

STUDENT RECREATION CENTER AHU 1-3 REPLACEMENTS



UNIVERSITY OF MISSOURI

FOR THE

CURATORS OF THE UNIVERSITY OF MISSOURI

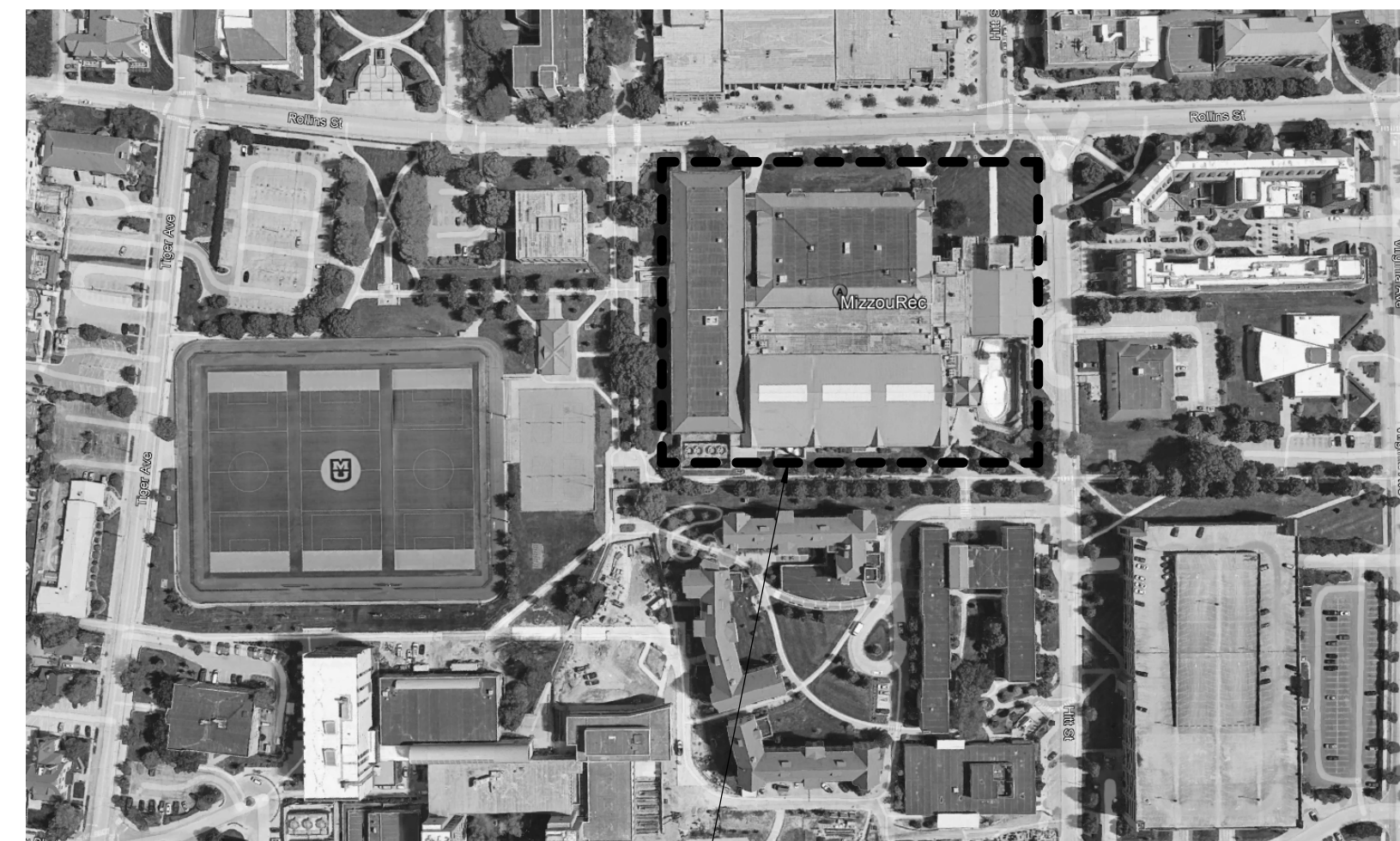
PROJECT NO. CP242271

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PROJECT SITE

DEFERRED SUBMITTALS:

- FIRE SUPPRESSION
- FIRE ALARM

SPECIAL INSPECTIONS:

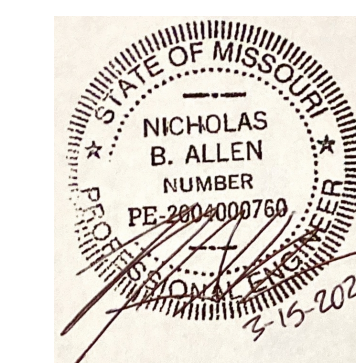
- 1705.2.1 - REFER TO STRUCTURAL SHEETS
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CONSULTING ENGINEERS:

McCLURE ENGINEERING

1000 Clark Avenue
Saint Louis Missouri 63102
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www.mcclureeng.com

MPPF ENGINEERS:
McCLURE ENGINEERING ASSOC., INC
Missouri State Certificate of
Authority #000087



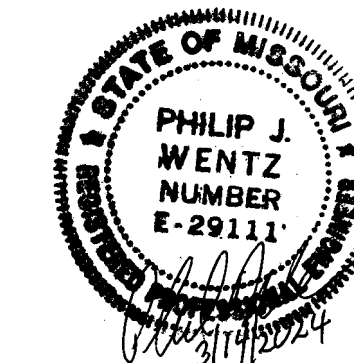
CERTIFICATION:

"I HEREBY CERTIFY THESE DRAWINGS AND / OR SPECIFICATIONS HAVE BEEN PREPARED BY ME, OR UNDER MY SUPERVISION. I FURTHER CERTIFY THAT TO THE BEST OF MY KNOWLEDGE THESE DRAWINGS AND / OR SPECIFICATIONS ARE AS REQUIRED BY AND IN COMPLIANCE WITH THE BUILDING CODES OF THE UNIVERSITY OF MISSOURI."

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Missouri State Certificate of
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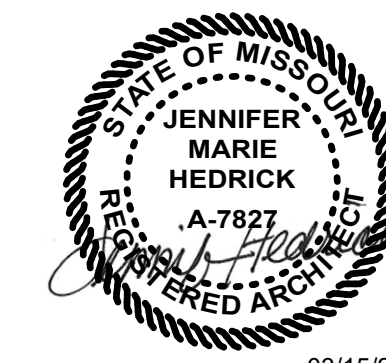
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SOA ARCHITECTURE

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Architect:
Simon Oswald Architecture
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Authority #000826



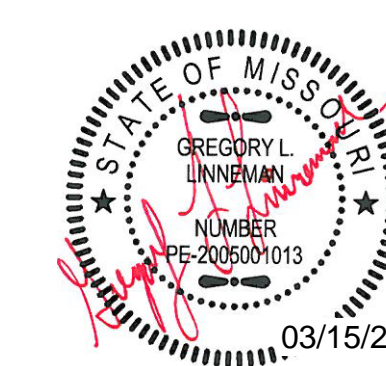
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CROCKETT ENGINEERING CONSULTANTS

1000 W. Nifong Blvd., Bldg. 1
Columbia, Missouri 65203
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Structural Engineer:
Crockett Engineering Consultants
Missouri State Certificate of
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CERTIFICATION:

"I HEREBY CERTIFY THESE DRAWINGS AND / OR SPECIFICATIONS HAVE BEEN PREPARED BY ME, OR UNDER MY SUPERVISION. I FURTHER CERTIFY THAT TO THE BEST OF MY KNOWLEDGE THESE DRAWINGS AND / OR SPECIFICATIONS ARE AS REQUIRED BY AND IN COMPLIANCE WITH THE BUILDING CODES OF THE UNIVERSITY OF MISSOURI."

ISSUE FOR BID SET
03/15/2024



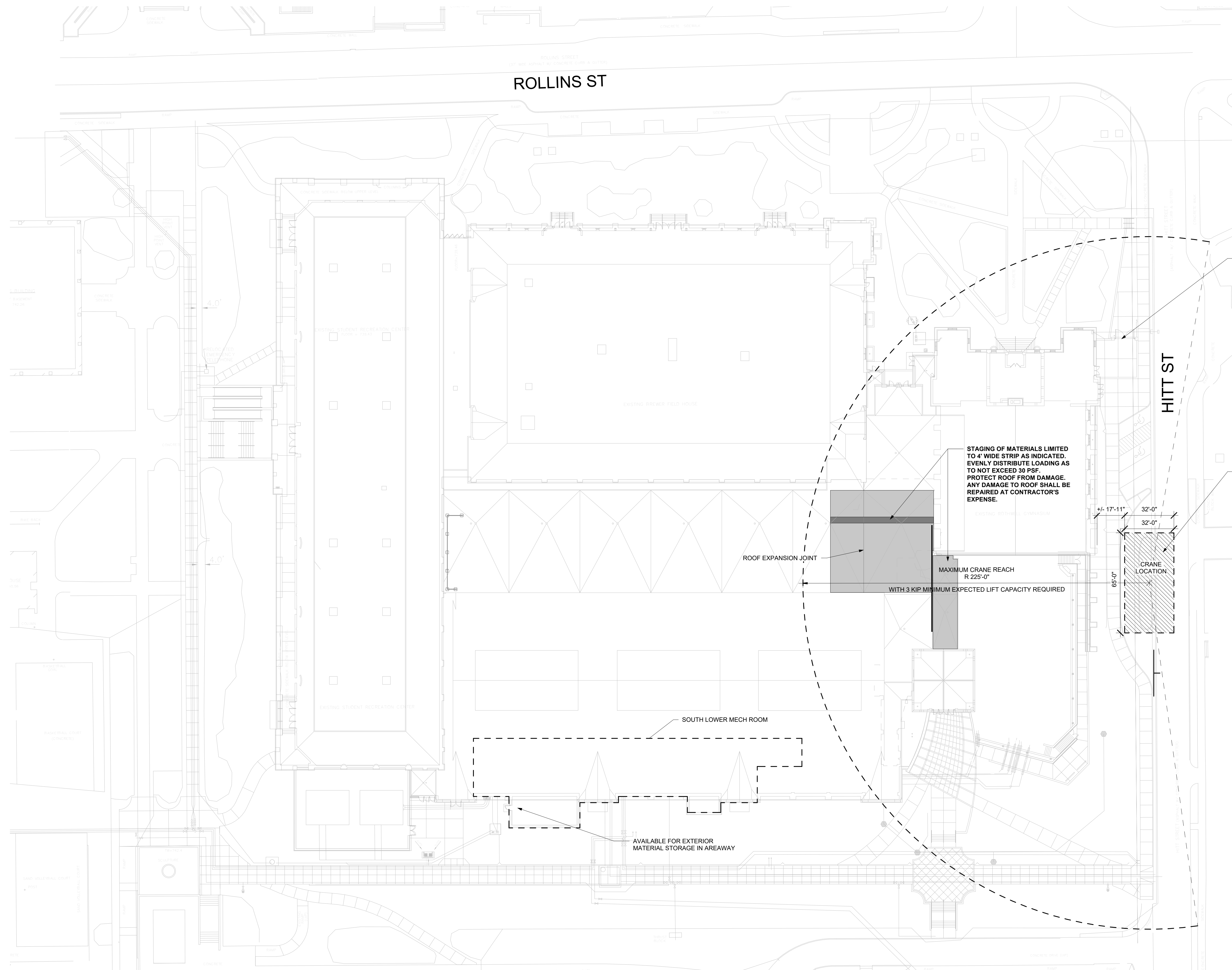
03/15/2024
 JENNIFER MARIE HEDRICK -
 ARCHITECT
 STATE LIC. # A-7827

No.	Date	Description

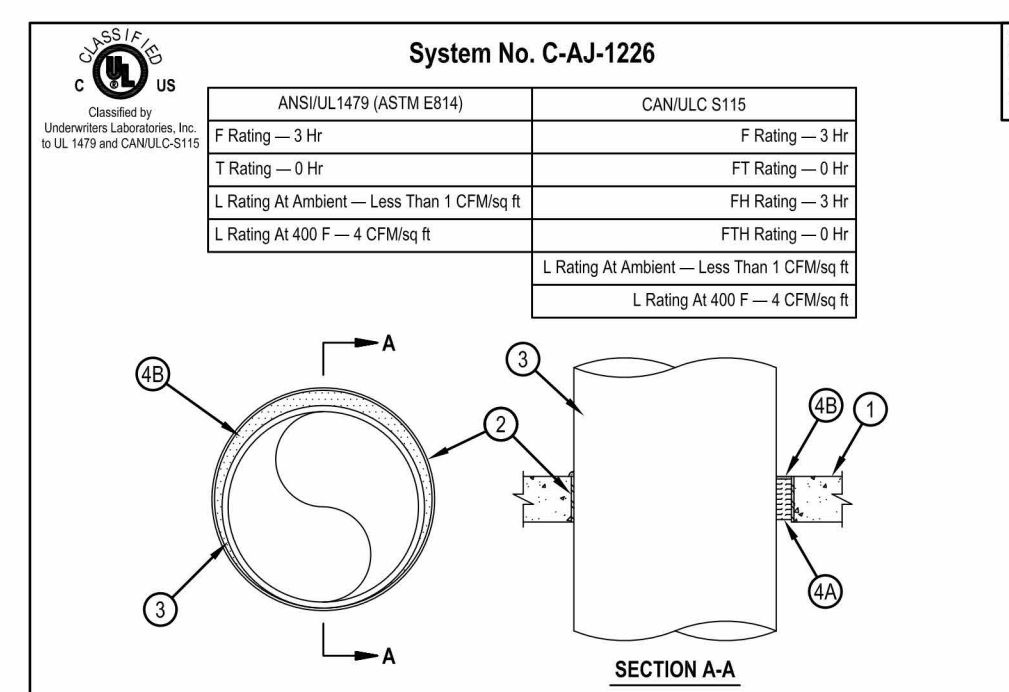
DATE: 03/15/2024
 PROJECT #: 071588.002
 DRAWN BY: CJ
 CHECKED BY: NB

**SITE /
 LOGISTICS
 PLAN**

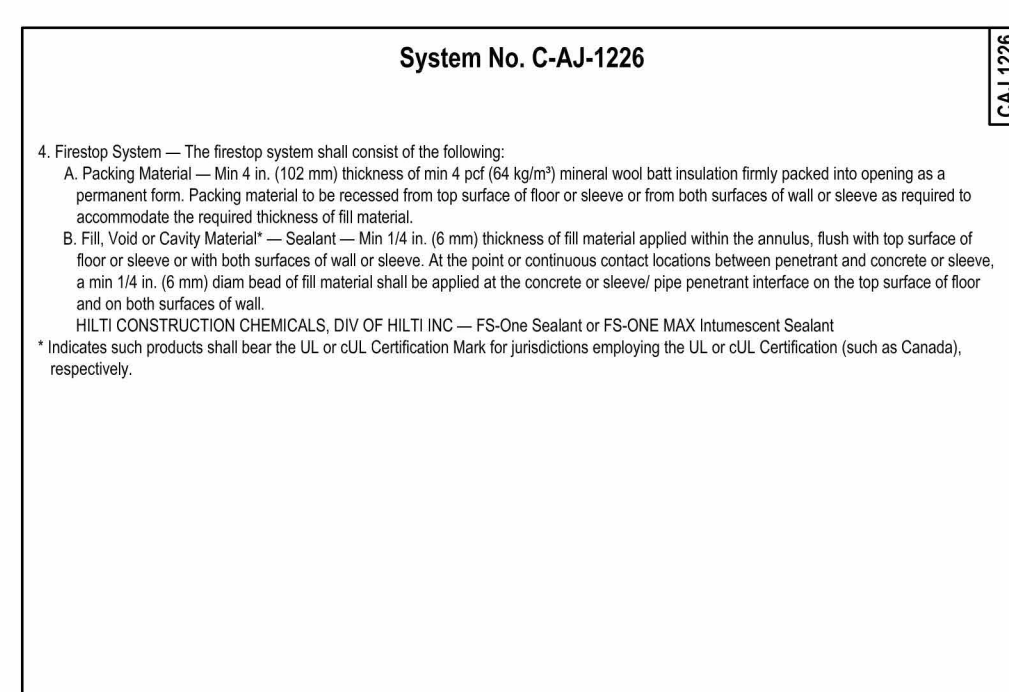
G2.2



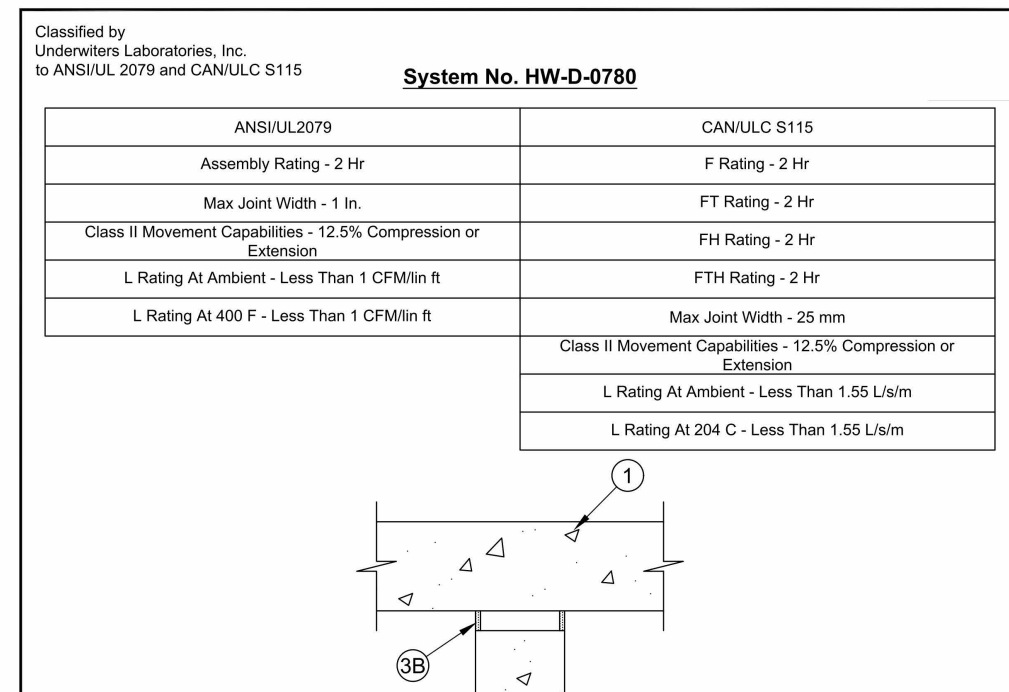
01 SITE / LOGISTICS PLAN - PHASE 2
 G2.2 1" = 30'-0"



- System No. C-AJ-1226**
- | | |
|--|--|
| ANSI/UL1479 (ASTM E81) | CANULC S115 |
| F Rating - 2 Hr | F Rating - 2 Hr |
| L Rating At Ambient - Less Than 1 CFM/ft | L Rating At Ambient - Less Than 1 CFM/ft |
| L Rating At 400 F - 4 CFM/ft | L Rating At 400 F - 4 CFM/ft |
- Floor or Wall Assembly - Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) concrete. Wall may also be constructed of any UL Classified Concrete Block. Max clear opening is 24 in. (610 mm).
 - Medium Slab - (Optional) Non 20 in. (508 mm) diameter (or smaller) Schedule 40 (or heavier) steel sleeve cast or grouted into floor or wall assembly. Flush with floor or wall surface extending a max of 3/16 in. (5 mm) above floor or wall surface.
 - Show Metal Sleeve - (Optional) Max 6 in. (152 mm) diameter, min 20 ga. galv. steel provided with a 20 ga. galv. steel square flange spot welded to the sleeve at approx mid-height or full end bottom of sleeve in floor, and extend to a max of 4 in. (102 mm) above the sleeve top. The sleeve is to be cast in place and may extend a max of 4 in. (102 mm) below the bottom of the deck and a max of 1 in. (25 mm) above the top surface of the concrete floor.
 - Show Metal Sleeve - (Optional) Max 7 in. (178 mm) diameter, min 20 ga. galv. steel provided with a 20 ga. galv. steel square flange spot welded to the sleeve at approx mid-height or full end bottom of sleeve in floor, and extend to a max of 4 in. (102 mm) below the bottom of the deck and a max of 1 in. (25 mm) above the top surface of the concrete floor.
 - Through-Penetrant - One metallic pipe, tube or conduit to be installed either concentrically or eccentrically within the firestop system. The annular space between penetrant and pipe/tube/conduit shall be max 1/8 in. (3 mm) joint contact to max 1/8 in. (3 mm) joint contact. Penetrant may be installed with continuous joint contact. Penetrant to be tightly supported on both sides of floor or wall assembly. The following types and sizes of metallic penetrants may be used:
 - A. Steel Pipe - Non 3/4 in. (19 mm) diameter (or smaller) Schedule 10 (or heavier) steel pipe.
 - B. Iron Pipe - Non 1 in. (25 mm) diameter (or smaller) cast or ductile iron pipe.
 - C. Copper Pipe - Non 1 in. (25 mm) diameter (or smaller) Regular (or heavier) copper pipe.
 - D. Copper Tubing - Non 1 in. (25 mm) diameter (or smaller) Type L (or heavier) copper tubing.
 - E. Conduit - Non 1 in. (25 mm) diameter (or smaller) steel conduit.
 - F. Conduit - Non 1 in. (25 mm) diameter (or smaller) steel electrical metallic tubing (EMT).



- System No. C-AJ-1149**
- | | |
|--|--|
| ANSI/UL1479 (ASTM E81) | CANULC S115 |
| F Rating - 2 Hr | F Rating - 2 Hr |
| L Rating At Ambient - Less Than 1 CFM/ft | L Rating At Ambient - Less Than 1 CFM/ft |
| L Rating At 400 F - 4 CFM/ft | L Rating At 400 F - 4 CFM/ft |
- Floor or Wall Assembly - Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) concrete. Wall may also be constructed of any UL Classified Concrete Block. Max clear opening is 24 in. (610 mm).
 - Through Penetrant - One metallic pipe, tube or conduit to be installed within the firestop system. Pipe, conduit or tubing to be tightly supported on both sides of floor or wall assembly. The annular space shall be max 1/8 in. (3 mm) joint contact to max 1/8 in. (3 mm) joint contact. The following types and sizes of metallic pipes, conduits or tubing may be used:
 - A. Steel Pipe - Non 3/4 in. (19 mm) diameter (or smaller) Schedule 10 (or heavier) steel pipe.
 - B. Iron Pipe - Non 1 in. (25 mm) diameter (or smaller) cast or ductile iron pipe.
 - C. Copper Tubing - Non 1 in. (25 mm) diameter (or smaller) Type L (or heavier) copper tubing.
 - D. Copper Pipe - Non 1 in. (25 mm) diameter (or smaller) Regular (or heavier) copper pipe.
 - Packing Material - Min 3 in. (76 mm) thickness of min 4 (64 kg/m³) mineral wool batt insulation for non 4 in. (102 mm) diameter (or smaller) pipes, conduits or tubing and min 4 in. (102 mm) diameter (or smaller) pipes, conduits or tubing for pipe greater than non 4 in. (102 mm) diameter. Packing material to be installed on both top and bottom surfaces of wall to accommodate the required thickness of fit material.
 - Fit. Void or Cavity Material - Sealant - Min 1/4 in. (6 mm) thickness of fit material applied within the annulus, flush with the top surface of floor or sleeve or with both surfaces of wall or sleeve. At the joint or continuous contact location between penetrant and concrete or sleeve, extend 1/4 in. (6 mm) diameter (or smaller) of fit material shall be applied at the concrete or sleeve joint penetration on the top surface of floor and on both surfaces of wall.
 - Fit. Void or Cavity Material - Sealant - Min 1/4 in. (6 mm) thickness of fit material applied within the joint, flush with both surfaces of wall.



- System No. HWD-0780**
- | | |
|--|-----------------|
| ANSI/UL2079 | CANULC S115 |
| Assembly Rating - 2 Hr | F Rating - 2 Hr |
| Max. Joint Width - 1 in. | F Rating - 2 Hr |
| Class I Movement Capabilities - 12.5% Compression or Extension | F Rating - 2 Hr |
| L Rating At Ambient - Less Than 1 CFM/ft | F Rating - 2 Hr |
| L Rating At 400 F - Less Than 1 CFM/ft | F Rating - 2 Hr |
- Fire Assembly - Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) concrete.
 - Wall Assembly - Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) concrete. Wall may also be constructed of any UL Classified Concrete Block. Max clear opening is 24 in. (610 mm).
 - Joint System - Min 1/4 in. (6 mm) thickness of fit material applied within the annulus, flush with the top surface of floor or sleeve or with both surfaces of wall or sleeve. At the joint or continuous contact location between penetrant and concrete or sleeve, extend 1/4 in. (6 mm) diameter (or smaller) of fit material shall be applied at the concrete or sleeve joint penetration on the top surface of floor and on both surfaces of wall.
 - Fire Assembly - Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) concrete.
 - Wall Assembly - Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) concrete. Wall may also be constructed of any UL Classified Concrete Block. Max clear opening is 24 in. (610 mm).
 - Joint System - Min 1/4 in. (6 mm) thickness of fit material applied within the annulus, flush with the top surface of floor or sleeve or with both surfaces of wall or sleeve. At the joint or continuous contact location between penetrant and concrete or sleeve, extend 1/4 in. (6 mm) diameter (or smaller) of fit material shall be applied at the concrete or sleeve joint penetration on the top surface of floor and on both surfaces of wall.

TYPICAL FIRESTOPPING DETAILS
1/8" = 1'-0"

CODE & ZONING INFORMATION

- Applicable Codes:**
- International Building Code - 2021
 - International Plumbing Code - 2021
 - International Mechanical Code - 2021
 - International Existing Building Code - 2021 (for Level 1 & Level 2 Alterations only with pre-approval from the AHJ)
 - International Fire Code - 2021
 - International Fuel Gas Code - 2021
 - International Swimming Pool and Spa Code - 2021
 - ICC A117.1 Accessible and Usable Buildings and Facilities - 2017
 - National Electric Code/NFPA 70 - 2011/2020
 - NFPA 110 Standard for Emergency and Standby Power Systems - 2019
 - NFPA 150 Fire and Life Safety in Animal Housing Facilities Code - 2019
 - NFPA 96 Standard for Venting Control and Fire Protection of Commercial Cooking Operations - 2011/2017
 - NFPA 90A Installation of Air Conditioning and Ventilating Systems - 2012/2018
 - NFPA 75 Standard for the Fire Protection of Information Technology Equipment - 2020
 - NFPA 72 National Fire Alarm Code - 2019
 - NFPA 51B Standard for Fire Prevention During Welding, Cutting, and Other Hot Work - 2019
 - NFPA 45 Standard on Fire Protection for Laboratories Using Chemicals - 2019
 - NFPA 20 Standard for the Installation of Stationary Fire Pumps for Fire Protection - 2019
 - NFPA 14 Standard for the Installation of Standpipe, Private Hydrants and Hose Systems - 2019
 - NFPA 13 Installation of Fire Sprinkler Systems - 2010/2019
 - ASHRAE 62.1 Ventilation for Acceptable Indoor Air Quality - 2019
 - ASHRAE 90.1 - Energy Standard for Buildings - 2019
 - ASME A17.1 - Safety Code for Elevators and Escalators - 2016
 - Americans with Disabilities Act - Standards for Accessible Design 2010

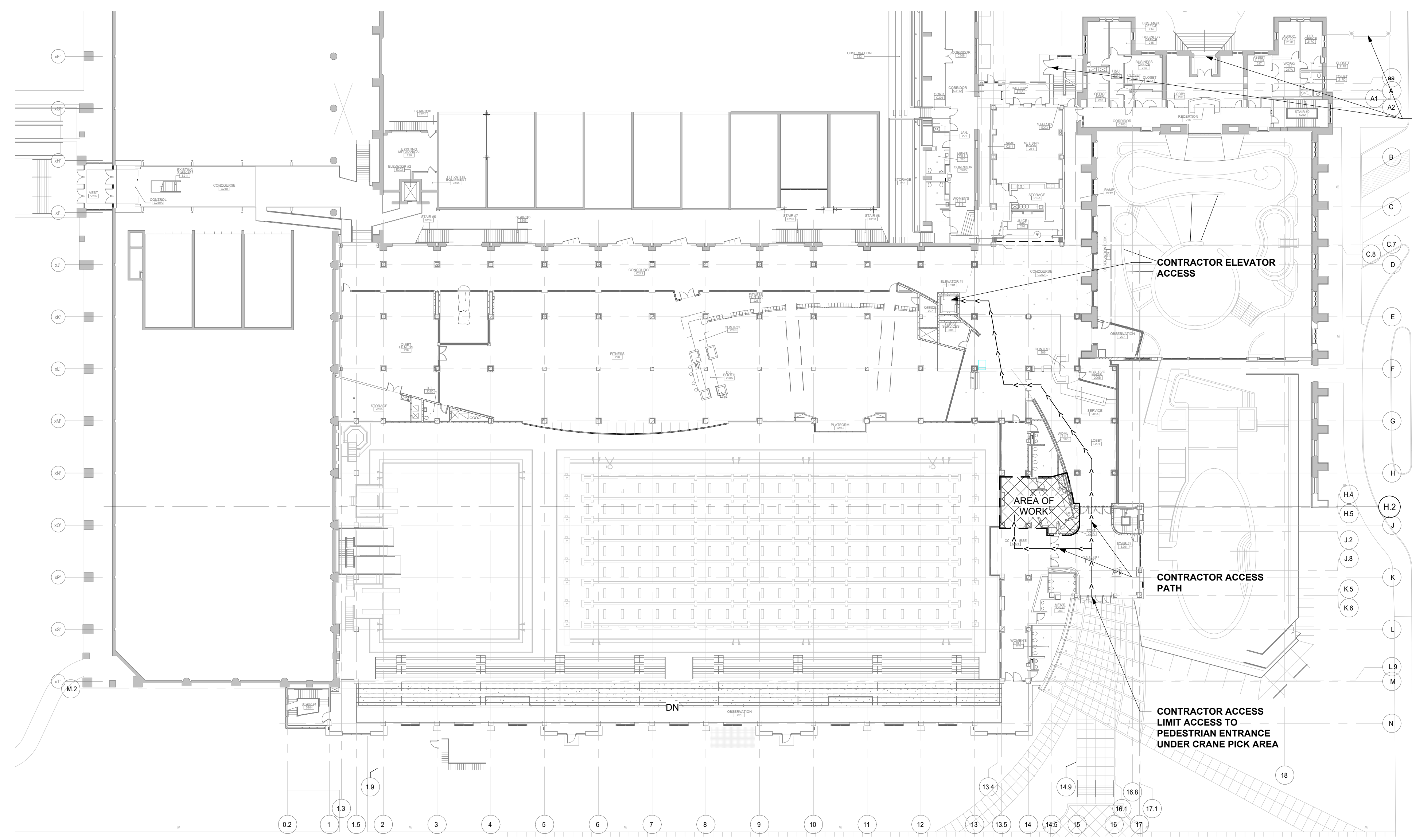
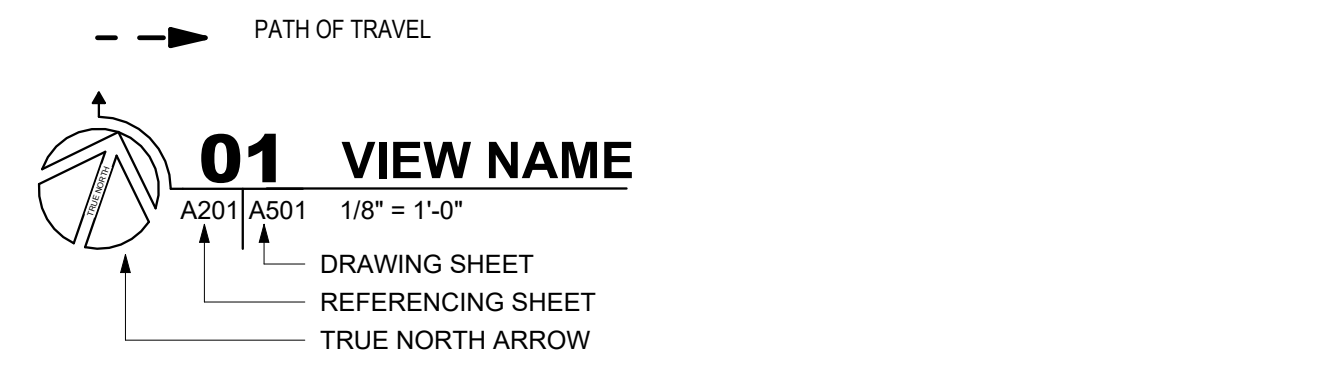
Fire Sprinklers: Fully automatic system to be provided throughout.
Local Fire Department: City of Columbia Fire Department
Local Building Code Jurisdiction: City of Columbia, MO
General Information:
 Use Group: A-3 Assembly Occupancy
 Construction Type: IB

Fire Resistive Requirements - Type IB Construction

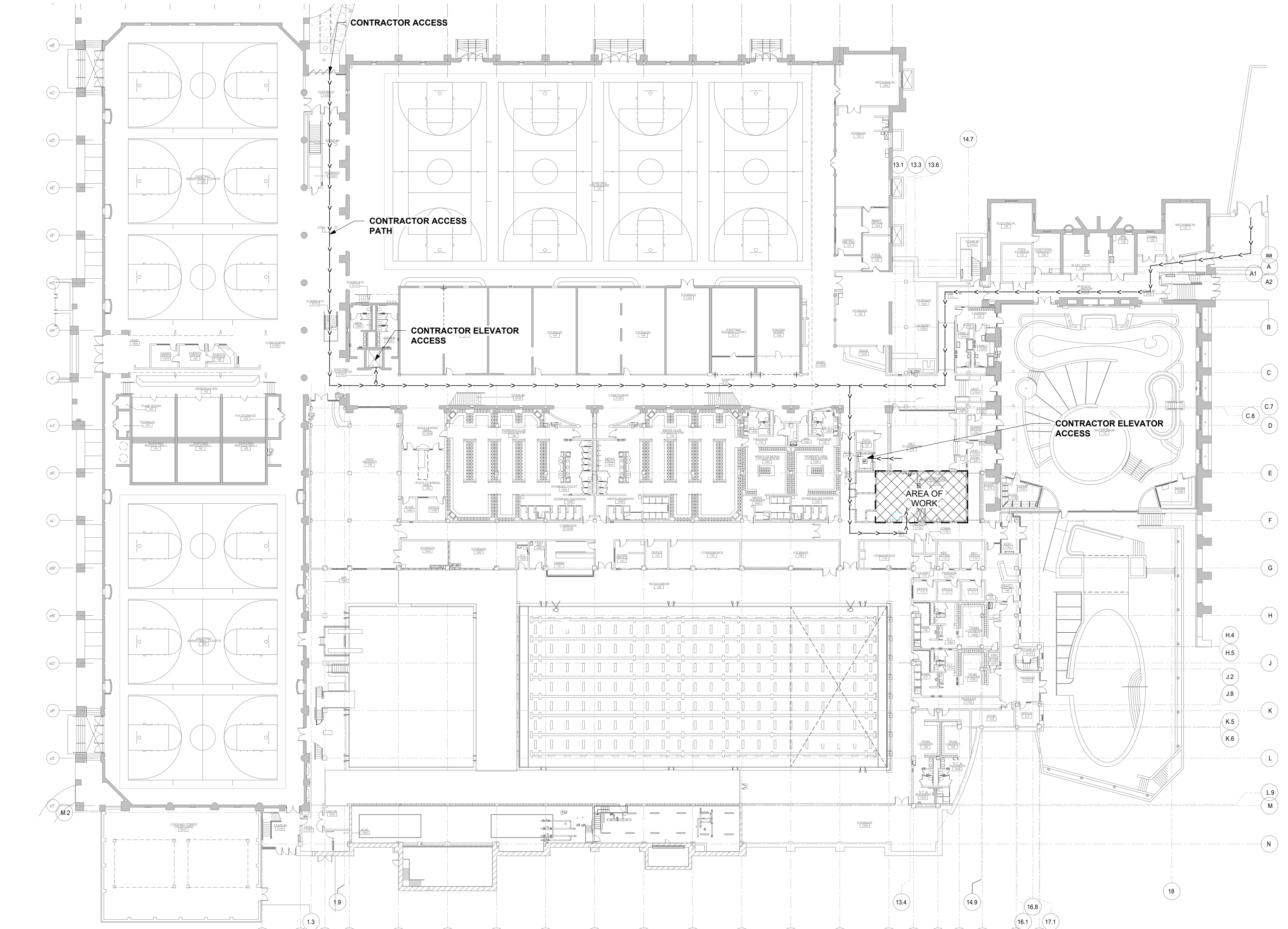
Structural Frame	2 Hours
Bearing Walls - Exterior	2 Hours
Bearing Walls - Interior	2 Hours
Non-Bearing Walls - Exterior	0 Hours
Non-Bearing Walls - Interior	1 Hours
Floor Construction	2 Hours
Roof Construction	1 Hours

Delegated Design:
None required.

GENERAL CODE PLAN NOTES & SYMBOLS



02 CONSTRUCTION ACCESS MEZZANINE PLAN
G3.2 1" = 3/8'-0"



01 CONSTRUCTION ACCESS LEVEL 01 PLAN
G3.2 1" = 3/8'-0"

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 T 573-447-0292

STUDENT RECREATION CENTER
AHU 1-3 REPLACEMENTS
#CP24271



03/15/2024
 JENNIFER MARIE HEDRICK - ARCHITECT
 STATE LIC. # A-7827

REVISIONS

No.	Description

DATE: 03/15/2024
 PROJECT #: 071588-CJ
 DRAWN BY: CU
 CHECKED BY: NB

CODE SHEET / CONSTRUCTION ACCESS PLANS

G3.2
 © 2017 McClure Engineering

GENERAL NOTES - CEILING

- FOR SPECIFICATION OF LIGHT FIXTURES AND MECHANICAL SYSTEM COMPONENTS, REFER TO MEP
- CEILING LEGEND IS SYMBOLIC TO ACTUAL FIXTURE - REFER TO MEP FIXTURE SCHEDULES
- ALL CEILING HEIGHTS ARE 9'-0" UNLESS NOTED OTHERWISE.
- FOR LOCATIONS OF LIGHT FIXTURES - REFER MEP
- SHIFT CEILING TILE TO AVOID SLIVERS AT WALLS - IF THIS REQUIRES A SIGNIFICANT SHIFT INFORM ARCHITECT AND MEP FOR DIRECTION

LEGEND - REFLECTED CEILING

- 2' X 2' LAY-IN ACOUSTICAL CEILING PANEL & GRID SYSTEM
- GWB CEILING
- 2 X 2 LIGHT FIXTURE - REF MEP
- 2 X 4 LIGHT FIXTURE - REF MEP
- CAN LIGHT FIXTURE - REF MEP
- PENDANT LIGHT FIXTURE - REF MEP
- WALL MOUNTED FIXTURE - REF MEP
- SUPPLY AIR DIFFUSER - REF MEP
- RETURN AIR GRILLE
- ABOVE CEILING SOUND MASKING SYSTEM EXTENTS
- CEILING ELEVATION LEVEL
- EXIT LIGHT - REF MEP

KEYNOTES - NEW WORK REFLECTED CEILING PLAN PHASE 2

- 01 GYP CEILING PATCH AND PAINT - FULL CEILING TO MATCH EXISTING COLOR AND SHEEN
- 02 CEILING GRID & TILE REINSTAL SALVAGED - REPLACE ANY DAMAGED WITH NEW
- 03 SPRAY-FIREPROOFING

GENERAL NOTES - DEMOLITION

- REMOVE WALLS INDICATED BY THE FOLLOWING LINETYPE (UNLESS NOTED OTHERWISE).
- PROTECT EXISTING SURFACES & COMPONENTS SCHEDULED TO REMAIN
- REFER TO STRUCTURAL & MEP DRAWINGS FOR ADDITIONAL DEMOLITION INFORMATION
- BEFORE DEMOLITION PHASE, COORDINATE WITH OWNER REPRESENTATIVE

KEYNOTES - DEMOLITION PLAN PHASE 2

- 01 GYP CEILING - REMOVE AS REQUIRED FOR MECHANICAL WORK - REFER TO MECHANICAL
- 02 CEILING GRID & TILE - REMOVE & SALVAGE AS REQUIRED FOR MECHANICAL WORK - REFER TO MECHANICAL
- 03 METAL STUD WALL ASSEMBLY - DISASSEMBLE AND REMOVE TO ALLOW FOR MECHANICAL UNIT INSTALLATION
- 04 CIRCULAR LOUVER - DISASSEMBLE AND SALVAGE FOR REINSTALLATION
- 05 EXTERIOR METAL WALL PANEL - DISASSEMBLE AND REMOVE TO ALLOW FOR WALL DEMOLITION - SALVAGE FOR REINSTALLATION
- 06 CIRCULAR WALL LOUVER - TO REMAIN IN PLACE
- 07 CORE OPENING IN CONCRETE FLOOR SLAB FOR NEW PIPE OR DUCT PENETRATION (REF MECHANICAL & PLUMBING)
- 08 DEMOLISH PORTION OF EXISTING HOUSEKEEPING PAD



03/15/2024
JENNIFER MARIE HEDRICK -
ARCHITECT
STATE LIC. # A-7827

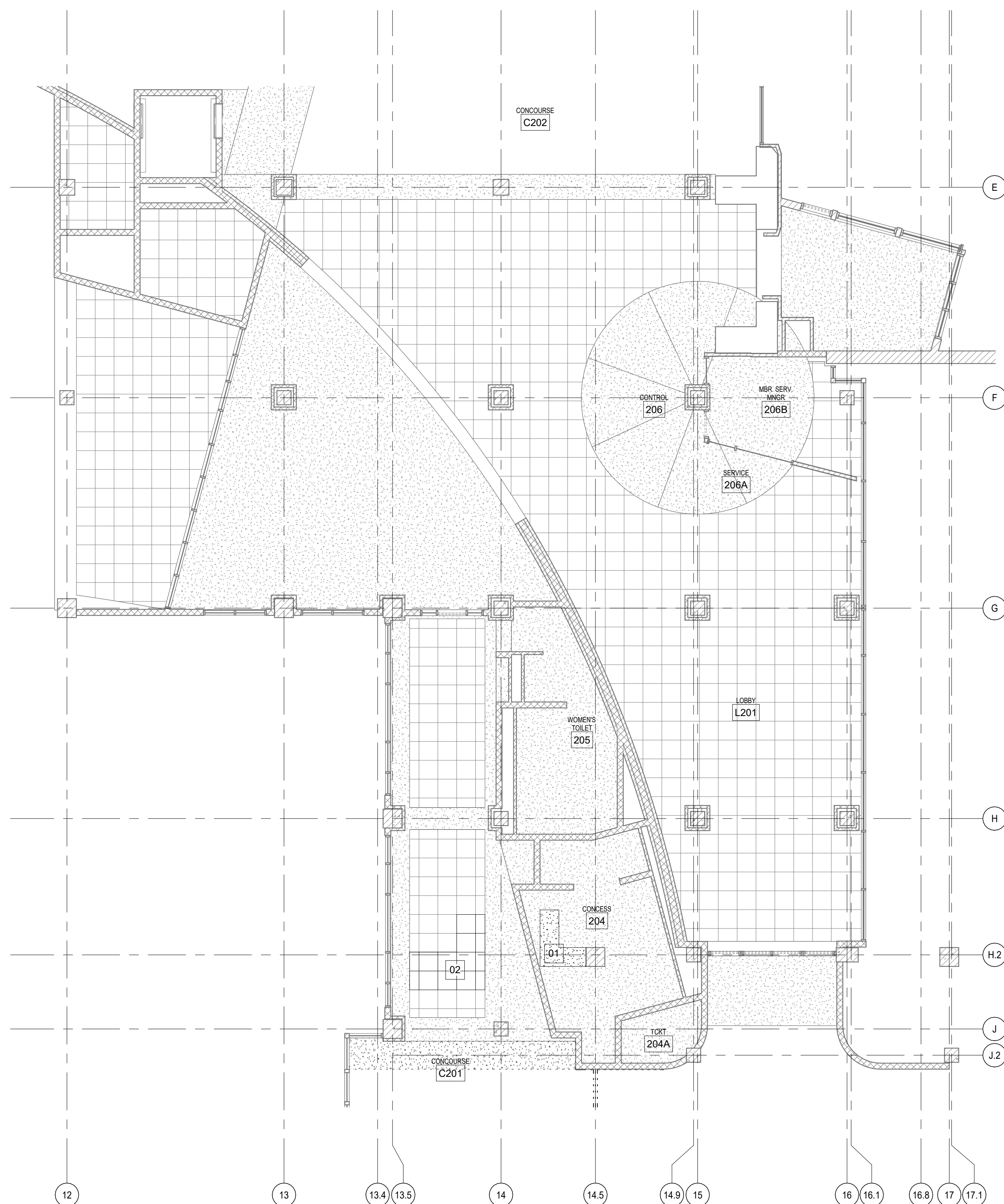
REVISIONS	Description	Date	No.

DATE: 03/15/2024
PROJECT #: 071588.002
DRAWN BY: CJ
CHECKED BY: NB

ISSUED FOR BID DOCUMENTS - 03/15/2024

DEMO & NEW WORK
MEZZANINE RCP
EAST
MECHANICAL

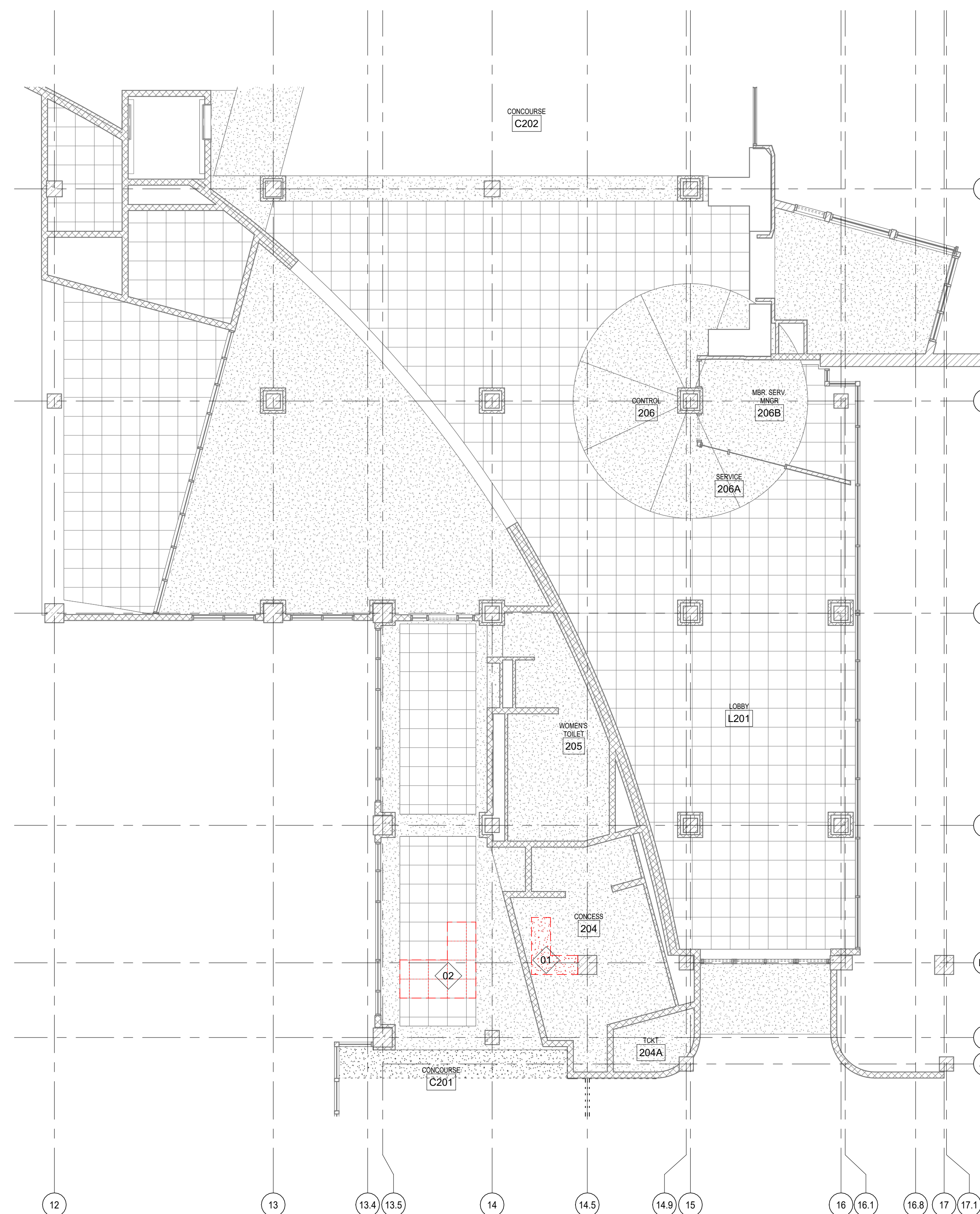
A2.1E



02 MEZZANINE - NEW WORK REFLECTED CEILING PLAN

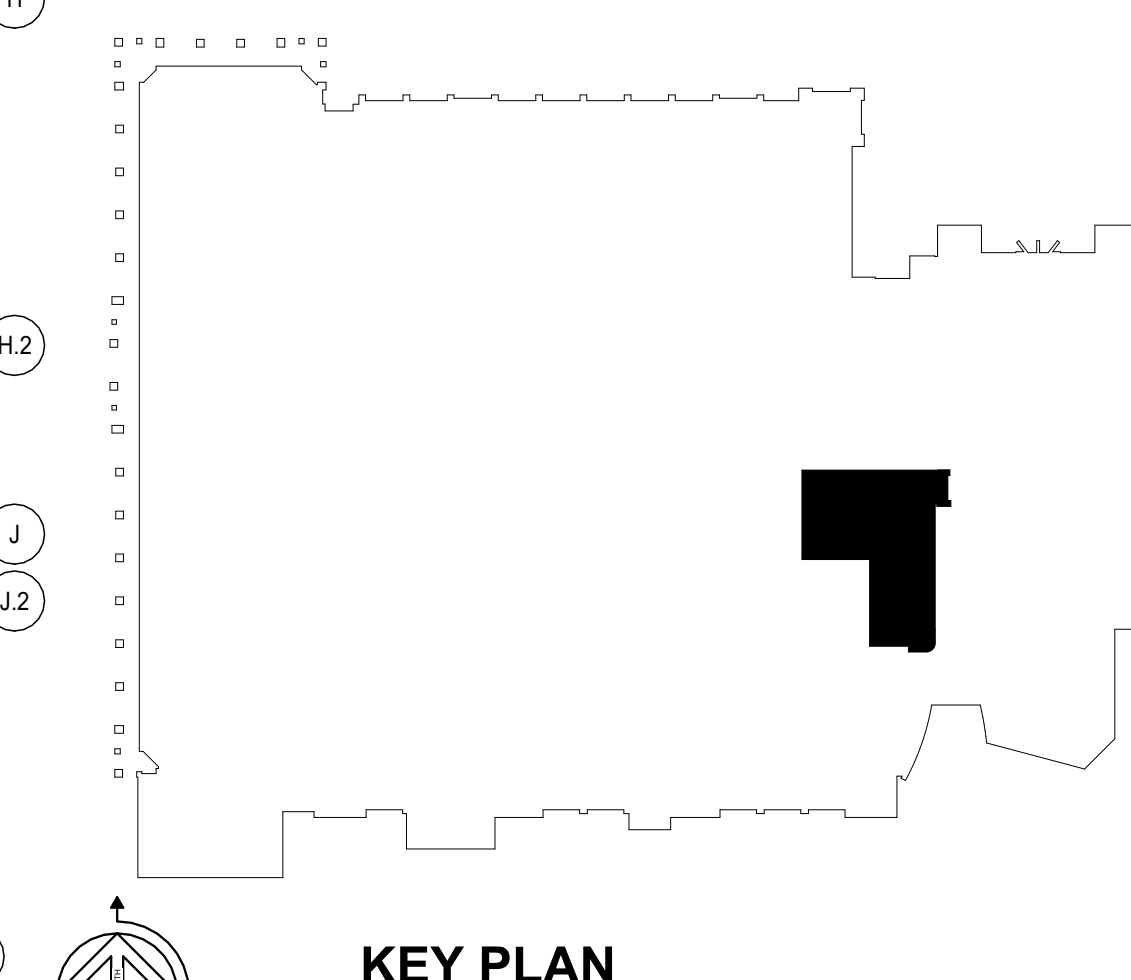
A2.1E 1/8" = 1'-0"

SHEET IS PLOTTED TO SCALE IF ADJACENT LINE MEASURES 1 INCH



01 MEZZANINE - DEMOLITION REFLECTED CEILING PLAN

A2.1E 1/8" = 1'-0"



KEY PLAN

1" = 100'-0"

KEYNOTES - NEW WORK REFLECTED CEILING PLAN PHASE 2

- 01 GYP CEILING PATCH AND PAINT - FULL CEILING TO MATCH EXISTING COLOR AND SHEEN
- 02 CEILING GRID & TILE - REINSTALL SALVAGED - REPLACE ANY DAMAGED WITH NEW
- 03 SPRAY-FIREPROOFING

KEYNOTES - NEW WORK PLAN PHASE 2

- 01 CONCRETE FLOOR & DECK INFILL - REFER TO STRUCTURAL
- 02 EXTERIOR METAL WALL PANEL - REINSTALL AND PROVIDE NEW FASTENERS AND SEALANT TO EXISTING STRUCTURE AS NEEDED.
- 03 CIRCULAR WALL LOUVER - RESEAL TO REINSTALLED METAL WALL PANELS.
- 04 CIRCULAR WALL LOUVER - REINSTALL AND RESEAL TO REINSTALLED METAL WALL PANELS.
- 05 NEW METAL STUD WALL ASSEMBLY - REFER TO A3.1E/02
- 06 PATCH AND PAINT WALL AS REQUIRED TO MATCH EXISTING CONDITIONS

NEW WORK GENERAL NOTES

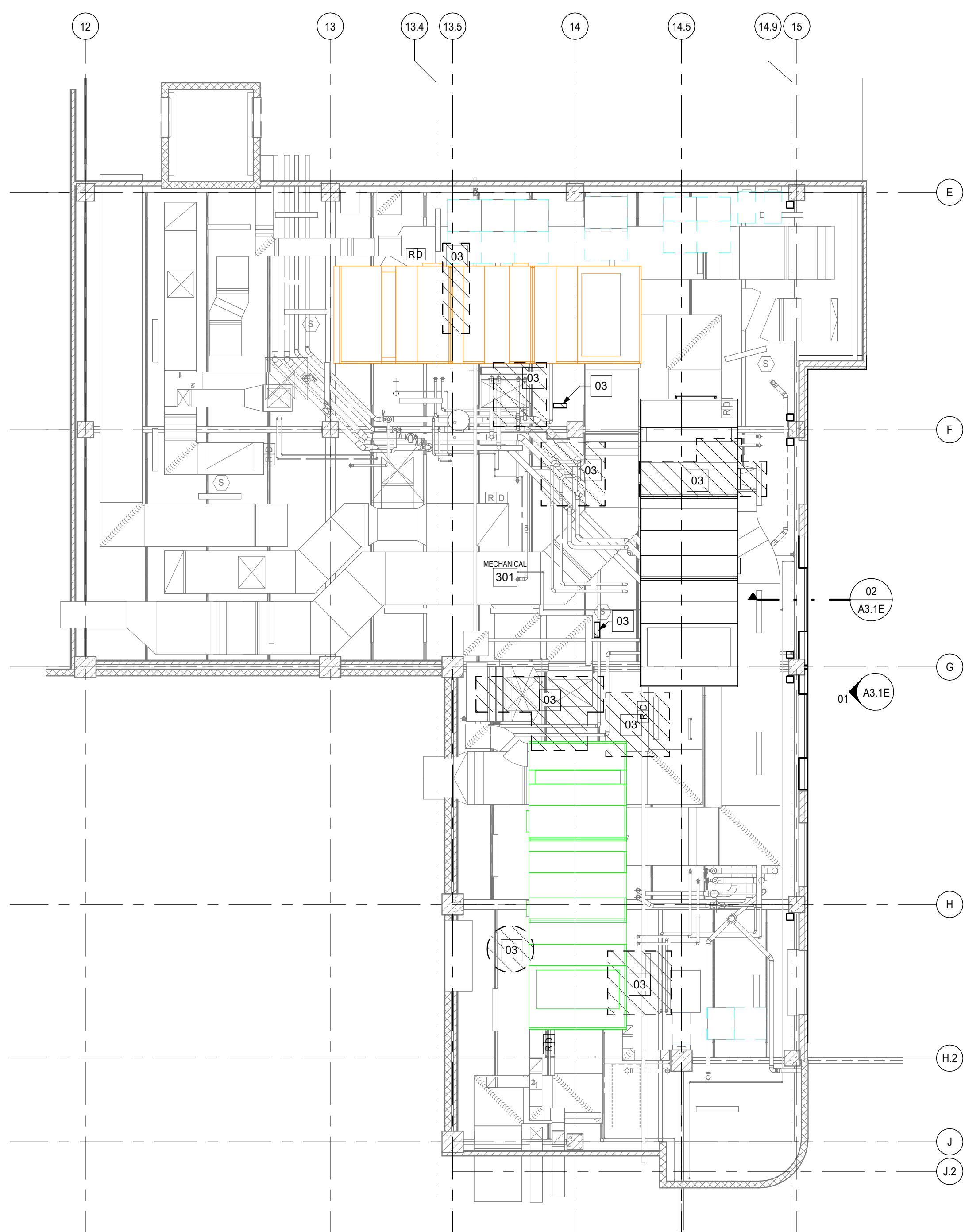
1. FIELD VERIFY ALL DIMENSIONS. IF DIMENSIONS VARY SIGNIFICANTLY NOTIFY THE ARCHITECT
2. ALL DIMENSIONS TO CENTERLINE OF COLUMN, FINISH FACE OF EXISTING WALLS, FACE OF STEEL STUD, OR MASONRY UNLESS NOTED OTHERWISE
3. GRAY WALLS & DOORS ARE EXISTING TO REMAIN - PROTECT DURING CONSTRUCTION
4. DASHED GRAY COMPONENTS ARE NOT IN CONTRACT
5. REFER TO SHEET A6.1 FOR PARTITION TYPES.

KEYNOTES - DEMOLITION PLAN PHASE 2

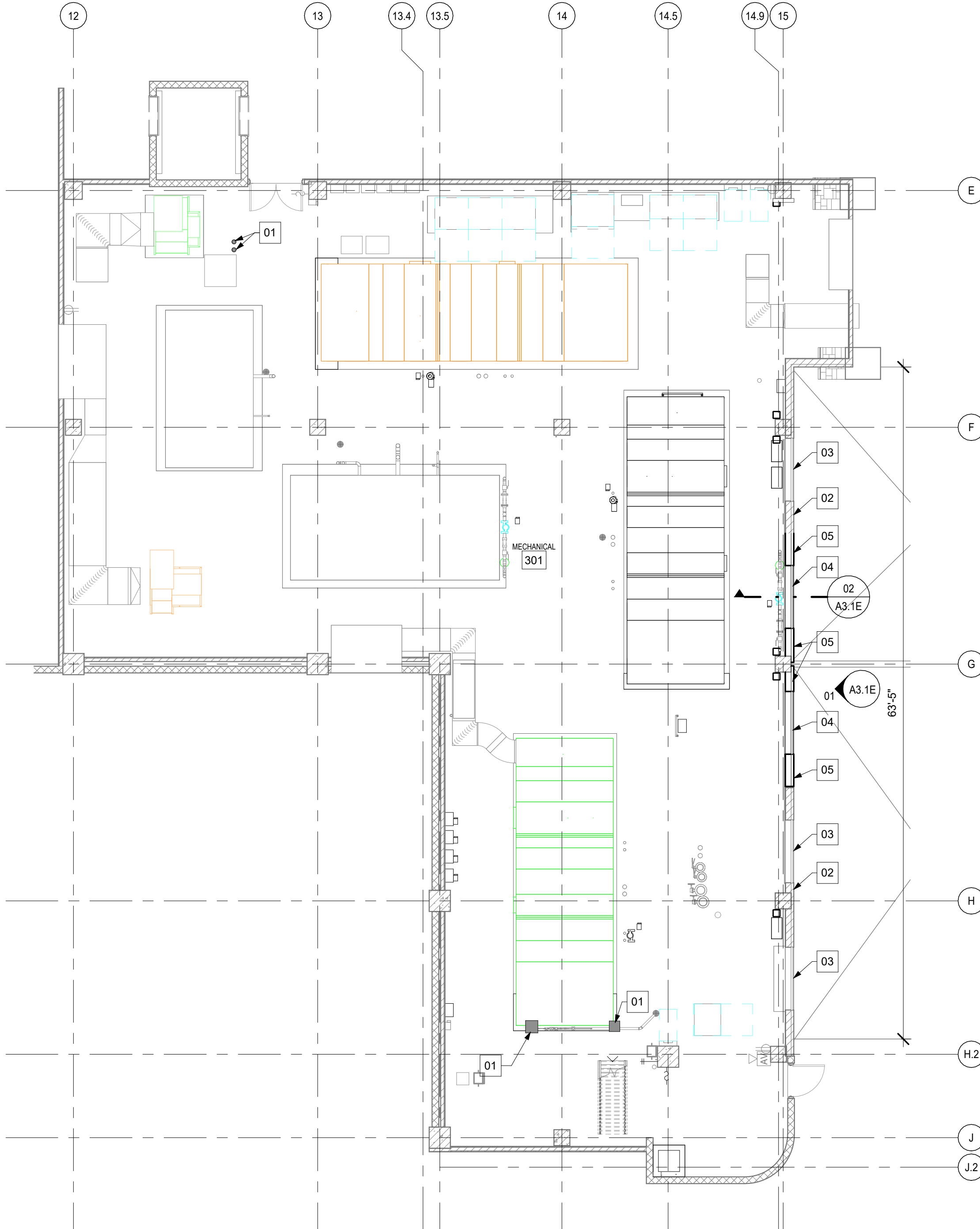
- 01 GYP CEILING - REMOVE AS REQUIRED FOR MECHANICAL WORK - REFER TO MECHANICAL
- 02 CEILING GRID & TILE - REMOVE & SALVAGE AS REQUIRED FOR MECHANICAL WORK - REFER TO MECHANICAL
- 03 METAL STUD WALL ASSEMBLY - DISASSEMBLE AND REMOVE TO ALLOW FOR MECHANICAL UNIT INSTALLATION
- 04 CIRCULAR LOUVER - DISASSEMBLE AND SALVAGE FOR REINSTALLATION
- 05 EXTERIOR METAL WALL PANEL - DISASSEMBLE AND REMOVE TO ALLOW FOR WALL DEMOLITION. SALVAGE FOR REINSTALLATION.
- 06 CIRCULAR WALL LOUVER - TO REMAIN IN PLACE
- 07 CORE OPENING IN CONCRETE FLOOR SLAB FOR NEW PIPE OR DUCT PENETRATION (REF MECHANICAL & PLUMBING)
- 08 DEMOLISH PORTION OF EXISTING HOUSEKEEPING PAD

GENERAL NOTES - DEMOLITION

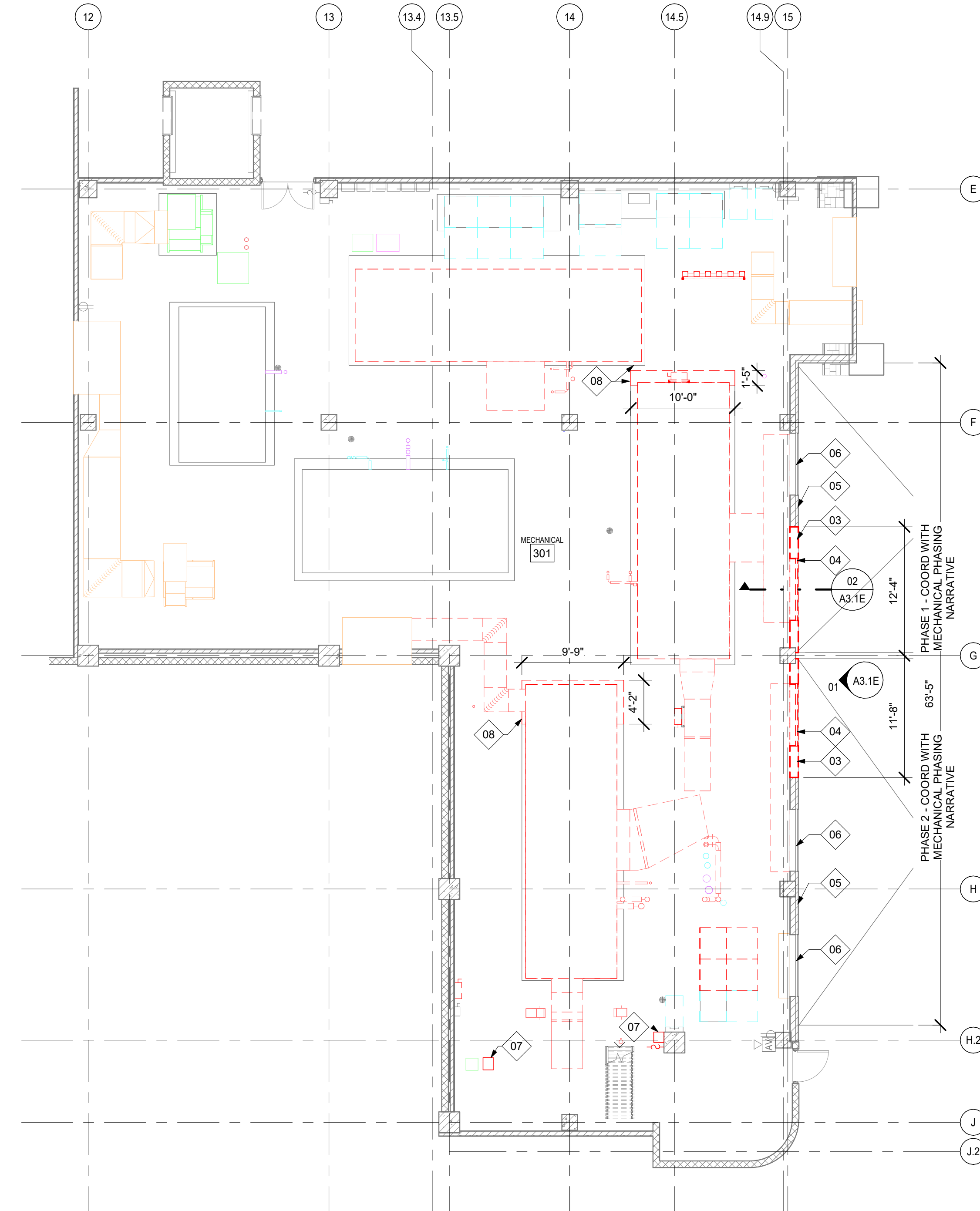
1. REMOVE WALLS INDICATED BY THE FOLLOWING LINETYPE (UNLESS NOTED OTHERWISE):
2. PROTECT EXISTING SURFACES & COMPONENTS SCHEDULED TO REMAIN
3. REFER TO STRUCTURAL & MEP DRAWINGS FOR ADDITIONAL DEMOLITION INFORMATION
4. BEFORE DEMOLITION PHASE, COORDINATE WITH OWNER REPRESENTATIVE



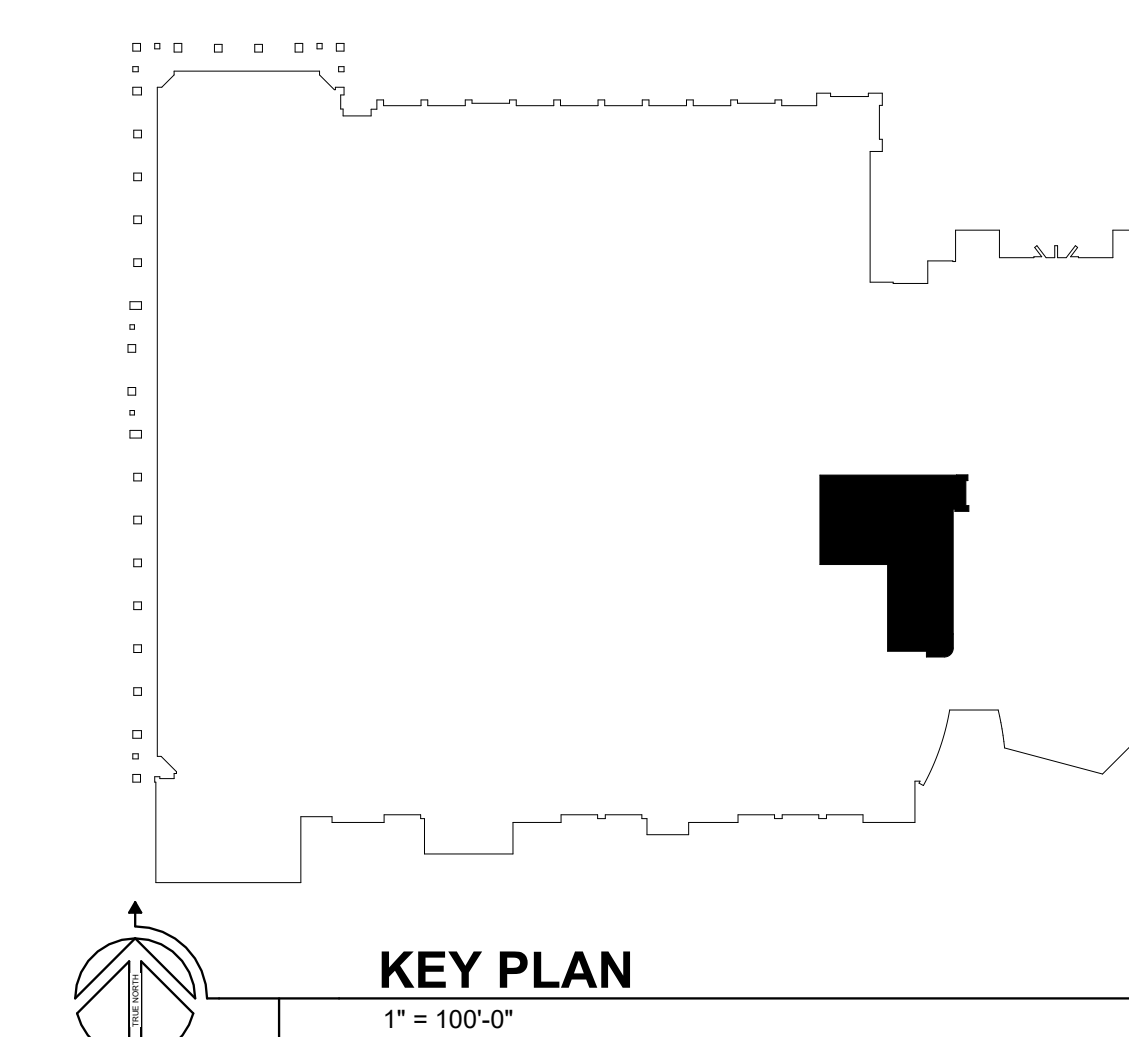
03 LEVEL 02 - EAST MECHANICAL - NEW WORK REFLECTED CEILING PLAN
A2.2E 1/8" = 1'-0"



02 LEVEL 02 - EAST MECHANICAL - NEW WORK PLAN
A2.2E 1/8" = 1'-0"



01 LEVEL 02 - EAST MECHANICAL - DEMOLITION PLAN
A2.2E 1/8" = 1'-0"



KEY PLAN
1" = 100'-0"

STUDENT RECREATION CENTER
AHU 1-3 REPLACEMENTS
#CP242271

STATE OF MISSOURI
JENNIFER MARIE HEDRICK
ARCHITECT
STATE LIC. # A-7827

No.	Date	Description

DATE: 03/15/2024
PROJECT #: 071588.002
DRAWN BY: CJ
CHECKED BY: NB

ISSUED FOR BID DOCUMENTS - 03/15/2024

DEMO & NEW WORK SECOND FLOOR PLAN & RCP EAST MECHANICAL

A2.2E

NEW WORK GENERAL NOTES

1. FIELD VERIFY ALL DIMENSIONS. IF DIMENSIONS VARY SIGNIFICANTLY NOTIFY THE ARCHITECT
2. ALL DIMENSIONS TO CENTERLINE OF COLUMN. FINISH FACE OF EXISTING WALLS, FACE OF STEEL STUD, OR MASONRY UNLESS NOTED OTHERWISE
3. GRAY WALLS & DOORS ARE EXISTING TO REMAIN - PROTECT DURING CONSTRUCTION
4. DASHED GRAY COMPONENTS ARE NOT IN CONTRACT
5. REFER TO SHEET A6.1 FOR PARTITION TYPES.

KEYNOTES - NEW WORK PLAN PHASE 2

- 01 CONCRETE FLOOR & DECK INFILL - REFER TO STRUCTURAL
- 02 EXTERIOR METAL WALL PANEL - REINSTALL AND PROVIDE NEW FASTENERS AND SEALANT TO EXISTING STRUCTURE AS NEEDED.
- 03 CIRCULAR WALL LOUVER - RESEAL TO REINSTALLED METAL WALL PANELS.
- 04 CIRCULAR WALL LOUVER - REINSTALL AND RESEAL TO REINSTALLED METAL WALL PANELS.
- 05 NEW METAL STUD WALL ASSEMBLY - REFER TO A3.1E/02
- 06 PATCH AND PAINT WALL AS REQUIRED TO MATCH EXISTING CONDITIONS

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 1000 W NIFONG BLVD. BLDG. 1,
 COLUMBIA, MO 65203
 T 573-447-0292

1000 ROLLINS ST, COLUMBIA, MO 65203

**STUDENT RECREATION CENTER
 AHU 1-3 REPLACEMENTS
 #CP242271**

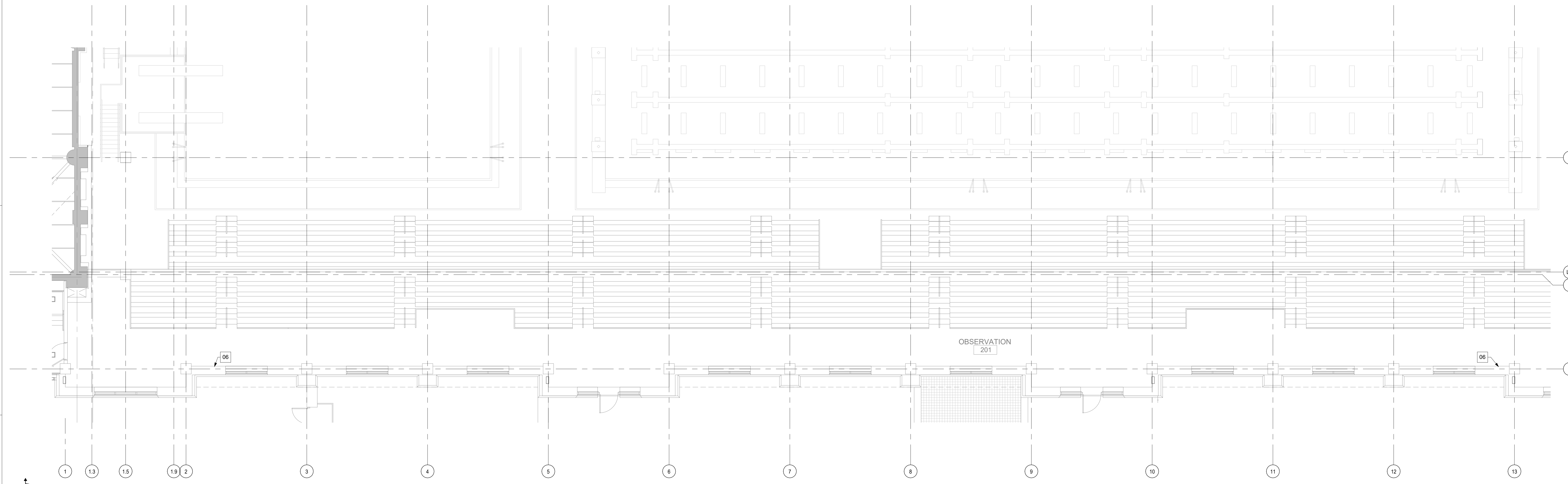
STATE OF MISSOURI
 JENNIFER MARIE HEDRICK
 ARCHITECT
 STATE LIC. # A-7827
 03/15/2024
 JENNIFER MARIE HEDRICK - ARCHITECT
 STATE LIC. # A-7827

No.	Date	Description

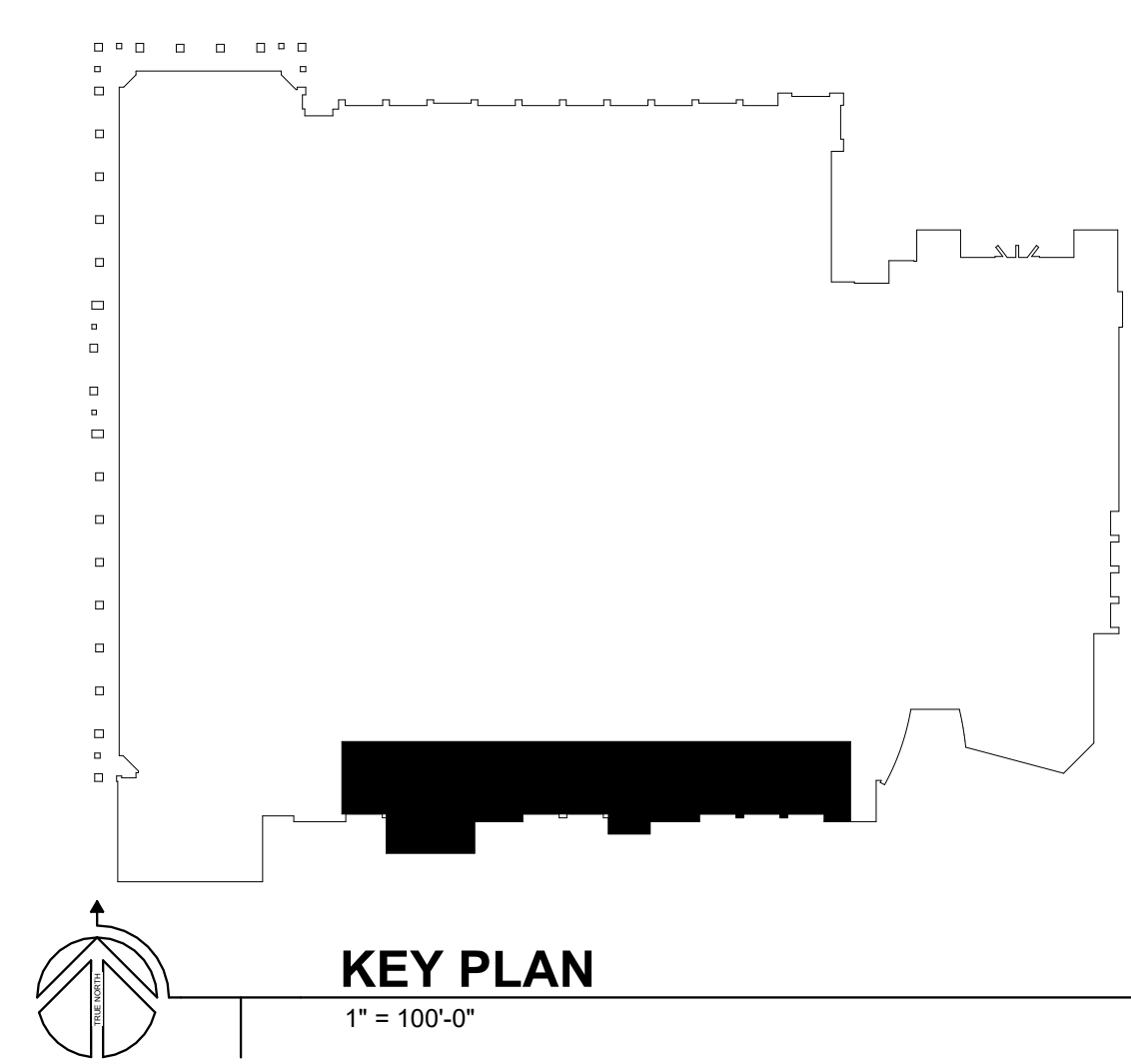
DATE: 03/15/2024
 PROJECT #: 071588.002
 DRAWN BY: CJ
 CHECKED BY: NB

**NEW WORK
 SECOND FLOOR
 PLAN &
 SOUTHWEST
 OBSERVATION**

A2.3E
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01 LEVEL 02 - SOUTHWEST OBSERVATION - NEW WORK PLAN
 A2.3E 1/8" = 1'-0"



NEW WORK ROOF GENERAL NOTES

- FIELD VERIFY ALL DIMENSIONS. IF DIMENSIONS VARY SIGNIFICANTLY NOTIFY THE ARCHITECT
- ALL DIMENSIONS TO FACE OF STEEL STUD OR EXISTING FINISH UNLESS NOTED OTHERWISE
- PROVIDE MIN. 2" COMPOSITE PROTECTION BOARD AND 3/16" OSB BOARD AT ROOF BELOW AREA OF CONSTRUCTION. TYP. NO MATERIAL OR CONSTRUCTION STAGING IS ALLOWED ON EXISTING ROOF AREAS. OR COORDINATE EXACT LOCATION W/ OWNER

KEYNOTES - ROOF PLAN PHASE 2

- 01 METAL PARAPET CAP - REINSTALL EXISTING CAP. INSTALL NEW SEALANT AND FASTENERS AS NEEDED
- 02 MECHANICAL EQUIPMENT - REFER TO EQUIPMENT - REFER TO MECHANICAL DRAWINGS
- 03 WALKPAD
- 04 ROOF RAIL WALL 06/A3.1E - REFER TO STRUCTURAL
- 05 INFILL OPENING FROM REMOVED ROOFTOP UNIT CURB - MATCH THICKNESS OF EXISTING ROOF FRAMING AND INSULATION AND SLOPE TOWARDS ROOF DRAINS - REFER TO DETAIL 05/A3.1E
- 06 INFILL PARTIAL OPENING FROM REMOVED ROOFTOP UNIT CURB - MATCH THICKNESS OF EXISTING ROOF FRAMING AND INSULATION AND SLOPE TOWARDS ROOF DRAINS - REFER TO DETAIL 05/A3.1E. REWORK / NEW OPENING FOR NEW ROOF PENETRATION (REF MECHANICAL) PER DETAIL 04/A3.1E
- 07 LOUVERED EQUIPMENT ENCLOSURE - REFER TO STRUCTURE FOR MOUNTING DETAILS

GENERAL NOTES - DEMOLITION

- REMOVE WALLS INDICATED BY THE FOLLOWING LINETYPE (UNLESS NOTED OTHERWISE):
- PROTECT EXISTING SURFACES & COMPONENTS SCHEDULED TO REMAIN
- REFER TO STRUCTURAL & MEP DRAWINGS FOR ADDITIONAL DEMOLITION INFORMATION.
- BEFORE DEMOLITION PHASE, COORDINATE WITH OWNER REPRESENTATIVE

KEYNOTES - DEMO ROOF PLAN...

- 01 METAL PARAPET CAP - DISSASSEMBLE TO ALLOW FOR METAL PANEL REMOVAL AND SALVAGE FOR RE-INSTALLATION
- 02 ROOF INSULATION AND ROOF MEMBRANE - REMOVE AS NECESSARY TO INSTALL NEW HVAC ROOF CURBS (REF MEP) REFER TO STRUCTURAL DRAWINGS FOR STRUCTURAL MODIFICATIONS
- 03 ROOF TOP EQUIPMENT AND CURB - REMOVE AND DISPOSE OF - REFER TO MEP
- 04 BUILDING EXPANSION JOINT - EXISTING TO REMAIN



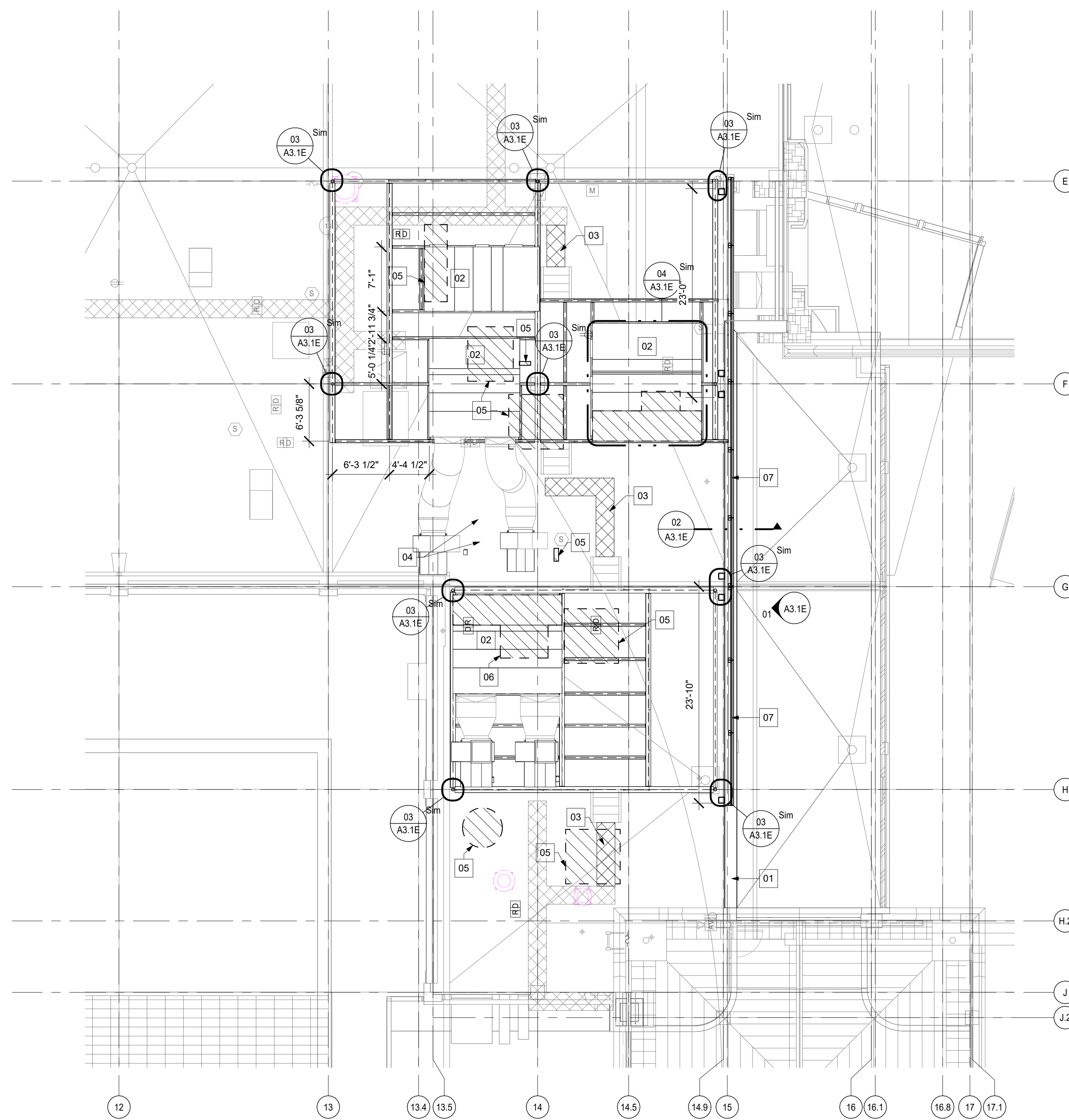
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STATE LIC. # A-7827

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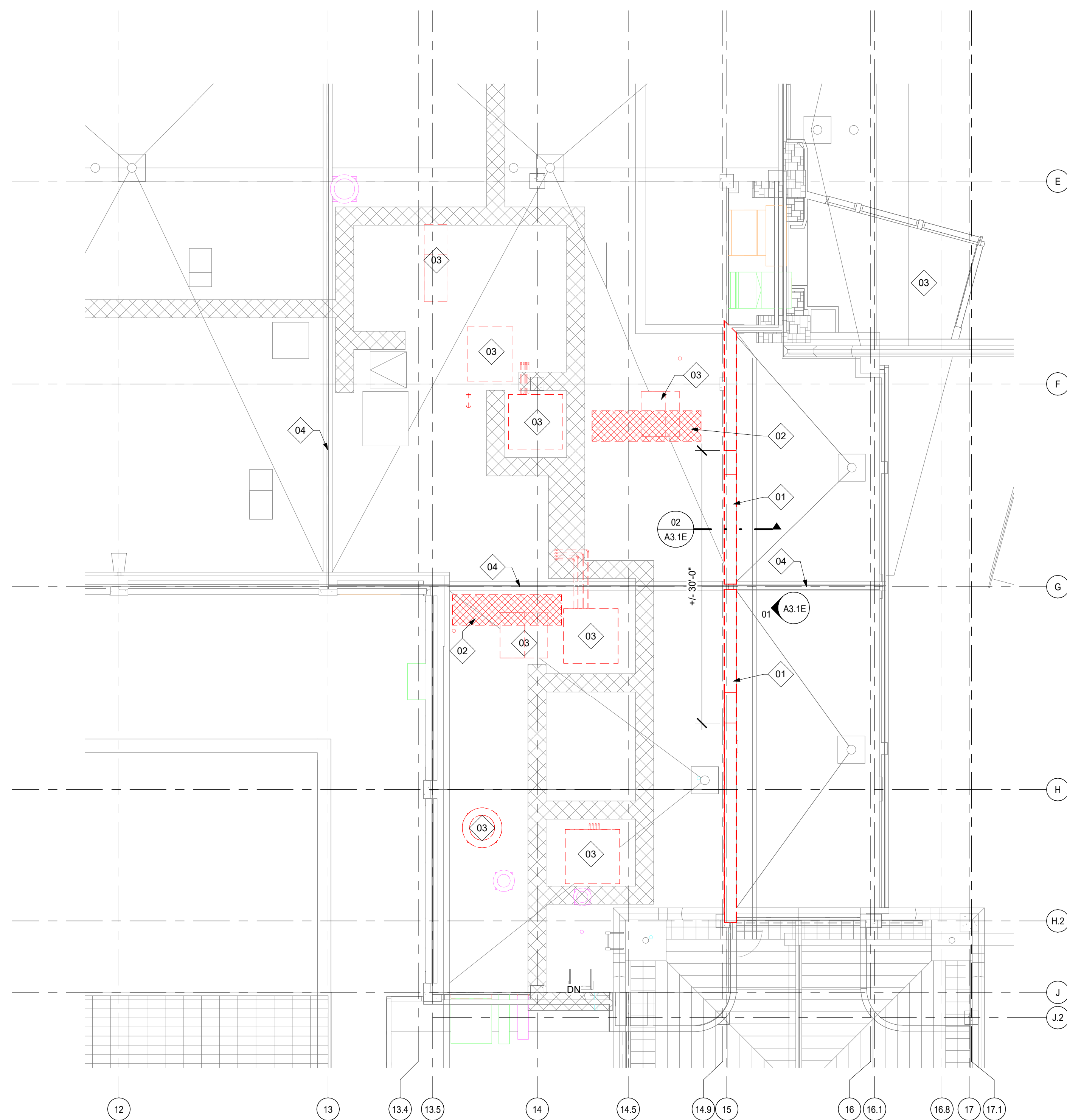
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**DEMO & NEW
WORK ROOF
PLANS**

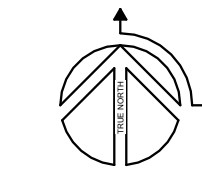
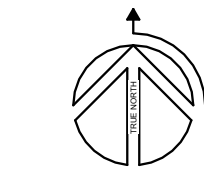
A2.4E



02 ROOF - EAST MECHANICAL - NEW WORK ROOF PLAN
A2.4E 1/8" = 1'-0" CONTRACTOR WEATHER PROTECT / TENT AREAS DURING CONSTRUCTION TO PREVENT WATER INFILTRATION INTO BUILDING



01 ROOF - EAST MECHANICAL - DEMOLITION PLAN
A2.4E 1/8" = 1'-0" CONTRACTOR WEATHER PROTECT / TENT AREAS DURING CONSTRUCTION TO PREVENT WATER INFILTRATION INTO BUILDING



NEW WORK GENERAL NOTES

- FIELD VERIFY ALL DIMENSIONS. IF DIMENSIONS VARY SIGNIFICANTLY NOTIFY THE ARCHITECT
- ALL DIMENSIONS TO CENTERLINE OF COLUMN, FINISH FACE OF EXISTING WALLS, FACE OF STEEL STUD, OR MASONRY UNLESS NOTED OTHERWISE
- GRAY WALLS & DOORS ARE EXISTING TO REMAIN - PROTECT DURING CONSTRUCTION
- DASHED GRAY COMPONENTS ARE NOT IN CONTRACT REFER TO SHEET A4.1 FOR PARTITION TYPES.

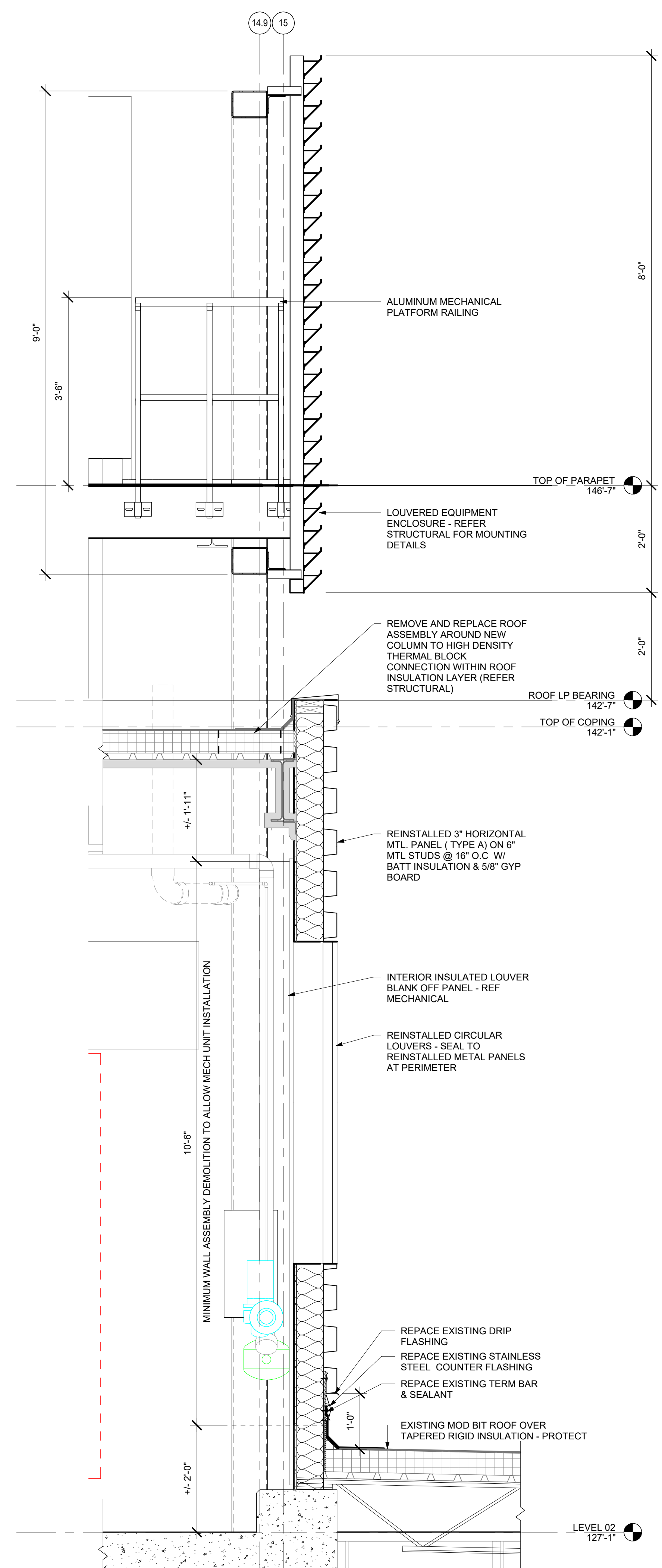
KEYNOTES - BUILDING ELEVATION

- EXTERIOR METAL WALL PANEL - REINSTALL AND PROVIDE NEW FASTENERS AND SEALANT TO EXISTING STRUCTURE AS NEEDED.
- CIRCULAR WALL LOUVER - RESEAL TO REINSTALLED METAL WALL PANELS.
- CIRCULAR WALL LOUVER - REINSTALL AND RESEAL TO REINSTALLED METAL WALL PANELS.
- NEW METAL STUD WALL ASSEMBLY - REFER TO A3.1E/02
- METAL PARAPET CAP - REINSTALL AT EXISTING CAP. INSTALL NEW SEALANT AND FASTENERS AS NEEDED.
- BUILDING EXPANSION JOINT - EXISTING TO REMAIN
- LOUVERED EQUIPMENT ENCLOSURE - REFER TO STRUCTURE FOR MOUNTING DETAILS

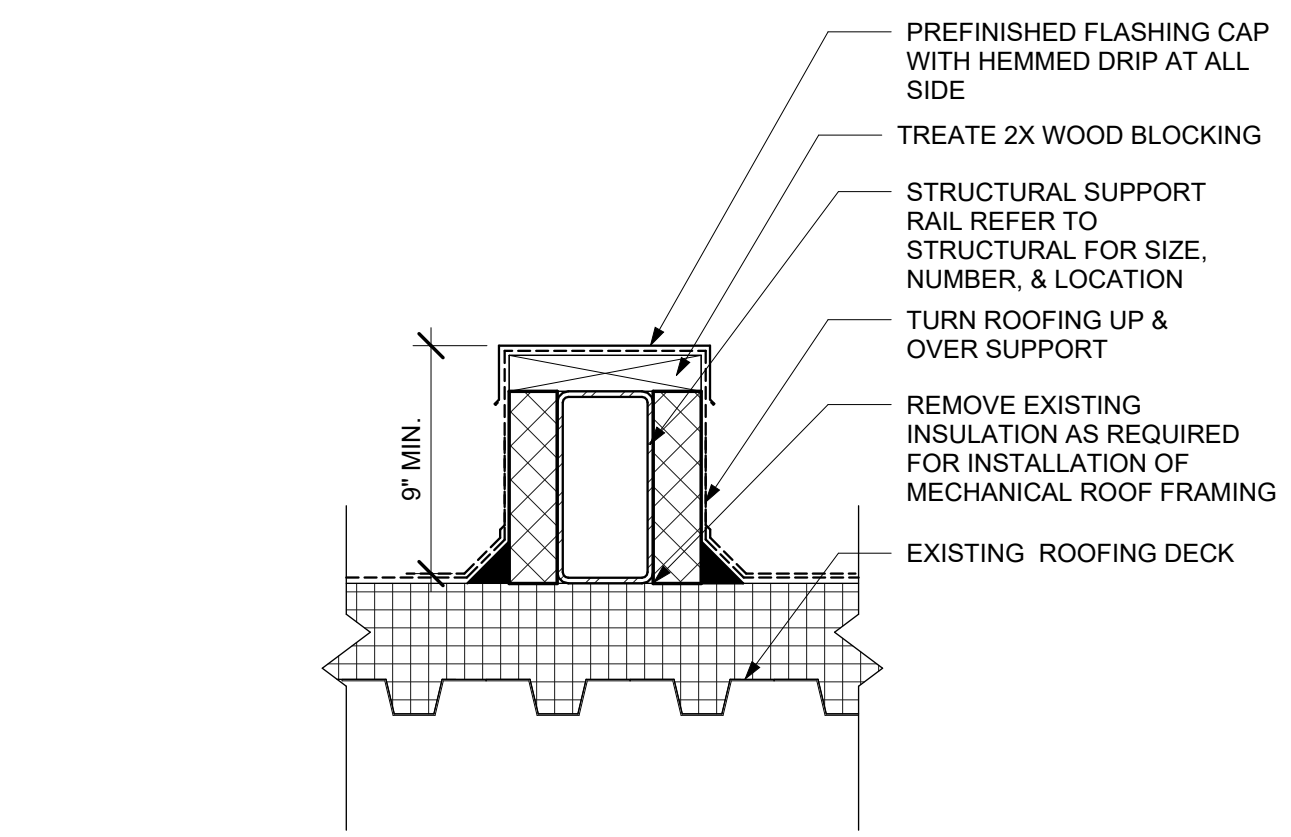
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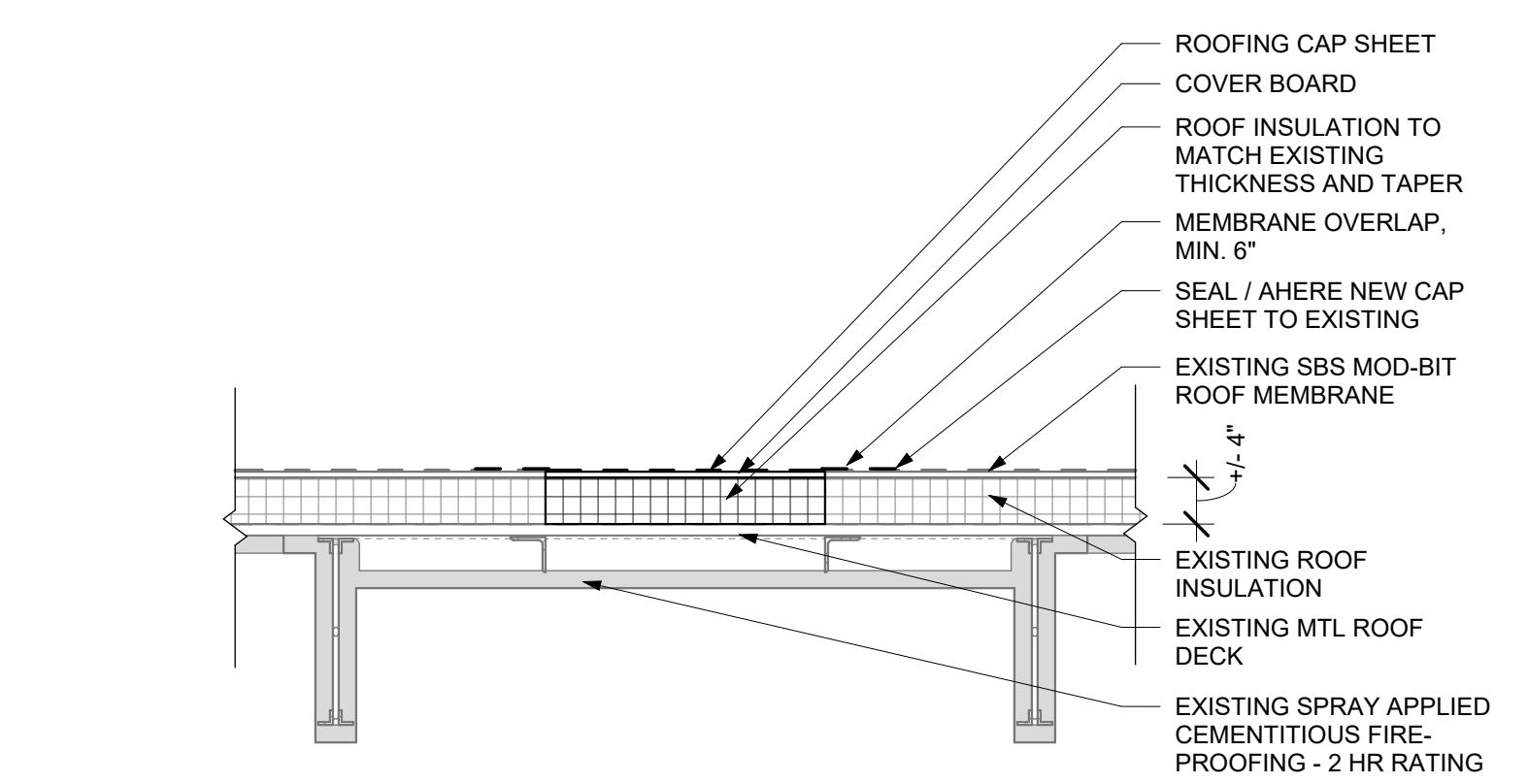
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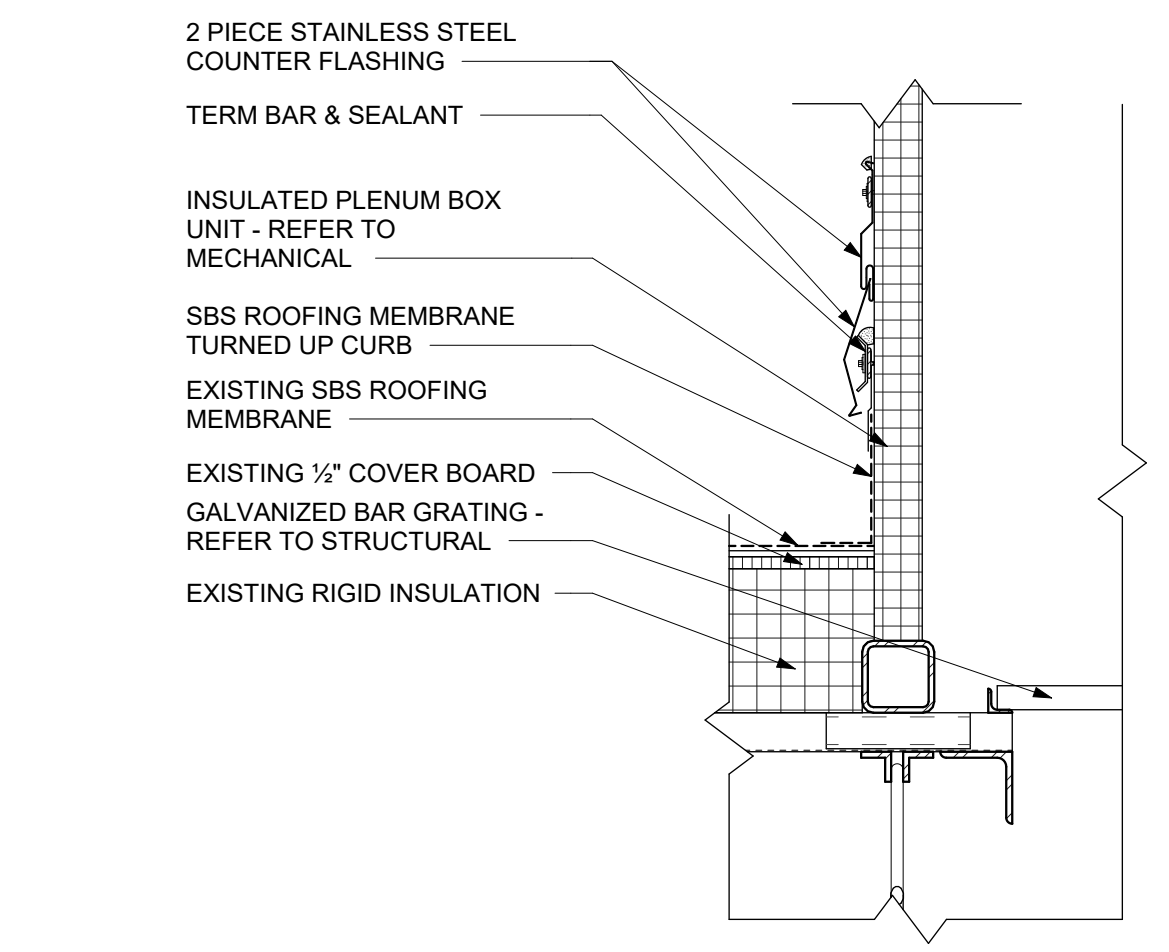
02 EAST MECHANICAL ROOM - EAST WALL SECTION
 A3.1E 3/4" = 1'-0"



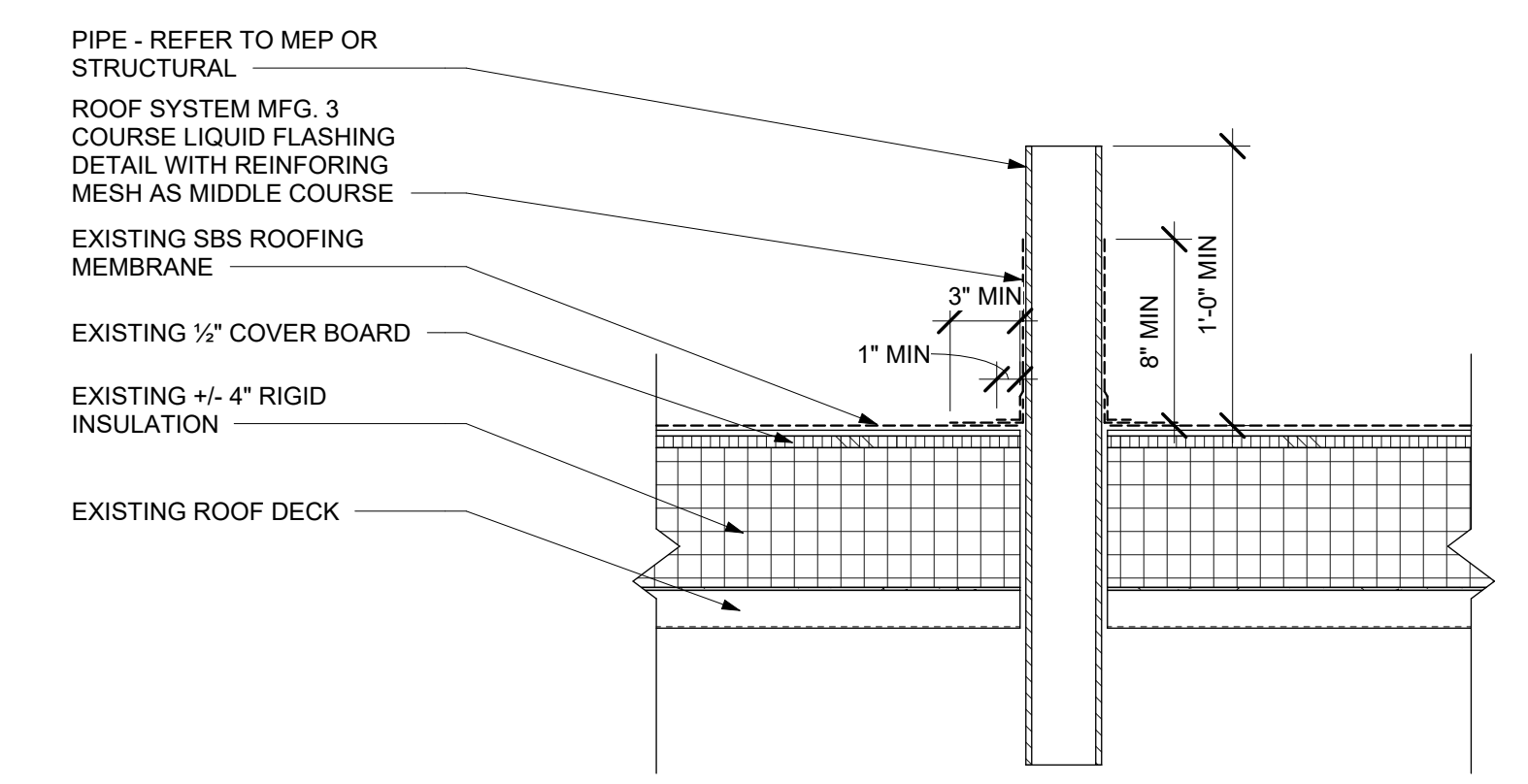
06 ROOF RAIL WALL
 A3.1E 1 1/2" = 1'-0"



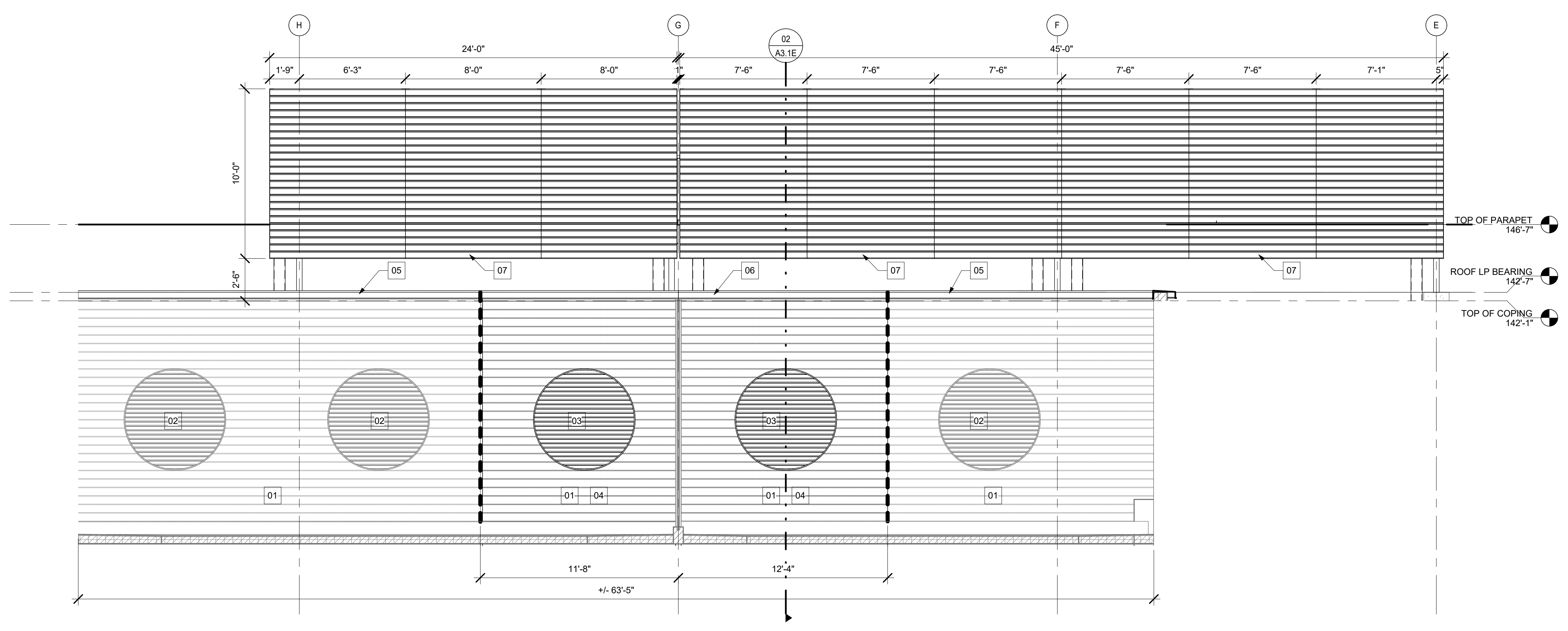
05 TYP. SECTION DETAIL - ROOF INFILL
 A3.1E 3/4" = 1'-0"



04 TYP. ROOF TO PLENUM BOX DETAIL
 A3.1E 1 1/2" = 1'-0"



03 TYP. ROOF PENETRATION DETAIL
 A3.1E 1 1/2" = 1'-0"



01 EAST MECHANICAL ROOM - EAST EXTERIOR ELEVATION
 A3.1E 1/4" = 1'-0"

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**STUDENT RECREATION CENTER
 AHU 1-3 REPLACEMENTS
 #CP242271**

STATE OF MISSOURI
 JENNIFER MARIE HEDRICK
 ARCHITECT
 03/15/2024
 JENNIFER MARIE HEDRICK - ARCHITECT
 STATE LIC. # A-7827

No.	Date	Description

ISSUED FOR BID DOCUMENTS - 03/15/2024
 DATE: 03/15/2024
 PROJECT #: 071588.002
 DRAWN BY: CJ
 CHECKED BY: NB

BUILDING ELEVATIONS, PLAN & SECTION DETAILS

A3.1E

3/15/2024 11:58:32 PM BY: CJ

SHEET IS PLOTTED TO SCALE IF ADJACENT LINE MEASURES 1 INCH

ROOF FRAMING NOTES

- 1 RTU, COORDINATE WITH MEP DRAWINGS FOR EXACT LOCATION.

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 MEP Engineers
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**STUDENT RECREATION CENTER
 AHU 1-3 REPLACEMENTS
 #CP242271**



GREGORY L. LINNEHAN - PE
 MO LICENSE - 2005001013
 03/15/2024

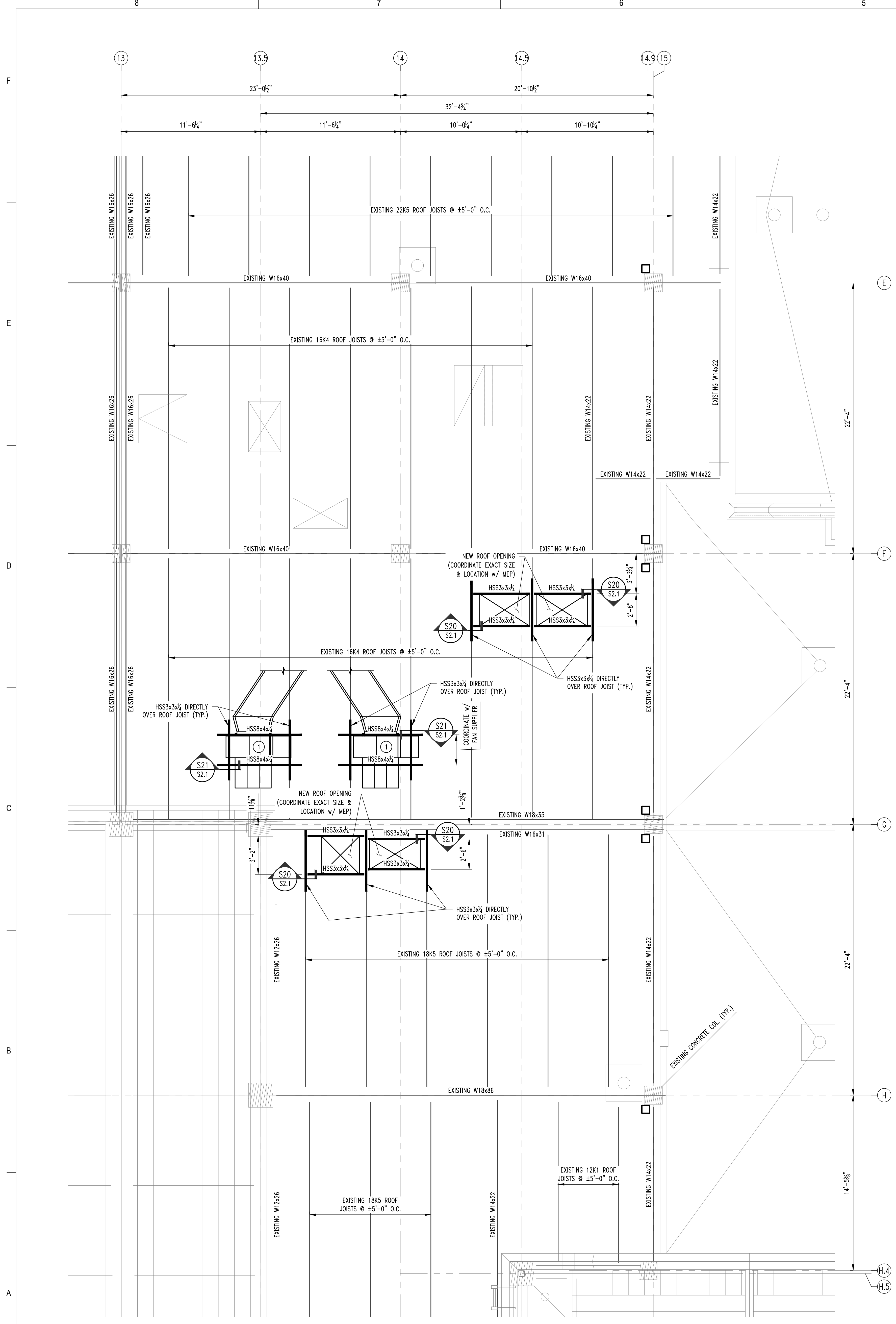
NO.	DATE	DESCRIPTION

DATE: 03/15/2024
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 CHECKED BY: GLL

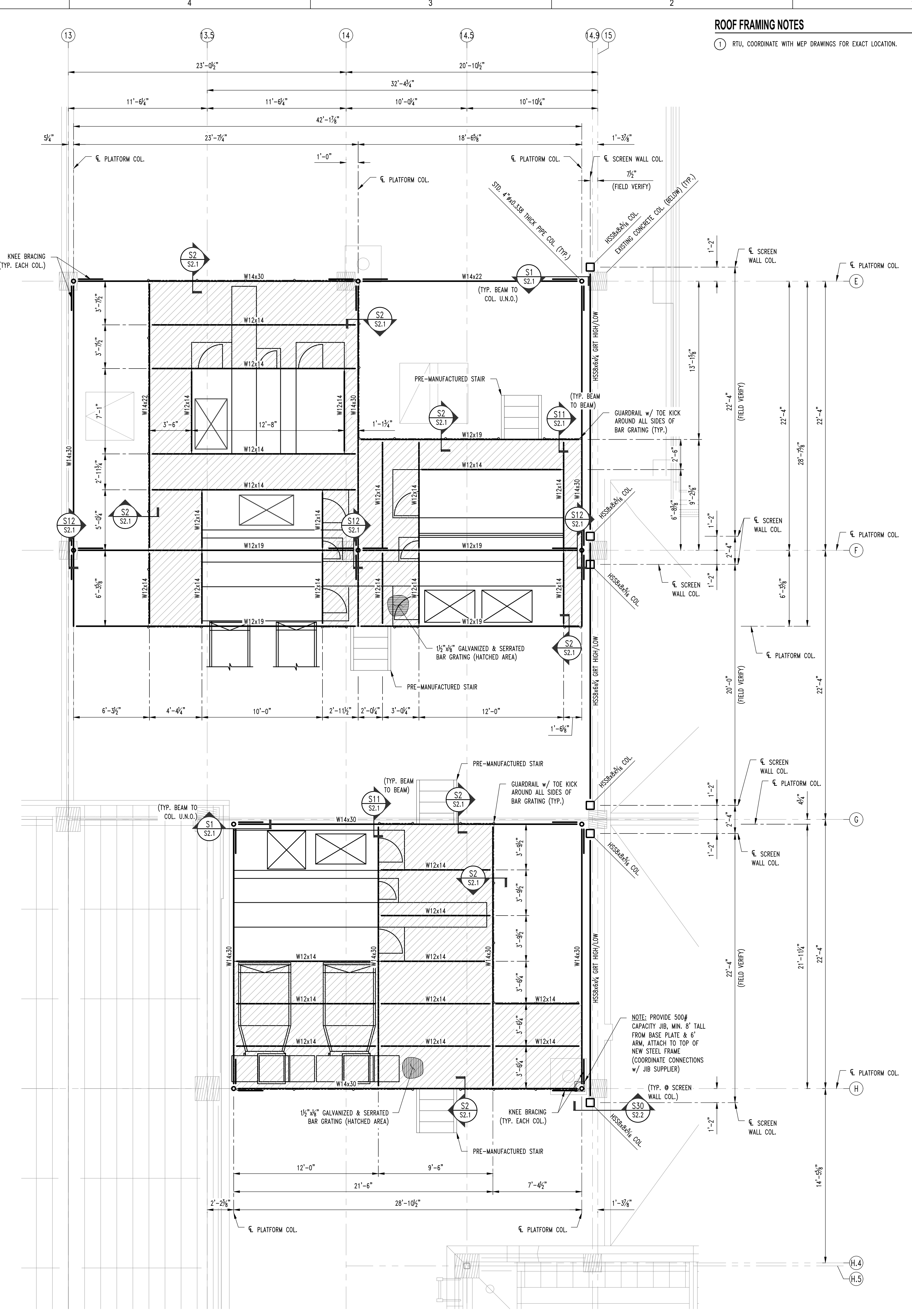
PARTIAL ROOF FRAMING PLAN

S2.0

BID SET - 03/15/2024

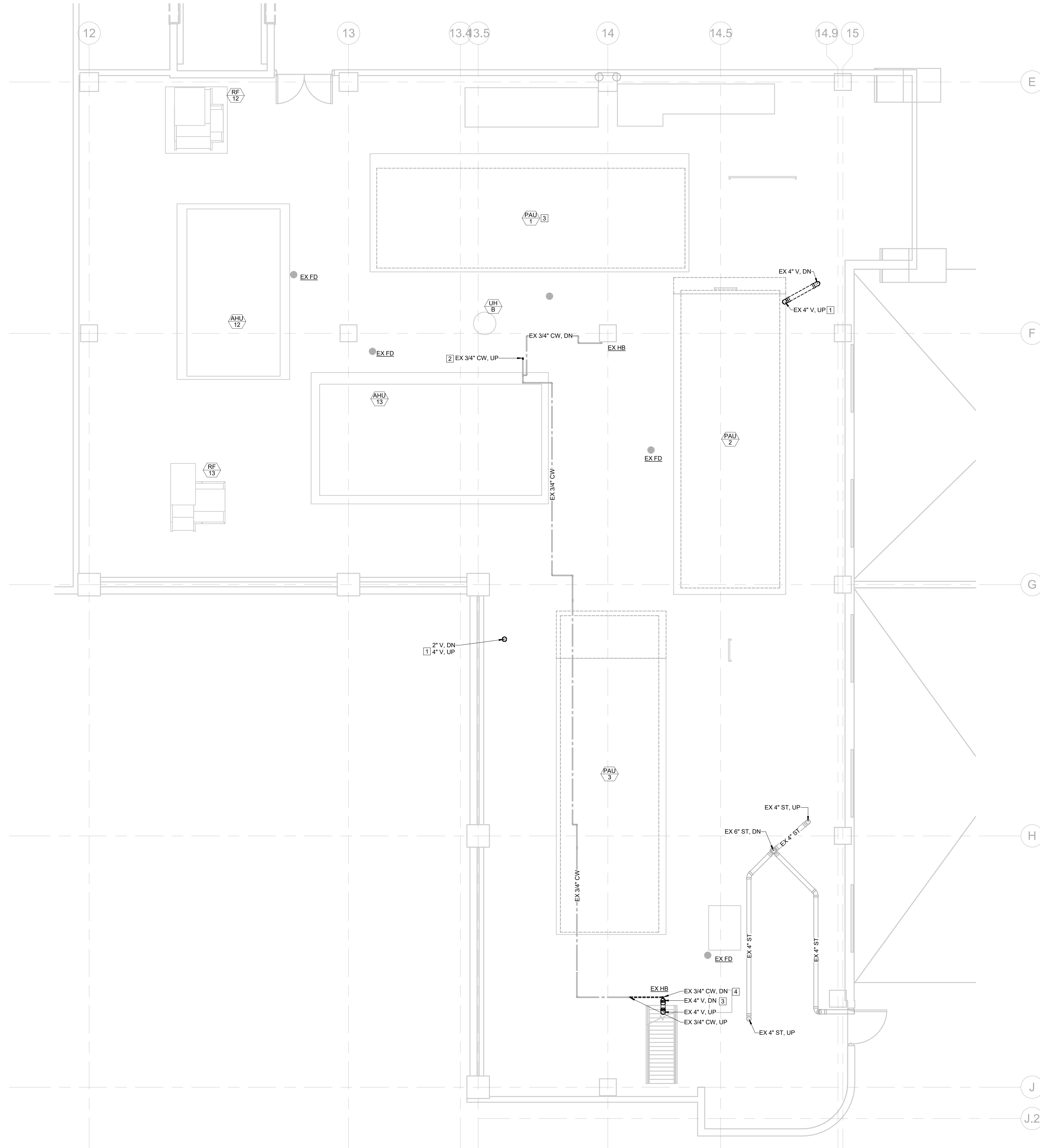


PARTIAL ROOF FRAMING PLAN
 SCALE: 1/4" = 1'-0"



PARTIAL ROOF FRAMING PLAN @ PLATFORM LEVEL
 SCALE: 1/4" = 1'-0"

NOTE:
 ALL STEEL GALVANIZED. COORDINATE
 DIMENSIONS w/ FINAL EQUIPMENT.



MECHANICAL DEMOLITION GENERAL NOTES:

1. THESE DRAWINGS WERE PREPARED UTILIZING EXISTING DRAWINGS AND FIELD OBSERVATIONS. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO STARTING WORK. NOTIFY CONSTRUCTION MANAGER IMMEDIATELY OF ANY DISCREPANCIES.
2. CONTRACTOR SHALL TAKE EXTREME CARE HANDLING MATERIAL DEBRIS IN AN EFFORT TO AVOID ANY DISRUPTIONS OF ONGOING BUILDING OPERATIONS. PROJECT SHALL BE CLEANED FREE OF DUST AND DEBRIS AT THE END OF THE WORK DAY.
3. CONTRACTOR SHALL COORDINATE ANY SHUTDOWN OF UTILITIES WITH THE OWNER'S REPRESENTATIVE. ALL SHUTDOWNS SHALL BE PLANNED AT LEAST 1 MONTH IN ADVANCE. THE OWNER RETAINS THE RIGHT TO DELAY THE SHUTDOWN DUE TO UNEXPECTED HOT/COLD WEATHER ON THE DAY THE SHUTDOWN IS PLANNED TO OCCUR.
4. CONTRACTOR SHALL COORDINATE THEIR WORK WITH ALL OTHER TRADES PRIOR TO BEGINNING WORK.
5. CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS FOR FIELD COORDINATION AND DIMENSIONAL VERIFICATION AS SPECIFIED IN THE PROJECT MANUAL.
6. ALL EQUIPMENT AND MATERIAL LISTED BE INSTALLED ACCORDING TO THE MANUFACTURERS RECOMMENDATIONS AND ALL LISTED CODES.
7. DEMOLITION AND CONSTRUCTION OF PAU-1, 2 & 3 WILL BE PHASED SUCH THAT THE REPLACEMENT OF THE PAU 1 AND 2 UNITS WILL OCCUR IN ITS ENTIRETY PRIOR TO THE START OF DEMOLITION/CONSTRUCTION ON THE PAU-3 UNIT. UNDER NO CONDITIONS SHALL ALL THREE UNITS BE DOWN AT THE SAME TIME.

KEYED NOTES:

- 1 DEMOLISH EXISTING SEGMENT OF VENT PIPING TO ALLOW FOR RELOCATION OF VTR. VENT PIPING TO BE REROUTED IN NEW WORK. REFER TO NEW WORK FOR MORE INFORMATION.
- 2 DEMOLISH EXISTING COLD WATER PIPING FROM ROOF HYDRANT DOWN TO POINT SHOWN. ROOF HYDRANT TO BE RELOCATED IN NEW WORK. REFER TO NEW WORK FOR MORE INFORMATION.
- 3 DEMOLISH EXISTING SEGMENT OF VENT PIPING DOWN THROUGH FLOOR TO CEILING SPACE ON LEVEL BELOW. VENT PIPING TO BE REROUTED IN NEW WORK. REFER TO NEW WORK FOR MORE INFORMATION.
- 4 DEMOLISH EXISTING SEGMENT OF COLD WATER PIPING AND HOSE BIBB DOWN THROUGH FLOOR TO CEILING SPACE ON LEVEL BELOW. COLD WATER PIPING TO BE REROUTED AND NEW HOSE BIBB INSTALLED IN NEW WORK. REFER TO NEW WORK FOR MORE INFORMATION.

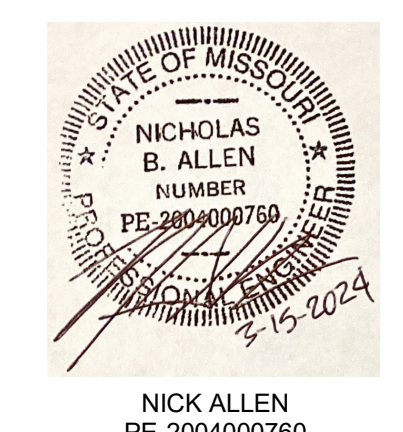
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**STUDENT RECREATION CENTER - AHU 1-3
 REPLACEMENT
 #CP242271**

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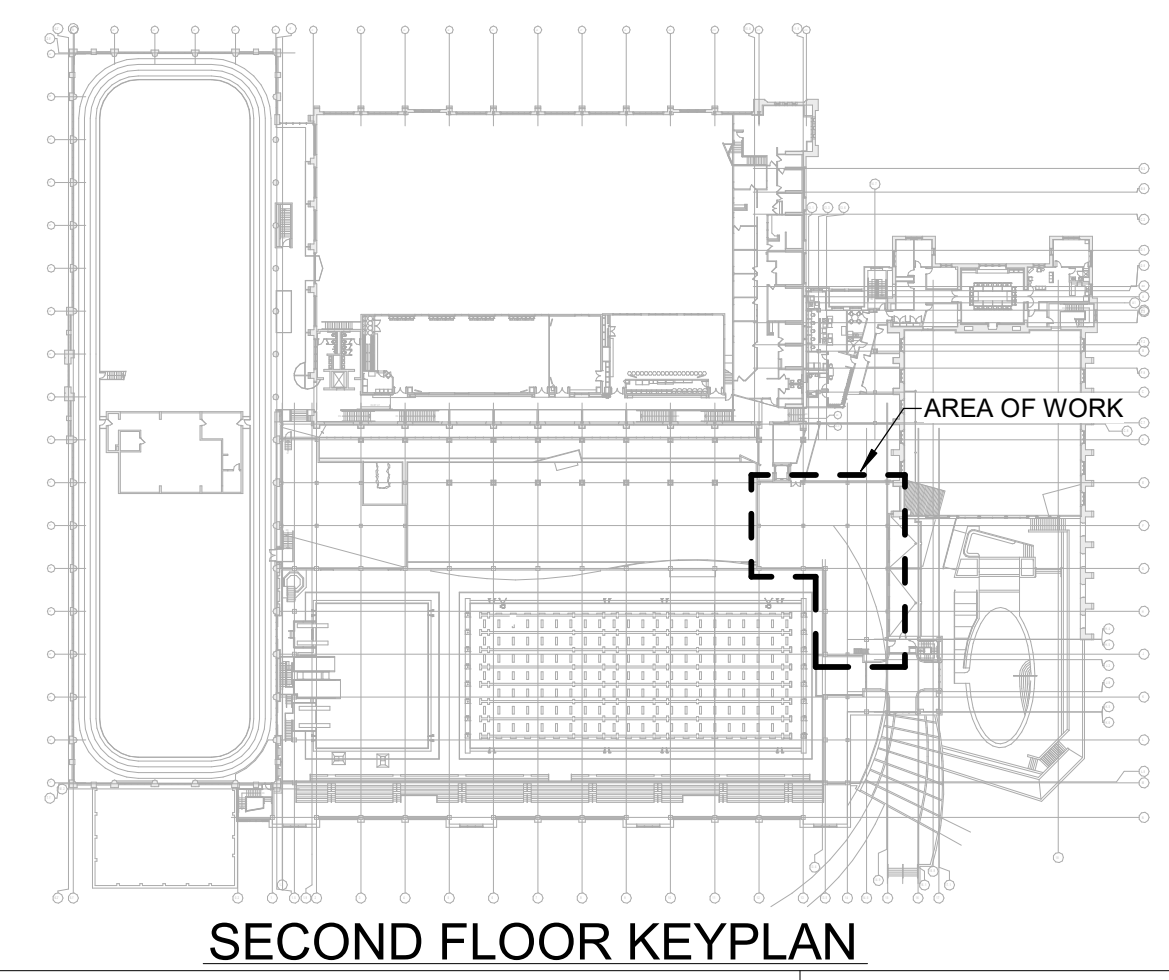
REVISIONS	Description	Date	No.

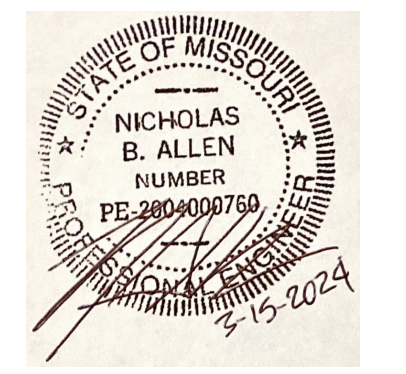
DATE: 03/15/2024
 PROJECT #: 071588.002
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 CHECKED BY: NBA

**MECHANICAL
 ROOM 301
 DEMOLITION
 PLUMBING PLAN**

DM2.0
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MECHANICAL ROOM 301 DEMOLITION PLUMBING PLAN
 SCALE: 1/4" = 1'-0"





NICK ALLEN
PE-200400760

REVISIONS	Description	Date	No.

DATE: 02/14/2024
PROJECT #: 071588.002
DRAWN BY: KAA
CHECKED BY: NBA

PARTIAL
CHILLER ROOM
M103
DEMOLITION
FLOOR PLAN

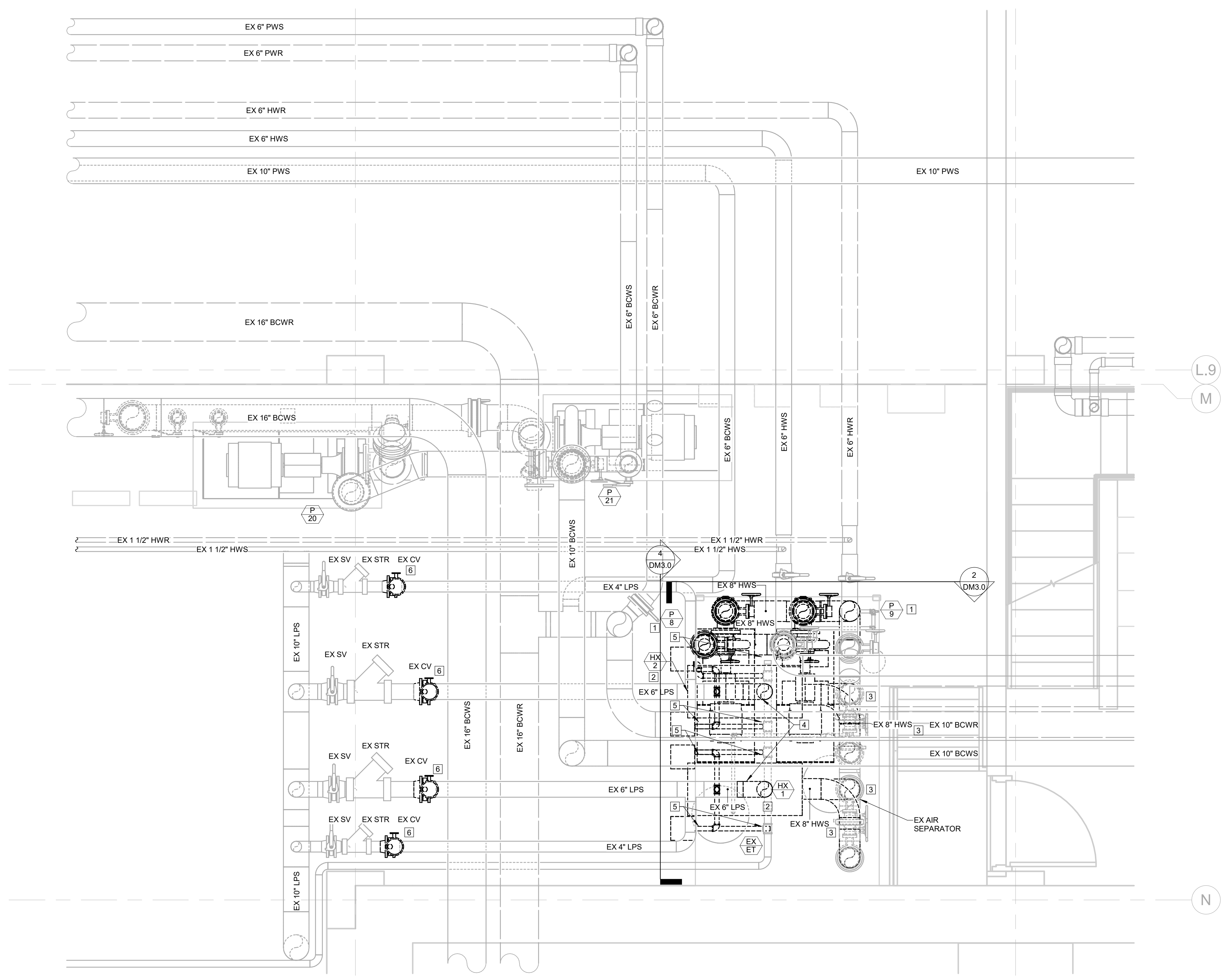
DM3.0

MECHANICAL DEMOLITION GENERAL NOTES:

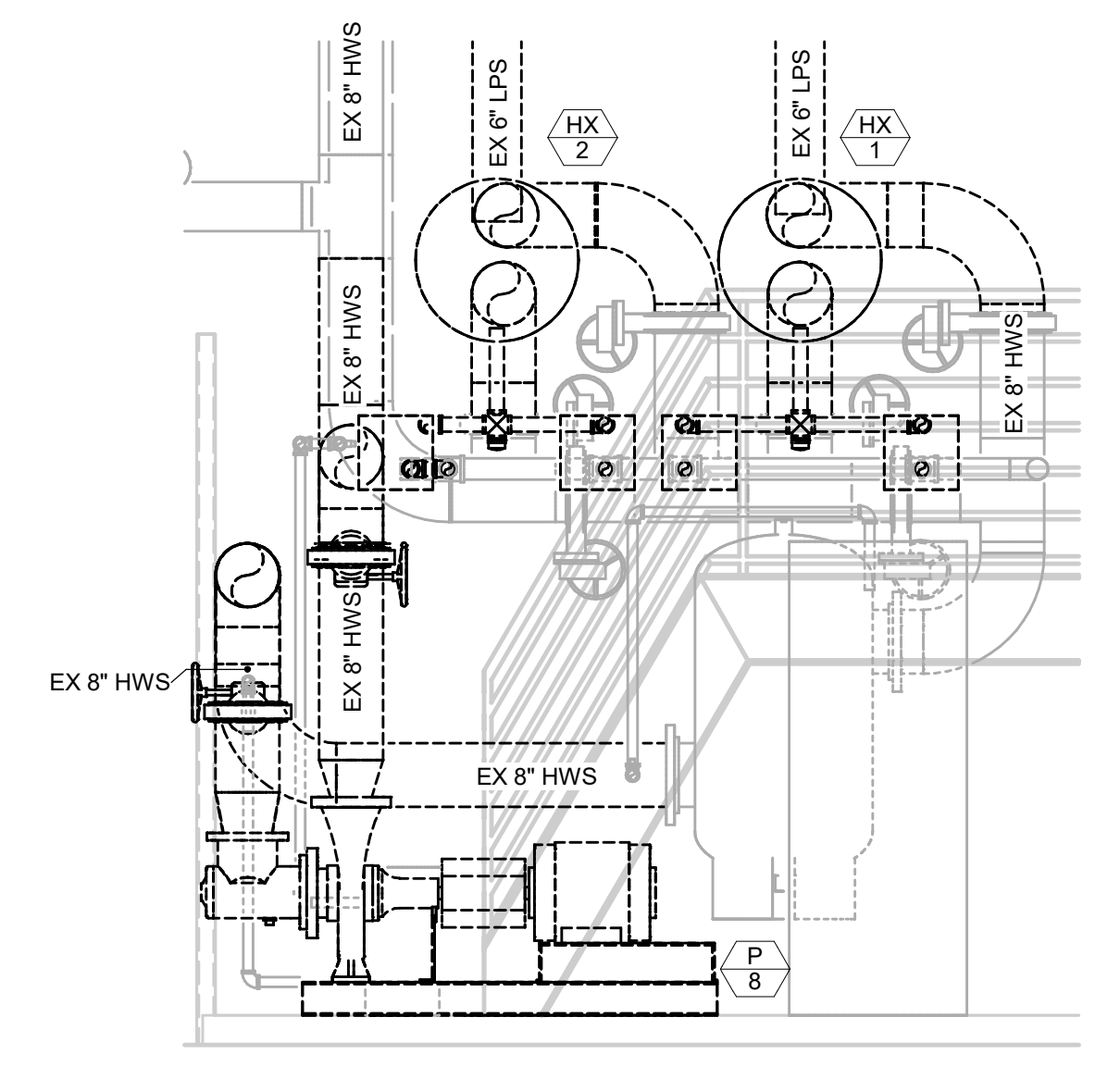
- THESE DRAWINGS WERE PREPARED UTILIZING EXISTING DRAWINGS AND FIELD OBSERVATIONS. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO STARTING WORK. NOTIFY CONSTRUCTION MANAGER IMMEDIATELY OF ANY DISCREPANCIES.
- CONTRACTOR SHALL TAKE EXTREME CARE HANDLING MATERIAL DEBRIS IN AN EFFORT TO AVOID ANY DISRUPTIONS OF ONGOING BUILDING OPERATIONS. PROJECT SHALL BE CLEANED FREE OF DUST AND DEBRIS AT THE END OF THE WORK DAY.
- CONTRACTOR SHALL COORDINATE ANY SHUTDOWN OF UTILITIES WITH THE OWNER'S REPRESENTATIVE. ALL SHUTDOWNS SHALL BE PLANNED AT LEAST 1 MONTH IN ADVANCE. THE OWNER RETAINS THE RIGHT TO DELAY THE SHUTDOWN DUE TO UNEXPECTED HOT/COLD WEATHER ON THE DAY THE SHUTDOWN IS PLANNED TO OCCUR.
- CONTRACTOR SHALL COORDINATE THEIR WORK WITH ALL OTHER TRADES PRIOR TO BEGINNING WORK.
- CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS FOR FIELD COORDINATION AND DIMENSIONAL VERIFICATION AS SPECIFIED IN THE PROJECT MANUAL.
- ALL EQUIPMENT AND MATERIAL SHALL BE INSTALLED ACCORDING TO THE MANUFACTURERS RECOMMENDATIONS AND ALL LISTED CODES.
- DEMOLITION AND CONSTRUCTION OF PAU-1, 2 & 3 WILL BE PHASED SUCH THAT THE REPLACEMENT OF THE PAU 1 AND 2 UNITS WILL OCCUR IN ITS ENTIRETY PRIOR TO THE START OF DEMOLITION/CONSTRUCTION ON THE PAU-3 UNIT. UNDER NO CONDITIONS SHALL ALL THREE UNITS BE DOWN AT THE SAME TIME.

KEYED NOTES:

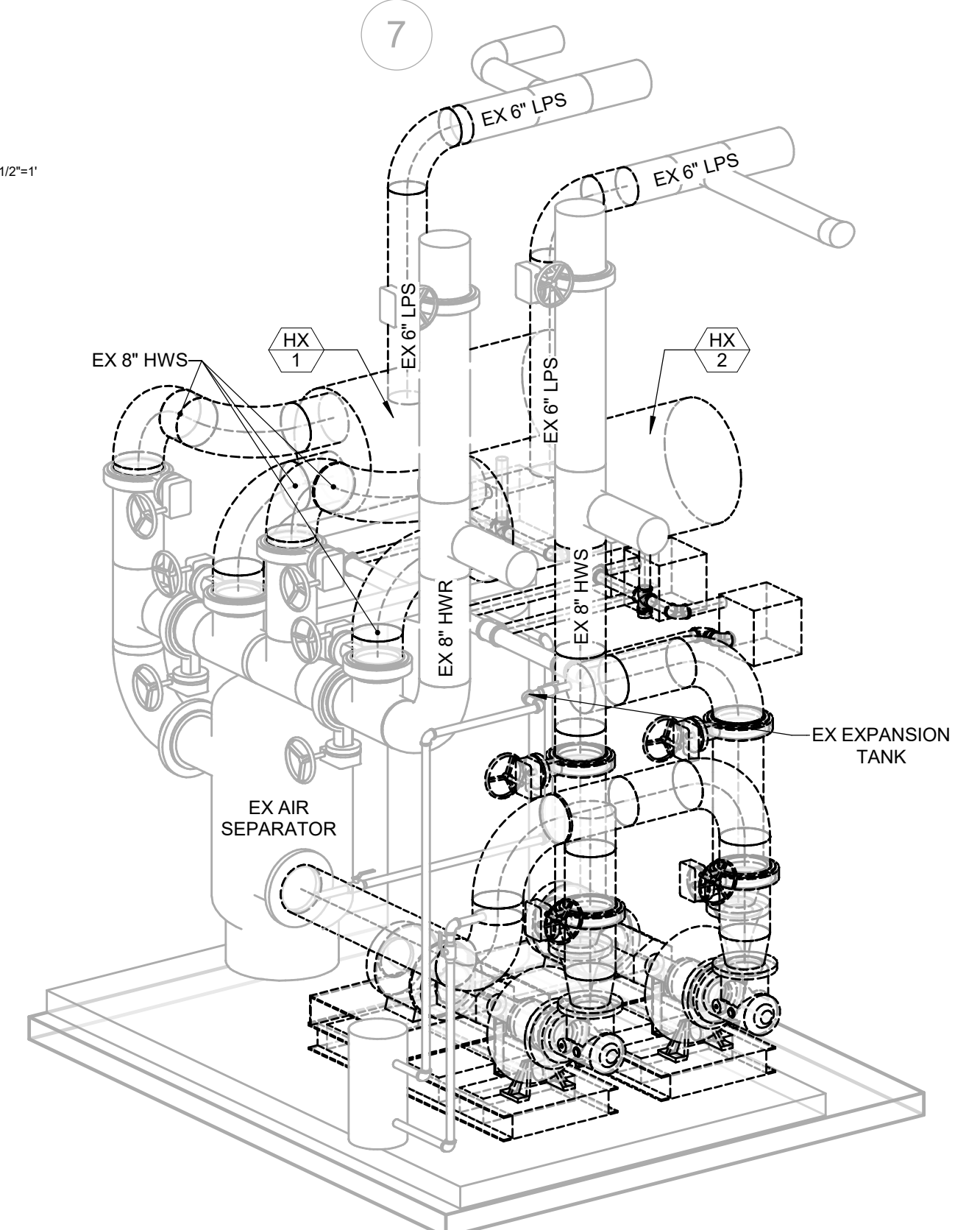
- DEMOLISH EXISTING HEATING WATER PUMPS, ACCESSORIES, AND ASSOCIATED PIPING BACK TO AIR SEPARATOR AND EXISTING TEE. EXISTING HOUSEKEEPING PAD TO REMAIN.
- DEMOLISH EXISTING HEAT EXCHANGERS AND ASSOCIATED ACCESSORIES. DEMOLISH EXISTING STEEL SUPPORTS FOR HEAT EXCHANGERS.
- DEMOLISH HEATING WATER PIPING FROM HEAT EXCHANGERS BACK TO EXISTING SERVICE VALVES. PIPING TO BE RECONNECTED DURING NEW WORK. REFER TO NEW WORK FOR MORE INFORMATION.
- DEMOLISH EXISTING STEAM PIPING BACK TO POINT SHOWN. PIPING TO BE RECONNECTED DURING NEW WORK. REFER TO NEW WORK FOR MORE INFORMATION.
- DEMOLISH EXISTING STEAM CONDENSATE PIPING, SPECIALTIES AND STEAM TRAP FROM HEAT EXCHANGER BACK TO CONDENSATE MAIN. PIPING TO BE RECONNECTED DURING NEW WORK. REFER TO NEW WORK FOR MORE INFORMATION.
- DEMOLISH EXISTING STEAM CONTROL VALVES. NEW VALVES TO BE INSTALLED IN THEIR PLACE. REFER TO NEW WORK FOR MORE INFORMATION.



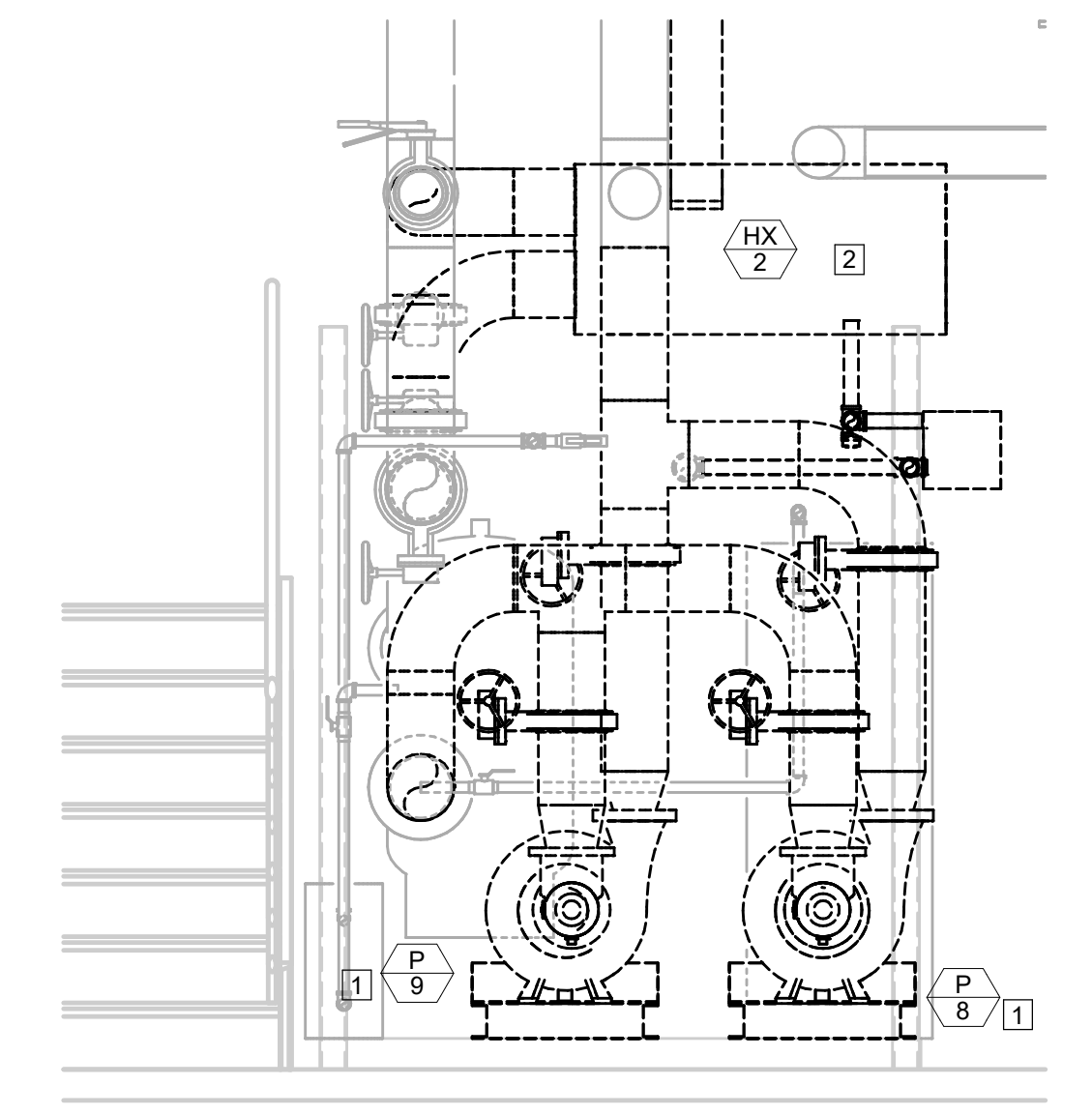
PARTIAL CHILLER ROOM M103 DEMOLITION PLAN
SCALE: 1/2" = 1'-0"



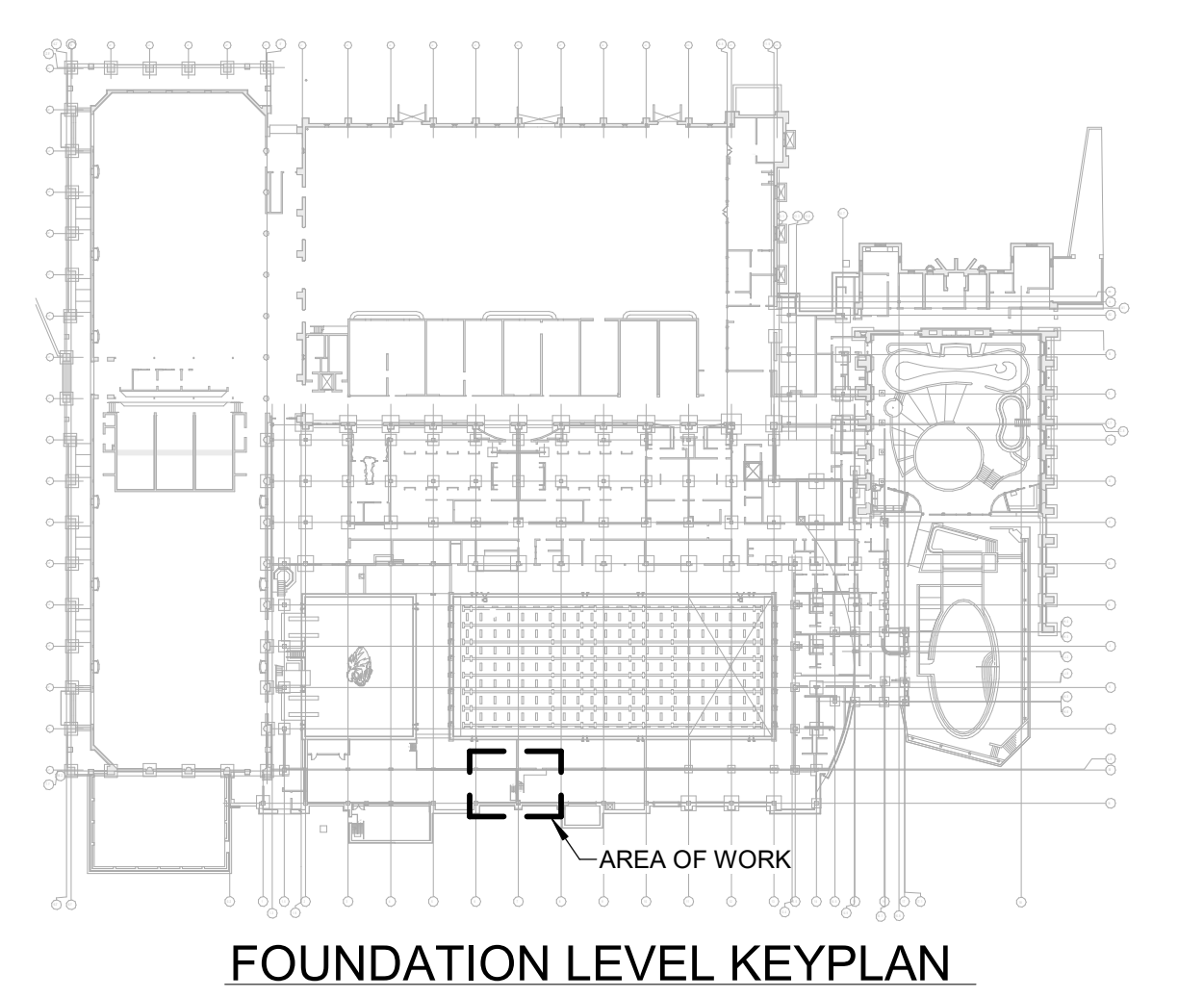
4 HEATING WATER PUMPS AND HEAT EXCHANGERS EAST DEMOLITION
1/2" = 1'-0"



3 HEATING WATER PUMPS ISOMETRIC - DEMOLITION



2 HEATING WATER PUMPS AND HEAT EXCHANGERS DEMOLITION
1/2" = 1'-0"



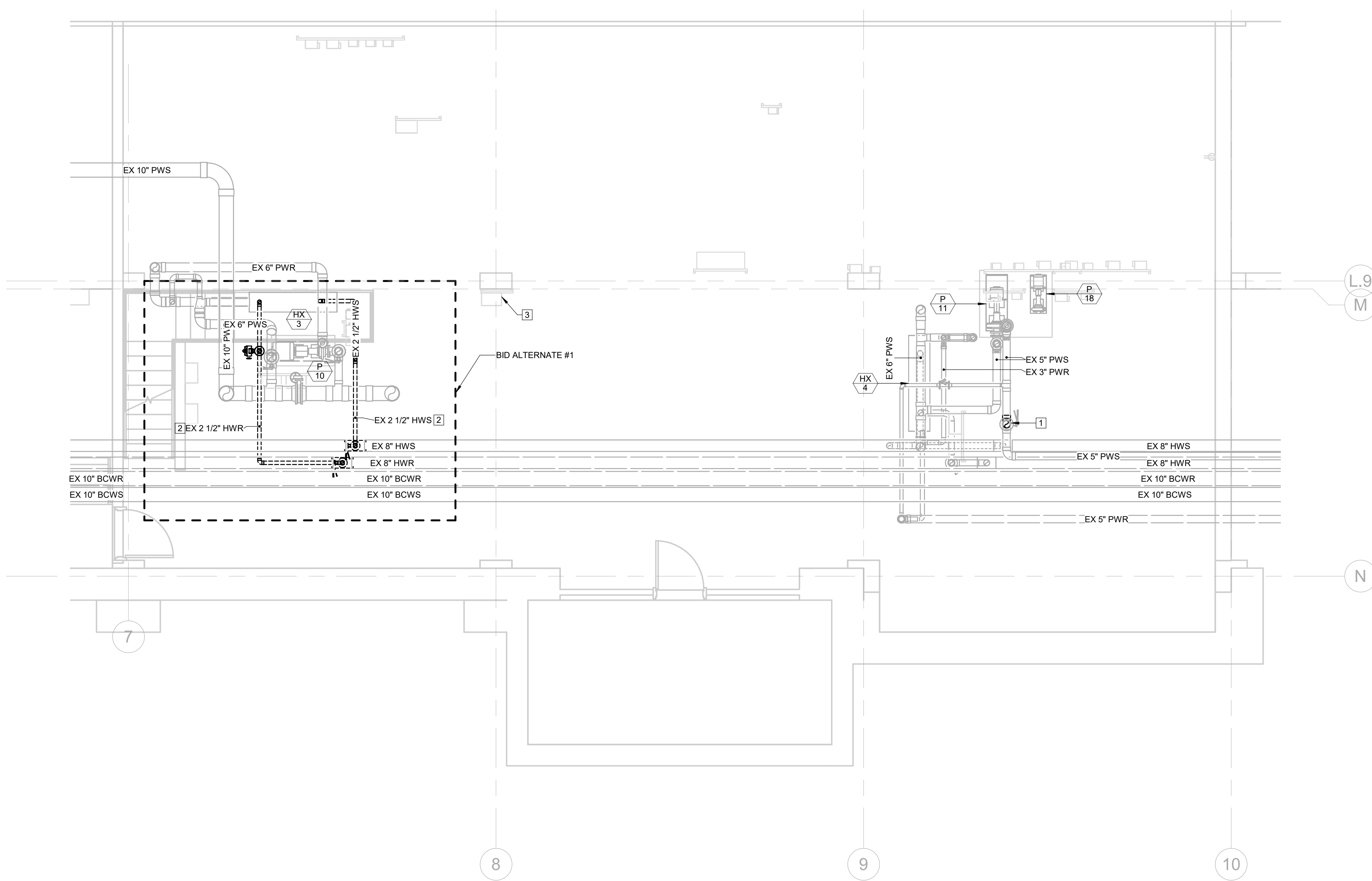
FOUNDATION LEVEL KEYPLAN

MECHANICAL DEMOLITION GENERAL NOTES:

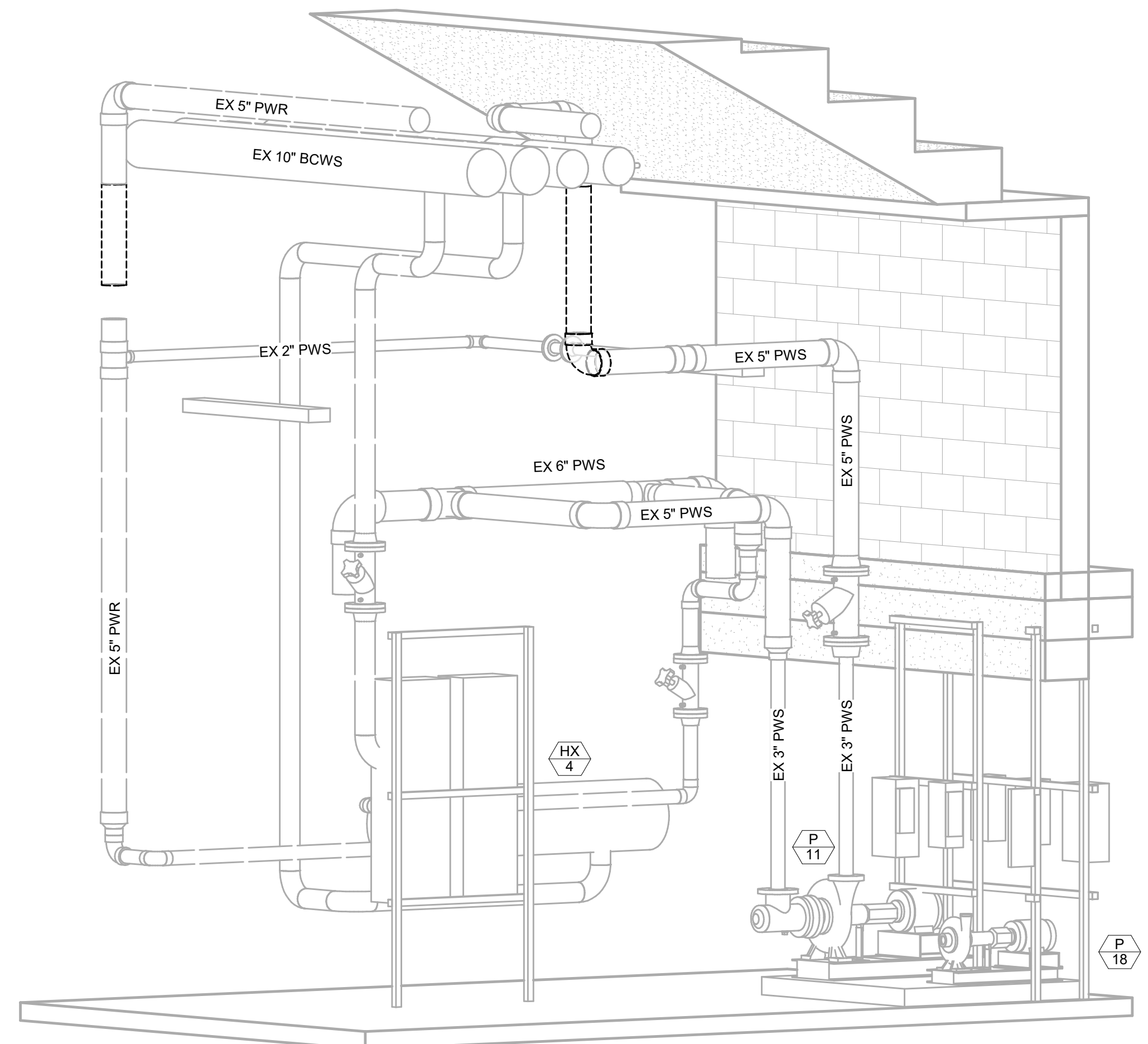
1. THESE DRAWINGS WERE PREPARED UTILIZING EXISTING DRAWINGS AND FIELD OBSERVATIONS. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO STARTING WORK. NOTIFY CONSTRUCTION MANAGER IMMEDIATELY OF ANY DISCREPANCIES.
2. CONTRACTOR SHALL TAKE EXTREME CARE HANDLING MATERIAL DEBRIS IN AN EFFORT TO AVOID ANY DISRUPTIONS OF ONGOING BUILDING OPERATIONS. PROJECT SHALL BE CLEANED FREE OF DUST AND DEBRIS AT THE END OF THE WORK DAY.
3. CONTRACTOR SHALL COORDINATE ANY SHUTDOWN OF UTILITIES WITH THE OWNER'S REPRESENTATIVE. ALL SHUTDOWNS SHALL BE PLANNED AT LEAST 1 MONTH IN ADVANCE. THE OWNER RETAINS THE RIGHT TO DELAY THE SHUTDOWN DUE TO UNEXPECTED HOT/COLD WEATHER ON THE DAY THE SHUTDOWN IS PLANNED TO OCCUR.
4. CONTRACTOR SHALL COORDINATE THEIR WORK WITH ALL OTHER TRADES PRIOR TO BEGINNING WORK.
5. CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS FOR FIELD COORDINATION AND DIMENSIONAL VERIFICATION AS SPECIFIED IN THE PROJECT MANUAL.
6. ALL EQUIPMENT AND MATERIAL SHALL BE INSTALLED ACCORDING TO THE MANUFACTURERS RECOMMENDATIONS AND ALL LISTED CODES.
7. DEMOLITION AND CONSTRUCTION OF PAU-1, 2 & 3 WILL BE PHASED SUCH THAT THE REPLACEMENT OF THE PAU 1 AND 2 UNITS WILL OCCUR IN ITS ENTIRETY PRIOR TO THE START OF DEMOLITION/CONSTRUCTION ON THE PAU-3 UNIT. UNDER NO CONDITIONS SHALL ALL THREE UNITS BE DOWN AT THE SAME TIME.

KEYED NOTES:

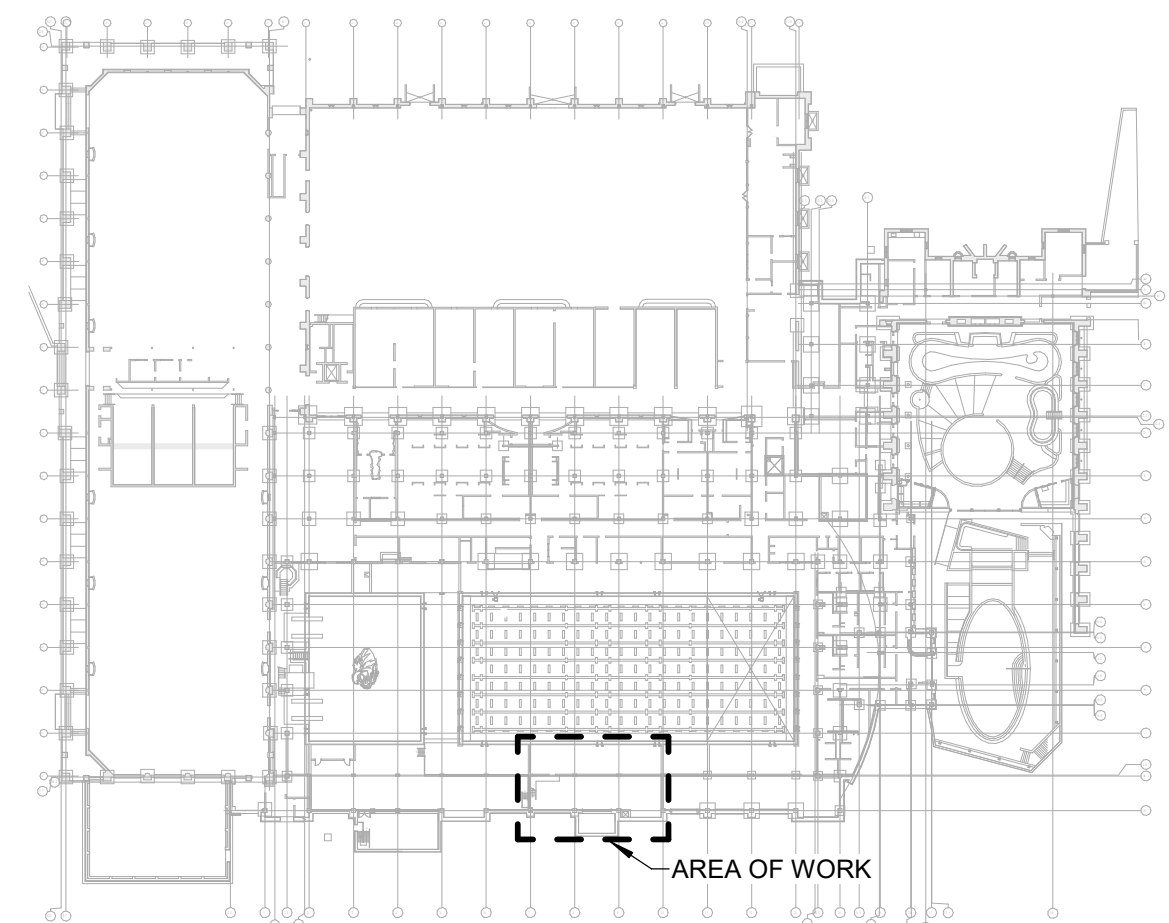
1. DEMOLISH SEGMENT OF EXISTING PIPING SHOWN. POOL WATER SYSTEM ROUTED FROM PAU 2/3 DOWN TO MECHANICAL ROOM WILL NEED TO BE DRAINED. PIPING TO BE RECONNECTED DURING NEW WORK. REFER TO NEW WORK FOR MORE INFORMATION. SYSTEM DOWNTIME TO BE LIMITED TO 4 HOURS AND PLANNED IN ADVANCE WITH THE OWNER.
2. BID ALTERNATE #1: DEMOLISH EXISTING HEATING WATER PIPING AND SPECIALTIES BACK TO HEATING WATER MAINS. NEW LARGER PIPING TO BE INSTALLED IN ITS PLACE DURING NEW WORK. REFER TO NEW WORK FOR MORE INFORMATION. WORK WILL REQUIRE A PARTIAL HEATING WATER SYSTEM SHUTDOWN. SYSTEM DOWNTIME TO BE LIMITED TO 4 HOURS AND PLANNED IN ADVANCE WITH THE OWNER.
3. DEMOLISH EXISTING DXS100 CONTROLLER. NEW CONTROLLER TO BE INSTALLED IN ITS PLACE. REFER TO NEW WORK FOR MORE INFORMATION.



MECHANICAL ROOM 106B DEMOLITION PLAN
SCALE: 1/4" = 1'-0"
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20



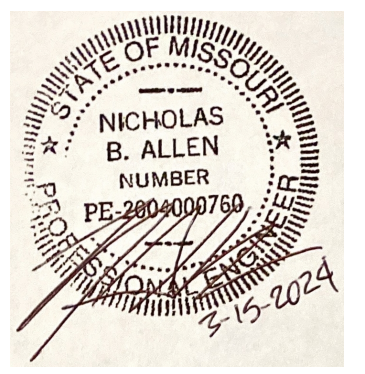
MECHANICAL ROOM 106B DEMOLITION



FOUNDATION LEVEL KEYPLAN

**STUDENT RECREATION CENTER - AHU 1-3
REPLACEMENT
#CP242271**

1000 ROLLINS ST. COLUMBIA, MO 65203



NICK ALLEN
PE-2004000760

REVISIONS	Description	Date	No.

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PROJECT #: 071588.002
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MECHANICAL ROOM 106B DEMOLITION

DM3.1

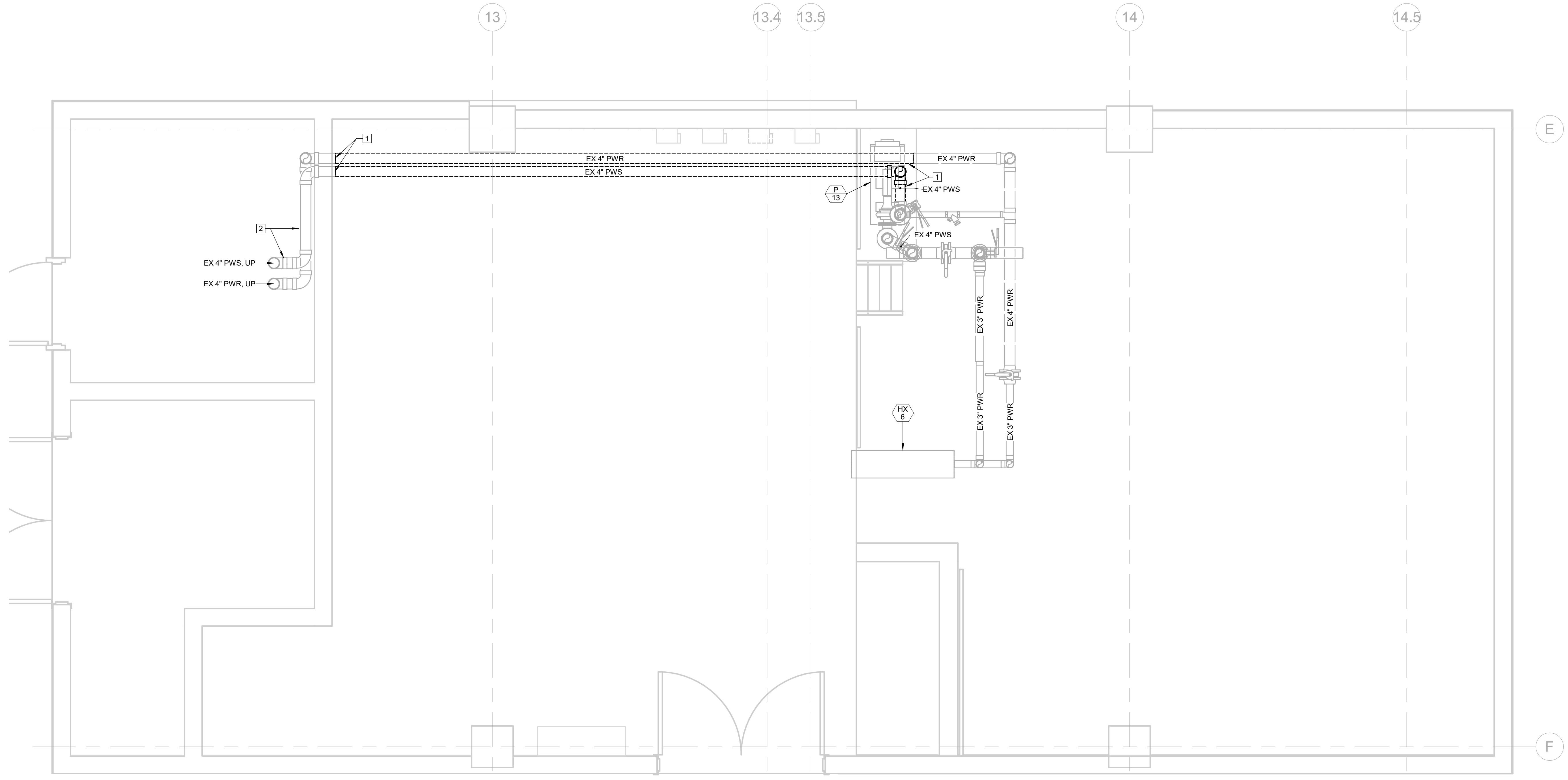
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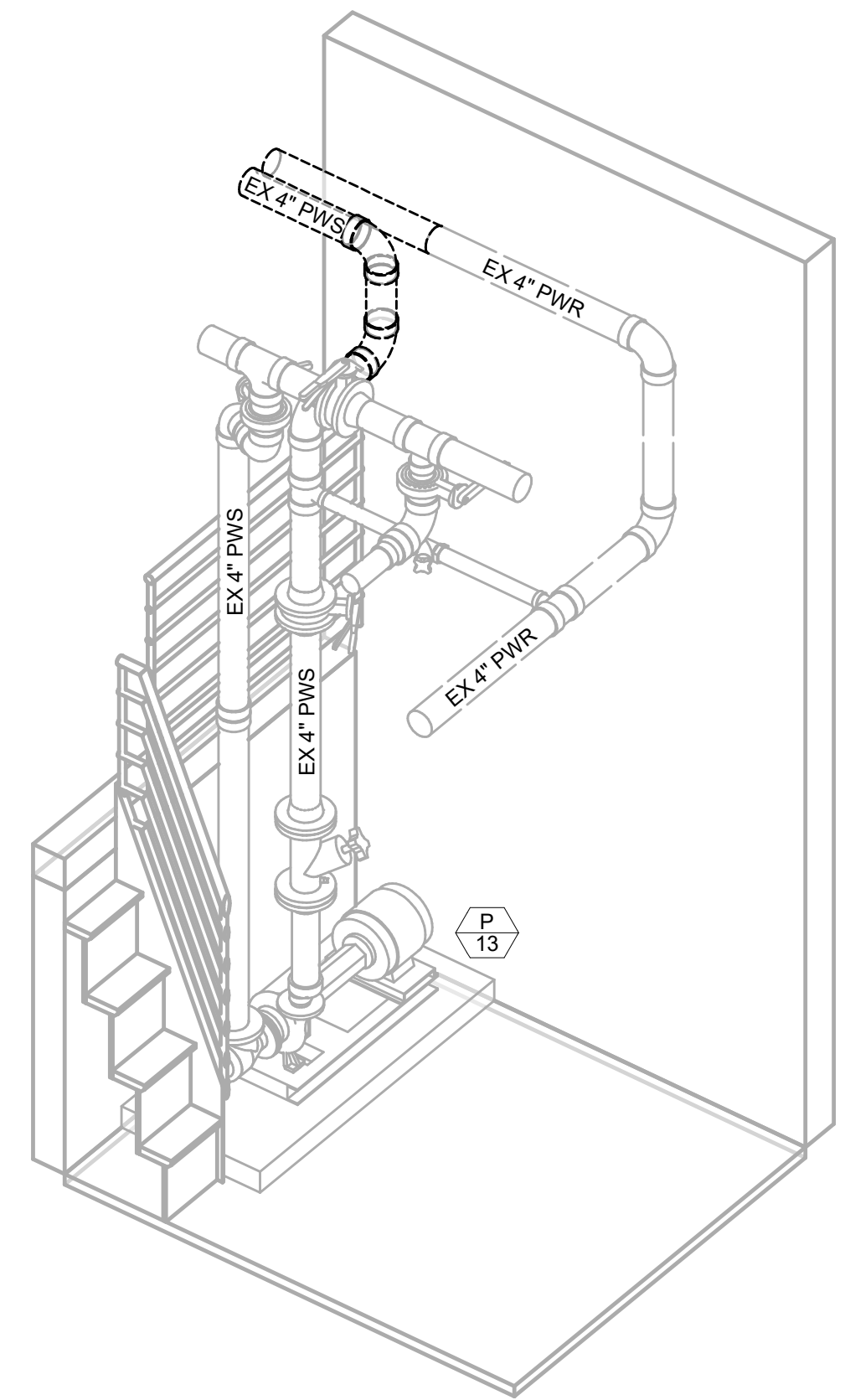
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3. CONTRACTOR SHALL COORDINATE ANY SHUTDOWN OF UTILITIES WITH THE OWNER'S REPRESENTATIVE. ALL SHUTDOWNS SHALL BE PLANNED AT LEAST 1 MONTH IN ADVANCE. THE OWNER RETAINS THE RIGHT TO DELAY THE SHUTDOWN DUE TO UNEXPECTED HOT/COLD WEATHER ON THE DAY THE SHUTDOWN IS PLANNED TO OCCUR.
4. CONTRACTOR SHALL COORDINATE THEIR WORK WITH ALL OTHER TRADES PRIOR TO BEGINNING WORK.
5. CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS FOR FIELD COORDINATION AND DIMENSIONAL VERIFICATION AS SPECIFIED IN THE PROJECT MANUAL.
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KEYED NOTES:

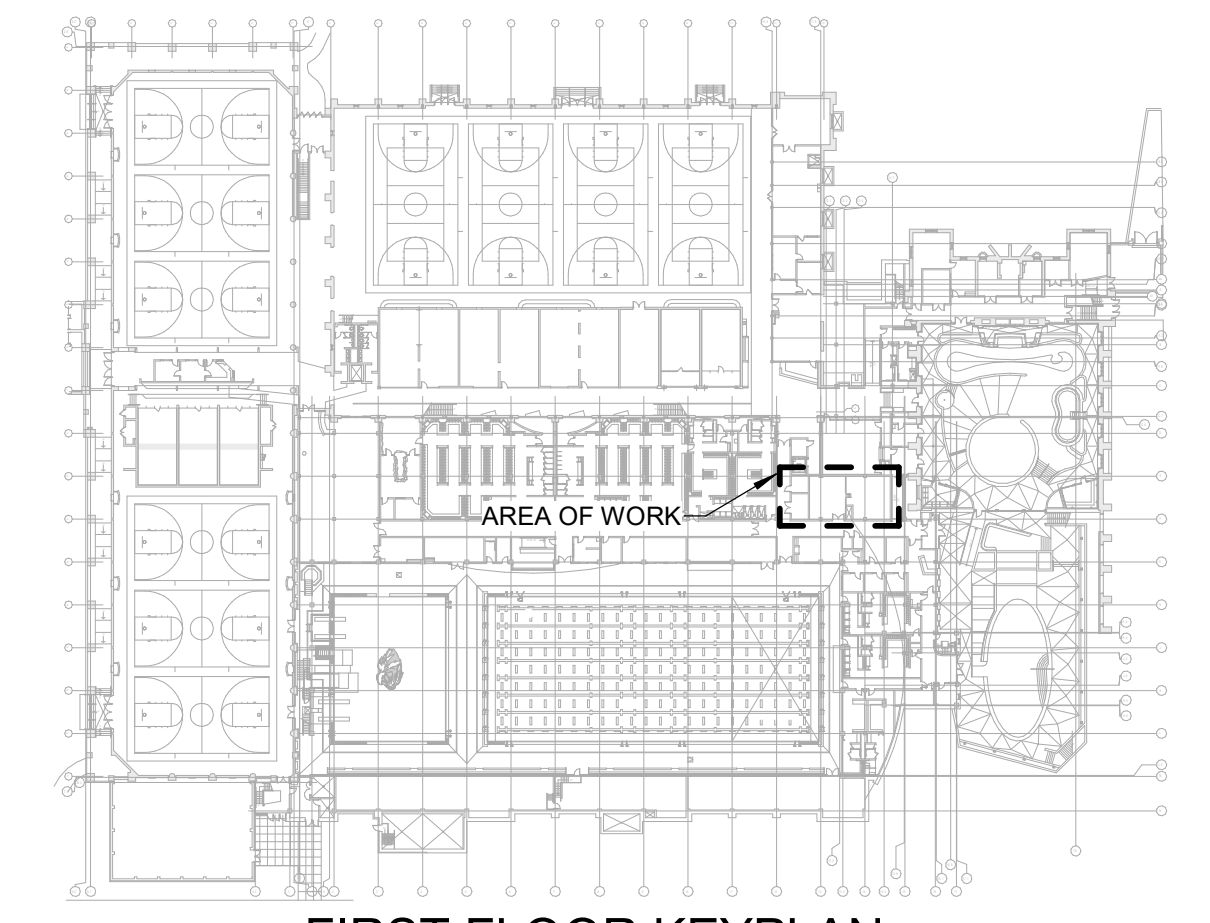
- 1 DEMOLISH SEGMENT OF EXISTING PIPING SHOWN AND ASSOCIATED HANGERS. POOL WATER SYSTEM WILL NEED TO BE DRAINED. PIPING TO BE RECONNECTED ABOVE PUMP AND CAPPED AT EXISTING WALL DURING NEW WORK. PIPE RISERS TO PAU'S TO BE ALLOWED TO DRY BEFORE INSTALLING CAPS. REFER TO NEW WORK FOR MORE INFORMATION. SYSTEM DOWNTIME TO BE LIMITED TO 4 HOURS AND PLANNED IN ADVANCE WITH THE OWNER.
- 2 CONTRACTOR TO LABEL ALL ACCESSIBLE ABANDONED-IN-PLACE POOL PIPING WITH NEW LABELS STATING NO LONGER IN SERVICE. INCLUDES PIPING IN MECHANICAL ROOMS, AS WELL AS EXPOSED OR ABOVE DROP CEILING OUTSIDE MECHANICAL ROOMS.



N
MECHANICAL ROOM 118 DEMOLITION PLAN
 SCALE: 1/2" = 1'-0"



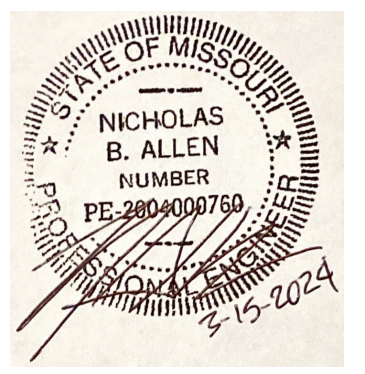
2 POOL WATER ISOMETRIC - DEMOLITION



FIRST FLOOR KEY PLAN

**STUDENT RECREATION CENTER - AHU 1-3
 REPLACEMENT
 #CP242271**

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**MECHANICAL
 ROOM 118
 DEMOLITION
 PLAN**

DM3.2



MEZZANINE FLOOR PLAN - EAST DEMOLITION PLAN
 SCALE: 1/4" = 1'-0"
 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17

- MECHANICAL DEMOLITION GENERAL NOTES:**
1. THESE DRAWINGS WERE PREPARED UTILIZING EXISTING DRAWINGS AND FIELD OBSERVATIONS. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO STARTING WORK. NOTIFY CONSTRUCTION MANAGER IMMEDIATELY OF ANY DISCREPANCIES.
 2. CONTRACTOR SHALL TAKE EXTREME CARE HANDLING MATERIAL DEBRIS IN AN EFFORT TO AVOID ANY DISRUPTIONS OF ONGOING BUILDING OPERATIONS. PROJECT SHALL BE CLEANED FREE OF DUST AND DEBRIS AT THE END OF THE WORK DAY.
 3. CONTRACTOR SHALL COORDINATE ANY SHUTDOWN OF UTILITIES WITH THE OWNER'S REPRESENTATIVE. ALL SHUTDOWNS SHALL BE PLANNED AT LEAST 1 MONTH IN ADVANCE. THE OWNER RETAINS THE RIGHT TO DELAY THE SHUTDOWN DUE TO UNEXPECTED HOT/COLD WEATHER ON THE DAY THE SHUTDOWN IS PLANNED TO OCCUR.
 4. CONTRACTOR SHALL COORDINATE THEIR WORK WITH ALL OTHER TRADES PRIOR TO BEGINNING WORK.
 5. CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS FOR FIELD COORDINATION AND DIMENSIONAL VERIFICATION AS SPECIFIED IN THE PROJECT MANUAL.
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 7. DEMOLITION AND CONSTRUCTION OF PAU-1, 2 & 3 WILL BE PHASED SUCH THAT THE REPLACEMENT OF THE PAU 1 AND 2 UNITS WILL OCCUR IN ITS ENTIRETY PRIOR TO THE START OF DEMOLITION/CONSTRUCTION ON THE PAU-3 UNIT. UNDER NO CONDITIONS SHALL ALL THREE UNITS BE DOWN AT THE SAME TIME.

- KEYED NOTES:**
- 1 DEMOLISH SEGMENT OF EXISTING EXHAUST DUCT AND FIRE DAMPER SHOWN. DUCTWORK TO BE RECONNECTED DURING NEW WORK. REFER TO DM3.3 AND NEW WORK FOR MORE INFORMATION. WORK IS TO BE COMPLETED AS QUICKLY AS POSSIBLE TO MINIMIZE DOWN TIME TO SERVED SPACES.
 - 2 DEMOLISH SECTION OF COLD WATER AND VENT PIPING SHOWN. PIPING TO BE RECONNECTED DURING NEW WORK. REFER TO NEW WORK FOR MORE INFORMATION.

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STUDENT RECREATION CENTER - AHU 1-3
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1000 ROLLINS ST. COLUMBIA, MO 65203

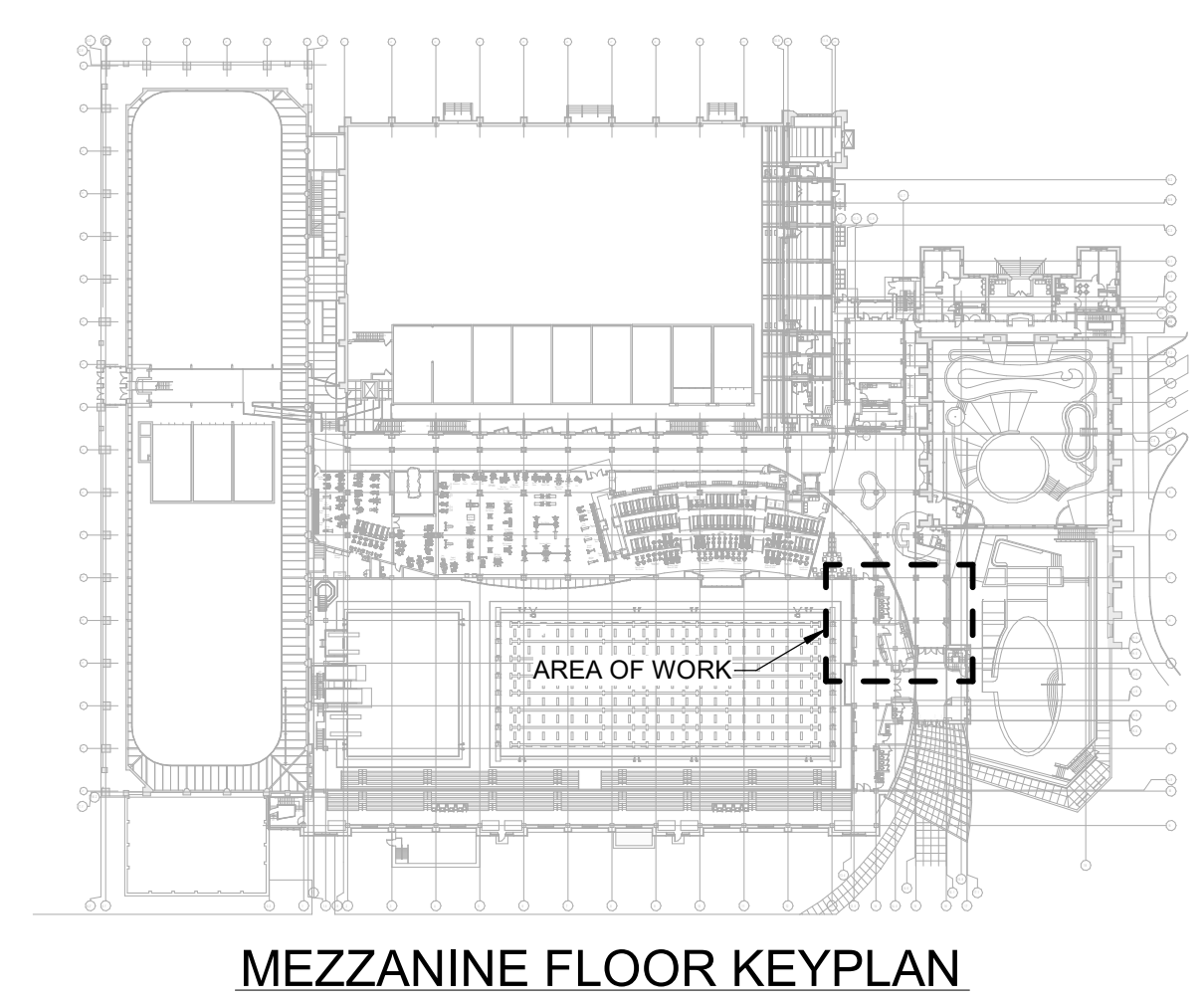
NICK ALLEN
 PE-200400760

REVISIONS	Description	Date	No.

DATE: 02/14/2024
 PROJECT #: 071588.002
 DRAWN BY: KAA
 CHECKED BY: NBA

MEZZANINE FLOOR PLAN - EAST

DM3.3
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MEZZANINE FLOOR KEYPLAN

McClure Project # 071588.002
 2/14/2024 4:15:00 PM BY: Author

SHEET IS PLOTTED TO SCALE IF ADJACENT LINE MEASURES 1 INCH

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MECHANICAL DEMOLITION GENERAL NOTES:

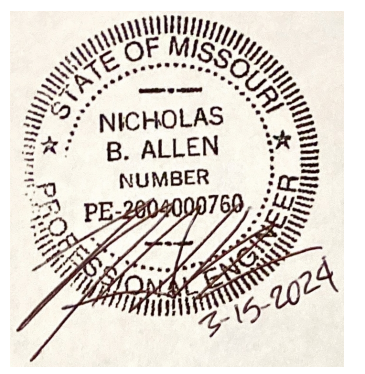
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KEYED NOTES:

- 1 DEMOLISH EXISTING POOL WATER PIPING FROM PAU OVER AND BACK TO JUST ABOVE DROP THROUGH MECHANICAL ROOM FLOOR. CAP EXISTING PIPING MAINS AT FLOOR.
- 2 DEMOLISH EXISTING REFRIGERANT PIPING FROM EXISTING CONDENSING UNITS ABOVE DOWN TO PAUS IN MECHANICAL ROOM. CONTRACTOR TO RECOVER AND DISPOSE OF REFRIGERANT.
- 3 DEMOLISH EXISTING PAU, ALL ASSOCIATED CONTROLS AND ALL ASSOCIATED ACCESSORIES.
- 4 DEMOLISH EXISTING SEGMENT OF RETURN AIR DUCTWORK SHOWN. RETURN AIR DUCT MAIN TO BE RECONNECTED IN NEW WORK. REFER TO NEW WORK FOR MORE INFORMATION.
- 5 DEMOLISH EXISTING SEGMENT OF SUPPLY AIR DUCTWORK SHOWN. SUPPLY AIR DUCT MAIN TO BE RECONNECTED IN NEW WORK. REFER TO NEW WORK FOR MORE INFORMATION.
- 6 DEMOLISH EXISTING SEGMENT OF RELIEF AIR DUCTWORK SHOWN. RELIEF AIR DUCT MAIN TO BE RECONNECTED IN NEW WORK. REFER TO NEW WORK FOR MORE INFORMATION.
- 7 DEMOLISH EXISTING SEGMENT OF OUTDOOR AIR DUCTWORK SHOWN. NEW OUTDOOR AIR TO BE ROUTED IN NEW WORK. REFER TO NEW WORK FOR MORE INFORMATION.
- 8 DEMOLISH EXISTING OUTDOOR AIR INTAKE PLENUM. NEW BLANK OFFS TO BE INSTALLED IN ITS PLACE. REFER TO NEW WORK FOR MORE INFORMATION.
- 9 DEMOLISH EXISTING SEGMENT OF EXHAUST AIR DUCTWORK SHOWN. EXHAUST AIR DUCT MAIN TO BE RECONNECTED IN NEW WORK. REFER TO NEW WORK FOR MORE INFORMATION.
- 10 DEMOLISH SEGMENT OF EXISTING PIPING SHOWN TO ALLOW FOR INSTALLATION OF NEW TEES. REFER TO NEW WORK FOR MORE INFORMATION.
- 11 EXHAUST DUCT TO BE TEMPORARILY CAPPED AND EXHAUST FAN SHUT OFF UNTIL NEW WORK IS COMPLETE. WORK IS TO BE COMPLETED AS QUICKLY AS POSSIBLE TO MINIMIZE DOWN TIME TO SPACES BELOW MECHANICAL ROOM.
- 12 DEMOLISH EXISTING EXHAUST DUCTWORK FROM FAN ABOVE DOWN AND OVER TO EXISTING PLENUM BOX. EXISTING OPENING IN PLENUM BOX TO BE PATCHED AIR TIGHT AND INSULATION PATCHED TO MATCH EXISTING CONDITIONS.
- 13 REMOVE EXISTING THERMOSTAT. THERMOSTAT TO BE REINSTALLED THE SAME DAY TO MINIMIZE OUTAGE. REFER TO NEW WORK FOR MORE INFORMATION.
- 14 PORTION OF PAU-2 RA DUCTWORK TO BE TEMPORARILY REMOVED (AS REQUIRED) TO ALLOW FOR NEW PAU-1 UNIT SPLITS TO BE BROUGHT INTO PLACE. DUCTWORK TO BE REINSTALLED ONCE NEW UNIT SPLITS ARE IN PLACE.
- 15 DEMOLISH PORTION OF EXISTING HOUSEKEEPING PAD SHOWN.

STUDENT RECREATION CENTER - AHU 1-3
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NICK ALLEN
PE-200400760

REVISIONS

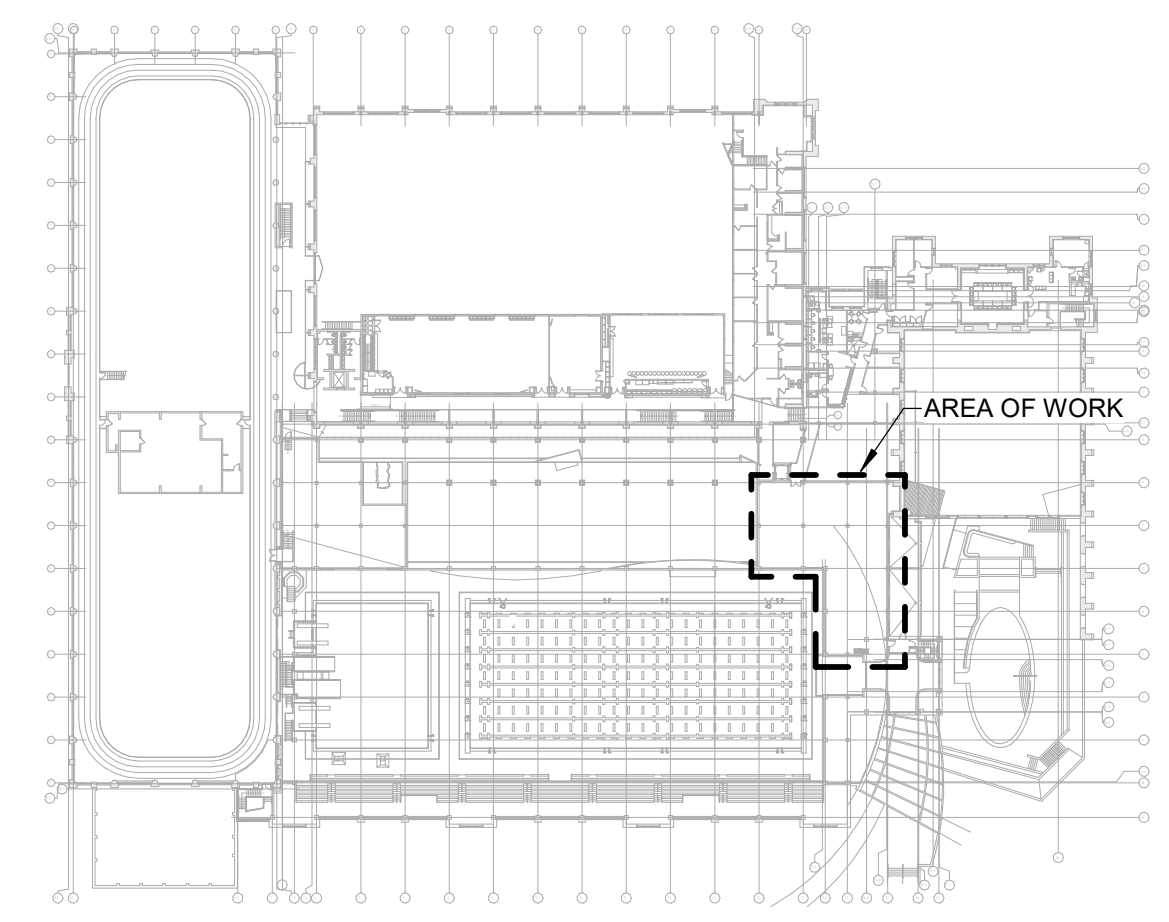
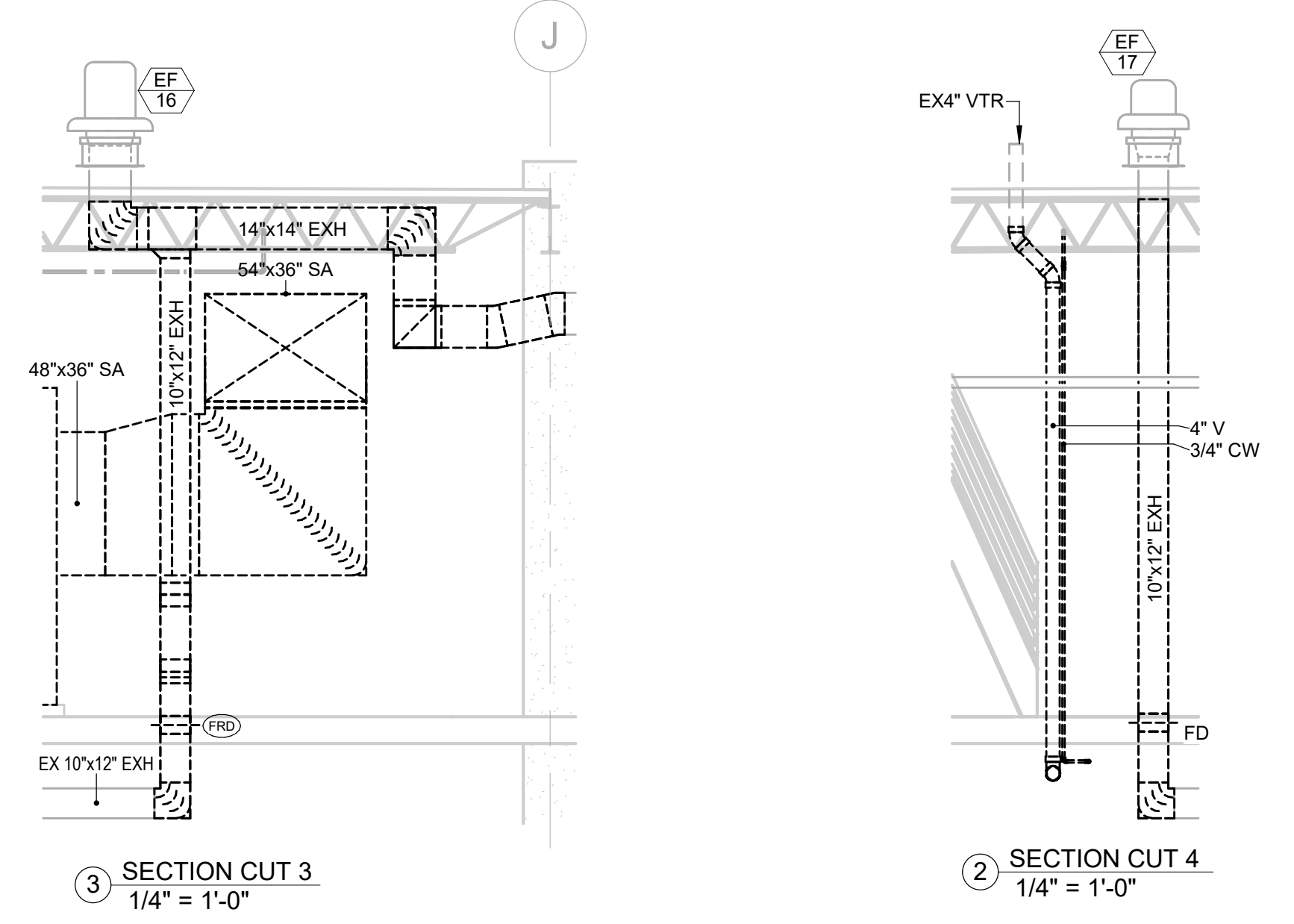
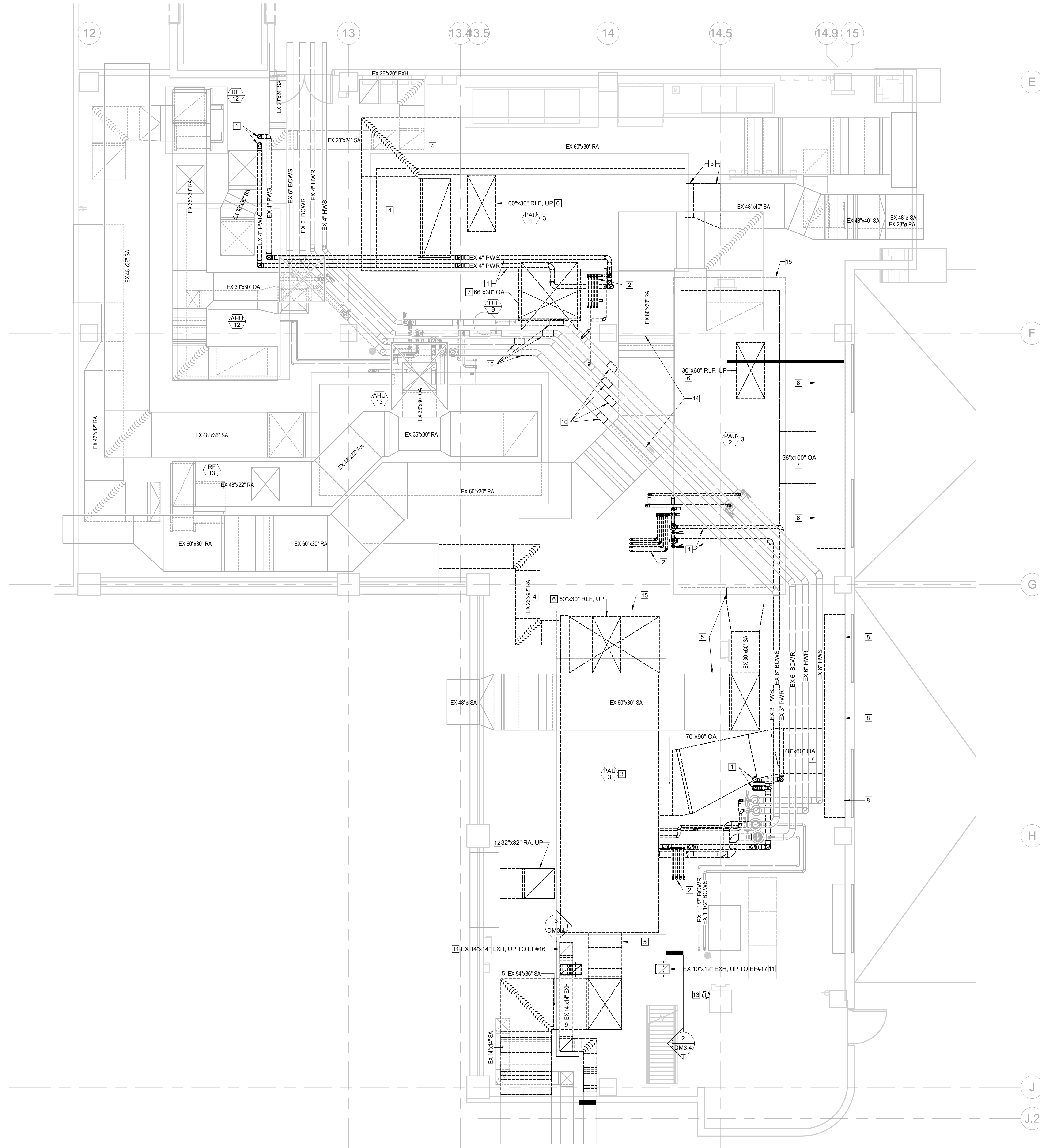
No.	Date	Description

DATE: 02/14/2024
PROJECT #: 071588.002
DRAWN BY: KAA
CHECKED BY: NBA

MECHANICAL ROOM 301
DEMOLITION
PLAN

DM3.4

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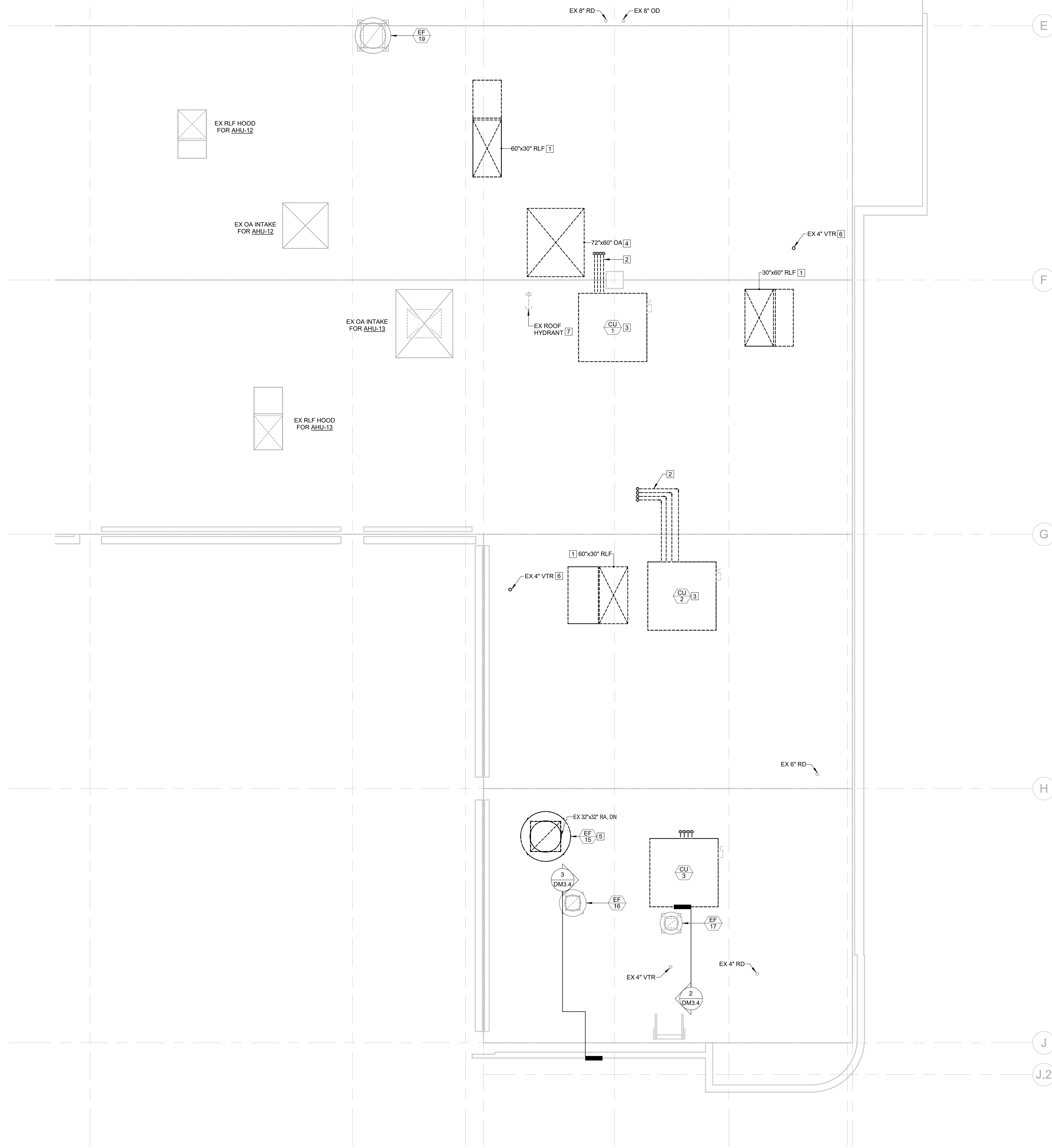


MECHANICAL ROOM 301 DEMOLITION PLAN
SCALE: 1/4" = 1'-0"

8 7 6 5 4 3 2 1

12 13 13.4 13.5 14 14.5 14.9 15

F
E
D
C
B
A



MECHANICAL DEMOLITION GENERAL NOTES:

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KEYED NOTES:

- DEMOLISH EXISTING R.L.A. DISCHARGE DUCT HOOD.
- DEMOLISH EXISTING REFRIGERANT PIPING FROM EXISTING CONDENSING UNITS DOWN TO PAU IN MECHANICAL ROOM BELOW. ALSO DEMOLISH ROOF CURB AND PATCH AND SEAL ROOF WATER TIGHT TO MATCH EXISTING CONDITIONS.
- DEMOLISH EXISTING CONDENSING UNITS AND ALL ASSOCIATED ACCESSORIES. DEMOLISH EXISTING ROOF CURB AND PATCH AND SEAL ROOF WATER TIGHT TO MATCH EXISTING CONDITIONS. REFER TO ARCHITECTURAL DRAWINGS FOR MORE INFORMATION.
- DEMOLISH EXISTING OUTSIDE AIR LOUVERED INTAKE PENTHOUSE.
- DEMOLISH EXISTING EF-15, ROOF CURB, ASSOCIATED DUCTWORK AND ACCESSORIES. EXISTING OPENING IN THE ROOF TO BE PATCHED AND SEALED WATER TIGHT. REFER TO ARCHITECTURAL DRAWINGS FOR MORE INFORMATION.
- DEMOLISH EXISTING VTR. NEW VTR TO BE INSTALLED IN NEW WORK. REFER TO NEW WORK FOR MORE INFORMATION.
- DEMOLISH EXISTING ROOF HYDRANT. NEW ROOF HYDRANT TO BE INSTALLED IN NEW WORK. REFER TO NEW WORK FOR MORE INFORMATION.

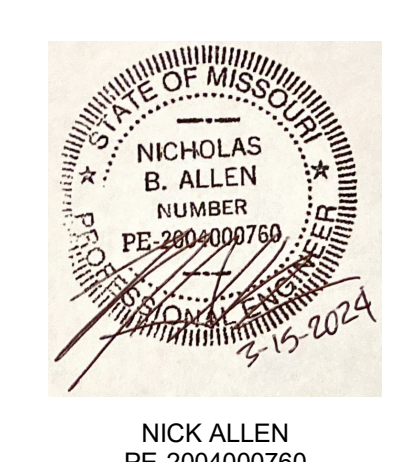
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**STUDENT RECREATION CENTER - AHU 1-3
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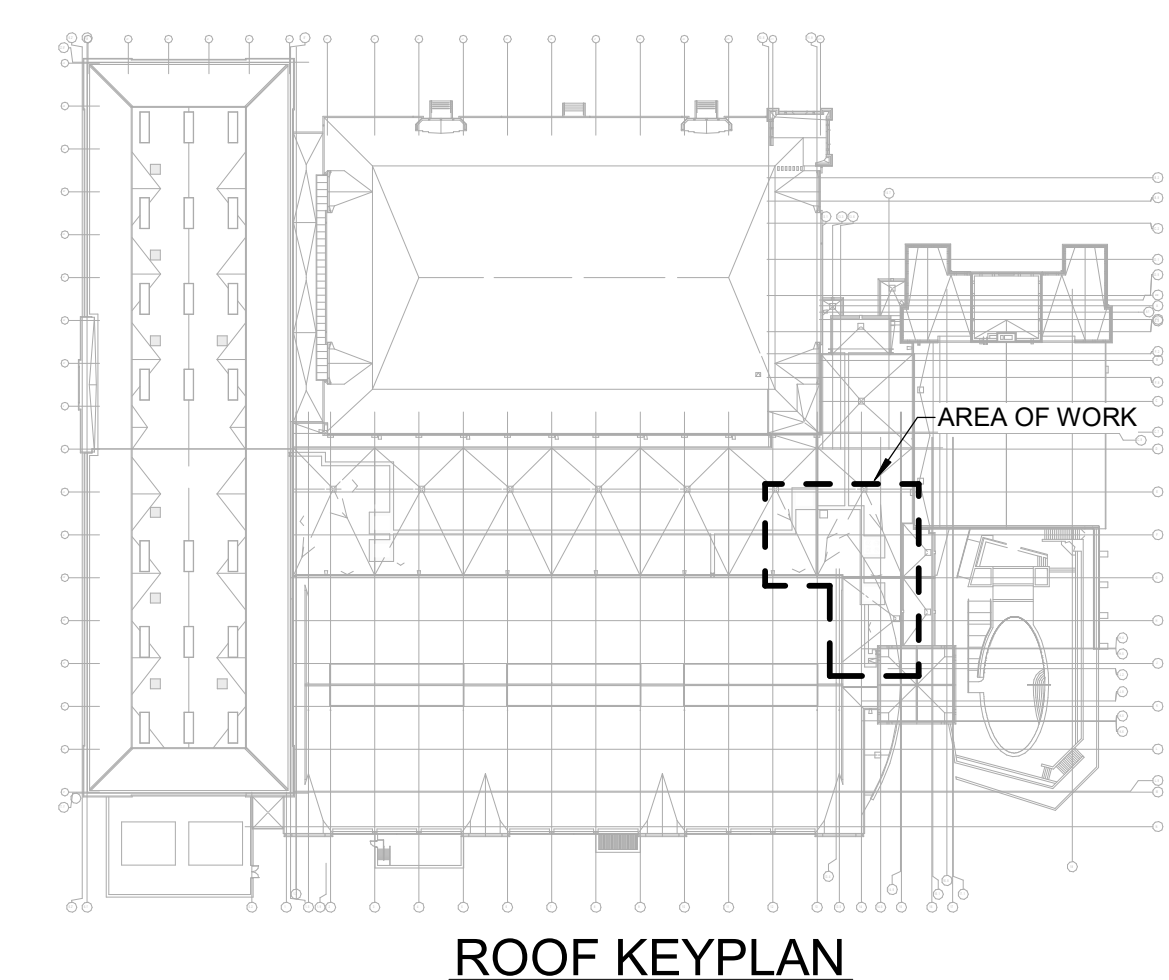
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MECHANICAL ROOM 301 ROOF DEMOLITION PLAN

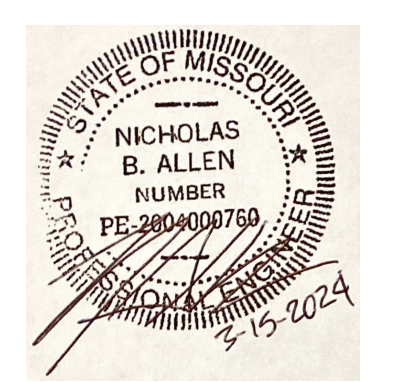
DM3.5

ISSUED FOR BID - 03/15/2024

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MECHANICAL ROOM 301 ROOF DEMOLITION PLAN
 SCALE: 1/4" = 1'-0"



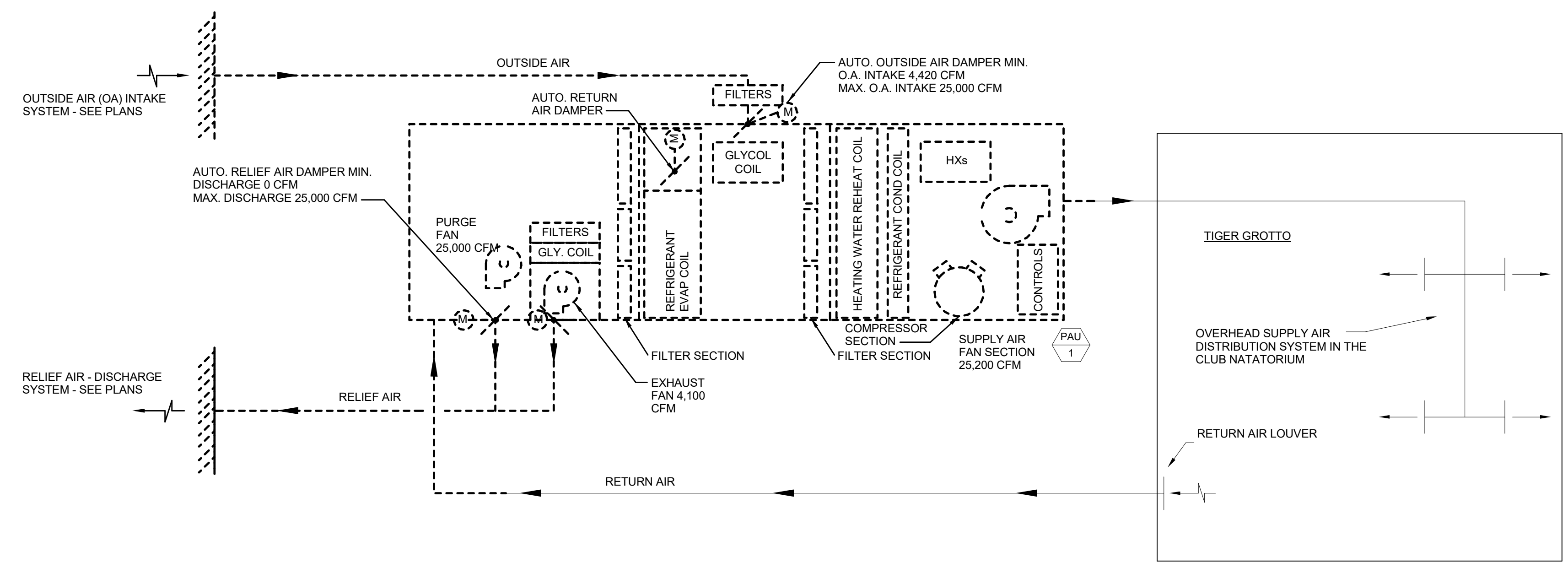
NICK ALLEN
 PE-200400760

REVISIONS	Description	Date

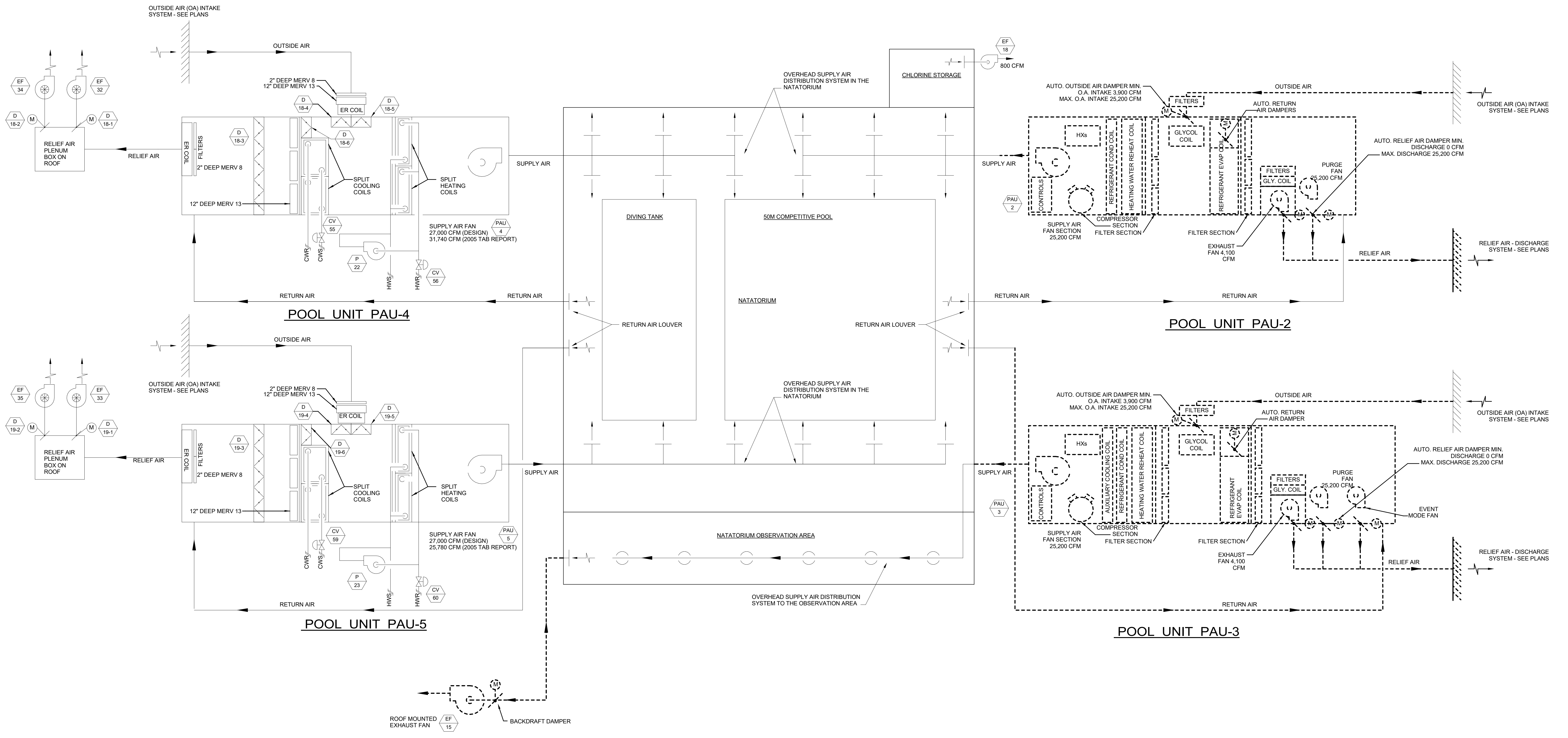
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PAU - 1/2/3 AIR
 FLOW DIAGRAM
 DEMOLITION

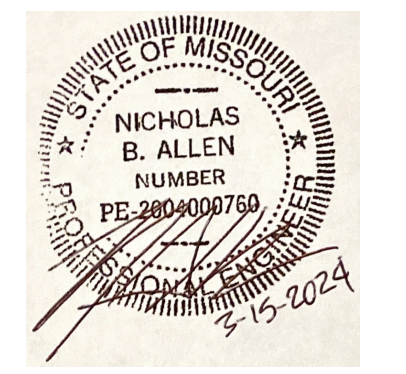
DM5.0



TIGER GROTTTO UNIT PAU-1, SCHEMATIC AIR FLOW DIAGRAM
 NO SCALE



NATATORIUM UNITS PAU-2, PAU-3, PAU-4, PAU-5, SCHEMATIC AIR FLOW DIAGRAM
 NO SCALE



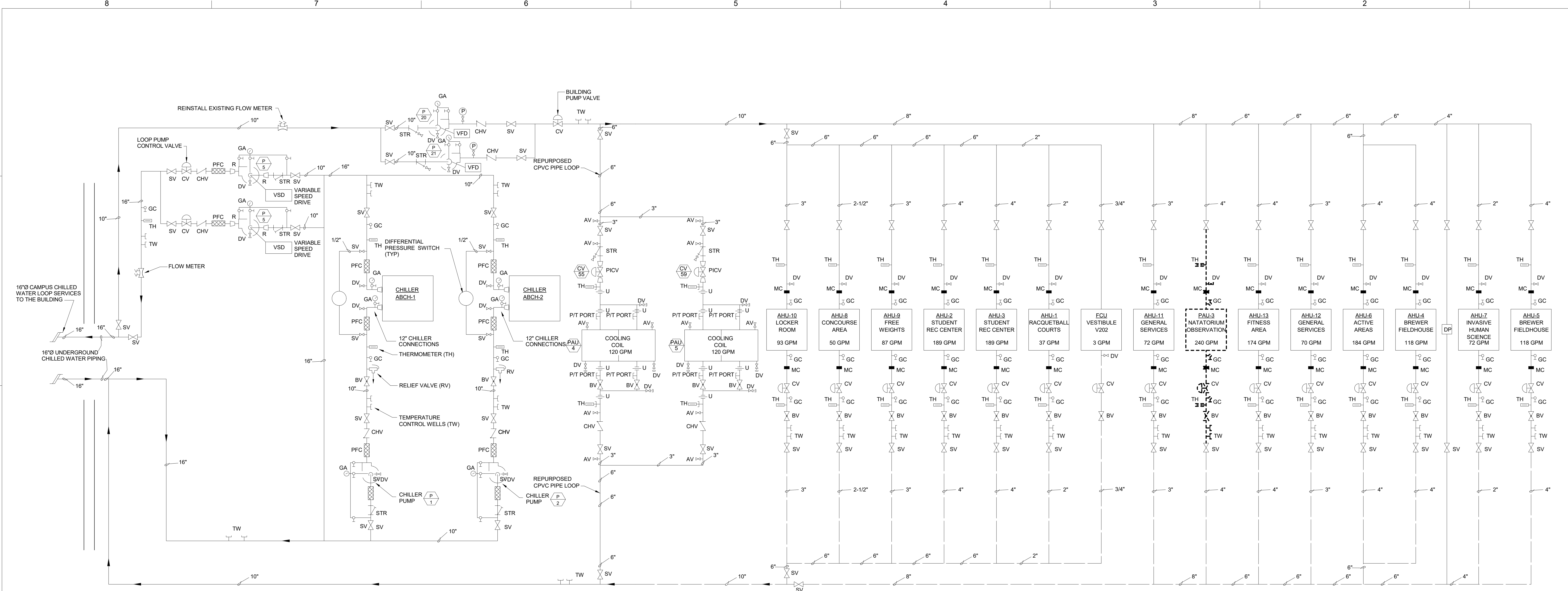
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No.	Date	Description

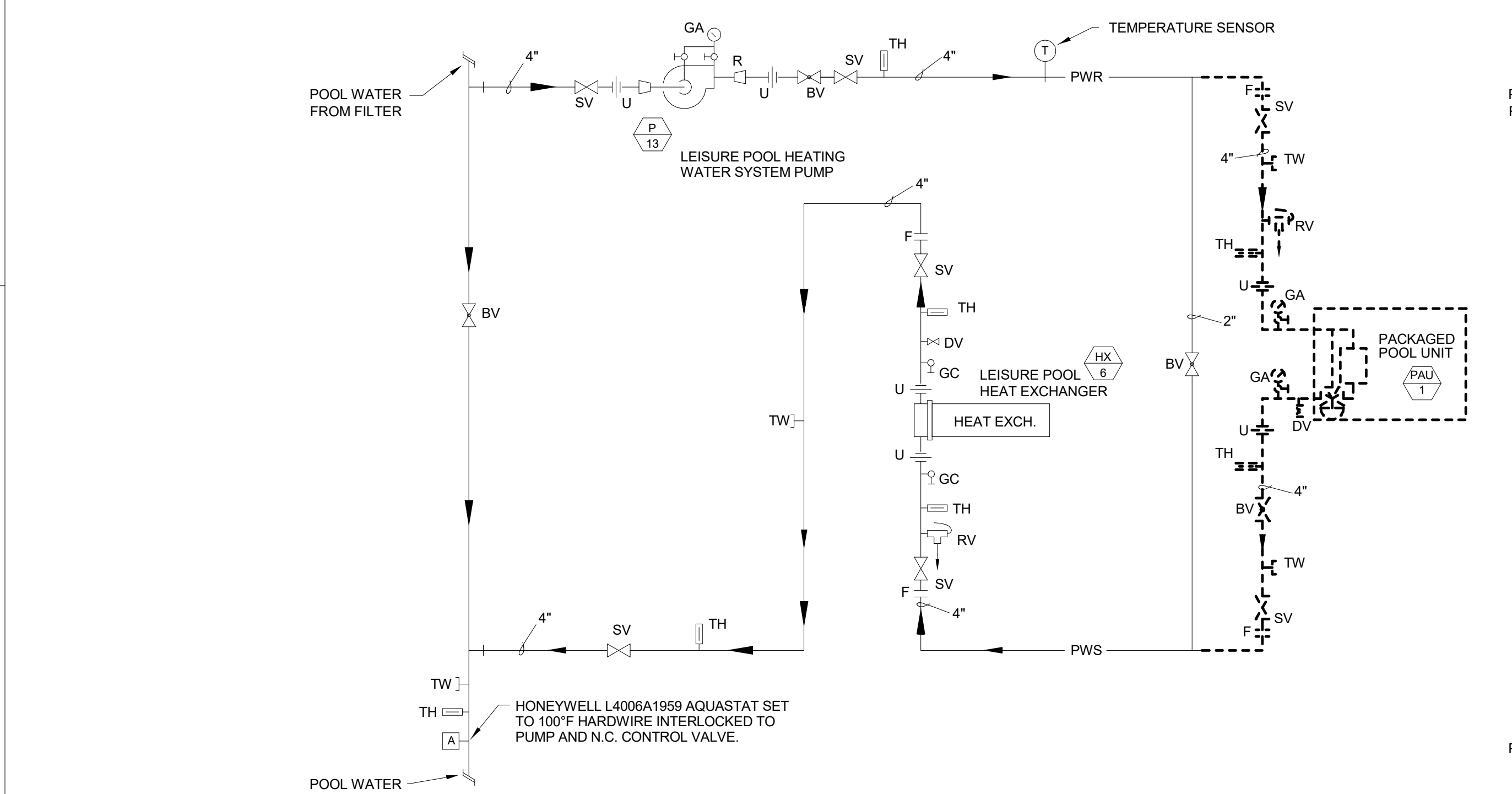
DATE: 02/14/2024
 PROJECT #: 071588.002
 DRAWN BY: KAA
 CHECKED BY: NBA

**CHILLED AND
 POOL WATER
 FLOW DIAGRAM
 DEMOLITION**

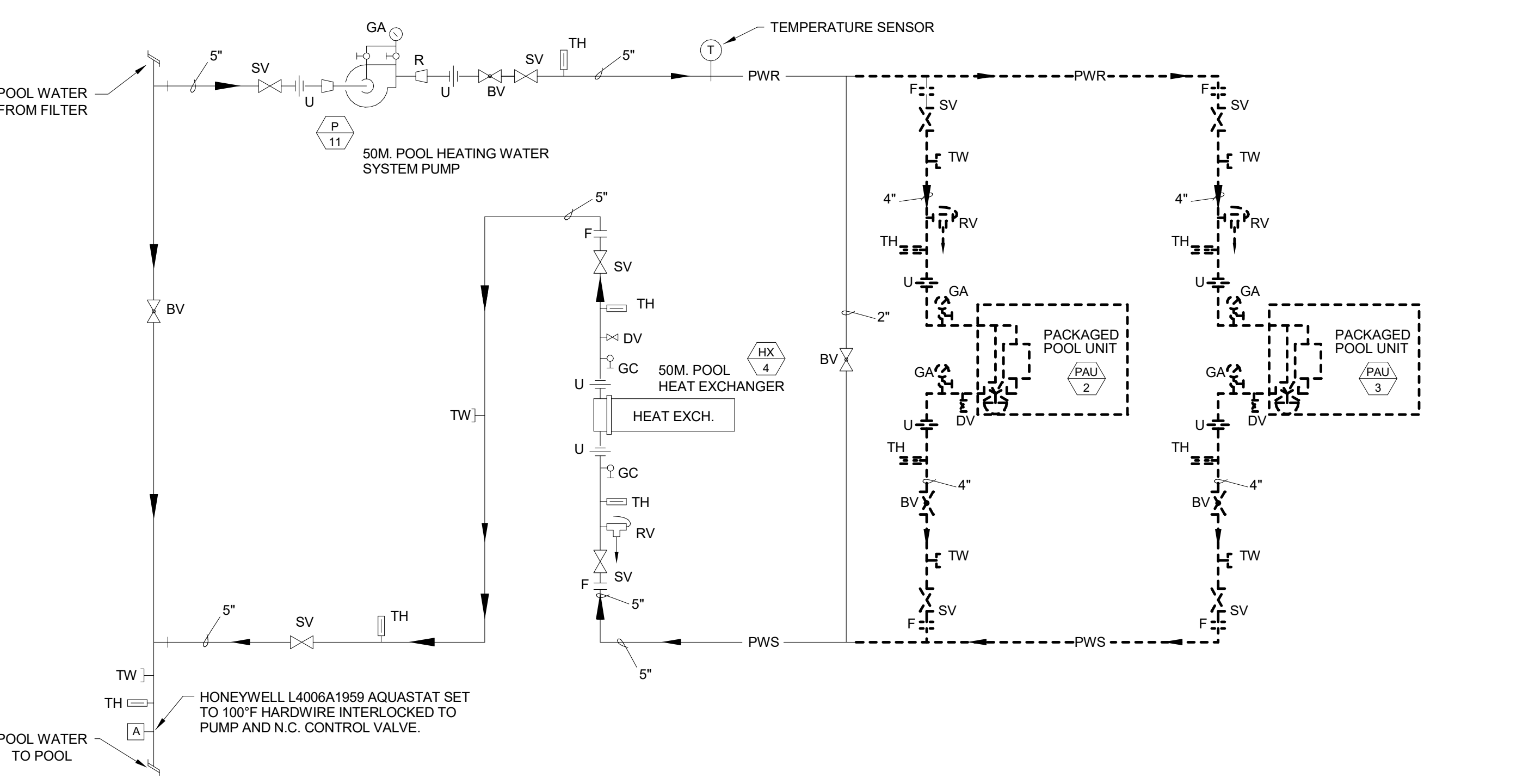
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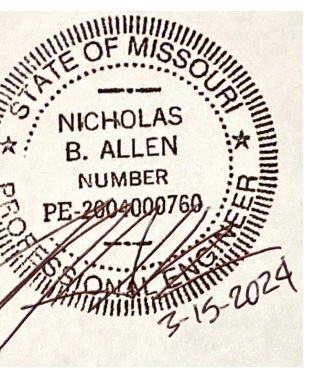
CHILLED WATER FLOW DIAGRAM - DEMOLITION
 NO SCALE



LEISURE POOL WATER HEATING FLOW DIAGRAM - DEMOLITION
 NO SCALE



50METER POOL WATER HEATING FLOW DIAGRAM - DEMOLITION
 NO SCALE



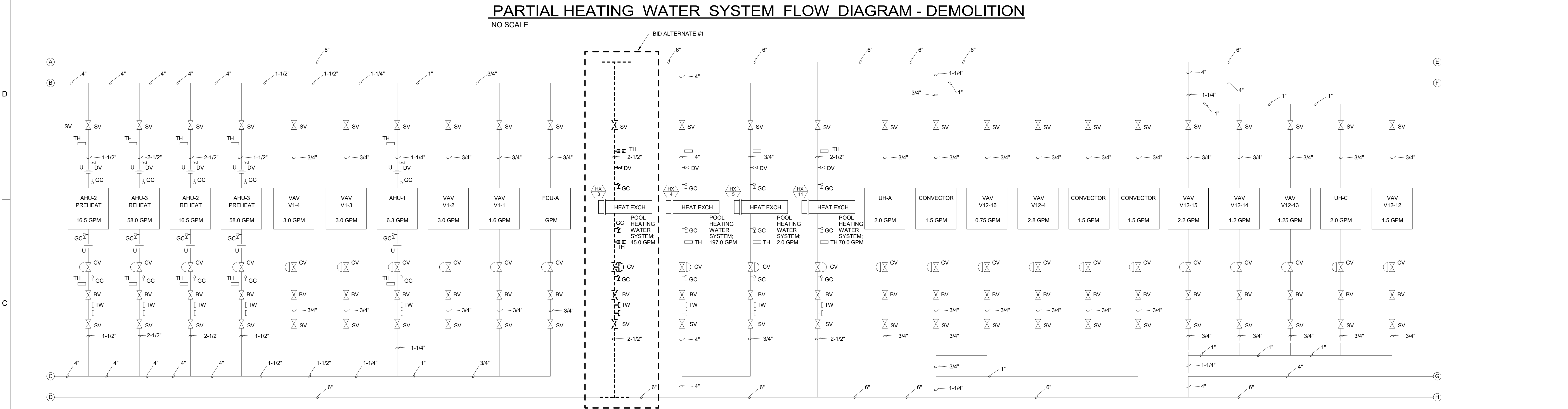
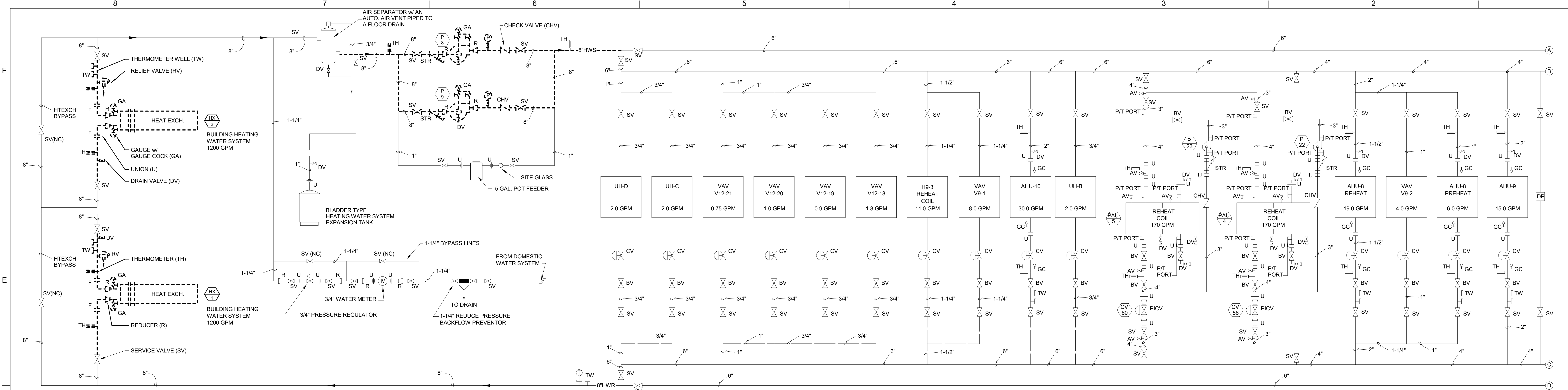
NICK ALLEN
PE-200400760

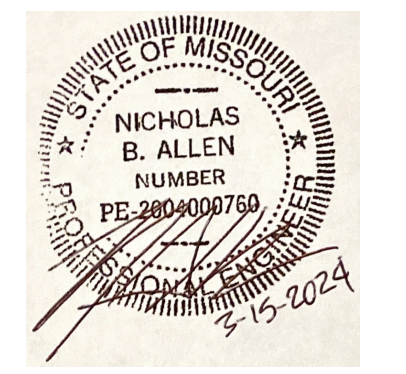
REVISIONS	Description	Date
No.		

DATE: 02/14/2024
PROJECT #: 071588.002
DRAWN BY: KAA
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HEATING WATER
FLOW DIAGRAM
DEMOLITION

DM5.2





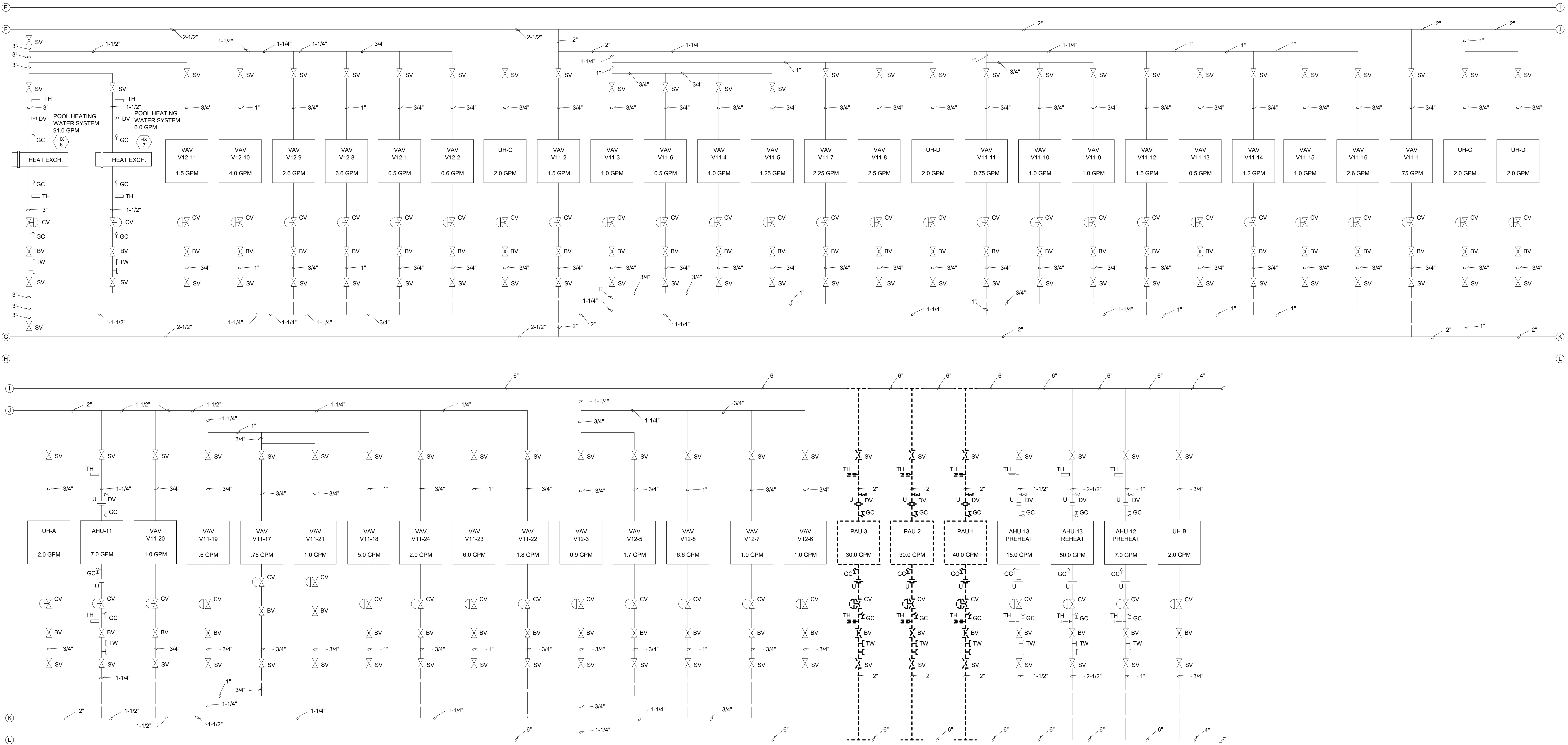
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No.	Date	Description

DATE: 02/14/2024
PROJECT #: 071588.002
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HEATING WATER
FLOW DIAGRAM
DEMOLITION

DM5.3

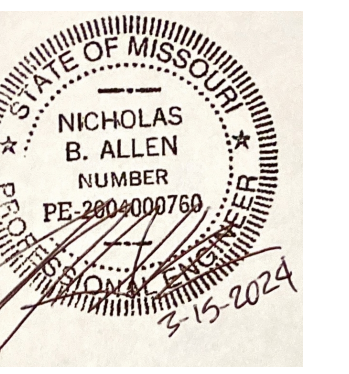


PARTIAL HEATING WATER SYSTEM FLOW DIAGRAM - DEMOLITION

NO SCALE

STUDENT RECREATION CENTER - AHU 1-3
REPLACEMENT
#CP242271

1000 ROLLINS ST. COLUMBIA, MO 65203



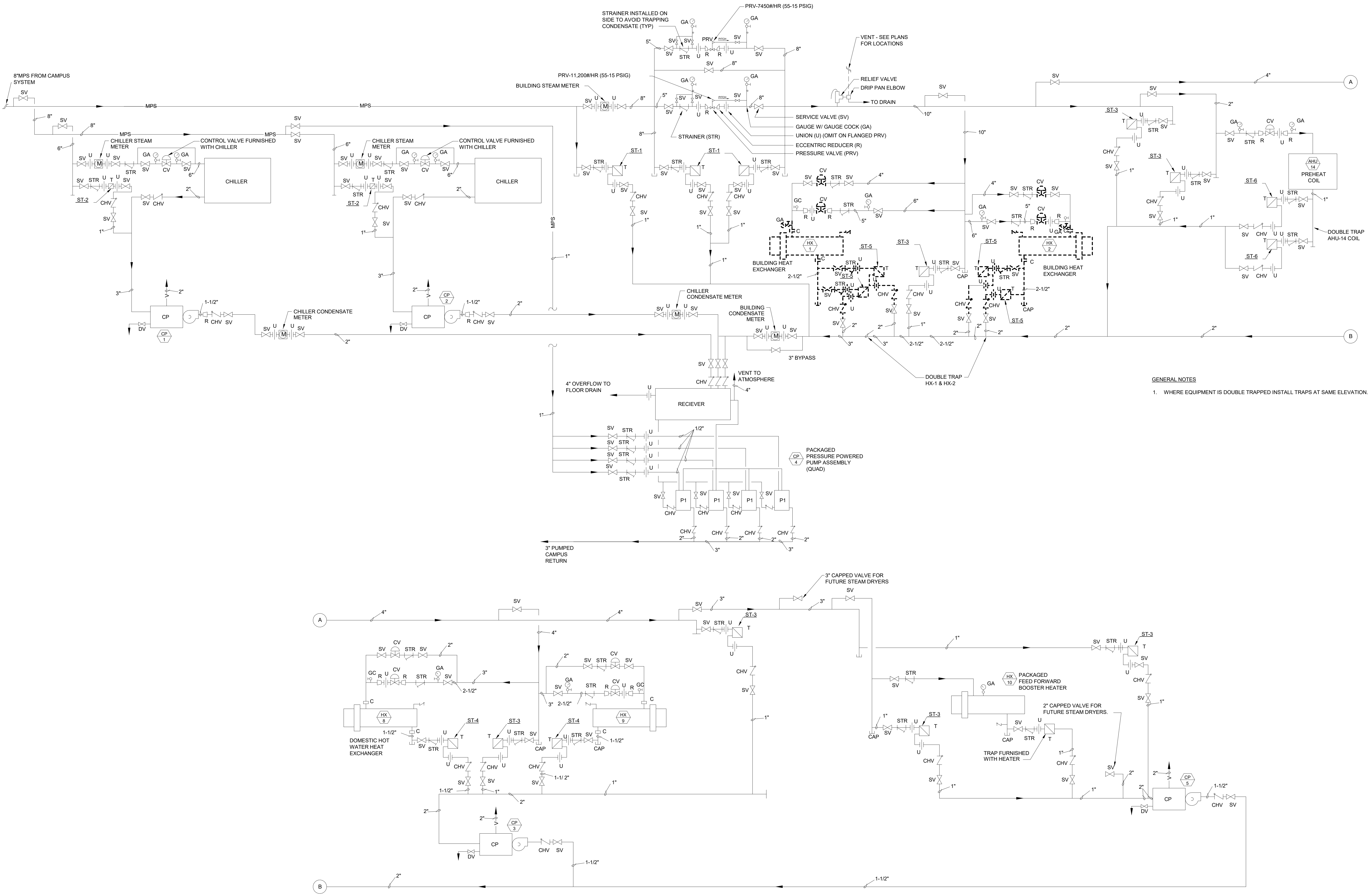
NICK ALLEN
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No.		

DATE: 02/14/2024
PROJECT #: 071588.002
DRAWN BY: KAA
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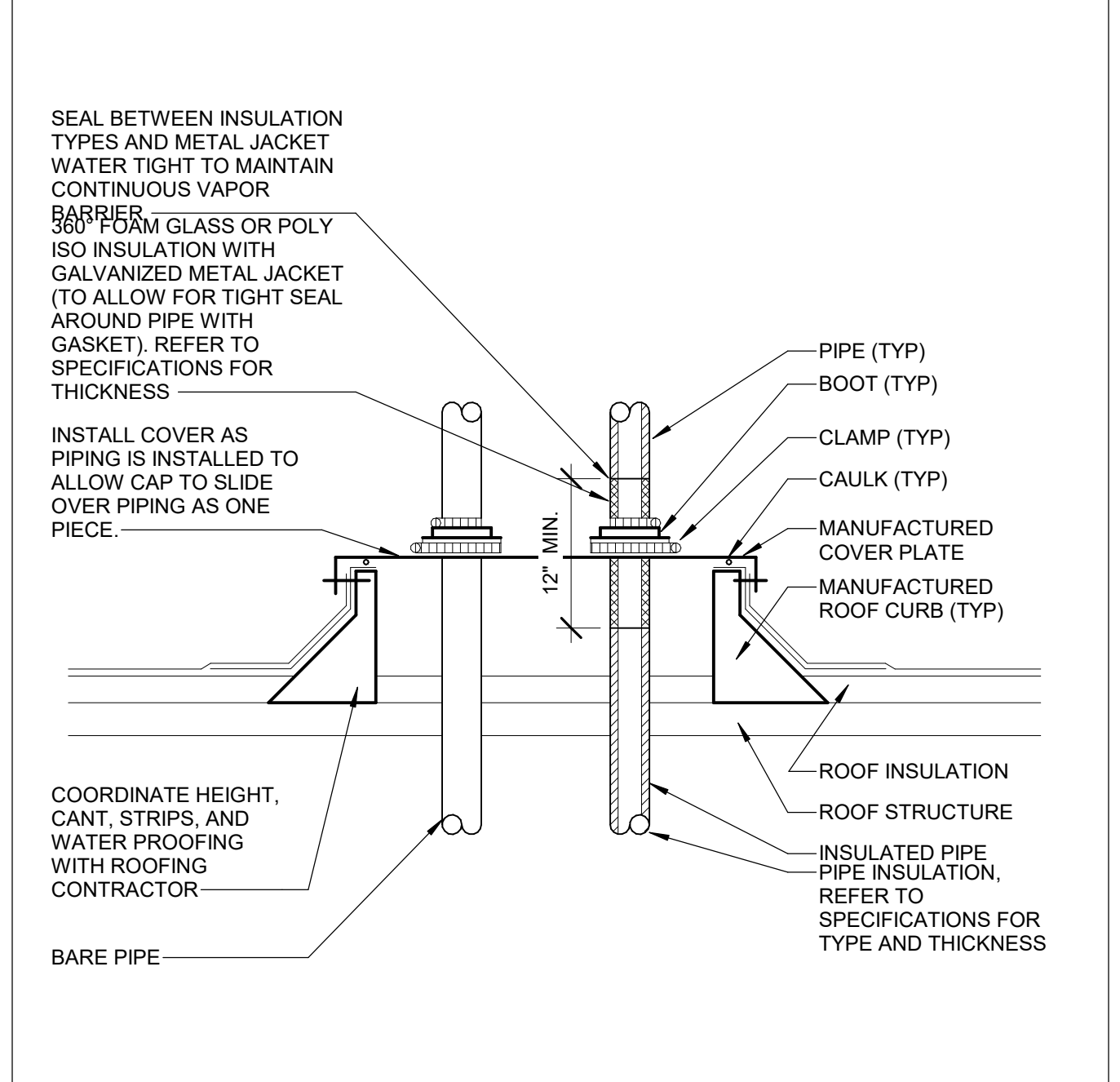
STEAM FLOW
DIAGRAM
DEMOLITION

DM5.4

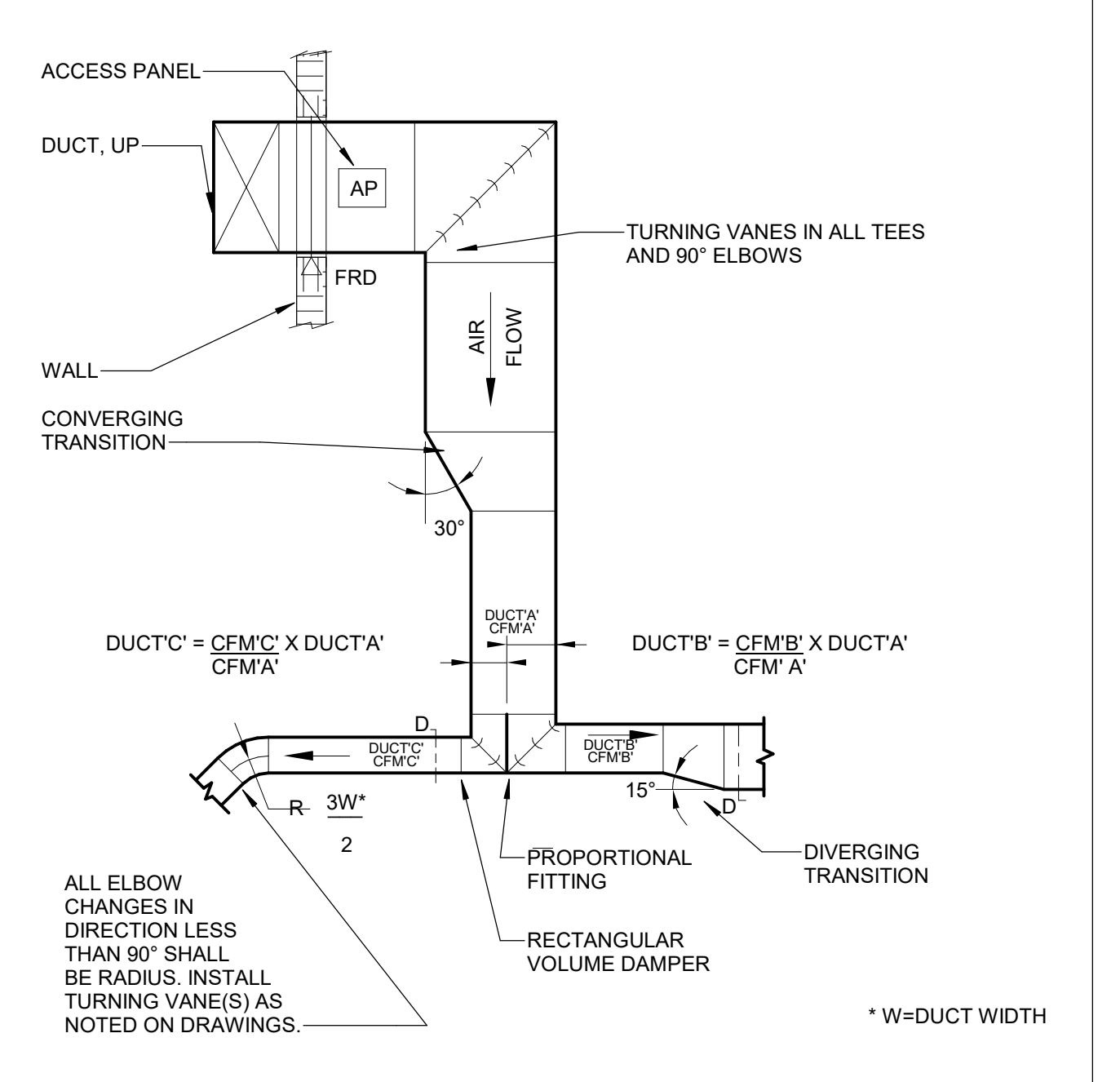


GENERAL NOTES
1. WHERE EQUIPMENT IS DOUBLE TRAPPED INSTALL TRAPS AT SAME ELEVATION.

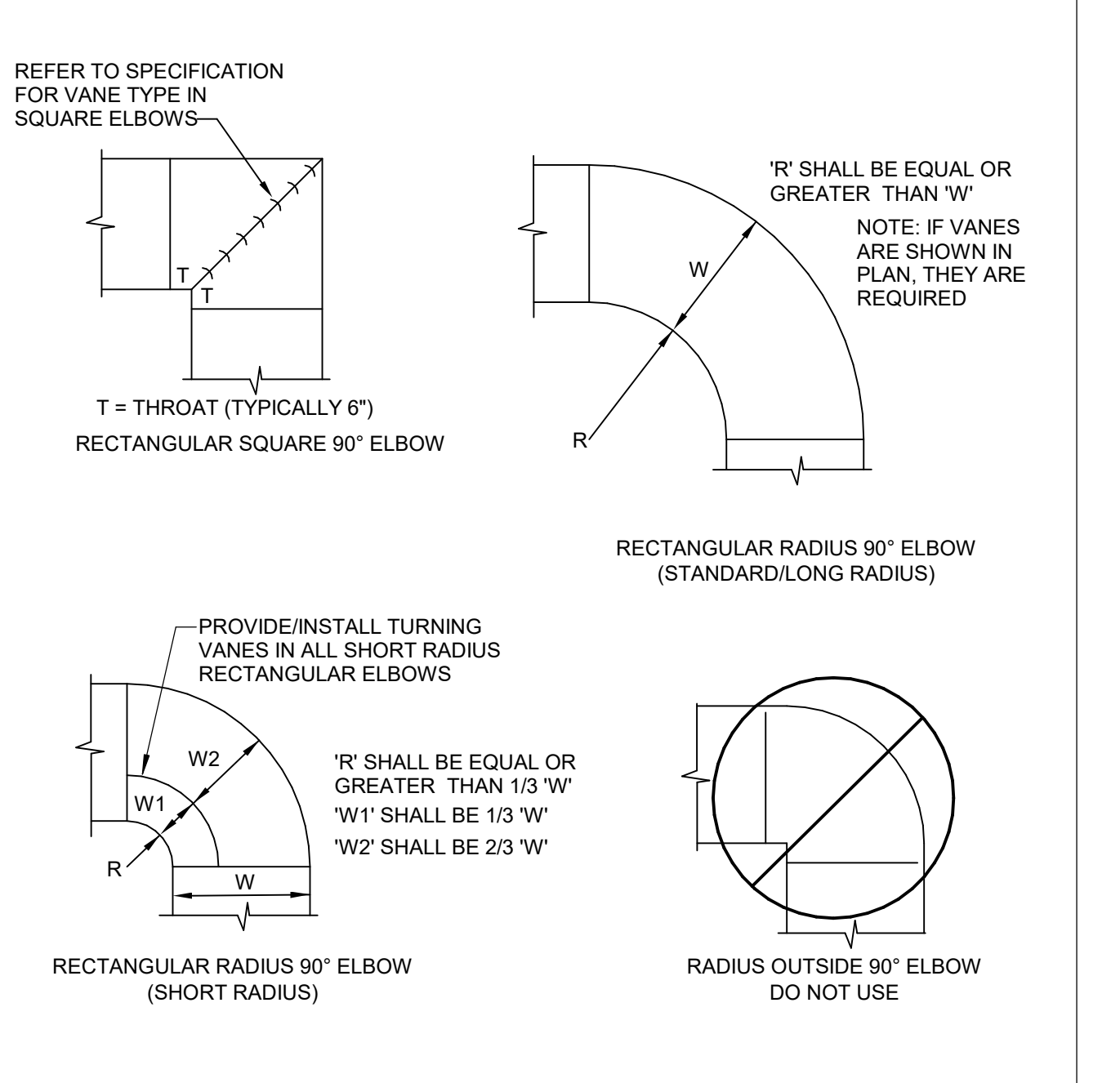
STEAM FLOW DIAGRAM - DEMOLITION
NO SCALE



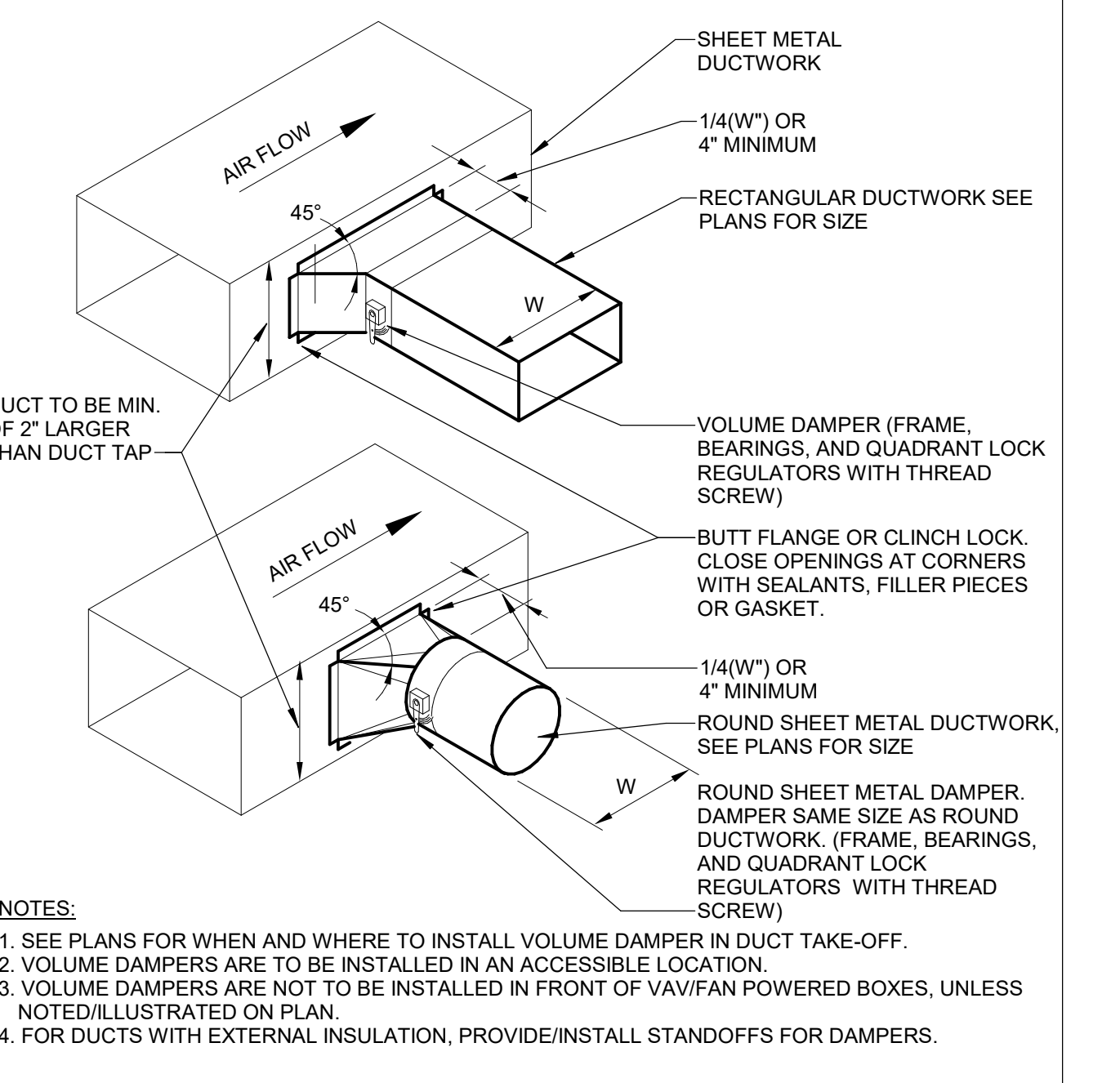
SCALE: NONE
PIPES THRU ROOF 12" AND SMALLER



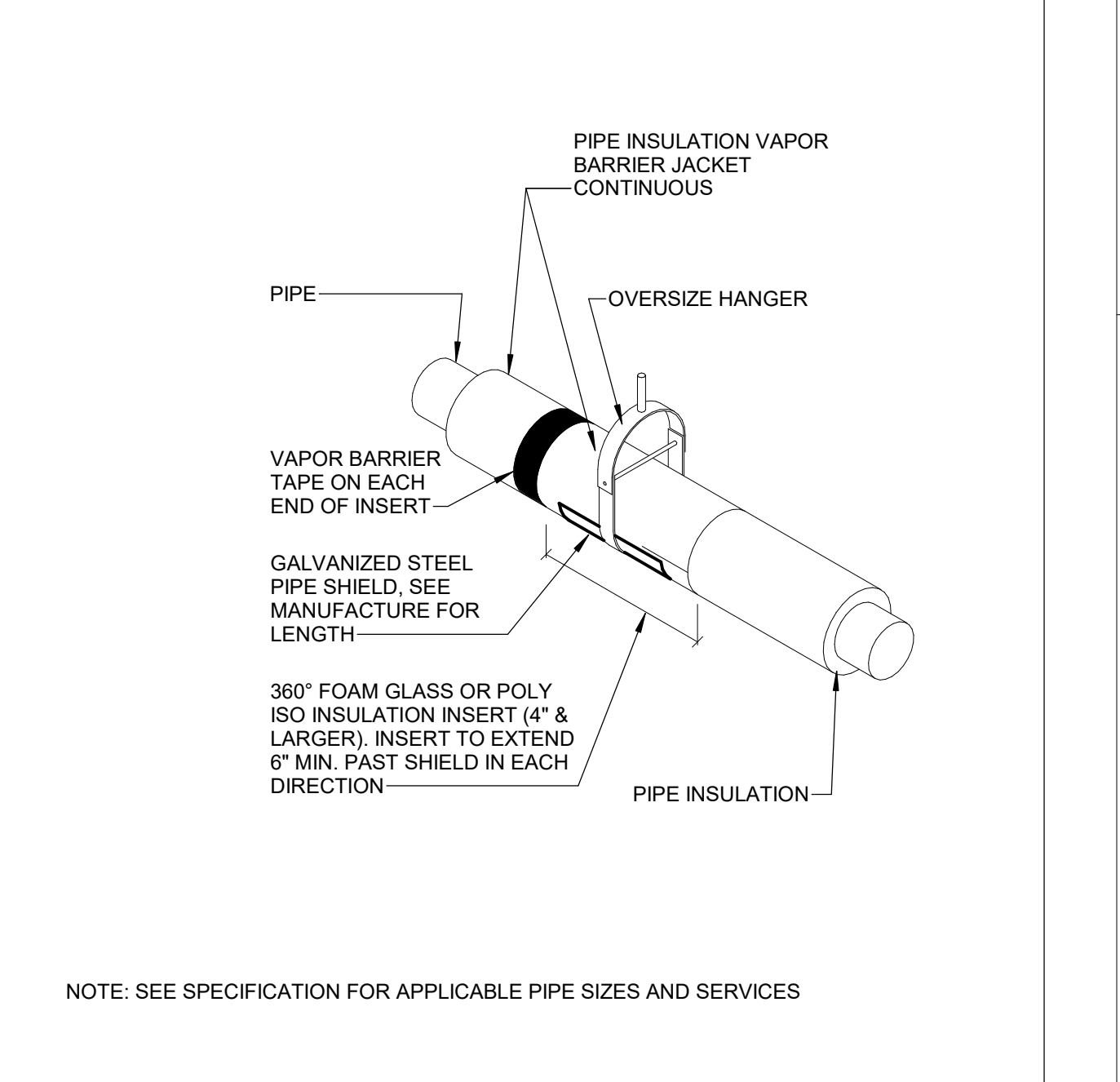
SCALE: NONE
TYPICAL DUCTWORK



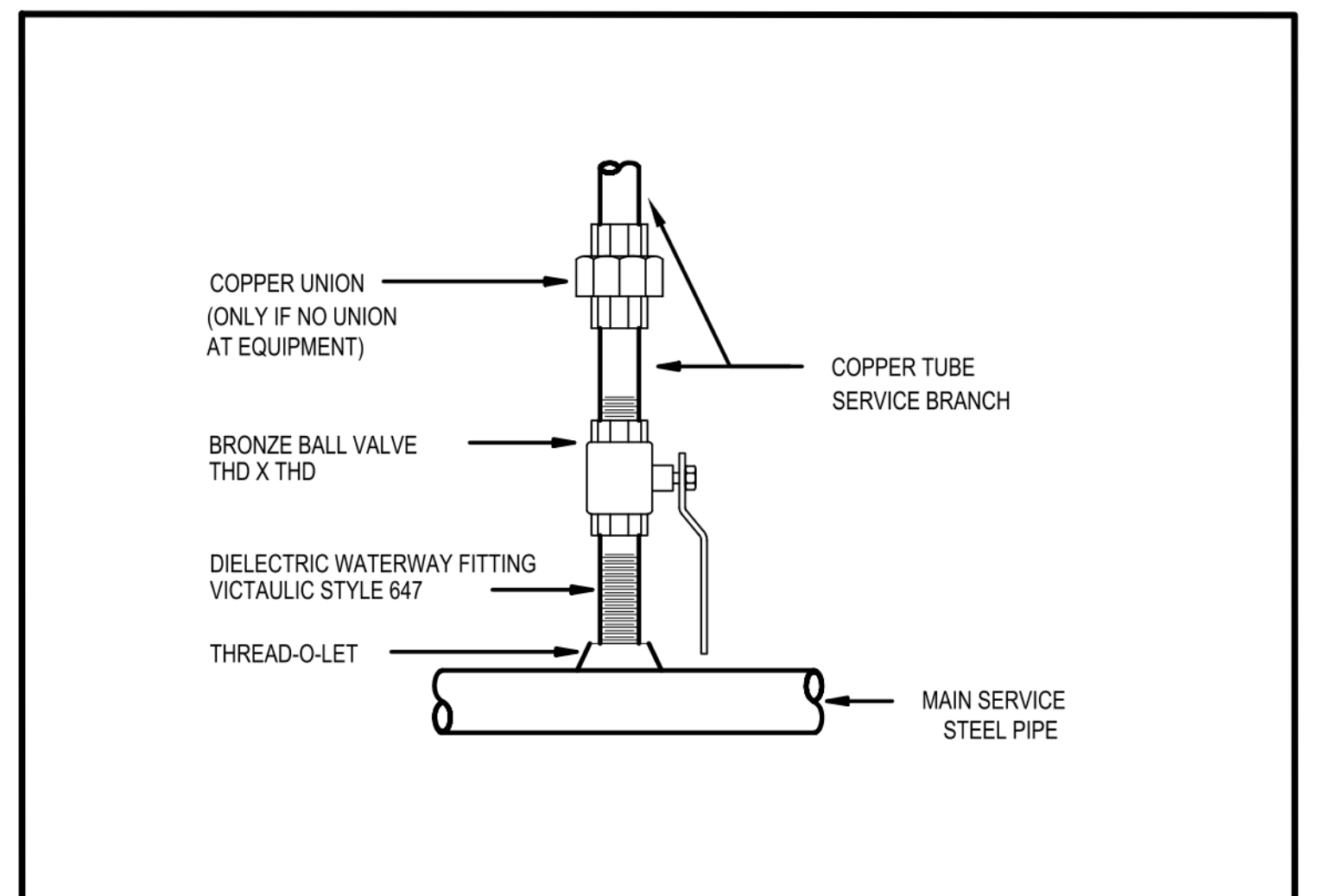
SCALE: NONE
DUCTWORK BRANCH RECTANGULAR 90° ELBOWS



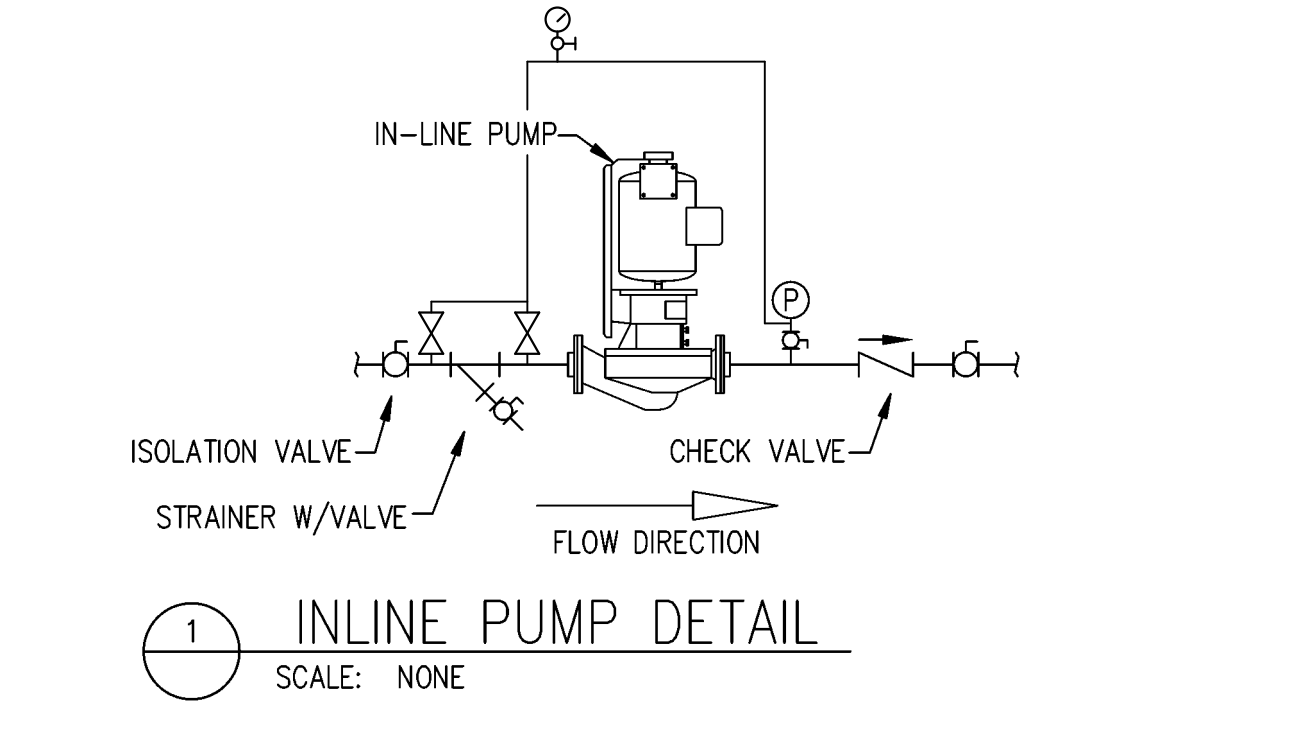
SCALE: NONE
45 DEGREE TAKE-OFF



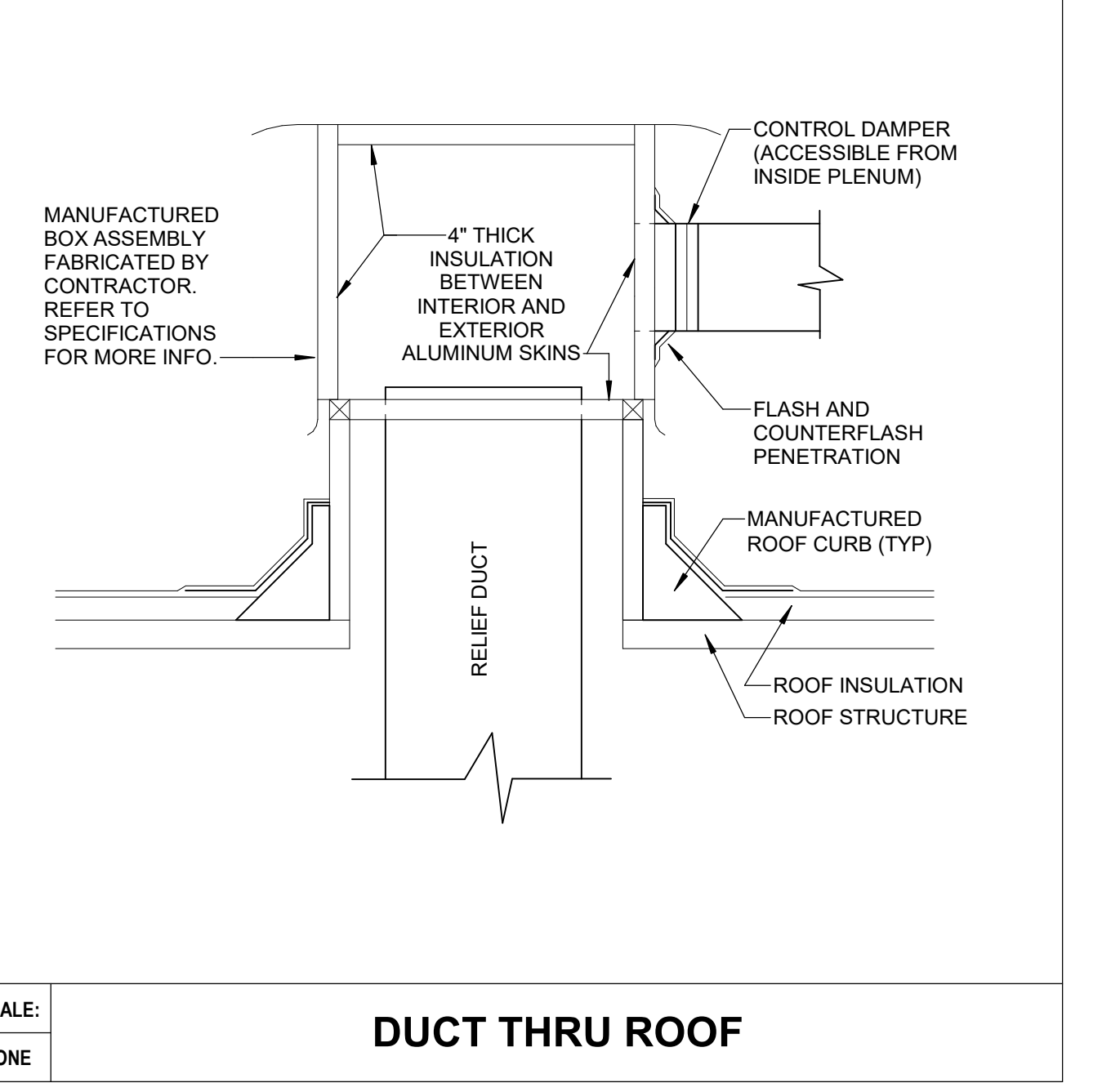
SCALE: NONE
PIPE HANGER SUPPORT WITH INSERT



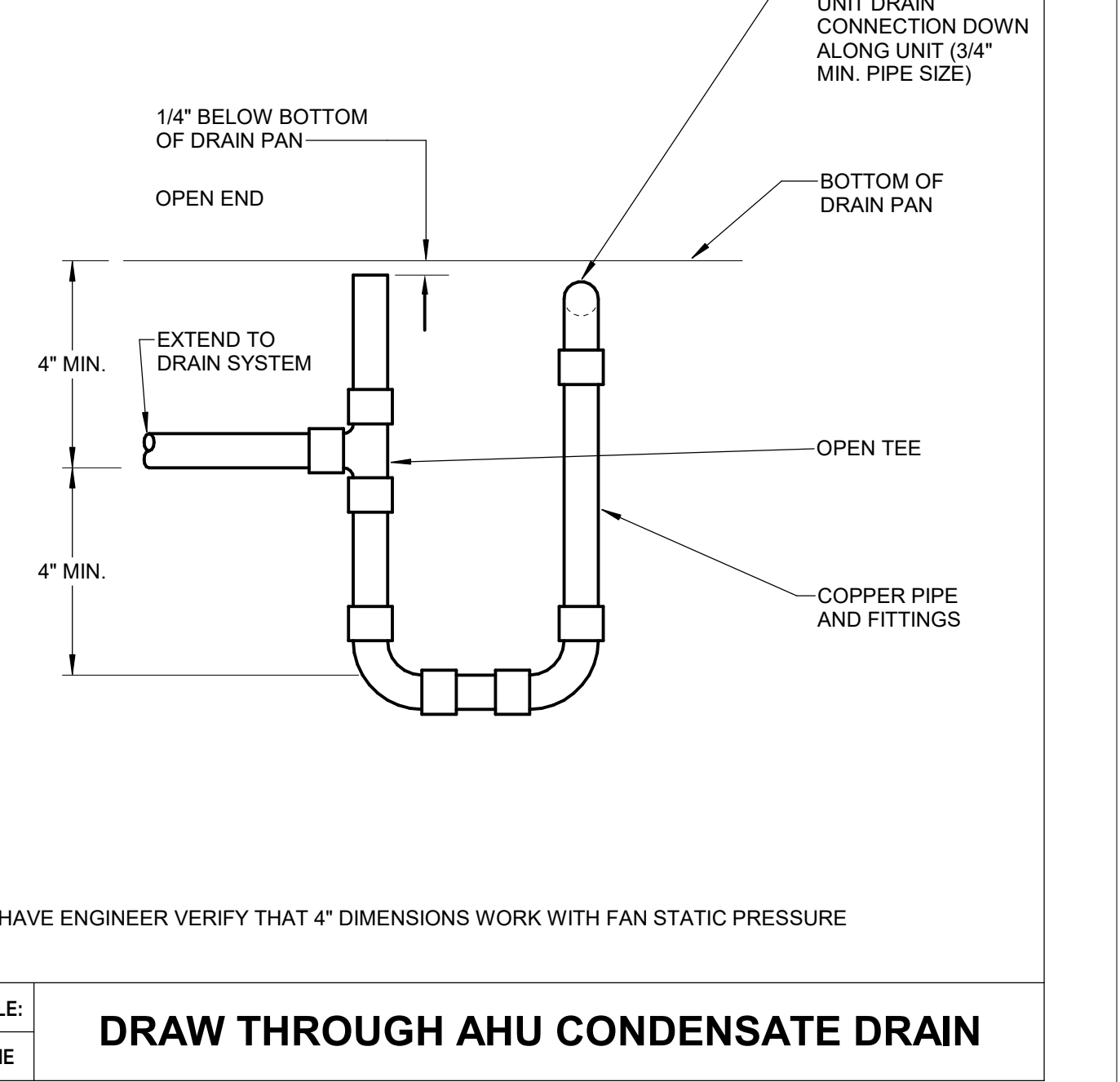
DATE: 9/25/2017
CONSTRUCTION DETAIL- 232100 Di-electric Waterway Installation Detail
UNIVERSITY OF MISSOURI
DETAIL NUMBER: 232100-1
SCALE: NONE



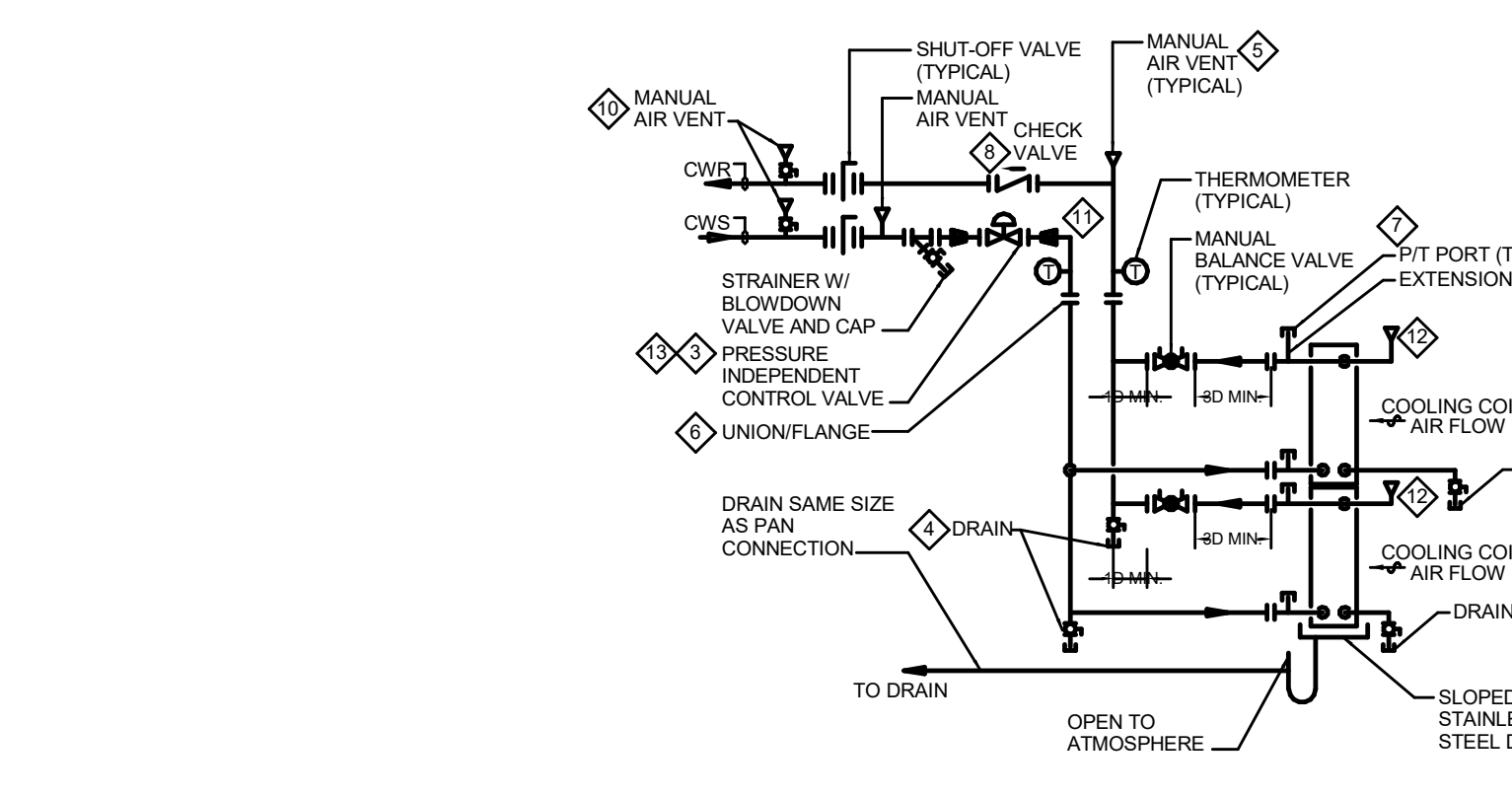
SCALE: NONE
INLINE PUMP DETAIL



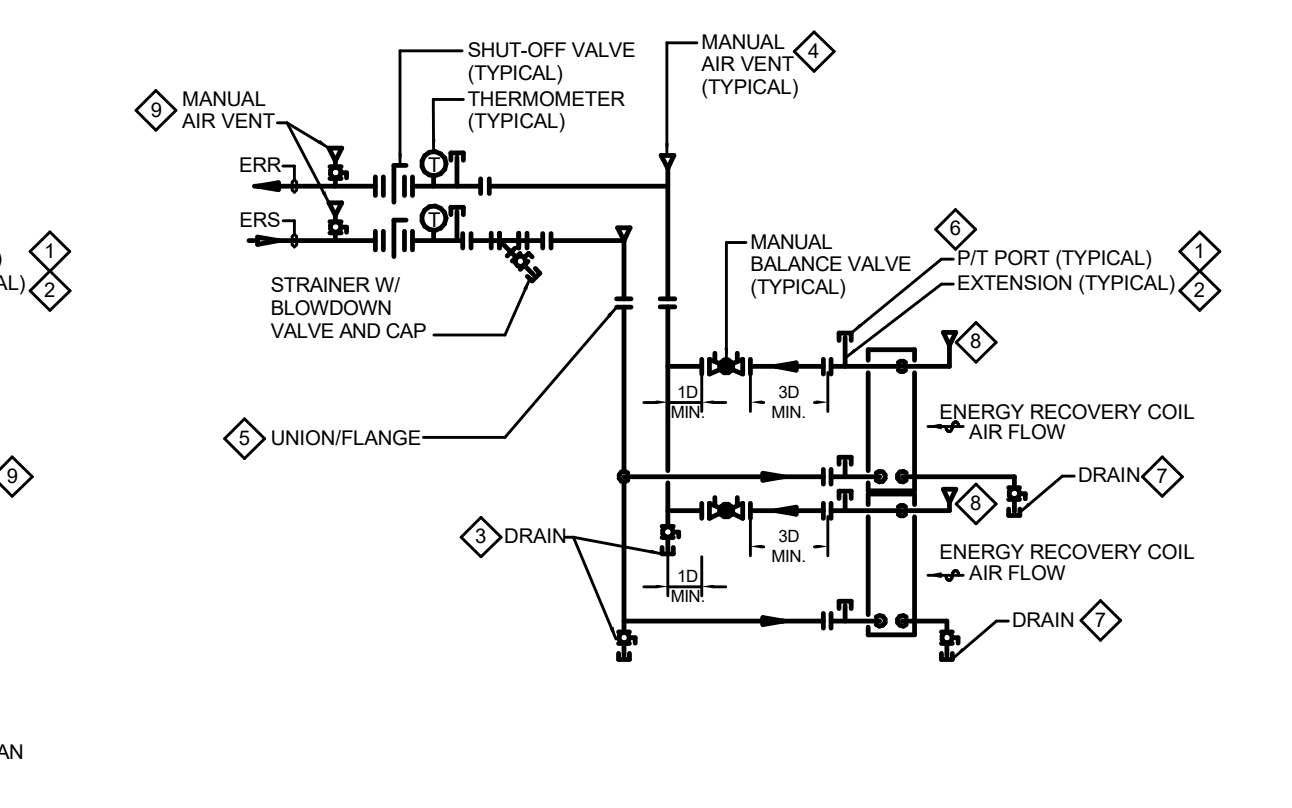
SCALE: NONE
DUCT THRU ROOF



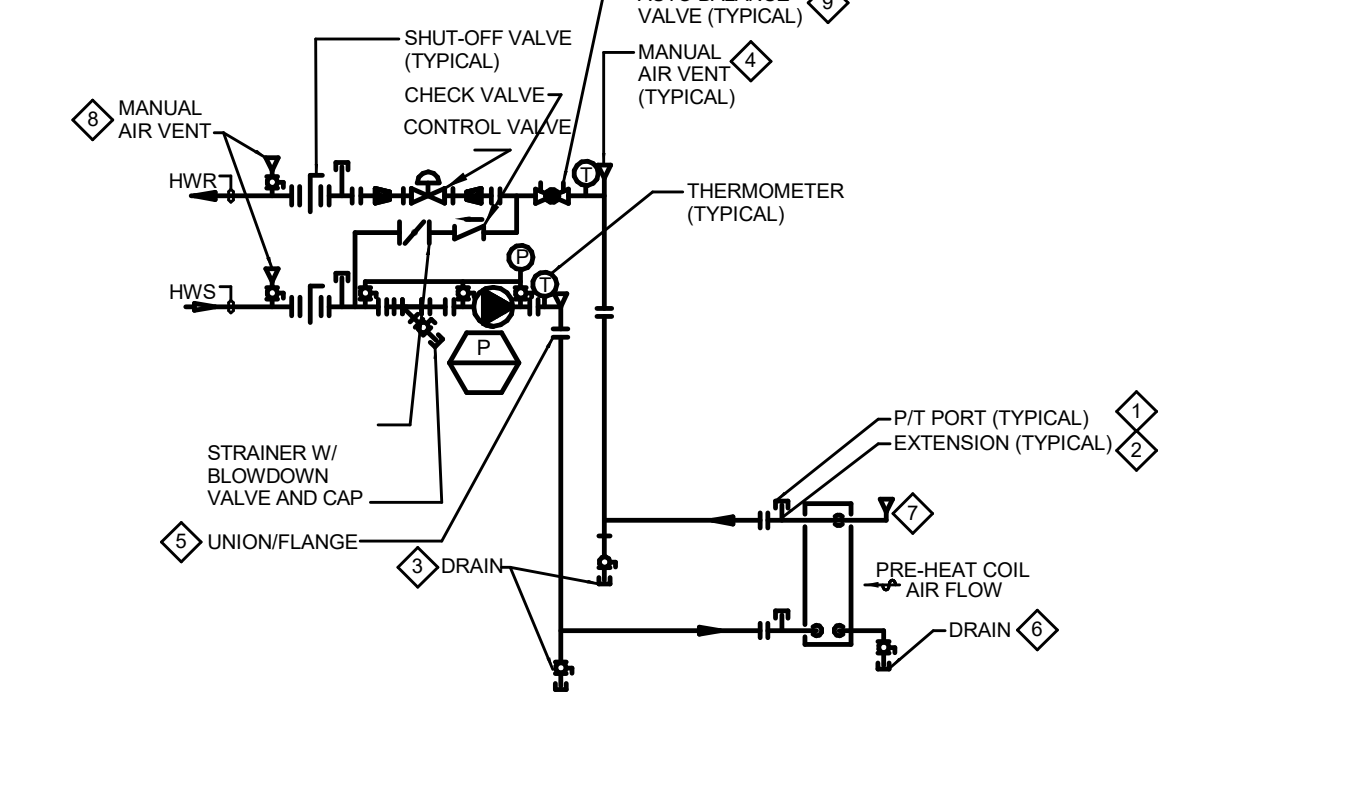
SCALE: NONE
DRAW THROUGH AHU CONDENSATE DRAIN



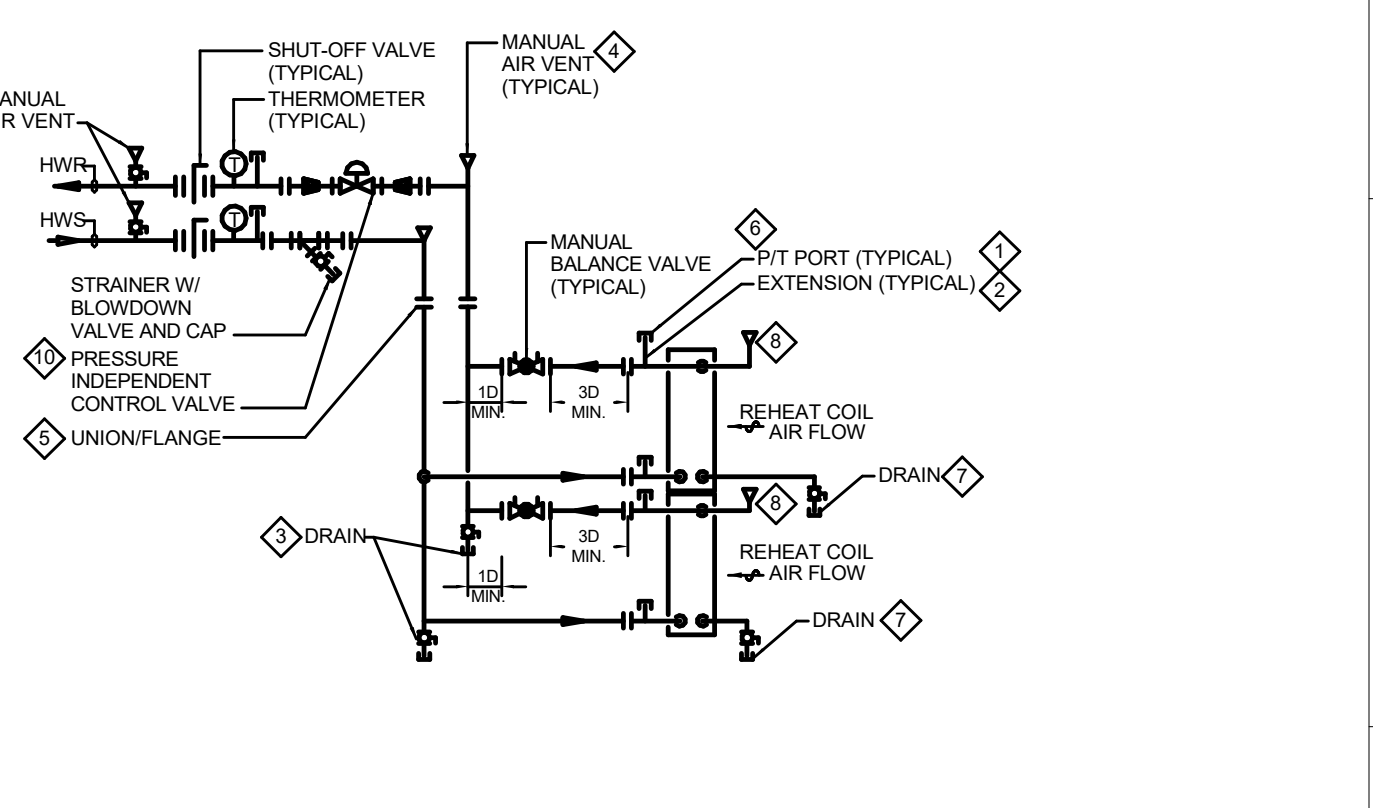
- AHU CHILLED WATER COIL PIPING**
SCALE: NONE
- FOR PIT PORT, USE PRESSURE TAP PROVIDED BY MANUFACTURER AT COIL IF AVAILABLE.
 - INSTALL EXTENSION AT PRESSURE TAP SO PIT PORT IS AT LEVEL OF INSULATION.
 - INSTALL PIT PORT UPSTREAM AND DOWNSTREAM OF CONTROL VALVE IF PORTS IN COIL DRAIN.
 - 3/4" THREADED HOSE CONNECTION AND CAP. THESE DRAINS ARE NOT REQUIRED IF A COIL DRAIN IS INSTALLED THAT IS LOWER THAN THE EXTERNAL PIPE TO THE COIL.
 - PROVIDE A MANUAL AIR VENT AT THE HIGH POINT BETWEEN THE COIL AND CHECK VALVE ON THE RETURN PIPING. 3/4" THREADED HOSE CONNECTION AND CAP.
 - LOCATE SHUT-OFF VALVES, UNIONS AND FLANGES TO ALLOW CLEAR SPACE FOR REMOVAL OF COIL.
 - PROVIDE BALANCE VALVE IN HWV OF EACH COIL FOR MULTIPLE COIL ARRANGEMENT. (NOT REQUIRED IF ONLY ONE COIL)
 - ONLY ONE CHECK VALVE REQUIRED IN MAIN COIL RETURN FOR MULTIPLE COIL ARRANGEMENT.
 - INSTALL DRAIN, SHUT-OFF VALVE, THREADED PIPE AND CAP. PIPE DRAIN TO OUTSIDE OF CABINET AND SEAL PENETRATION. THIS DRAIN REQUIRED ONLY IF BOTTOM OF COIL IS LOWER THAN EXTERNAL PIPE CONNECTION TO COIL HEADER.
 - PROVIDE MANUAL AIR VENTS AT ANY HIGH POINTS IN SUPPLY AND RETURN BETWEEN COIL SHUT-OFF VALVE AND MAIN 3/4" THREADED HOSE CONNECTION AND CAP.
 - PROVIDE MANUAL AIR VENT AT THE HIGH POINT BETWEEN THE SHUT-OFF VALVE AND STRAINER ON THE SUPPLY PIPING. 3/4" THREADED HOSE CONNECTION AND CAP.
 - INSTALL MANUAL AIR VENT, SHUT-OFF VALVE, THREADED PIPE AND CAP. PIPE TO OUTSIDE OF CABINET AND SEAL PENETRATION. THIS VENT ONLY REQUIRED IF THE TOP OF THE COIL IS HIGHER THAN THE EXTERNAL PIPE CONNECTION TO THE COIL HEADER.
 - PROVIDE WITH FLOW RATING TO MATCH THE COIL SUBMITTAL FLOW RATE, OR THE NEXT AVAILABLE FLOW RATE GREATER THAN THE COIL SUBMITTAL FLOW RATE.



- AHU ENERGY RECOVERY COIL PIPING**
SCALE: NONE
- FOR PIT PORT, USE PRESSURE TAP PROVIDED BY MANUFACTURER AT COIL IF AVAILABLE.
 - INSTALL EXTENSION AT PRESSURE TAP SO PIT PORT IS AT LEVEL OF INSULATION.
 - 3/4" THREADED HOSE CONNECTION AND CAP. THESE DRAINS ARE NOT REQUIRED IF A COIL DRAIN IS INSTALLED THAT IS LOWER THAN THE EXTERNAL PIPE TO THE COIL.
 - PROVIDE MANUAL AIR VENTS AND SHUT-OFF/ISOLATION VALVES AT ANY HIGH POINT IN SUPPLY AND RETURN BETWEEN COIL AND SHUT-OFF/ISOLATION VALVE.
 - LOCATE SHUT-OFF VALVES, UNIONS AND FLANGES TO ALLOW CLEAR SPACE FOR REMOVAL OF COIL.
 - PROVIDE BALANCE VALVE IN HWV OF EACH COIL FOR MULTIPLE COIL ARRANGEMENT. (NOT REQUIRED IF ONLY ONE COIL)
 - INSTALL DRAIN, SHUT-OFF VALVE, THREADED PIPE AND CAP. PIPE DRAIN TO OUTSIDE OF CABINET AND SEAL PENETRATION. THIS DRAIN REQUIRED ONLY IF BOTTOM OF COIL IS LOWER THAN EXTERNAL PIPE CONNECTION TO COIL HEADER.
 - INSTALL MANUAL AIR VENT, SHUT-OFF VALVE, THREADED PIPE AND CAP. PIPE VENT TO OUTSIDE OF CABINET AND SEAL PENETRATION. THIS VENT ONLY REQUIRED IF THE TOP OF THE COIL IS HIGHER THAN THE EXTERNAL PIPE CONNECTION TO THE COIL HEADER.
 - PROVIDE MANUAL AIR VENTS AT ANY HIGH POINTS IN SUPPLY AND RETURN BETWEEN COIL SHUT-OFF VALVE AND MAIN 3/4" THREADED HOSE CONNECTION AND CAP.



- AHU HOT WATER PREHEAT COIL PIPING**
SCALE: NONE
- FOR PIT PORT, USE PRESSURE TAP PROVIDED BY MANUFACTURER AT COIL IF AVAILABLE.
 - INSTALL EXTENSION AT PRESSURE TAP SO PIT PORT IS AT LEVEL OF INSULATION.
 - 3/4" THREADED HOSE CONNECTION AND CAP.
 - PROVIDE MANUAL AIR VENTS AT THE HIGH POINT BETWEEN THE COIL AND SHUT-OFF ISOLATION VALVE IN THE SUPPLY AND RETURN PIPING. PROVIDE 3/4" THREADED HOSE CONNECTION AND CAP.
 - LOCATE SHUT-OFF VALVES, UNIONS AND FLANGES TO ALLOW CLEAR SPACE FOR REMOVAL OF COIL.
 - INSTALL DRAIN, SHUT-OFF VALVE, THREADED PIPE AND CAP. PIPE DRAIN TO OUTSIDE OF CABINET AND SEAL PENETRATION. THIS DRAIN REQUIRED ONLY IF BOTTOM OF COIL IS LOWER THAN EXTERNAL PIPE CONNECTION TO COIL HEADER.
 - INSTALL MANUAL AIR VENT, SHUT-OFF VALVE, THREADED PIPE AND CAP. PIPE VENT TO OUTSIDE OF CABINET AND SEAL PENETRATION. THIS VENT ONLY REQUIRED IF THE TOP OF THE COIL IS HIGHER THAN THE EXTERNAL PIPE CONNECTION TO THE COIL HEADER.
 - PROVIDE MANUAL AIR VENTS AT ANY HIGH POINTS IN SUPPLY AND RETURN BETWEEN COIL SHUT-OFF VALVE AND MAIN 3/4" THREADED HOSE CONNECTION AND CAP.
 - PROVIDE WITH FLOW RATING TO MATCH THE COIL SUBMITTAL FLOW RATE, OR THE NEXT AVAILABLE FLOW RATE GREATER THAN THE COIL SUBMITTAL FLOW RATE.



- AHU HOT WATER REHEAT COIL PIPING**
SCALE: NONE
- FOR PIT PORT, USE PRESSURE TAP PROVIDED BY MANUFACTURER AT COIL IF AVAILABLE.
 - INSTALL EXTENSION AT PRESSURE TAP SO PIT PORT IS AT LEVEL OF INSULATION.
 - 3/4" THREADED HOSE CONNECTION AND CAP. THESE DRAINS ARE NOT REQUIRED IF A COIL DRAIN IS INSTALLED THAT IS LOWER THAN THE EXTERNAL PIPE TO THE COIL.
 - PROVIDE MANUAL AIR VENTS AND SHUT-OFF/ISOLATION VALVES AT ANY HIGH POINT IN SUPPLY AND RETURN BETWEEN COIL AND SHUT-OFF/ISOLATION VALVE.
 - LOCATE SHUT-OFF VALVES, UNIONS AND FLANGES TO ALLOW CLEAR SPACE FOR REMOVAL OF COIL.
 - PROVIDE BALANCE VALVE IN HWV OF EACH COIL FOR MULTIPLE COIL ARRANGEMENT. (NOT REQUIRED IF ONLY ONE COIL)
 - INSTALL DRAIN, SHUT-OFF VALVE, THREADED PIPE AND CAP. PIPE DRAIN TO OUTSIDE OF CABINET AND SEAL PENETRATION. THIS DRAIN REQUIRED ONLY IF BOTTOM OF COIL IS LOWER THAN EXTERNAL PIPE CONNECTION TO COIL HEADER.
 - INSTALL MANUAL AIR VENT, SHUT-OFF VALVE, THREADED PIPE AND CAP. PIPE VENT TO OUTSIDE OF CABINET AND SEAL PENETRATION. THIS VENT ONLY REQUIRED IF THE TOP OF THE COIL IS HIGHER THAN THE EXTERNAL PIPE CONNECTION TO THE COIL HEADER.
 - PROVIDE MANUAL AIR VENTS AT ANY HIGH POINTS IN SUPPLY AND RETURN BETWEEN COIL SHUT-OFF VALVE AND MAIN 3/4" THREADED HOSE CONNECTION AND CAP.
 - PROVIDE WITH FLOW RATING TO MATCH THE COIL SUBMITTAL FLOW RATE, OR THE NEXT AVAILABLE FLOW RATE GREATER THAN THE COIL SUBMITTAL FLOW RATE.

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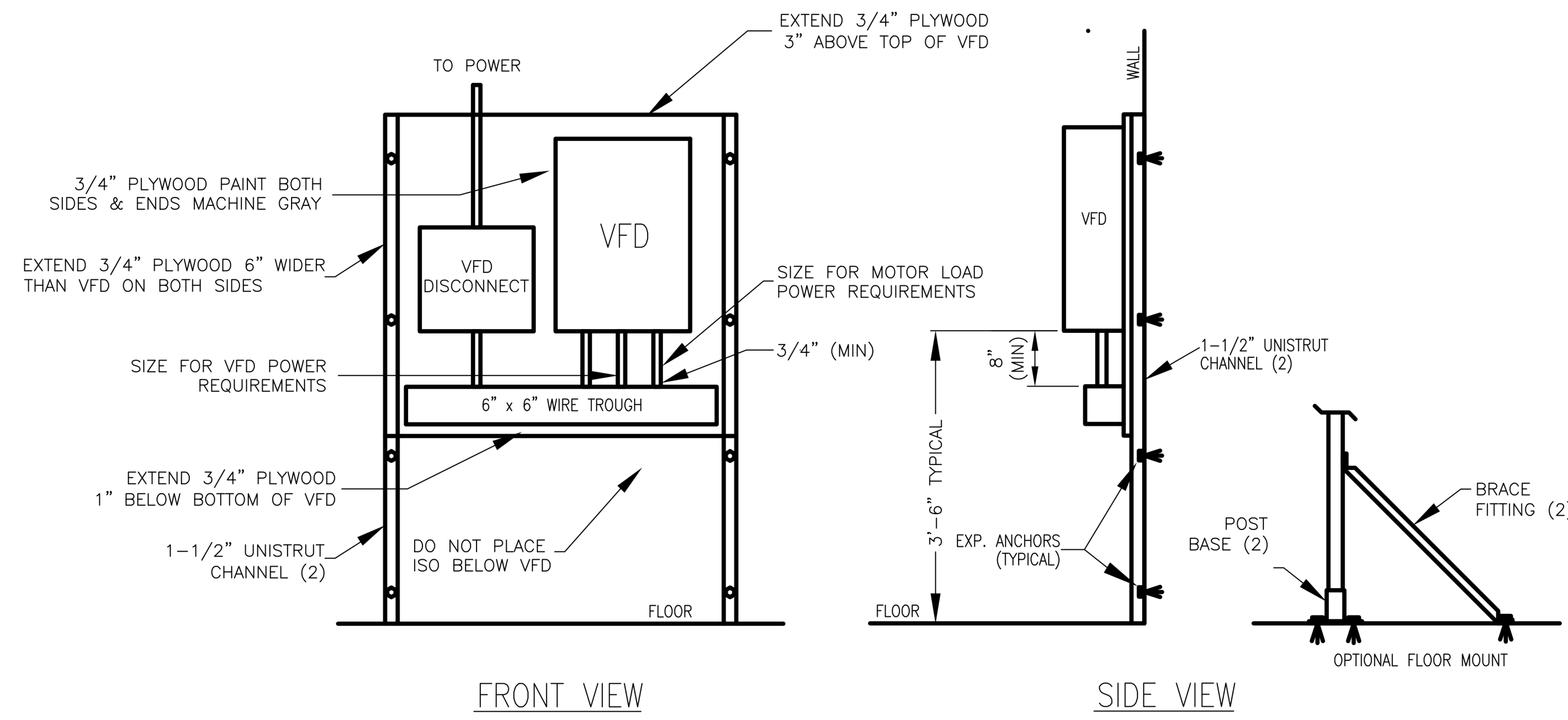
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DATE: 02/14/2024
PROJECT #: 071588.002
DRAWN BY: KAA
CHECKED BY: NBA

MECHANICAL DETAIL

M1.1

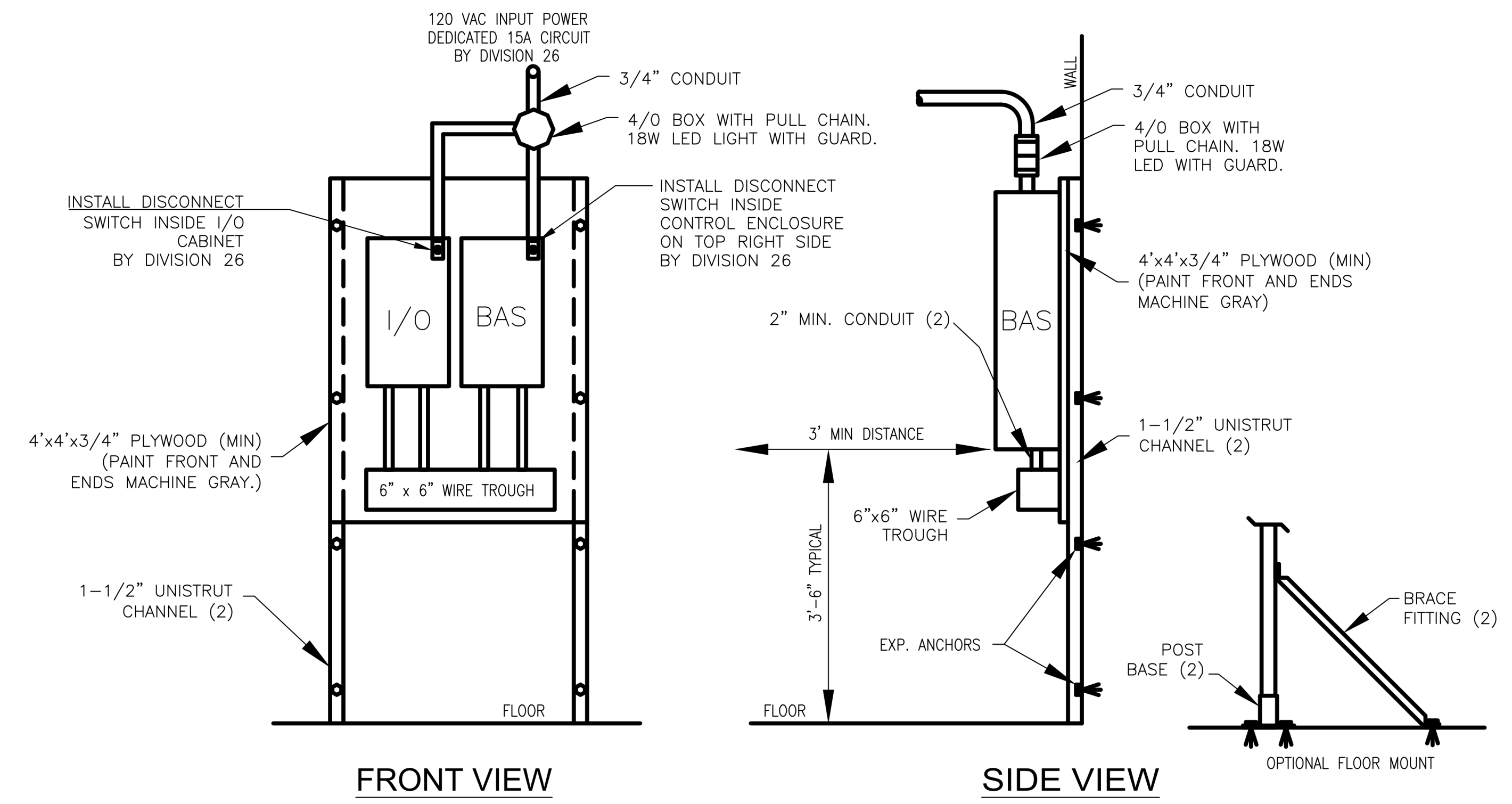
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NOTES:

- VARIABLE FREQUENCY DRIVE (VFD) IS PROVIDED AND INSTALLED BY CONTRACTOR.
- KEEP ALL LOW VOLTAGE CONTROL WIRING (UNDER 25V) AND HIGH VOLTAGE POWER WIRING (OVER 25V) SEPARATED. (RUN IN SEPARATE CONDUIT).
- PLYWOOD SIZE IS BASED ON ONE VFD IN EACH LOCATION. FOR MULTIPLE VFD'S, COORDINATE WITH OWNER'S REPRESENTATIVE.
- POWER TO DRIVE AND LEADS TO MOTOR MUST BE IN SEPARATE CONDUIT.
- INSTALL ISO TRANSFORMER IF REQUIRED.
- DO NOT PLACE ISO TRANSFORMER BELOW VFD.
- IF REMOTE SERVICE DISCONNECT IS REQUIRED IT MUST BE HARDWIRED TO VFD SAFETY CIRCUIT TO SHUT DOWN DRIVE IF DISCONNECT IS OPENED.

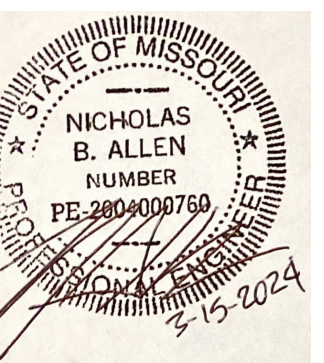
VFD MOUNTING DETAIL
NO SCALE



NOTES:

- BAS CONTROLLERS AND CABINET ARE SUPPLIED BY OWNER AND MOUNTED BY CONTRACTOR. I/O CABINET AND COMPONENTS PROVIDED BY CONTRACTOR.
- KEEP ALL LOW VOLTAGE CONTROL WIRING (UNDER 25V) AND LOW VOLTAGE POWER WIRING (OVER 25V) SEPARATED. (RUN IN SEPARATE CONDUIT).
- PLYWOOD SIZE IS BASED ON THE NUMBER OF CONTROLLERS IN EACH LOCATION. COORDINATE WITH OWNERS REPRESENTATIVE.

BAS PANEL MOUNTING DETAIL
NO SCALE



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PE-200400760

No.	Date	Description

DATE: 02/14/2024
PROJECT #: 071588.002
DRAWN BY: KAA
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**MECHANICAL
DETAIL**

M1.2

MECHANICAL ROOM 301 PLUMBING PLAN
SCALE: 1/4" = 1'-0"

- MECHANICAL GENERAL NOTES:**
1. THESE DRAWINGS WERE PREPARED UTILIZING EXISTING DRAWINGS AND FIELD OBSERVATIONS. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO STARTING WORK. NOTIFY CONSTRUCTION MANAGER IMMEDIATELY OF ANY DISCREPANCIES.
 2. CONTRACTOR SHALL TAKE EXTREME CARE HANDLING MATERIAL DEBRIS IN AN EFFORT TO AVOID ANY DISRUPTIONS OF ONGOING BUILDING OPERATIONS. PROJECT SHALL BE CLEANED FREE OF DUST AND DEBRIS AT THE END OF THE WORK DAY.
 3. CONTRACTOR SHALL COORDINATE ANY SHUTDOWN OF UTILITIES WITH THE OWNER'S REPRESENTATIVE. NOTICE FOR SHUTDOWN SHALL BE GIVEN TO THE OWNER PRIOR TO SHUTDOWN.
 4. CONTRACTOR SHALL COORDINATE THEIR WORK WITH ALL OTHER TRADES PRIOR TO BEGINNING WORK.
 5. CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS FOR FIELD COORDINATION AND DIMENSIONAL VERIFICATION AS SPECIFIED IN THE PROJECT MANUAL.
 6. ALL EQUIPMENT AND MATERIAL SHALL BE INSTALLED ACCORDING TO THE MANUFACTURERS RECOMMENDATIONS AND ALL LISTED CODES.
 7. ALL CONSTRUCTION TO BE PHASED WITH ENGINEER AND OWNER TO AVOID SHUTDOWNS DURING LARGE EVENTS. OF THE 4X AHUS THAT SERVE THE COMPETITION POOL ROOM (PAU-2/3/4/5), AT LEAST 3X UNITS SHALL BE OPERATIONAL AND RUNNING AT ALL TIMES. DOWNTIMES FOR THE PAUS WILL GENERALLY BE COORDINATED WITH THE OWNER DURING THE PRE-CONSTRUCTION MEETING, BUT OPERATION OF OTHER PAUS SHALL BE CONFIRMED THE DAY PRIOR TO THE PLANNED SHUTDOWN FOR EITHER PAU 1, 2 OR 3. IF ANY OF THE OTHER 3 PAUS ARE NOT OPERATIONAL, SHUT DOWN OF THE PLANNED PAU SHALL BE DELAYED UNTIL THE OTHER UNITS ARE RETURNED TO OPERATION.

- KEYED NOTES:**
- 1] CONNECT TO EXISTING VENT RISER PIPE AND ROUTE TO NEW LOCATION FOR VTR.
 - 2] CONNECT TO EXISTING COLD WATER PIPING AND ROUTE TO NEW LOCATION FOR ROOF HYDRANT.
 - 3] INSTALL NEW HOSE BIBB ON EXISTING COLUMN.
 - 4] DROP DRAIN LINE ALONG CONCRETE COLUMN TO JUST ABOVE FLOOR LEVEL. ROUTE PIPE ACROSS THE FLOOR TO THE EXISTING FLOOR DRAIN AND TERMINATE OPEN ENDED.
 - 5] INSTALL NEW CLEANOUT IN VERTICAL VENT PIPING APPROX. 3'6" A.F.F..

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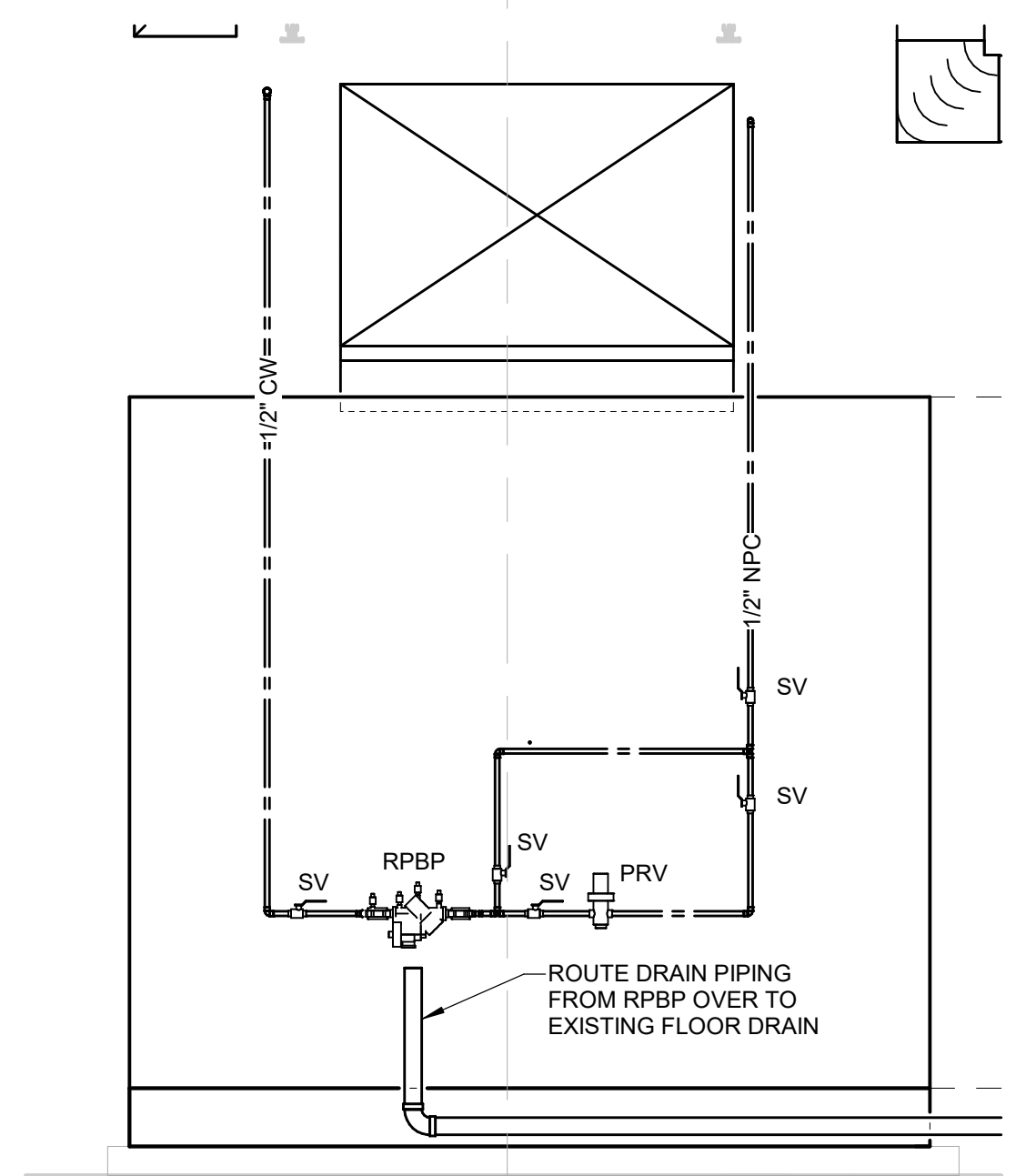
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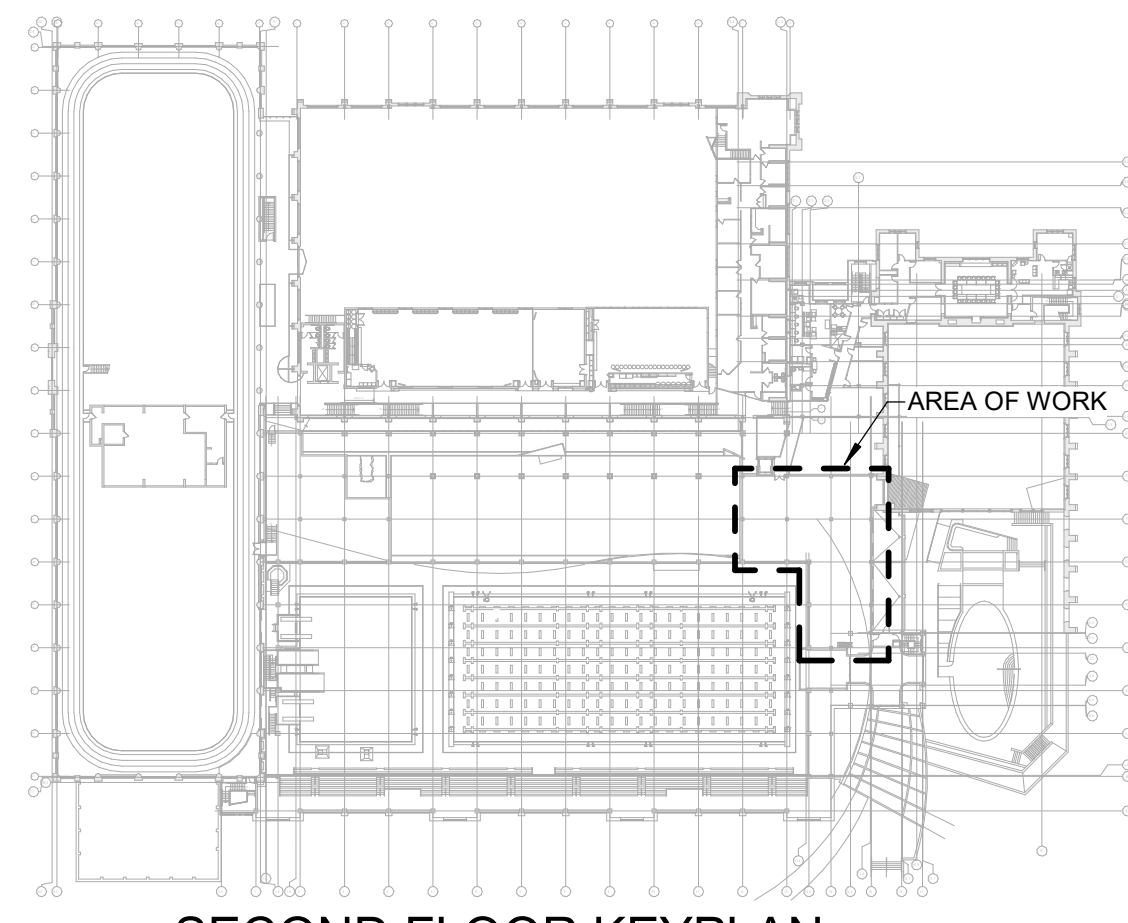
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CROCKETT ENGINEERING
CONSULTANTS
MO Cert. of Auth. #200151301
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REPLACEMENT
#CP242271**

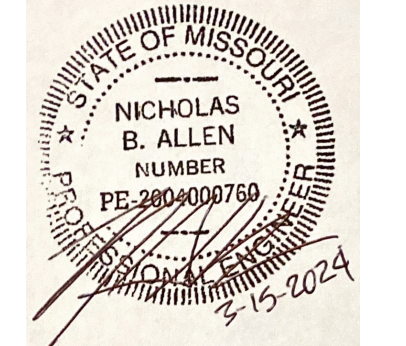
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2 MAKE UP WATER ASSEMBLY ELEVATION
1/2" = 1'-0"



SECOND FLOOR KEYPLAN



NICK ALLEN
PE-200400760

REVISIONS	Description	Date
No.		

DATE: 02/14/2024
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CHECKED BY: NBA

**MECHANICAL
ROOM 301
PLUMBING PLAN**

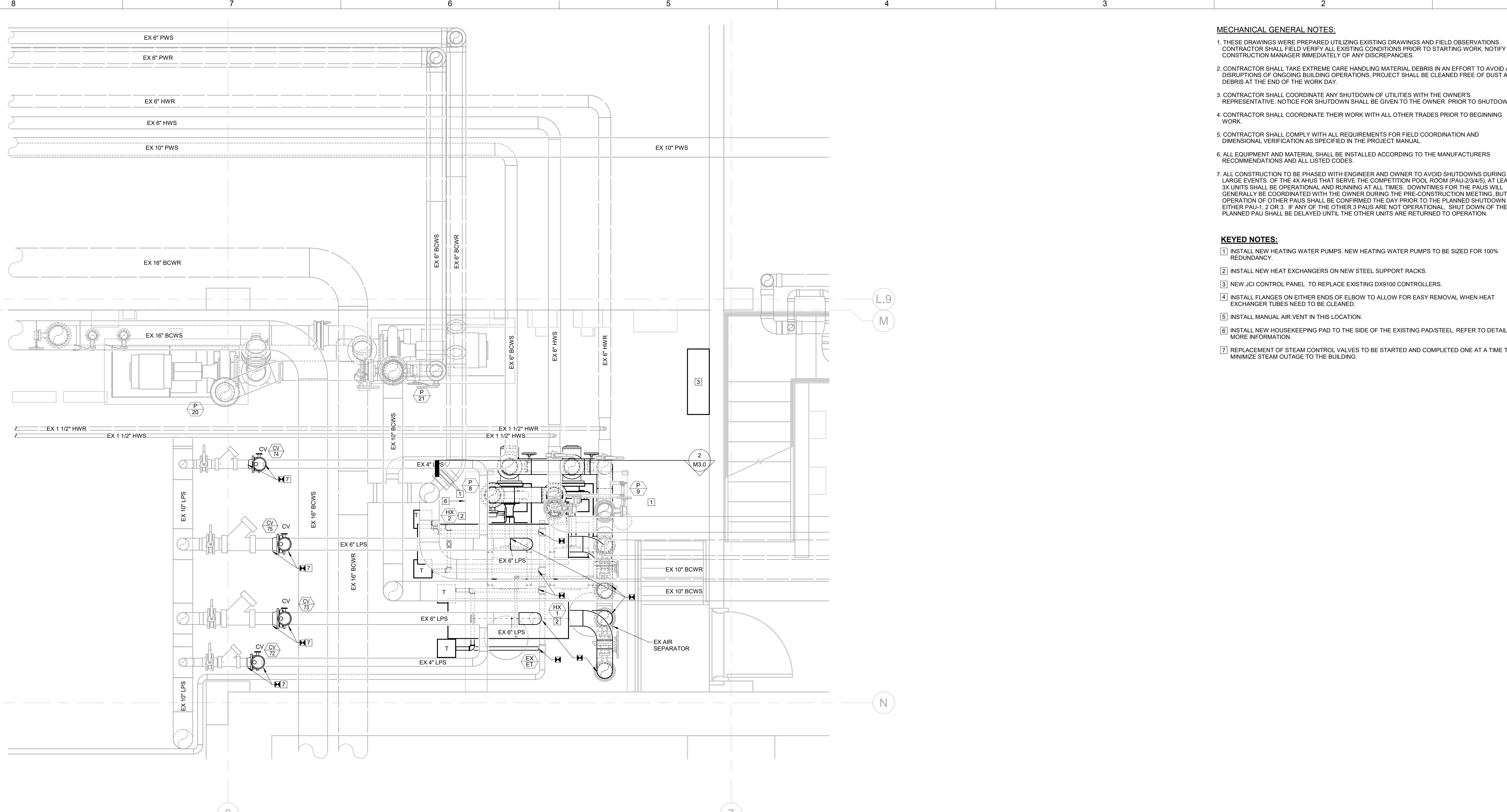
M2.0

ISSUED FOR BID - 03/15/2024

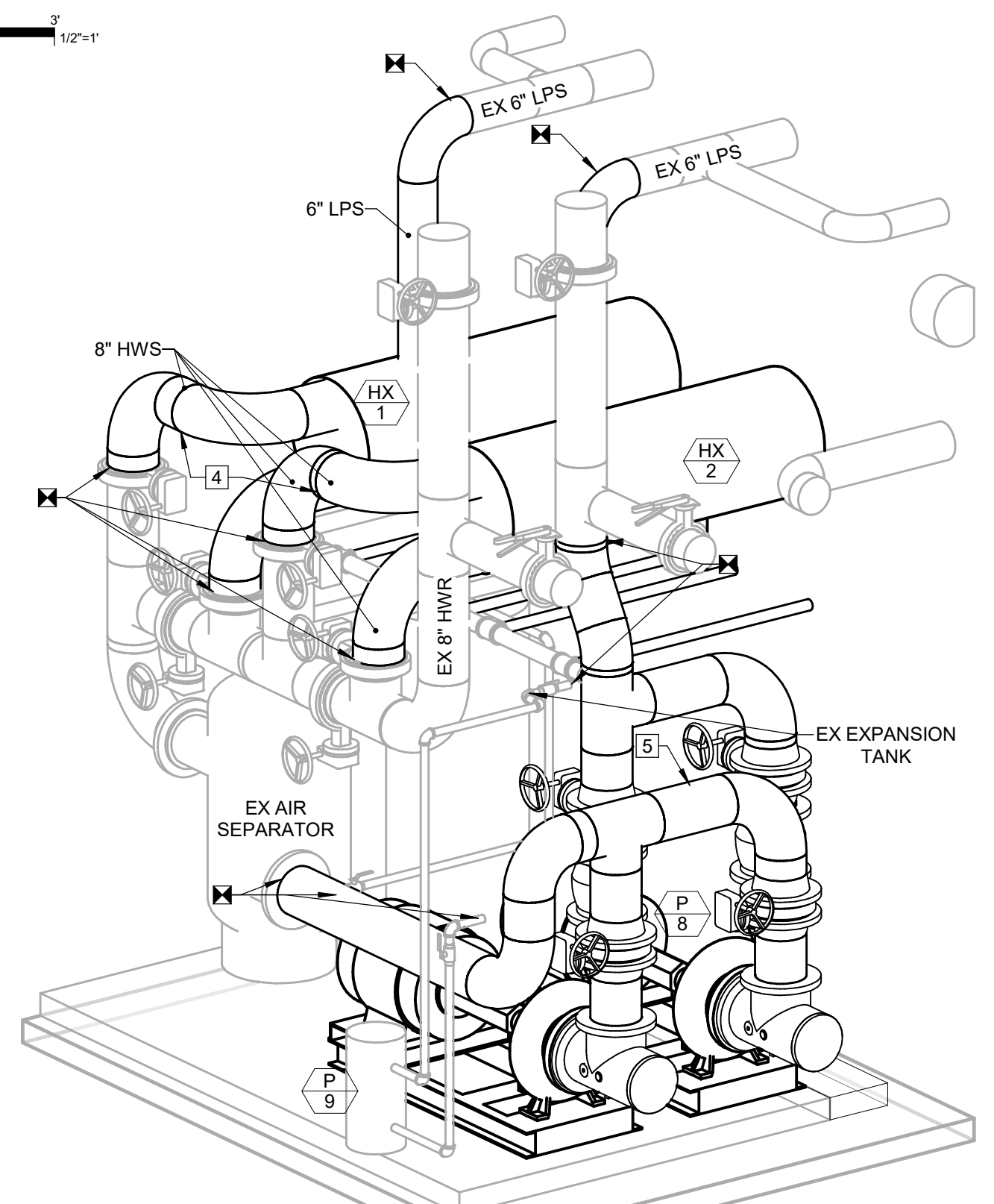
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2/14/2024 4:15:11 PM BY: Author

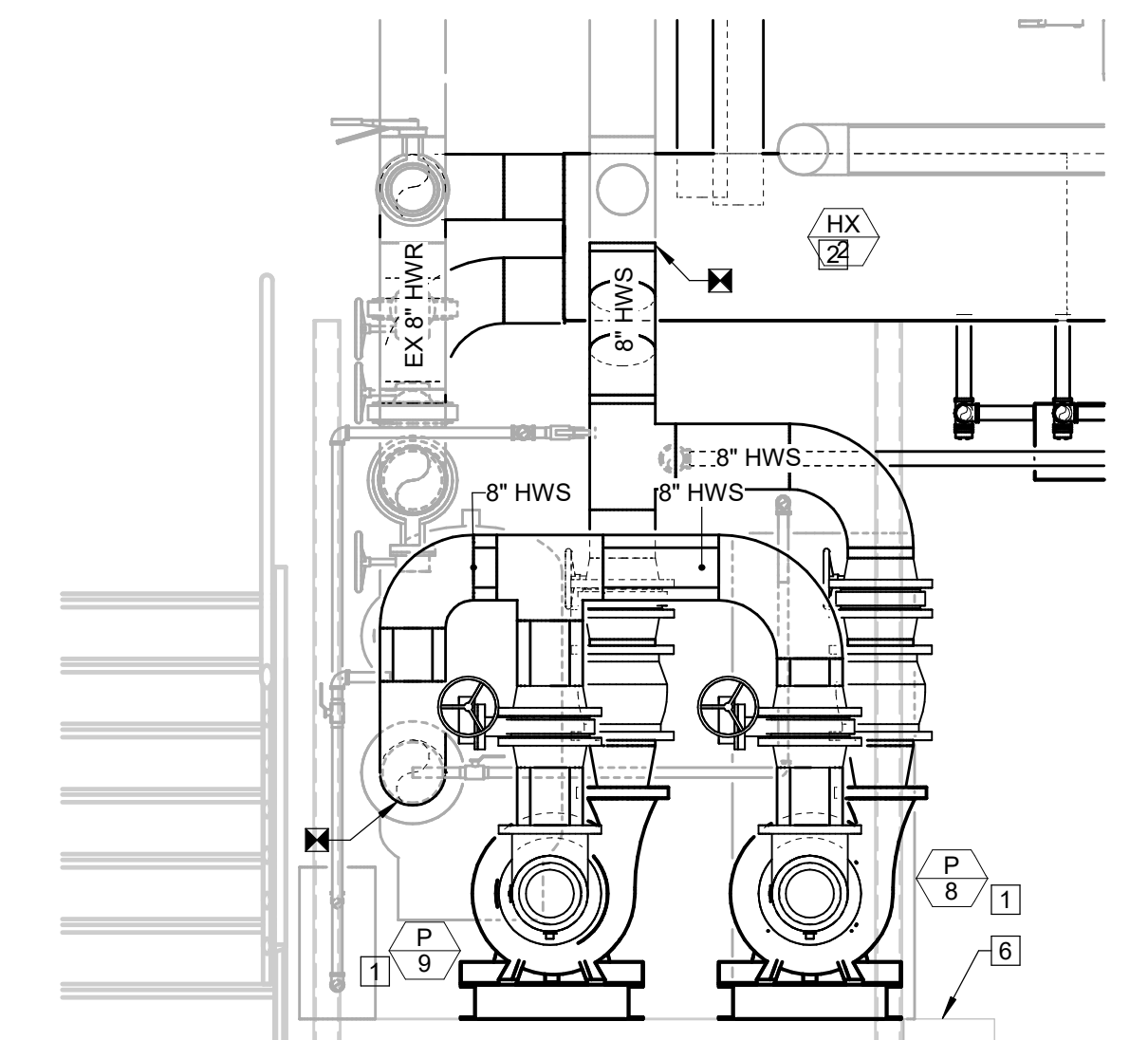
SHEET IS PLOTTED TO SCALE IF ADJACENT LINE MEASURES 1 INCH



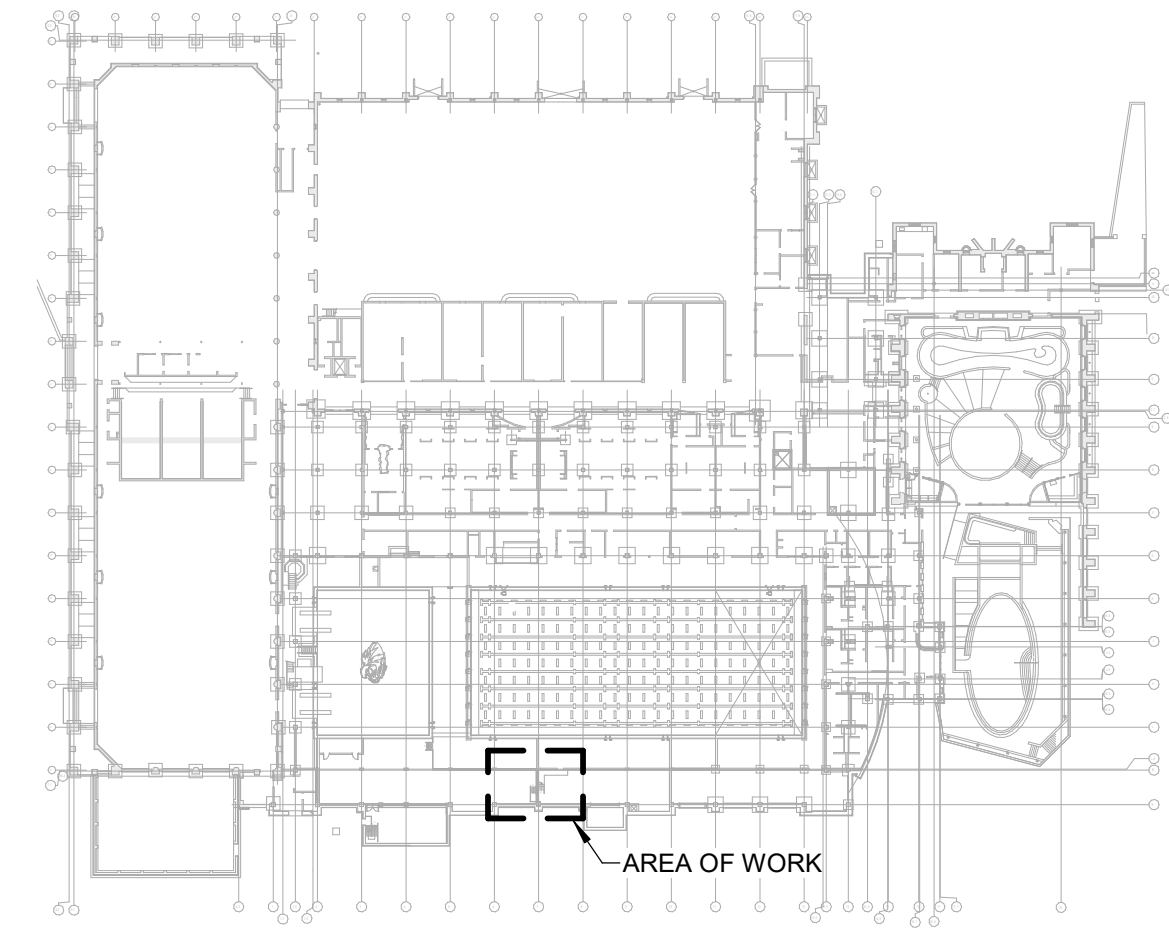
PARTIAL CHILLER ROOM M103 NEW WORK PLAN
 SCALE: 1/2" = 1'-0"
 0 1 2 3 4 5 6 7 8 9 10 11 12



HEATING WATER PUMPS ISOMETRIC - NEW WORK



HEATING WATER PUMPS AND HEAT EXCHANGERS NEW WORK
 1/2" = 1'-0"



FOUNDATION LEVEL KEYPLAN

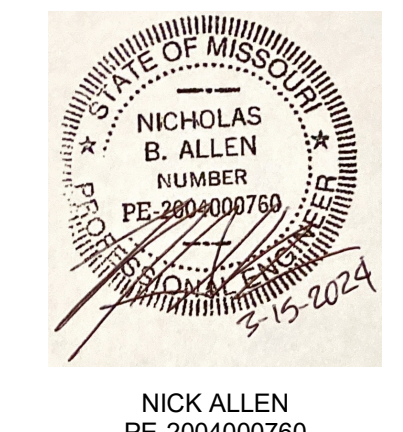
- MECHANICAL GENERAL NOTES:**
1. THESE DRAWINGS WERE PREPARED UTILIZING EXISTING DRAWINGS AND FIELD OBSERVATIONS. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO STARTING WORK. NOTIFY CONSTRUCTION MANAGER IMMEDIATELY OF ANY DISCREPANCIES.
 2. CONTRACTOR SHALL TAKE EXTREME CARE HANDLING MATERIAL DEBRIS IN AN EFFORT TO AVOID ANY DISRUPTIONS OF ONGOING BUILDING OPERATIONS. PROJECT SHALL BE CLEANED FREE OF DUST AND DEBRIS AT THE END OF THE WORK DAY.
 3. CONTRACTOR SHALL COORDINATE ANY SHUTDOWN OF UTILITIES WITH THE OWNER'S REPRESENTATIVE. NOTICE FOR SHUTDOWN SHALL BE GIVEN TO THE OWNER PRIOR TO SHUTDOWN.
 4. CONTRACTOR SHALL COORDINATE THEIR WORK WITH ALL OTHER TRADES PRIOR TO BEGINNING WORK.
 5. CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS FOR FIELD COORDINATION AND DIMENSIONAL VERIFICATION AS SPECIFIED IN THE PROJECT MANUAL.
 6. ALL EQUIPMENT AND MATERIAL SHALL BE INSTALLED ACCORDING TO THE MANUFACTURERS RECOMMENDATIONS AND ALL LISTED CODES.
 7. ALL CONSTRUCTION TO BE PHASED WITH ENGINEER AND OWNER TO AVOID SHUTDOWNS DURING LARGE EVENTS. OF THE 4X AHUS THAT SERVE THE COMPETITION POOL ROOM (PAU-2/3/4/5), AT LEAST 3X UNITS SHALL BE OPERATIONAL AND RUNNING AT ALL TIMES. DOWNTIMES FOR THE PAUS WILL GENERALLY BE COORDINATED WITH THE OWNER DURING THE PRE-CONSTRUCTION MEETINGS, BUT OPERATION OF OTHER PAUS SHALL BE CONFIRMED THE DAY PRIOR TO THE PLANNED SHUTDOWN FOR EITHER PAU-1, 2 OR 3. IF ANY OF THE OTHER 3 PAUS ARE NOT OPERATIONAL, SHUT DOWN OF THE PLANNED PAU SHALL BE DELAYED UNTIL THE OTHER UNITS ARE RETURNED TO OPERATION.
- KEYED NOTES:**
1. INSTALL NEW HEATING WATER PUMPS. NEW HEATING WATER PUMPS TO BE SIZED FOR 100% REDUNDANCY.
 2. INSTALL NEW HEAT EXCHANGERS ON NEW STEEL SUPPORT RACKS.
 3. NEW JCI CONTROL PANEL TO REPLACE EXISTING DX9100 CONTROLLERS.
 4. INSTALL FLANGES ON EITHER ENDS OF ELBOW TO ALLOW FOR EASY REMOVAL WHEN HEAT EXCHANGER TUBES NEED TO BE CLEANED.
 5. INSTALL MANUAL AIR VENT IN THIS LOCATION.
 6. INSTALL NEW HOUSEKEEPING PAD TO THE SIDE OF THE EXISTING PAD/STEEL. REFER TO DETAIL FOR MORE INFORMATION.
 7. REPLACEMENT OF STEAM CONTROL VALVES TO BE STARTED AND COMPLETED ONE AT A TIME TO MINIMIZE STEAM OUTAGE TO THE BUILDING.

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**STUDENT RECREATION CENTER - AHU 1-3
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DATE: 02/14/2024
 PROJECT #: 071588.002
 DRAWN BY: KAA
 CHECKED BY: NBA

**PARTIAL
 CHILLER ROOM
 M103 NEW
 WORK PLAN**

M3.0
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McClure Project # 071588.002
 2/14/2024 4:15:18 PM BY: Author

MECHANICAL GENERAL NOTES:

1. THESE DRAWINGS WERE PREPARED UTILIZING EXISTING DRAWINGS AND FIELD OBSERVATIONS. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO STARTING WORK. NOTIFY CONSTRUCTION MANAGER IMMEDIATELY OF ANY DISCREPANCIES.
2. CONTRACTOR SHALL TAKE EXTREME CARE HANDLING MATERIAL DEBRIS IN AN EFFORT TO AVOID ANY DISRUPTIONS OF ONGOING BUILDING OPERATIONS. PROJECT SHALL BE CLEANED FREE OF DUST AND DEBRIS AT THE END OF THE WORK DAY.
3. CONTRACTOR SHALL COORDINATE ANY SHUTDOWN OF UTILITIES WITH THE OWNER'S REPRESENTATIVE. NOTICE FOR SHUTDOWN SHALL BE GIVEN TO THE OWNER PRIOR TO SHUTDOWN.
4. CONTRACTOR SHALL COORDINATE THEIR WORK WITH ALL OTHER TRADES PRIOR TO BEGINNING WORK.
5. CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS FOR FIELD COORDINATION AND DIMENSIONAL VERIFICATION AS SPECIFIED IN THE PROJECT MANUAL.
6. ALL EQUIPMENT AND MATERIAL SHALL BE INSTALLED ACCORDING TO THE MANUFACTURERS RECOMMENDATIONS AND ALL LISTED CODES.
7. ALL CONSTRUCTION TO BE PHASED WITH ENGINEER AND OWNER TO AVOID SHUTDOWNS DURING LARGE EVENTS. OF THE 4X AHUS THAT SERVE THE COMPETITION POOL ROOM (PAU-2/3/4/5). AT LEAST SIX UNITS SHALL BE OPERATIONAL AND RUNNING AT ALL TIMES. DOWNTIMES FOR THE PAUS WILL GENERALLY BE COORDINATED WITH THE OWNER DURING THE PRE-CONSTRUCTION MEETING, BUT OPERATION OF OTHER PAUS SHALL BE CONFIRMED THE DAY PRIOR TO THE PLANNED SHUTDOWN FOR EITHER PAU-1, 2 OR 3. IF ANY OF THE OTHER 3 PAUS ARE NOT OPERATIONAL, SHUT DOWN OF THE PLANNED PAU SHALL BE DELAYED UNTIL THE OTHER UNITS ARE RETURNED TO OPERATION.

KEYED NOTES:

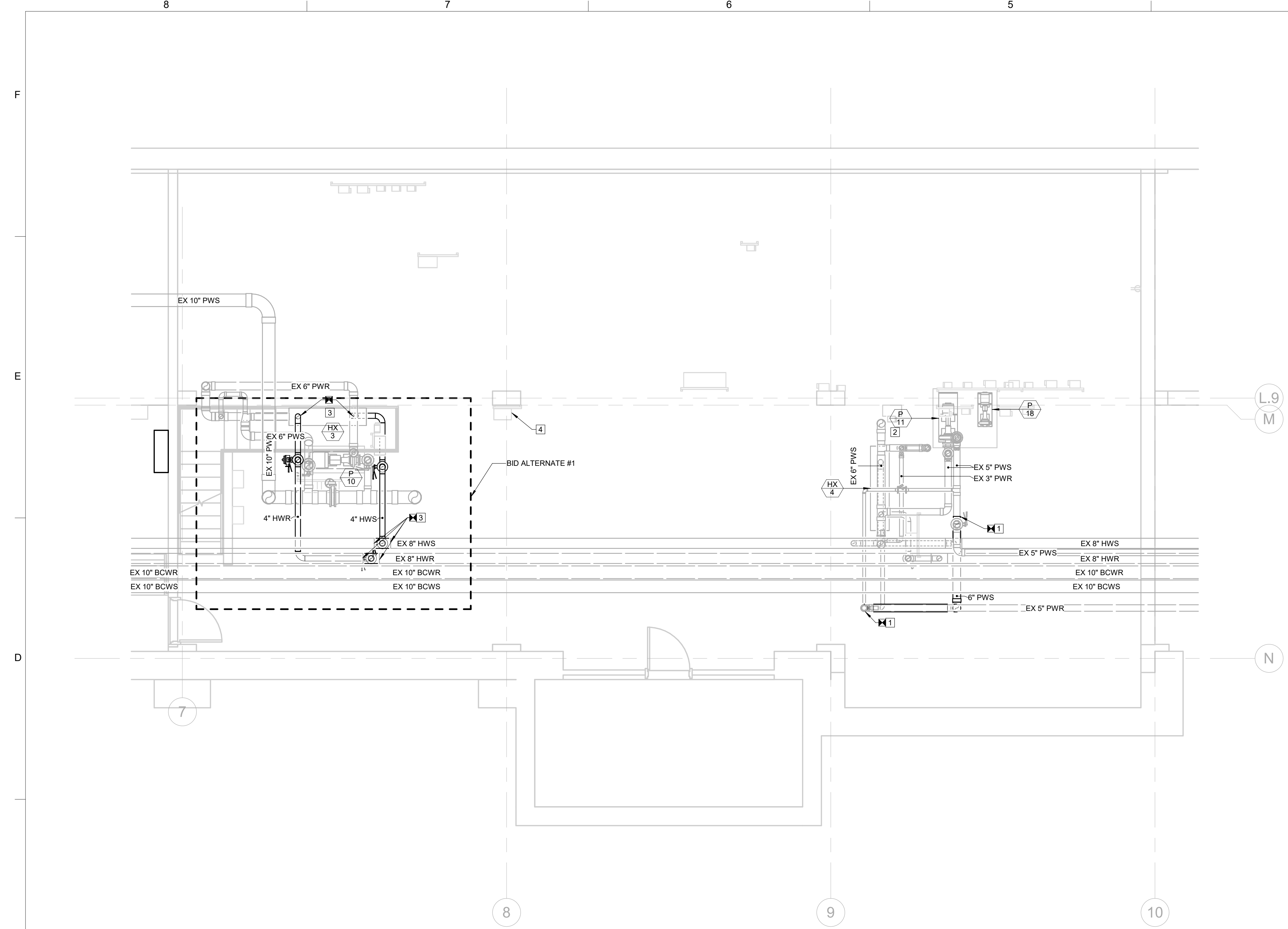
1. ROUTE NEW PIPING AS SHOWN TO RECONNECT EXISTING PIPING. POOL WATER SYSTEM TO BE REFILLED AND RE-ENABLED ONCE PIPING IS RECONNECTED. SHUTDOWN TO BE MINIMIZED TO 4 HOURS AND COORDINATED IN ADVANCE WITH THE OWNER.
2. INSTALL NEW VFD ON EXISTING PUMP. REFER TO ELECTRICAL DRAWINGS FOR MORE INFORMATION.
3. BID ALTERNATE #1: INSTALL NEW 4" PIPING AND SPECIALTIES. WORK WILL REQUIRE A PARTIAL HEATING WATER SYSTEM SHUTDOWN. SYSTEM DOWNTIME TO BE LIMITED TO 4 HOURS AND PLANNED IN ADVANCE WITH THE OWNER.
4. NEW DX9100 CONTROLLER TO BE INSTALLED IN THIS LOCATION.

McCLURE ENGINEERING

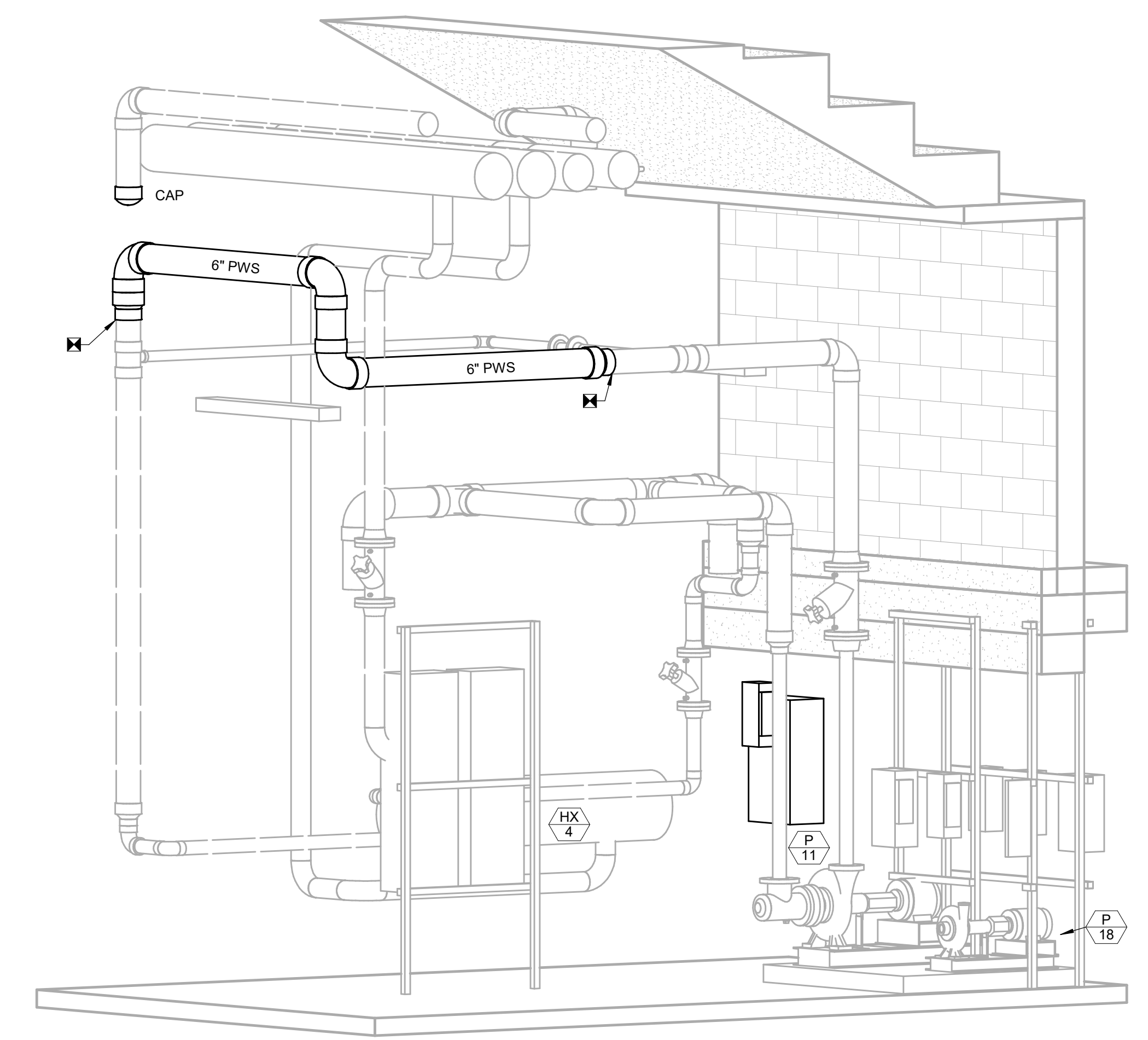
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Corporation
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ARCHITECT
SIMON OSWALD ARCHITECTURE
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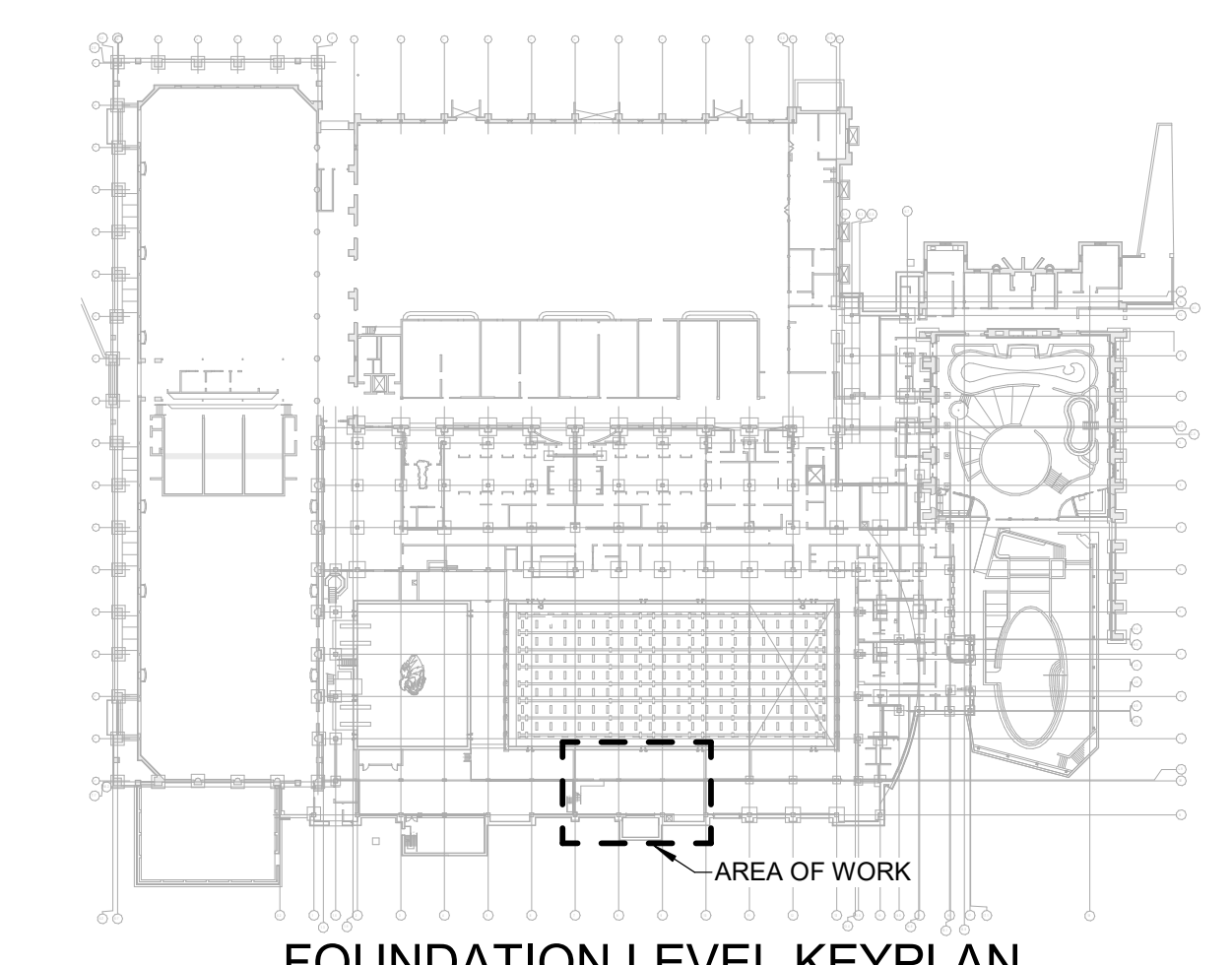
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MECHANICAL ROOM 106B NEW WORK PLAN
SCALE: 1/4" = 1'-0"
N

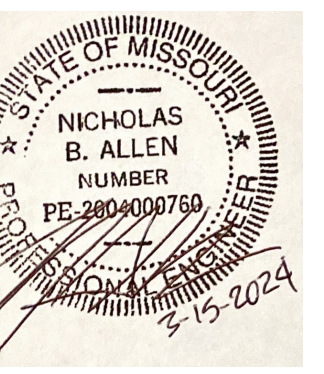


2. MECHANICAL ROOM 106B NEW WORK



FOUNDATION LEVEL KEYPLAN

**STUDENT RECREATION CENTER - AHU 1-3
REPLACEMENT
#CP242271**



NICK ALLEN
PE-200400760

REVISIONS	Description	Date
No.		

DATE: 02/14/2024
PROJECT #: 071588.002
DRAWN BY: KAA
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MECHANICAL ROOM 106B NEW WORK

M3.1

ISSUED FOR BID: 03/15/2024

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2/14/2024 4:15:21 PM BY: Author

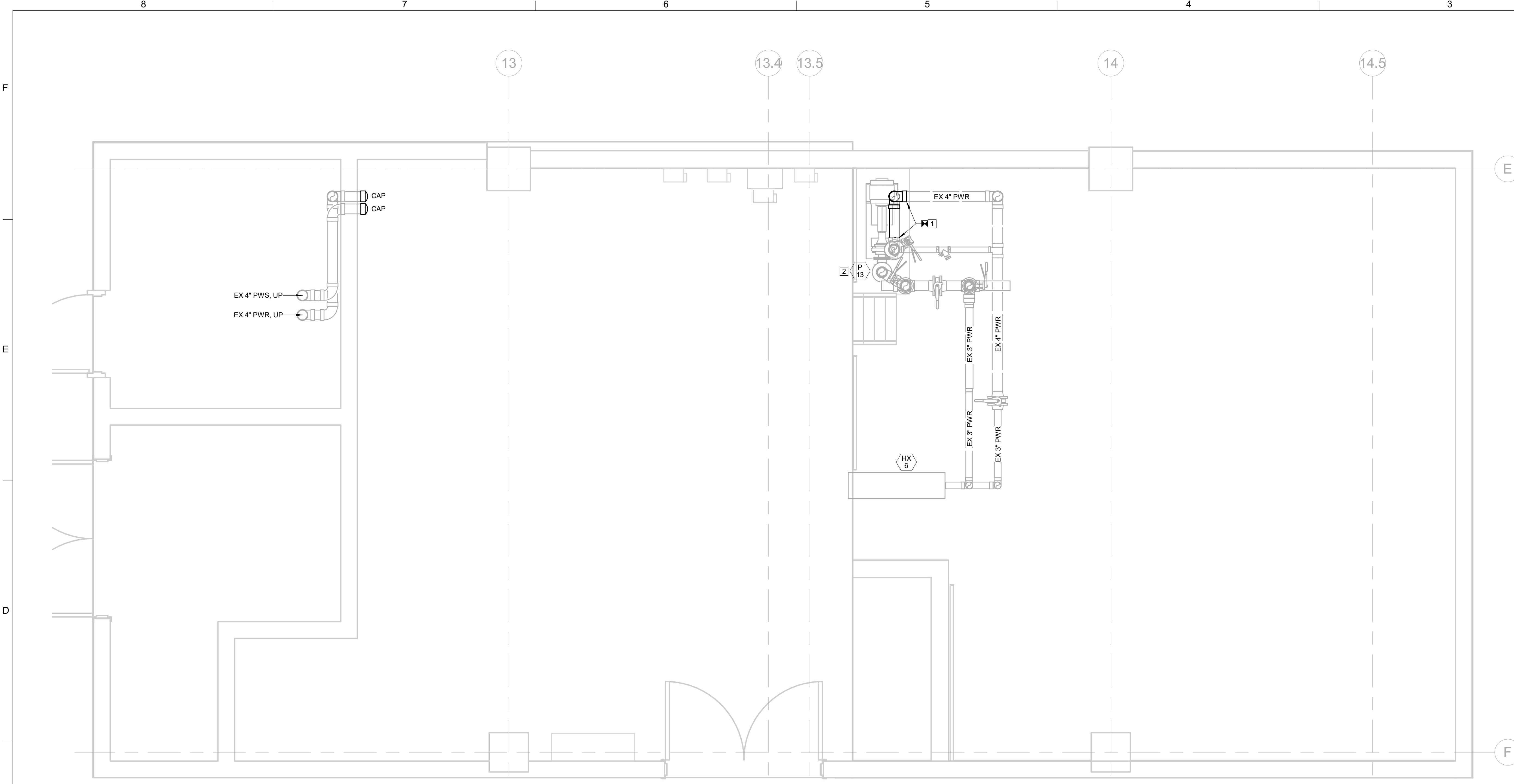
SHEET IS PLOTTED TO SCALE IF ADJACENT LINE MEASURES 1 INCH

MECHANICAL GENERAL NOTES:

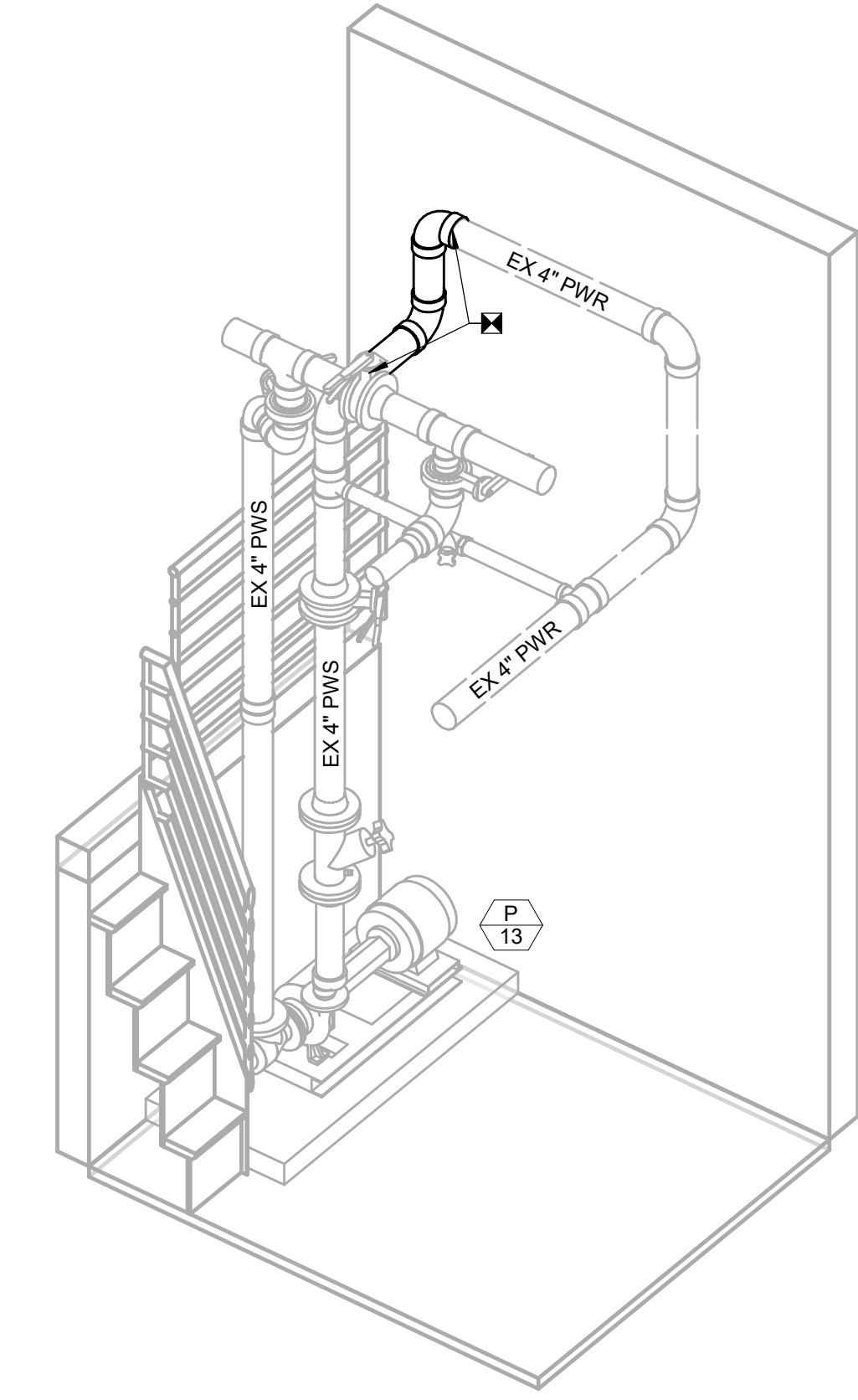
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- MODIFICATION OF THE CHILLED WATER SYSTEM, PARTICULARLY OF THE REPLACEMENT CHILLED WATER PUMP AND ASSOCIATED PIPING, SHALL BE COORDINATED WITH THE OWNER AT LEAST 3 MONTHS AHEAD OF TIME.
- DEMOLITION AND CONSTRUCTION OF PAU-4 & 5 WILL BE PHASED SUCH THAT THE REPLACEMENT OF THE FIRST UNIT WILL OCCUR IN ITS ENTIRETY PRIOR TO THE START OF DEMOLITION/CONSTRUCTION ON THE SECOND UNIT. UNDER NO CONDITIONS SHALL BOTH UNITS BE DOWN AT THE SAME TIME, UNLESS IT IS FOR A SHORT DURATION (NOT TO EXCEED 4 HOURS) AND PLANNED IN ADVANCE WITH THE OWNER.

KEYED NOTES:

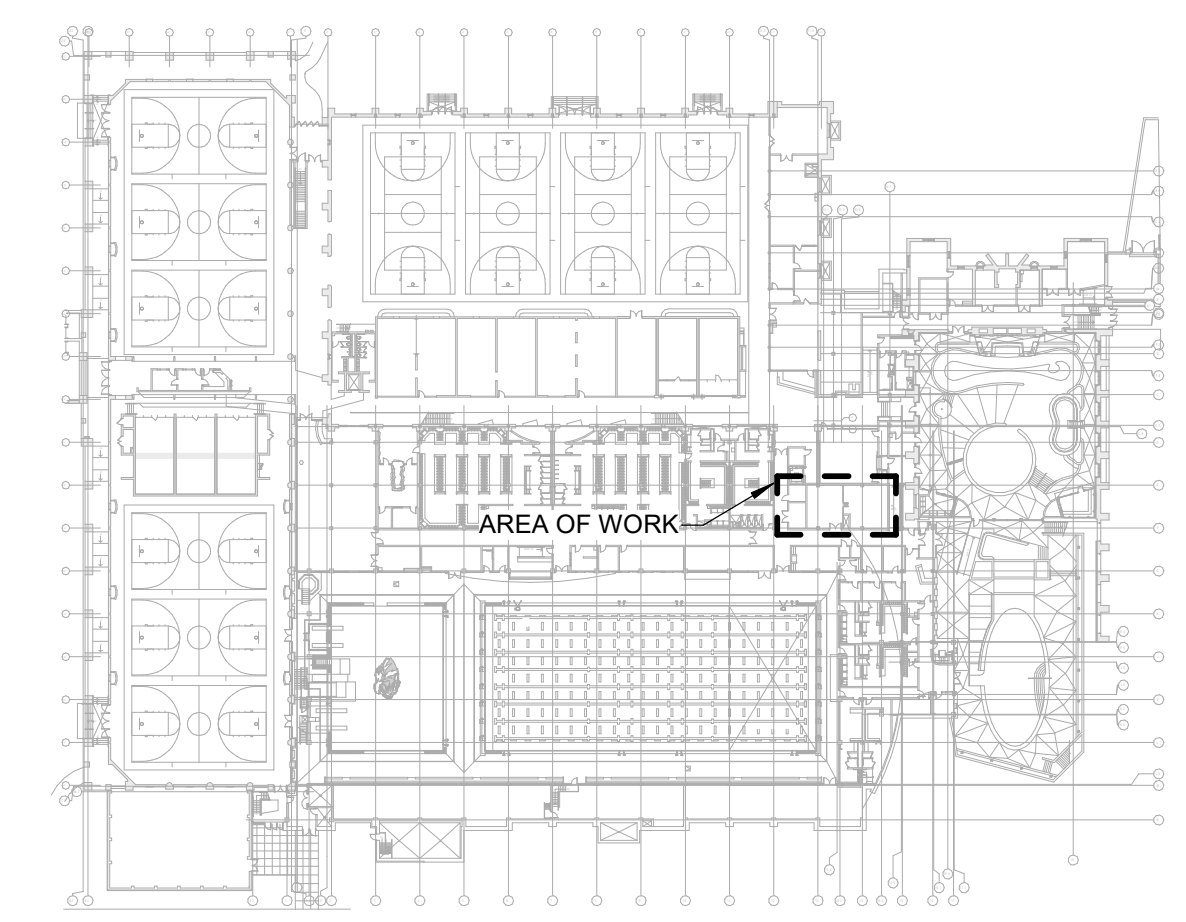
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- INSTALL NEW VFD ON EXISTING PUMP. REFER TO ELECTRICAL DRAWINGS FOR MORE INFORMATION.



MECHANICAL ROOM 118 NEW WORK
SCALE: 1/2" = 1'-0"
0 5 10 FT

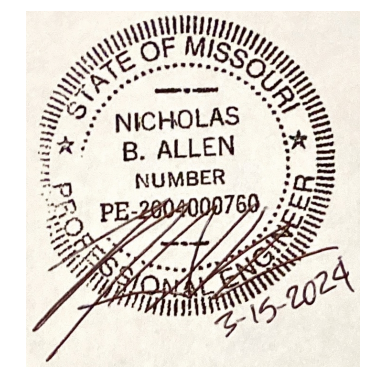


POOL WATER ISOMETRIC - NEW WORK



FIRST FLOOR KEYPLAN

**STUDENT RECREATION CENTER - AHU 1-3
REPLACEMENT
#CP242271**



NICK ALLEN
PE-200400760

No.	Date	Description

DATE: 02/14/2024
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MECHANICAL ROOM 118 NEW WORK PLAN

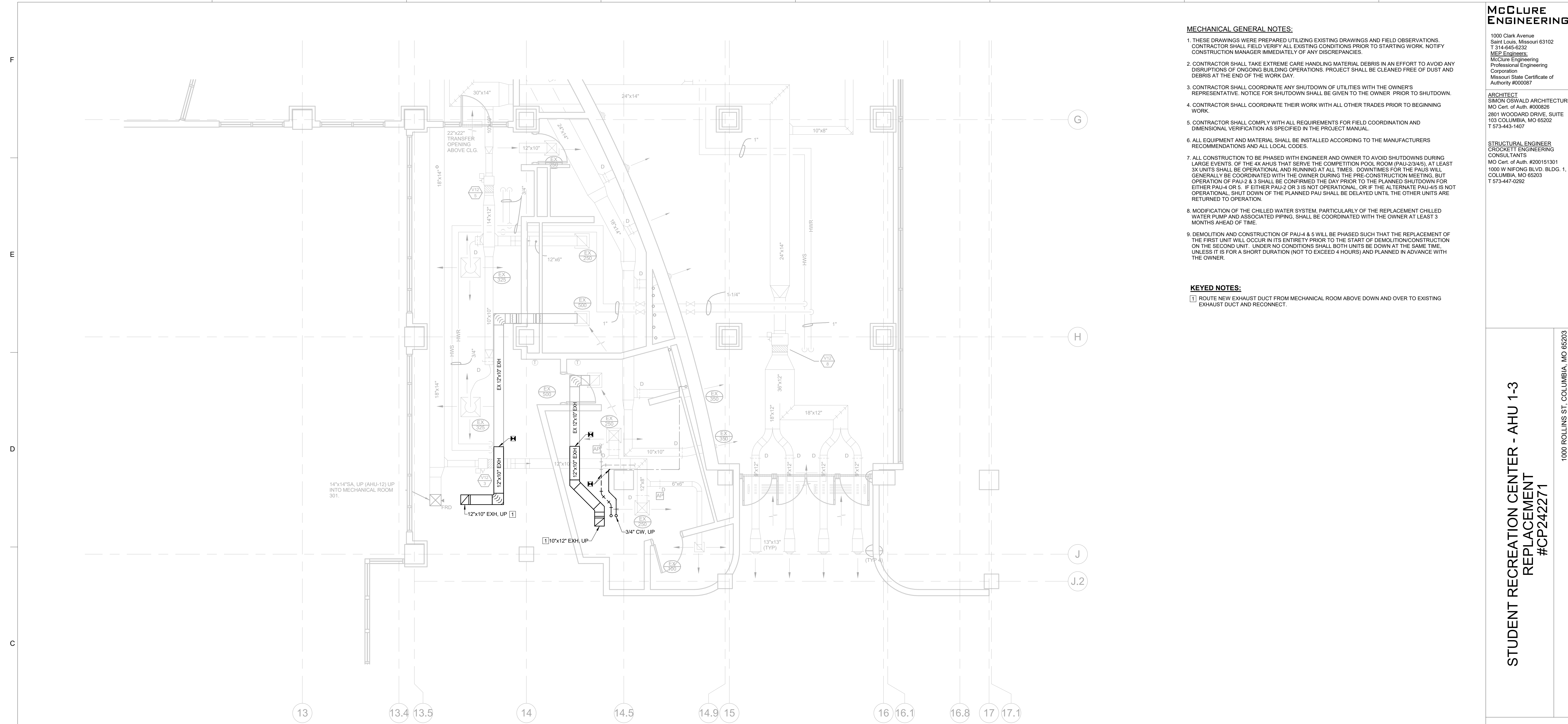
M3.2

MECHANICAL GENERAL NOTES:

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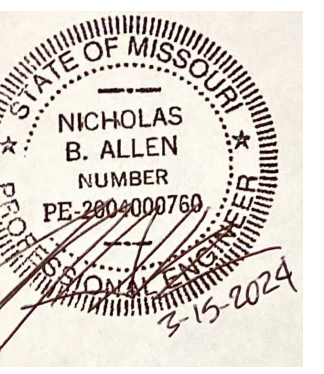
KEYED NOTES:

- ROUTE NEW EXHAUST DUCT FROM MECHANICAL ROOM ABOVE DOWN AND OVER TO EXISTING EXHAUST DUCT AND RECONNECT.



MEZZANINE FLOOR PLAN - EAST NEW WORK PLAN
SCALE: 1/4" = 1'-0"
0 1 2 4 8 16'-0"

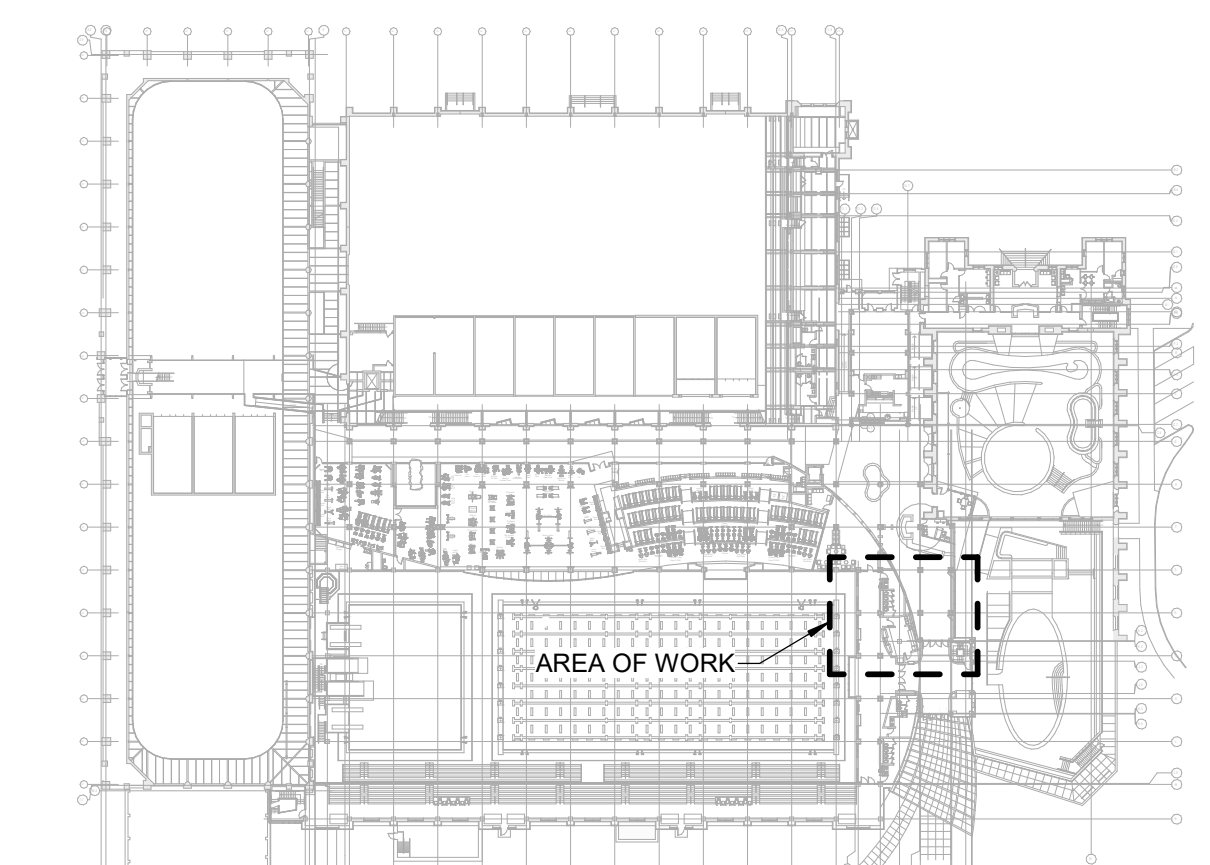
**STUDENT RECREATION CENTER - AHU 1-3
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#CP24271**



NICK ALLEN
PE-200400760

REVISIONS	Description	Date	No.

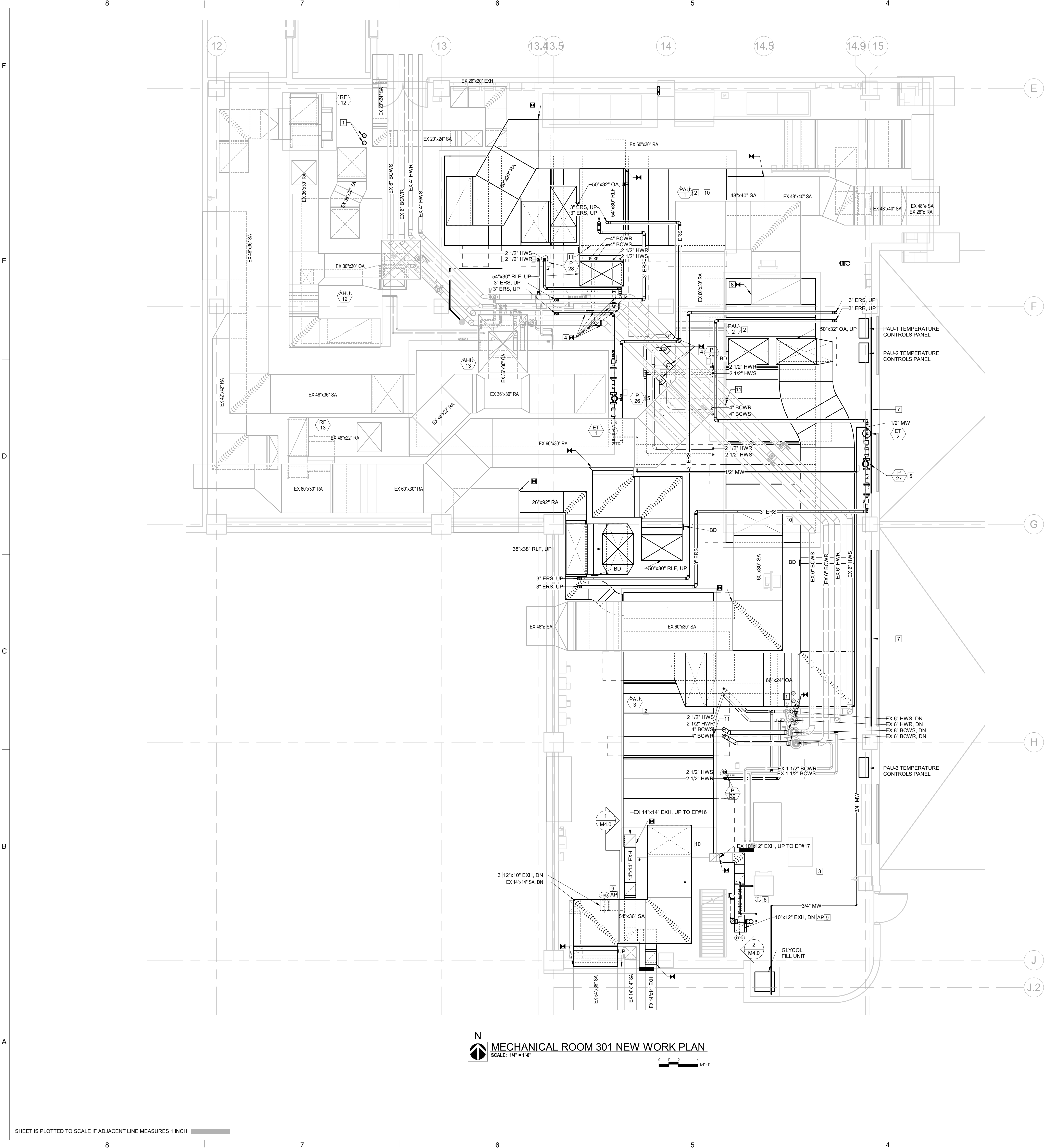
DATE: 02/14/2024
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MEZZANINE FLOOR KEYPLAN

MEZZANINE FLOOR PLAN - EAST NEW WORK

M3.3



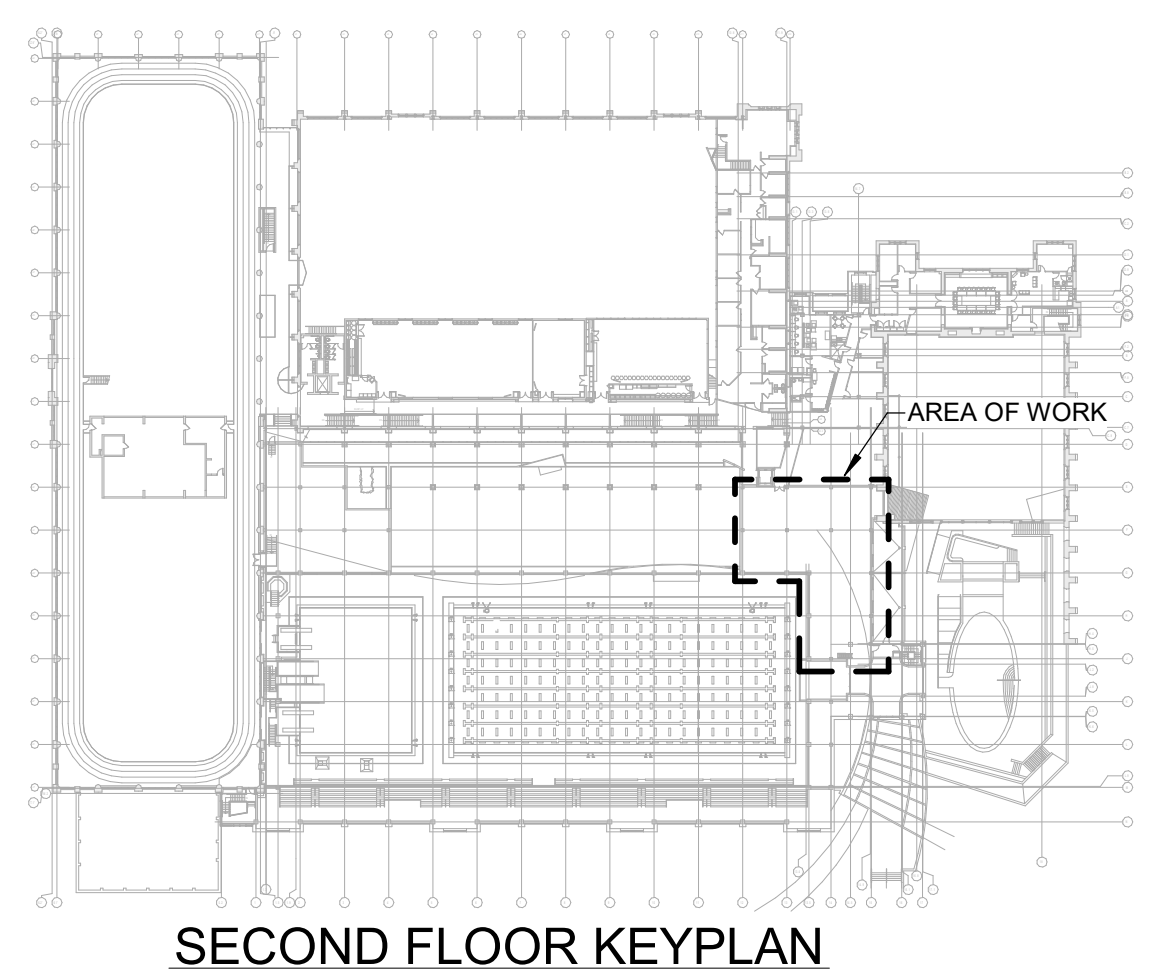
MECHANICAL ROOM 301 NEW WORK PLAN
SCALE: 1/4" = 1'-0"

MECHANICAL GENERAL NOTES:

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KEYED NOTES:

- 1] CAP ABANDONED POOL WATER PIPING JUST ABOVE MECHANICAL ROOM FLOOR SLAB.
- 2] INSTALL NEW PAU UNIT ON TOP OF EXISTING HOUSEKEEPING PAD.
- 3] ROUTE NEW EXHAUST DUCT DOWN TO SPACE BELOW AND CONNECT TO EXISTING EXHAUST DUCT. REFER TO M3.2 FOR CONTINUATION OF DUCT ROUTING.
- 4] INSTALL NEW TEES IN EXISTING PIPING MAINS IN LOCATION SHOWN.
- 5] INSTALL PUMP AND ASSOCIATED SPECIALTIES APPROX. 4'0" A.F.F..
- 6] REINSTALL EXISTING THERMOSTAT ON SOUTH SIDE OF EXISTING COLUMN. REWORK CONDUIT AND WIRING AS REQUIRED TO ACCOMMODATE NEW LOCATION. COMPLETE WORK THE SAME DAY THE THERMOSTAT IS REMOVED TO MINIMIZE OUTAGE.
- 7] INSTALL BLANK OFF PANEL ON THE BACK SIDE OF EXISTING LOUVERS.
- 8] EXTEND RETURN AIR DUCT AS REQUIRED TO CONNECT TO NEW PAU-2.
- 9] INSTALL ACCESS PANEL IN SIDE OF EXHAUST DUCT FOR INSPECTING FIRE DAMPER.
- 10] PROVIDE PICK RAIL IN FAN SECTION OF EACH NEW PAU TO ALLOW FOR FUTURE REPLACEMENT OF FAN MOTORS. CONTRACTOR TO PROVIDE IN THE FIELD IF NOT AVAILABLE FROM FACTORY.
- 11] ROUTE FULL SIZE DRAIN LINE FROM NEW PAU OVER TO EXISTING FLOOR DRAIN.



SECOND FLOOR KEYPLAN

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**STUDENT RECREATION CENTER - AHU 1-3
REPLACEMENT
#CP24271**

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NICK ALLEN
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REVISIONS	Description	Date
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DATE: 02/14/2024
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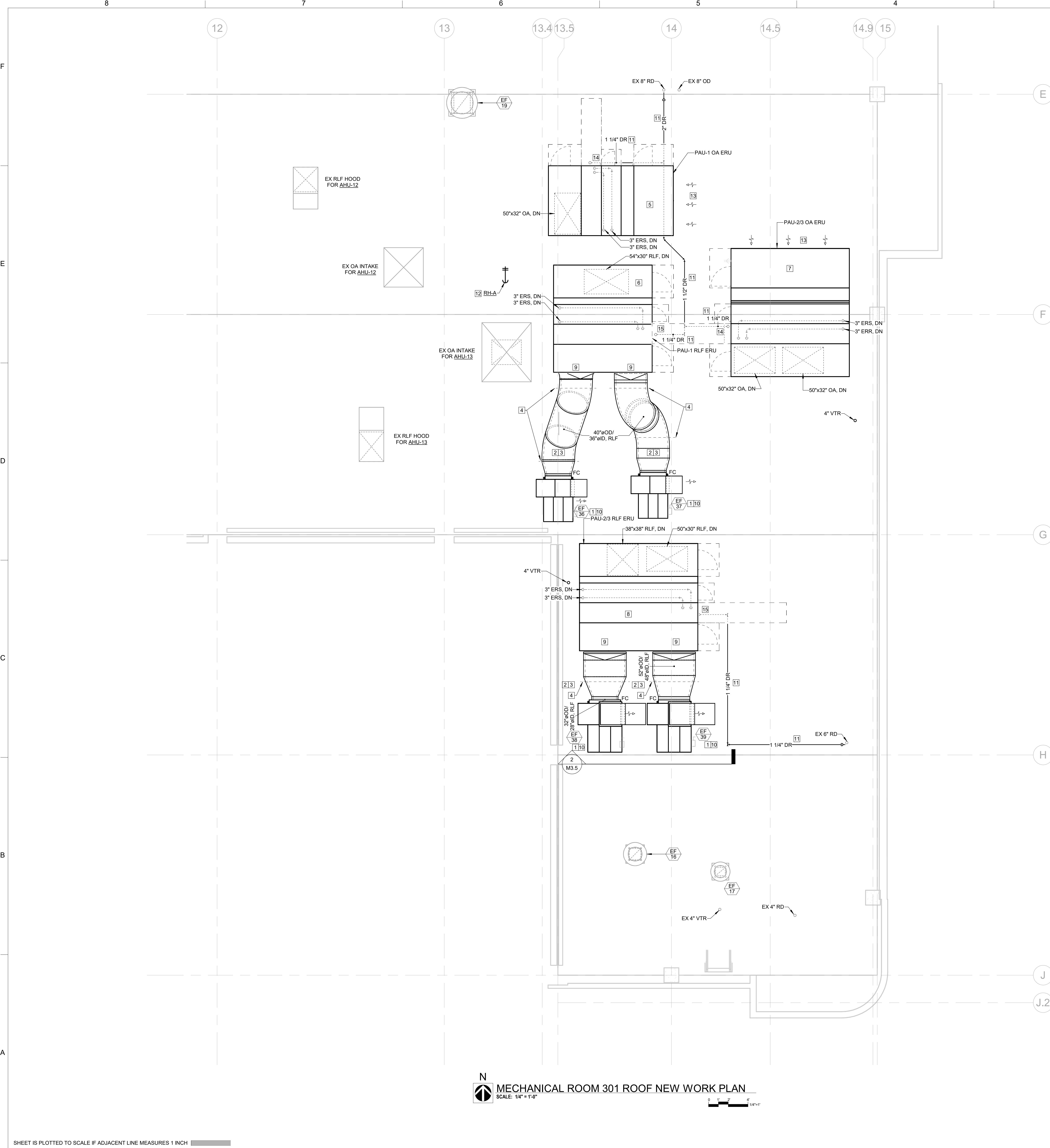
MECHANICAL ROOM 301 NEW WORK PLAN

M3.4

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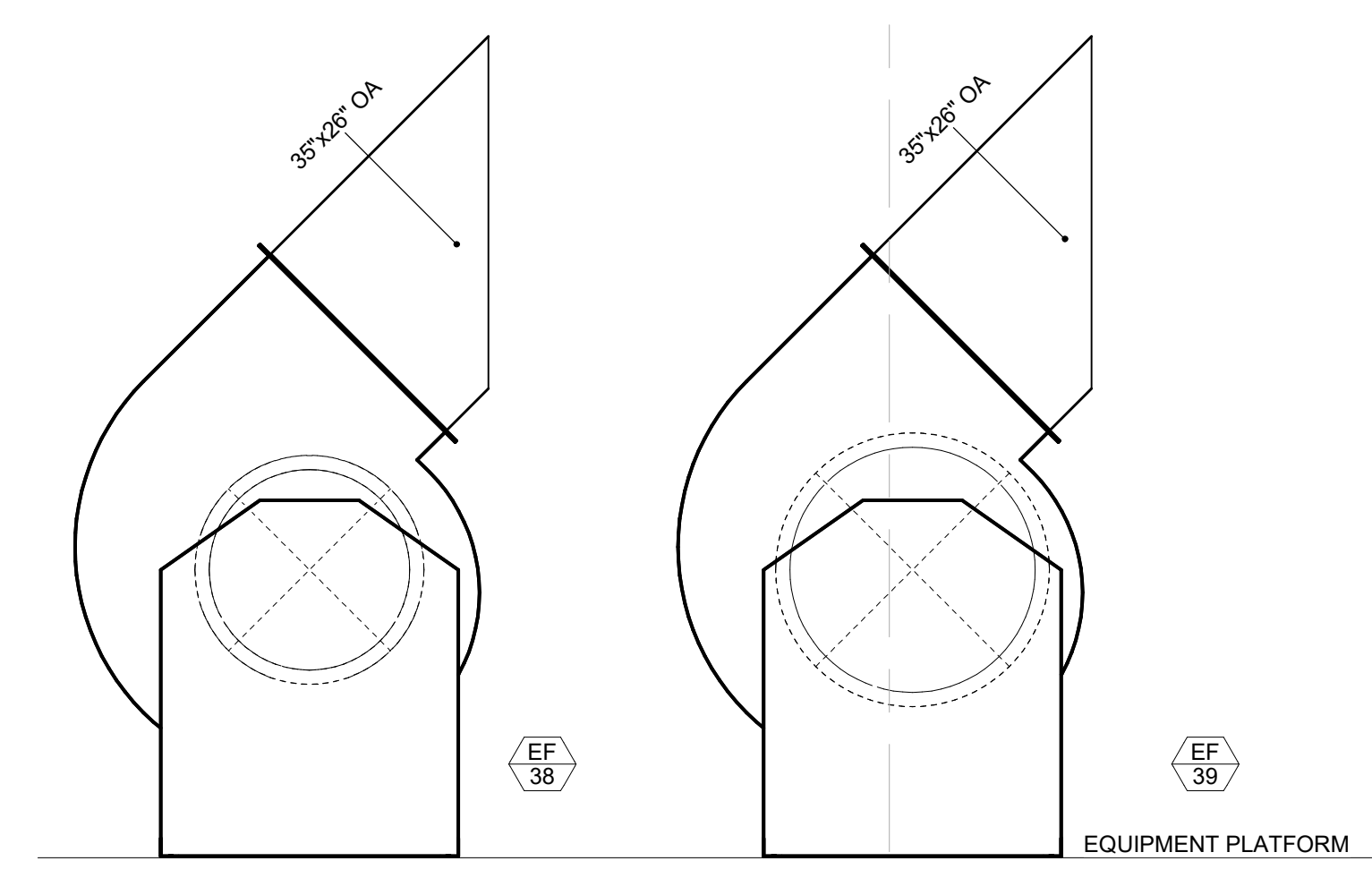
MECHANICAL ROOM 301 ROOF NEW WORK PLAN
 SCALE: 1/4" = 1'-0"

MECHANICAL GENERAL NOTES:

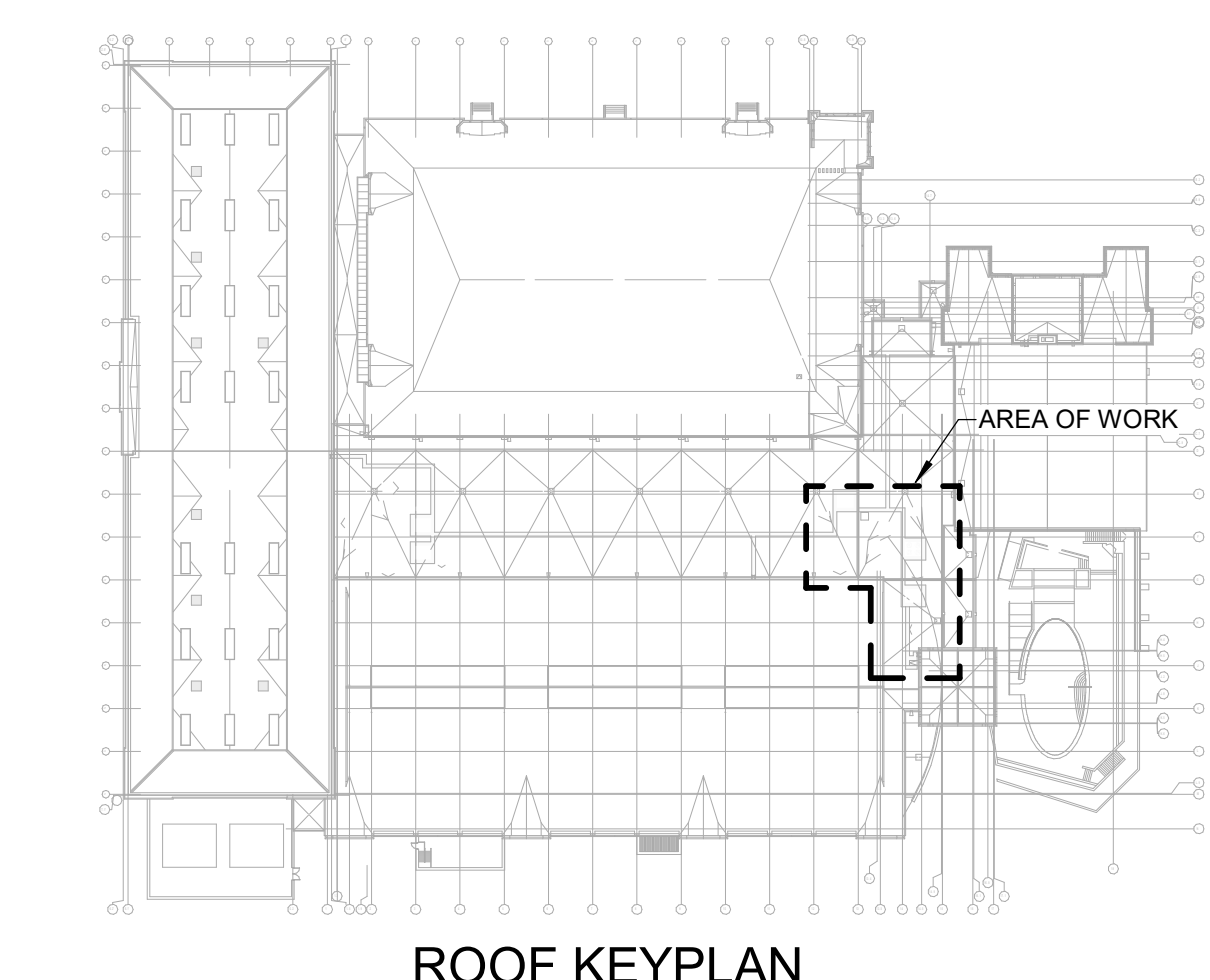
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KEYED NOTES:

- INSTALL NEW RELIEF AIR FAN (WITH INTERNAL DRAIN) ON EQUIPMENT PLATFORM. INSTALL BEVELED DUCT HOOD ON OUTLET OF FAN. OUTLET OF FAN TO BE ANGELED UP. INSTALL BUG SCREEN ON HOOD OPENING. DUCT HOOD TO BE SUPPORTED FROM THE ROOF. INSTALL FLEX CONNECTION ON INLET OF FAN. FAN AND DUCTWORK TO BE PAINTED PER OWNER STANDARDS.
- ROOF MOUNTED DUCTWORK TO BE PAINTED PER OWNER STANDARDS.
- ROOF MOUNTED DUCTWORK TO BE DOUBLE WALL DUCTWORK. REFER TO SPECIFICATIONS FOR MORE INFORMATION.
- INSTALL DUCT ROOF SUPPORTS. REFER TO DETAILS FOR MORE INFORMATION.
- NEW 146"x85"x93" OUTSIDE AIR PLENUM BOX TO BE A PRE-FABRICATED, DOUBLE WALL, INSULATED ASSEMBLY WITH NO THROUGH METAL TO PREVENT CONDENSATION OF CHLORINATED AIR DURING COLD WEATHER. PROVIDE AND INSTALL REMOVABLE WALKABLE ALUMINUM GRATING OVER DUCT CONNECTIONS FROM BELOW. PLENUM BOX TO BE PAINTED PER OWNER STANDARDS.
- NEW 131"x120"x80" RELIEF AIR PLENUM BOX TO BE A PRE-FABRICATED, DOUBLE WALL, INSULATED ASSEMBLY WITH NO THROUGH METAL TO PREVENT CONDENSATION OF CHLORINATED AIR DURING COLD WEATHER. PROVIDE AND INSTALL REMOVABLE WALKABLE ALUMINUM GRATING OVER DUCT CONNECTIONS FROM BELOW. PLENUM BOX TO BE PAINTED PER OWNER STANDARDS.
- NEW 150"x144"x91" OUTSIDE AIR PLENUM BOX TO BE A PRE-FABRICATED, DOUBLE WALL, INSULATED ASSEMBLY WITH NO THROUGH METAL TO PREVENT CONDENSATION OF CHLORINATED AIR DURING COLD WEATHER. PROVIDE AND INSTALL REMOVABLE WALKABLE ALUMINUM GRATING OVER DUCT CONNECTIONS FROM BELOW. PLENUM BOX TO BE PAINTED PER OWNER STANDARDS.
- NEW 131"x144"x103" RELIEF AIR PLENUM BOX TO BE A PRE-FABRICATED, DOUBLE WALL, INSULATED ASSEMBLY WITH NO THROUGH METAL TO PREVENT CONDENSATION OF CHLORINATED AIR DURING COLD WEATHER. PROVIDE AND INSTALL REMOVABLE WALKABLE ALUMINUM GRATING OVER DUCT CONNECTIONS FROM BELOW. PLENUM BOX TO BE PAINTED PER OWNER STANDARDS.
- EXHAUST CONTROL DAMPERS PROVIDED BY PLENUM BOX MANUFACTURER. DAMPER ACTUATOR AND DAMPER END SWITCH PROVIDED BY CONTROL'S CONTRACTOR. WIRE END SWITCH INTO ASSOCIATED FAN SAFETY CIRCUIT.
- PROVIDE DRAIN AT LOW POINT OF EXHAUST FAN.
- ROUTE NEW DRAIN PIPING FROM NEW PLENUM BOXES DOWN THROUGH GRATING TO JUST BELOW STRUCTURAL BEAMS AND OVER TO EXISTING ROOF DRAIN AND TERMINATE OPEN ENDED. DRAIN PIPING TO BE SUPPORTED FROM NEW STRUCTURAL PLATFORM.
- REFER TO SHEET M2.0 FOR NEW COLD WATER AND DRAIN PIPING SERVING NEW ROOF HYDRANT.
- MANUFACTURER OF OUTDOOR AIR PLENUMS TO INCLUDE WEATHER HOOD ON INTAKE.
- OUTDOOR AIR ENERGY RECOVERY COILS TO USE WATERLESS TRAPS TO AVOID FREEZING. SEE DIVISION 22 SPECIFICATION FOR DETAILS.
- EXHAUST AIR ENERGY RECOVERY COILS TO USE WATERLESS TRAPS TO AVOID FREEZING. SEE DIVISION 22 SPECIFICATION FOR DETAILS.



RELIEF FANS SECTION
 1/2" = 1'-0"



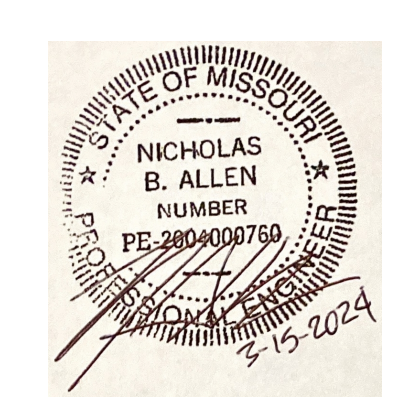
ROOF KEYPLAN

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**STUDENT RECREATION CENTER - AHU 1-3
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NICK ALLEN
 PE-2004000760

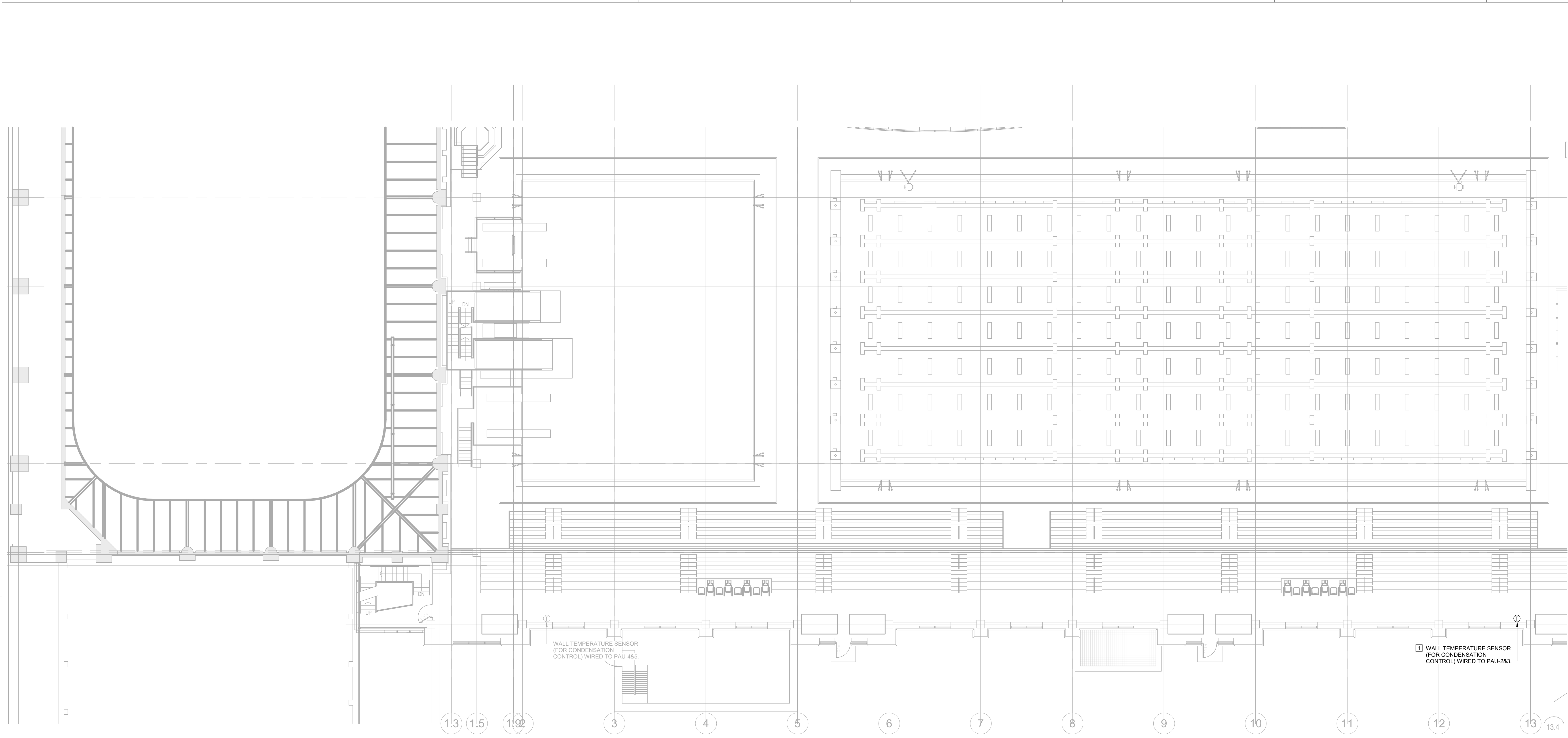
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**MECHANICAL
 ROOM 301 ROOF
 NEW WORK
 PLAN**

M3.5

ISSUED FOR BID - 03/15/2024



SECOND FLOOR PLAN - SOUTHWEST
SCALE: 3/32" = 1'-0"

KEYED NOTES:
1 DEMOLISH EXISTING WALL TEMPERATURE SENSOR. INSTALL NEW SENSOR IN ITS PLACE AND CONNECT TO EXISTING WIRING. PATCH AND PAINT WALL AS REQUIRED TO MATCH EXISTING CONDITIONS. ENSURE WALL BOX IS INSULATED TO PREVENT WALL PLENUM FROM AFFECTING SENSOR READINGS.

MECHANICAL GENERAL NOTES:
1. THESE DRAWINGS WERE PREPARED UTILIZING EXISTING DRAWINGS AND FIELD OBSERVATIONS. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO STARTING WORK. NOTIFY CONSTRUCTION MANAGER IMMEDIATELY OF ANY DISCREPANCIES.
2. CONTRACTOR SHALL TAKE EXTREME CARE HANDLING MATERIAL DEBRIS IN AN EFFORT TO AVOID ANY DISRUPTIONS OF ONGOING BUILDING OPERATIONS. PROJECT SHALL BE CLEANED FREE OF DUST AND DEBRIS AT THE END OF THE WORK DAY.
3. CONTRACTOR SHALL COORDINATE ANY SHUTDOWN OF UTILITIES WITH THE OWNER'S REPRESENTATIVE. NOTICE FOR SHUTDOWN SHALL BE GIVEN TO THE OWNER PRIOR TO SHUTDOWN.
4. CONTRACTOR SHALL COORDINATE THEIR WORK WITH ALL OTHER TRADES PRIOR TO BEGINNING WORK.
5. CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS FOR FIELD COORDINATION AND DIMENSIONAL VERIFICATION AS SPECIFIED IN THE PROJECT MANUAL.
6. ALL EQUIPMENT AND MATERIAL SHALL BE INSTALLED ACCORDING TO THE MANUFACTURERS RECOMMENDATIONS AND ALL LISTED CODES.
7. ALL CONSTRUCTION TO BE PHASED WITH ENGINEER AND OWNER TO AVOID SHUTDOWNS DURING LARGE EVENTS. OF THE 4X AHUS THAT SERVE THE COMPETITION POOL ROOM (PAU-2/3/4/5), AT LEAST 3X UNITS SHALL BE OPERATIONAL AND RUNNING AT ALL TIMES. DOWNTIMES FOR THE PAUS WILL GENERALLY BE COORDINATED WITH THE OWNER DURING THE PRE-CONSTRUCTION MEETING. BUT OPERATION OF OTHER PAUS SHALL BE CONFIRMED THE DAY PRIOR TO THE PLANNED SHUTDOWN FOR EITHER PAU-1, 2 OR 3. IF ANY OF THE OTHER 3 PAUS ARE NOT OPERATIONAL, SHUT DOWN OF THE PLANNED PAU SHALL BE DELAYED UNTIL THE OTHER UNITS ARE RETURNED TO OPERATION.



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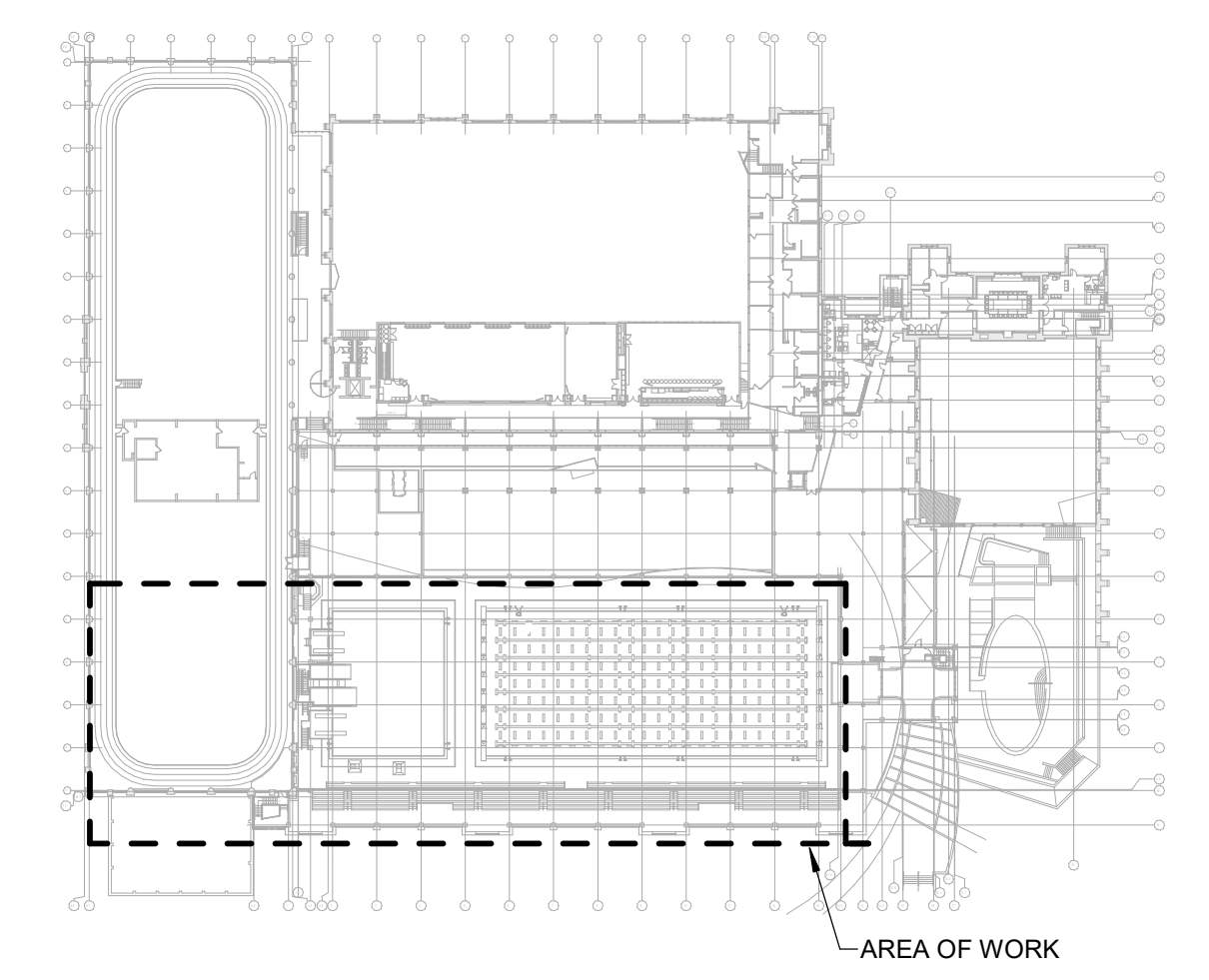
No.	Date	Description

DATE: 02/14/2024
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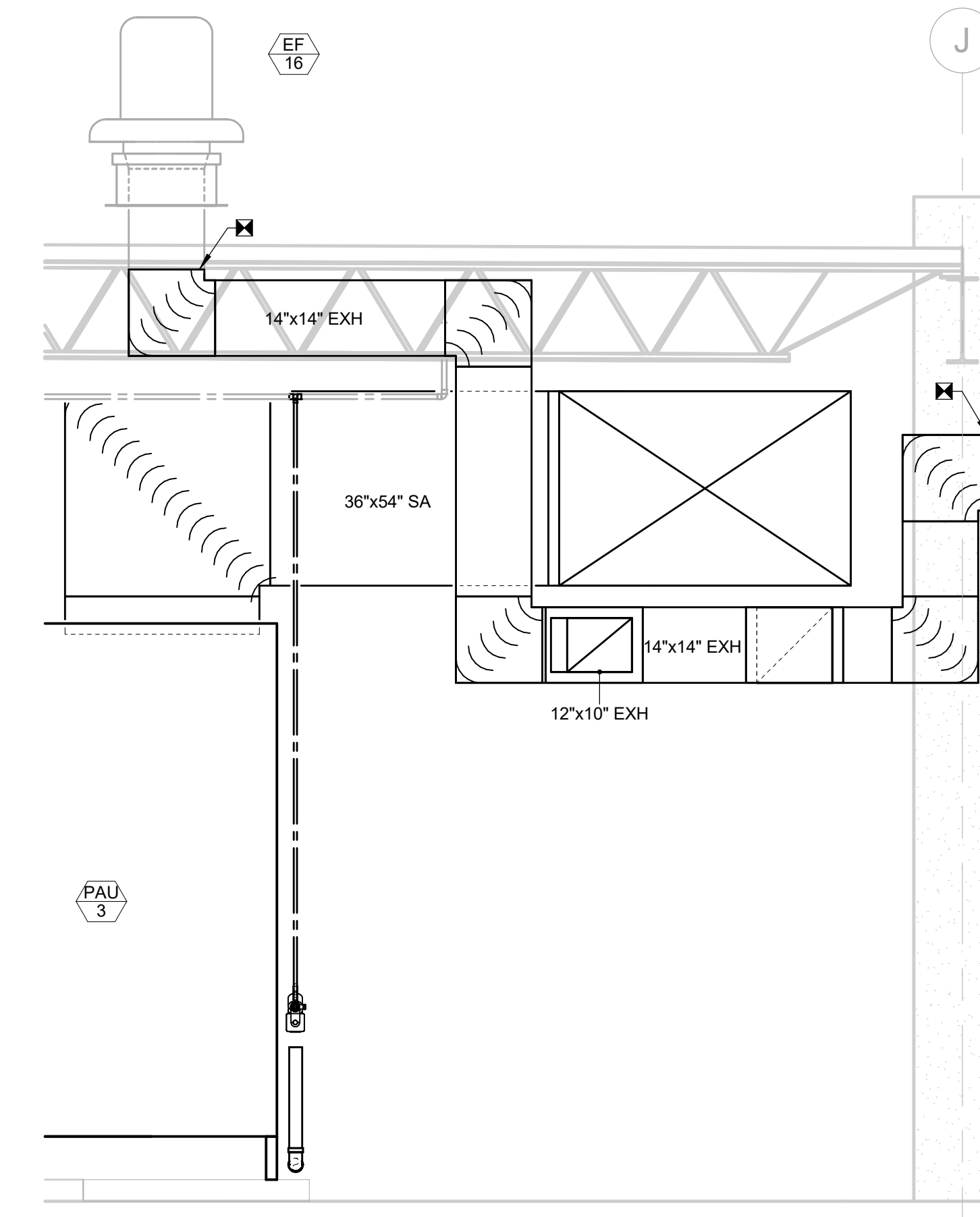
SECOND FLOOR
SOUTHWEST
PLAN

M3.6

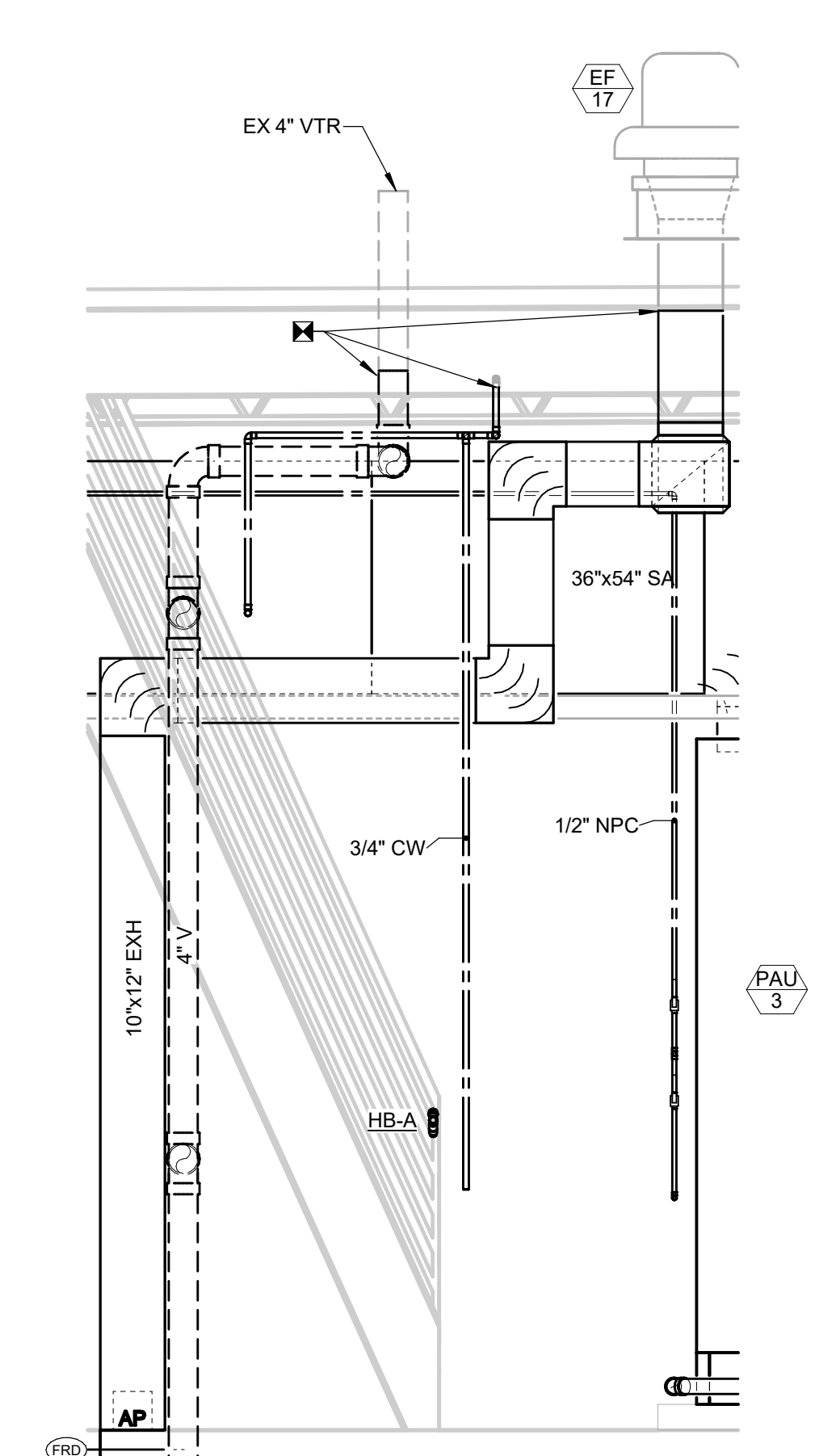
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SECOND FLOOR KEYPLAN



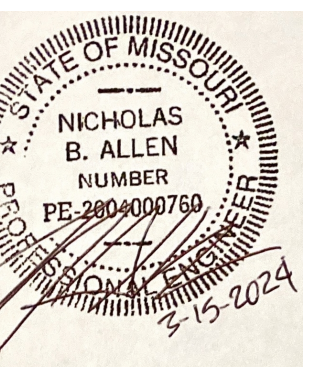
1 WEST SECTION CUT IN MECH ROOM 301
1/2" = 1'-0"



2 EAST SECTION CUT IN MECH ROOM 301
1/2" = 1'-0"

STUDENT RECREATION CENTER - AHU 1-3
REPLACEMENT
#CP242271

1000 ROLLINS ST, COLUMBIA, MO 65203



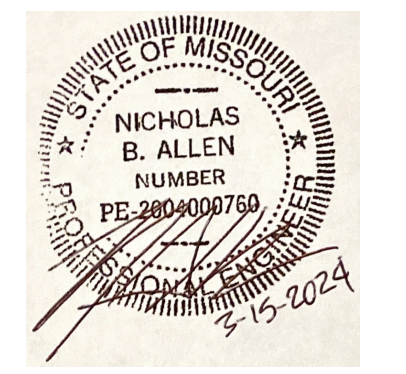
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DATE: 02/14/2024
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MECHANICAL
DUCTWORK
SECTIONS

M4.0



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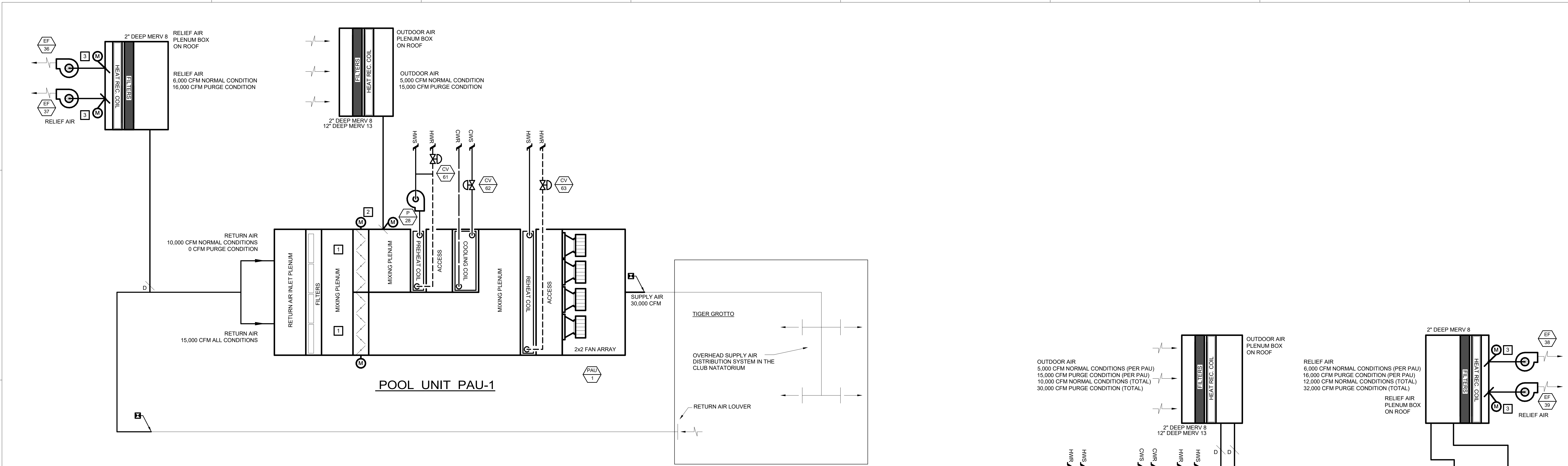
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DATE: 02/14/2024
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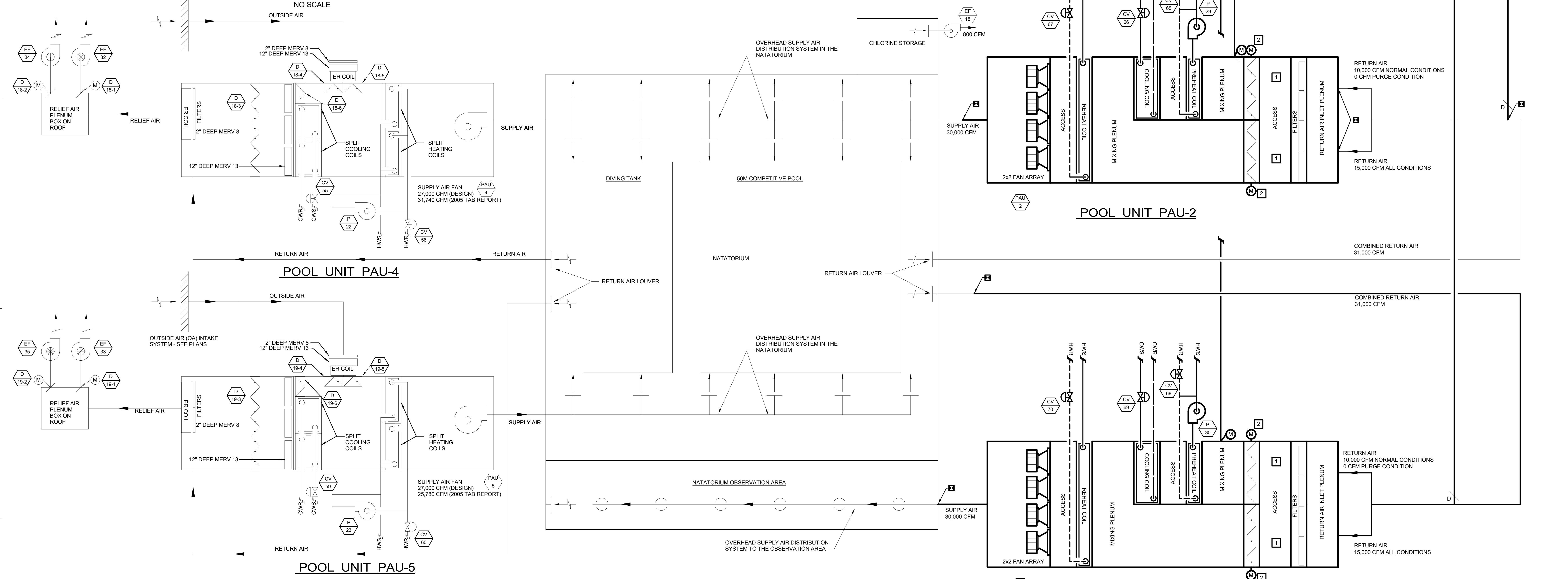
PAU - 1/2/3 AIR
FLOW DIAGRAM
NEW WORK

M5.0

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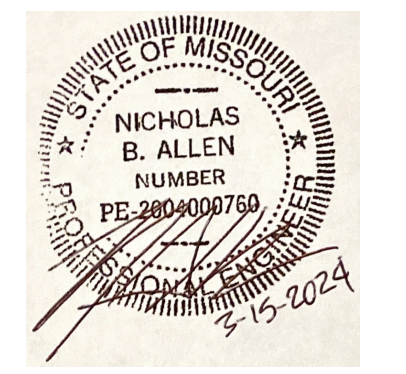


TIGER GROTTO UNIT PAU-1, SCHEMATIC AIR FLOW DIAGRAM



NATATORIUM UNITS PAU-2, PAU-3, PAU-4, PAU-5, SCHEMATIC AIR FLOW DIAGRAM

- KEYED NOTES**
- 1 PAU MANUFACTURER TO PROVIDE SEPARATE AUTOMATIC CONTROL DAMPERS (MODULATING, SPRING RETURN) FOR THE TWO AIR PATHS. SEE DIVISION 23 SPECIFICATIONS FOR DETAILS.
 - 2 PAU MANUFACTURER TO PROVIDE AUTOMATIC CONTROL DAMPER (MODULATING, SPRING RETURN) FOR THE OUTDOOR AIR PATH. SEE DIVISION 23 SPECIFICATIONS FOR DETAILS.
 - 3 PLENUM BOX MANUFACTURER TO PROVIDE AUTOMATIC CONTROL DAMPERS (MODULATING, SPRING RETURN) FOR THE RELIEF AIR PATH. SEE DIVISION 23 SPECIFICATIONS FOR DETAILS.



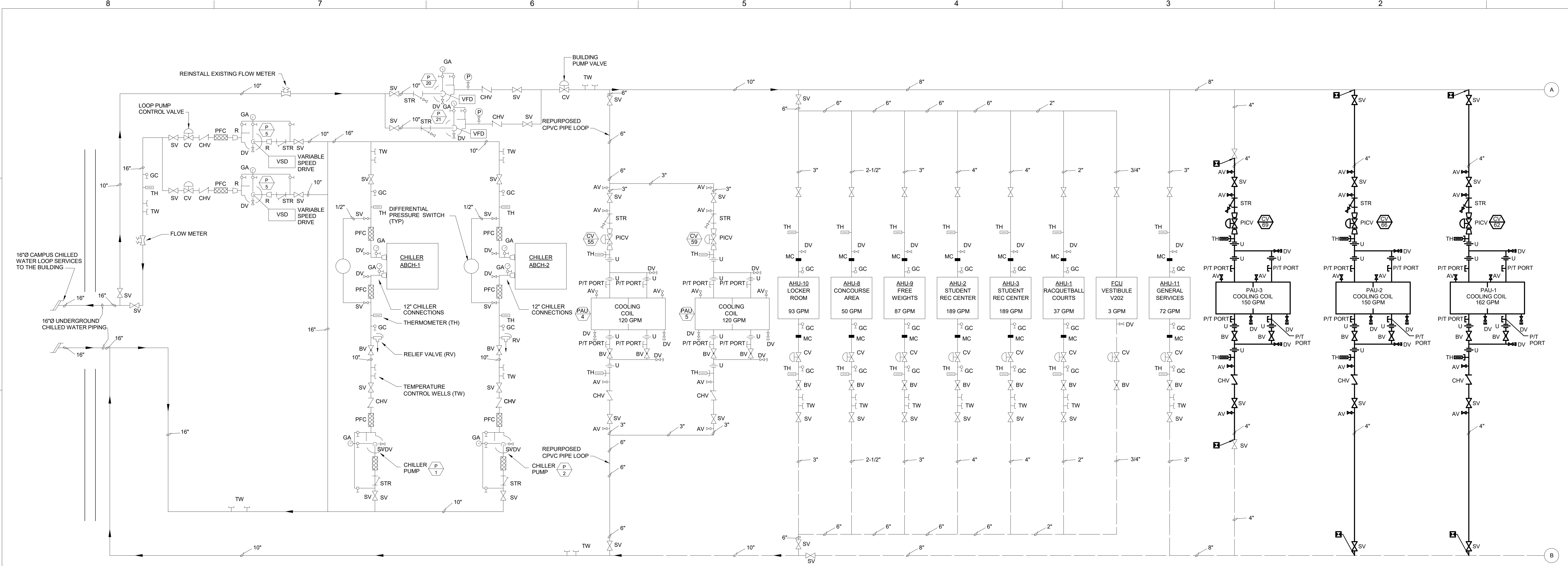
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REVISIONS	Description	Date

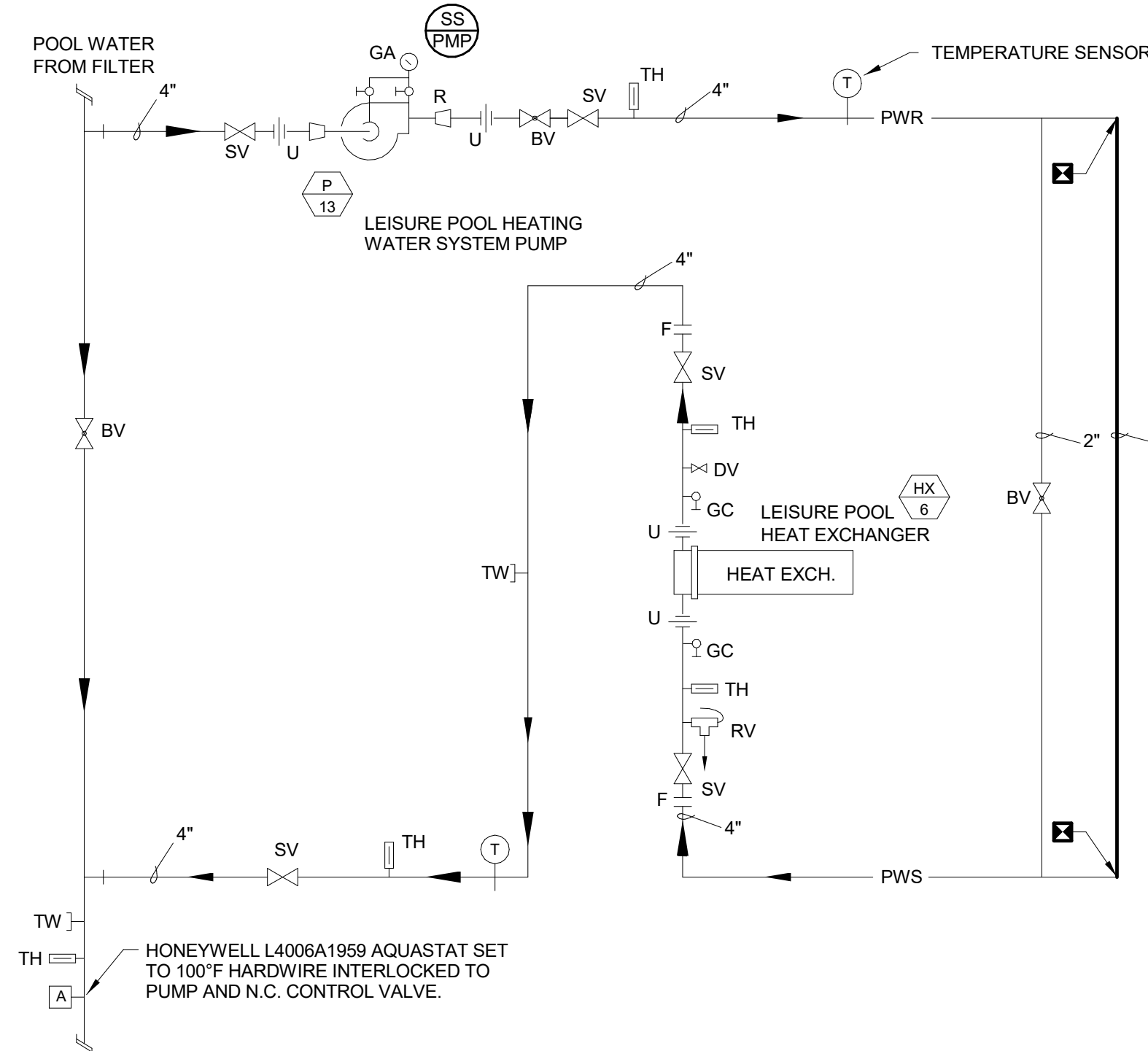
DATE: 02/14/2024
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CHILLED AND
POOL WATER
FLOW DIAGRAM
NEW WORK

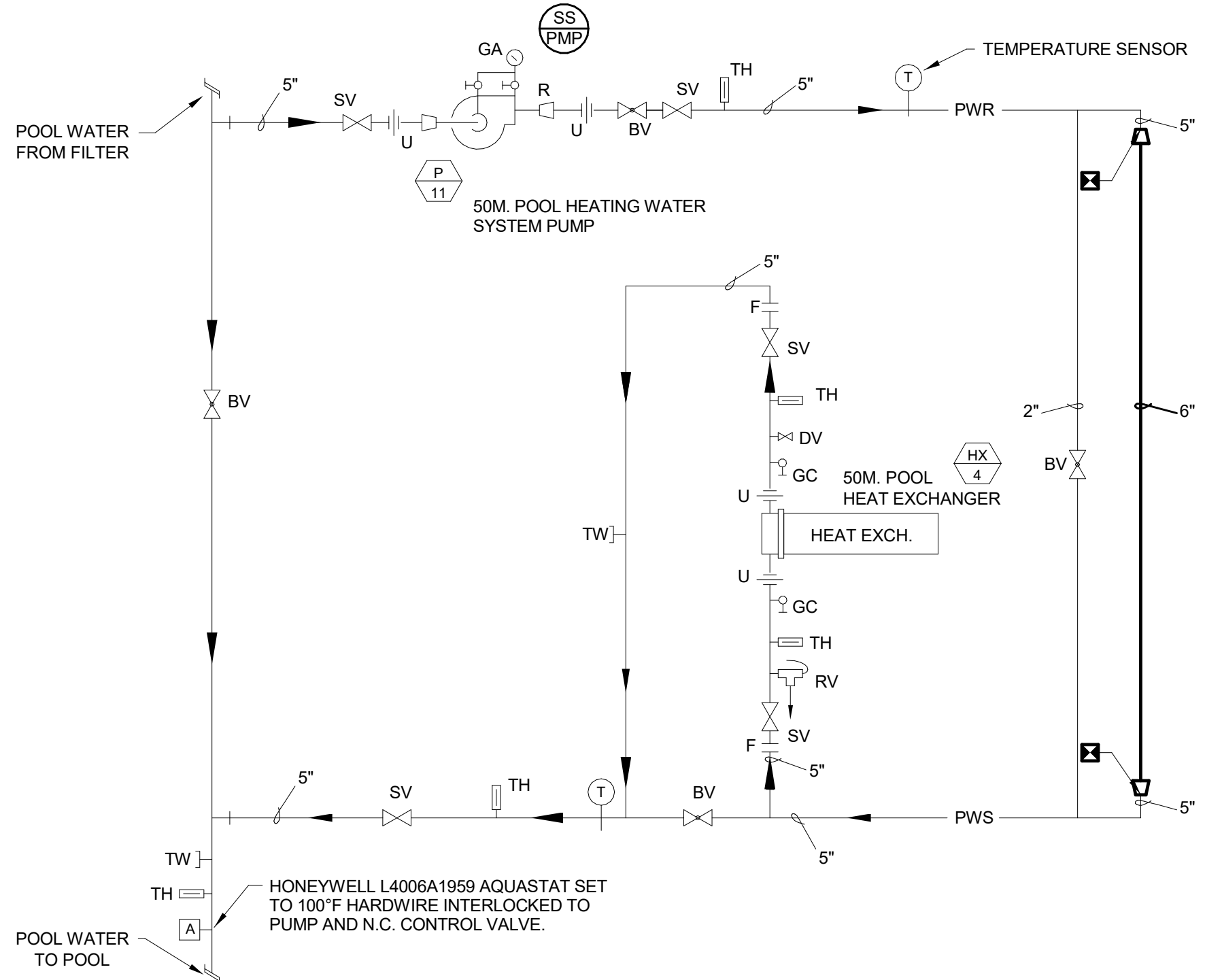
M5.1



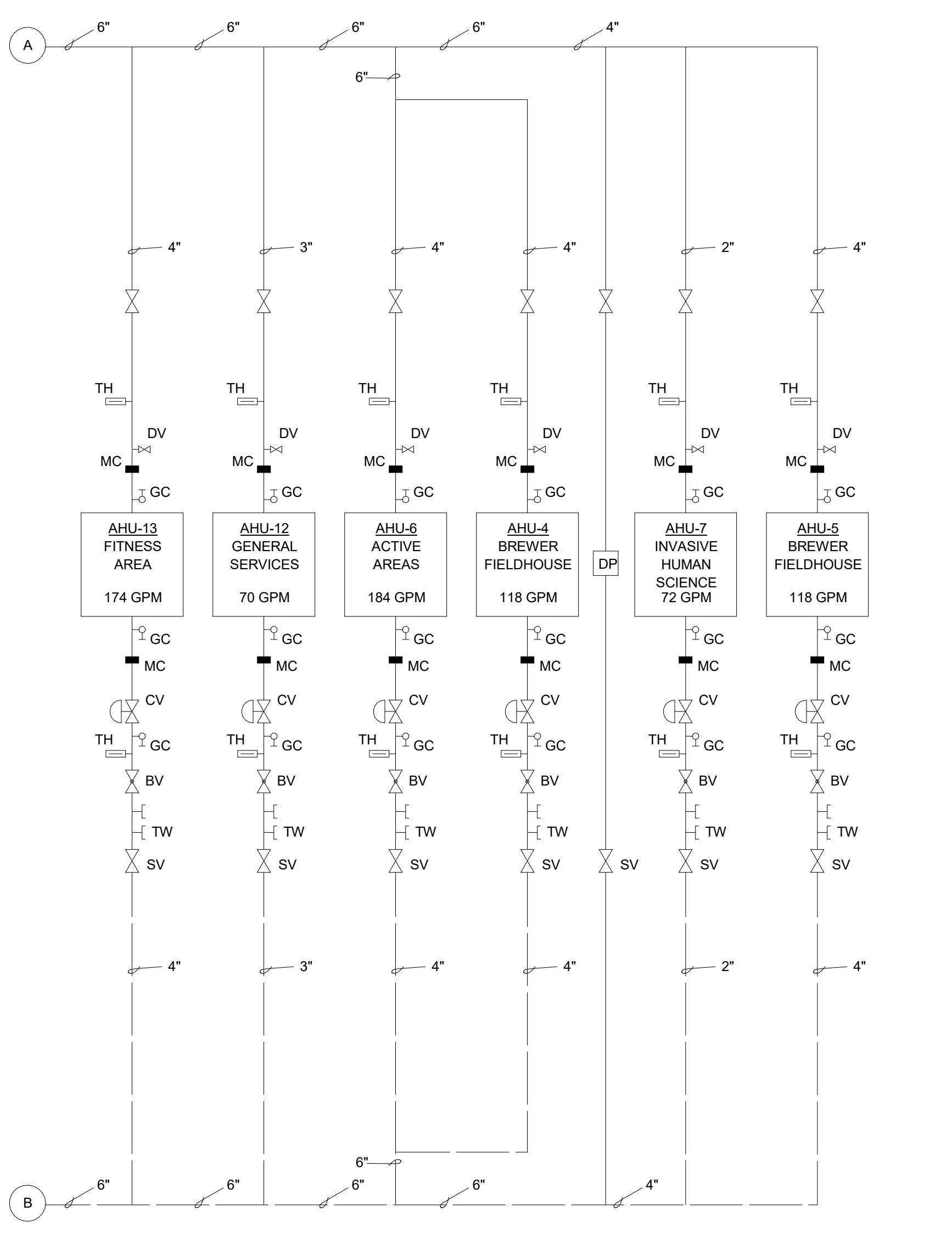
CHILLED WATER SYSTEM FLOW DIAGRAM - NEW WORK

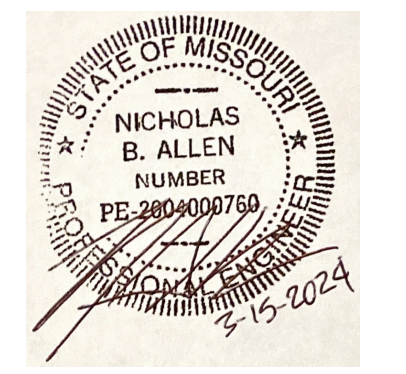


TIGER GROTTO POOL WATER
HEATING FLOW DIAGRAM - NEW WORK
NO SCALE



50 METER POOL WATER
HEATING FLOW DIAGRAM - NEW WORK
NO SCALE





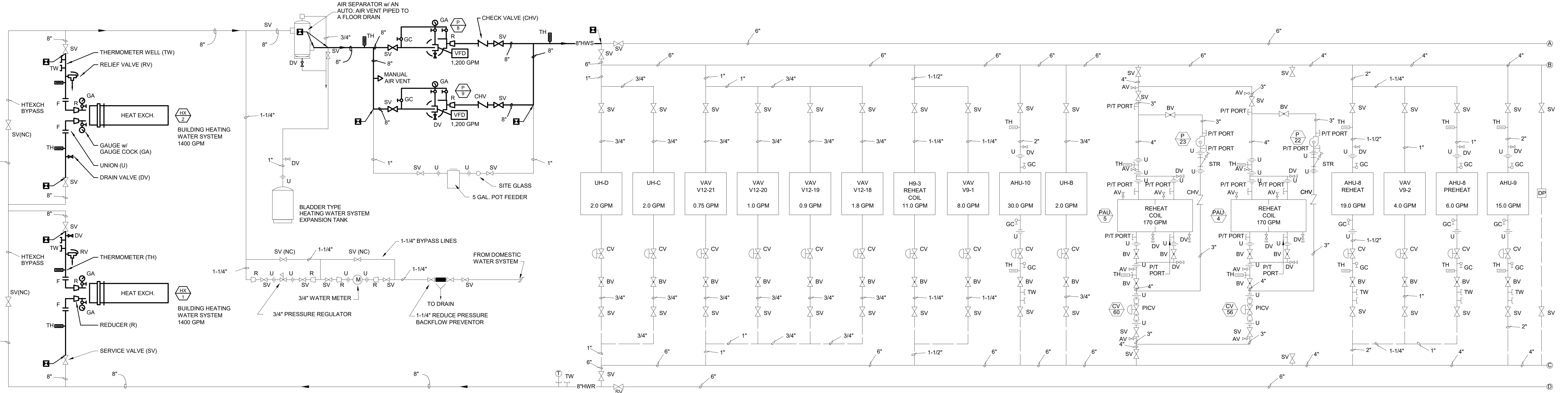
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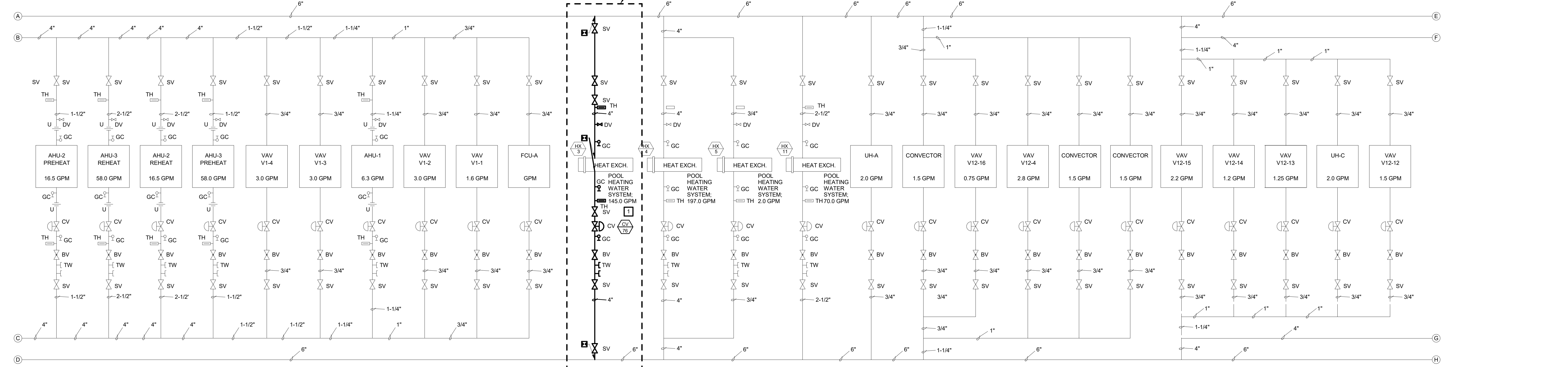
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 PROJECT #: 071588.002
 DRAWN BY: KAA
 CHECKED BY: NBA

HEATING WATER FLOW DIAGRAM NEW WORK

M5.2

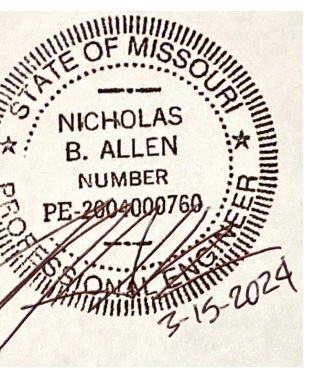


PARTIAL HEATING WATER SYSTEM FLOW DIAGRAM - NEW WORK
 NO SCALE



KEYED NOTES
 [Symbol] REBALANCE HEATING WATER FLOW TO THIS HEAT EXCHANGER.

**STUDENT RECREATION CENTER - AHU 1-3
 REPLACEMENT
 #CP24271**



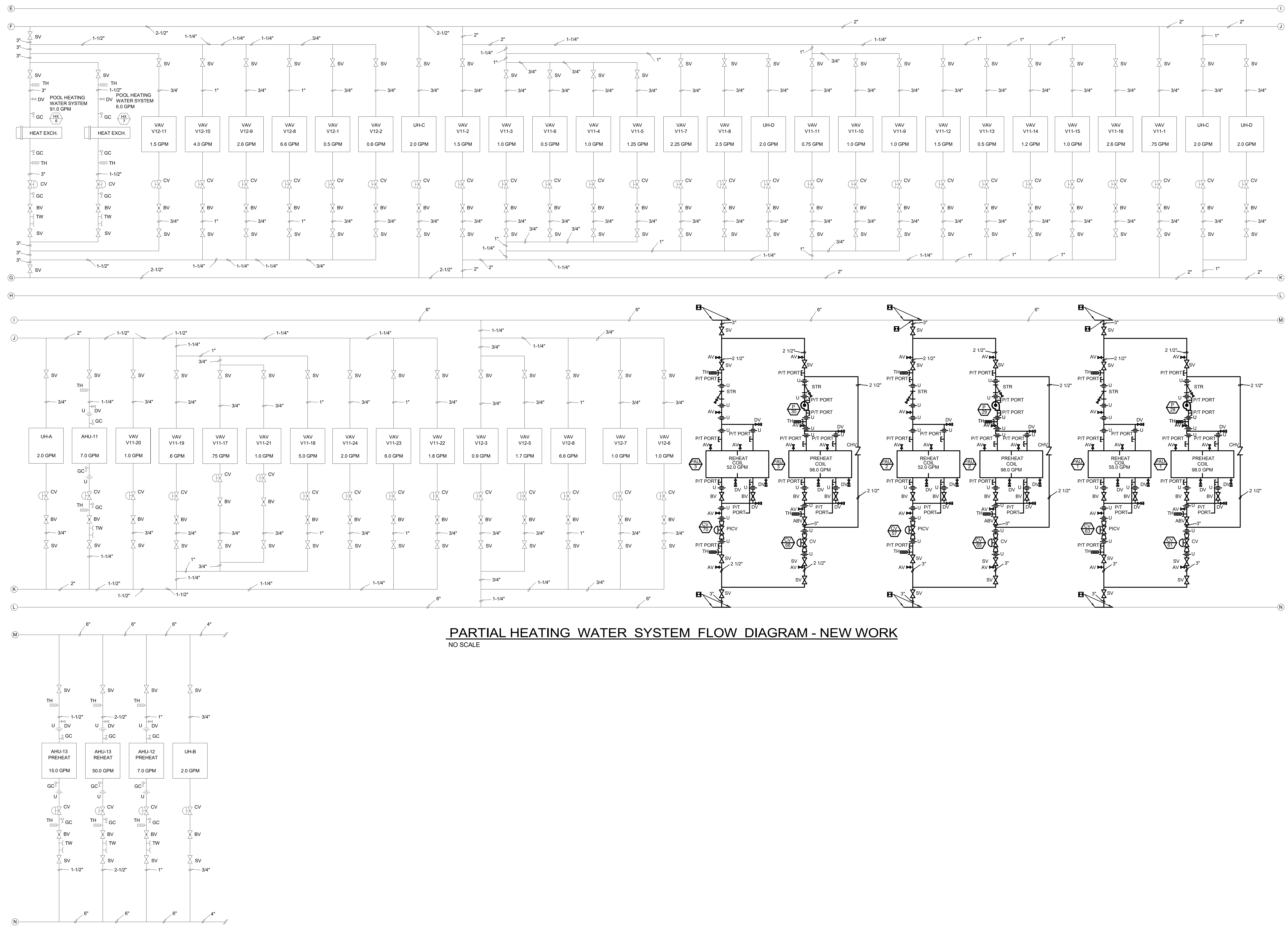
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DATE: 02/14/2024
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 CHECKED BY: NBA

**HEATING WATER
 FLOW DIAGRAM
 NEW WORK**

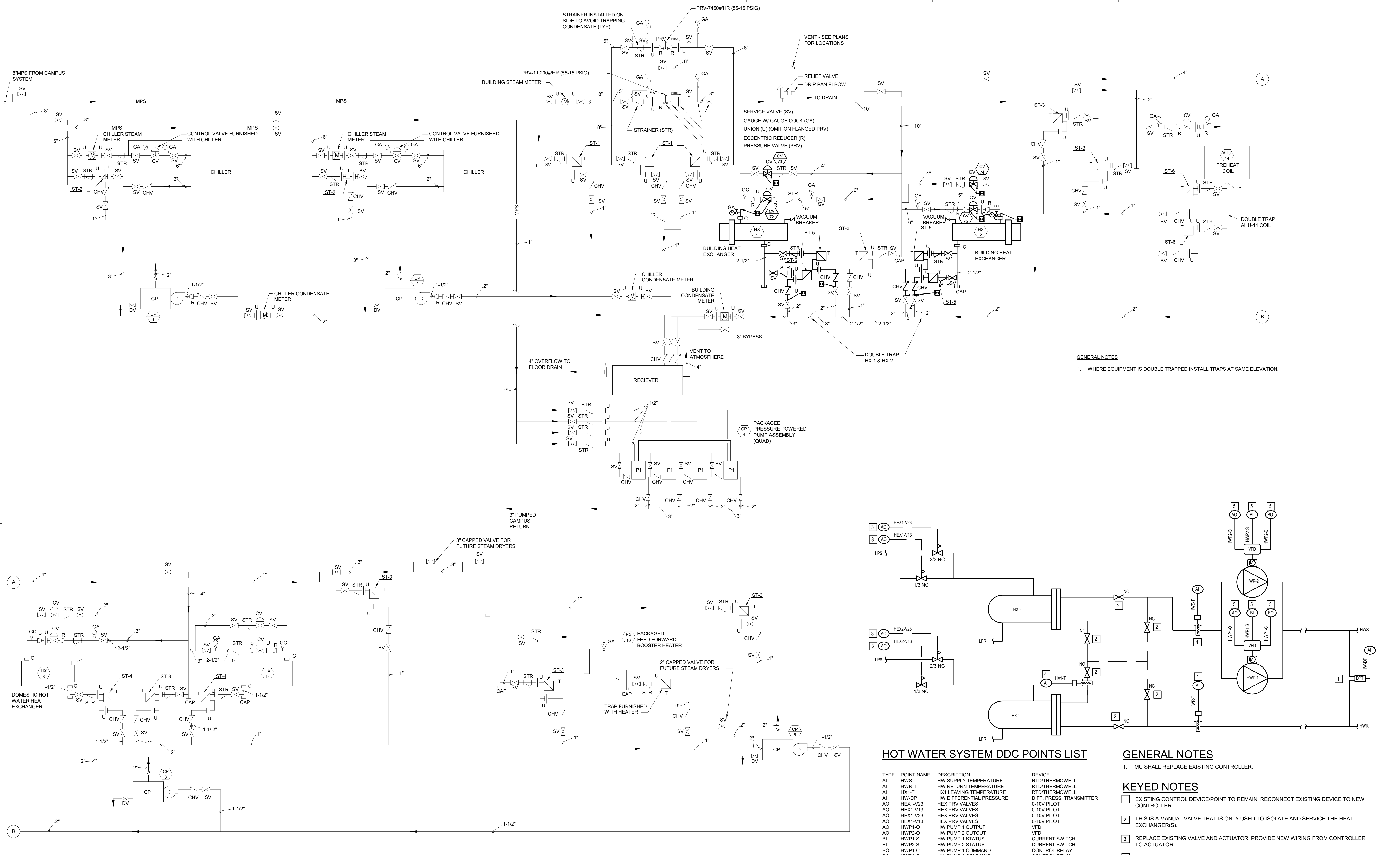
M5.3



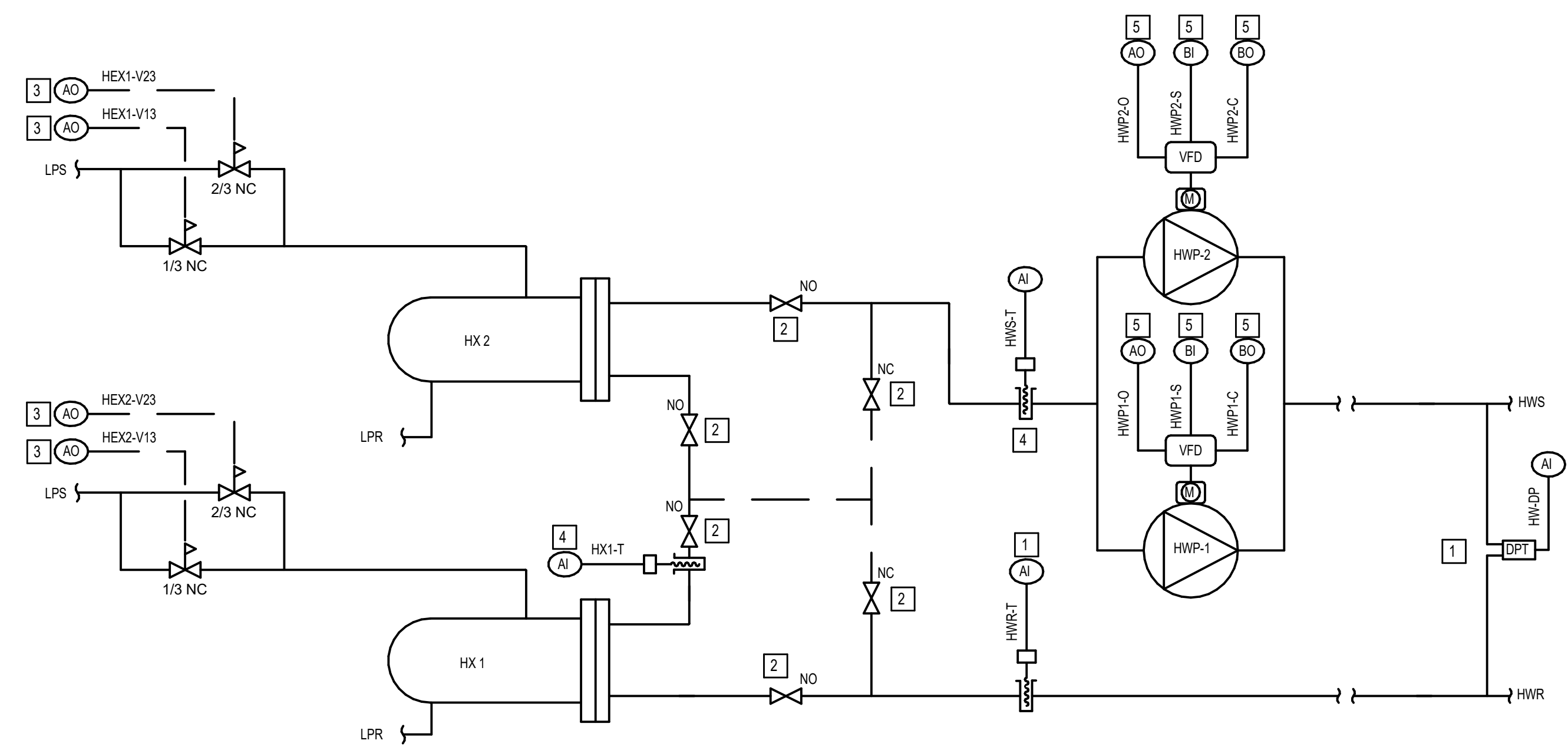
PARTIAL HEATING WATER SYSTEM FLOW DIAGRAM - NEW WORK
 NO SCALE

**STUDENT RECREATION CENTER - AHU 1-3
 REPLACEMENT
 #CP24271**

1000 ROLLINS ST., COLUMBIA, MO 65203



GENERAL NOTES
 1. WHERE EQUIPMENT IS DOUBLE TRAPPED INSTALL TRAPS AT SAME ELEVATION.



HOT WATER SYSTEM DDC POINTS LIST

TYPE	POINT NAME	DESCRIPTION	DEVICE
AI	HWS-T	HW SUPPLY TEMPERATURE	RTD THERMOWELL
AI	HWL-T	HW RETURN TEMPERATURE	RTD THERMOWELL
AI	HX1-T	HX1 LEAVING TEMPERATURE	RTD THERMOWELL
AI	HW-DP	HW DIFFERENTIAL PRESSURE	DIFF. PRESS. TRANSMITTER
AO	HEX1-V23	HEX PRV VALVES	0-10V PILOT
AO	HEX1-V13	HEX PRV VALVES	0-10V PILOT
AO	HEX1-V23	HEX PRV VALVES	0-10V PILOT
AO	HEX1-V13	HEX PRV VALVES	0-10V PILOT
AO	HWP1-O	HW PUMP 1 OUTPUT	VFD
AO	HWP2-O	HW PUMP 2 OUTPUT	VFD
BI	HWP1-S	HW PUMP 1 STATUS	CURRENT SWITCH
BI	HWP2-S	HW PUMP 2 STATUS	CURRENT SWITCH
BO	HWP1-C	HW PUMP 1 COMMAND	CONTROL RELAY
BO	HWP2-C	HW PUMP 2 COMMAND	CONTROL RELAY

GENERAL NOTES

- MU SHALL REPLACE EXISTING CONTROLLER.
- EXISTING CONTROL DEVICE/POINT TO REMAIN. RECONNECT EXISTING DEVICE TO NEW CONTROLLER.
- THIS IS A MANUAL VALVE THAT IS ONLY USED TO ISOLATE AND SERVICE THE HEAT EXCHANGER(S).
- REPLACE EXISTING VALVE AND ACTUATOR. PROVIDE NEW WIRING FROM CONTROLLER TO ACTUATOR.
- REPLACE EXISTING TEMPERATURE SENSOR. PROVIDE NEW WIRING FROM CONTROLLER TO SENSOR.
- PROVIDE NEW DEVICES/WIRING FOR NEW PUMPS AND VFDS.

KEYED NOTES

STEAM FLOW DIAGRAM - NEW WORK
 NO SCALE

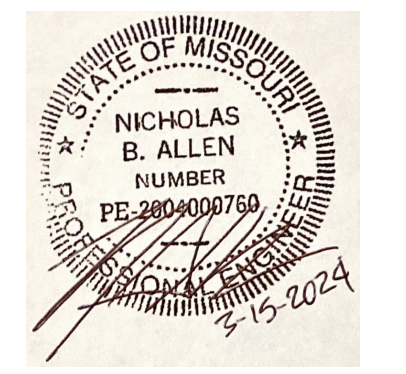
HOT WATER SYSTEM CONTROL SCHEMATIC
 NO SCALE

NO.	DATE	DESCRIPTION

DATE: 02/14/2024
 PROJECT #: 071588.002
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**STEAM FLOW
 DIAGRAM NEW
 WORK**

M5.4



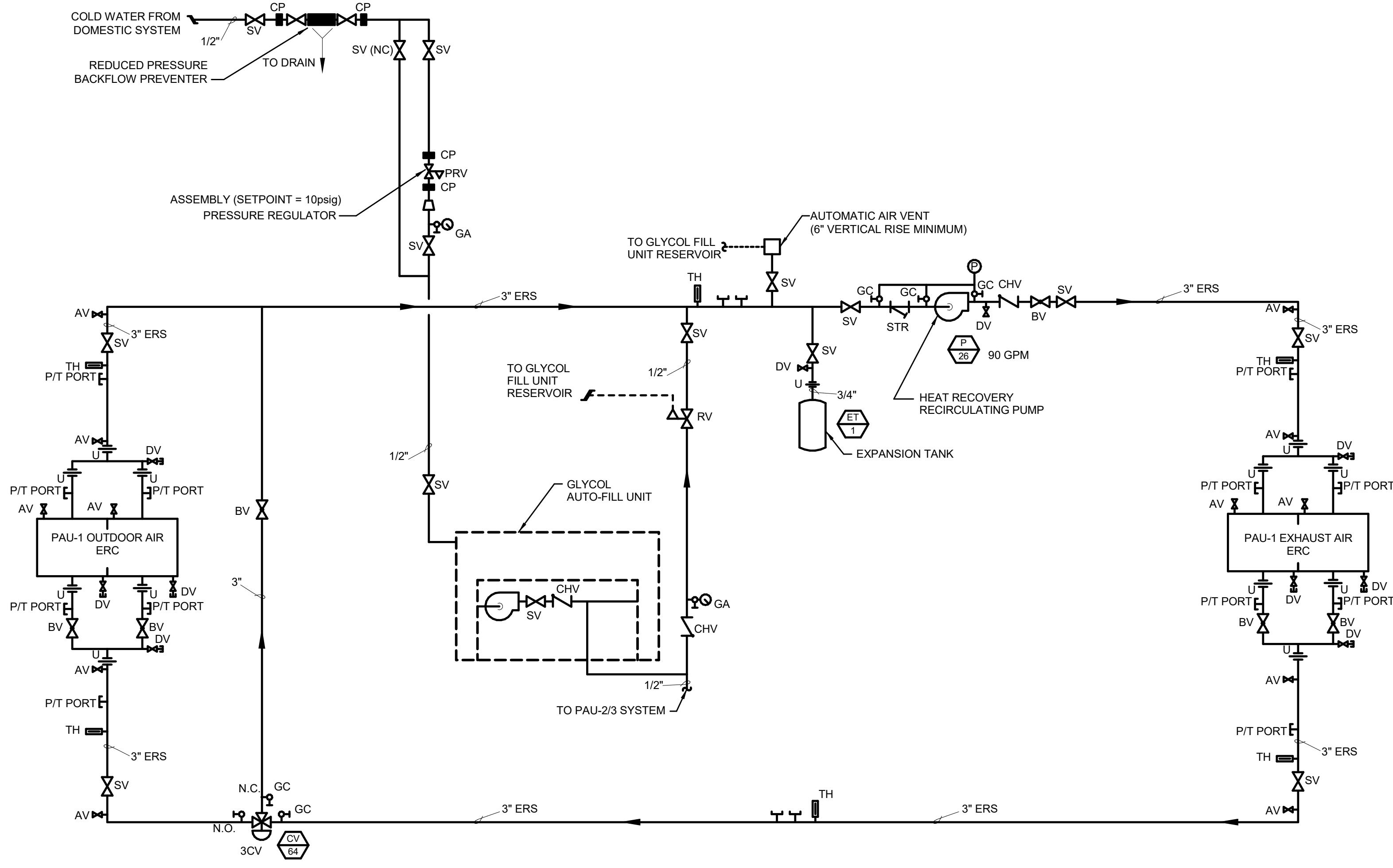
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No.	Date	Description

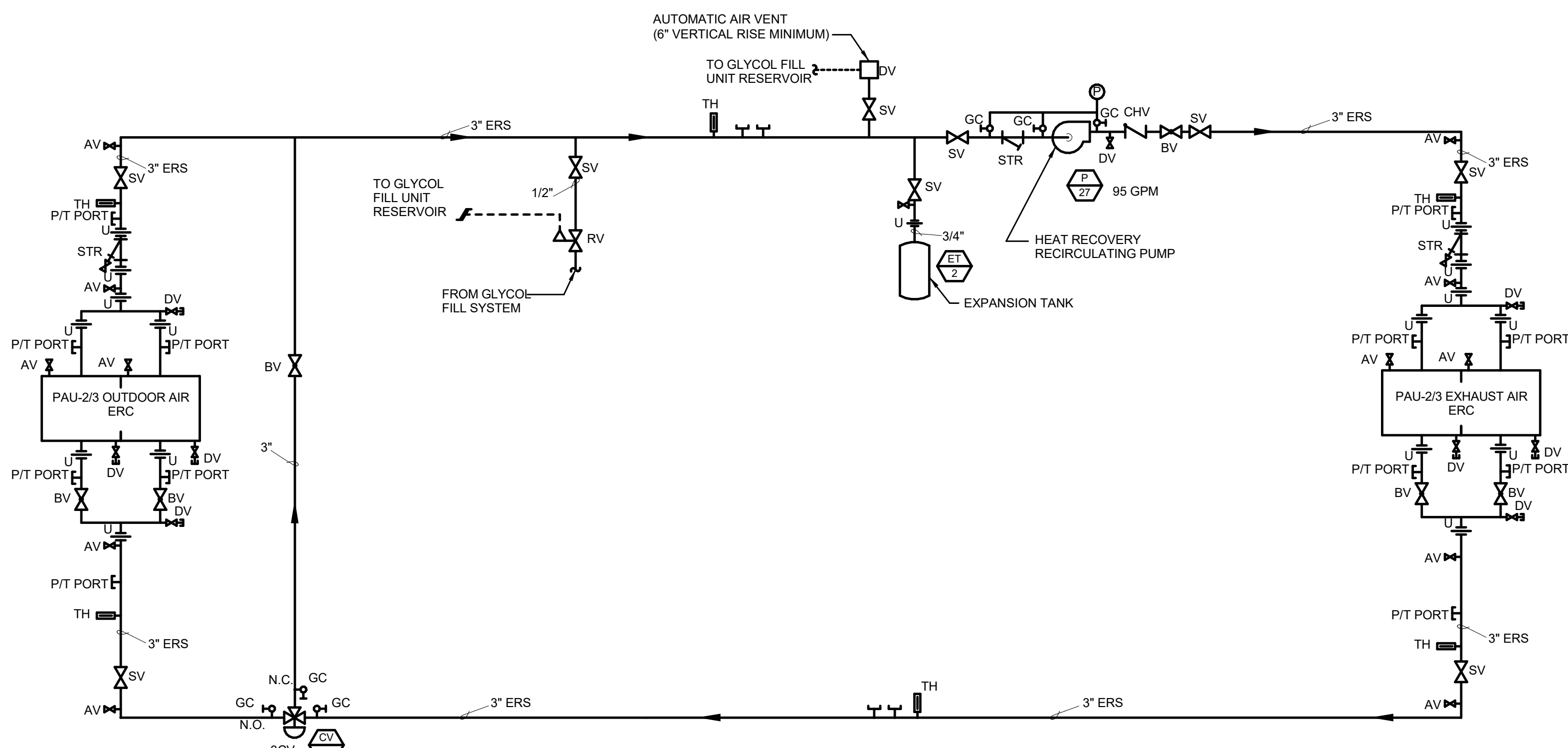
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ENERGY RECOVERY SYSTEM FLOW DIAGRAM

M5.5



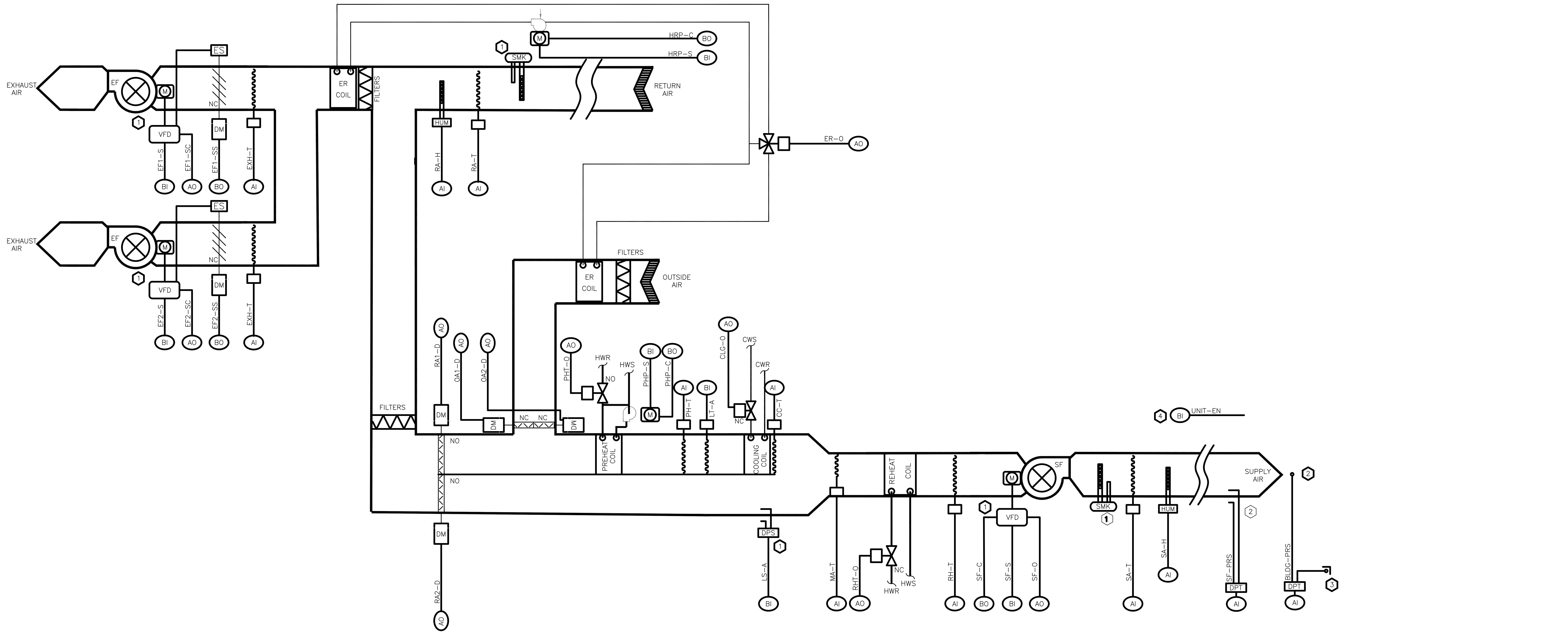
PAU-1 ENERGY RECOVERY SYSTEM FLOW DIAGRAM
NO SCALE



PAU-2/3 ENERGY RECOVERY SYSTEM FLOW DIAGRAM
NO SCALE

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McClure Project # 071588.002
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PAU1_SYSTEM_DDC POINTS LIST

PANEL LOCATION: MECH RM

TYPE	POINT NAME	DESCRIPTION	DEVICE
AI	OA-T	OUTSIDE AIR TEMP	SOFTWARE POINT
AI	EXH-T	EXHAUST TEMP	RTD/DUCT AVERAGING
AI	MA-T	MIXED AIR TEMP	RTD/DUCT AVERAGING
AI	RH-T	REHEAT TEMP	RTD/DUCT AVERAGING
AI	CC-T	COOLING COIL TEMP	RTD/DUCT AVERAGING
AI	SA-T	SUPPLY AIR TEMP	RTD/DUCT AVERAGING
AI	RA-T	RETURN AIR TEMP	RTD/DUCT AVERAGING
AI	SF-PRS	SUPPLY FAN STATIC PRESS	DIFF PRESS TRANSMITTER
AI	BLDG-PRS	BLDG STATIC PRESS	DIFF PRESS TRANSMITTER
AI	RA-H	RETURN AIR HUMIDITY	HUMIDITY TRANSMITTER
AI	SA-H	SUPPLY AIR HUMIDITY	HUMIDITY TRANSMITTER
AI	PH-T	PREHEAT COIL TEMP	RTD/DUCT AVERAGING
AO	ISO-D	ISOLATION DAMPER	ELECT ACTUATOR W/SPRING RTN
AO	SF-O	SUP FAN OUTPUT	VFD
AO	EF1-SC	EXHAUST FAN OUTPUT	VFD
AO	EF2-SC	EXHAUST FAN OUTPUT	VFD
AO	CLG-O	COOLING COIL VALVE OUTPUT	ELECT ACTUATOR W/SPRING RTN
AO	PHT-O	PREHEAT COIL VALVE OUTPUT	ELECT ACTUATOR W/SPRING RTN
AO	ER-O	ENERGY RECOVERY OUTPUT	ELECT ACTUATOR W/SPRING RTN
AO	OA-D	OUTDOOR AIR DAMPER	ELECT ACTUATOR W/SPRING RTN
AO	RA1-D	RETURN AIR DAMPER	ELECT ACTUATOR W/SPRING RTN
AO	RA2-D	RETURN AIR DAMPER	ELECT ACTUATOR W/SPRING RTN
BI	SF-S	SUPPLY FAN STATUS	CURRENT SWITCH
BI	EF1-S	EXHAUST FAN STATUS	CURRENT SWITCH
BI	EF2-S	EXHAUST FAN STATUS	CURRENT SWITCH
BI	PHP-S	PREHEAT PUMP STATUS	CURRENT SWITCH
BI	LS-A	DUCT LOW STATIC ALARM	DUCT DIFF PRESS SWITCHES
BI	UNIT-EN	UNIT ENABLE SWITCH	MANUAL TOGGLE SWITCH
BI	LT-A	DUCT LOW TEMPERATURE ALARM	MANUAL RESET FREEZESTAT
BI	HRP-S	HEAT RECOVERY PUMP STATUS	CURRENT SWITCH
BO	SF-C	SUPPLY FAN COMMAND	CONTROL RELAY
BO	EF1-SS	EXHAUST FAN START/STOP	CONTROL RELAY
BO	EF2-SS	EXHAUST FAN START/STOP	CONTROL RELAY
BO	PHP-C	PREHEAT PUMP COMMAND	CONTROL RELAY
BO	HRP-C	HEAT RECOVERY PUMP COMMAND	CONTROL RELAY

PAU1 CONTROLS

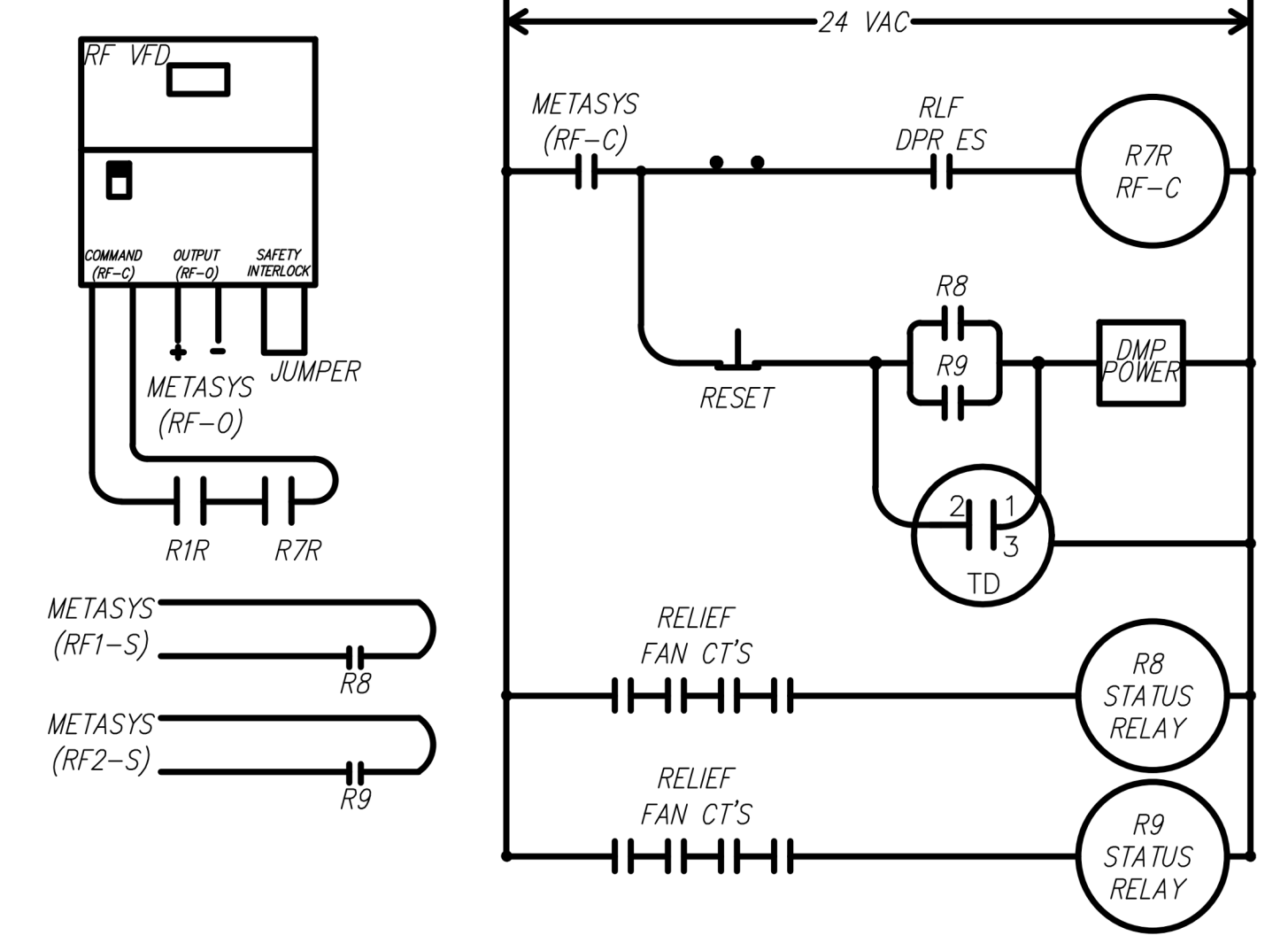
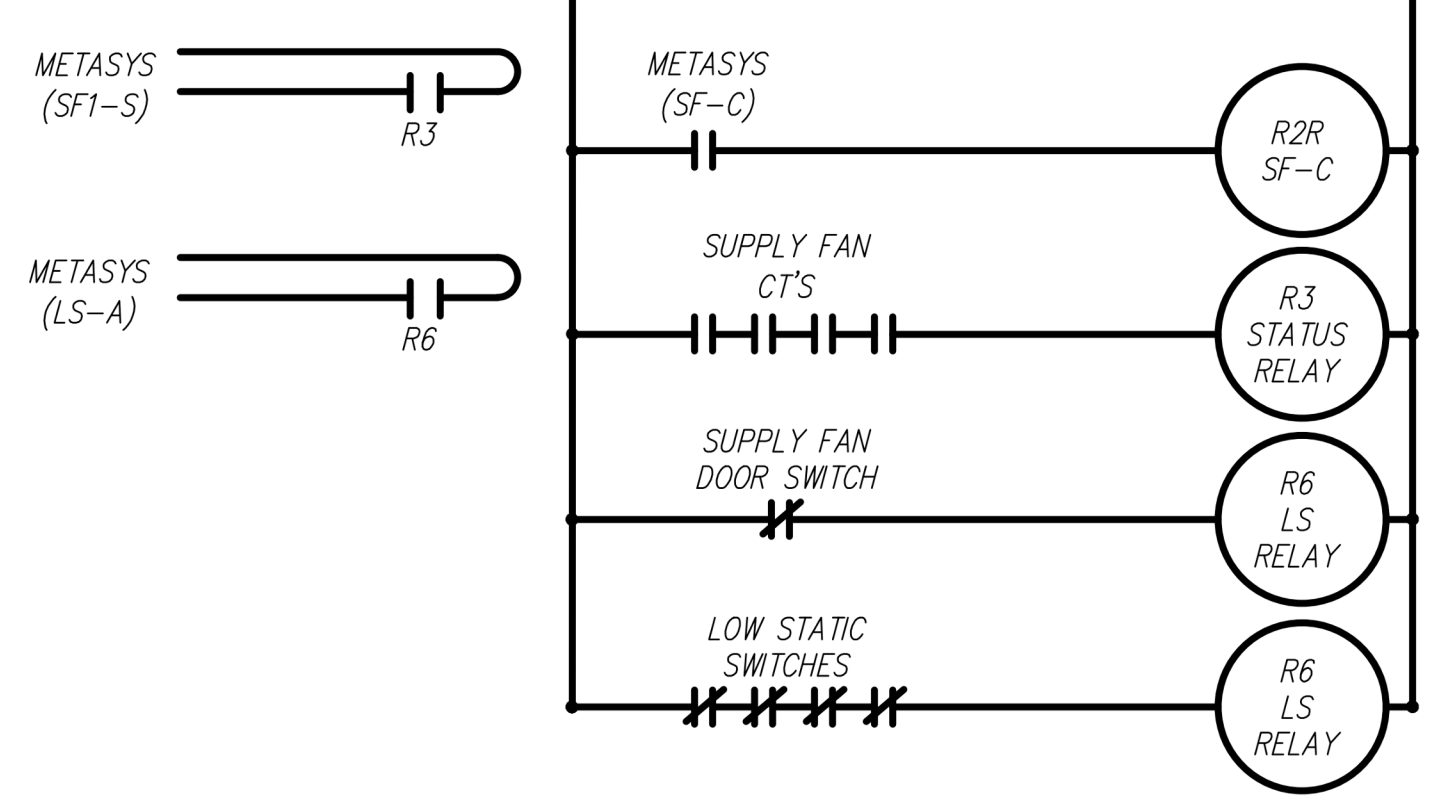
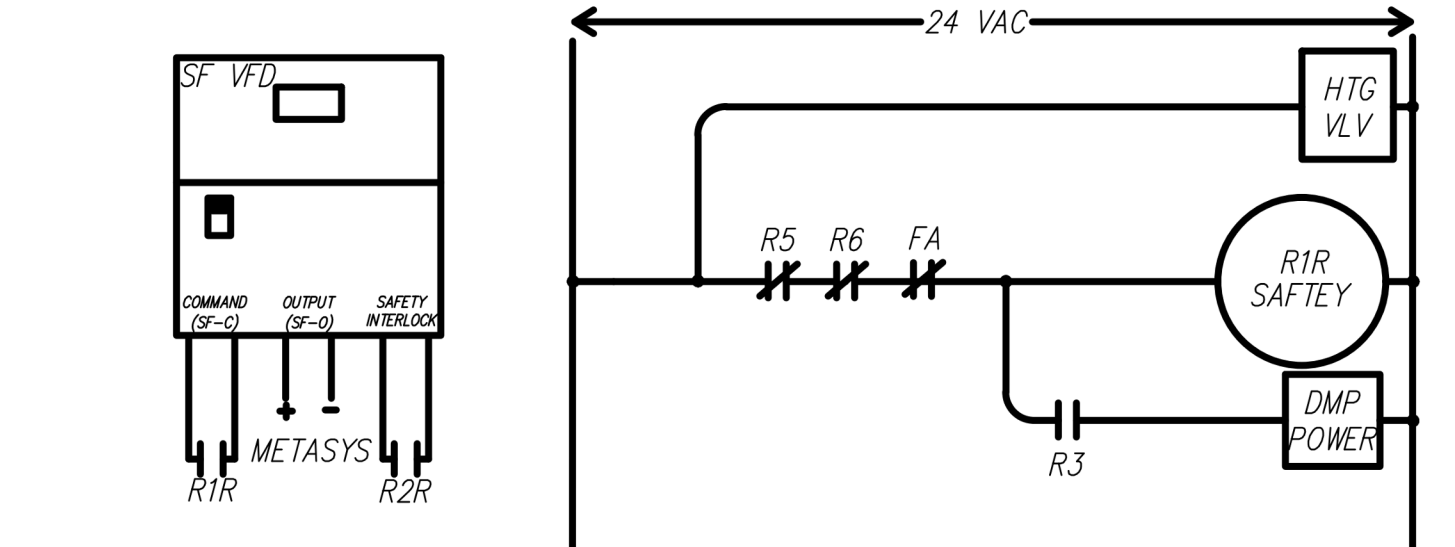
NO SCALE

KEYED NOTES:

- 1. SEE AHU START CIRCUIT DETAIL.
- 2. LOCATE AS SHOWN ON MECH PLANS.
- 3. LOCATE ON NORTH FACE OF BUILDING W/ WEATHER COVER.
- 4. PROVIDE TOGGLE SWITCH AT AHU CONTROL ENCLOSURE TO ENABLE/DISABLE AHU.

GENERAL NOTES:

- 1. SEE SPECIFICATIONS FOR DEVICE SPECIFICATIONS.
- 2. ANY DEVICE REQUIRING POWER MUST BE POWERED BY CONTRACTOR.



DEVICES (SEE SPECS):

- R1R 24VAC RIBULC
- R2R 24VAC RIBULC
- R3 24VAC CONTROL RELAY -2POLE
- R5 24VAC CONTROL RELAY -2POLE
- R6 24VAC CONTROL RELAY -2POLE
- R7R 24VAC RIBULC
- R8 24VAC CONTROL RELAY -2POLE
- R9 24VAC CONTROL RELAY -2POLE

GENERAL NOTES:

- 1. KEEP ALL LOW VOLTAGE CONTROL WIRING (UNDER 25V) AND LOW VOLTAGE POWER WIRING (OVER 25V) SEPARATED. (RUN IN SEPARATE CONDUIT.)
- 2. QUANTITIES OF CONTACTS FOR CT'S, STATIC PRESSURE SWITCHES, MOTOR OVERLOADS IS GENERIC. COORDINATE THE QUANTITY OF DEVICES/CONTACTS TO SUIT THE PROJECT'S NEEDS. PROVIDE RELAYS WITH MULTIPLE CONTACTS AS REQUIRED.
- 3. ANY DISCONNECT WITH AUX CONTACTS WILL BE ADDED TO SAFETY CIRCUIT.
- 4. MOUNT R1R, R2R, AND R4R ON GUTTER UNDER VFD
- 5. IF MORE THAN ONE FAN MOTOR IS USED THAT REQUIRE MULTIPLE OVERLOADS, WIRE OVERLOADS IN SERIES.
- 6. ON UNITS WITH MULTIPLE FANS, WIRE FAN STATUS CT'S IN SERIES. DIVIDE CT'S EQUALLY BETWEEN BI STATUS INPUTS. MAX 4 CT'S PER STATUS BI. ADD STATUS BI'S FOR UNITS WITH MORE THAN 8 FANS.

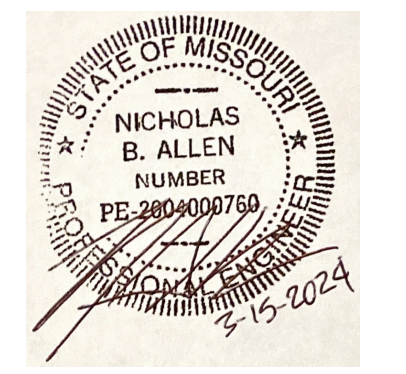
REVISIONS

No.	Date	Description

DATE: 02/14/2024
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PAU-1 CONTROLS DIAGRAM

M5.6



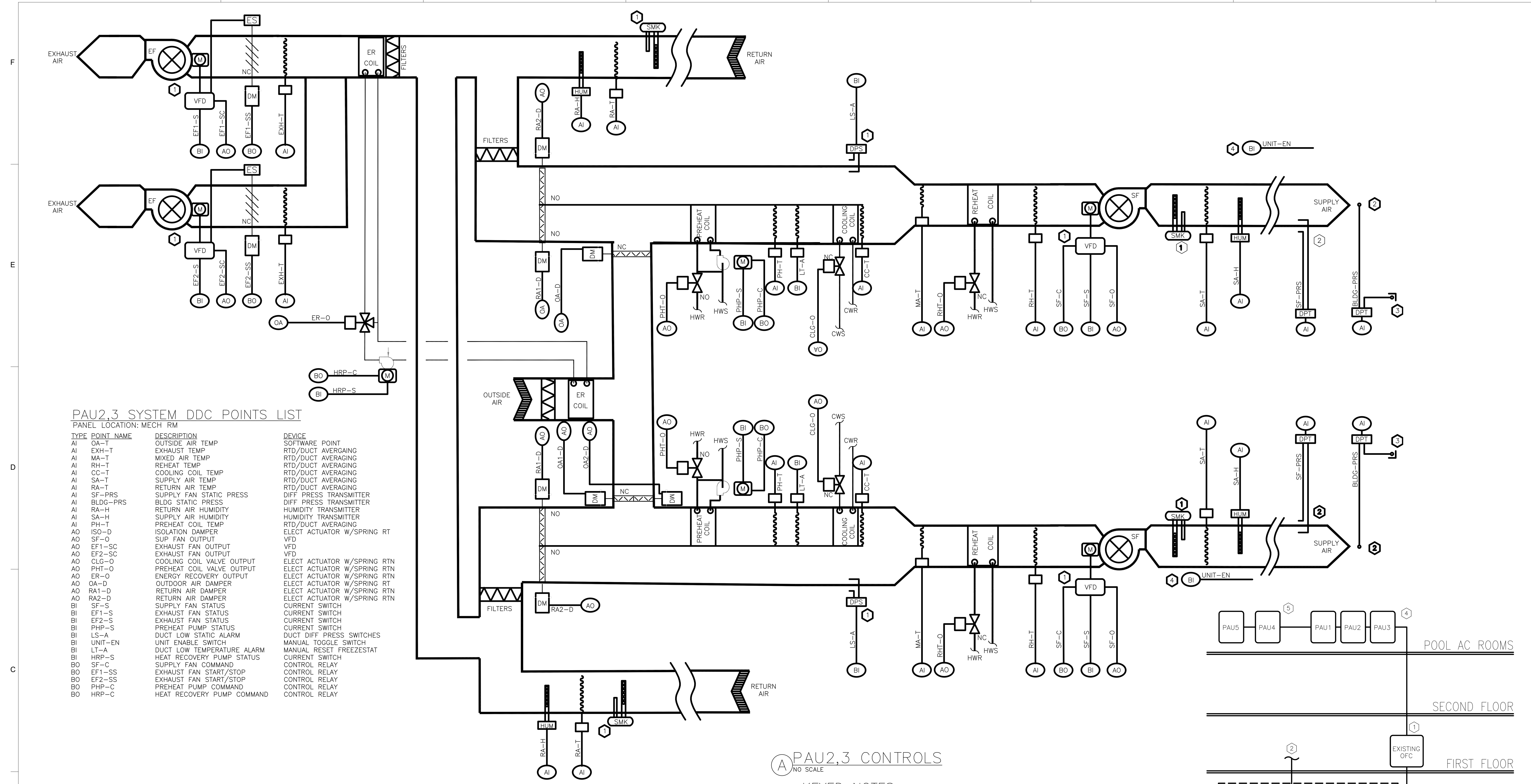
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 PE-200400760

REVISIONS	Description	Date

DATE: 02/14/2024
 PROJECT #: 071588.002
 DRAWN BY: KAA
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PAU-2,3
 CONTROLS
 DIAGRAM

M5.7



PAU2,3 SYSTEM DDC POINTS LIST

PANEL LOCATION: MECH RM

TYPE	POINT NAME	DESCRIPTION	DEVICE
AI	OA-T	OUTSIDE AIR TEMP	SOFTWARE POINT
AI	EXH-T	EXHAUST TEMP	RTD/DUCT AVERAGING
AI	MA-T	MIXED AIR TEMP	RTD/DUCT AVERAGING
AI	RH-T	REHEAT TEMP	RTD/DUCT AVERAGING
AI	CC-T	COOLING COIL TEMP	RTD/DUCT AVERAGING
AI	SA-T	SUPPLY AIR TEMP	RTD/DUCT AVERAGING
AI	RA-T	RETURN AIR TEMP	RTD/DUCT AVERAGING
AI	SF-PRS	SUPPLY FAN STATIC PRESS	DIFF PRESS TRANSMITTER
AI	BLDG-PRS	BLDG STATIC PRESS	DIFF PRESS TRANSMITTER
AI	RA-H	RETURN AIR HUMIDITY	HUMIDITY TRANSMITTER
AI	SA-H	SUPPLY AIR HUMIDITY	HUMIDITY TRANSMITTER
AI	PH-T	PREHEAT COIL TEMP	RTD/DUCT AVERAGING
AO	ISO-D	ISOLATION DAMPER	ELECT ACTUATOR W/SPRING RTN
AO	SF-O	SUP FAN OUTPUT	VFD
AO	EF1-SC	EXHAUST FAN OUTPUT	VFD
AO	EF2-SC	EXHAUST FAN OUTPUT	VFD
AO	CLG-O	COOLING COIL VALVE OUTPUT	ELECT ACTUATOR W/SPRING RTN
AO	PHT-O	PREHEAT COIL VALVE OUTPUT	ELECT ACTUATOR W/SPRING RTN
AO	ER-O	ENERGY RECOVERY OUTPUT	ELECT ACTUATOR W/SPRING RTN
AO	OA-D	OUTDOOR AIR DAMPER	ELECT ACTUATOR W/SPRING RTN
AO	RA1-D	RETURN AIR DAMPER	ELECT ACTUATOR W/SPRING RTN
AO	RA2-D	RETURN AIR DAMPER	ELECT ACTUATOR W/SPRING RTN
BI	SF-S	SUPPLY FAN STATUS	CURRENT SWITCH
BI	EF1-S	EXHAUST FAN STATUS	CURRENT SWITCH
BI	EF2-S	EXHAUST FAN STATUS	CURRENT SWITCH
BI	PHP-S	PREHEAT PUMP STATUS	CURRENT SWITCH
BI	LS-A	DUCT LOW STATIC ALARM	DUCT DIFF PRESS SWITCHES
BI	UNIT-EN	UNIT ENABLE SWITCH	MANUAL TOGGLE SWITCH
BI	LT-A	DUCT LOW TEMPERATURE ALARM	MANUAL RESET FREEZESTAT
BI	HRP-S	HEAT RECOVERY PUMP STATUS	CURRENT SWITCH
BO	SF-C	SUPPLY FAN COMMAND	CONTROL RELAY
BO	EF1-SS	EXHAUST FAN START/STOP	CONTROL RELAY
BO	EF2-SS	EXHAUST FAN START/STOP	CONTROL RELAY
BO	PHP-C	PREHEAT PUMP COMMAND	CONTROL RELAY
BO	HRP-C	HEAT RECOVERY PUMP COMMAND	CONTROL RELAY

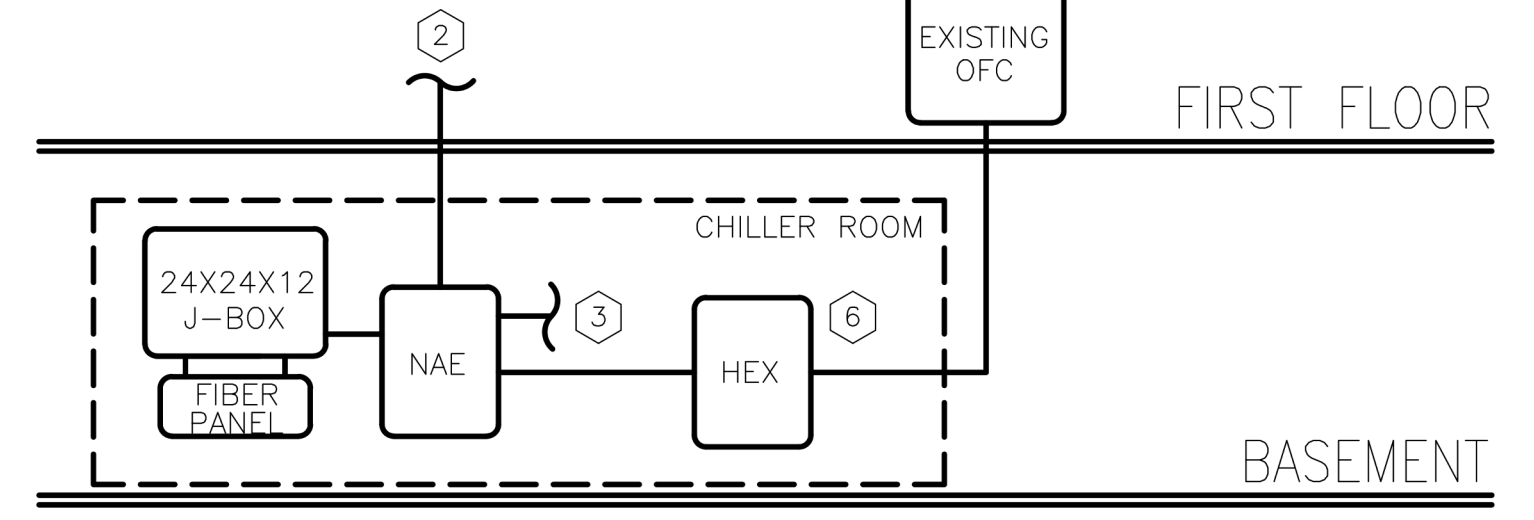
PAU2,3 CONTROLS
 NO SCALE

KEYED NOTES:

- SEE AHU START CIRCUIT DETAIL.
- LOCATE AS SHOWN ON MECH PLANS.
- LOCATE ON NORTH FACE OF BUILDING W/ WEATHER COVER.
- PROVIDE TOGGLE SWITCH AT AHU CONTROL ENCLOSURE TO ENABLE/DISABLE AHU.

GENERAL NOTES:

- SEE SPECIFICATIONS FOR DEVICE SPECIFICATIONS.
- ANY DEVICE REQUIRING POWER MUST BE POWERED BY CONTRACTOR.



KEYED NOTES:

- EXISTING DEVICE TO REMAIN.
- EXISTING FC BUS TO POOL AC UNITS.
- EXISTING N2 TRUNK TO EXISTING NORTH OFFICE ADDITION DEVICES.
- IN THE EAST POOL AC ROOM, 50' OF SPARE BUS WIRE IS LOOPED AND AVAILABLE FOR MAKING CONNECTIONS TO PAU-1,2 AND 3.
- PAU-4 AND 5 ARE LOCATED IN THE WEST POOL AC ROOM. MAINTAIN FC BUS CONNECTIONS TO PAU-4 AND 5 THROUGHOUT THE PROJECT. SCHEDULE BUS OUTAGES TO THESE UNITS WITH ENERGY MANAGEMENT AND STUDENT REC. LIMIT OUTAGES TO NO MORE THAN 4 HOURS.
- PROVIDE FC BUS FROM NAE TO NEW HEX CONTROLLER, THEN FROM HEX CONTROLLER TO EXISTING OUTDOOR FITNESS CENTER (OFC) CONTROLLER. PROVIDE N2 BUS TO CONNECT EXISTING DEVICES WHERE THE HEX CONTROLLER WAS REMOVED.

NOTES:

- FC BUS TO BE CONTINUOUS DAISY CHAIN WITHOUT SPLICES. CONNECTIONS CAN ONLY BE MADE AT CONTROLLERS. SEE PLANS FOR QUANTITY AND LOCATIONS OF CVM/VMA CONTROLLERS.
- BREAK BUS BETWEEN TWO EXISTING CONNECTED VAV CONTROLLERS AND REROUTE AS SHOWN. BUS CAN BE REROUTED IN MULTIPLE LOCATIONS TO KEEP OVERALL BUS LENGTH SHORT. COORDINATE FC BUS ROUTING AND OUTAGES WITH OWNERS REP.
- FC COMMUNICATION BUS WIRE SHALL BE 22 AWG, PLENUM RATED, TWISTED SHIELDED, 3 CONDUCTOR, WITH BLUE OUTER CASING, DESCRIBED AS 22-03 OAS STR PLNM NEON BLU JK DISTRIBUTED BY WINDY CITY WIRE, CONSTRUCTED BY CABLE-TEK, OR APPROVED EQUIVALENT.

FC BUS SCHEMATIC DIAGRAM
 NO SCALE

PUMP SCHEDULE

UNIT DESIG.	LOCATION	SERVICE	PUMP DATA				MOTOR DATA				IMPELLER DIA. (IN.)	NOTES		
			FLOW (GPM)	HEAD (FT.)	BHP	HP	RPM	VOLTS/PH	UNIT CONTROL					
P-8	(BASEMENT) CHILLER MECH ROOM	BUILDING HEATING WATER	B&G e-1510 5GB	END SUCTION	PARALLEL	1430	130	58	60	1800	480 / 3	VFD (BY DIV 26)	13.00	1
P-9	(BASEMENT) CHILLER MECH ROOM	BUILDING HEATING WATER	B&G e-1510 5GB	END SUCTION	PARALLEL	1430	130	58	60	1800	480 / 3	VFD (BY DIV 26)	13.00	1
P-26	(EAST) MECH ROOM 301	GLYCOL LOOP PAU-1	B&G e-6 2x2x7	IN-LINE	PRIMARY	90	35	1.25	2	1800	208 / 3	STARTER	6.250	
P-27	(EAST) MECH ROOM 301	GLYCOL LOOP PAU-2&3	B&G e-6 2x2x7	IN-LINE	PRIMARY	95	35	1.5	2	1800	208 / 3	STARTER	6.250	
P-28	(EAST) MECH ROOM 301	PREHEAT COIL PUMP PAU-1	B&G e-6 2x2x6.25	IN-LINE	PRIMARY	100	20	0.75	1	1800	208 / 3	STARTER	5.75	
P-29	(EAST) MECH ROOM 301	PREHEAT COIL PUMP PAU-2	B&G e-6 2x2x6.25	IN-LINE	PRIMARY	100	20	0.75	1	1800	208 / 3	STARTER	5.75	
P-30	(EAST) MECH ROOM 301	PREHEAT COIL PUMP PAU-3	B&G e-6 2x2x6.25	IN-LINE	PRIMARY	100	20	0.75	1	1800	208 / 3	STARTER	5.75	

KEYED NOTES:
1. ACTUAL PUMP DESIGN POINT IS 1400 GPM @ 125' TDH. SCHEDULED PARAMETERS ARE FOR MAXIMUM IMPELLER SIZE FOR SCHEDULED MOTOR HP. PROVIDE IMPELLER AT DIAMETER SCHEDULED ABOVE, AND BALANCE PUMP BACK TO ACTUAL DESIGN POINT WITH VFD.

GENERAL NOTES (APPLIES TO ALL PUMPS):
A. PUMP TAG MUST BE VISUALLY ACCESSIBLE WITHOUT REQUIRING REMOVAL OF ANY INSULATION.
B. ALL END SUCTION PUMPS TO BE PROVIDED WITH SUCTION DIFFUSER.
C. MINIMUM EFFICIENCY IS FOR DESIGN OPERATING POINT, NOT BEP.
D. REMOVE START UP STRAINER TO PUMP AFTER 1 WEEK OF OPERATION AND ZIP-TIE TO PUMP.
E. ALL VARIABLE SPEED PUMPS TO BE PROVIDED WITH SHAFT GROUNDING RING.

FILTER SCHEDULE

UNIT DESIG.	SERVES	MANUFACTURER	AIRFLOW (CFM)	PRE FILTERS				FINAL FILTERS										
				NO.	FILTER SIZE W x H (IN.)	DEPTH (IN.)	MERV	MAX CLEAN APD (IN. W.G.)	MODEL NUMBER	NO.	SIZE (IN.)	DEPTH (IN.)	MERV	MAX CLEAN APD (IN. W.G.)	MODEL NUMBER	HOUSING TYPE	NOTES	
-	PAU-1 OUTDOOR AIR	CAMFIL	15,000	6.3	24x24, 12x24	2	8	0.31	FARR 30 / 30	6.3	24x24, 12x24	12	13	0.50	DURAFIL-ES	FRONT LOAD	1	
-	PAU-1 EXHAUST AIR	CAMFIL	16,000	-	-	-	-	-	-	-	8.4	24x24, 24X12	2	8	0.31	FARR 30 / 30	FRONT LOAD	1
-	PAU-2.3 OUTDOOR AIR	CAMFIL	30,000	15	24x24	2	8	0.31	FARR 30 / 30	15	24x24	12	13	0.50	DURAFIL-ES	FRONT LOAD	1	
-	PAU-2.3 EXHAUST AIR	CAMFIL	32,000	-	-	-	-	-	-	-	15.5	24x24, 24X12	2	8	0.31	FARR 30 / 30	FRONT LOAD	1
FIL-PAU1	PAU-1 RA PATH	CAMFIL	25,000	4.12	24X12,24X24	2	8	0.31	FARR 30 / 30	4.12	24X12,24X24	12	13	0.51	DURAFIL-ES	FRONT LOAD	2	
FIL-PAU2	PAU-2 RA PATH	CAMFIL	25,000	4.12	24X12,24X24	2	8	0.31	FARR 30 / 30	4.12	24X12,24X24	12	13	0.51	DURAFIL-ES	FRONT LOAD	2	
FIL-PAU3	PAU-3 RA PATH	CAMFIL	25,000	4.12	24X12,24X24	2	8	0.31	FARR 30 / 30	4.12	24X12,24X24	12	13	0.51	DURAFIL-ES	FRONT LOAD	2	

KEYED NOTES:
1. FILTER RACK TO BE FACTORY FURNISHED FROM PLENUM BOX MANUFACTURER.
2. FILTER RACK TO BE FACTORY FURNISHED FROM PAU MANUFACTURER.

GENERAL NOTES:
A. MAX CLEAN APD VALUE IS BASED UPON AN AIRFLOW OF 500 FPM.

HEAT RECOVERY COIL SCHEDULE

UNIT DESIG.	COIL TYPE	AIR PATH	DESIGN AIRFLOW (CFM)	SUMMER CONDITIONS										WINTER CONDITIONS										ROWS	MAX FPI	NOTES
				TOTAL (MBH)	MIN SENSIBLE (MBH)	EAT DB / WB (°F)	LAT DB / WB (°F)	EW (°F)	LWT (°F)	MAX. FLOW (GPM)	MAX. WPD (FT.)	MIN SENSIBLE (MBH)	EAT DB (°F)	LAT DB (°F)	EW (°F)	LWT (°F)	MAX. FLOW (GPM)	MAX. WPD (FT.)	MAX AIRFLOW (CFM)	APD @ MAX AIRFLOW (IN.)	SIZE W X H (IN.)					
PAU-1	HEAT RECOVERY	OUTDOOR AIR	5,000	30	30	95.0 / 78.0	89.6 / 76.6	89	90	86	6	315	0	58	63	55	86	6	15,000	0.40	66 X 34.5, 66 X 36	6	8	1.2		
	HEAT RECOVERY	EXHAUST	6,000	30	30	85.0 / 74.0	89.9 / 75.2	90	89	86	17	315	85	59	55	63	86	19	16,000	0.40	94 X 54	6	8	1.2,3		
PAU-2.3	HEAT RECOVERY	OUTDOOR AIR	10,000	78	78	95.0 / 78.0	88 / 76.2	87	89	92	10	595	0	55	62	48	92	10	30,000	0.45	118 X 33, 118 X 34.5	6	8	1.2		
	HEAT RECOVERY	EXHAUST	12,000	78	78	82.0 / 71.0	88 / 73.1	89	87	92	19	595	82	57	48	62	92	20	32,000	0.45	124 X 55.5	6	8	1.2,3		

KEYED NOTES:
1. ENERGY RECOVERY LOOP TO HAVE 30% PROPYLENE GLYCOL.
2. COIL SHALL BE INSTALLED WITHIN ROOF MOUNTED PRE-MANUFACTURED PLENUM BOX. REFER TO THE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.
3. EXHAUST AIR COIL SHALL BE COPPER FINNS, COPPER TUBES, AND COPPER CASING.

FAN SCHEDULE

UNIT DESIG.	LOCATION	SERVICE	MANUFACTURER & MODEL NO.	FAN TYPE	AIRFLOW (CFM)	FSP (IN. W.C.)	RPM	WHEEL DIAM. (IN.)	FAN DISCHARGE	MOTOR				UNIT CONTROL	ACCESSORIES	NOTES
										BHP	HP	RPM	VOLTS/PH			
EF-36	EAST MECH ROOFTOP	PAU-1 RELIEF	GREENHECK USF-27	UTILITY	10,000	3.0	1338	27.0	TAU	6.8	10	1770	480 / 3	VFD (BY DIV 26)	B.C.D.E.F	1.2
EF-37	EAST MECH ROOFTOP	PAU-1 RELIEF	GREENHECK USF-27	UTILITY	10,000	3.0	1338	27.0	TAU	6.8	10	1770	480 / 3	VFD (BY DIV 26)	B.C.D.E.F	1.2
EF-38	EAST MECH ROOFTOP	PAU-2&3 RELIEF	GREENHECK USF-33	UTILITY	20,000	3.0	1231	33.0	TAU	15.58	25	1770	480 / 3	VFD (BY DIV 26)	B.C.D.E.F	1.2
EF-39	EAST MECH ROOFTOP	PAU-2&3 RELIEF	GREENHECK USF-33	UTILITY	20,000	3.0	1231	33.0	TAU	15.58	25	1770	480 / 3	VFD (BY DIV 26)	B.C.D.E.F	1.2

KEYED NOTES:
1. ALL FAN AIRFLOW SURFACES TO BE COATED WITH EPOXY PAINT OR SIMILAR WITH EQUAL RESISTANCE TO CHLORINE-BASED CORROSION.
2. BASED ON CURRENT FAN LEAD TIMES, CONTRACTOR WILL NEED TO PLAN TO PAY PREMIUM FOR EXPEDITED BUILD TIME IN ORDER TO HIT CONSTRUCTION WINDOW.

GENERAL NOTES:
A. ALL FANS WITH VFD DRIVES SHALL HAVE INVERTER DUTY MOTORS, OTHERWISE A PREMIUM EFFICIENCY MOTOR SHALL BE PROVIDED REFER TO MOTOR SPECIFICATIONS FOR MORE DETAIL.
B. INCLUDE BOTTOM DRAIN OUTLET ON ALL ROOFTOP UTILITY / VENT SET FANS.

FAN DISCHARGE:
THD - TOP HORIZONTAL DISCHARGE
BHD - BOTTOM HORIZONTAL DISCHARGE
TAU - TOP ANGULAR DISCHARGE
BH - BOTTOM ANGULAR DISCHARGE
UBD - UP BLAST DISCHARGE
DBD - DOWN BLAST DISCHARGE
HM - HORIZONTAL MOUNT

ACCESSORIES:
A. GRAVITY BACKDRAFT DAMPER
B. WEATHER HOOD FOR MOTOR
C. SPRING ISOLATORS WITH BASE RAILS
D. DISCONNECT BY DIV 26
E. BIRD SCREEN ON FAN STACK DISCHARGE
F. DRAIN AT BOTTOM OF FAN HOUSING

AIR HANDLING UNIT COIL SCHEDULE

UNIT DESIG.	AIRFLOW (CFM)	ROWS	MAX. FPI	PREHEAT COIL DATA										COOLING COIL DATA										REHEAT COIL DATA (HOT WATER)										NOTES			
				MIN. AREA (SQ. FT.)	EAT (DB, °F)	LAT (DB, °F)	EW (°F)	LWT (°F)	MIN SENS CAP (MBH)	MAX. FLOW (GPM)	MAX. APD (IN. W.C.)	MAX WPD (FT.)	AIRFLOW (CFM)	ROWS	MAX. FPI	MIN. AREA (SQ. FT.)	EAT (DB/WB, °F)	LAT (DB/WB, °F)	EW (°F)	LWT (°F)	MIN SENS CAP (MBH)	MIN LAT CAP (MBH)	MAX. FLOW (GPM)	MAX. APD (IN. W.C.)	MAX. WPD (FT.)	AIRFLOW (CFM)	ROWS	MAX. FPI	MIN. AREA (SQ. FT.)	EAT (DB, °F)	LAT (DB, °F)	EW (°F)	LWT (°F)		MIN SENS CAP (MBH)	MAX. FLOW (GPM)	MAX. APD (IN. W.C.)
PAU-1	15,000	1	10	38	0	60	160	140	976	98	0.06	6	15,000	8	11	38	88/76	52.0 / 51.9	45.0	60.0	601	617	162	0.9	4	30,000	1	8	56	70	95	180	150	825	55	0.1	2
PAU-2	15,000	1	10	38	0	60	160	140	976	98	0.05	6	15,000	8	12	38	86/74	51.0 / 50.9	45.0	60.0	583	545	150	1.1	4	30,000	1	8	56	70	93	180	150	778	52	0.1	2
PAU-3	15,000	1	10	38	0	60	160	140	976	98	0.05	6	15,000	8	12	38	86/74	51.0 / 50.9	45.0	60.0	583	545	150	1.1	4	30,000	1	8	56	70	93	180	150	778	52	0.1	2

GENERAL NOTES:
A. ALL COILS SHALL BE COPPER TUBES, COPPER FINNS, AND COPPER CASING.

KEYED NOTES:

AIR HANDLING UNIT FAN SCHEDULE

UNIT DESIG.	LOCATION	SERVICE	MANUFACTURER & MODEL NO.	UNIT TYPE	AIR PATH	AIRFLOW (CFM)	MIN. O.A. FLOW (CFM)	INTAKE / FILTER ACCESS					PRIMARY...		FINAL FILTER		PREHEAT COIL	ACCESS			ACCESS / MIXING SECTION				REHEAT COIL					SUPPLY FAN DATA										DISCHARGE PLENUM			NOTES
								INTAKE LENGTH (IN.)	DOOR LENGTH	DOOR ORIENT	DEPTH (IN.)	MERV	DEPTH (IN.)	MERV	LENGTH (IN.)	DOOR LENGTH		DOOR ORIENT	LENGTH (IN.)	DOOR LENGTH	DOOR ORIENT	AIRFLOW (CFM)	WHEEL DIAMETER	WHEEL TYPE	FAN CLASS	FAN TYPE	ESP (IN. W.C.)	TSP (IN. W.C.)	RPM	BHP (TOT)	NUMBER OF FANS	HP (EA)	RPM	MOTOR DATA	UNIT CONTROLS	LENGTH (IN.)	DOOR LENGTH	DOOR ORIENT	DISCHARGE DIRECTION				
PAU-1	(EAST) MECH ROOM 301	CLUB NATATORIUM 123	TRANE TCF5 SIZE 55	HDT	MIXED AIR	30,000	5,000	TOP	30	24	SEE PLAN	SEE FILTER SCHEDULE	SEE COIL SCHEDULE	24	18	SEE PLAN	SEE COIL SCHEDULE	24	18	SEE PLAN	30,000	22.25	AF	III	PD	4.00	5.5	2028	39.0	4	15	1800	480 / 3	VFD (BY DIV 26)	36	24	SEE PLAN	SIDE	1.2,3				
PAU-2	(EAST) MECH ROOM 301	MAIN NATATORIUM 106	TRANE TCF5 SIZE 55	HDT	MIXED AIR	30,000	5,000	TOP	30	24	SEE PLAN	SEE FILTER SCHEDULE	SEE COIL SCHEDULE	24	18	SEE PLAN	SEE COIL SCHEDULE	24	18	SEE PLAN	30,000	22.25	AF	III	PD	4.00	5.7	2048	40.0	4	15	1800	480 / 3	VFD (BY DIV 26)	36	24	SEE PLAN	SIDE	1.2,3				
PAU-3	(EAST) MECH ROOM 301	MAIN NATATORIUM 106	TRANE TCF5 SIZE 55	HDT	MIXED AIR	30,000	5,000	TOP	30	24	SEE PLAN	SEE FILTER SCHEDULE	SEE COIL SCHEDULE	24	18	SEE PLAN	SEE COIL SCHEDULE	24	18	SEE PLAN	30,000	22.25	AF	III	PD	4.00	5.7	2048	40.0	4	15	1800	480 / 3	VFD (BY DIV 26)	36	24	SEE PLAN	SIDE	1.2,3				

GENERAL NOTES:
A. SEE PLANS FOR COIL AND CONDENSATE PIPING CONNECTION ORIENTATIONS
B. ESP VALUE INCLUDES FILTER PRESSURE DROP.
C. ISP SHALL ACCOUNT FOR PRESSURE DROPS ACROSS INLET AND DISCHARGE PLENUM SECTIONS. ESP DOES NOT INCLUDE THESE VALUES.

KEYED NOTES:
1. REFER TO THE SPECIFICATIONS AND DRAWINGS FOR ADDITIONAL INFORMATION ON CONTROL DAMPERS, UNIT CONSTRUCTION, ETC.
2. PROVIDE CONCRETE HOUSEKEEPING PAD AND 8" SUPPORT BASERAIL FOR AHU. TOTAL HEIGHT TO BE SUFFICIENT TO ALLOW FULL TRAP HEIGHT WITHOUT CUTTING INTO MECHANICAL ROOM FLOOR.
3. PROVIDE UNIT WITH SINGLE POINT ELECTRICAL CONNECTION.

UNIT TYPE:
HDT - HORIZONTAL DRAW THRU
VDT - VERTICAL DRAW THRU
HBT - HORIZONTAL BLOW THRU
MZ - MULTI-ZONE
DAP - DUAL AIR PATH

ORIENTATION:
RH - RIGHT HAND
LH - LEFT HAND

WHEEL TYPE:
AF - AIRFOIL
BI - BACK INCLINE
FC - FORWARD CURVE
MXF - MIXED FLOW

FAN...:
CB - CENTRIFUGAL BELT DRIVE
CD - CENTRIFUGAL DIRECT DRIVE
PD - PLENUM DIRECT DRIVE

CONTROL VALVE SCHEDULE

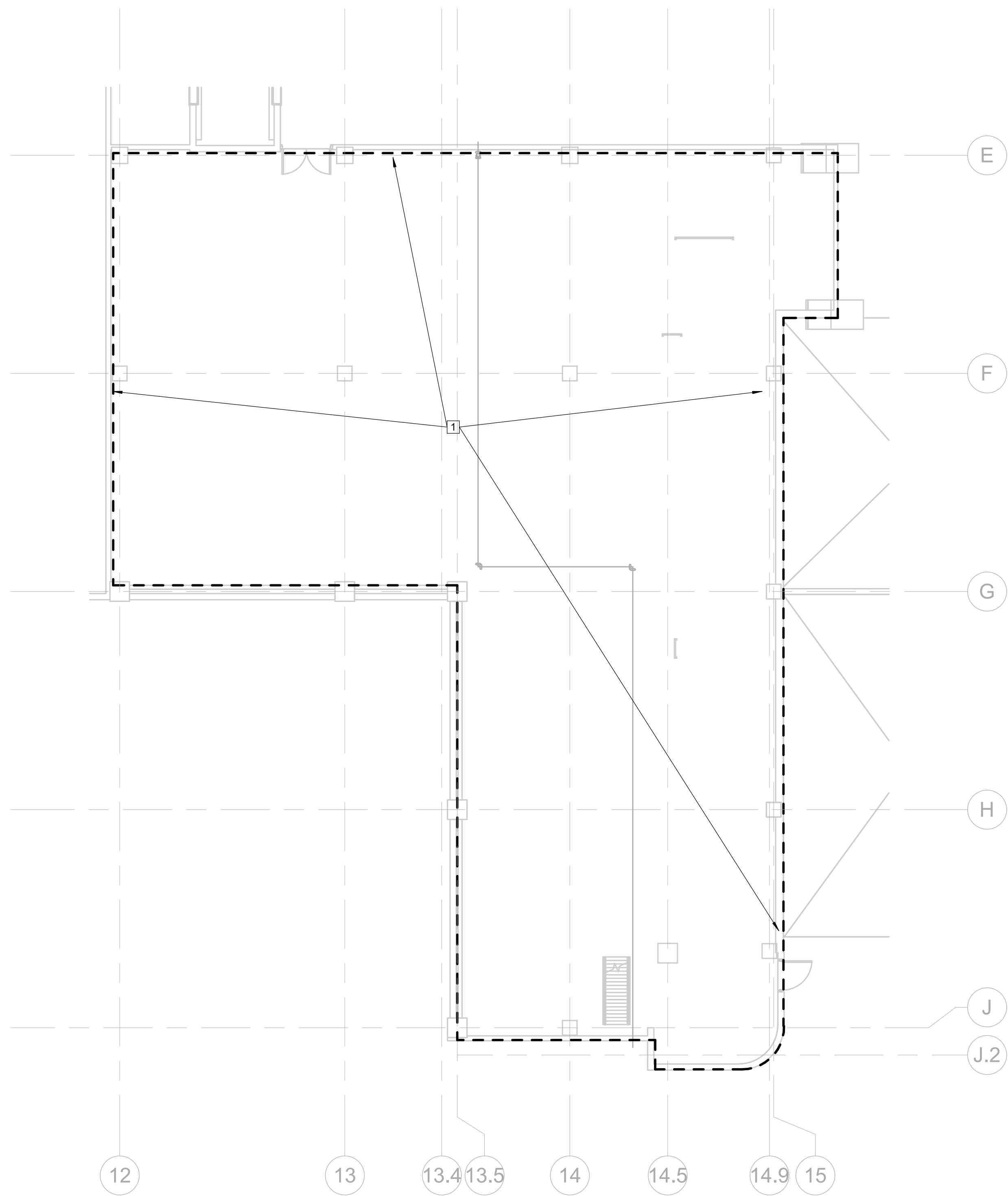
UNIT DESIGNATION	LOCATION	SERVICE	WATER DATA			STEAM DATA			VALVE											MANUFACTURER MODEL NO.	NOTES
			FLOW (GPM)	MIN. CLOSEOFF ΔP (PSI)	FLOW (LBS/HR)	ENT. PRESS. (PSIG)	ΔP (PSI)	PIPE SIZE (IN.)	SIZE (IN.)	CV	VALVE TYPE	FLOW PATHS	CONTROL SIGNAL	ACTUATOR TYPE	POWER SUPPLY						
CV-61	(EAST) MECH ROOM 301	PAU-1 PREHEAT COIL	49	100	-	-	2.9	2-1/2	2.0	29.0	BALL	2-WAY	MODULATING	NO	24 VAC	BELIMO B248					
CV-62	(EAST) MECH ROOM 301	PAU-1 COOLING COIL	162	100	-	-	5.0	4.0	4.0	N/A	PICV	2-WAY	MODULATING	NC	24 VAC	FLOW CONTROL DELTAP	1				
CV-63	(EAST) MECH ROOM 301	PAU-1 REHEAT COIL	55	100	-	-	5.0	2-1/2	2-1/2	N/A	PICV	2-WAY	MODULATING	NC	24 VAC	FLOW CONTROL DELTAP	1				
CV-64	(EAST) MECH ROOM 301	PAU-1 GLYCOL LOOP	86	100	-	-	2.0	3.0	2.0	87.0	BALL	3-WAY	MODULATING	NO	24 VAC	BELIMO B350L					
CV-65	(EAST) MECH ROOM 301	PAU-2 PREHEAT COIL	49	100	-	-	2.9	2-1/2	2.0	29.0	BALL	2-WAY	MODULATING	NO	24 VAC	BELIMO B248					
CV-66	(EAST) MECH ROOM 301	PAU-2 COOLING COIL	150	100	-	-	5.0	4.0	4.0	N/A	PICV	2-WAY	MODULATING	NC	24 VAC	FLOW CONTROL DELTAP	1				
CV-67	(EAST) MECH ROOM 301	PAU-2 REHEAT COIL	52	100	-	-	5.0	2-1/2	2-1/2	N/A	PICV	2-WAY	MODULATING	NC	24 VAC	FLOW CONTROL DELTAP	1				
CV-68	(EAST) MECH ROOM 301	PAU-3 PREHEAT	49	100	-	-	2.9	2-1/2	2.0	29.0	BALL	2-WAY	MODULATING	NO	24 VAC	BELIMO B248					
CV-69	(EAST) MECH ROOM 301	PAU-3 COOLING COIL	150	100	-	-	5.0	4.0	4.0	N/A	PICV	2-WAY	MODULATING	NC	24 VAC	FLOW CONTROL DELTAP	1				
CV-70	(EAST) MECH ROOM 301	PAU-3 REHEAT COIL	52	100	-	-	5.0	2-1/2	2-1/2	N/A	PICV	2-WAY	MODULATING	NC	24 VAC	FLOW CONTROL DELTAP	1				
CV-71	(EAST) MECH ROOM 301	PAU-2&3 GLYCOL LOOP	92	100	-	-	2.0	3.0	2.0	87.0	BALL	3-WAY	MODULATING	NO	24 VAC	BELIMO B350L					
CV-72	CHILLER ROOM M103	HX-1 (STEAM SIDE)	-	-	3512	15.0	10.0	4.0	3.0												

FIRE PROTECTION GENERAL NOTES:

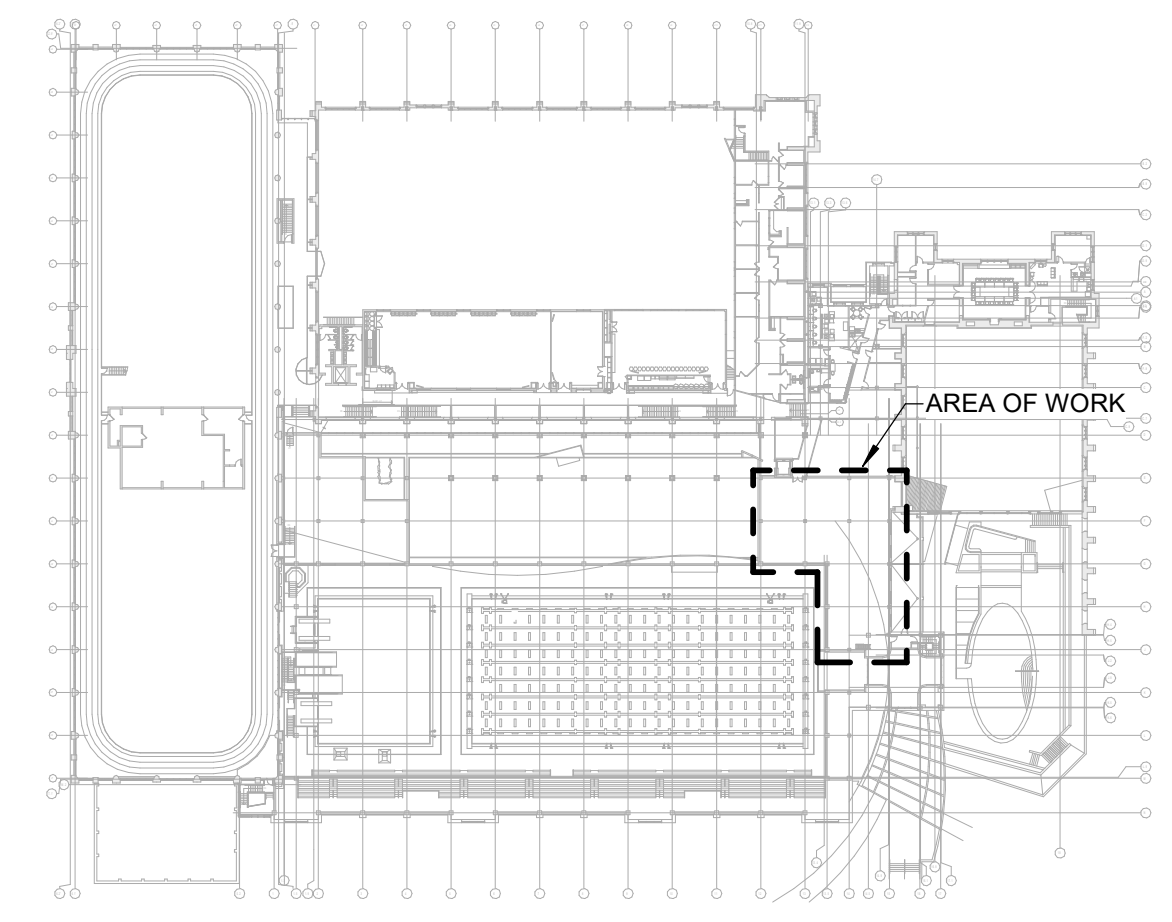
1. THE WORK CONSISTS OF FURNISHING ALL LABOR AND MATERIALS AS REQUIRED BY NFPA 13, THE AUTHORITY HAVING JURISDICTION, AND THE PROJECT DOCUMENTS.
2. CONTRACTOR SHALL REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR CEILING DESCRIPTIONS, HEIGHTS, AND LAYOUTS.
3. AREAS SHOULD NOT BE LEFT UNPROTECTED PER IEBC DURING CONSTRUCTION.
4. CONTRACTOR TO COORDINATE AND PARTICIPATE WITH OWNER DURING ALL SYSTEM DRAIN DOWN.
5. CONTRACTOR TO COORDINATE AND PARTICIPATE WITH OWNER DURING ALL SYSTEM REFILLS(S).
6. COORDINATE WITH GENERAL CONTRACTOR FOR ANY REQUIRED WORK OUTSIDE OF RENOVATION AREA.

KEYED NOTES:

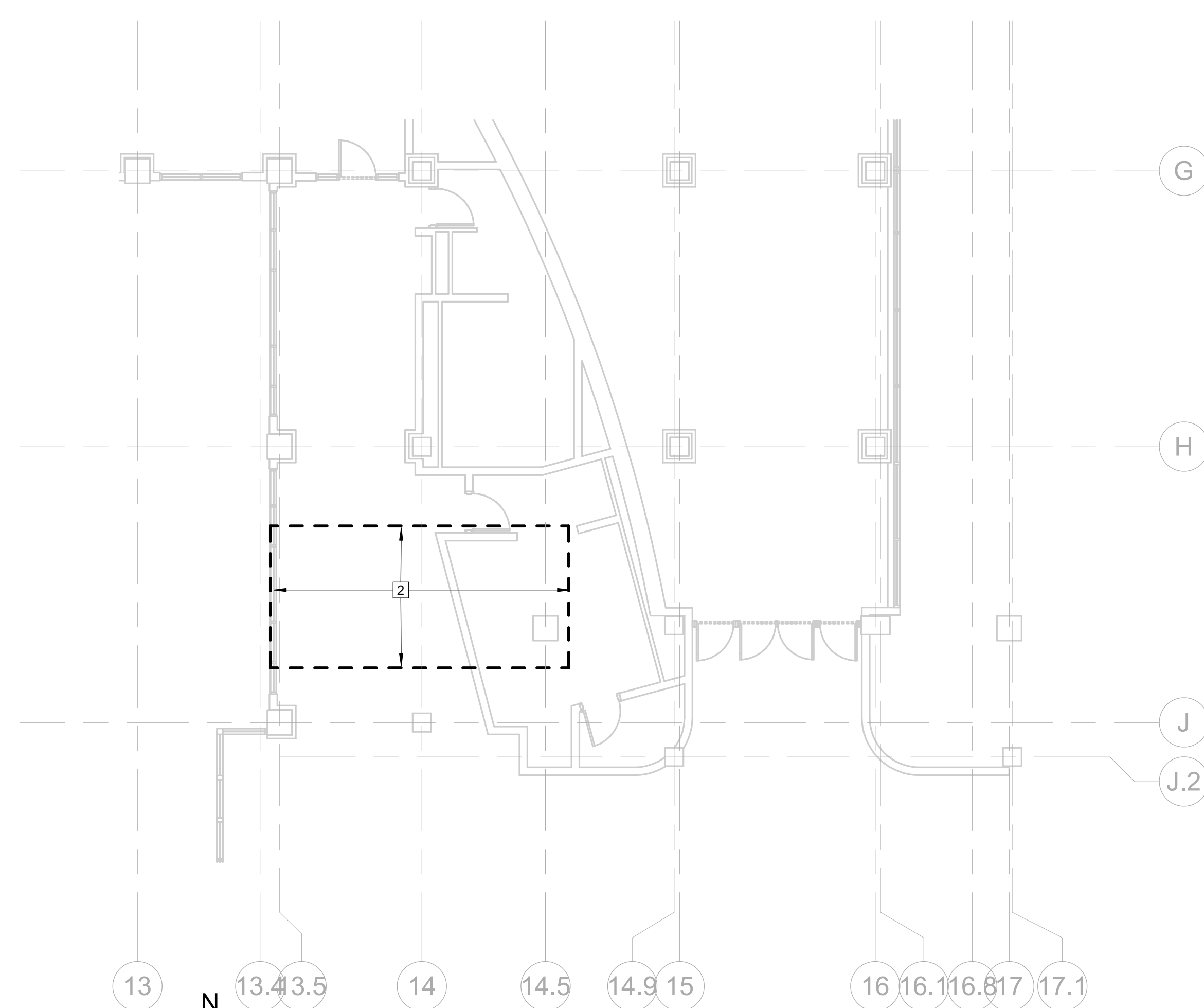
- 1 EXISTING FIRE PROTECTION SYSTEM TO BE MODIFIED AS REQUIRED TO ACCOMMODATE INSTALLATION OF NEW MECHANICAL EQUIPMENT AND PIPING. ADD SPRINKLER HEADS UNDER ANY DUCTWORK OVER 48" WIDE (WHEN INCLUDING INSULATION AND FLANGES). EXISTING HEADS THAT BECOME OBSTRUCTED AS A RESULT OF THE MECHANICAL MODIFICATIONS WILL NEED TO BE ADJUSTED AS REQUIRED BY NFPA-13 AND/OR FM (WHICHEVER IS MORE STRINGENT).
- 2 EXISTING SPRINKLER HEADS AND RUN OUTS TO BE TEMPORARILY SUPPORTED/REMOVED AS REQUIRED TO ALLOW FOR THE CEILING IN THE SPACE TO BE TEMPORARILY REMOVED. SPRINKLER HEADS AND RUN OUTS TO BE REINSTALLED ONCE THE CEILING HAS BEEN REINSTALLED.



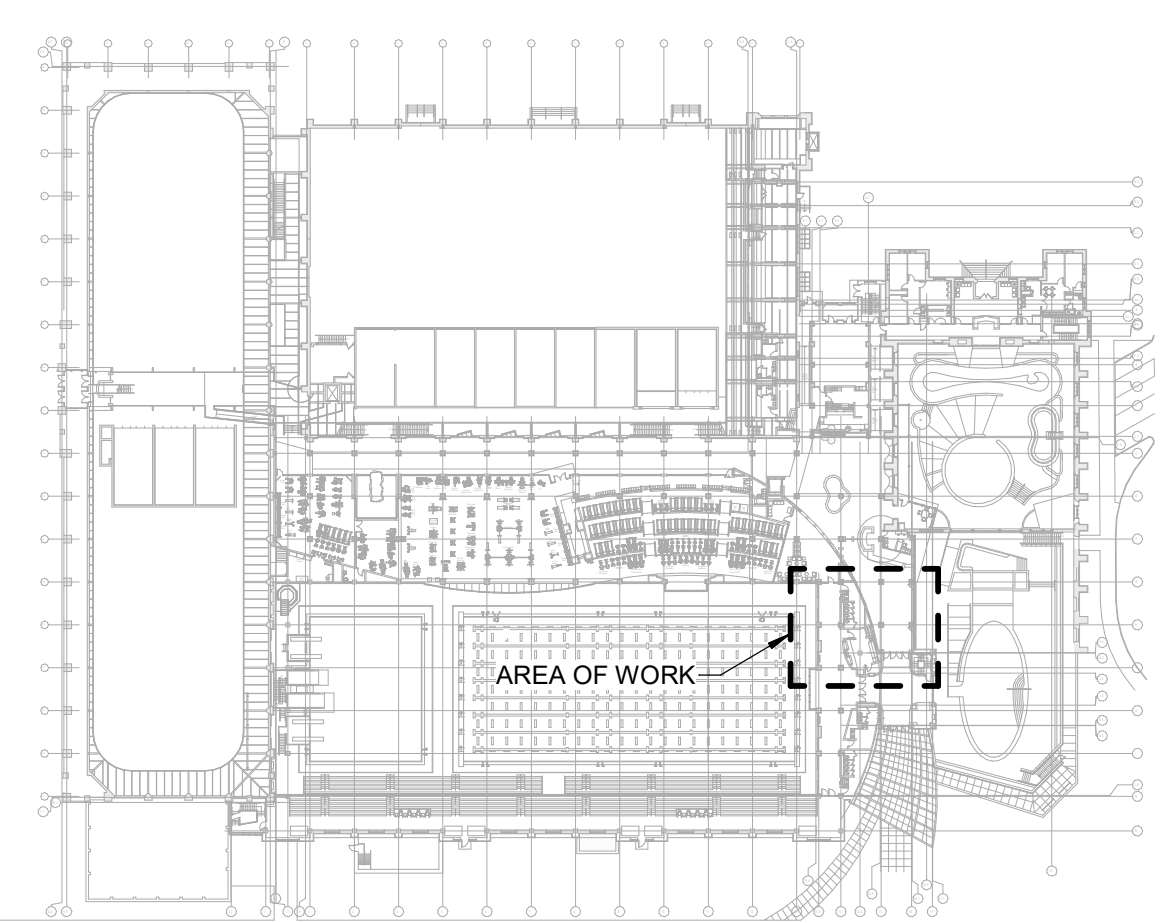
MECHANICAL ROOM 301 FIRE PROTECTION PLAN
SCALE: 1/8" = 1'-0"



SECOND FLOOR KEYPLAN

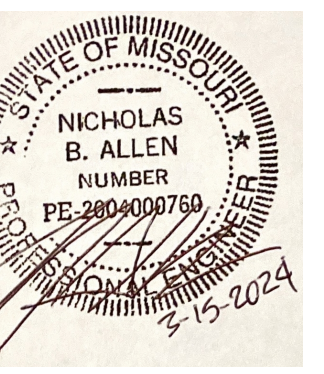


PARTIAL EAST MEZZANINE FLOOR FIRE PROTECTION PLAN
SCALE: 1/8" = 1'-0"



MEZZANINE FLOOR KEYPLAN

STUDENT RECREATION CENTER - AHU 1-3
REPLACEMENT
#CP242271



NICK ALLEN
PE-200400760

No.	Date	Description

DATE: 02/14/2024
PROJECT #: 071588.002
DRAWN BY: KAA
CHECKED BY: NBA

MISC FIRE PROTECTION PLANS

M8.0

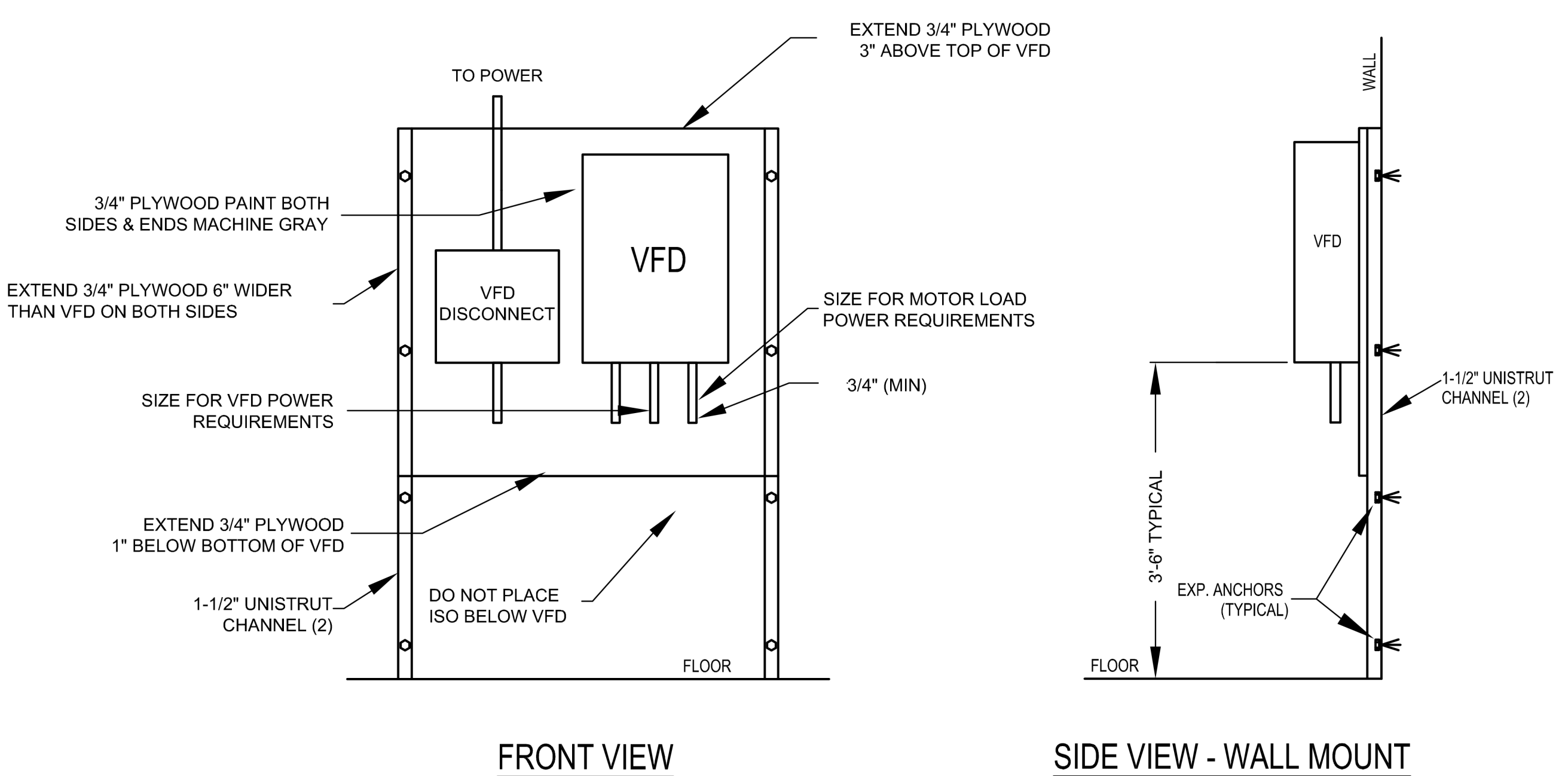
EQUIPMENT		MOTOR DATA		BRANCH CIRCUIT DATA		SOURCE DATA		UNIT CONTROLS						EQUIPMENT DISCONNECT				REMARKS					
EQUIP. ID	DESCRIPTION	HP / (kW) / (MCA)	VOLTAGE / PHASE	LINE SIDE FEEDER SIZE	SOURCE	OCB		OCB		NEMA RATING	LOAD SIDE FEEDER SIZE	(3)			EQUIP. ID	SWITCH SIZE (A)	POLE	OCB SIZE	NEMA RATING	(3)			
						TYPE(1) / POLES	SWITCH/FUSE SIZE OR CB TRIP (A)	TYPE(2)	TYPE(1)			SWITCH/FUSE OR CB TRIP	F	I						C	F	I	
PAU-1	PRIMARY AIR UNIT	89.25 MCA	480 / 3	3#3/0, 1#6 GRD - 2" C	DPLP3	FS / 3	200/110	VFD - 12KHZ	NA	NA	1	3#2, 1#6GRD - 1-1/4" C	E	E	E	200	3	NF	1	E	E	E	60HP VFD BY DIV 26
PAU-2	PRIMARY AIR UNIT	89.25 MCA	480 / 3	3#3/0, 1#6 GRD - 2" C	DPLP3	FS / 3	200/110	VFD - 12KHZ	NA	NA	1	3#2, 1#6GRD - 1-1/4" C	E	E	E	200	3	NF	1	E	E	E	60HP VFD BY DIV 26
PAU-3	PRIMARY AIR UNIT	89.25 MCA	480 / 3	3#3/0, 1#6 GRD - 2" C	DPLP3	FS / 3	200/110	VFD - 12KHZ	NA	NA	1	3#2, 1#6GRD - 1-1/4" C	E	E	E	200	3	NF	1	E	E	E	60HP VFD BY DIV 26
EF-36	EXHAUST FAN	10 HP	480 / 3	3#6, 1#10 GRD - 1" C	DPLP3	FS / 3	30/20	VFD - 12KHZ	NA	NA	1	3#10, 1#10GRD - 3/4" C	E	E	E	30	3	NF	3R	E	E	E	
EF-37	EXHAUST FAN	10 HP	480 / 3	3#6, 1#10 GRD - 1" C	DPLP3	FS / 3	30/20	VFD - 12KHZ	NA	NA	1	3#10, 1#10GRD - 3/4" C	E	E	E	30	3	NF	3R	E	E	E	
EF-38	EXHAUST FAN	25 HP	480 / 3	3#1, 1#8 GRD - 2" C	DPLP3	FS / 3	60/45	VFD - 12KHZ	NA	NA	1	3#4, 1#8GRD - 1-1/4" C	E	E	E	60	3	NF	3R	E	E	E	
EF-39	EXHAUST FAN	25 HP	480 / 3	3#1, 1#8 GRD - 2" C	DPLP3	FS / 3	60/45	VFD - 12KHZ	NA	NA	1	3#4, 1#8GRD - 1-1/4" C	E	E	E	60	3	NF	3R	E	E	E	
P-26	GLYCOL LOOP PAU-1	2 HP	208 / 3	3#12, 1#12 GRD - 3/4" C	PP15	CB / 3	20	COMB	0	20	1	3#12, 1#12 GRD - 3/4" C	E	E	E	NA	NA	NA	NA	N	N	N	
P-27	GLYCOL LOOP PAU-2&3	2 HP	208 / 3	3#12, 1#12 GRD - 3/4" C	PP15	CB / 3	20	COMB	0	20	1	3#12, 1#12 GRD - 3/4" C	E	E	E	NA	NA	NA	NA	N	N	N	
P-28	PRHEAT COIL PUMP PAU-1	1 HP	208 / 3	3#12, 1#12 GRD - 3/4" C	PP15	CB / 3	20	COMB	0	20	1	3#12, 1#12 GRD - 3/4" C	E	E	E	NA	NA	NA	NA	N	N	N	
P-29	PRHEAT COIL PUMP PAU-2	1 HP	208 / 3	3#12, 1#12 GRD - 3/4" C	PP15	CB / 3	20	COMB	0	20	1	3#12, 1#12 GRD - 3/4" C	E	E	E	NA	NA	NA	NA	N	N	N	
P-30	PRHEAT COIL PUMP PAU-3	1 HP	208 / 3	3#12, 1#12 GRD - 3/4" C	PP15	CB / 3	20	COMB	0	20	1	3#12, 1#12 GRD - 3/4" C	E	E	E	NA	NA	NA	NA	N	N	N	
P-11	EXISTING	15 HP	480 / 3	3#4, 1#8 GRD - 1-1/4" C	MDP1	FS / 3	EXISTING	VFD - 12KHZ	NA	30	1	3#10, 1#10GRD - 3/4" C	E	E	E	30	3	NF	1	N	N	N	EXISTING PUMP - NEW VFD PROVIDED BY DIV 26. LABELED PP-19 AT PUMP.
P-13	EXISTING	7.5 HP	480 / 3	3#10, 1#10 GRD - 3/4" C	DPLP2	FS / 3	EXISTING	VFD - 12KHZ	NA	30	1	3#12, 1#12GRD - 3/4" C	E	E	E	30	3	NF	1	N	N	N	EXISTING PUMP - NEW VFD PROVIDED BY DIV 26. LABELED PP-21 AT PUMP.
P-8	HEATING WATER PUMP	60 HP	480 / 3	3#3/0, 1#6 GRD - 2" C	MDP1	FS / 3	100/100	VFD - 12KHZ	NA	NA	1	3#2, 1#6GRD - 1-1/4" C	E	E	E	100	3	NF	1	E	E	E	INSTALL NEW TIME DELAY FUSES IN EXISTING SWITCH
P-9	HEATING WATER PUMP	60 HP	480 / 3	3#3/0, 1#6 GRD - 2" C	MDP1	FS / 3	100/100	VFD - 12KHZ	NA	NA	1	3#2, 1#6GRD - 1-1/4" C	E	E	E	100	3	NF	1	E	E	E	INSTALL NEW TIME DELAY FUSES IN EXISTING SWITCH

HP / (kW): HORSEPOWER IS SHOWN UNLESS KILOWATTS (KW) OR MINIMUM CIRCUIT AMPACITY (MCA) IS CALLED OUT

TYPE(1): FS FUSED SWITCH, CB CIRCUIT BREAKER, NA NOT APPLICABLE

TYPE(2): COMB Combination Magnetic Starter / Disconnect Switch or Circuit Breaker, MAG Magnetic Starter, MAN Manual Motor Starter, PWCP Pre-wired Control Panel, VFD - 4KHZ Variable Frequency Drive - Maximum Carrier Frequency of 4kHz, VFD - 12KHZ Variable Frequency Drive - Maximum Carrier Frequency of 12kHz

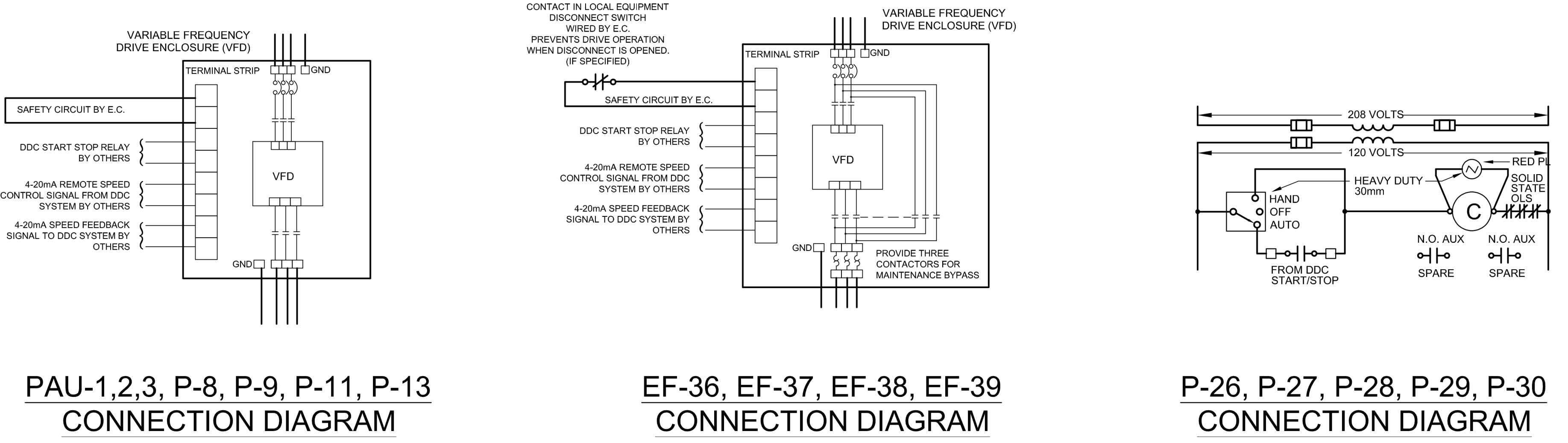
F1C: (Furnished, Installed, Connected), M Mechanical, Plumbing, Fire Protection Contractor, or Factory, E Electrical Contractor, N Not Applicable



LOAD	POLES	CKT BKR	CKT	Ph	CKT	CKT BKR	POLES	LOAD
RECEPTACLES 301	1	20	1	A	2	20	1	SPARE
RECEPTACLES 301	1	20	3	B	4	20	1	ACID EXHAUST PUMP
RECEPTACLES 301	1	20	5	C	6	20	1	SPARE
ROOFTOP RECEPS + LIGHTS	1	20	7	A	8	20	1	SPARE
EF-16	1	20	9	B	10	20	1	EF-17
LIGHTS STAIR C202	1	20	11	C	12	20	1	TEMP CONTROL PANEL 12
LIGHTS STAIR C202	1	20	13	A	14	20	1	TEMP CONTROL PANEL 13
AHU LIGHTING 301	1	20	15	B	16	20	1	SPARE
SPARE	1	20	17	C	18	20	1	RELAY POWER
SPARE	1	20	19	A	20	20	1	SPARE
SPARE	1	20	21	B	22	20	1	SPARE
SPARE	1	20	23	C	24	20	1	SPARE
			25	A	26			
P-26 (2HP)	3	20	27	B	28	20	3	P-27 (2HP)
			29	C	30			
			31	A	32			
P-28 (1HP)	3	20	33	B	34	20	3	P-29 (1HP)
			35	C	36			
			37	A	38			SPACE
P-30 (1HP)	3	20	39	B	40			SPACE
			41	C	42			SPACE

- NOTES:**
- VARIABLE FREQUENCY DRIVE (VFD) IS PROVIDED AND INSTALLED BY CONTRACTOR.
 - KEEP ALL LOW VOLTAGE CONTROL WIRING (UNDER 25V) AND HIGH VOLTAGE POWER WIRING (OVER 25V) SEPARATED. (RUN IN SEPARATE CONDUIT).
 - PLYWOOD SIZE IS BASED ON ONE VFD IN EACH LOCATION. FOR MULTIPLE VFD'S, COORDINATE WITH OWNER'S REPRESENTATIVE. MOTOR LEADS SHALL BE INSTALLED IN DEDICATED CONDUIT TO EACH MOTOR.
 - POWER TO DRIVE AND LEADS TO MOTOR MUST BE IN SEPARATE CONDUIT. POWER WIRING AND CONTROL WIRING MUST BE IN SEPARATE CONDUIT.
 - INSTALL ISO TRANSFORMER IF REQUIRED.
 - DO NOT PLACE ISO TRANSFORMER BELOW VFD.
 - IF REMOTE SERVICE DISCONNECT IS REQUIRED IT MUST BE HARDWIRED TO VFD SAFETY CIRCUIT TO SHUT DOWN DRIVE IF DISCONNECT IS OPENED.

VFD MOUNTING DETAIL



PAU-1,2,3, P-8, P-9, P-11, P-13 CONNECTION DIAGRAM

EF-36, EF-37, EF-38, EF-39 CONNECTION DIAGRAM

P-26, P-27, P-28, P-29, P-30 CONNECTION DIAGRAM

McCLURE ENGINEERING
 1000 Clark Avenue
 Saint Louis, Missouri 63102
 T 314-645-6232
 MEP Engineers
 McClure Engineering
 Professional Engineering
 Corporation
 Missouri State Certificate of
 Authority #000087

ARCHITECT
 SIMON OSWALD ARCHITECTURE
 MO Cert. of Auth. #000828
 2801 WOODARD DRIVE, SUITE
 103 COLUMBIA, MO 65202
 T 573-443-1407

STRUCTURAL ENGINEER
 CROCKETT ENGINEERING
 CONSULTANTS
 MO Cert. of Auth. #200151301
 1000 W WILSONS BLVD. BLDG. 1,
 COLUMBIA, MO 65203
 T 573-447-0292

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 #CP24271

STATE OF MISSOURI
 PHILIP J. WENTZ
 LICENSE NUMBER
 E-29111

Philip J. Wentz
 Missouri # E-29111

REVISIONS	Description	Date
No.		

ELECTRICAL SHEET INDEX	
SHEET NO.	SHEET NAME
E0.0	ELECTRICAL SCHEDULES AND DETAILS
E0.1	ELECTRICAL ONE-LINE DIAGRAM - DEMOLITION
E0.2	ELECTRICAL ONE-LINE DIAGRAM - NEW WORK
E2.0	MECHANICAL ROOMS - ELECTRICAL DEMOLITION
E2.1	MECHANICAL ROOM EAST - ELECTRICAL DEMOLITION
E2.2	MECHANICAL ROOM EAST ROOF - ELECTRICAL DEMOLITION
E3.0	MECHANICAL ROOMS - ELECTRICAL NEW WORK
E3.1	MECHANICAL ROOM EAST - ELECTRICAL NEW WORK
E3.2	MECHANICAL ROOM EAST ROOF - ELECTRICAL NEW WORK

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ELECTRICAL SCHEDULES AND DETAILS

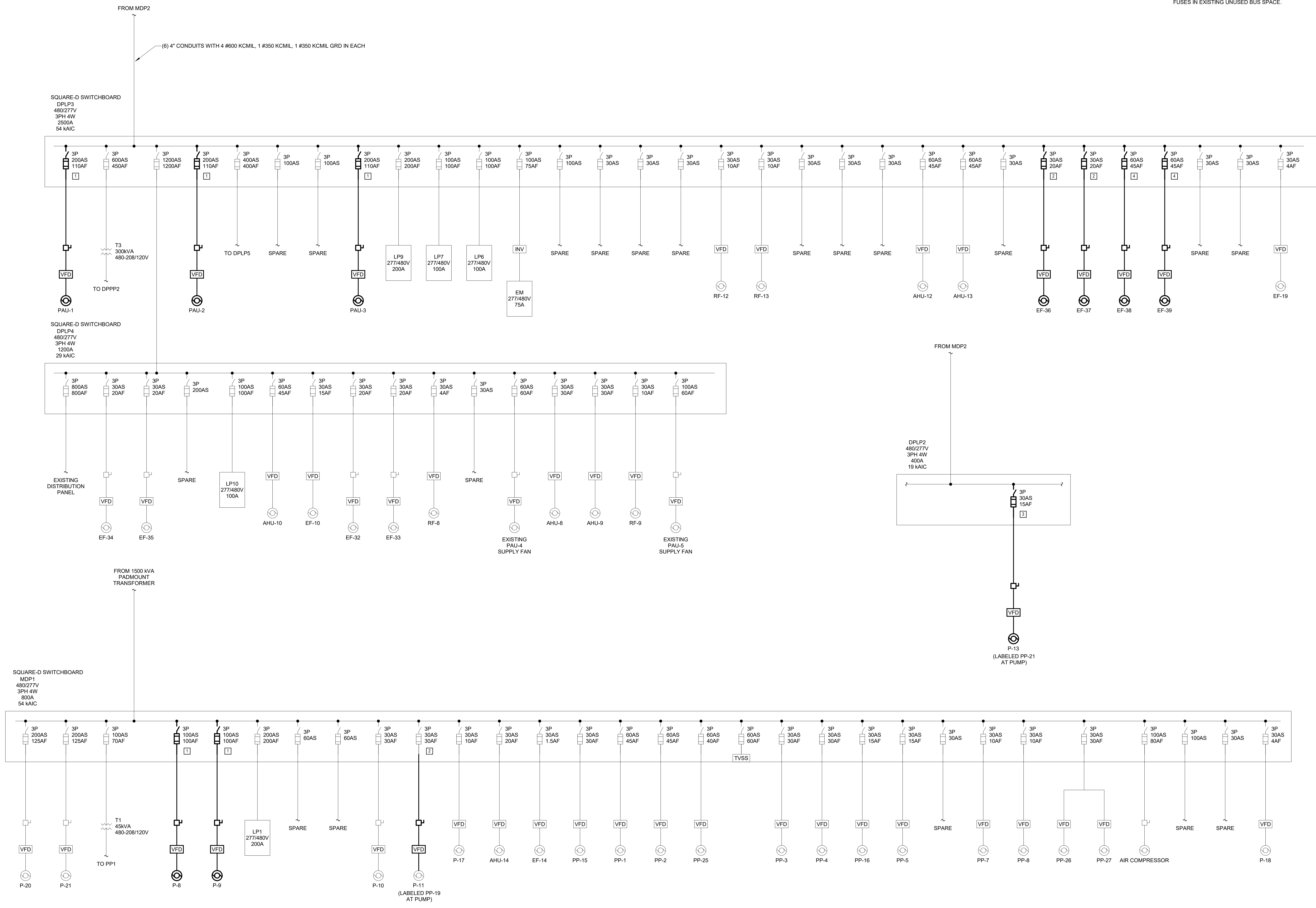
E0.0

GENERAL NOTES

1. ALL NEW VFDS SHALL BE CAPABLE OF A 12KHZ SINE CODED PULSE WIDTH MODULATED OUTPUT. LINE SIDE FEEDERS SHALL BE SIZED ACCORDINGLY. REFER TO THE MECHANICAL ELECTRICAL INTERFACE SHEET E0.0 FOR MORE INFORMATION.

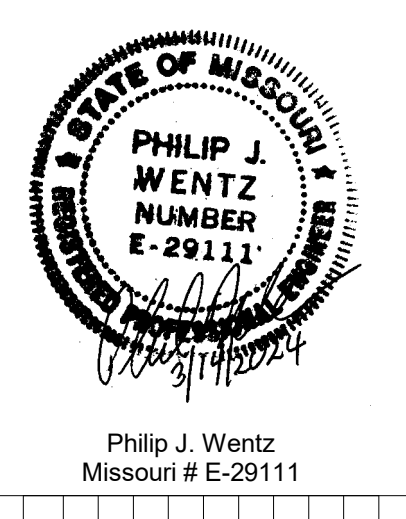
KEYED NOTES

- 1. INSTALL NEW TIME DELAY FUSES IN EXISTING SWITCH. FEED NEW MECHANICAL EQUIPMENT. PROVIDE NEW DISCONNECT AND CONTROLS. REFER TO MECHANICAL ELECTRICAL INTERFACE SHEET E0.1 FOR MORE INFORMATION.
- 2. FEED NEW MECHANICAL EQUIPMENT FROM EXISTING SWITCH AND FUSES. PROVIDE NEW DISCONNECT AND CONTROLS. REFER TO MECHANICAL ELECTRICAL INTERFACE AND CONNECTION DIAGRAMS SHEET E0.1 FOR MORE INFORMATION.
- 3. FEED NEW MECHANICAL EQUIPMENT FROM EXISTING SWITCH. REPLACE FUSES. PROVIDE NEW DISCONNECT AND CONTROLS. REFER TO MECHANICAL ELECTRICAL INTERFACE AND CONNECTION DIAGRAMS SHEET E0.1 FOR MORE INFORMATION.
- 4. FURNISH AND INSTALL NEW 60A SQUARE-D QMB362TW SWITCH WITH 45A FUSES IN EXISTING UNUSED BUS SPACE.



ELECTRICAL ONE-LINE DIAGRAM - NEW WORK

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ELECTRICAL ONE-LINE DIAGRAM - NEW WORK

E0.2



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MECHANICAL ROOMS -
ELECTRICAL DEMOLITION

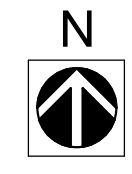
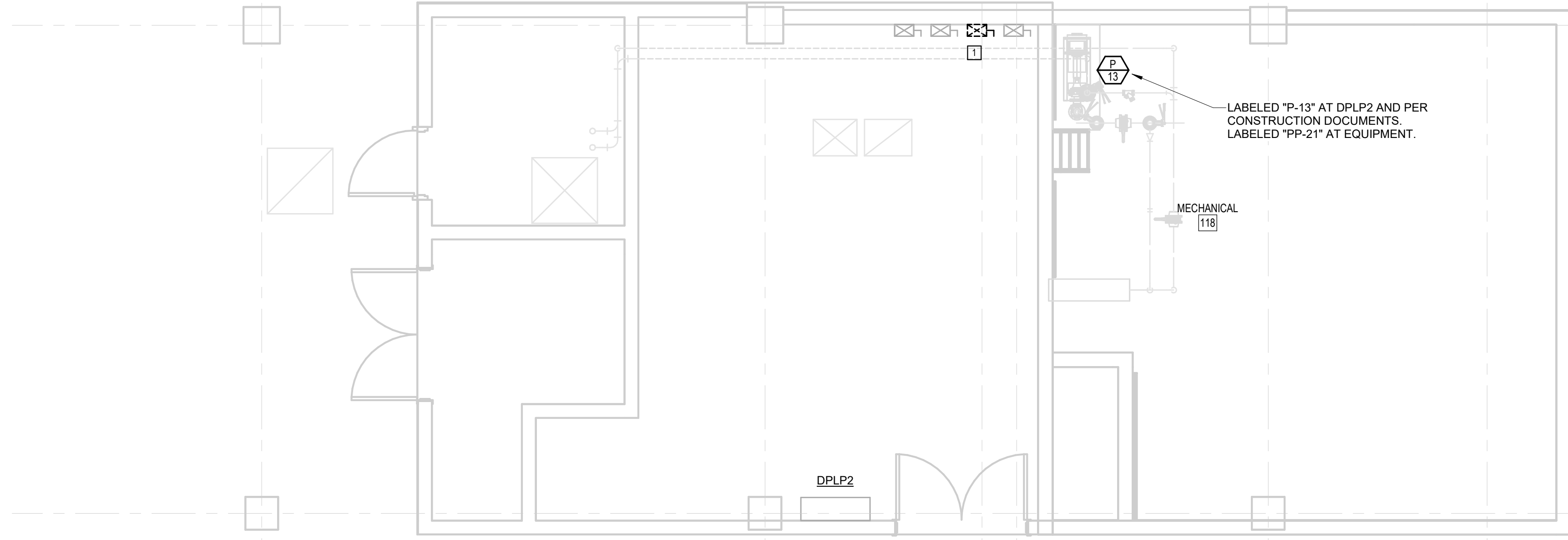
E2.0

GENERAL NOTES

- ALL SYMBOLS SHOWN DASHED HEAVY ARE EXISTING ELECTRICAL DEVICES TO BE REMOVED OR HANDLED AS NOTED. ALL SYMBOLS SHOWN HALF-TONE LIGHT LINE ARE EXISTING ELECTRICAL DEVICES TO REMAIN. EXISTING ELECTRICAL DEVICES WHICH ARE TO REMAIN SHALL BE EXTENDED TO BE FLUSH WITH NEW FINISH OR FURRING ON EXISTING WALLS WHERE REQUIRED.
- ALL EXISTING ELECTRICAL DEVICES IN A WALL THAT IS TO BE REMOVED; ELECTRICAL CONTRACTOR SHALL DISCONNECT POWER, CUT OFF CONDUCTORS AND CAP CONDUIT IN FLOOR OR CEILING AS REQUIRED. DEVICES ARE TO BE REMOVED ALONG WITH WALL BY GENERAL CONTRACTOR UNLESS OTHERWISE NOTED.
- ALL EXISTING ELECTRICAL DEVICES TO BE REMOVED FROM WALLS WHICH ARE TO REMAIN; ELECTRICAL CONTRACTOR SHALL DISCONNECT POWER, REMOVE CONDUCTORS, REMOVE DEVICE AND PROVIDE BLANK COVERPLATES AS REQUIRED. UNLESS OTHERWISE NOTED.
- FOR A PORTION OF A CIRCUIT WHICH IS REMOVED OR ABANDONED, RE-ESTABLISH CIRCUIT CONTINUITY FOR THE PORTION OF THE CIRCUIT WHICH IS TO REMAIN.
- ALL EXISTING CONDUITS, RACEWAYS AND WIRING ROUTED IN EXISTING WALLS AND CEILING SPACES (WHICH ARE TO BE DEMOLISHED) WHICH SERVE OTHER AREAS SHALL BE REROUTED AS REQUIRED WITH PERMISSION OF OWNER.
- PROVIDE AND INSTALL SUPPORTS FOR EXISTING CABLES AND CONDUITS ABOVE CEILINGS THAT ARE CURRENTLY UNSUPPORTED IN ALL AREAS WHERE CEILING IS BEING REMOVED.

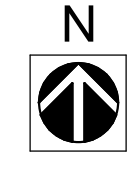
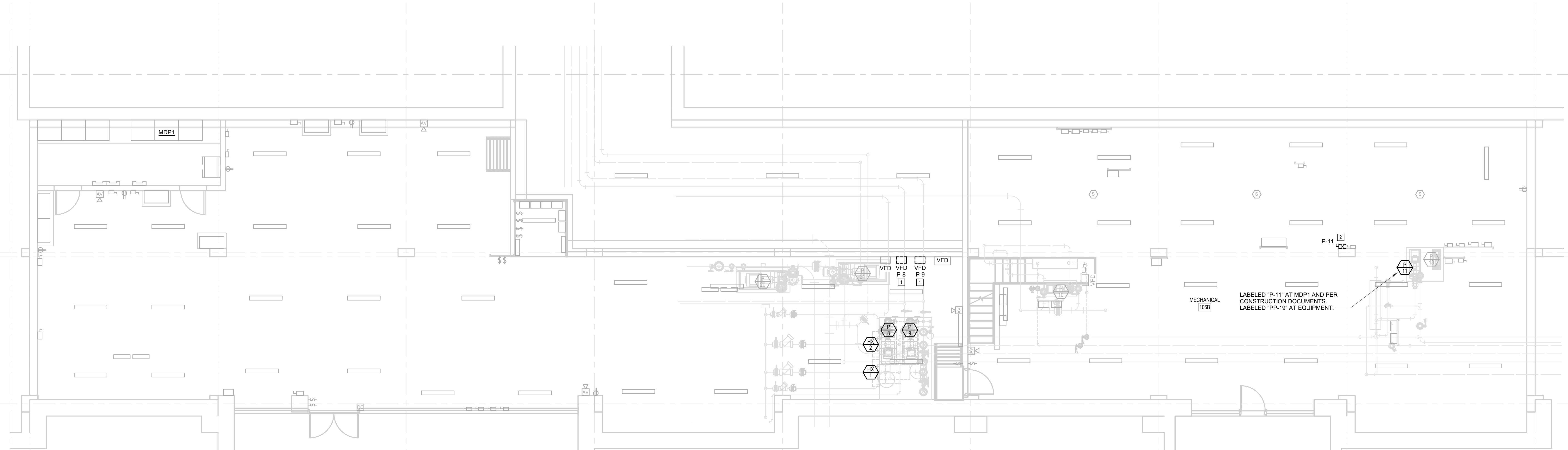
KEYED NOTES

- ☐ COMPLETELY DEMOLISH AND ELECTRICALLY MAKE SAFE BACK TO SOURCE ALL FEEDERS, DISCONNECTS, AND CONTROLS ASSOCIATED WITH HVAC EQUIPMENT. REMOVE FUSES AND PRESERVE EXISTING SWITCH AT SOURCE. REFER TO DEMOLITION ONE-LINE DIAGRAM FOR MORE INFORMATION.
- ☑ COMPLETELY DEMOLISH AND ELECTRICALLY MAKE SAFE BACK TO SOURCE ALL FEEDERS, DISCONNECTS, AND CONTROLS ASSOCIATED WITH HVAC EQUIPMENT. PRESERVE EXISTING SWITCH AND FUSES AT SOURCE FOR RECONNECTION TO NEW EQUIPMENT.



MECHANICAL ROOM 118 - ELECTRICAL DEMOLITION

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



MECHANICAL ROOM 106B - ELECTRICAL DEMOLITION

SCALE: 3/16" = 1'-0"

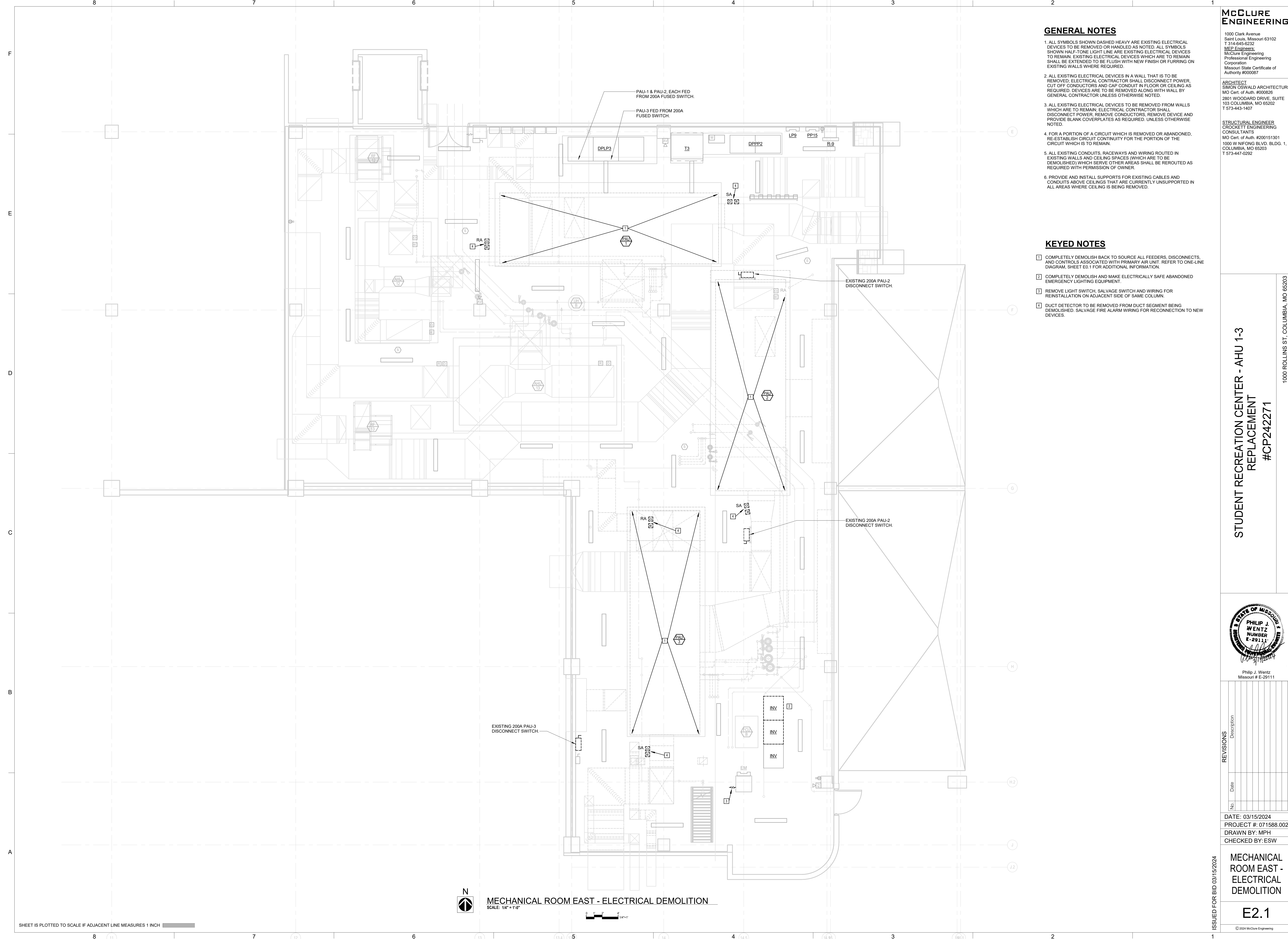


GENERAL NOTES

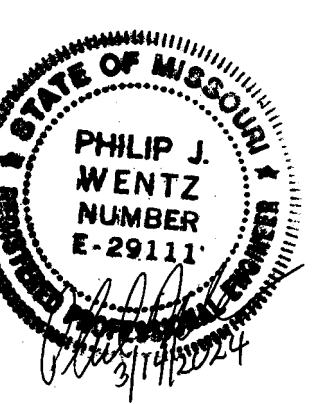
1. ALL SYMBOLS SHOWN DASHED HEAVY ARE EXISTING ELECTRICAL DEVICES TO BE REMOVED OR HANDLED AS NOTED. ALL SYMBOLS SHOWN HALF-TONE LIGHT LINE ARE EXISTING ELECTRICAL DEVICES TO REMAIN. EXISTING ELECTRICAL DEVICES WHICH ARE TO REMAIN SHALL BE EXTENDED TO BE FLUSH WITH NEW FINISH OR FURRING ON EXISTING WALLS WHERE REQUIRED.
2. ALL EXISTING ELECTRICAL DEVICES IN A WALL THAT IS TO BE REMOVED; ELECTRICAL CONTRACTOR SHALL DISCONNECT POWER, CUT OFF CONDUCTORS AND CAP CONDUIT IN FLOOR OR CEILING AS REQUIRED. DEVICES ARE TO BE REMOVED ALONG WITH WALL BY GENERAL CONTRACTOR UNLESS OTHERWISE NOTED.
3. ALL EXISTING ELECTRICAL DEVICES TO BE REMOVED FROM WALLS WHICH ARE TO REMAIN; ELECTRICAL CONTRACTOR SHALL DISCONNECT POWER, REMOVE CONDUCTORS, REMOVE DEVICE AND PROVIDE BLANK COVERPLATES AS REQUIRED, UNLESS OTHERWISE NOTED.
4. FOR A PORTION OF A CIRCUIT WHICH IS REMOVED OR ABANDONED, RE-ESTABLISH CIRCUIT CONTINUITY FOR THE PORTION OF THE CIRCUIT WHICH IS TO REMAIN.
5. ALL EXISTING CONDUITS, RACEWAYS AND WIRING ROUTED IN EXISTING WALLS AND CEILING SPACES (WHICH ARE TO BE DEMOLISHED) WHICH SERVE OTHER AREAS SHALL BE REROUTED AS REQUIRED WITH PERMISSION OF OWNER.
6. PROVIDE AND INSTALL SUPPORTS FOR EXISTING CABLES AND CONDUITS ABOVE CEILINGS THAT ARE CURRENTLY UNSUPPORTED IN ALL AREAS WHERE CEILING IS BEING REMOVED.

KEYED NOTES

- 1 COMPLETELY DEMOLISH BACK TO SOURCE ALL FEEDERS, DISCONNECTS, AND CONTROLS ASSOCIATED WITH PRIMARY AIR UNIT. REFER TO ONE-LINE DIAGRAM, SHEET ED.1 FOR ADDITIONAL INFORMATION.
- 2 COMPLETELY DEMOLISH AND MAKE ELECTRICALLY SAFE ABANDONED EMERGENCY LIGHTING EQUIPMENT.
- 3 REMOVE LIGHT SWITCH, SALVAGE SWITCH AND WIRING FOR REINSTALLATION ON ADJACENT SIDE OF SAME COLUMN.
- 4 DUCT DETECTOR TO BE REMOVED FROM DUCT SEGMENT BEING DEMOLISHED. SALVAGE FIRE ALARM WIRING FOR RECONNECTION TO NEW DEVICES.



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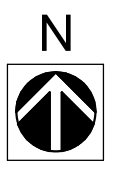
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 Missouri # E-29111

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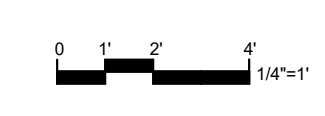
MECHANICAL ROOM EAST -
 ELECTRICAL DEMOLITION

E2.1



MECHANICAL ROOM EAST - ELECTRICAL DEMOLITION

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

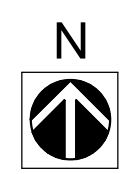


GENERAL NOTES

1. ALL SYMBOLS SHOWN DASHED HEAVY ARE EXISTING ELECTRICAL DEVICES TO BE REMOVED OR HANDLED AS NOTED. ALL SYMBOLS SHOWN HALF-TONE LIGHT LINE ARE EXISTING ELECTRICAL DEVICES TO REMAIN. EXISTING ELECTRICAL DEVICES WHICH ARE TO REMAIN SHALL BE EXTENDED TO BE FLUSH WITH NEW FINISH OR FURRING ON EXISTING WALLS WHERE REQUIRED.
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3. ALL EXISTING ELECTRICAL DEVICES TO BE REMOVED FROM WALLS WHICH ARE TO REMAIN; ELECTRICAL CONTRACTOR SHALL DISCONNECT POWER, REMOVE CONDUCTORS, REMOVE DEVICE AND PROVIDE BLANK COVERPLATES AS REQUIRED. UNLESS OTHERWISE NOTED.
4. FOR A PORTION OF A CIRCUIT WHICH IS REMOVED OR ABANDONED, RE-ESTABLISH CIRCUIT CONTINUITY FOR THE PORTION OF THE CIRCUIT WHICH IS TO REMAIN.
5. ALL EXISTING CONDUITS, RACEWAYS AND WIRING ROUTED IN EXISTING WALLS AND CEILING SPACES (WHICH ARE TO BE DEMOLISHED) WHICH SERVE OTHER AREAS SHALL BE REROUTED AS REQUIRED WITH PERMISSION OF OWNER.
6. PROVIDE AND INSTALL SUPPORTS FOR EXISTING CABLES AND CONDUITS ABOVE CEILINGS THAT ARE CURRENTLY UNSUPPORTED IN ALL AREAS WHERE CEILING IS BEING REMOVED.

KEYED NOTES

- 1 COMPLETELY DEMOLISH BACK TO SOURCE ALL FEEDERS, DISCONNECTS, AND CONTROLS ASSOCIATED WITH MECHANICAL EQUIPMENT. REFER TO ONE-LINE DIAGRAM, SHEET E0.1 FOR ADDITIONAL INFORMATION.

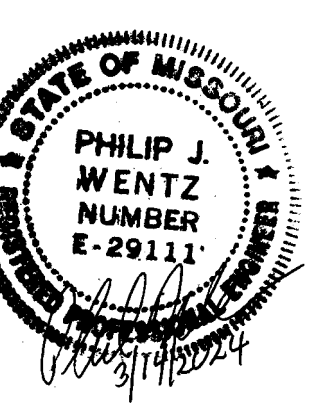


MECHANICAL ROOM EAST ROOF - ELECTRICAL DEMOLITION

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



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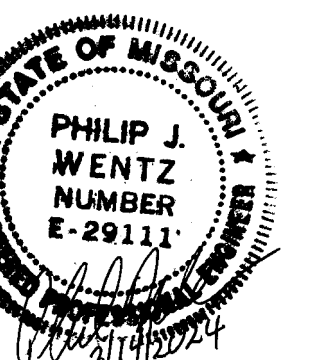
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Missouri # E-29111

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MECHANICAL ROOM EAST ROOF - ELECTRICAL DEMOLITION

E2.2



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Missouri # E-29111

No.	Date	Description

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MECHANICAL
ROOMS -
ELECTRICAL
NEW WORK

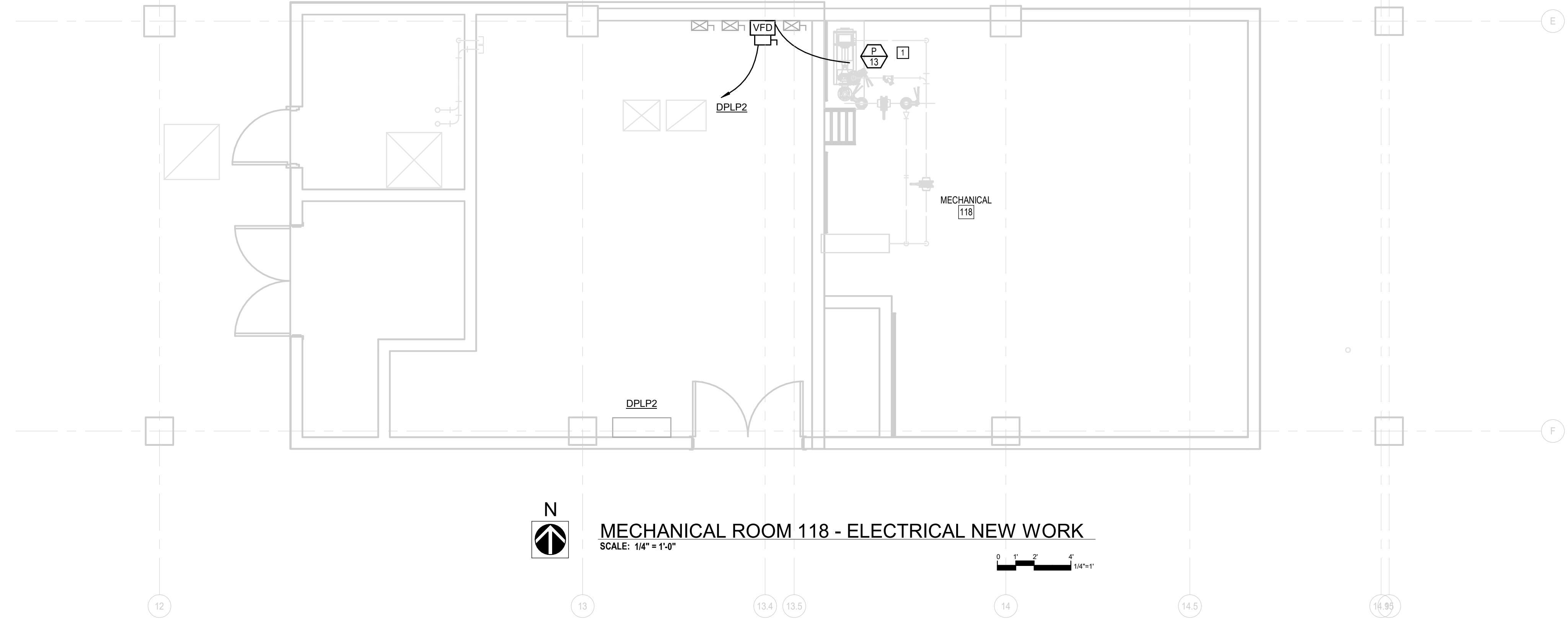
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GENERAL NOTES

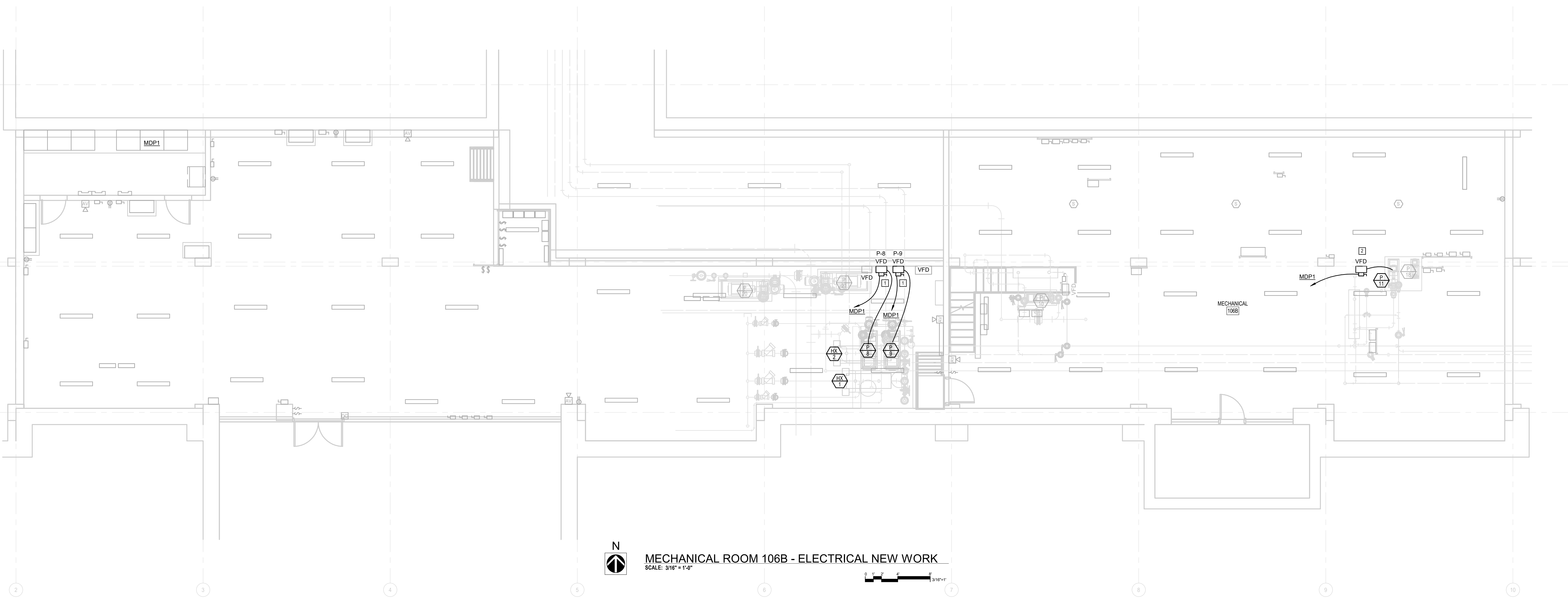
- COORDINATE ALL LOCATIONS, HEIGHTS AND REQUIREMENTS OF ROUGH-INS AND PATHWAYS, CONDUITS AND CABLE TRAY LOCATIONS WITH OWNER, ARCHITECT, CONSULTANTS, AND OTHER TRADES PRIOR TO ORDER AND INSTALLATION. PROVIDE NYLON GROMMETS ON EXPOSED ENDS OF ALL PATHWAY CONDUITS.
- FIRE SEAL ALL PENETRATIONS OF FIRE RATED ASSEMBLIES. SEAL ALL ROOF AND EXTERIOR WALL PENETRATIONS WEATHER TIGHT.
- PROVIDE UNISTRUT SUPPORT AS REQUIRED FOR ALL VFDs AND STARTERS.
- REFER TO MECHANICAL / ELECTRICAL INTERFACE ON SHEET E0.1 FOR ADDITIONAL MECHANICAL EQUIPMENT INFORMATION: FEEDER SIZE, UNIT CONTROLS, AND OVERCURRENT DETAILS.
- COORDINATE ALL BRANCH CIRCUITING AND FEEDER CONDUITS WITH MECHANICAL PIPING AND OTHER UTILITIES.

KEYED NOTES

- FURNISH AND INSTALL NEW DISCONNECT AND CONTROLS FOR EQUIPMENT. INSTALL NEW FUSES IN EXISTING SWITCH. FEED NEW MECHANICAL EQUIPMENT. REFER TO MECHANICAL ELECTRICAL INTERFACE AND ONE-LINE DIAGRAM FOR MORE INFORMATION.
- FURNISH AND INSTALL NEW DISCONNECT AND CONTROLS FOR EQUIPMENT. CONNECT TO EXISTING FUSES AND SWITCH AT SOURCE. FEED NEW MECHANICAL EQUIPMENT. REFER TO MECHANICAL ELECTRICAL INTERFACE AND ONE-LINE DIAGRAM FOR MORE INFORMATION.



MECHANICAL ROOM 118 - ELECTRICAL NEW WORK
SCALE: 1/4" = 1'-0"



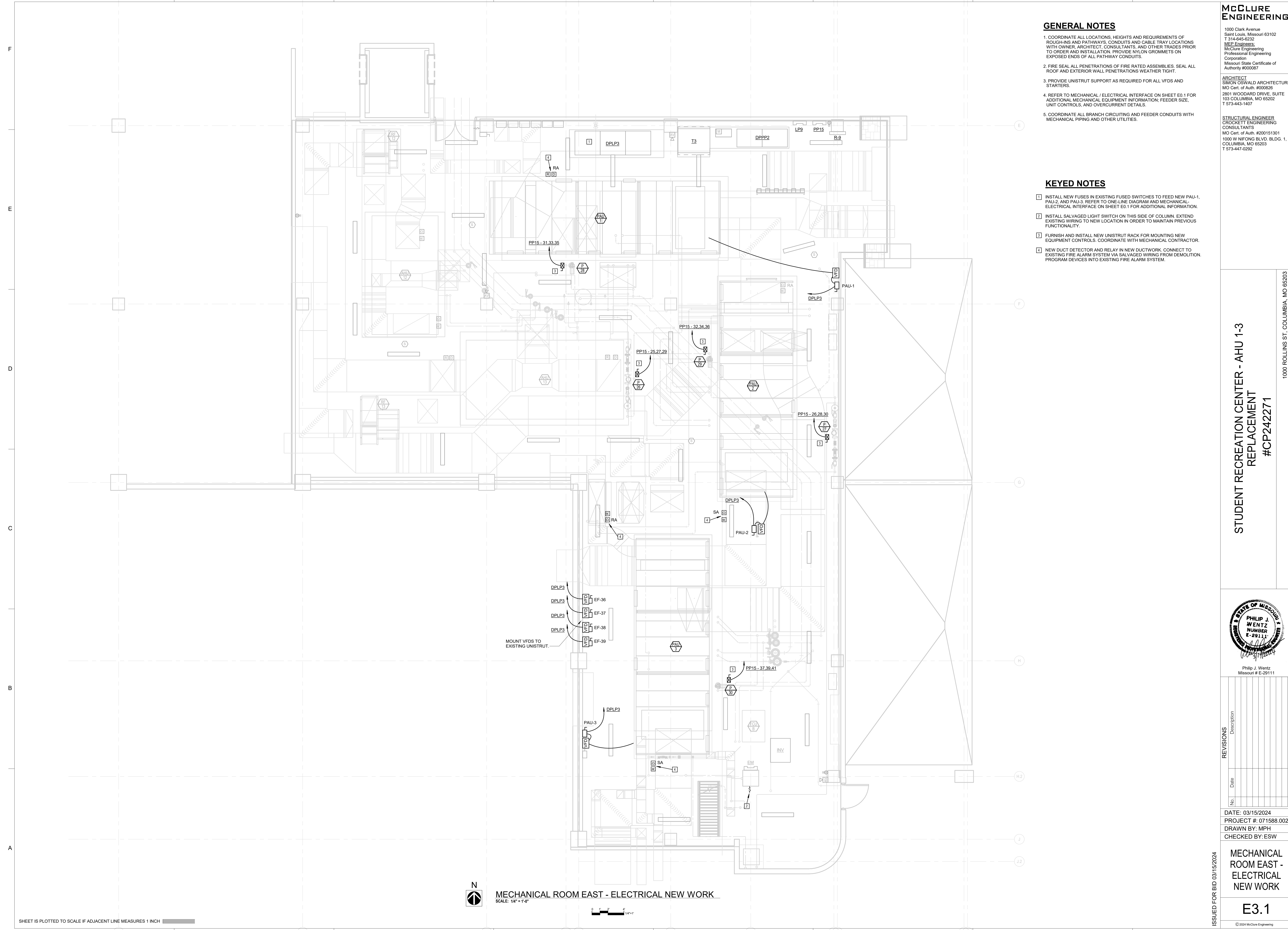
MECHANICAL ROOM 106B - ELECTRICAL NEW WORK
SCALE: 3/16" = 1'-0"

GENERAL NOTES

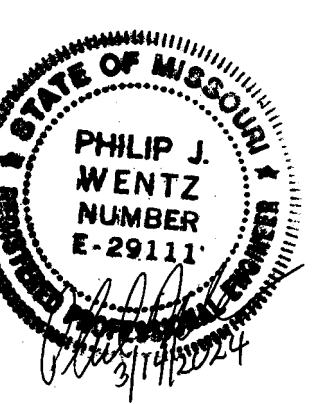
- COORDINATE ALL LOCATIONS, HEIGHTS AND REQUIREMENTS OF ROUGH-INS AND PATHWAYS, CONDUITS AND CABLE TRAY LOCATIONS WITH OWNER, ARCHITECT, CONSULTANTS, AND OTHER TRADES PRIOR TO ORDER AND INSTALLATION. PROVIDE NYLON GROMMETS ON EXPOSED ENDS OF ALL PATHWAY CONDUITS.
- FIRE SEAL ALL PENETRATIONS OF FIRE RATED ASSEMBLIES. SEAL ALL ROOF AND EXTERIOR WALL PENETRATIONS WEATHER TIGHT.
- PROVIDE UNISTRUT SUPPORT AS REQUIRED FOR ALL VFDS AND STARTERS.
- REFER TO MECHANICAL / ELECTRICAL INTERFACE ON SHEET E0.1 FOR ADDITIONAL MECHANICAL EQUIPMENT INFORMATION, FEEDER SIZE, UNIT CONTROLS, AND OVERCURRENT DETAILS.
- COORDINATE ALL BRANCH CIRCUITING AND FEEDER CONDUITS WITH MECHANICAL PIPING AND OTHER UTILITIES.

KEYED NOTES

- INSTALL NEW FUSES IN EXISTING FUSED SWITCHES TO FEED NEW PAU-1, PAU-2, AND PAU-3. REFER TO ONE-LINE DIAGRAM AND MECHANICAL-ELECTRICAL INTERFACE ON SHEET E0.1 FOR ADDITIONAL INFORMATION.
- INSTALL SALVAGED LIGHT SWITCH ON THIS SIDE OF COLUMN. EXTEND EXISTING WIRING TO NEW LOCATION IN ORDER TO MAINTAIN PREVIOUS FUNCTIONALITY.
- FURNISH AND INSTALL NEW UNISTRUT RACK FOR MOUNTING NEW EQUIPMENT CONTROLS. COORDINATE WITH MECHANICAL CONTRACTOR.
- NEW DUCT DETECTOR AND RELAY IN NEW DUCTWORK. CONNECT TO EXISTING FIRE ALARM SYSTEM VIA SALVAGED WIRING FROM DEMOLITION. PROGRAM DEVICES INTO EXISTING FIRE ALARM SYSTEM.



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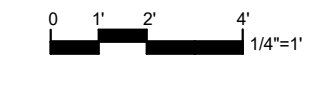
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MECHANICAL ROOM EAST -
ELECTRICAL
NEW WORK

E3.1

MECHANICAL ROOM EAST - ELECTRICAL NEW WORK

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



GENERAL NOTES

- COORDINATE ALL LOCATIONS, HEIGHTS AND REQUIREMENTS OF ROUGH-INS AND PATHWAYS, CONDUITS AND CABLE TRAY LOCATIONS WITH OWNER, ARCHITECT, CONSULTANTS, AND OTHER TRADES PRIOR TO ORDER AND INSTALLATION. PROVIDE NYLON GROMMETS ON EXPOSED ENDS OF ALL PATHWAY CONDUITS.
- FIRE SEAL ALL PENETRATIONS OF FIRE RATED ASSEMBLIES. SEAL ALL ROOF AND EXTERIOR WALL PENETRATIONS WEATHER TIGHT.
- PROVIDE UNISTRUT SUPPORT AS REQUIRED FOR ALL VFDS AND STARTERS.
- REFER TO MECHANICAL/ELECTRICAL INTERFACE ON SHEET E0.1 FOR ADDITIONAL MECHANICAL EQUIPMENT INFORMATION, FEEDER SIZE, UNIT CONTROLS, AND OVERCURRENT DETAILS.
- COORDINATE ALL BRANCH CIRCUITING AND FEEDER CONDUITS WITH MECHANICAL PIPING AND OTHER UTILITIES.

KEYED NOTES

- PROVIDE LOCAL NON-FUSED, NEMA-3R DISCONNECT SWITCH AT EQUIPMENT WITH AUXILIARY CONTACT TO VFD IN MECHANICAL SPACE BELOW. SEE SHEETS E0.1 AND E3.1 FOR ADDITIONAL INFORMATION.
- NEW 277 VOLT LED LIGHT IN PLENUM. CIRCUIT TO PANEL LP9 IN EAST MECH ROOM BELOW. COORDINATE LOCATION WITH MECHANICAL CONTRACTOR.
- WEATHER RESISTANT GFCI DUPLEX RECEPTACLE WITH WEATHERPROOF IN-USE COVER MOUNTED TO PLENUM. CONNECT TO GENERAL PURPOSE RECEPTACLE CIRCUIT FROM EAST MECH ROOM BELOW.

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 REPLACEMENT
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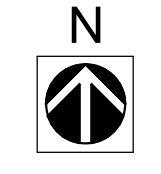
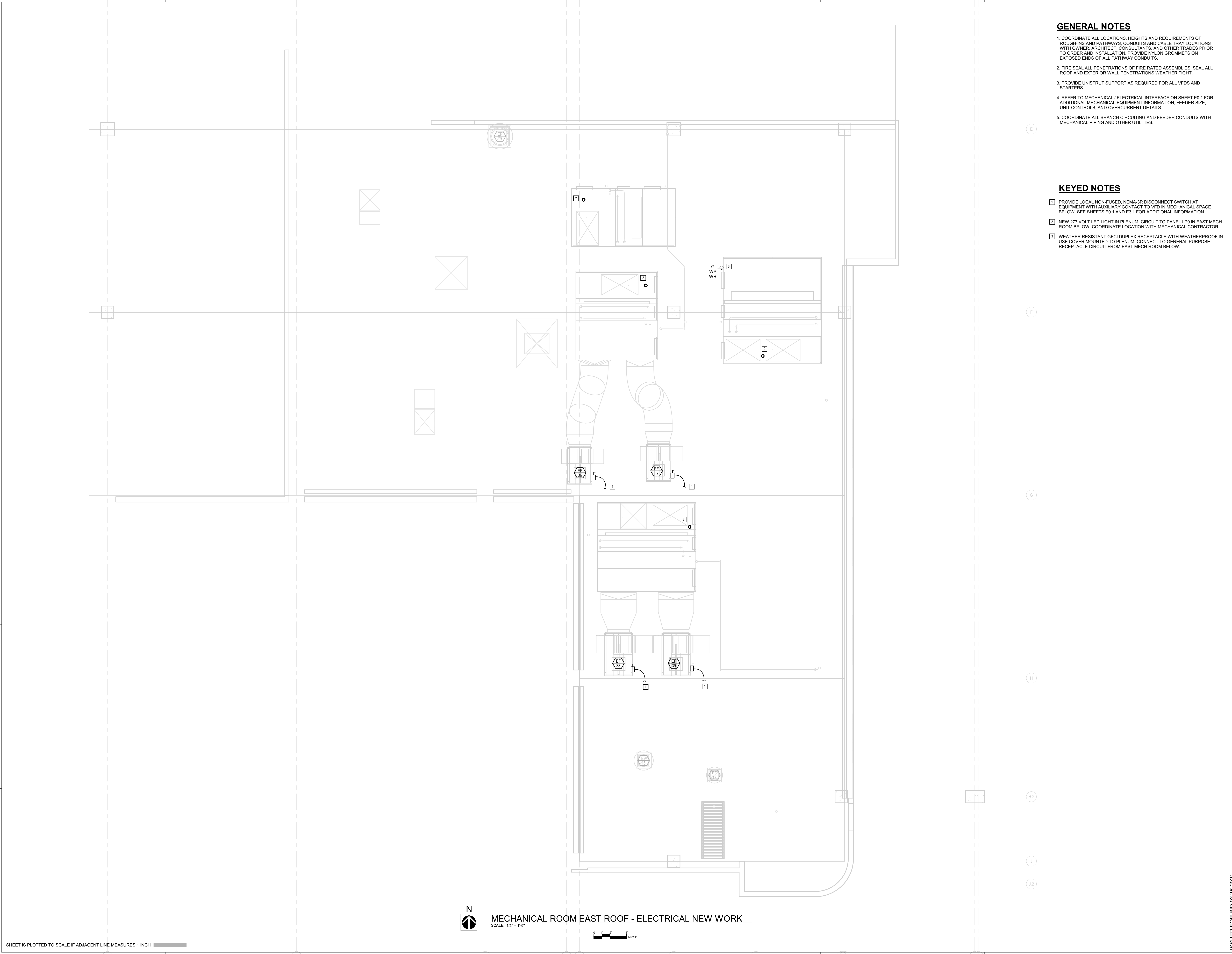
REVISIONS	Description	Date	No.

DATE: 03/15/2024
 PROJECT #: 071588.002
 DRAWN BY: MPH
 CHECKED BY: ESW

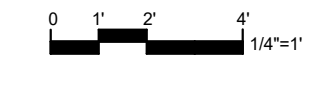
MECHANICAL ROOM EAST ROOF - ELECTRICAL NEW WORK

E3.2

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MECHANICAL ROOM EAST ROOF - ELECTRICAL NEW WORK
 SCALE: 1/4" = 1'-0"



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SHEET IS PLOTTED TO SCALE IF ADJACENT LINE MEASURES 1 INCH

ISSUED FOR BID 03/15/2024