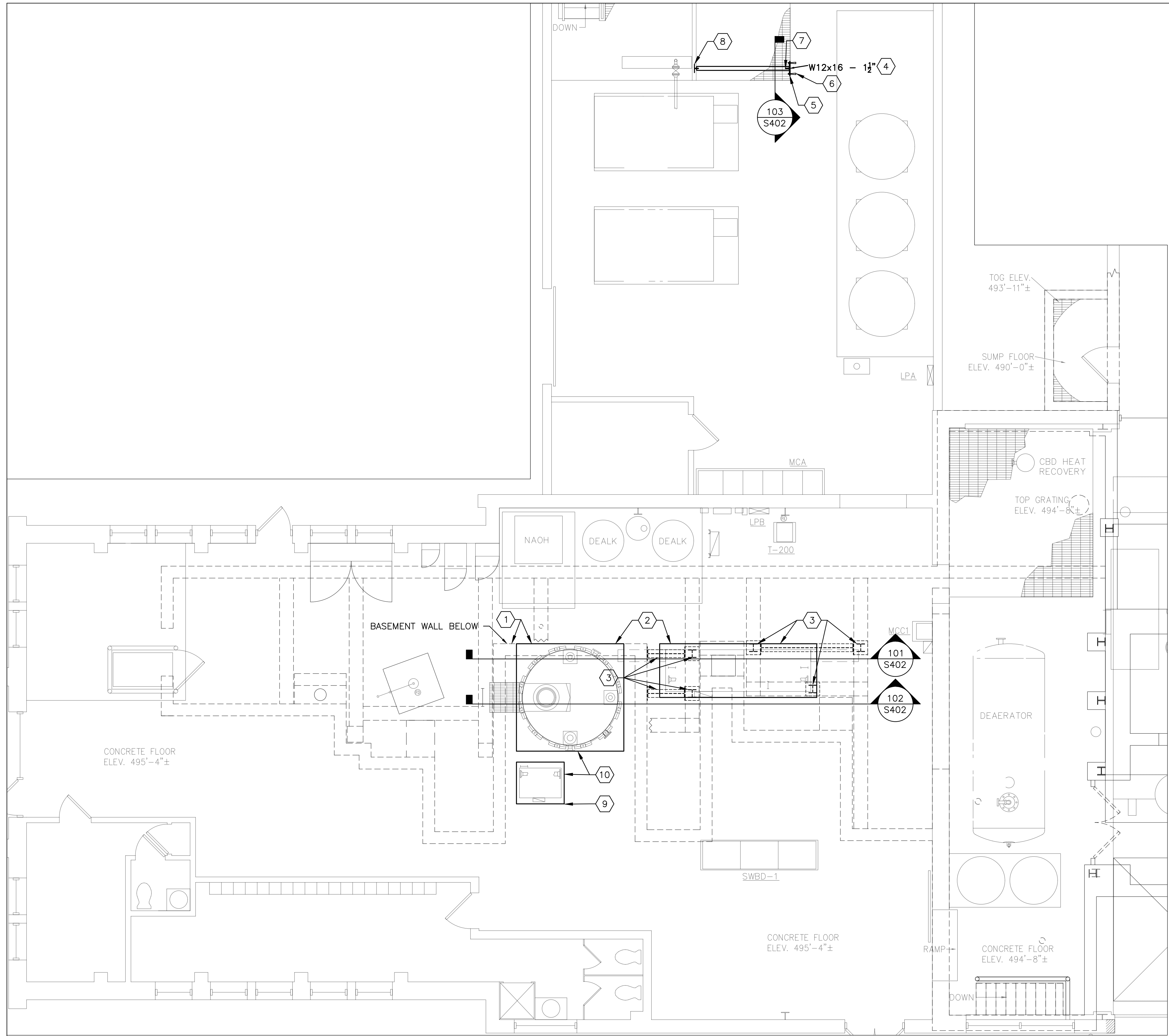
1. AFTER REMOVAL OF STEAM ENGINE GENERATORS (ABOVE), VISUALLY INSPECT AND HAMMER SOUND CONCRETE BEAMS, COLUMNS, & WALLS IN BASEMENT. REMOVE DELAMINATED OR DAMAGED CONCRETE & REPAIR AS REQUIRED.
  - 1.1. COORDINATE CONCRETE INSPECTION, REMOVAL, & REPAIRS WITH OWNER'S REPRESENTATIVE & ENGINEER TO ALLOW FOR OBSERVATION.
  - 1.2. SEE SPECIFICATIONS FOR CONCRETE & REINFORCEMENT REPAIR UNIT PRICES & BASE BID QUANTITIES.
  - 1.3. PROVIDE TEMPORARY SHORING OF BEAMS & FLOOR AS REQUIRED TO COMPLETE REPAIRS.
  - 1.4. LIMIT REPAIR AREA SIZE TO PREVENT COMPROMISING STABILITY OR STRENGTH OF STRUCTURE.
  - 1.5. REPAIRS SHALL BE COMPLETED PRIOR TO INSTALLING NEW EQUIPMENT.



STRUCTURAL DEMOLITION PLAN - POWER PLANT - BASEMENT

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





**GENERAL NOTES:**

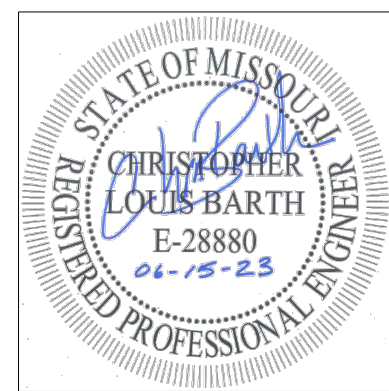
1. FIELD VERIFY EXISTING CONDITIONS PRIOR TO PROCEEDING.
3. COORDINATE NEW EQUIPMENT PAD SIZE & LOCATION WITH EQUIPMENT PROVIDED.
4. REVIEW EQUIPMENT PAD LOCATIONS WITH OWNER'S REPRESENTATIVE PRIOR TO PROCEEDING.
5. PROVIDE ANCHOR BOLTS FOR NEW EQUIPMENT AS REQUIRED. COORDINATE LOCATIONS, SIZES, AND QUANTITIES WITH EQUIPMENT PROVIDED.
- 5.1. CONCRETE ANCHOR BOLTS TO BE HILTI HIT-HY-200 ADHESIVE WITH HIT-TZ THREADED ANCHORS, MINIMUM 6" EMBEDMENT, OR APPROVED EQUAL BY POWERS, OR RED HEAD.

**KEY NOTES:**

1. INSTALL TANK PAD WEST OF BASEMENT WALL. DO NOT CANTILEVER PAD OVER UNSUPPORTED FLOOR.
2. EAST FACE OF RO PAD TO MATCH FACE OF TANK PAD.
3. INSTALL BEAMS & COLUMNS IN BASEMENT BELOW TO SUPPORT NEW EQUIPMENT. LOCATE BELOW NEW RO SKID CONCRETE HOUSEKEEPING PAD.
4. INSTALL NEW W12 FOR SUPPORT OF BACKFLOW PREVENTER & ASSOCIATED PIPE. COORDINATE LOCATION WITH PIPING CONTRACTOR.
5. 1/2"x14"x14" PLATE WITH FOUR 3/4"Ø ANCHOR BOLTS.
6. BOLT PLATE TO CONCRETE WITH FOUR 3/4"Ø HILTI HIT-HY-200 ADHESIVE WITH HIT-TZ THREADED ANCHORS, MINIMUM 6" EMBEDMENT, OR APPROVED EQUAL BY POWERS, OR RED HEAD.
7. TWO CLIP ANGLES, THIS END = 2L-4x4x5/8x8 1/2. BOLT TO BEAM WITH 3-3/4"Ø A325-N BOLTS AT 3" CENTERS. WELD TO PLATE WITH 5/8" FILLET WELD.
8. TWO CLIP ANGLES, THIS END = 2L-4x4x5/8x8 1/2. BOLT TO BEAMS WITH 3-3/4"Ø A325-N BOLTS AT 3" CENTERS.
9. INSTALL NEW PUMP PAD.
10. COORDINATE PAD HEIGHTS WITH MECHANICAL CONTRACTOR SO THAT PIPE CONNECTION ELEVATIONS AT PUMP & TANK ARE THE SAME.

**STRUCTURAL PLAN - POWER PLANT**  
 NORTH SCALE: 1/4"=1'-0" 0 2' 4' 8'

STATE OF MISSOURI  
 MICHAEL L. PARSON,  
 GOVERNOR



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SHEET TITLE:  
**STRUCTURAL  
 PLAN - POWER  
 PLANT - H2O  
 TREATMENT**

SHEET NUMBER:

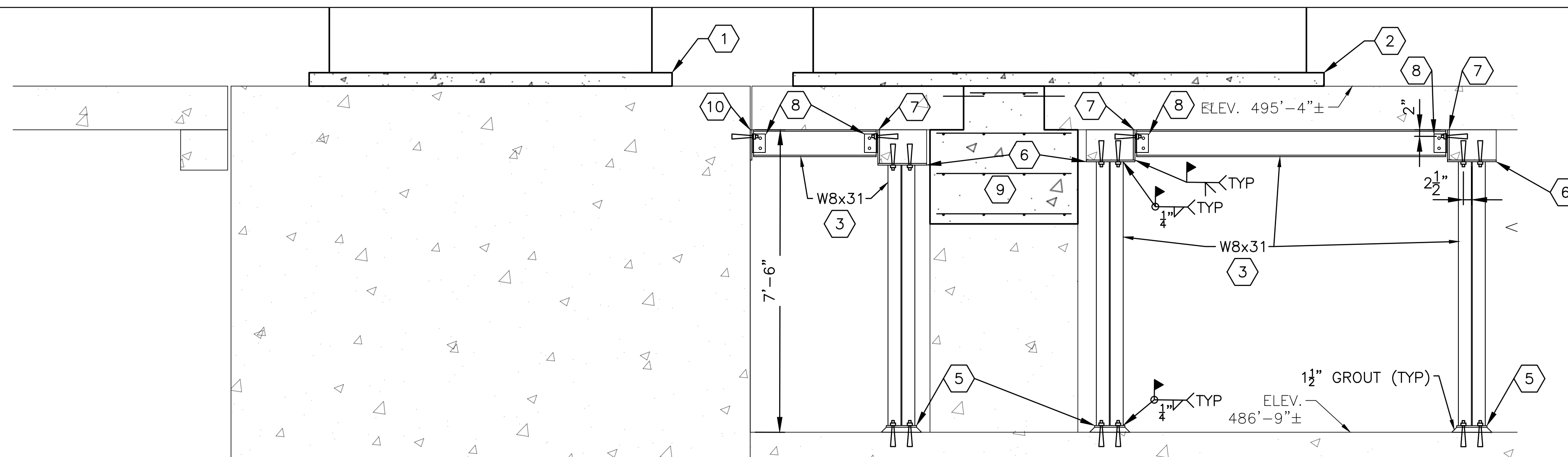
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06 OF 24 SHEETS  
 APRIL 26, 2023

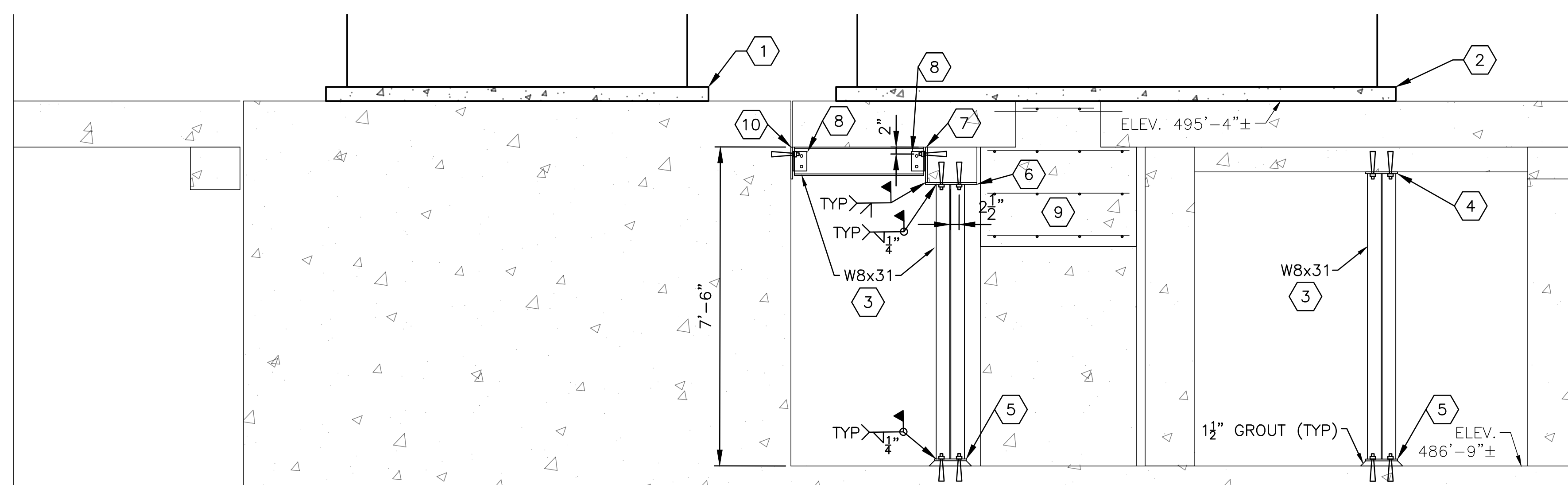


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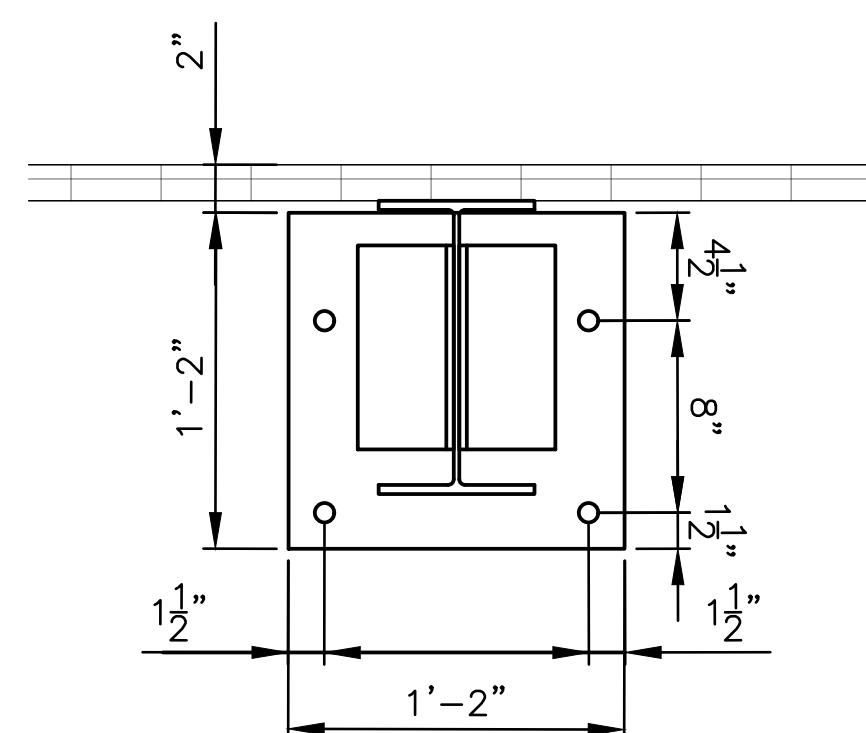
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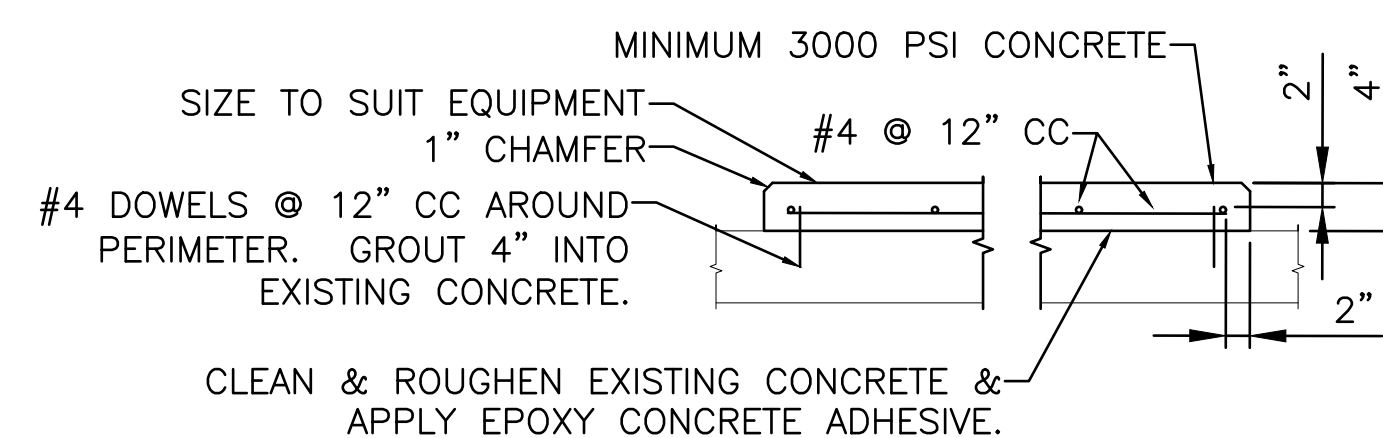
101 SECTION  
S402 SCALE: 1/2" = 1'-0" 0 1' 2' 4'



102 SECTION  
S402 SCALE: 1/2" = 1'-0" 0 1' 2' 4'



103 SECTION  
S402 SCALE: 1 1/2" = 1'-0"



TYPICAL DETAIL - EQUIPMENT PAD  
SCALE: NTS

KEY NOTES:

1. NEW RO TANK CONCRETE HOUSEKEEPING PAD. SEE TYPICAL DETAIL ON THIS SHEET.
2. NEW RO SKID CONCRETE HOUSEKEEPING PAD. SEE TYPICAL DETAIL ON THIS SHEET.
3. INSTALL BEAMS & COLUMNS IN BASEMENT TO SUPPORT NEW EQUIPMENT. LOCATE BELOW NEW RO SKID CONCRETE HOUSEKEEPING PAD.
4. 1/2"x9"x14" PLATE WITH TWO 3/4" ANCHOR BOLTS ON 5" CENTERS.
5. 1/2"x9"x9" PLATE WITH TWO 3/4" ANCHOR BOLTS ON 5" CENTERS.
6. 1/2"x14"x14 1/2" PLATE WITH TWO 3/4" ANCHOR BOLTS ON 5" CENTERS.
7. 1/2"x14" PLATE WITH TWO 3/4" ANCHOR BOLTS ON 10" CENTERS. HEIGHT TO MATCH EXISTING CONCRETE BEAM DEPTH.
8. L4x4x5/8x5 1/2", EACH SIDE, EACH END, WITH TWO 3/4" A325-N BOLTS TO BEAM, 1/8" FILLET WELD TO PLATE.
9. CONCRETE INFILL. SEE SD DRAWINGS.
10. 1/2"x14"x10" PLATE WITH TWO 3/4" ANCHOR BOLTS ON 10" CENTERS.

GENERAL NOTES:

1. FIELD VERIFY EXISTING CONDITIONS PRIOR TO PROCEEDING.
3. COORDINATE NEW EQUIPMENT PAD SIZE & LOCATION WITH EQUIPMENT PROVIDED.
4. REVIEW EQUIPMENT PAD LOCATIONS WITH CONSTRUCTION REPRESENTATIVE PRIOR TO PROCEEDING.
5. CONCRETE ANCHOR BOLTS TO BE HILTI HIT-HY-200 ADHESIVE WITH HIT-TZ THREADED ANCHORS, MINIMUM 6" EMBEDMENT, OR APPROVED EQUAL BY POWERS, OR RED HEAD.
6. INSTALL TOP OF NEW BEAMS TIGHT TO BOTTOM OF EXISTING FLOOR. DRY PACK GROUT INTO GAPS BETWEEN BEAM AND FLOOR.

OFFICE OF ADMINISTRATION  
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DEPARTMENT OF  
CORRECTIONS

VOLUME 2 -  
REPLACE BOILERS AND  
CONTROLS, POWER PLANT

FARMINGTON  
CORRECTIONAL CENTER  
1012 WEST COLUMBIA  
STREET,  
FARMINGTON, MO 63640

PROJECT # C2006-01  
SITE # 7008  
ASSET # 9327008094

REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_

ISSUE DATE: 04/26/2023

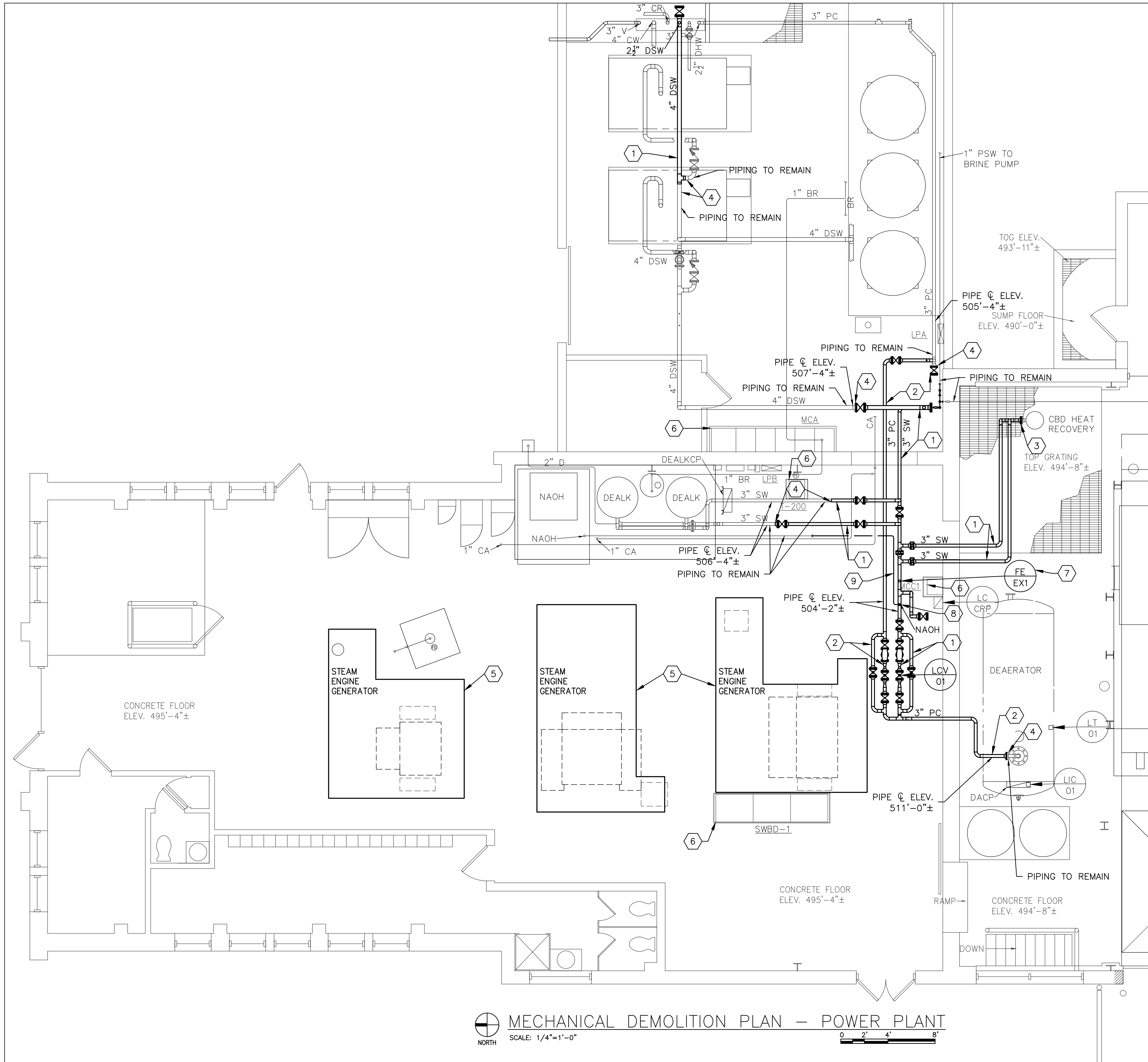
CAD DWG FILE: C2007-01-9237-  
9327008094-S-401.DWG  
DRAWN BY: CLB  
CHECKED BY: CLB  
DESIGNED BY: CLB

SHEET TITLE:  
STRUCTURAL  
SECTIONS &  
DETAILS

SHEET NUMBER:

S-402

07 OF 24 SHEETS  
APRIL 26, 2023



**GENERAL NOTES:**

1. FIELD VERIFY EXISTING CONDITIONS PRIOR TO PROCEEDING.
2. REMOVE, REINSTALL AND RETROFIT STRUCTURAL STEEL, PIPING, INSULATION, CONTROLS, ELECTRICAL, ETC. AS REQUIRED TO ACCOMMODATE DEMOLITION.
3. CAREFULLY REMOVE, STORE, AND REINSTALL EXISTING CONSTRUCTION TO REMAIN AS REQUIRED. TOUCH-UP PAINT AS REQUIRED. REPLACE EXISTING CONSTRUCTION DAMAGED BY CONTRACTOR.
4. AVAILABLE INFORMATION INDICATES PROJECT WORK AREAS HAVE BEEN ABATED OF HAZARDOUS MATERIALS, EXCEPT AS SPECIFICALLY NOTED BELOW. COMPLETE A HAZARDOUS MATERIAL SURVEY OF ALL WORK AREAS WITH A QUALIFIED INDEPENDENT SUBCONTRACTOR. ADDRESS ANY ADDITIONAL SUSPECTED HAZARDOUS MATERIALS WITH CONSTRUCTION REPRESENTATIVE.
  - 4.1. ASSUME STEAM ENGINE GASKETS & SEALS CONTAIN ASBESTOS. ABATE AS REQUIRED.
  - 4.2. ASSUME GENERATOR WIRING CONTAINS ASBESTOS INSULATION. ABATE AS REQUIRED.
  - 4.3. ASSUME STEAM ENGINE GENERATOR COATINGS CONTAIN HEAVY METALS. ABATE AS REQUIRED.
  - 4.4. ASSUME RESIDUAL STEAM ENGINE OIL CONTAINS HAZARDOUS CONTAMINANTS. ABATE AS REQUIRED.
5. INSPECT ALL INSTRUMENTS & CONTROLS TO BE REMOVED FOR MERCURY. DISPOSE OF MERCURY CONTAINING MATERIALS IN ACCORDANCE WITH APPLICABLE REGULATIONS.
6. AFTER DEMOLITION IS COMPLETE, VISUALLY INSPECT INFRASTRUCTURE TO REMAIN & ADVISE OWNER'S REPRESENTATIVE OF ANY ISSUES PRIOR TO PROCEEDING WITH NEW CONSTRUCTION.
7. EXISTING SOFT WATER AND CONDENSATE SYSTEMS SHALL REMAIN IN SERVICE UNTIL NEW SYSTEMS ARE INSTALLED & READY FOR SERVICE.
  - 7.1. PHASE CONSTRUCTION & DEMOLITION AS REQUIRED.
  - 7.2. OBTAIN APPROVAL FOR REMOVAL FROM CONSTRUCTION REPRESENTATIVE PRIOR TO PROCEEDING.

**KEY NOTES:**

1. REMOVE SOFT WATER PIPE.
2. REMOVE PC PIPE.
3. INSTALL CAP, PLUG, OR BLIND FLANGE ON PIPING TO REMAIN.
4. VISUALLY INSPECT INSIDE OF PIPING TO REMAIN DURING TIE-IN & ADVISE OWNER'S REPRESENTATIVE OF ANY ISSUES. PROVIDE PHOTOGRAPHS TO OWNER'S REPRESENTATIVE.
5. REMOVE & DISPOSE OF STEAM ENGINE GENERATORS.
6. HIGH VOLTAGE ELECTRICAL EQUIPMENT TO REMAIN IN SERVICE - PROTECT PERSONNEL & PROTECT FROM DAMAGE.
7. SALVAGE, RELOCATE, AND RECONNECT FLOW METER.
8. SALVAGE, RELOCATE, AND RECONNECT NAOH INJECTION QUILL.
9. REMOVE NAOH TUBING.

**MECHANICAL DEMOLITION PLAN - POWER PLANT**  
 SCALE: 1/4"=1'-0"  
 NORTH



CHRISTOPHER L. BARTH  
 Registered Professional Engineer  
 MO # E-28880  
 Expires 12-31-2023  
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**ENGINEERING CO., P.C.**  
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 OF AUTHORITY #000408

OFFICE OF ADMINISTRATION  
 DIVISION OF FACILITIES  
 MANAGEMENT,  
 DESIGN AND CONSTRUCTION

DEPARTMENT OF  
 CORRECTIONS

VOLUME 2 -  
 REPLACE BOILERS AND  
 CONTROLS, POWER PLANT

FARMINGTON  
 CORRECTIONAL CENTER  
 1012 WEST COLUMBIA  
 STREET,  
 FARMINGTON, MO 63640

PROJECT # C2006-01  
 SITE # 7008  
 ASSET # 9327008094

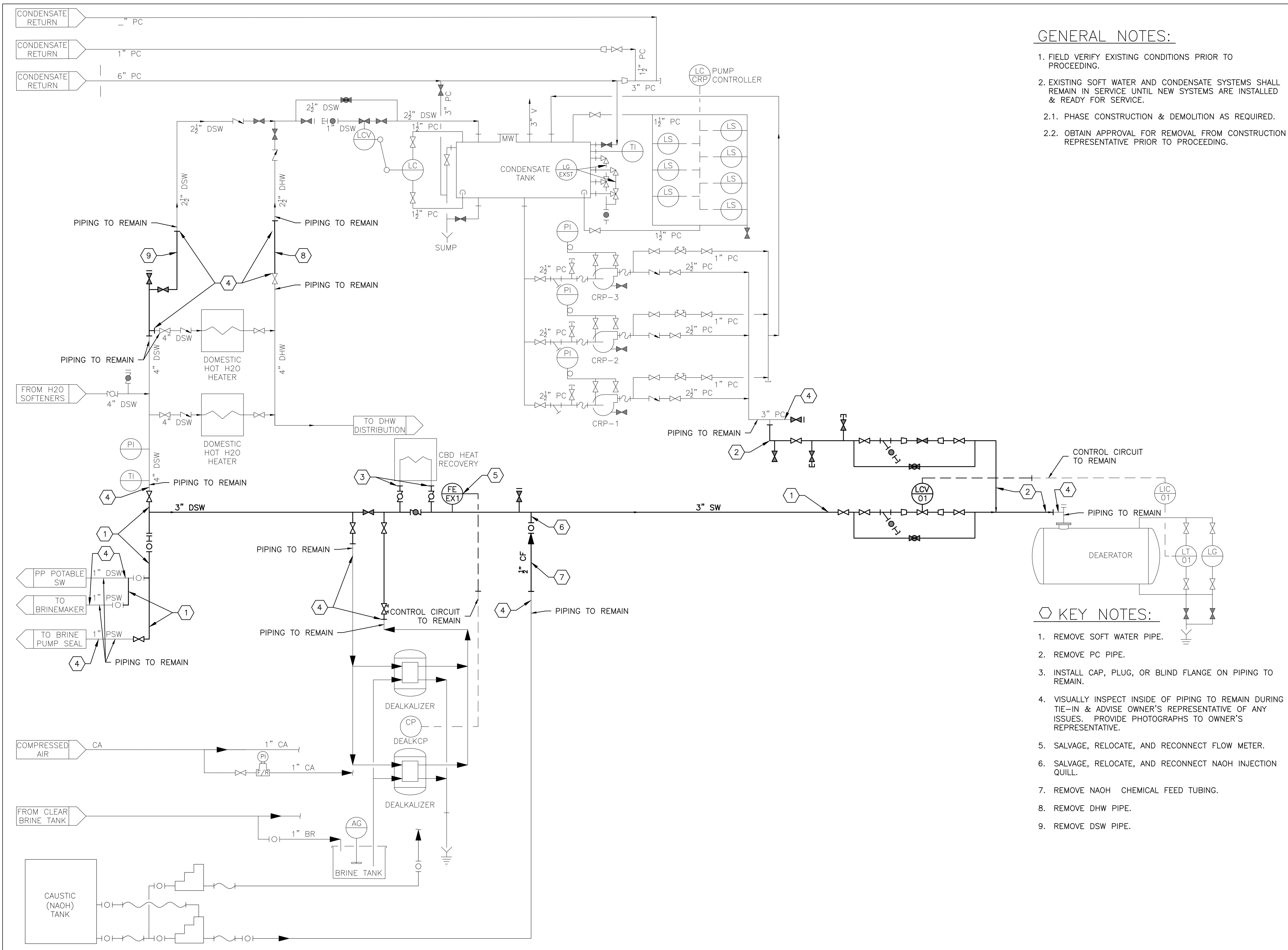
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DATE:	_____
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REVISION:	_____
DATE:	_____

ISSUE DATE: 04/26/2023  
 CAD DWG FILE: C2007-01-9237-9327008094-MD-401.DWG  
 DRAWN BY: CLB  
 CHECKED BY: CLB  
 DESIGNED BY: CLB

SHEET TITLE:  
**MECHANICAL  
 DEMOLITION PLAN  
 - POWER PLANT**

SHEET NUMBER:  
**MD-401**  
 08 OF 24 SHEETS  
 APRIL 26, 2023





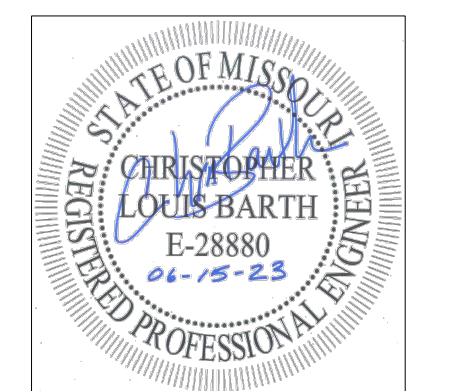
**GENERAL NOTES:**

1. FIELD VERIFY EXISTING CONDITIONS PRIOR TO PROCEEDING.
2. EXISTING SOFT WATER AND CONDENSATE SYSTEMS SHALL REMAIN IN SERVICE UNTIL NEW SYSTEMS ARE INSTALLED & READY FOR SERVICE.
- 2.1. PHASE CONSTRUCTION & DEMOLITION AS REQUIRED.
- 2.2. OBTAIN APPROVAL FOR REMOVAL FROM CONSTRUCTION REPRESENTATIVE PRIOR TO PROCEEDING.

**KEY NOTES:**

1. REMOVE SOFT WATER PIPE.
2. REMOVE PC PIPE.
3. INSTALL CAP, PLUG, OR BLIND FLANGE ON PIPING TO REMAIN.
4. VISUALLY INSPECT INSIDE OF PIPING TO REMAIN DURING TIE-IN & ADVISE OWNER'S REPRESENTATIVE OF ANY ISSUES. PROVIDE PHOTOGRAPHS TO OWNER'S REPRESENTATIVE.
5. SALVAGE, RELOCATE, AND RECONNECT FLOW METER.
6. SALVAGE, RELOCATE, AND RECONNECT NAOH INJECTION QUILL.
7. REMOVE NAOH CHEMICAL FEED TUBING.
8. REMOVE DHW PIPE.
9. REMOVE DSW PIPE.

STATE OF MISSOURI  
MICHAEL L. PARSON,  
GOVERNOR



CHRISTOPHER L. BARTH  
Registered Professional Engineer  
MO # E-28880  
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OFFICE OF ADMINISTRATION  
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FARMINGTON  
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1012 WEST COLUMBIA  
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FARMINGTON, MO 63640

PROJECT # C2006-01  
SITE # 7008  
ASSET # 9327008094

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REVISION:	_____
DATE:	_____

ISSUE DATE: 04/26/2023  
CAD DWG FILE: C2007-01-9237-9327008094-M-600-SERIES.DWG  
DRAWN BY: CLB  
CHECKED BY: CLB  
DESIGNED BY: CLB

SHEET TITLE:  
**FLOW DIAGRAM -  
DEMOLITION - H2O  
TREATMENT**

SHEET NUMBER:  
**MD-601**  
09 OF 24 SHEETS  
APRIL 26, 2023



CHRISTOPHER L. BARTH  
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MO # E-28880  
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PROJECT # C2006-01  
SITE # 7008  
ASSET # 9327008094

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REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_

ISSUE DATE: 04/26/2023

CAD DWG FILE: C2007-01-9237-  
9327008094-M-401.DWG  
DRAWN BY: CLB  
CHECKED BY: CLB  
DESIGNED BY: CLB

SHEET TITLE:  
MECHANICAL  
PLAN - POWER  
PLANT - H2O  
TREATMENT

SHEET NUMBER:

M-401

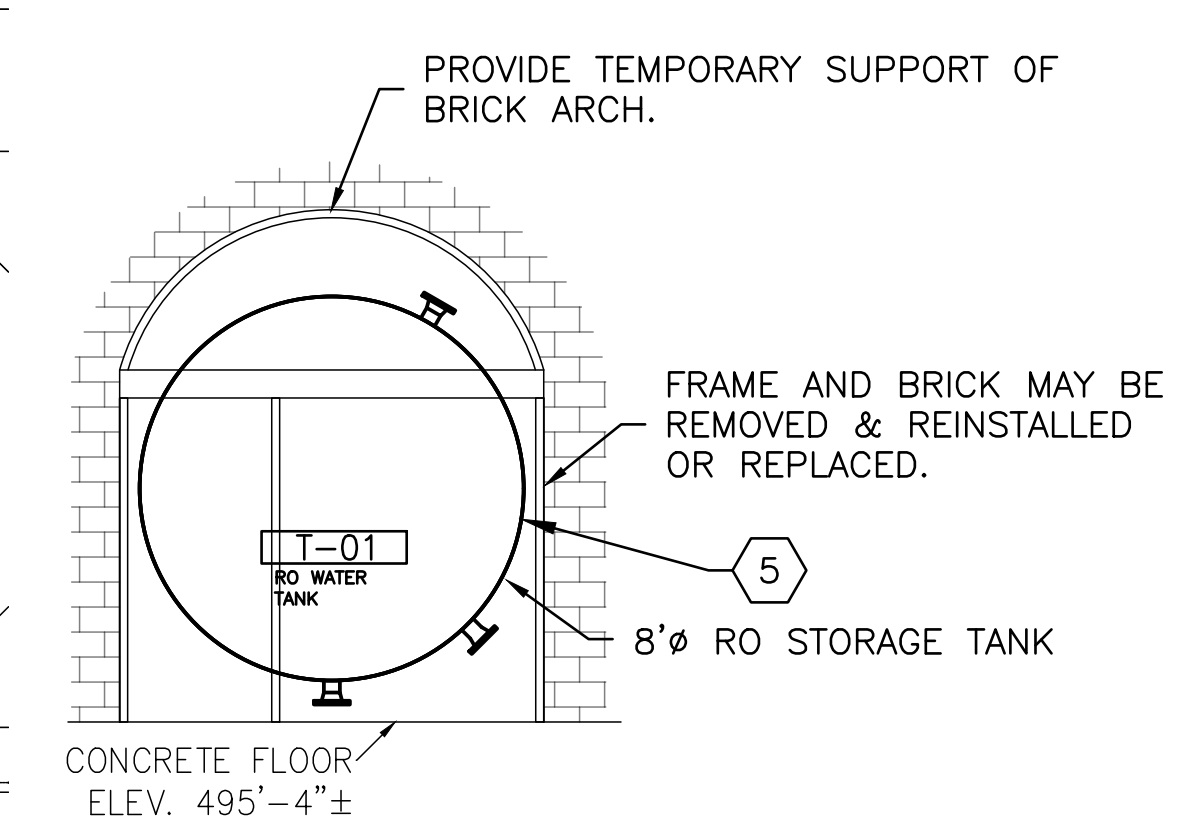
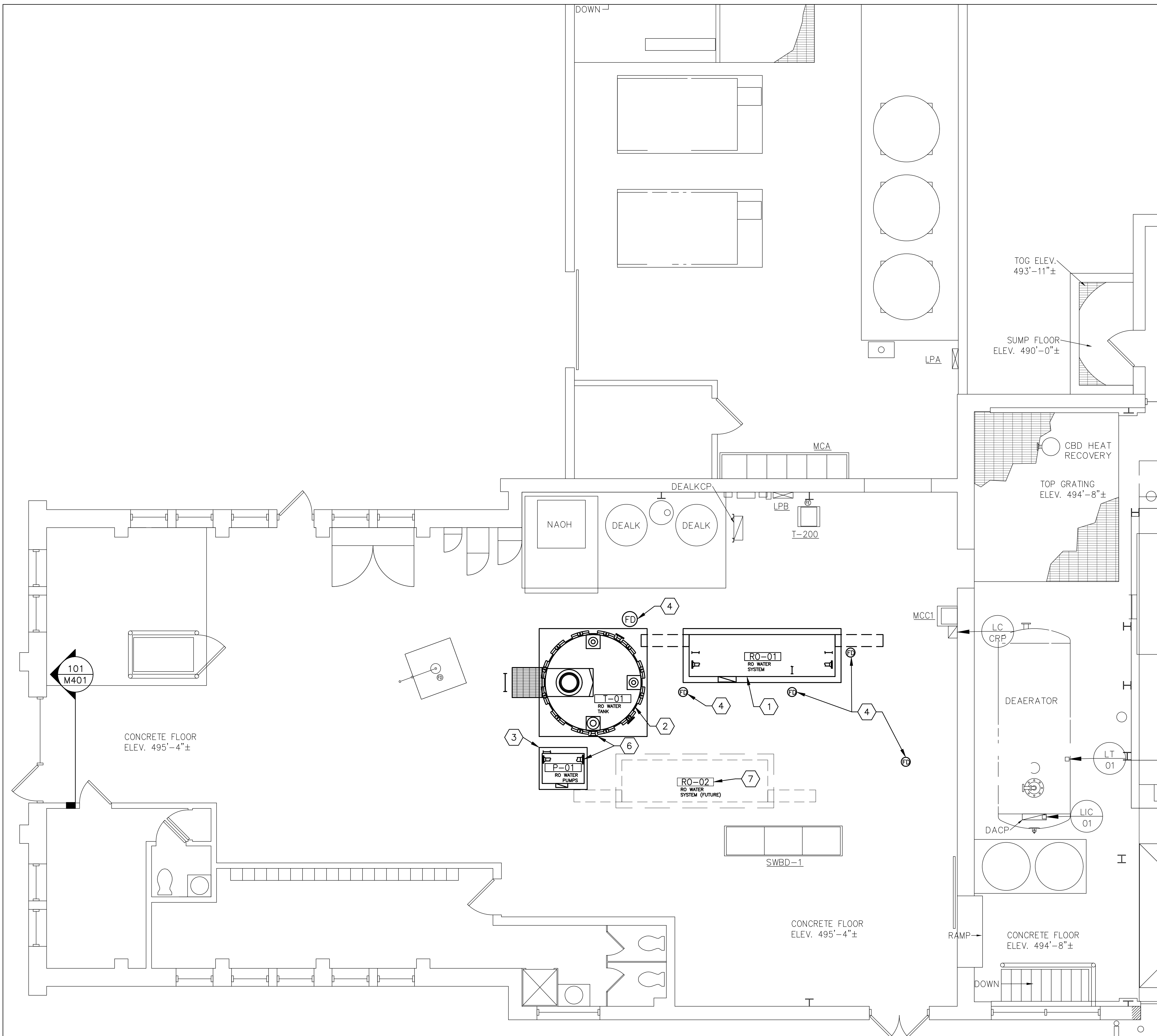
10 OF 24 SHEETS  
APRIL 26, 2023

GENERAL NOTES:

1. FIELD VERIFY EXISTING CONDITIONS PRIOR TO PROCEEDING.
3. PROVIDE NEW EQUIPMENT SUITABLE FOR AND COORDINATED WITH AVAILABLE SPACE, PIPING, CONTROLS, ELECTRICAL, ETC.
4. REMOVE, REINSTALL AND RETROFIT CONCRETE, STRUCTURAL STEEL, PIPING, INSULATION, CONTROLS, ELECTRICAL, ETC. AS REQUIRED TO ACCOMMODATE NEW EQUIPMENT.

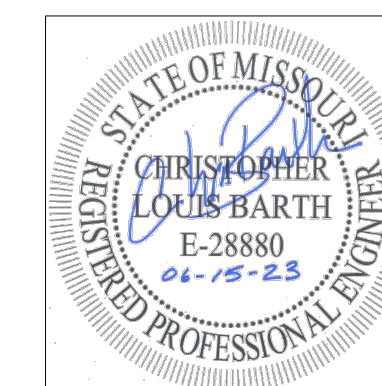
KEY NOTES:

1. INSTALL NEW FACTORY PACKAGED RO WATER TREATMENT SYSTEM & ASSOCIATED CONCRETE PAD, ANCHOR BOLTS, PIPING, CONTROLS, INSTRUMENTATION, ETC.
2. INSTALL NEW RO WATER STORAGE TANK & ASSOCIATED CONCRETE PAD, ANCHOR BOLTS, PIPING, CONTROLS, INSTRUMENTATION, ETC.
3. INSTALL NEW FACTORY PACKAGED RO WATER DUPLEX PUMP SYSTEM & ASSOCIATED CONCRETE PAD, ANCHOR BOLTS, PIPING, CONTROLS, INSTRUMENTATION, ETC.
4. COORDINATE NEW FLOOR DRAIN LOCATIONS WITH EQUIPMENT PROVIDED, CONCRETE BEAMS BELOW & CONSTRUCTION REPRESENTATIVE. SEE PLUMBING DRAWINGS.
5. TANK SIZE MAY BE ADJUSTED TO SUIT EXISTING OPENING, SUBJECT TO APPROVAL OF ENGINEER.
6. TANK & PUMP CONNECTION ELEVATIONS TO MATCH. COORDINATE CONCRETE PAD HEIGHTS AS REQUIRED. SEE STRUCTURAL DRAWINGS.
7. FUTURE. NOT IN THIS CONTRACT. AVOID ENCRoACHING ON THIS SPACE.



MECHANICAL PLAN - POWER PLANT  
SCALE: 1/4"=1'-0" 0 2' 4' 8'

101 SECTION  
M401 SCALE: 3/4" = 1'-0"



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MO # E-28880  
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PROJECT # C2006-01  
SITE # 7008  
ASSET # 9327008094

REVISION: \_\_\_\_\_  
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ISSUE DATE: 04/26/2023

CAD DWG FILE: C2007-01-9237-  
9327008094-M-501.DWG  
DRAWN BY: CLB  
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DESIGNED BY: CLB

SHEET TITLE:  
MECHANICAL -  
DETAILS

SHEET NUMBER:

M-501

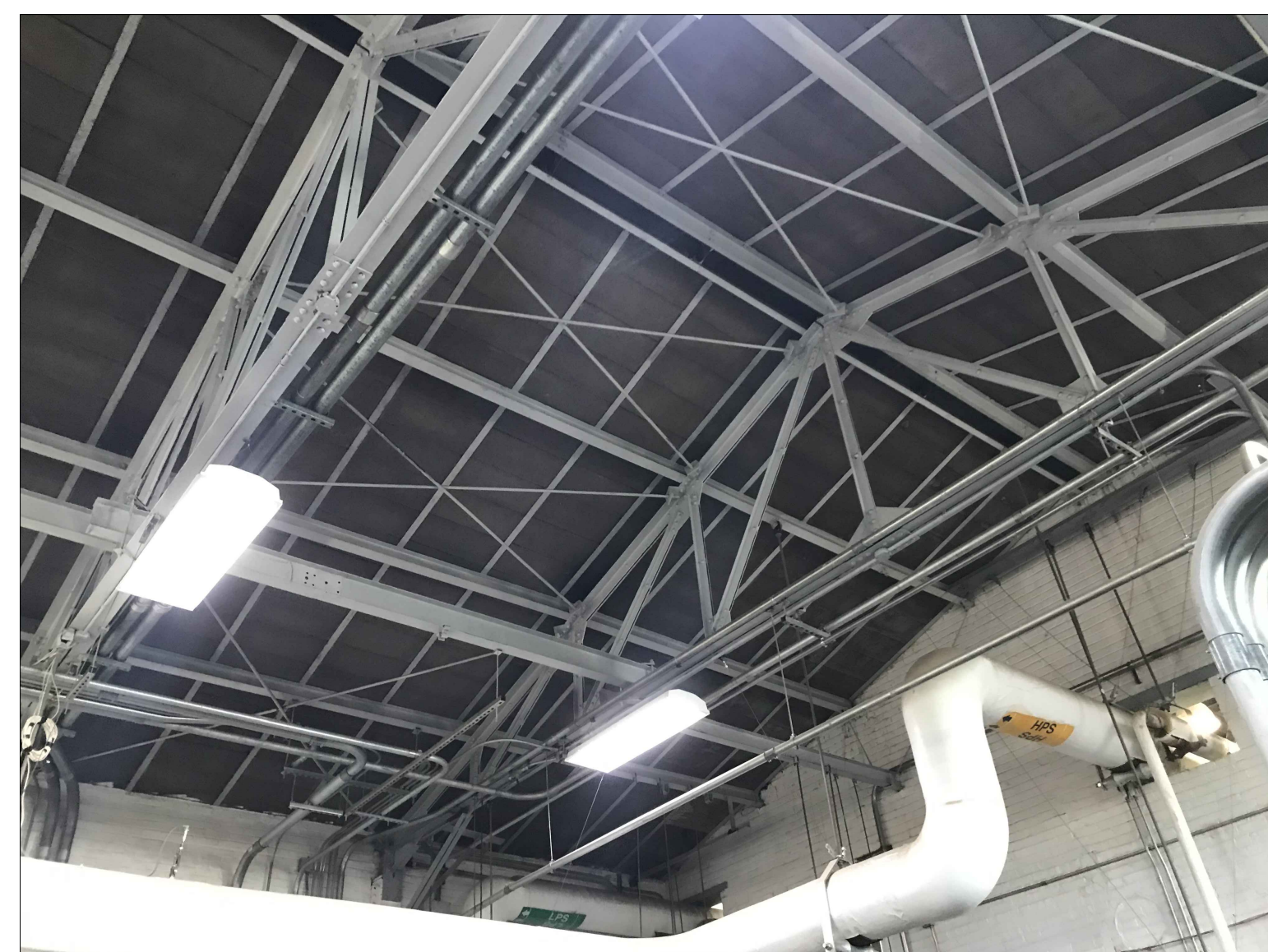
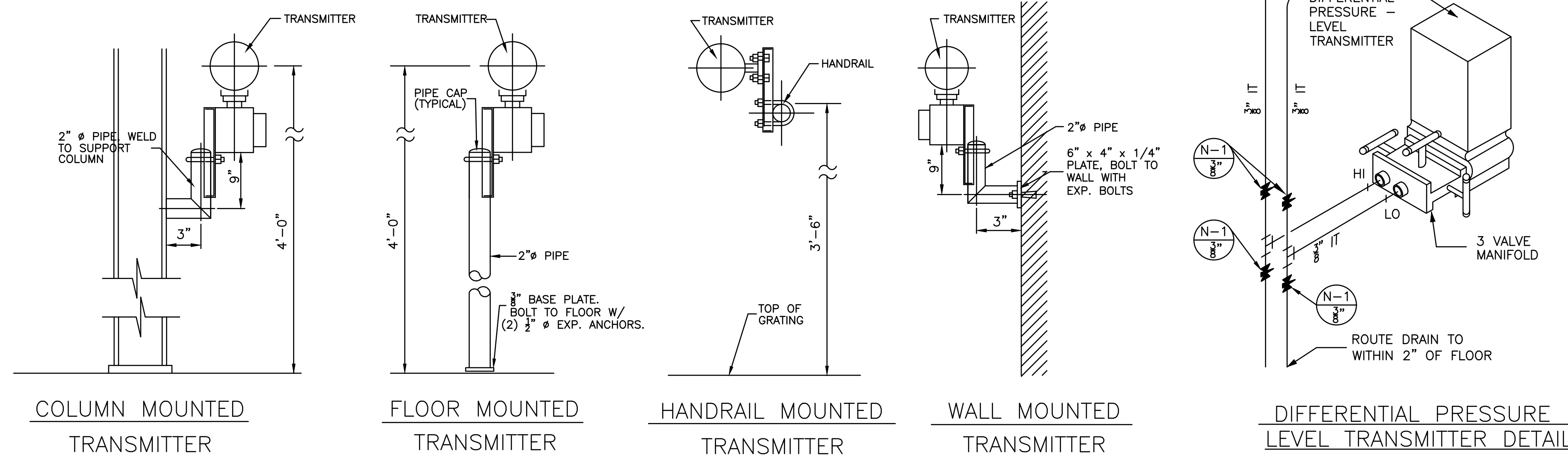
11 OF 24 SHEETS  
APRIL 26, 2023

GENERAL NOTES:

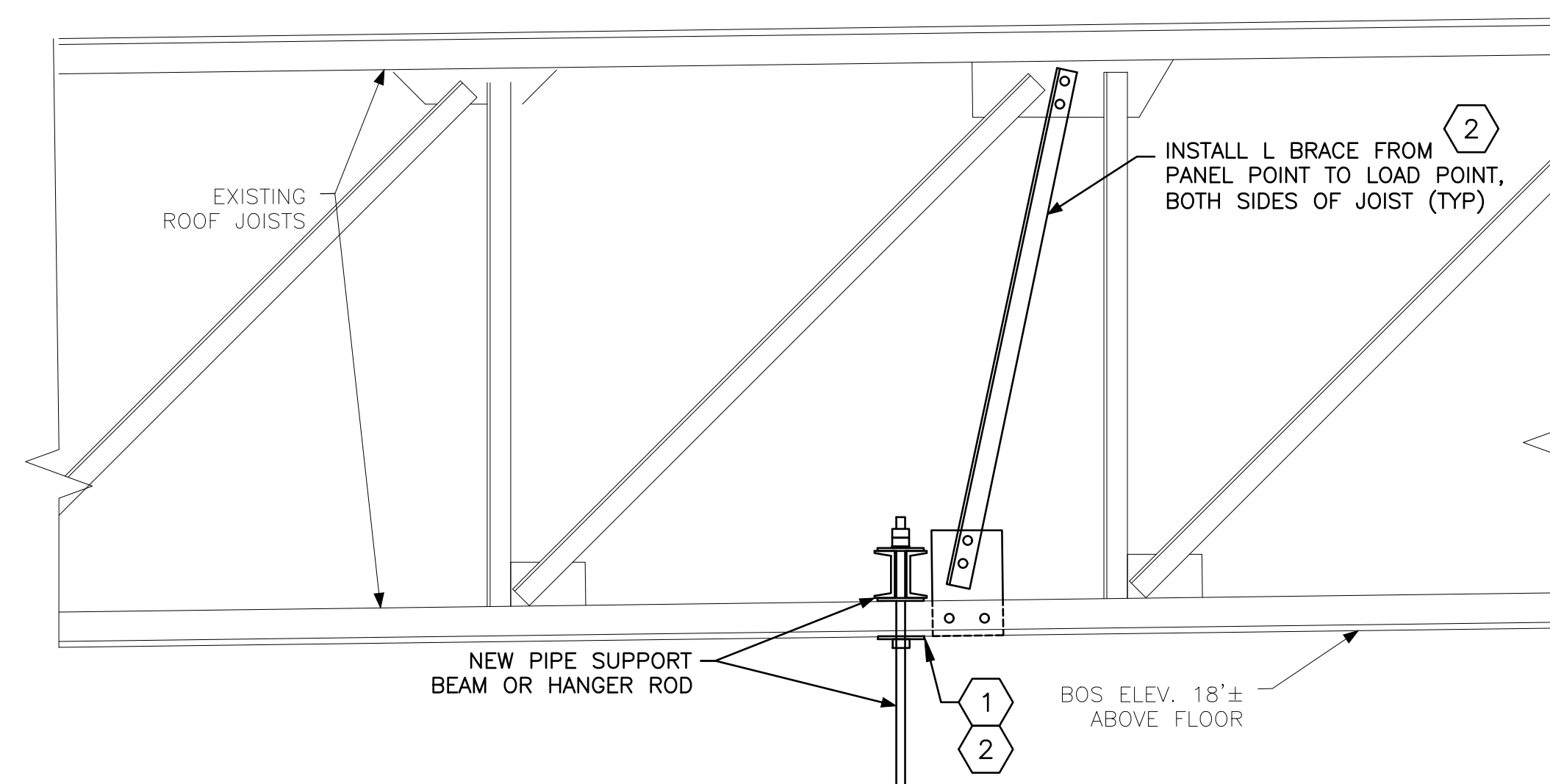
- FIELD VERIFY EXISTING CONDITIONS PRIOR TO PROCEEDING.
- EXACT LOCATION OF NEW INSTRUMENTS TO BE DETERMINED BY CONTRACTOR. LOCATE FOR BEST OPERATION, ACCESS AND MAINTENANCE. VERIFY LOCATION WITH OWNER'S REPRESENTATIVE PRIOR TO INSTALLING DEVICES.

KEY NOTES:

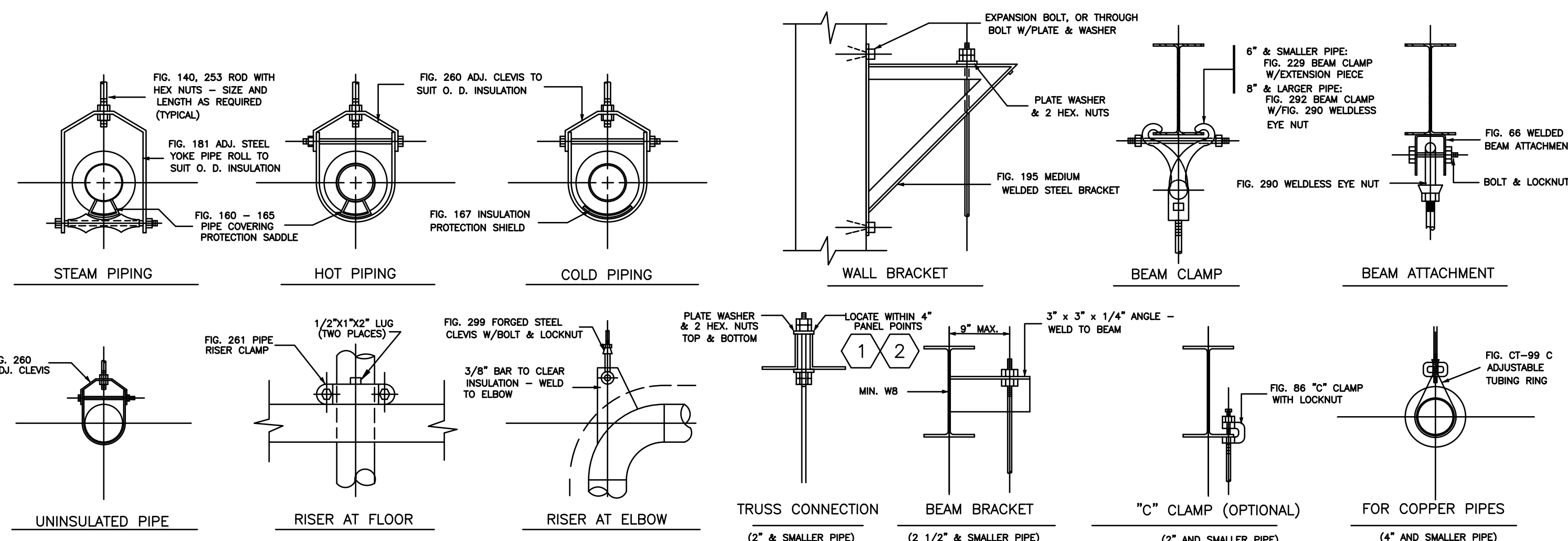
- INSTALL L BRACE BETWEEN LOAD POINT & PANEL POINT, BOTH SIDES OF CHORD.
- DELEGATED DESIGN:
  - ALL NEW LOADS TO EXISTING ROOF TRUSSES & ASSOCIATED RETROFITS SHALL BE EVALUATED AND DESIGNED BY CONTRACTOR'S LICENSED MISSOURI PROFESSIONAL ENGINEER.
  - ASSUME NO INFORMATION IS AVAILABLE ON EXISTING ROOF STEEL. COMPLETE FIELD OBSERVATIONS AS REQUIRED.
  - EXISTING TRUSSES APPEAR TO BE CONSTRUCTED WITH RIVETS OR BOLTS.
  - PROVIDE SUBMITTAL OF PROPOSED PIPING SUPPORTS SEALED & SIGNED BY LICENSED MISSOURI PROFESSIONAL ENGINEER.
  - THE EXISTING ROOF TRUSSES APPEAR TO BE LIGHTLY LOADED WITH PIPING AND CONDUIT. THE NEW LOADS FROM PIPING (3" WATER PIPE = +/- 10 LB/FT) AND SMALL BORE CONDUIT ARE RELATIVELY SMALL. IT IS ANTICIPATED THAT THE EXISTING ROOF TRUSSES SHOULD BE ACCEPTABLE FOR THESE ADDITIONAL LOADS.
  - THE DESIGN INTENT IS FOR THE CONTRACTOR'S PROFESSIONAL ENGINEER TO:
    - COMPLETE A STRUCTURAL EVALUATION OF THE ROOF TRUSSES FOR EXISTING AND NEW GRAVITY LOADS IN ACCORDANCE WITH THE INTERNATIONAL EXISTING BUILDING CODE (LATEST EDITION).
    - ENSURE THAT THE NEW PIPING AND ELECTRICAL SUPPORTS CONNECT TO AND LOAD THE ROOF TRUSSES IN AN APPROPRIATE MANNER AND DO NOT DAMAGE THE TRUSSES.
  - DUE TO ITS AGE AND CONSTRUCTION, THE OWNER RECOGNIZES THAT THE EXISTING BUILDING WAS NOT DESIGNED FOR CURRENT SEISMIC LOADS. THERE IS NO DESIGN INTENT TO ADDRESS THIS ON THIS PROJECT.
  - IT IS ASSUMED THAT EVALUATION WILL CONCLUDE THAT THE ADDITIONAL LOADS ARE ACCEPTABLE.
  - IF THE EVALUATION CONCLUDES OTHERWISE, ADDITIONAL MEASURES WILL BE CONSIDERED THROUGH THE CONSTRUCTION CHANGE ORDER PROCESS. RETROFITS TO THE ROOF TRUSSES BEYOND THOSE INDICATED BY KEY NOTE 1 ARE NOT INCLUDED IN THE SCOPE OF WORK.



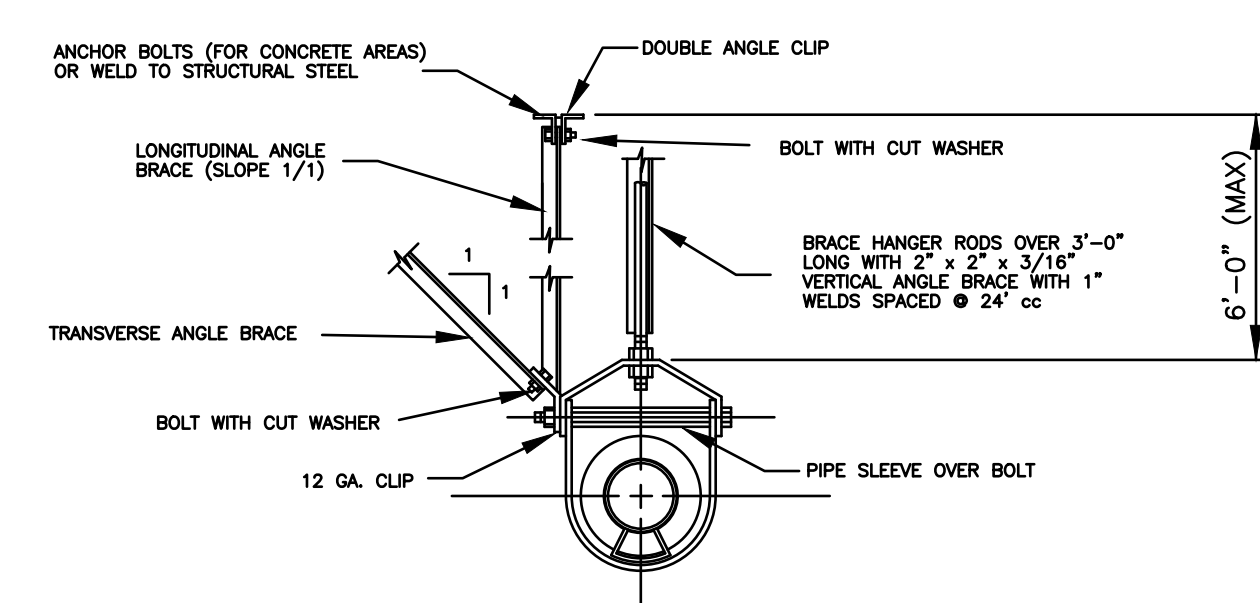
NO SCALE



NO SCALE



NO SCALE



NO SCALE

PIPE SIZE	ANGLE BRACE	BOLT SIZE	ANGLE CLIP	ANCHOR BOLT OR INSERT
2 1/2"	2" x 2" 16GA.	3/8"	3" x 3" x 1/4"	3/8"
3", 4"	2 1/2"x2 1/2" 16GA.	3/8"	3" x 3" x 1/4"	1/2"
5", 6"	2 1/2"x2 1/2" 16GA.	1/2"	5" x 3" x 1/2"	3/4"
8"	3" x 3" 12 GA.	5/8"	2-5" x 3" x 1/2"	2-5/8"
10"	3" x 3" 12 GA.	3/4"	2-5" x 3" x 1/2"	2-3/4"

FLOW DIAGRAM SYMBOLS

CONTROL & INSTRUMENTATION SYMBOLS

GENERAL NOTES:

VALVES	PIPING	OPERATORS
Gate Valve	Existing	Solenoid
Ball Valve	New Equipment	Motor
Globe Valve	New Piping	
Check Valve	Flow	
Plug Valve	Strainer	
Angle Valve	Reducer	
Safety/Relief Valve	Flexible Connector	
Hose End Valve	Quick Disconnect Coupling	
Knife Gate Valve	Cap	
Three Way Valve	Mushroom Style Vent Cap	
Shading indicates normally closed	Pressure Transmitter	
Anti-Siphon Valve	Pressure Gauge with Cock	
	Thermometer	
	Duplex Strainer	
	Positive Displacement Pump	
	Connection To Existing Plant Piping System	
	Identification Symbol	
	F O S Fuel Oil Return	
	F O R Fuel Oil Condensate	
	D Drain	
	V Vent	

Pneumatic Signal	Instrument (Panel Mounted)	Filter/Regulator	Pressure Regulator With Gauge
Electric Signal	Future	Filter	Filter Regulator With Pressure Gauge
Capillary Signal	Orifice Plate	Lubricator	
Hydraulic Signal			
Instrument (Line, or Local Mounted)			

- FIELD VERIFY EXISTING CONDITIONS PRIOR TO PROCEEDING.

INSTRUMENT IDENTIFICATION CODES  
PER ANSI/ISA-S5.1-1984 (R 1992)

CODE	FIRST LETTER		SUCCEEDING-LETTERS		
	MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS		ALARM		
B	BURNER, COMBUSTION		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
C	USER'S CHOICE			CONTROL	
D	USER'S CHOICE	DIFFERENTIAL			
E	VOLTAGE		SENSOR (PRIMARY ELEMENT)		
F	FLOW RATE	RATIO(FRACTION)			
G	USER'S CHOICE		GLASS, VIEWING DEVICE		
H	HAND				HIGH
I	CURRENT(ELECTRICAL)		INDICATE		
J	POWER	SCAN			
K	TIME, TIME SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT		LOW
M	USER'S CHOICE	MOMENTARY			MIDDLE, INTERMEDIATE
N	USER'S CHOICE		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
O	USER'S CHOICE		ORIFICE, RESTRICTION		
P	PRESSURE, VACUUM		POINT (TEST) CONNECTION		
Q	QUANTITY	INTEGRATE OR TOTALIZE			
R	RADIATION		RECORD		
S	SPEED, FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION, MECHANICAL ANALYSIS			VALVE, DAMPER LOUVER	
W	WEIGHT, FORCE		WELL		
X	UNCLASSIFIED	X AXIS	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT, STATE OR PRESENCE	Y AXIS		RELAY, COMPUTE, CONVERT	
Z	POSITION, DIMENSION	Z AXIS		DRIVER, ACTUATOR, UNCLASSIFIED FINAL CONTROL ELEMENT	

KEY NOTES:

- LEVEL CONTROL VALVE TO BE SUITABLE FOR EXISTING SIGNAL FROM EXISTING DEAERATOR LEVEL CONTROLLER. FIELD VERIFY EXISTING CONTROL LOOP CONDITIONS PRIOR TO PROCEEDING. DOCUMENT & ADDRESS ISSUES, IF ANY, WITH ENGINEER PRIOR TO PROCEEDING.
- FIELD VERIFY DIFFERENTIAL PRESSURE RANGE AND SETPOINT.
  - SETPOINT TO BE SET HALFWAY BETWEEN NORMAL WATER LEVEL AND DA OVERFLOW LEVEL.

TAG	SERVICE	INLET PRESS. (PSIG)	INLET TEMP. (°F)	OUTLET PRESS. (PSIG)	ΔP (PSI)	FLOW (PPH)	FLOW (GPM)	SIZE (INCHES)	FAIL-SAFE POSITION	REMARKS
LCV-01	TREATED H2O	60	60	50	10	87,545	175	2	CLOSED	316L SS BODY, 316L SS TRIM
LCV-02	CONDENSATE	50	200	40	10	72,316	150	2	CLOSED	316L SS BODY, 316L SS TRIM

TAG	SERVICE	OPERATING PRESSURE PSIG	DIFFERENTIAL PRESSURE RANGE INCHES H2O	OPERATING TEMPERATURE °F	TANK HEIGHT INCHES	H2O LEVEL SETPOINT INCHES	REMARKS
LIT-03	DEAERATOR	10	0-60	240	72	48 +/-	

STATE OF MISSOURI  
MICHAEL L. PARSON,  
GOVERNOR



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MO # E-28880  
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DEPARTMENT OF  
CORRECTIONS

VOLUME 2 -  
REPLACE BOILERS AND  
CONTROLS, POWER PLANT

FARMINGTON  
CORRECTIONAL CENTER  
1012 WEST COLUMBIA  
STREET,  
FARMINGTON, MO 63640

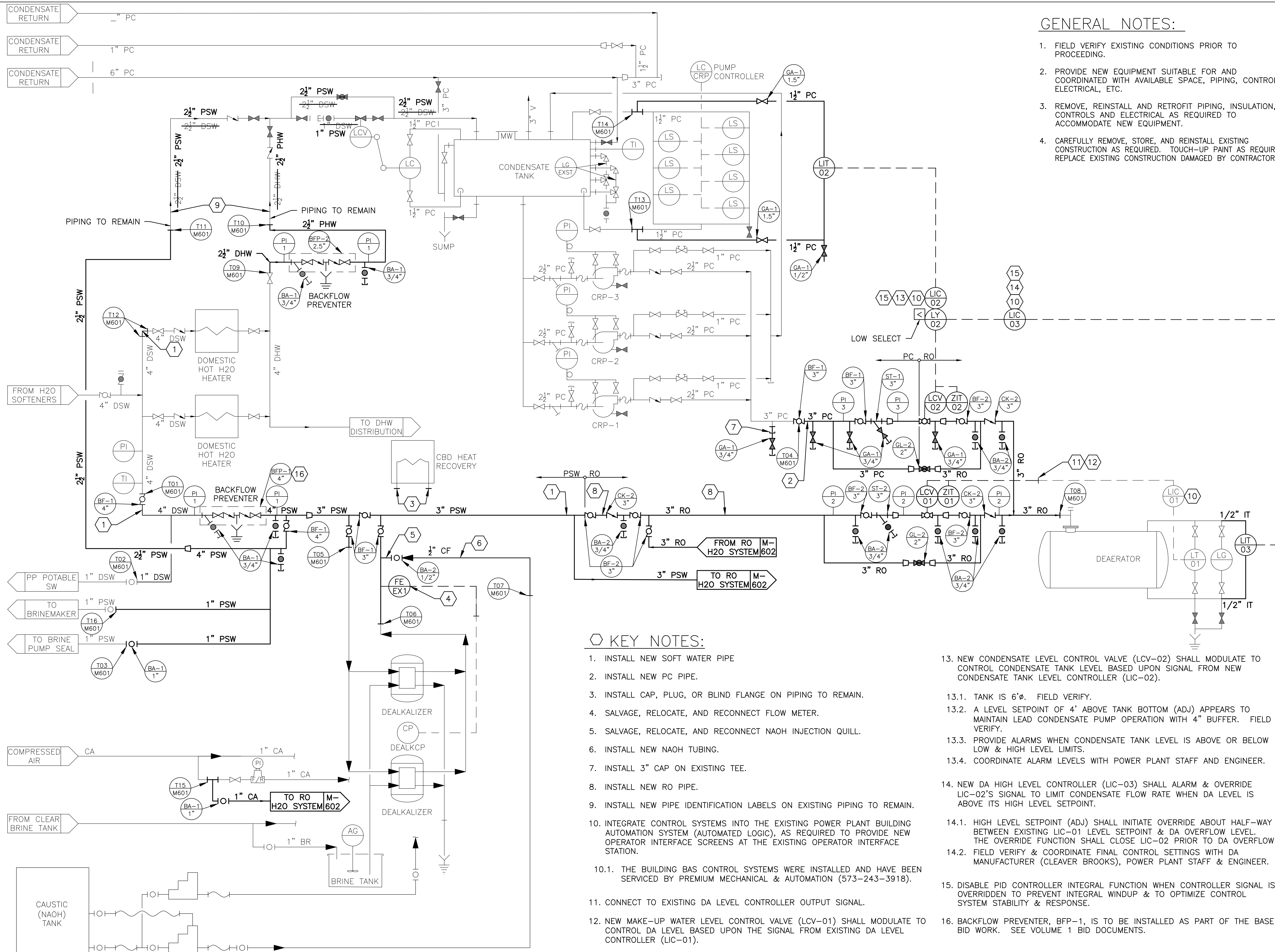
PROJECT # C2006-01  
SITE # 7008  
ASSET # 9327008094

REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
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REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_

ISSUE DATE: 04/26/2023  
CAD DWG FILE: C2007-01-9237-9327008094-M-600.DWG  
DRAWN BY: CLB  
CHECKED BY: CLB  
DESIGNED BY: CLB

SHEET TITLE:  
**MECHANICAL -  
SYMBOLS &  
SCHEDULES**

SHEET NUMBER:  
**M-600**  
12 OF 24 SHEETS  
APRIL 26, 2023



**GENERAL NOTES:**

1. FIELD VERIFY EXISTING CONDITIONS PRIOR TO PROCEEDING.
2. PROVIDE NEW EQUIPMENT SUITABLE FOR AND COORDINATED WITH AVAILABLE SPACE, PIPING, CONTROLS, ELECTRICAL, ETC.
3. REMOVE, REINSTALL AND RETROFIT PIPING, INSULATION, CONTROLS AND ELECTRICAL AS REQUIRED TO ACCOMMODATE NEW EQUIPMENT.
4. CAREFULLY REMOVE, STORE, AND REINSTALL EXISTING CONSTRUCTION AS REQUIRED. TOUCH-UP PAINT AS REQUIRED. REPLACE EXISTING CONSTRUCTION DAMAGED BY CONTRACTOR.

**KEY NOTES:**

1. INSTALL NEW SOFT WATER PIPE
2. INSTALL NEW PC PIPE.
3. INSTALL CAP, PLUG, OR BLIND FLANGE ON PIPING TO REMAIN.
4. SALVAGE, RELOCATE, AND RECONNECT FLOW METER.
5. SALVAGE, RELOCATE, AND RECONNECT NAOH INJECTION QUILL.
6. INSTALL NEW NAOH TUBING.
7. INSTALL 3" CAP ON EXISTING TEE.
8. INSTALL NEW RO PIPE.
9. INSTALL NEW PIPE IDENTIFICATION LABELS ON EXISTING PIPING TO REMAIN.
10. INTEGRATE CONTROL SYSTEMS INTO THE EXISTING POWER PLANT BUILDING AUTOMATION SYSTEM (AUTOMATED LOGIC), AS REQUIRED TO PROVIDE NEW OPERATOR INTERFACE SCREENS AT THE EXISTING OPERATOR INTERFACE STATION.
- 10.1. THE BUILDING BAS CONTROL SYSTEMS WERE INSTALLED AND HAVE BEEN SERVICED BY PREMIUM MECHANICAL & AUTOMATION (573-243-3918).
11. CONNECT TO EXISTING DA LEVEL CONTROLLER OUTPUT SIGNAL.
12. NEW MAKE-UP WATER LEVEL CONTROL VALVE (LCV-01) SHALL MODULATE TO CONTROL DA LEVEL BASED UPON THE SIGNAL FROM EXISTING DA LEVEL CONTROLLER (LIC-01).
13. NEW CONDENSATE LEVEL CONTROL VALVE (LCV-02) SHALL MODULATE TO CONTROL CONDENSATE TANK LEVEL BASED UPON SIGNAL FROM NEW CONDENSATE TANK LEVEL CONTROLLER (LIC-02).
- 13.1. TANK IS 6'Ø. FIELD VERIFY.
- 13.2. A LEVEL SETPOINT OF 4' ABOVE TANK BOTTOM (ADJ) APPEARS TO MAINTAIN LEAD CONDENSATE PUMP OPERATION WITH 4" BUFFER. FIELD VERIFY.
- 13.3. PROVIDE ALARMS WHEN CONDENSATE TANK LEVEL IS ABOVE OR BELOW LOW & HIGH LEVEL LIMITS.
- 13.4. COORDINATE ALARM LEVELS WITH POWER PLANT STAFF AND ENGINEER.
14. NEW DA HIGH LEVEL CONTROLLER (LIC-03) SHALL ALARM & OVERRIDE LIC-02'S SIGNAL TO LIMIT CONDENSATE FLOW RATE WHEN DA LEVEL IS ABOVE ITS HIGH LEVEL SETPOINT.
- 14.1. HIGH LEVEL SETPOINT (ADJ) SHALL INITIATE OVERRIDE ABOUT HALF-WAY BETWEEN EXISTING LIC-01 LEVEL SETPOINT & DA OVERFLOW LEVEL. THE OVERRIDE FUNCTION SHALL CLOSE LIC-02 PRIOR TO DA OVERFLOW.
- 14.2. FIELD VERIFY & COORDINATE FINAL CONTROL SETTINGS WITH DA MANUFACTURER (CLEAVER BROOKS), POWER PLANT STAFF & ENGINEER.
15. DISABLE PID CONTROLLER INTEGRAL FUNCTION WHEN CONTROLLER SIGNAL IS OVERRIDDEN TO PREVENT INTEGRAL WINDUP & TO OPTIMIZE CONTROL SYSTEM STABILITY & RESPONSE.
16. BACKFLOW PREVENTER, BFP-1, IS TO BE INSTALLED AS PART OF THE BASE BID WORK. SEE VOLUME 1 BID DOCUMENTS.

STATE OF MISSOURI  
MICHAEL L. PARSON,  
GOVERNOR



CHRISTOPHER L. BARTH  
Registered Professional Engineer  
MO # E-28880  
Expires 12-31-2023  
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PROJECT # C2006-01  
SITE # 7008  
ASSET # 9327008094

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ISSUE DATE: 04/26/2023

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9327008094-M-600-SERIES.DWG  
DRAWN BY: CLB  
CHECKED BY: CLB  
DESIGNED BY: CLB

SHEET TITLE:  
**FLOW DIAGRAM -  
H2O TREATMENT**

SHEET NUMBER:

**M-601**

13 OF 24 SHEETS  
APRIL 26, 2023

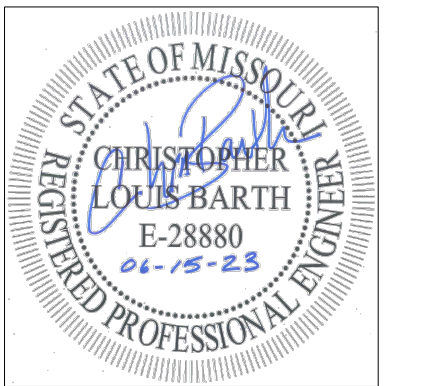
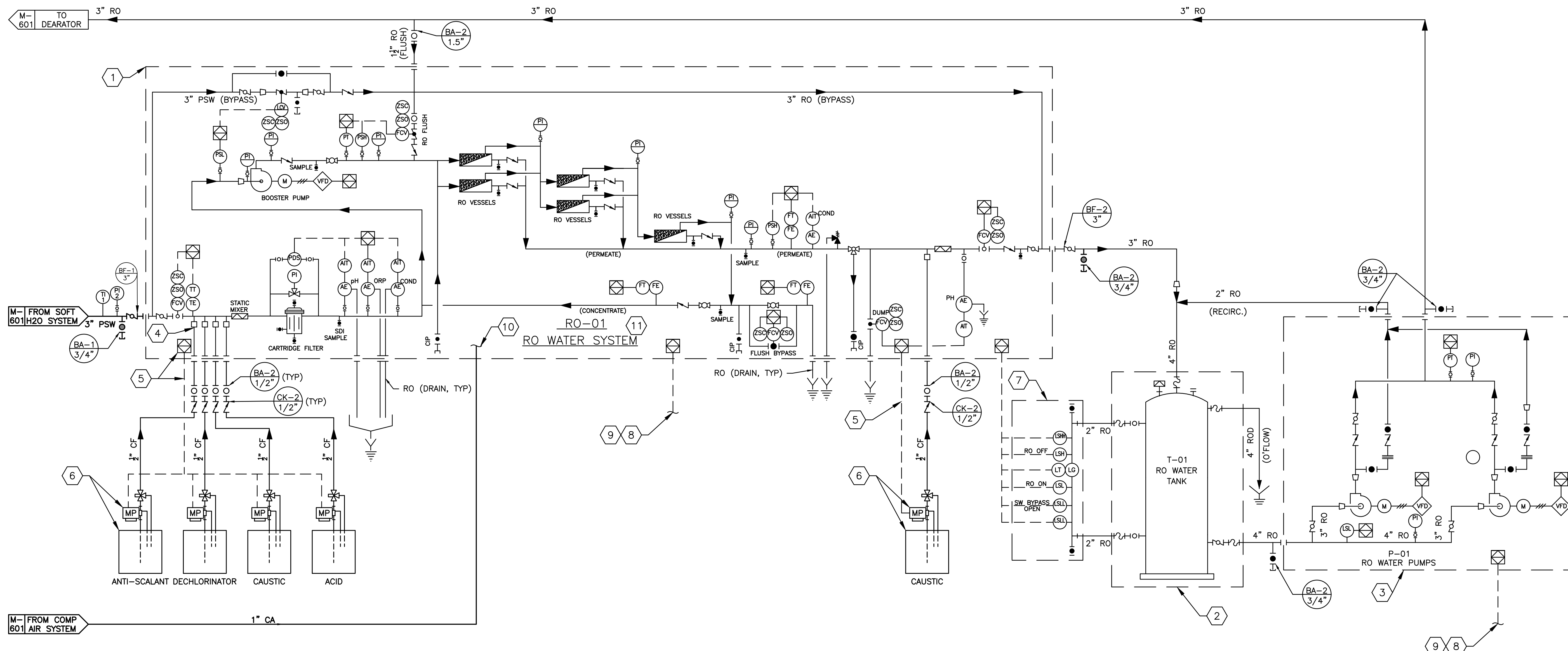
KEY NOTES:

1. INSTALL NEW FACTORY PACKAGED RO WATER SYSTEM & ASSOCIATED CONCRETE PAD, ANCHOR BOLTS, PIPING, CONTROLS, INSTRUMENTATION, ETC.
2. INSTALL NEW RO WATER STORAGE TANK & ASSOCIATED CONCRETE PAD, ANCHOR BOLTS, PIPING, CONTROLS, INSTRUMENTATION, ETC.
3. INSTALL NEW FACTORY PACKAGED RO WATER PUMPS & ASSOCIATED CONCRETE PAD, ANCHOR BOLTS, PIPING, CONTROLS, INSTRUMENTATION, ETC.
4. CHEMICAL INJECTION QUILLS SHALL BE PROVIDED WITH RO SYSTEM.
5. CHEMICAL PUMP CONTROL SHALL BE PROVIDED WITH RO SYSTEM.
6. CHEMICAL FEED SYSTEMS WILL BE FURNISHED BY OWNER'S WATER TREATMENT SERVICE COMPANY FOR INSTALLATION BY CONTRACTOR. COORDINATE AS REQUIRED.
- 6.1. ASSUME CHEMICAL FEED STATIONS WILL BE INSTALLED WITHIN 30' OF RO SKID.
7. TANK LEVEL CONTROL SYSTEM FURNISHED WITH RO SYSTEM. FIELD INSTALLED BY CONTRACTOR.
8. INTEGRATE CONTROL SYSTEMS INTO THE EXISTING POWER PLANT BUILDING AUTOMATION SYSTEM (AUTOMATED LOGIC), AS REQUIRED TO PROVIDE NEW OPERATOR INTERFACE SCREENS AT THE EXISTING OPERATOR INTERFACE STATION.
- 8.1. PROVIDE EQUIPMENT SYSTEM DISPLAYS WITH ALL AVAILABLE SYSTEM DATA, ALARMS, EVENT HISTORY, ETC. ON THE EXISTING POWER PLANT

- OPERATOR INTERFACE STATION.
- 8.2. DUPLICATE THE EQUIPMENT SYSTEM OPERATOR INTERFACE SCREENS ON THE POWER PLANT'S OPERATOR INTERFACE STATION TO THE EXTENT POSSIBLE.
- 8.3. PROVIDE CRITICAL SYSTEM DATA COLLECTION, TRENDRING, AND ARCHIVING TO POWER PLANT WORK STATION.
- 8.4. REMOTE EQUIPMENT SYSTEM CONTROL FROM THE POWER PLANT OPERATOR INTERFACE STATION IS NOT REQUIRED, BUT SHALL BE A CAPABILITY FOR FUTURE CONSIDERATION.
- 8.5. COMMUNICATION INTERFACE SHALL BE BACNET (WHICH IS PREFERRED) OR MODBUS WITH HARDWIRE MSTP OR TCP/IP PROTOCOL. FIELD VERIFY.
9. THE BUILDING BAS CONTROL SYSTEMS WERE INSTALLED AND HAVE BEEN SERVICED BY PREMIUM MECHANICAL & AUTOMATION (573-243-3918).
10. CONNECT TO RO COMPRESSED AIR SYSTEM.
11. THE ARRAY SHOWN ON THIS P&ID DRAWING, IS FOR ILLUSTRATIVE PURPOSES ONLY. MANUFACTURER SHALL DETERMINE SYSTEM DESIGN & ARRAY SUBJECT TO SPECIFICATION COMPLIANCE AND ENGINEER'S APPROVAL.

GENERAL NOTES:

1. FIELD VERIFY EXISTING CONDITIONS PRIOR TO PROCEEDING.
2. PROVIDE NEW EQUIPMENT SUITABLE FOR AND COORDINATED WITH EXISTING CONDITIONS AND AVAILABLE SPACE.
3. CAREFULLY REMOVE, STORE, AND REINSTALL EXISTING CONSTRUCTION AS REQUIRED. TOUCH-UP PAINT AS REQUIRED. REPLACE EXISTING CONSTRUCTION DAMAGED BY CONTRACTOR.



CHRISTOPHER L. BARTH  
Registered Professional Engineer  
MO # E-28880  
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PROJECT # C2006-01  
SITE # 7008  
ASSET # 9327008094

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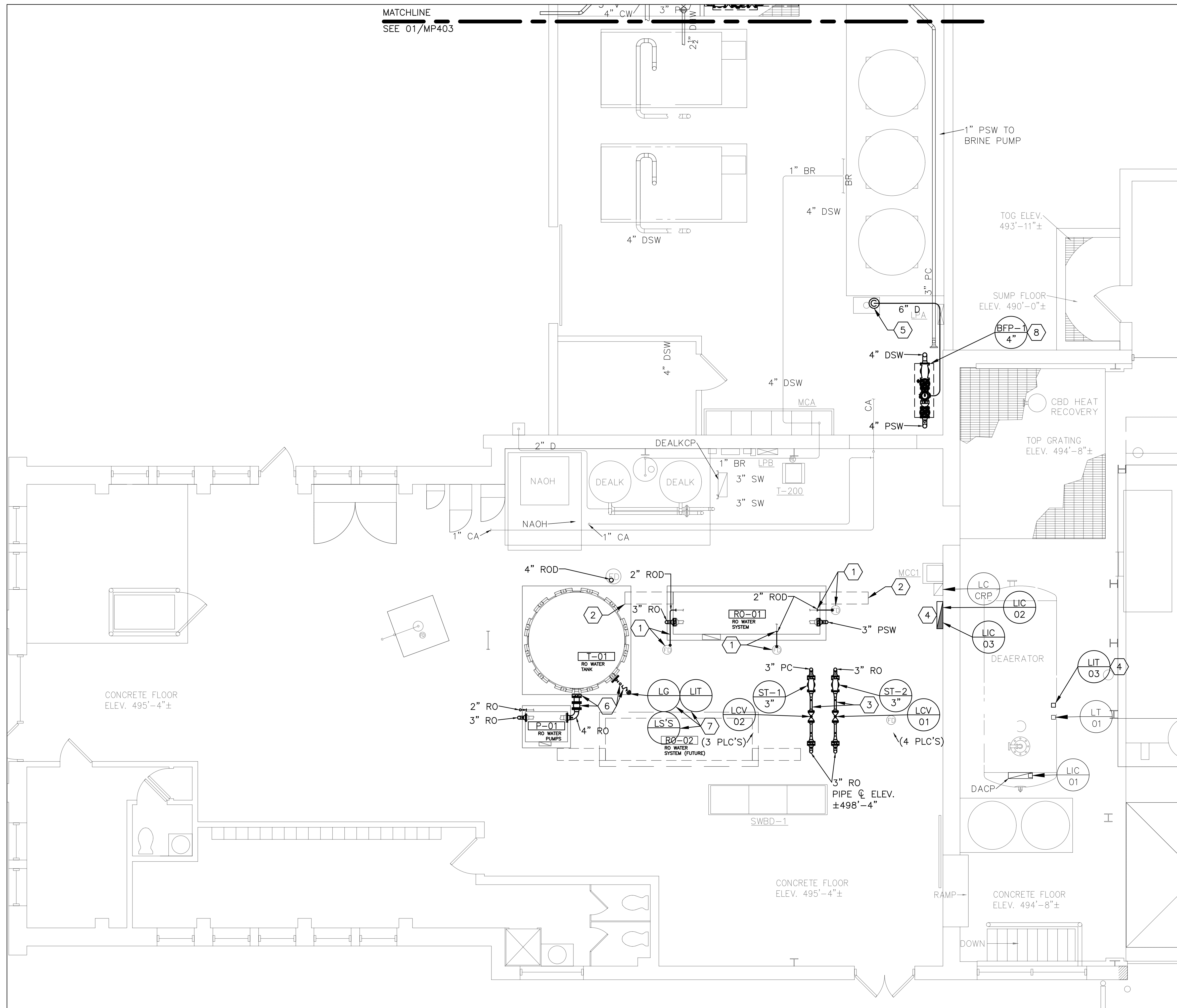
SHEET TITLE:  
FLOW DIAGRAM -  
RO WATER SYSTEM

SHEET NUMBER:

M-602

14 OF 24 SHEETS  
APRIL 26, 2023

MATCHLINE  
SEE 01/MP403



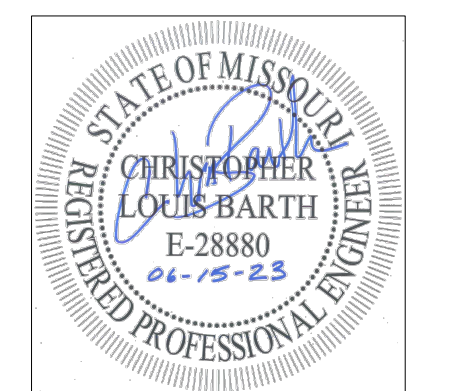
**GENERAL NOTES:**

1. FIELD VERIFY EXISTING CONDITIONS PRIOR TO PROCEEDING.
2. COORDINATE PIPING INSTALLATION WITH FLOW DIAGRAMS. SOME PIPING COMPONENTS NOT SHOWN ON PLANS FOR CLARITY.
3. REMOVE, REINSTALL AND RETROFIT CONCRETE, STRUCTURAL STEEL, PIPING, INSULATION, CONTROLS, ELECTRICAL, ETC. AS REQUIRED TO ACCOMMODATE NEW EQUIPMENT & PIPING.
4. REVIEW PIPE ROUTING WITH CONSTRUCTION REPRESENTATIVE PRIOR TO PROCEEDING.

**KEY NOTES:**

1. COORDINATE DRAIN PIPE (ROD) SIZE & ROUTING AND FLOOR DRAIN LOCATIONS WITH RO SYSTEM PROVIDED.
2. MAINTAIN ACCESS FOR RO MEMBRANE REPLACEMENT.
3. MINIMUM OF 6 PIPE Ø'S STRAIGHT RUN UPSTREAM & DOWNSTREAM OF CONTROL VALVES.
4. REVIEW LOCATION WITH CONSTRUCTION REPRESENTATIVE FOR APPROVAL PRIOR TO PROCEEDING.
5. INSTALL 6" DRAIN (PVC, SCH 40) FROM BFP RELIEF VALVE TO DRAIN. SLOPE MINIMUM 1/8" PER FOOT. CUT & BAND OPENING IN GRATE.
6. SPECIFIED TO BE FURNISHED WITH TANK.
7. SPECIFIED TO BE FURNISHED WITH RO SYSTEM.
8. BACKFLOW PREVENTER, BFP-1, IS TO BE INSTALLED AS PART OF THE BASE BID WORK. SEE VOLUME 1 BID DOCUMENTS.

STATE OF MISSOURI  
MICHAEL L. PARSON,  
GOVERNOR



CHRISTOPHER L. BARTH  
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MO # E-28880  
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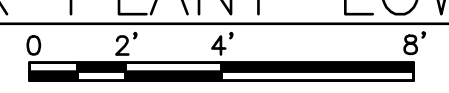
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DRAWN BY: CLB  
CHECKED BY: CLB  
DESIGNED BY: CLB

SHEET TITLE:  
**MECHANICAL  
PIPING PLAN -  
POWER PLANT-  
LOW**

SHEET NUMBER:  
**MP-401**

15 OF 24 SHEETS  
APRIL 26, 2023

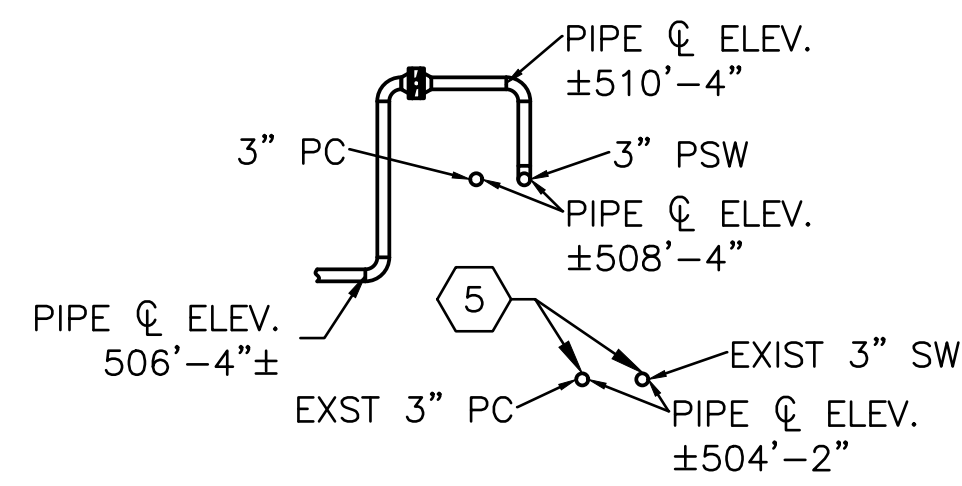
**MECHANICAL PIPING PLAN - POWER PLANT-LOW**  
SCALE: 1/4"=1'-0"  
NORTH



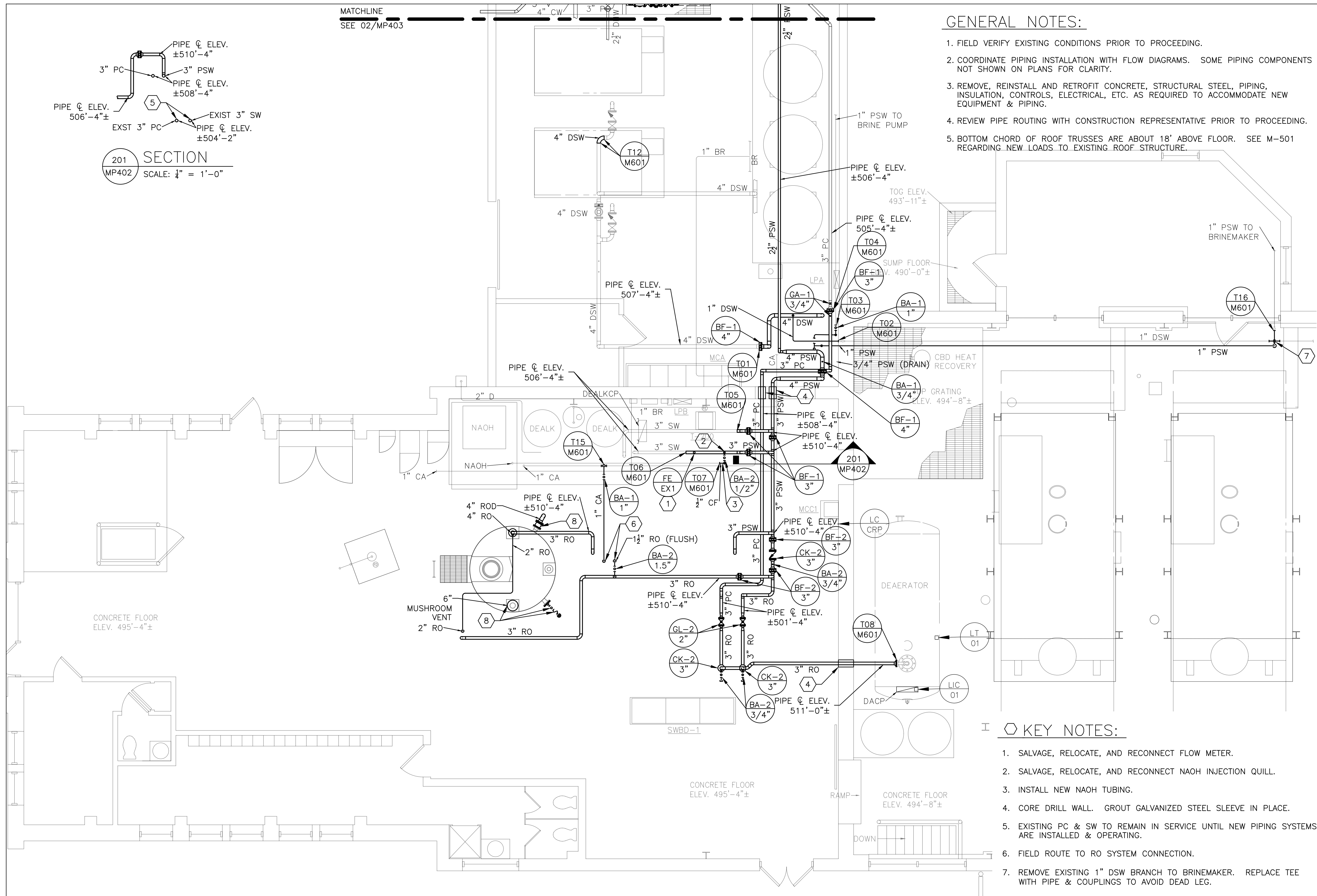
MATCHLINE  
SEE 02/MP403

GENERAL NOTES:

1. FIELD VERIFY EXISTING CONDITIONS PRIOR TO PROCEEDING.
2. COORDINATE PIPING INSTALLATION WITH FLOW DIAGRAMS. SOME PIPING COMPONENTS NOT SHOWN ON PLANS FOR CLARITY.
3. REMOVE, REINSTALL AND RETROFIT CONCRETE, STRUCTURAL STEEL, PIPING, INSULATION, CONTROLS, ELECTRICAL, ETC. AS REQUIRED TO ACCOMMODATE NEW EQUIPMENT & PIPING.
4. REVIEW PIPE ROUTING WITH CONSTRUCTION REPRESENTATIVE PRIOR TO PROCEEDING.
5. BOTTOM CHORD OF ROOF TRUSSES ARE ABOUT 18' ABOVE FLOOR. SEE M-501 REGARDING NEW LOADS TO EXISTING ROOF STRUCTURE.



201 SECTION  
MP402 SCALE: 1/4" = 1'-0"



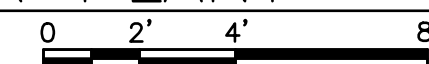
KEY NOTES:

1. SALVAGE, RELOCATE, AND RECONNECT FLOW METER.
2. SALVAGE, RELOCATE, AND RECONNECT NAOH INJECTION QUILL.
3. INSTALL NEW NAOH TUBING.
4. CORE DRILL WALL. GROUT GALVANIZED STEEL SLEEVE IN PLACE.
5. EXISTING PC & SW TO REMAIN IN SERVICE UNTIL NEW PIPING SYSTEMS ARE INSTALLED & OPERATING.
6. FIELD ROUTE TO RO SYSTEM CONNECTION.
7. REMOVE EXISTING 1" DSW BRANCH TO BRINEMAKER. REPLACE TEE WITH PIPE & COUPLINGS TO AVOID DEAD LEG.
8. SPECIFIED TO BE FURNISHED WITH RO TANK.

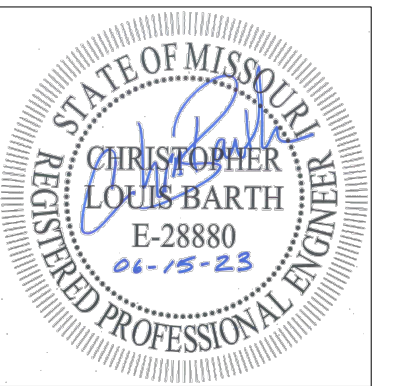


MECHANICAL PIPING PLAN - POWER PLANT - HIGH

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



STATE OF MISSOURI  
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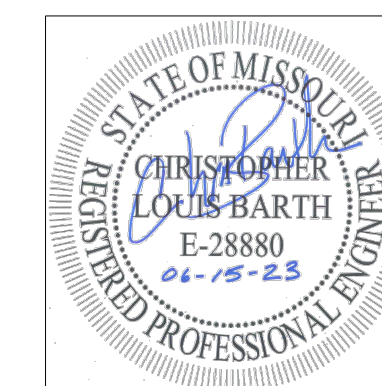
SHEET TITLE:  
MECHANICAL  
PIPING PLAN -  
POWER PLANT-  
HIGH

SHEET NUMBER:

MP-402

16 OF 24 SHEETS  
APRIL 26, 2023





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**GENERAL NOTES:**

1. FIELD VERIFY EXISTING CONDITIONS PRIOR TO PROCEEDING.
2. COORDINATE PIPING INSTALLATION WITH FLOW DIAGRAMS. SOME PIPING COMPONENTS NOT SHOWN ON PLANS FOR CLARITY.
3. REMOVE, REINSTALL AND RETROFIT CONCRETE, STRUCTURAL STEEL, PIPING, INSULATION, CONTROLS, ELECTRICAL, ETC. AS REQUIRED TO ACCOMMODATE NEW EQUIPMENT & PIPING.
4. REVIEW PIPE ROUTING WITH CONSTRUCTION REPRESENTATIVE PRIOR TO PROCEEDING.

**KEY NOTES:**

1. REVIEW LIT LOCATION WITH CONSTRUCTION REPRESENTATIVE FOR APPROVAL PRIOR TO PROCEEDING.
2. COORDINATE NEW W12 FOR SUPPORT OF BACKFLOW PREVENTER & ASSOCIATED PIPE WITH STRUCTURAL CONTRACTOR. SEE STRUCTURAL DRAWINGS.
3. DIELECTRIC CONNECTION.
4. PROVIDE SUITABLE SUPPORT & LATERAL BRACING.
5. INSTALL 6" DRAIN (PVC, SCH 40) FROM BFP RELIEF VALVE TO DRAIN. SLOPE MINIMUM 1/4" PER FOOT.
- 5.1. COORDINATE WITH NEW DRAIN LINE ADDITION INDICATED ON PLUMBING DRAWINGS.

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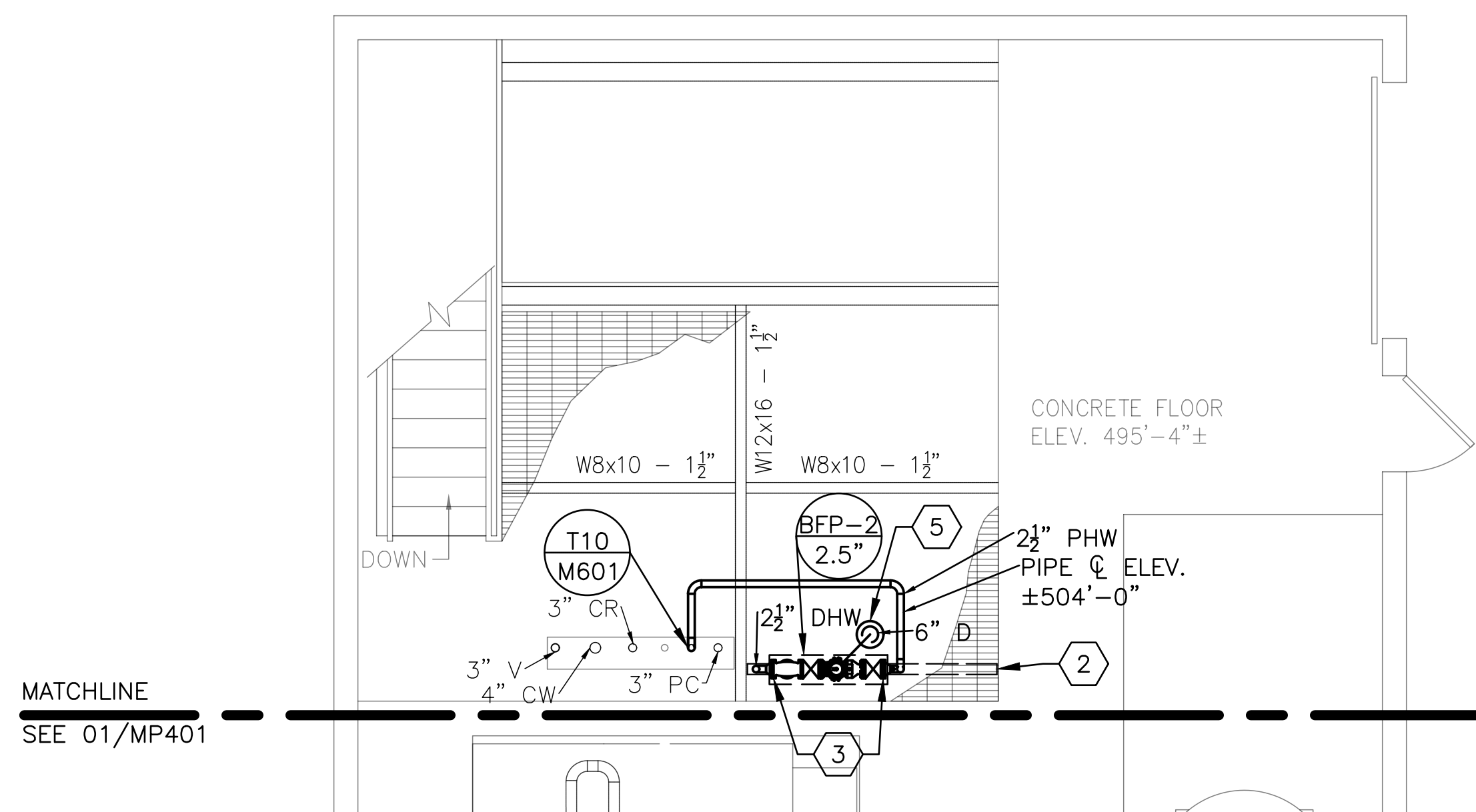
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SHEET TITLE:  
MECHANICAL  
PIPING PLANS -  
POWER PLANT -  
EAST

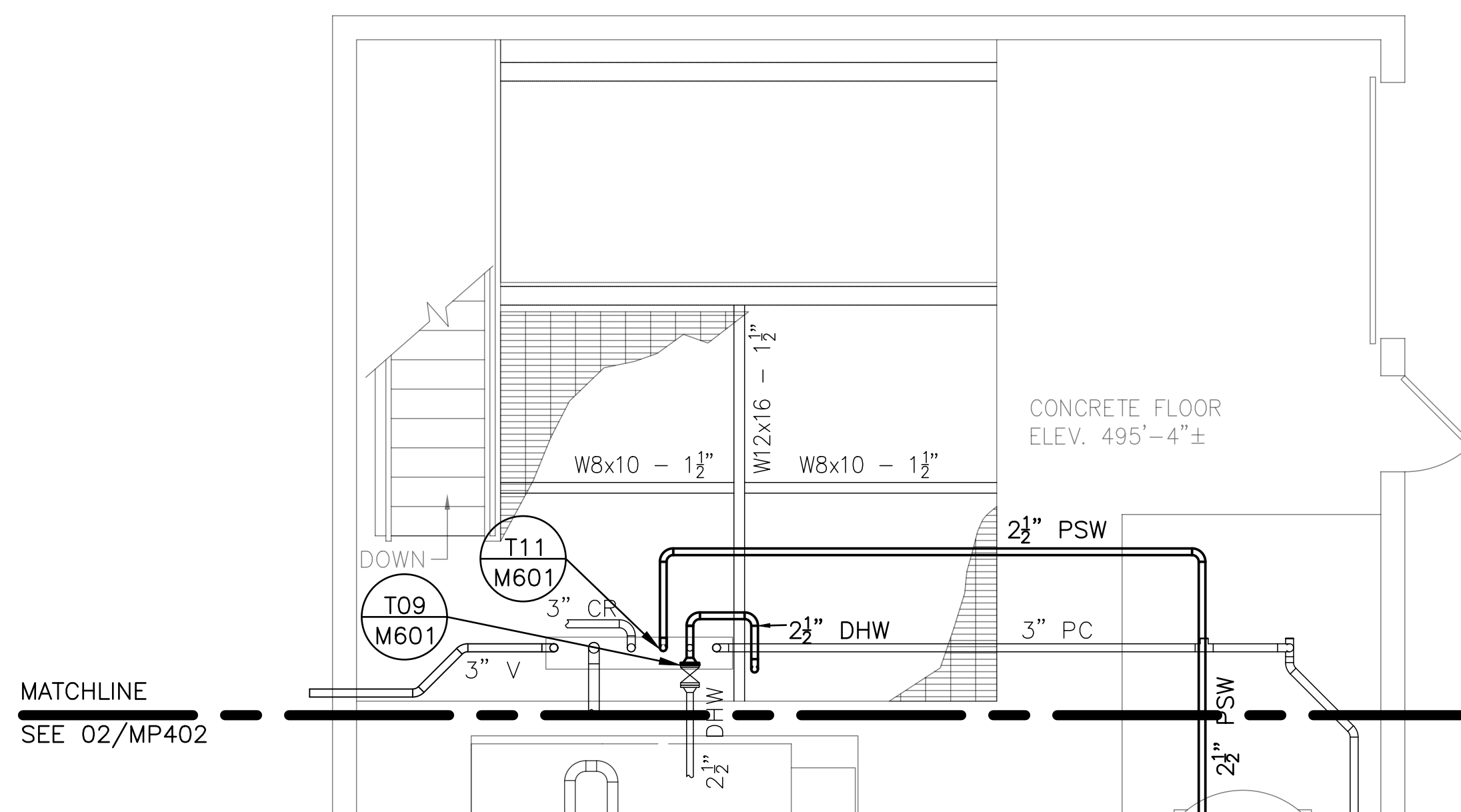
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**MP-403**

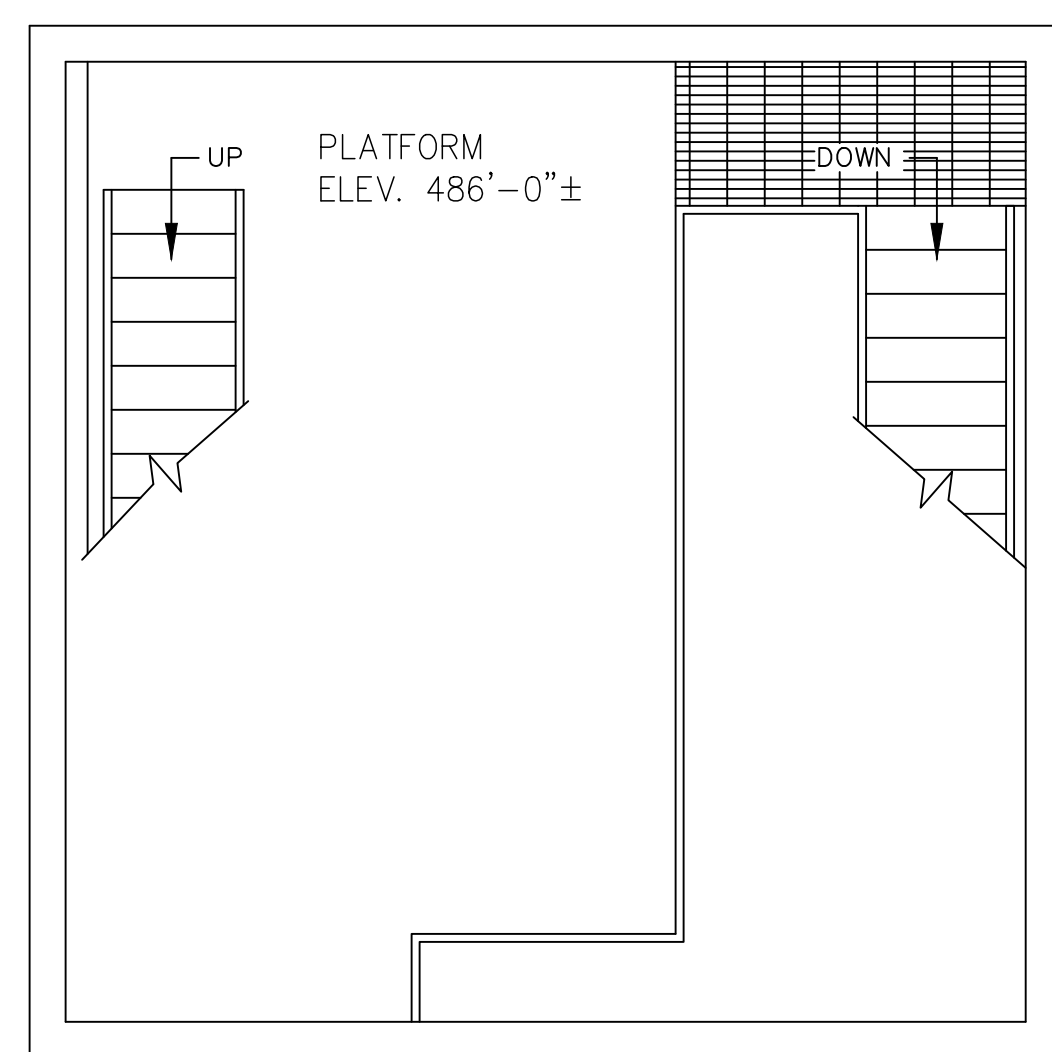
17 OF 24 SHEETS  
APRIL 26, 2023



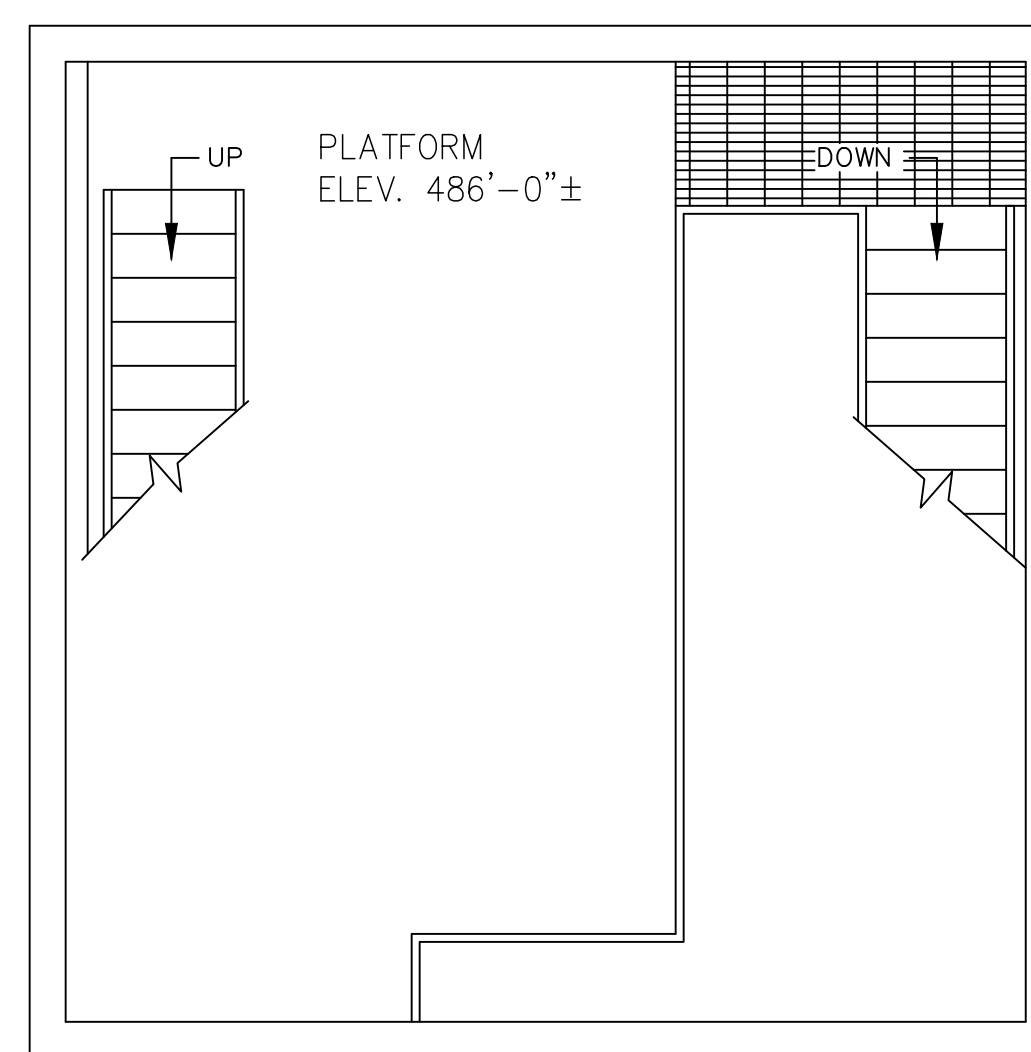
MECHANICAL PLAN - POWER PLANT - 495'-4" - LOW  
SCALE: 1/4"=1'-0" 0 2' 4' 8'



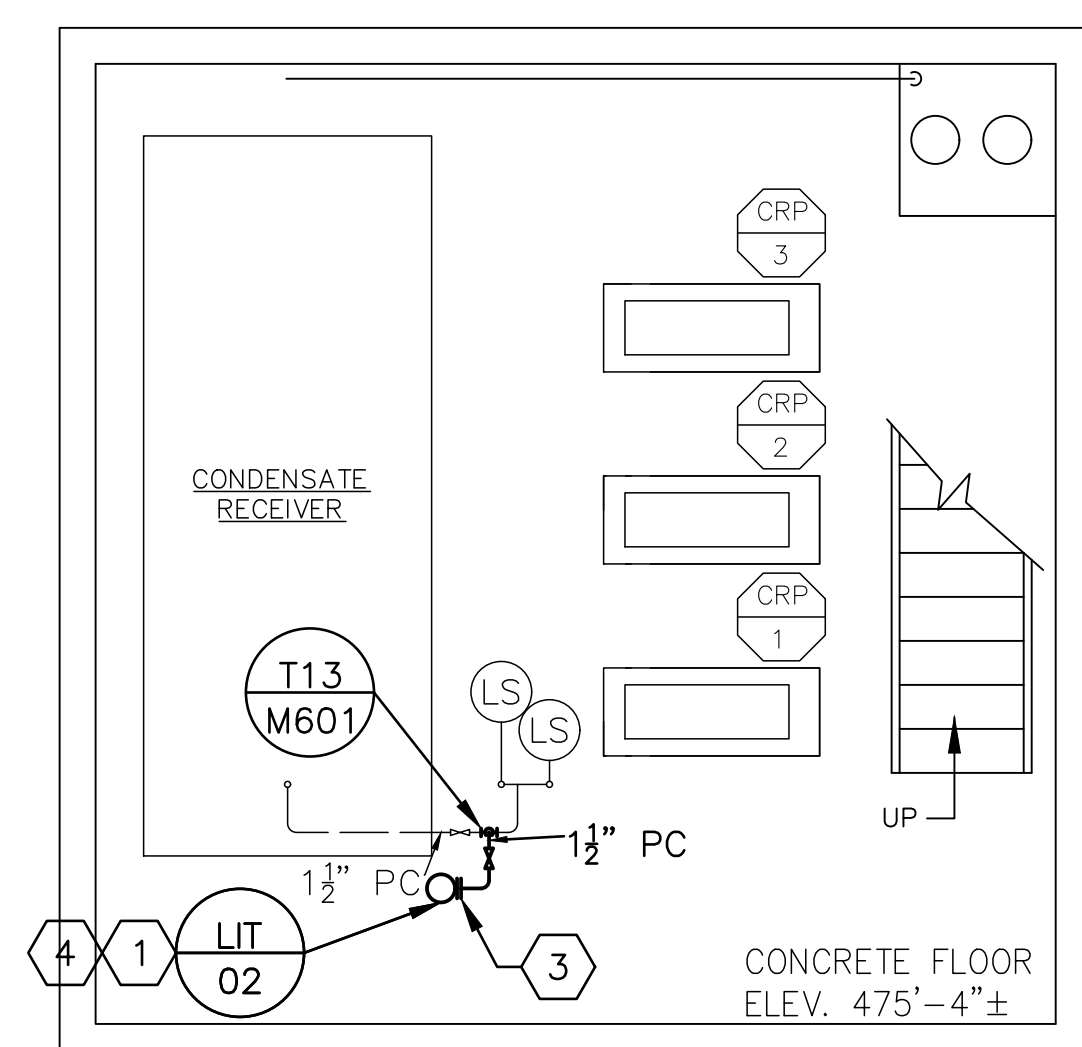
MECHANICAL PLAN - POWER PLANT - 495'-4" - HIGH  
SCALE: 1/4"=1'-0" 0 2' 4' 8'



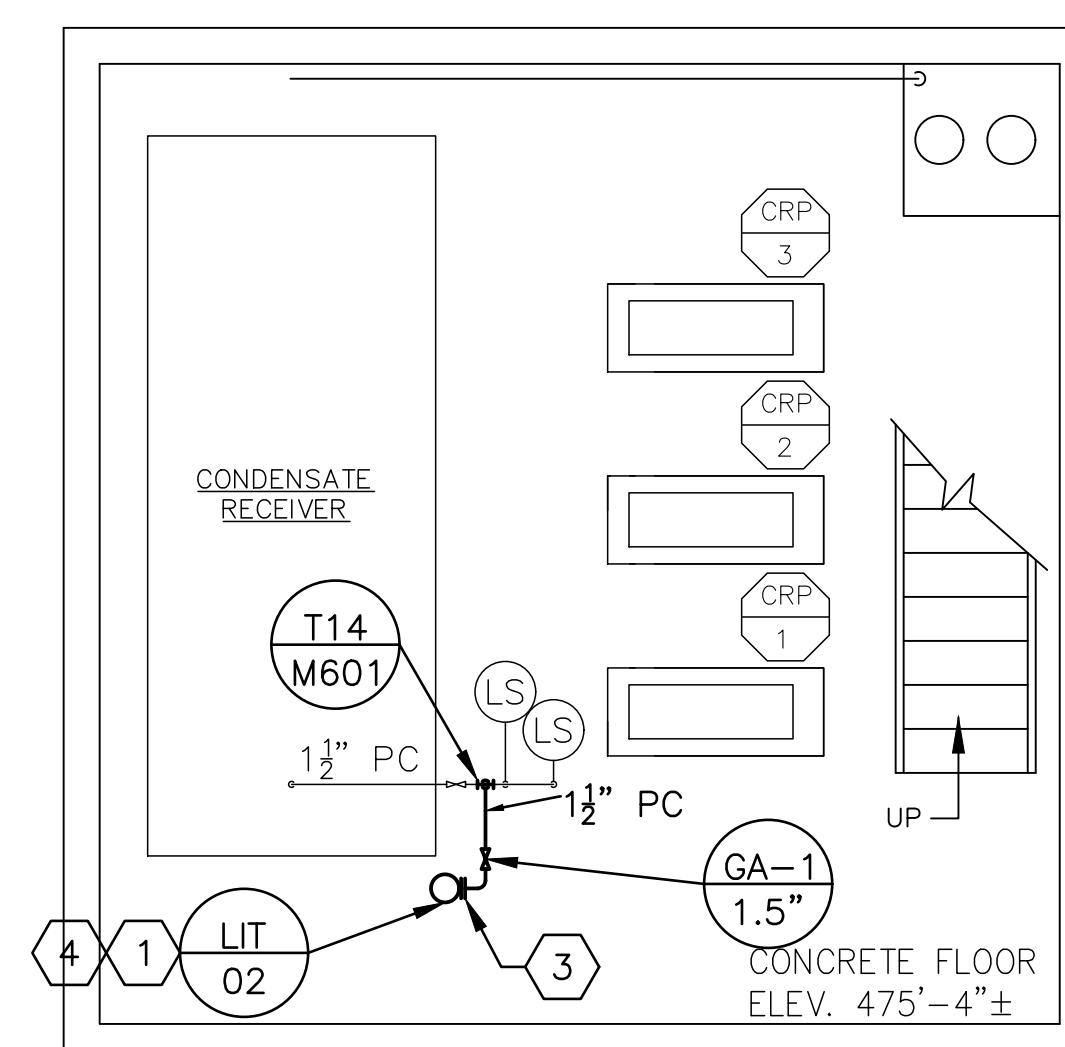
MECHANICAL PLAN - POWER PLANT - 486'-0" - LOW  
SCALE: 1/4"=1'-0" 0 2' 4' 8'



MECHANICAL PLAN - POWER PLANT - 486'-0" - HIGH  
SCALE: 1/4"=1'-0" 0 2' 4' 8'



MECHANICAL PLAN - POWER PLANT - 475'-4" - LOW  
SCALE: 1/4"=1'-0" 0 2' 4' 8'



MECHANICAL PLAN - POWER PLANT - 475'-4" - HIGH  
SCALE: 1/4"=1'-0" 0 2' 4' 8'



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SHEET TITLE:  
**PLUMBING PLAN -  
POWER PLANT -  
H2O TREATMENT**

SHEET NUMBER:

**P-401**

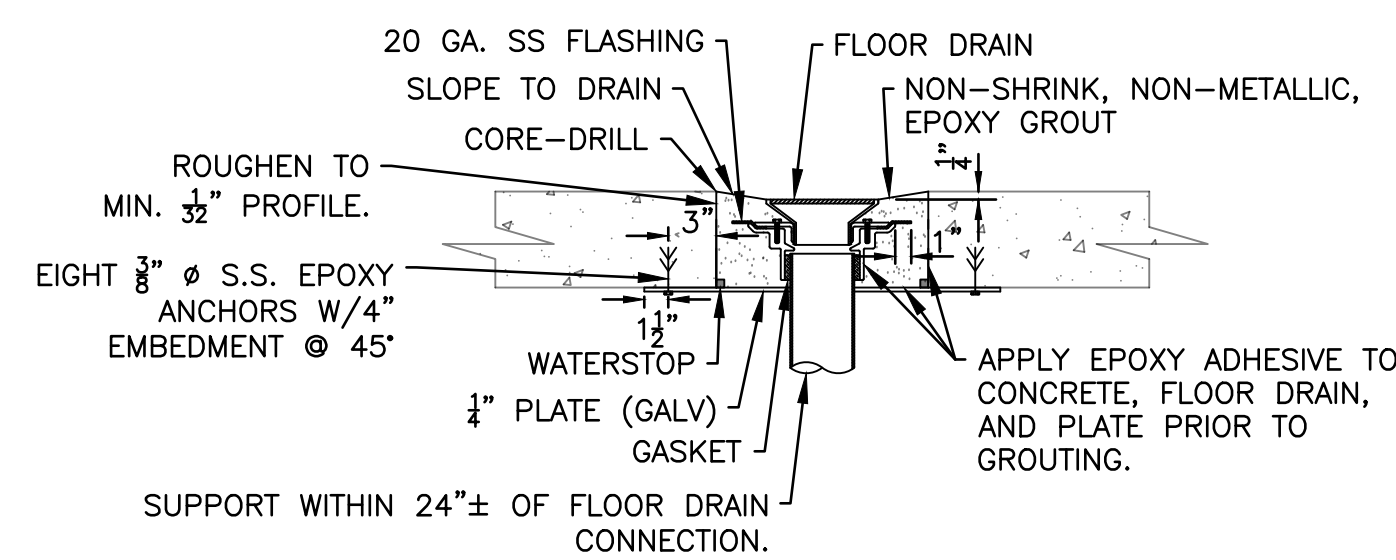
18 OF 24 SHEETS  
APRIL 26, 2023

**GENERAL NOTES:**

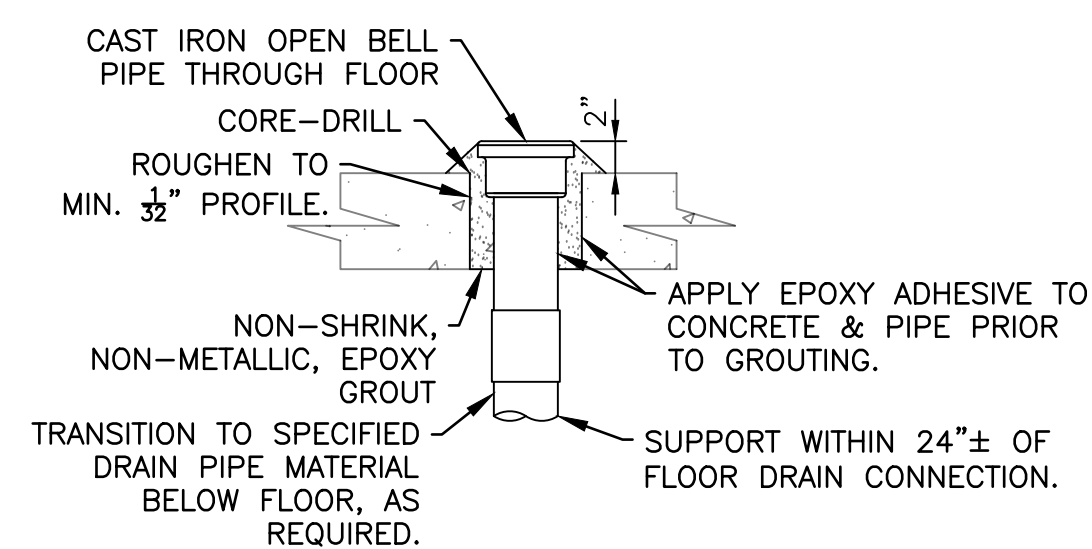
1. FIELD VERIFY EXISTING CONDITIONS PRIOR TO PROCEEDING.
3. PROVIDE NEW PLUMBING SYSTEMS SUITABLE FOR AND COORDINATED WITH NEW EQUIPMENT, AVAILABLE SPACE & OTHER CONSTRUCTION TRADES.
4. REMOVE, REINSTALL AND RETROFIT CONCRETE, STRUCTURAL STEEL, PIPING, INSULATION, CONTROLS, ELECTRICAL, ETC. AS REQUIRED TO ACCOMMODATE NEW PLUMBING.
5. CLEAN, DISINFECT, & FLUSH DOMESTIC COLD AND HOT WATER SYSTEMS WHICH ARE RETROFITTED PRIOR TO PLACING INTO SERVICE.

**KEY NOTES:**

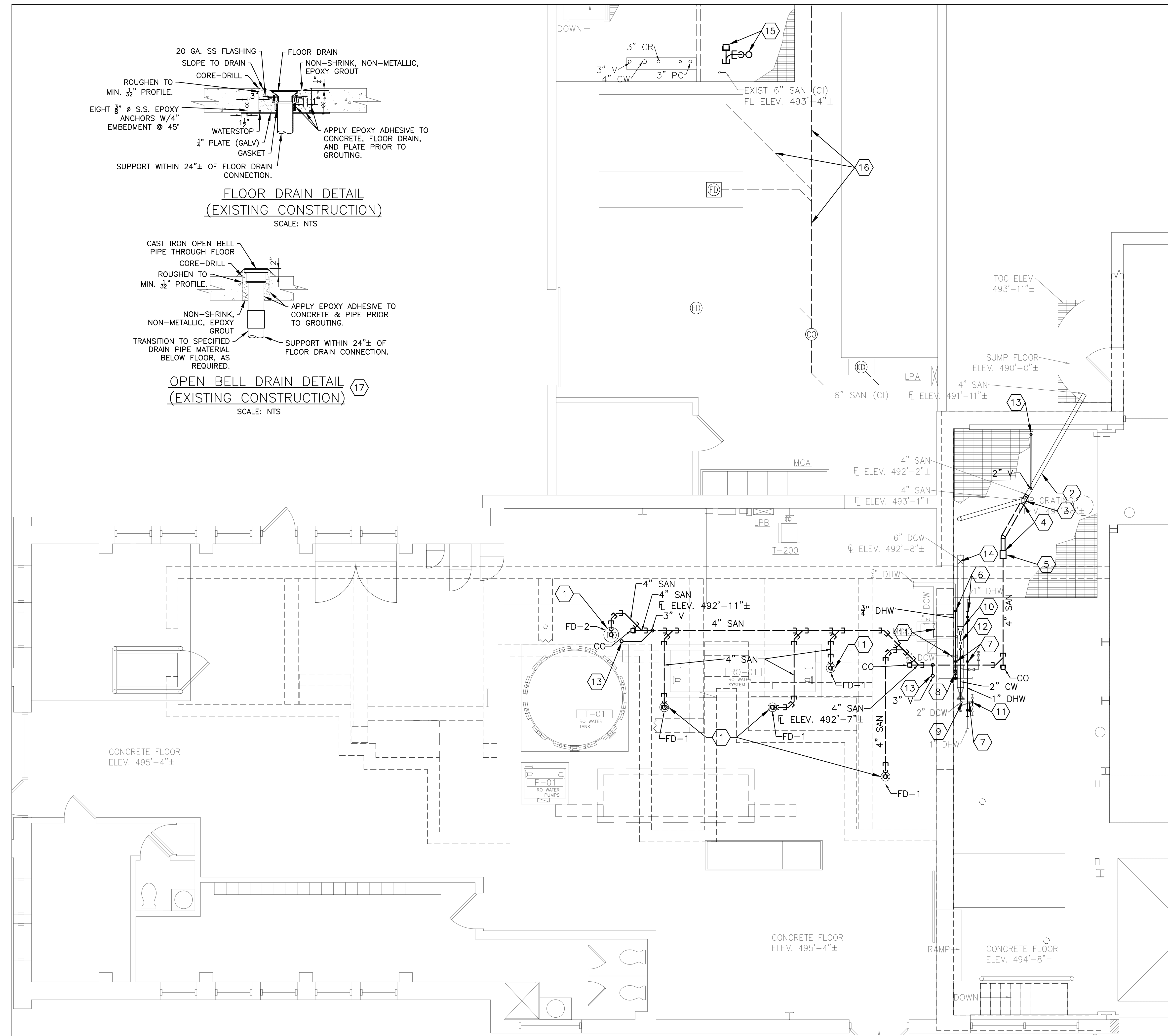
1. COORDINATE FLOOR DRAIN LOCATIONS WITH EQUIPMENT PROVIDED & PIPING SUBCONTRACTOR.
2. EXISTING 4" SANITARY DRAIN IS WELDED CARBON STEEL PIPE.
3. REPLACE EXISTING 90° ELBOW WITH BUTT WELD CARBON STEEL PIPE TEE, SCHED. 40.
4. INSTALL NEW 4", SCHEDULE 40, CARBON STEEL PIPE AS REQUIRED TO CONNECT NEW 4", CAST IRON, SANITARY DRAIN.
5. 4" CI-TO-CS DRESSER TRANSITION COUPLING.
6. LOWER PIPE AS REQUIRED TO ACCOMMODATE NEW 4" SAN.
7. INSTALL NEW LOW POINT DRAIN VALVE - BA-1-1/2". SEE DIV 23 VALVE SPECIFICATIONS.
8. INSTALL NEW ISOLATION VALVE - BA-1-3/4". SEE DIV 23 VALVE SPECIFICATIONS.
9. REPLACE 6" DCW WITH 2" DCW.
10. ECCENTRIC REDUCERS WITH FLAT ON BOTTOM.
11. RECONNECT DCW BRANCH LINES TO NEW 2" DCW.
12. INSTALL NEW ISOLATION VALVE - BA-1-2". SEE DIV 23 VALVE SPECIFICATIONS.
13. FIELD ROUTE VENTS TO SUITABLE EXTERIOR DISCHARGE POINT, MINIMUM 10' FROM BUILDING OPENINGS & AIR INTAKES. REVIEW VENT TERMINAL LOCATION & VENT ROUTING WITH CONSTRUCTION REPRESENTATIVE FOR APPROVAL PRIOR TO PROCEEDING.
14. REPLACE DETERIORATED 6" DCW PIPE HANGER.
15. CONNECT TO EXISTING 6" CI BELOW GRATING, FL = 493'-4"±. INSTALL NEW 6" SANITARY TEE, CLEAN-OUT FERRULE WITH BRASS PLUG, P-TRAP, & OPEN BELL DRAIN.
  - 15.1. OPEN BELL DRAIN TO BE LOCATED ABOVE GRATING TO ACCOMMODATE NEW BACKFLOW PREVENTER DRAIN PIPE. SEE PIPING DRAWINGS.
  - 15.2. CUT & BAND GRATING PENETRATION.
  - 15.3. PROVIDE SUPPORTS AND SUPPLEMENTAL SUPPORT BEAMS AS REQUIRED.
16. CLEAN & INSPECT EXISTING 6" SAN. SUBMIT REPORT, INSPECTION VIDEO, & RECOMMENDATIONS TO CONSTRUCTION REPRESENTATIVE.
17. OPEN BELL DRAIN MAY BE SUBSTITUTED FOR FD-1 FLOOR DRAIN WHERE SERVICE IS PRIMARILY FOR RO-1 EQUIPMENT DRAINS, SUBJECT TO APPROVAL OF CONSTRUCTION REPRESENTATIVE & ENGINEER.



**FLOOR DRAIN DETAIL  
(EXISTING CONSTRUCTION)**  
SCALE: NTS



**OPEN BELL DRAIN DETAIL  
(EXISTING CONSTRUCTION)**  
SCALE: NTS



**PLUMBING PLAN - POWER PLANT**  
SCALE: 1/4"=1'-0" 0 2' 4' 8"



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MO # E-24220  
Expires 12-31-2024

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MANAGEMENT,  
DESIGN AND CONSTRUCTION

DEPARTMENT OF  
CORRECTIONS

VOLUME 2 -  
REPLACE BOILERS AND  
CONTROLS, POWER PLANT

FARMINGTON  
CORRECTIONAL CENTER  
1012 WEST COLUMBIA  
STREET,  
FARMINGTON, MO 63640

PROJECT # C2006-01  
SITE # 7008  
ASSET # 9327008094

REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_

ISSUE DATE: 04/26/2023

CAD DWG FILE: C2007-01-9237-  
9327008094-E-001.DWG  
DRAWN BY: MNS  
CHECKED BY: B D F  
DESIGNED BY: B D F

SHEET TITLE:  
**ELECTRICAL  
SYMBOLS,  
ABBREVIATIONS &  
GENERAL NOTES**

SHEET NUMBER:

**E-001**

19 OF 24 SHEETS  
APRIL 26, 2023

**ELECTRICAL SYMBOLS**

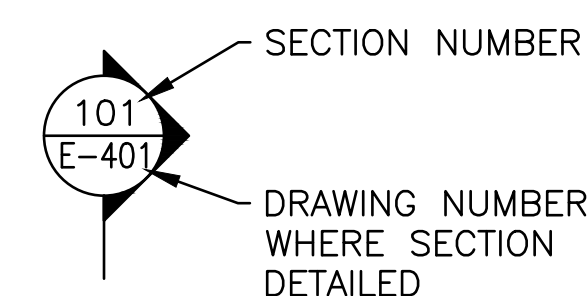
	KEYNOTE; SPECIFICALLY REFERENCED TO AN ITEM ON THE FIELD OF THE DRAWING. DIGITS IDENTIFY THE NUMBER.		WIRING CROSSING, CONNECTION		ELECTRIC METER
	CONDUIT EXPOSED		WIRING CROSSING, NO CONNECTION		END-OF-LINE RESISTOR
	CONDUIT OR CABLE TURNED DOWN		EQUIPMENT CONNECTION		4' INDUSTRIAL OR STRIP LIGHT
	CONDUIT OR CABLE TURNED UP		SELECTOR OR TOGGLE SWITCH		EXIT SIGN - SINGLE FACE WALL MTD
	CONDUIT BELOW GRADE OR IN FLOOR SLAB		NON-FUSIBLE DISCONNECT SWITCH		BATTERY OPERATED EMERGENCY LIGHT
	FLEXIBLE CONDUIT OR CABLE		MEDIUM VOLTAGE FUSIBLE LOAD-INTERUPTER SWITCH		MANUAL PULL STATION
	HOME RUN TO PANEL - SHORT STROKES INDICATE PHASE OR SWITCHED WIRES, LONG STROKE DENOTES NEUTRAL, LONG STROKE WITH DOT DENOTES GROUND. #12 AWG WIRES IN 3/4" GRC UNLESS NOTED OTHERWISE.		FUSED SWITCH		HORN/STROBE ANNUNCIATOR, WALL-MTD
	DISCONNECT SWITCH F = FUSIBLE N = NON-FUSIBLE		FUSIBLE DISCONNECT SWITCH		HEAT DETECTOR, CEILING-MTD
	JUNCTION BOX		FUSE		ADDRESSABLE RELAY CONTROL MODULE
	EXISTING CONTROL PANEL		NEUTRAL LINK/DUMMY FUSE		SMOKE DETECTOR, CEILING-MTD
	NEW CONTROL PANEL		CIRCUIT BREAKER		FIRE EXTINGUISHER
	EXISTING PANELBOARD		DRAW-OUT CIRCUIT BREAKER		
	SINGLE POLE SWITCH		TRANSFORMER		
	120V DUPLEX RECEPTACLE		CURRENT TRANSFORMER (SHOWN WITH POLARITY MARKS, RATIO & QUANTITY)		
	120V GROUND FAULT CIRCUIT INTERRUPTER DUPLEX RECEPTACLE		POTENTIAL TRANSFORMER (SHOWN WITH QUANTITY AND RATIO)		
	120V DUPLEX RECEPTACLE W/ WEATHERPROOF COVER		CONTROL POWER TRANSFORMER		
	120V DOUBLE DUPLEX RECEPTACLE		HAND-OFF-AUTOMATIC SELECTOR SWITCH		
	SPECIAL RECEPTACLE (AS NOTED)		PILOT LIGHT, PUSH-TO-TEST X = LENS COLOR		
	REMOTE CONTROL STATION		STOP PUSHBUTTON		
	CONTACTOR		START PUSHBUTTON		
	CONTROL RELAY		NORMALLY CLOSED CONTACT		
	EQUIPMENT GROUND FAULT		NORMALLY OPEN CONTACT		
	MECHANICAL (KEY) INTERLOCK		THERMAL OVERLOAD		
	MOTOR STARTING CONTACTOR		MOTOR OVERLOAD CONTACTS		
	THERMOSTAT		MOTOR, X = HORSEPOWER		
	TIME DELAY RELAY		EXISTING COMBINATION MAGNETIC MOTOR STARTER		
	TIMING RELAY		NEW COMBINATION MAGNETIC MOTOR STARTER		
	SURGE PROTECTIVE DEVICE		VARIABLE FREQUENCY AC MOTOR DRIVE		
	SURGE ARRESTER		COMBINATION MOTOR STARTER		
	GROUNDING ROD		GENERATOR		
	EARTH GROUNDING CONNECTION		LEVEL SWITCH		
	CHASSIS GROUNDING CONNECTION				

	ELECTRIC METER
	END-OF-LINE RESISTOR
	4' INDUSTRIAL OR STRIP LIGHT
	EXIT SIGN - SINGLE FACE WALL MTD
	BATTERY OPERATED EMERGENCY LIGHT
	MANUAL PULL STATION
	HORN/STROBE ANNUNCIATOR, WALL-MTD
	HEAT DETECTOR, CEILING-MTD
	ADDRESSABLE RELAY CONTROL MODULE
	SMOKE DETECTOR, CEILING-MTD
	FIRE EXTINGUISHER

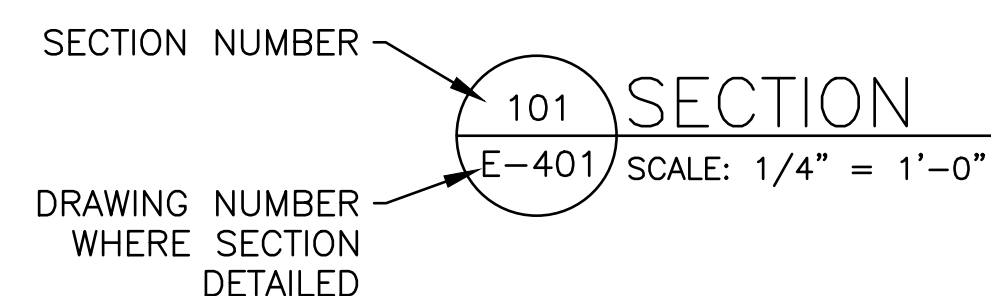
A	AMPERE(S)	FL	FLOOR	PB	PUSHBUTTON SWITCH
ABAND	ABANDONED	FM	FREQUENCY METER	PF	POWER FACTOR
AC	ALTERNATING CURRENT	FOR	FORWARD	PL	PILOT LIGHT
AF	AMP FUSE OR AMP FRAME	FVNR	FULL VOLTAGE NON REVERSING	PNL	PANEL
AFF	ABOVE FINISHED FLOOR	GA	GAUGE	PNLBD	PANELBOARD
AFG	ABOVE FINISHED GRADE	GAL	GALLON	PR	PROTECTIVE RELAYS OR PAIR
AIC	AMPERE INTERRUPTING CAPACITY (RMS SYMMETRICAL)	GALV	GALVANIZED	PT	POTENTIAL TRANSFORMER
AM	AMMETER	GCP	GENERATOR CONTROL PANEL	PTT	PUSH-TO-TEST
ANNUN	ANNUNCIATOR	GF	GROUND FAULT	PVC	SCHEDULE 40 POLYVINYLCHLORIDE CONDUIT
APPROX	APPROXIMATELY	GFCI	GROUND FAULT CIRCUIT INTERRUPTER	PWR	POWER
AS	AMMETER SWITCH	GFR	GROUND FAULT RELAY	RAC	RIGID ALUMINUM CONDUIT
ASSOC	ASSOCIATED	GRAP	GENERATOR REMOTE ANNUNCIATOR PANEL	RECPT	RECEPTACLE
ASSY	ASSEMBLY	GRC	GALVANIZED RIGID STEEL CONDUIT	REQD	REQUIRED
AT	AMP TRIP	GRD	GROUND	REQMTS	REQUIREMENTS
ATS	AUTOMATIC TRANSFER SWITCH	H	HIGH	REV	REVERSE
AUTO	AUTOMATIC	H-O-A	HAND-OFF-AUTOMATIC	RM	ROOM
AVAIL	AVAILABLE	HP	HORSEPOWER	RMC	RIGID METAL CONDUIT
AWG	AMERICAN WIRE GAUGE	HZ	FREQUENCY IN CYCLES PER SECOND	RMP	REMOTE MONITORING PANEL
BFG	BELOW FINISHED GRADE	I/O	INPUT/OUTPUT	RMS	ROOT MEAN SQUARE
BKR	BREAKER	INCL	INCLUDING	SA	SURGE ARRESTOR
BLDG	BUILDING	INFO	INFORMATION	SC	SURGE CAPACITOR
BSMT	BASEMENT	INS	INSULATED	S.C.	SHORT CIRCUIT
C	CONDUIT OR CONDUCTOR	INSTR	INSTRUMENT OR INSTRUMENTATION	SCH	SCHEDULE
CB	CIRCUIT BREAKER	J, JB, J-BOX	JUNCTION BOX	SHLD	SHIELD OR SHIELDED
CKT	CIRCUIT	KA	KILOAMPERE(S)	SPD	SPEED OR SURGE PROTECTIVE DEVICE
CNTRL	CONTROL	KAIC	KILOAMPERE INTERRUPTING CAPACITY (RMS SYMMETRICAL)	SS	SELECTOR SWITCH OR STAINLESS STEEL
COMB	COMBINATION	KCM	THOUSAND CIRCULAR MIL(S)	ST	SHUNT TRIP
CONC	CONCRETE	KV	KILOVOLT(S)	STA	STATION
CP	CONTROL PANEL	KVA	KILOVOLT-AMPERE(S)	STL	STEEL
CPT	CONTROL POWER TRANSFORMER	KW	KILOWATT(S)	STRD	STRANDED
CR	CONTROL RELAY	KWh	KILOWATT-HOUR(S)	SW	SWITCH
CS	CONDUIT SUPPORT OR CONTROL SWITCH	LA	LIGHTING ARRESTER	SWBD	SWITCHBOARD
CT	CURRENT TRANSFORMER	LBCP	LOAD BANK CONTROL PANEL	SWGR	SWITCHGEAR
CTR	CENTER	LFMC	LIQUIDTIGHT FLEXIBLE METAL CONDUIT	SYM	SYMMETRICAL
CU	COPPER	LSH	LEVEL SWITCH (HIGH)	T	THERMOSTAT
D OR DP	DEEP	LSIG	LONG TIME, SHORT TIME, INSTANTANEOUS, GROUND FAULT	TB	TERMINAL BLOCK
DC	DIRECT CURRENT	LTG	LIGHTING	TC	TOP OF CONCRETE
DCP	DAMPER CONTROL PANEL	M	MOTOR STARTING CONTACTOR OR METER	TDR	TIME DELAY RELAY
DIA	DIAMETER	MA	MILLIAMPERE(S)	TEFC	TOTALLY ENCLOSED FAN COOLED
DISC	DISCONNECT	MAX	MAXIMUM	TEMP	TEMPERATURE OR TEMPORARY
DN	DOWN	MCB	MAIN CIRCUIT BREAKER	TERM	TERMINATION
DP	DISTRIBUTION PANEL	MCC	MOTOR CONTROL CENTER	TMCB	THERMAL MAGNETIC CIRCUIT BREAKER
DS	DISCONNECT SWITCH	MCCB	MOLDED CASE CIRCUIT BREAKER	TYP	TYPICAL
DWG	DRAWING	MECH	MECHANICAL	UE	UNDERGROUND ELECTRIC
EG	EMERGENCY GENERATOR	MIN	MINIMUM	UPS	UNINTERRUPTIBLE POWER SUPPLY
ELEV	ELEVATION	MLO	MAIN LUG ONLY	V	VOLT(S)
ELEC	ELECTRIC OR ELECTRICAL	MS	MOTOR STARTING	VA	VOLT-AMPERE(S)
EM	EMERGENCY	MTD	MOUNTED	VFD	VARIABLE FREQUENCY DRIVE
EPM	ELECTRONIC POWER METER	MV	MEDIUM-VOLTAGE	VM	VOLTMETER
EPO	EMERGENCY POWER OFF	MVA	MEGAVOLT-AMPERES	VS	VOLTMETER SWITCH
EQUIP	EQUIPMENT	N OR NEUT	NEUTRAL	W	WATT(S), WIRE(S) OR WIDE
EXH	EXHAUST	N.C.	NORMALLY CLOSED	W/G	WITH
EXIST	EXISTING	N.O.	NORMALLY OPENED	W/O	WITHOUT
F	FUSE OR FUSIBLE	N/A	NOT APPLICABLE	WHM	WATTHOUR METER
FACP	FIRE ALARM CONTROL PANEL	NEC	NATIONAL ELECTRICAL CODE	WHMD	WATTHOUR METER DEMAND
FCI	FAULTED CIRCUIT INDICATOR	NF	NON-FUSED	WM	WATTMETER
FDR	FEEDER	NGR	NEUTRAL GROUNDING RESISTOR	WP	WEATHERPROOF
		NIC	NOT IN CONTRACT	WW	WIREWAY
		NTS	NOT TO SCALE	XFMR	TRANSFORMER
		OE	OVERHEAD ELECTRIC	Z	IMPEDANCE
		OL	OVERLOAD ELEMENT	&	AND
		P	POLE(S)	Δ	DELTA
		P/O	PART OF	#	NUMBER
				%	PERCENT
				∅	PHASE OR DIAMETER

**GENERAL ELECTRICAL NOTES:**

- THE CONTRACTOR SHALL PROVIDE ALL HOLES IN FLOORS AND WALLS AS REQUIRED FOR CONDUIT ROUTING. SEAL PENETRATIONS IN ACCORDANCE WITH THE SPECIFICATIONS.
- COORDINATE EXACT LOCATIONS OF CONDUIT RUNS WITH EXISTING CONDITIONS AND WITH THE OWNER'S REPRESENTATIVE. INDICATE FINAL ROUTING OF ALL CONDUITS ON "AS BUILT" DRAWINGS.
- ALL INFORMATION CONTAINED ON THIS DRAWING APPLIES TO ED AND E SERIES DRAWINGS.
- THERE MAY BE SYMBOLS AND/OR ABBREVIATIONS SHOWN ON THIS SHEET THAT ARE NOT APPLICABLE TO THIS PROJECT.



**SECTION MARK**



**SECTION IDENTIFICATION SYMBOL**



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MO # E-24220  
Expires 12-31-2024

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MISSOURI STATE CERTIFICATE  
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OFFICE OF ADMINISTRATION  
DIVISION OF FACILITIES  
MANAGEMENT,  
DESIGN AND CONSTRUCTION

DEPARTMENT OF  
CORRECTIONS

VOLUME 2 -  
REPLACE BOILERS AND  
CONTROLS, POWER PLANT

FARMINGTON  
CORRECTIONAL CENTER  
1012 WEST COLUMBIA  
STREET,  
FARMINGTON, MO 63640

PROJECT # C2006-01  
SITE # 7008  
ASSET # 9327008094

REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_

ISSUE DATE: 04/26/2023

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DRAWN BY: CLB/MNS  
CHECKED BY: BDF  
DESIGNED BY: BDF

SHEET TITLE:  
ELECTRICAL  
DEMOLITION PLAN  
- POWER PLANT

SHEET NUMBER:

ED-401

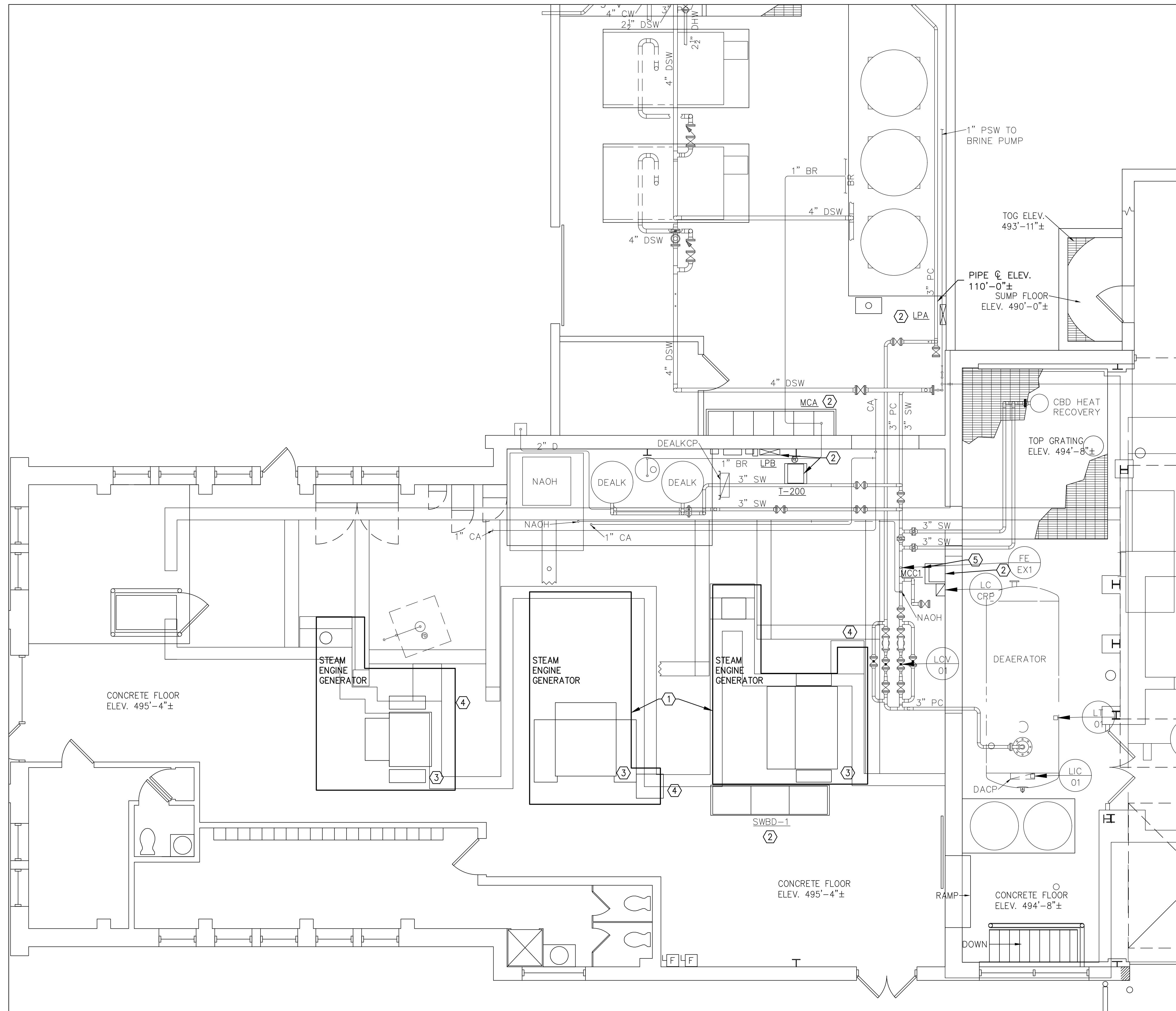
20 OF 24 SHEETS  
APRIL 26, 2023

GENERAL NOTES:

- A. FIELD VERIFY EXISTING CONDITIONS PRIOR TO PROCEEDING.
- B. SEAL & FIRESTOP ALL ABANDONED ROOF, FLOOR & WALL ELEC PENETRATIONS FOR 2 HOUR FIRE RESISTANCE RATING.
- C. REMOVE, REINSTALL AND RETROFIT CONTROLS & ELEC AS REQUIRED TO ACCOMMODATE DEMOLITION.
- D. CAREFULLY REMOVE, STORE, AND REINSTALL EXISTING CONSTRUCTION TO REMAIN AS REQUIRED. TOUCH-UP PAINT AS REQUIRED. REPLACE EXISTING CONSTRUCTION DAMAGED BY CONTRACTOR.
- E. INSPECT ALL INSTRUMENTS & CONTROLS TO BE REMOVED FOR MERCURY. DISPOSE OF MERCURY CONTAINING MATERIALS IN ACCORDANCE WITH APPLICABLE REGULATIONS.
- F. ADDRESS ANY OTHER SUSPECTED HAZARDOUS MATERIALS WITH CONSTRUCTION REPRESENTATIVE. SEE GENERAL NOTE 5 ON DWG MD-401.
- G. AFTER DEMOLITION IS COMPLETE, VISUALLY INSPECT INFRASTRUCTURE TO REMAIN & ADVISE CONSTRUCTION REPRESENTATIVE OF ANY ISSUES PRIOR TO PROCEEDING WITH NEW CONSTRUCTION.
- H. EXISTING MAKE-UP WATER AND CONDENSATE SYSTEMS SHALL REMAIN IN SERVICE UNTIL NEW SYSTEMS ARE INSTALLED & READY FOR SERVICE & APPROVED FOR REMOVAL BY CONSTRUCTION REPRESENTATIVE. PHASE DEMOLITION & CONSTRUCTION AS REQUIRED.

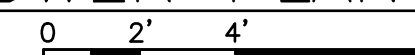
KEY NOTES:

1. EXIST STEAM ENGINE GENERATORS TO BE REMOVED. SEE DWG MD-401.
2. ALL EXIST ELEC EQUIP TO REMAIN IN SERVICE. PROTECT FROM DAMAGE DURING CONSTRUCTION AND MAINTAIN ACCESS TO FRONT OF EQUIP.
3. CUT OFF CONDUITS/CABLES/CONDUCTORS AT PIT WALL.
4. CUT OFF CONDUIT(S) & CONDUCTORS 2" BELOW SURFACE OF FLOOR PER SPECIFICATION SECTION 260505. REMOVE EXIST CONDUCTORS TO SOURCE/DESTINATION IF POSSIBLE. OTHERWISE ABAND IN PLACE.
5. REMOVE EXIST CONDUIT & WIRING FROM FLOW METER TO DELKCP. EXIST FLOW METER TO BE RELOCATED. SEE DWGS MD-401, MP-402 & E-401.



ELECTRICAL DEMOLITION PLAN - POWER PLANT

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





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PROJECT # C2006-01  
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REVISION: \_\_\_\_\_  
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9327008094-E-401.DWG  
DRAWN BY: CLB/MNS  
CHECKED BY: BDF  
DESIGNED BY: BDF

SHEET TITLE:  
**ELECTRICAL PLAN  
- POWER PLANT**

SHEET NUMBER:

**E-401**

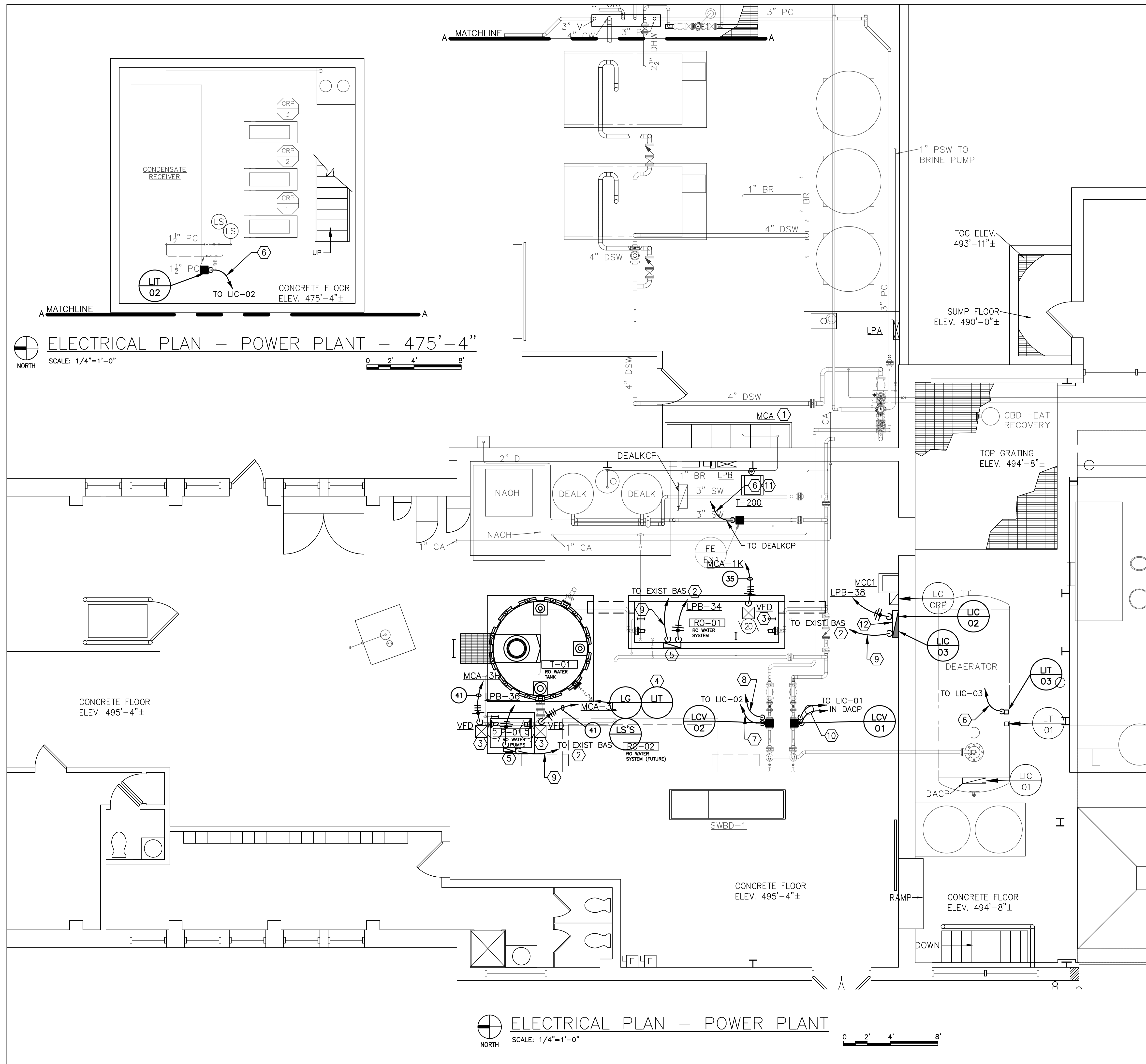
21 OF 24 SHEETS  
APRIL 26, 2023

**GENERAL NOTES:**

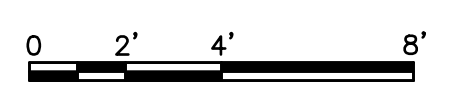
- FIELD VERIFY EXISTING CONDITIONS PRIOR TO PROCEEDING.
- SEAL & FIRESTOP ALL ELEC WALL PENETRATIONS FOR 2 HOUR FIRE RESISTANCE RATING.
- SEE DWG E-601 FOR ONE-LINE DIAGRAM AND FDR SCHEDULE.
- PROVIDE INSTR, CNTRL & COMMUNICATIONS WIRING AS REQD PER DWGS M-601 & M-602.

**KEY NOTES:**

- SEE DWG E-501 FOR MCA ELEVATION & SCHEDULE.
- SEE KEY NOTE 9 ON DWG M-602.
- VFD IS PROVIDED FACTORY MTD ON EQUIP SKID.
- PROVIDE 3/4"C-1 CABLE (2/C #16 SHLD) & 1 1/2"C-6 CABLES (2/C #14) TO RO SKID CNTRL PANEL. SEE DWG M-602. COORDINATE REQMTS WITH EQUIP SUPPLIER.
- CNTRL PNL IS PROVIDED FACTORY MTD ON EQUIP SKID.
- 3/4"C-1 CABLE (2/C #16 SHLD)
- 1"C-2 CABLES (2/C #16 SHLD)
- 3/4"C-2 #12 & 1 #12 GRD
- 3/4"C-1 CABLE (CAT 6)
- RECONNECT EXISTING 120VAC PWR & (2) INSTR CABLES TO NEW LCV.
- FIELD VERIFY EXISTING INSTRUMENT WIRING REQUIREMENTS & REPORT FINDINGS TO DESIGNER FOR REVIEW PRIOR TO PROCEEDING.
- INSTALL NEW LIC-02/LIC-03 CNTRL PNL FURNISHED BY DIV 23. SEE KEY NOTE 4 ON DWG MP-401.



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



EXIST MOTOR CONTROL CENTER MCA SCHEDULE (WEST WALL OF CONDENSATE ROOM)

UNIT NUMBER	DESCRIPTION
1D	ROOF VENTILATOR
1H	SPARE
1K	RO WATER SYSTEM PUMP #1 (EAST)
1N	RO WATER SYSTEM PUMP #2 (WEST) - FUTURE
1V	SPARE FUSE STORAGE
1X	SPACE
2D	HOT WATER RETURN PUMP #2 (EAST)
2H	HOT WATER RETURN PUMP #1 (WEST)
2K	SPACE
2O	TRANSFORMER T200
2S	SPACE
2V	ZEOLITE PUMP #2
2X	3-PHASE CAPACITOR
3D	SPACE
3H	TREATED WATER BOOSTER PUMP #1 (NORTH)
3L	TREATED WATER BOOSTER PUMP #2 (SOUTH)
3P	SPARE
3T	SPARE
3X	SPARE
4D	SPACE
4G	SPARE
4I	3-PHASE CAPACITOR
4L	SPARE
4N	3-PHASE CAPACITOR
4Q	SPARE
4S	3-PHASE CAPACITOR
4V	SPARE
4X	3-PHASE CAPACITOR
5O	MAIN MOLDED CASE SWITCH
5Q	SURGE ARRESTERS
5T	TRANSFORMER T100
5W	SUMP PUMPS FOR CONDENSATE ROOM
5X	SPACE
6X	AUTOMATIC TRANSFER SWITCH ATS3

EXIST PANELBOARD LPB SCHEDULE (EAST WALL OF RO WATER SYSTEM AREA)

CKT NO	AMPS	POLES	LOAD	VOLT-AMPERES		LOAD	POLES	AMPS	CKT NO
				ØA	ØB				
1	20	1	UNKNOWN LOAD	-	-	RO WATER SYSTEM ROOM LIGHTS	1	20	2
3	20	1	SOFTNER CONTROL	-	-	RO WATER SYSTEM ROOM LIGHTS	1	20	4
5	20	1	CONDENSATE PIT PUMPS	-	-	RO WATER SYSTEM ROOM LIGHTS	1	20	6
7	60	2	PANEL LP4	-	-	CONDENSATE CONTROL	1	20	8
9				-	-	FACP	1	20	10
11				-	-	FIBER PANEL	1	20	12
13	60	2	PANEL LP5 / BRINE PUMP	-	-	EXIST RECEPTACLES	1	20	14
15	20	1	PHOTOCELL	-	-	EXIST RECEPTACLES	1	20	16
17	20	1	DEALKALIZER	-	-	ASH TUNNEL LIGHTS	1	20	18
19	20	1	RECEPTACLES	-	-	BASEMENT LIGHTS	1	20	20
21	20	1	EXTERIOR LIGHTS	-	-	BASEMENT LIGHTS	1	20	22
23	20	1	RECEPTACLES	-	-	SUMP PUMP	1	20	24
25	20	1	EXTERIOR LIGHTS	-	-	SPARE OLD PANEL	1	20	26
27	20	1	CONDENSATE METER	-	-	RECEPTACLE PHONE HORN	1	20	28
29	20	1	SPARE	-	-	SPARE	1	20	30
31	20	1	SPARE	-	-	SPARE	1	20	32
33	20	1	SPARE	-	500	RO WATER SYS NO. 1 (EAST) - CNTRL PNL	1	15	34
35	20	1	SPARE	-	400	RO WATER PUMPS CNTRL PNL	1	15	36
37	20	1	SPARE	-	200	COND TANK & DA LEVEL CNTRL PNL	1	15	38
39	20	1	SPARE	-	-	MAIN SERVICE TO RADIO	2	100	40
41	20	1	SPARE	-	-				42

200 AMP MCB, 120/240V-1Ø-3W, 42 CKT, 10kA  
NEMA TYPE 1 ENCLOSURE  
SIEMENS CAT. NO. P1A42QJ200CTS W/ TYPE BL CBs

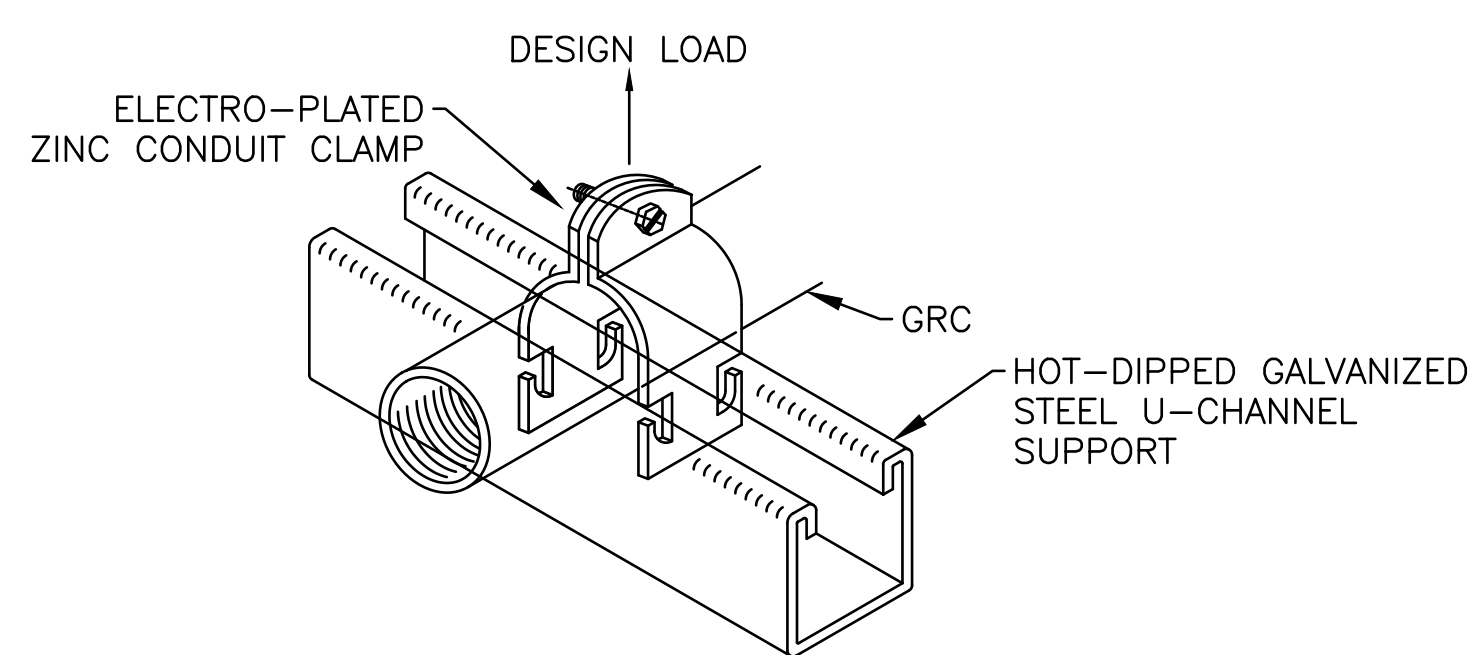
700 400 TOTAL NEW LOAD: 1100 VA

KEY NOTES:

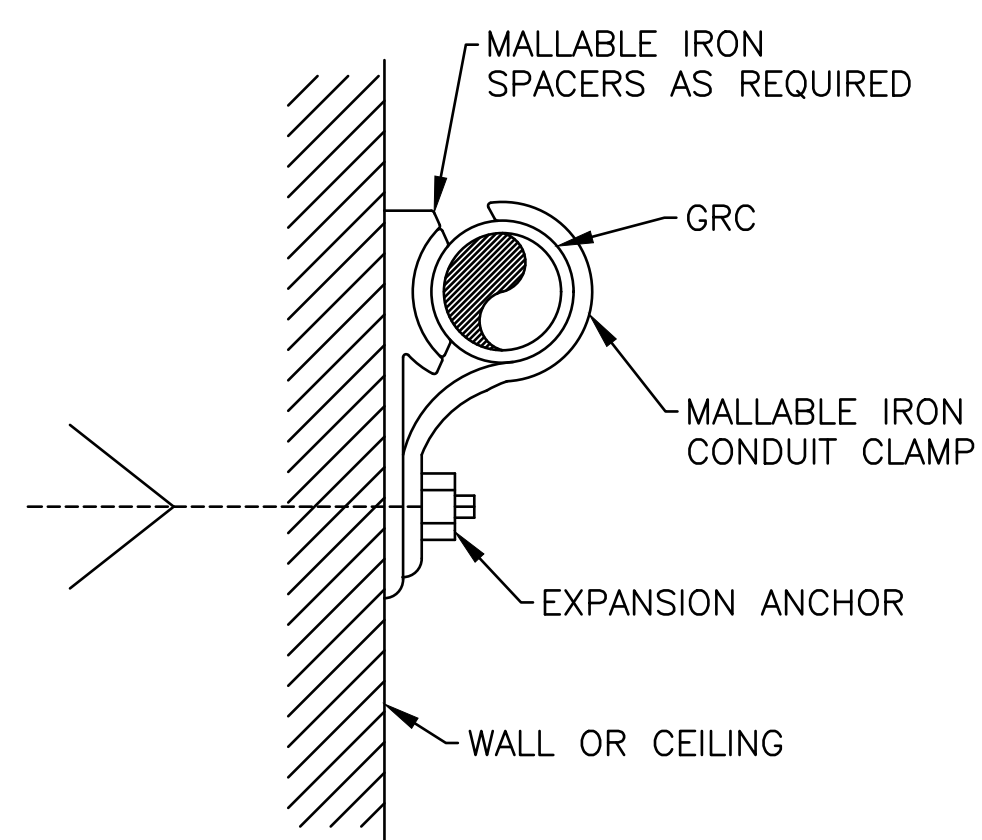
- REPLACE ORANGE TAPE/IDENTIFY BØ CONDUCTOR(S) WITH WHITE OR GRAY VINYL TAPE.
- PROVIDE SOLID COPPER "DUMMY FUSE" LINK IN BØ FUSE CLIPS.
- PROVIDE ENGRAVED LAMINATED PLASTIC NAMEPLATE PER SPECIFICATION SECTION 260553:  
SERVED FROM SWBD-1  
IN RO WATER SYSTEM AREA  
480V-3Ø-3W  
GROUNDED B-PHASE
- PROVIDE ENGRAVED LAMINATED NAMEPLATE PER SPECIFICATION SECTION 260553.
- UTILIZE EXIST SPARE CB.
- TRACE CKT AND PROVIDE DESCRIPTION THAT COMPLIES WITH NEC 408.4(A).
- PROVIDE TYPEWRITTEN CKT DIRECTORY PER SPECIFICATION SECTION 260553.
- PROVIDE ARC FLASH HAZARD WARNING LABEL PER SPECIFICATION SECTIONS 260553 & 260573.
- IN ACCORDANCE WITH THE SPECIFICATIONS AND EQUIP WIRING SCHEMATICS.
- VFD IS PROVIDED FACTORY MTD ON EQUIP SKID.

MOTOR CONTROL SCHEDULE

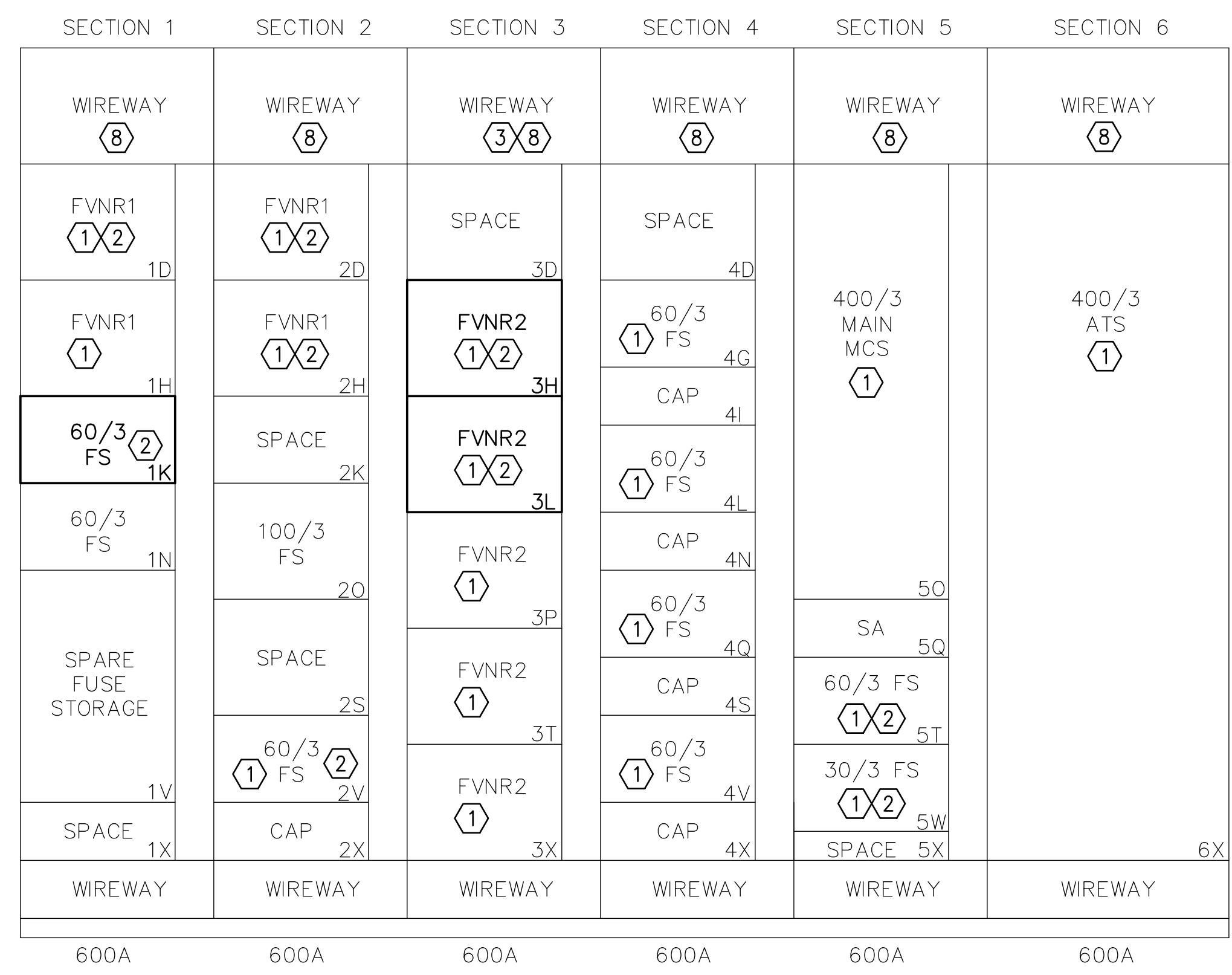
TAG	EQUIPMENT NAME	MOTOR DATA					MOTOR STARTER DATA					DISCONNECT SWITCH DATA				WIRING SCHEMATIC NUMBER	REMARKS				
		HORSEPOWER	VOLTAGE	PHASE	F.L.A.	TYPE	LOCATION	NEMA SIZE	POLES	MAGNETIC TYPE OR VFD	MANUAL TYPE	LOCATION	ADDITIONAL AUXILIARY INTERLOCK CONTACTS		CONTROLS LOCATED ON VFD OR MS ENCL DOOR			AMP SIZE	POLES	LOCATION	FUSE AMPS
													N.C.	N.O.							
ROWSP1E	RO WATER SYSTEM PUMP NO. 1 - EAST	20	460	3	27	TEFC	RO WATER SYS AREA	-	3	VFD	-	AT MOTOR	9	9	9	60	3	ON VFD	45	VFD1	10
ROWP1N	RO WATER PUMP NO. 1 - NORTH	5	460	3	7.6	TEFC	RO WATER SYS AREA	-	3	VFD	-	AT MOTOR	9	9	9	30	3	ON VFD	12	VFD1	10
ROWP2S	RO WATER PUMP NO. 2 - SOUTH	5	460	3	7.6	TEFC	RO WATER SYS AREA	-	3	VFD	-	AT MOTOR	9	9	9	30	3	ON VFD	12	VFD1	10



U-CHANNEL SUPPORT CONDUIT MOUNTING DETAIL  
NO SCALE



CONCRETE/MASONRY WALL/CEILING CONDUIT MOUNTING DETAIL  
NO SCALE



101 EXISTING MCC-MCA ELEVATION  
E-501 SCALE: 1" = 1'-0"



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MISSOURI STATE CERTIFICATE  
OF AUTHORITY #000408

OFFICE OF ADMINISTRATION  
DIVISION OF FACILITIES  
MANAGEMENT,  
DESIGN AND CONSTRUCTION

DEPARTMENT OF  
CORRECTIONS

VOLUME 2 -  
REPLACE BOILERS AND  
CONTROLS, POWER PLANT

FARMINGTON  
CORRECTIONAL CENTER  
1012 WEST COLUMBIA  
STREET,  
FARMINGTON, MO 63640

PROJECT # C2006-01  
SITE # 7008  
ASSET # 9327008094

REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_

ISSUE DATE: 04/26/2023

CAD DWG FILE: C2007-01-9237-9327008094-E-501.DWG  
DRAWN BY: MNS  
CHECKED BY: BDF  
DESIGNED BY: BDF

SHEET TITLE:  
SCHEDULES,  
DETAILS &  
ELEVATIONS

SHEET NUMBER:

E-501

22 OF 24 SHEETS  
APRIL 26, 2023



BARRY D. FREINER  
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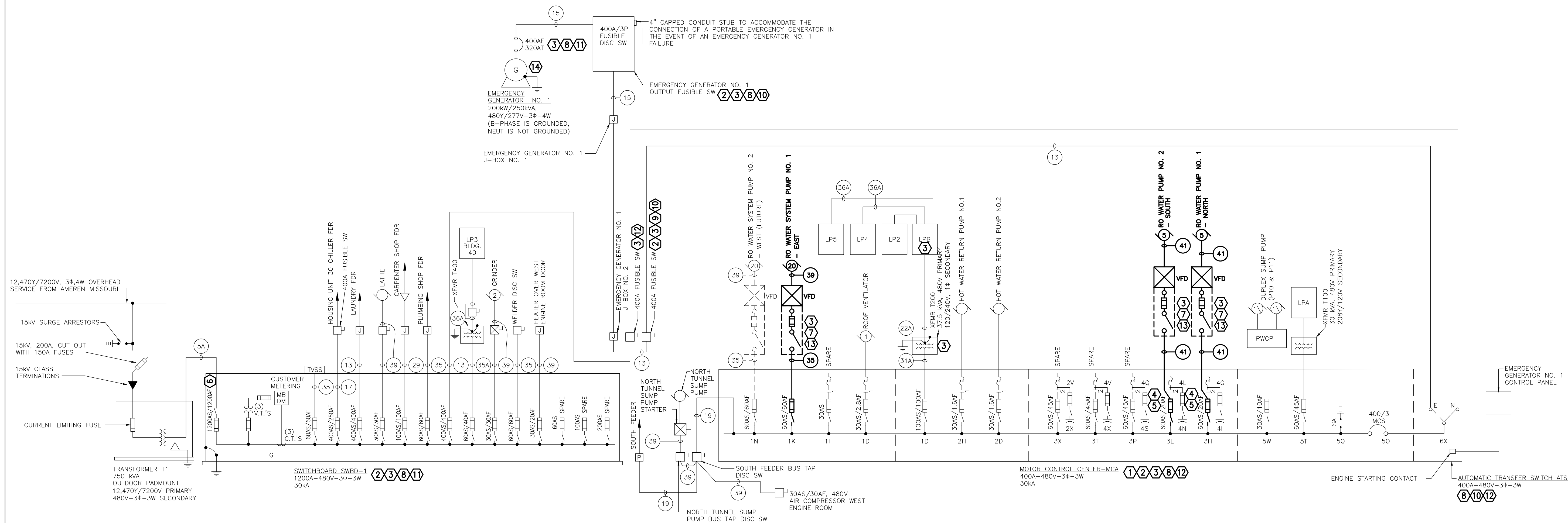
CAD DWG FILE: C2007-01-9237-  
9327008094-E-601.DWG  
DRAWN BY: MNS  
CHECKED BY: BDF  
DESIGNED BY: BDF

SHEET TITLE:  
**ONE-LINE  
DIAGRAM -  
NORTH**

SHEET NUMBER:

**E-601**

23 OF 24 SHEETS  
APRIL 26, 2023



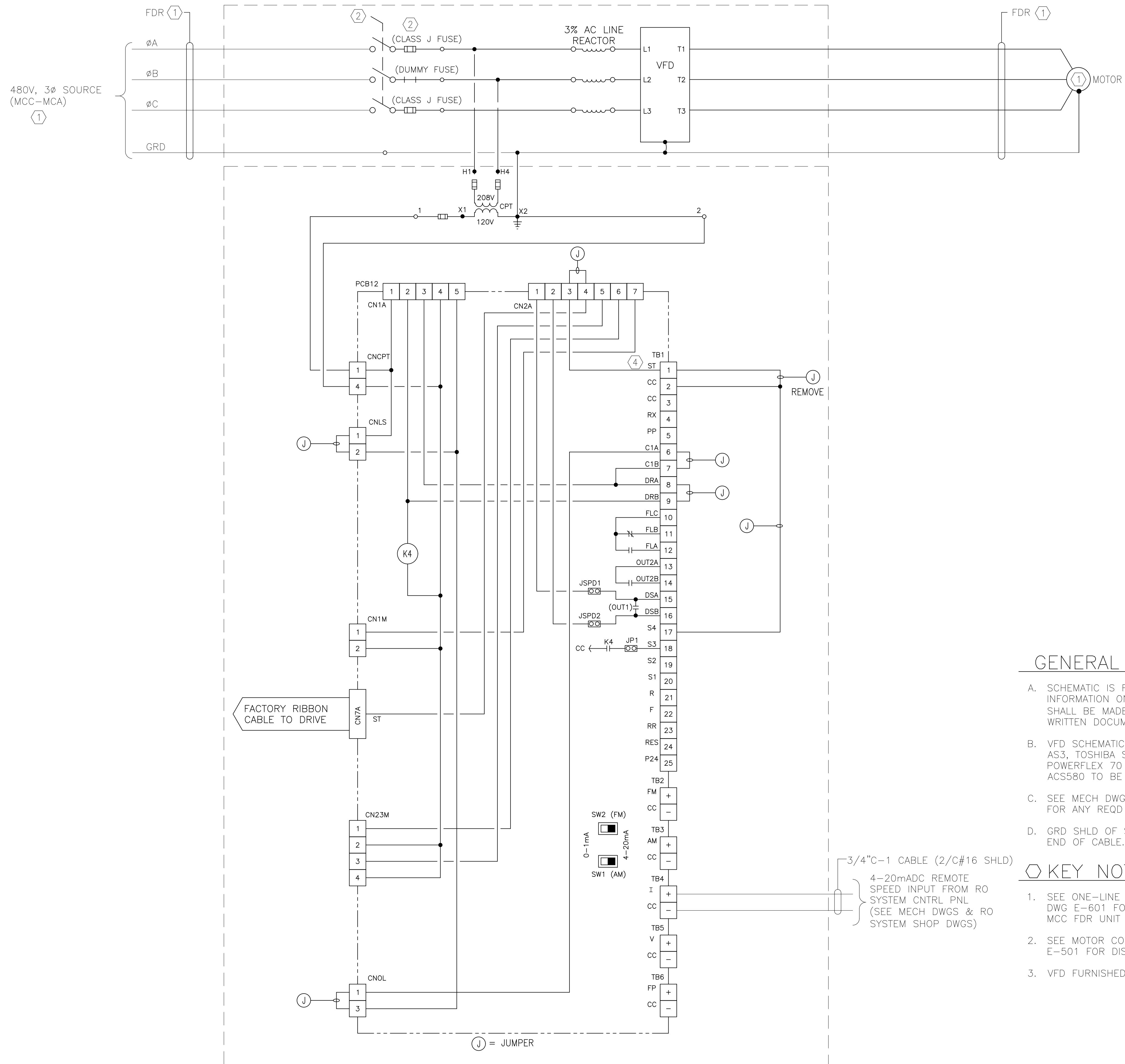
**ONE-LINE DIAGRAM - NORTH**  
NO SCALE

**FEEDER SCHEDULE**  
(ALL FEEDERS ARE COPPER)

FEEDER NUMBER	PHASE		NEUTRAL		GROUND		CONDUIT		2020NEC TABLE 310-16 86°F AMBIENT CONDUIT IN AIR NOMINAL AMPACITY BASED ON 75°C CONDUCTOR INSULATION
	TOTAL NO.	SIZE	TOTAL NO.	SIZE	TOTAL NO.	SIZE	TOTAL NO.	SIZE	
5A	12	350MCM	-	-	-	-	4	3"	1200A
13	3	500MCM	-	-	1	3	1	3"	400A
15	3	350MCM	-	-	1	4	1	3"	300A
17	3	250MCM	-	-	1	4	2	1 1/2"	250A
19	3	4/0	-	-	1	4	1	2"	225A
22A	2	3/0	1	3/0	1	6	1	2"	200A
29	3	2	-	-	1	6	1	1 1/4"	110A
31A	2	3	-	-	1	8	1	1 1/4"	100A
35	3	6	-	-	1	10	1	3/4"	60A
35A	2	6	-	-	1	10	1	3/4"	60A
36A	2	6	1	6	1	10	1	3/4"	60A
37	3	8	-	-	1	10	1	3/4"	50A
39	3	10	-	-	1	10	1	3/4"	30A
41	3	12	-	-	1	12	1	3/4"	20A

**KEY NOTES:**

- SEE DWG E-501 FOR MCC-MCA ELEVATION & SCHEDULE.
- GROUND Bφ SYSTEM. REPLACE EXIST FUSE WITH SOLID COPPER "DUMMY FUSE" PER SPECIFICATION SECTION 262813 IN Bφ FUSE CLIPS OF ALL FUSIBLE SWITCHES SERVING 3-PHASE LOADS.
- PROVIDE ARC FLASH HAZARD WARNING LABEL(S) PER SPECIFICATION SECTIONS 260553 & 260573.
- PROVIDE 60A TO 30A FUSE REDUCERS IN Aφ & Cφ FUSE CLIPS. DO NOT INSTALL FUSES IN PF CAPACITOR DISC SW.
- REMOVE EXIST CONDUCTORS BETWEEN MOTOR CONTACTOR AND FUSIBLE DISC SW AND CONNECT MOTOR BRANCH CKT CONDUCTORS DIRECTLY TO LOAD SIDE OF DISC SW.
- PROVIDE LABEL ON LINE SIDE OF MAIN FUSIBLE SWITCH INDICATING MAX AVAIL FAULT CURRENT. LABEL SHALL INDICATE DATE THE FAULT CURRENT CALCULATIONS WERE PERFORMED PER NEC 110.24(A).
- PROVIDE SOLID COPPER "DUMMY FUSE" IN Bφ FUSE CLIPS PER SPECIFICATION SECTION 262813.
- REMOVE ORANGE PHASE MARKING TAPE FROM EACH Bφ CONDUCTOR AND MARK WITH WHITE OR GRAY VINYL TAPE PER SPECIFICATION SECTION 260553.
- REMOVE MARKING TAPE FROM EACH PHASE CONDUCTOR AND MARK PER SPECIFICATION SECTION 260553.
- PROVIDE ENGRAVED LAMINATED PLASTIC NAMEPLATE PER SPECIFICATION SECTION 260553:  
SERVED FROM EMER GENERATOR NO. 1  
480V-3φ-3W  
GROUNDED B-PHASE
- PROVIDE ENGRAVED LAMINATED PLASTIC NAMEPLATE WITH WHITE CHARACTERS ON A RED BACKGROUND PER SPECIFICATION SECTION 260553:  
480V-3φ-3W  
GROUNDED B-PHASE
- PROVIDE ENGRAVED LAMINATED PLASTIC NAMEPLATE PER SPECIFICATION SECTION 260553:  
SERVED FROM SWBD-1  
480V-3φ-3W  
GROUNDED B-PHASE
- PROVIDE ENGRAVED LAMINATED PLASTIC NAMEPLATE PER SPECIFICATION SECTION 260553:  
EQUIPMENT NAME  
SERVED FROM MCC-MCA  
480V-3φ-3W  
GROUNDED B-PHASE
- CONFIRM THAT NEUTRAL CONDUCTOR IS CAPPED OFF IN ALTERNATOR CONNECTION BOX AND THAT THE GENERATOR NEUTRAL IS NOT BONDED TO GROUND. ADVISE DESIGNER IF THIS IS NOT THE CASE.



MOTOR WIRING SCHEMATIC VFD1

**GENERAL NOTES:**

- A. SCHEMATIC IS FOR GENERAL CONNECTION INFORMATION ONLY. FINAL CONNECTIONS SHALL BE MADE BASED ON MANUFACTURER'S WRITTEN DOCUMENTATION.
- B. VFD SCHEMATIC IS BASED ON TOSHIBA MODEL AS3, TOSHIBA S15, ALLEN-BRADLEY POWERFLEX 70 OR 750 SERIES OR ABB ACS580 TO BE SIMILAR.
- C. SEE MECH DWGS & RO SYSTEM SHOP DWGS FOR ANY REQD VFD INTERLOCKS.
- D. GRD SHLD OF SHLD CABLES AT ONLY ONE END OF CABLE.

**KEY NOTES:**

- 1. SEE ONE-LINE DIAGRAM & FDR SCHEDULE ON DWG E-601 FOR MOTOR & FDR SIZES AND MCC FDR UNIT DESIGNATIONS.
- 2. SEE MOTOR CONTROL SCHEDULE ON DWG E-501 FOR DISC SW AND FUSE SIZES.
- 3. VFD FURNISHED MTD ON EQUIP SKID.



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CAD DWG FILE: C2007-01-9237-9327008094-E-602.DWG  
DRAWN BY: MNS  
CHECKED BY: BDF  
DESIGNED BY: BDF

SHEET TITLE:  
**MOTOR WIRING  
SCHEMATIC**

SHEET NUMBER:  
**E-602**  
24 OF 24 SHEETS  
APRIL 26, 2023