

- GENERAL PIPING DEMOLITION NOTES:**
1. REFERENCE MP000 - PIPING COVERSHEET FOR PIPING SYMBOLS, ABBREVIATIONS, AND GENERAL NOTES.
  2. EXISTING CONDITIONS ARE SHOWN BASED ON INFORMATION OBTAINED FROM FIELD SURVEYS, EXISTING BUILDING DOCUMENTS, AND STAFF. VERIFY EXISTING CONDITIONS AND REPORT ANY CONFLICTS BEFORE PROCEEDING.
  3. COMPLETE LAYOUT DRAWINGS SHALL BE REQUIRED BY SPECIFICATION SECTION 23.05.11. CONSTRUCTION WORK SHALL NOT BEGIN UNTIL SYSTEM LAYOUT DRAWINGS HAVE BEEN APPROVED BY THE C.O.R.
  4. CONTRACTOR SHALL MINIMIZE DOWNTIME OF EXISTING SYSTEMS BY INSTALLING NEW SYSTEMS PRIOR TO TYING INTO EXISTING. NOTIFY C.O.R. A MINIMUM OF 24 HOURS PRIOR TO SYSTEM SHUTDOWN.
  5. DEMOLISH ALL EXISTING HANGERS, INSULATION, DAMPERS, AND ACCESSORIES ASSOCIATED WITH MECHANICAL EQUIPMENT, DUCTWORK, AND PIPING SHOWN TO BE REMOVED ON THESE PLANS UNLESS OTHERWISE NOTED.
  6. DEMOLISH ALL EXISTING CONTROL DEVICES, WIRING, AND CONDUIT ASSOCIATED WITH MECHANICAL EQUIPMENT SHOWN TO BE REMOVED ON THESE PLANS UNLESS OTHERWISE NOTED.
  7. NOT ALL MECHANICAL DEMOLITION IS EXPLICITLY SHOWN ON THE DRAWING. CONTRACTOR SHALL CONFIRM EXTENT OF DEMOLITION AT THE SITE.

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**1 FIRST LEVEL DEMOLITION PLAN - PIPING**  
1/8" = 1'-0"

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|------------|------------|--|---|--|---|--|---|------------------------|------------------------------------|--|---------------------------|--|-------------------|-----------------|--------------------------|--|
|            | CONSULTANT |  | ARCHITECT/ENGINEER OF RECORD  |  | STAMP   | Office of Construction and Facilities Management | Drawing Title<br>FIRST LEVEL DEMOLITION PLAN - PIPING | Phase<br>BID DOCUMENTS | Project Title<br>CONSTRUCT NEW SPS |  | Project Number<br>438-460 |  |                   |                 |                          |  |
|            | DATE:      |  | Location<br>Sioux Falls, SD.  |  |   |  |   |                        | Building Number<br>5               |  |                           |  |                   |                 |                          |  |
| Revisions: | DATE:      |  | IMEG CORP. 2882 NORTH STREET, DES MOINES, IA 50325<br>515.334.9900 FAX: 515.334.9908<br>www.imegcorp.com<br>PROJECT # 19004249.04<br>IMEG CORP. RESERVES PROPRIETARY RIGHTS, INCLUDING COPYRIGHTS, TO THIS DRAWING AND THE DATA SHOWN THEREON. NO PART OF THIS DRAWING OR THE EXCLUSIVE PROPERTY OF IMEG CORP. AND SHALL NOT BE USED OR REPRODUCED FOR ANY OTHER PROJECT WITHOUT THE EXPRESS WRITTEN APPROVAL AND PARTICIPATION OF IMEG CORP. © 2022 IMEG CORP.<br>REFERENCE SCALE IN INCHES<br>0 1 2 3 |  | ANDERSON<br>13605 1st Ave. N. #100 Plymouth, MN 55441<br>P 763.412.4000   F 763.412.4090   ee-mm.com<br>Anderson Engineering of Minnesota, LLC   Proj # 16994 |  | ERIC J. HENDERSON<br>20825<br>IOWA                    |                        | FULLY SPRINKLERED                  |  | Issue Date<br>08/04/22    |  | Checked<br>DAVING | Drawn<br>DELLLE | Drawing Number<br>MPD111 |  |


**F**

VA FORM 08-6231


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1/8" = 1'-0"


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 2882 106TH STREET  
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 515.334.9908 FAX: 515.334.9908  
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 PROJECT # 19004249.04

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REFERENCE SCALE IN INCHES  


# ANDERSON

13605 1st Ave. N. #100 Plymouth, MN 55441  
P 763.412.4000 | F 763.412.4090 | ae-mn.com  
Anderson Engineering of Minnesota, LLC | Proj # 16584

**VA**

U.S. Department  
of Veterans  
Affairs

Approved:

FULLY SPRINKLERED

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| Location | Sioux Falls, SD. |
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| Issue Date | 08/04/22 |
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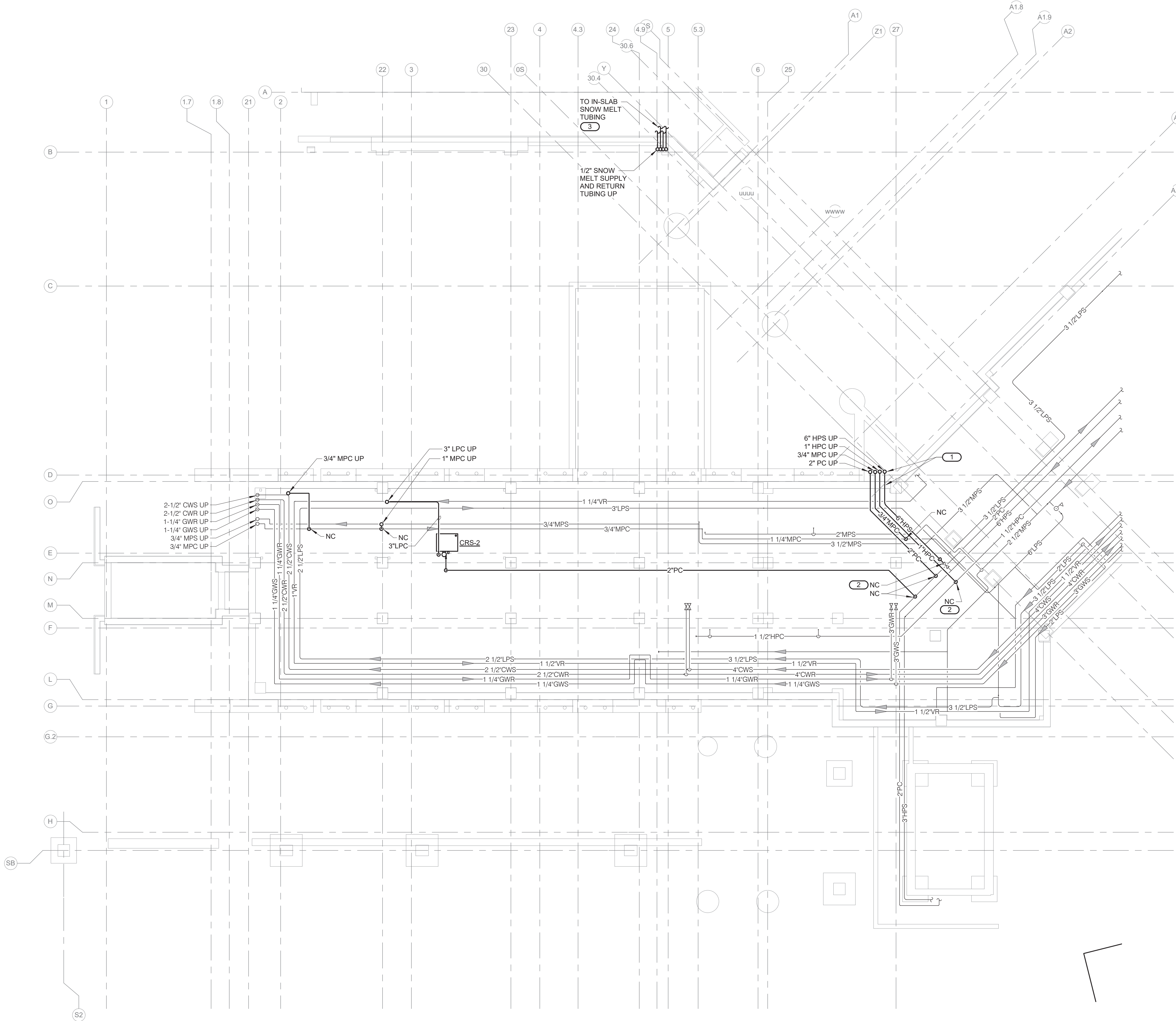
Drawing Number

MPD151

- GENERAL PIPING DEMOLITION NOTES:**

- REFERENCE MP000 - PIPING COVERSHEET FOR PIPING SYMBOLS, ABREVIATIONS, AND GENERAL NOTES.
- EXISTING CONDITIONS ARE SHOWN BASED ON INFORMATION OBTAINED FROM FIELD SURVEYING, TESTING, AND MEASUREMENTS, AND STAFF. VERIFY EXISTING CONDITIONS AND REPORT ANY CONFLICTS BEFORE PROCEEDING.
- COMPLETE LAYOUT DRAWINGS SHALL BE REQUIRED BY SPECIFICATION SECTION 23 05 11. CONSTRUCTION SHALL BEGIN AT THE UTILITY, SYSTEM LAYOUT DRAWINGS HAVE BEEN APPROVED BY THE C.O.
- CONTRACTOR SHALL MINIMIZE DOWNTIME OF EXISTING SYSTEMS BY INSTALLING NEW LINES AND/OR EQUIPMENT IN PARALLEL TO, NOTIFY C.O. R. A MINIMUM OF 24 HOURS PRIOR TO SYSTEM SHUTDOWN.
- DEMOLISH EXISTING HANGERS, INSULATION, DAMPERS, AND ACCESSORIES ASSOCIATED WITH MECHANICAL EQUIPMENT, DUCTWORK, AND PIPING. ALL SHALL BE REMOVED ON THESE PLANS UNLESS OTHERWISE NOTED.
- DEMOLISH ALL EXISTING CONTROL DEVICES, WIRING, AND CONTROL ASSOCIATED WITH MECHANICAL EQUIPMENT, DUCTWORK, AND PIPING. ALL SHALL BE REMOVED ON THESE PLANS UNLESS OTHERWISE NOTED.
- NOT ALL MECHANICAL DEMOLITION IS EXPLICITLY SHOWN ON THE DRAWING. CONTRACTOR SHALL CONFIRM EXISTENCE OF DEMOLITION TO THE SITE.





**1 PIPE BASEMENT FLOOR PLAN - PIPING**  
1/8" = 1'-0"

- GENERAL MECHANICAL NOTES:**
1. REFERENCE MP000 - PIPING COVERSHEET FOR VENTILATION SYMBOLS, ABBREVIATIONS, AND GENERAL NOTES.
  2. COORDINATE AND CONFIRM ALL ARCHITECTURALLY EXPOSED DEVICE LOCATIONS WITH ARCHITECT PRIOR TO ROUGH-IN OR INSTALLATION.
  3. REFERENCE MP500 FOR STEAM FLOW DIAGRAM.
  4. REFERENCE MP501 FOR HEATING WATER FLOW DIAGRAM.
  5. REFERENCE MP502 FOR CHILLED WATER FLOW DIAGRAM.
  6. REFERENCE MP500 FOR PIPING SCHEDULES.
  7. COMPLETE LAYOUT DRAWINGS SHALL BE REQUIRED BY SPECIFICATION SECTION 23 05 UNTIL SYSTEM LAYOUT DRAWINGS HAVE BEEN APPROVED BY THE C.O.R.
  8. ALL PIPING, OF ANY KIND, ABOVE SQUID LID GELINGS SHALL BE CONSTRUCTED OF AS FEW PIECES AS POSSIBLE AND SHALL ONLY UTILIZE WELDED OR SWEATED JOINTS AND CONNECTIONS.
  9. REFERENCE 1/MP400 FOR PIPE HANGERS AND SUPPORTS DETAIL.
  10. REFERENCE 2/MP400 FOR FIRE RATED FLOOR/WALL PENETRATION DETAIL.
  11. REFERENCE 3/MP400 FOR NON-FIRE RATED WALL PENETRATION DETAIL.
- KEYNOTES: ( # )**
1. PROVIDE CORROSION RESISTANT MECHANICAL LINK SEAL DEVICE FOR ALL PIPING PENETRATIONS OF FOUNDATION WALLS AND FLOOR SLABS.
  2. PROVIDE HIGH PRESSURE STEAM DRIP TRAP ASSEMBLY IN PIPE BASEMENT DOWNSTREAM OF CONNECTION TO EXISTING ISOLATION VALVE. REFERENCE 1/MP401 FOR HIGH PRESSURE STEAM MAIN DRIP DETAIL.
  3. REFERENCE 1/MP401 FOR SNOW MELT TUBING DETAIL.

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**CONSULTANT**

**IMEG**

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PROJECT # 19004249.04

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REFERENCE SCALE IN INCHES

0 1 2 3

**ARCHITECT/ENGINEER OF RECORD**

**ANDERSON**

13605 1st Ave. N. #100 Plymouth, MN 55441  
P 763.412.4000 | F 763.412.4090 | ae-mn.com  
Anderson Engineering of Minnesota, LLC | Proj # 16584

**STAMP**

ERIC J. HENDERSON  
20825  
6-4-2023  
IOWA

Office of  
Construction  
and Facilities  
Management

**VA** U.S. Department  
of Veterans  
Affairs

Drawing Title  
**PIPE BASEMENT FLOOR PLAN - PIPING**

Approved:

Phase  
**BID DOCUMENTS**

**FULLY SPRINKLERED**

Project Title  
**CONSTRUCT NEW SPS**

Location  
Sioux Falls, SD.

Issue Date  
08/04/22

Checked  
DAVING

Drawn  
DELLLE

Project Number  
438-460

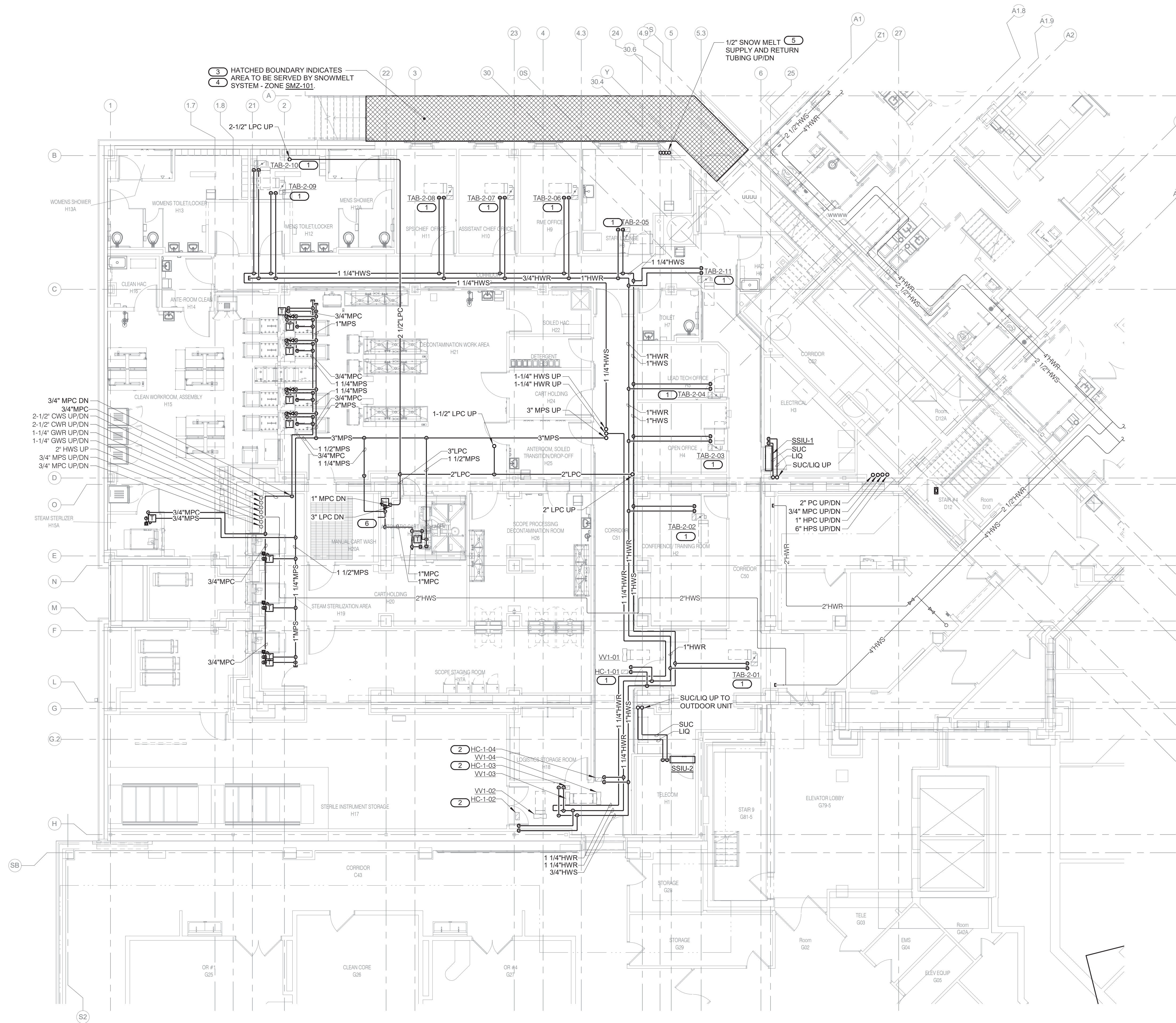
Building Number  
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Drawing Number  
MP091



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GENERAL MECHANICAL NOTES:

1. REFERENCE MP000 - PIPING COVERSHEET FOR VENTILATION SYMBOLS, ABBREVIATIONS, AND GENERAL NOTES.
2. COORDINATE AND CONFIRM ALL ARCHITECTURALLY EXPOSED DEVICE LOCATIONS WITH ARCHITECT PRIOR TO ROUGH-IN OR INSTALLATION.
3. REFERENCE MP500 FOR STEAM FLOW DIAGRAM.
4. REFERENCE MP501 FOR HEATING WATER FLOW DIAGRAM.
5. REFERENCE MP502 FOR CHILLED WATER FLOW DIAGRAM.
6. REFERENCE MP600 FOR PIPING SCHEDULES.
7. COMPLETE LAYOUT DRAWINGS SHALL BE REQUIRED BY SPECIFICATION SECTION 23 05 11. CONSTRUCTION WORK SHALL NOT BEGIN UNTIL SYSTEM LAYOUT DRAWINGS HAVE BEEN APPROVED BY THE C.O.R.
8. ALL PIPING, OF ANY KIND, ABOVE SLOID LID CEILINGS SHALL BE CONSTRUCTED OF AS FEW PIECES AS POSSIBLE AND SHALL ONLY UTILIZE WELDED OR SWEATED JOINTS AND CONNECTIONS.
9. REFERENCE 1/MP400 FOR PIPE HANGERS AND SUPPORTS DETAIL.
10. REFERENCE 2/MP400 FOR FIRE RATED FLOOR/WALL PENETRATION DETAIL.
11. REFERENCE 3/MP400 FOR NON-FIRE RATED WALL PENETRATION DETAIL.

KEYNOTES: ( # )

1. REFERENCE 7/MP401 FOR HEATING WATER COIL PIPING DIAGRAM WITH 2-WAY VALVE.
2. REFERENCE 8/MP401 FOR HEATING WATER COIL PIPING DIAGRAM WITH 3-WAY VALVE.
3. MECHANICAL CONTRACTOR SHALL PROVIDE SNOW MELT TUBING IMBEDDED IN CONCRETE WALKWAY. REFERENCE RADIATION ZONE SCHEDULE ON MP600 FOR PERFORMANCE CRITERIA. REFERENCE 11/MP401 FOR SNOW MELT TUBING DETAIL.
4. SNOW MELT MANUFACTURER SHALL PROVIDE SNOW AND ICE SENSOR FOR INSTALLATION BY MECHANICAL CONTRACTOR. REFERENCE 12/MP401 FOR RADIANT SLAB SENSOR DETAIL.
5. CONCEAL SNOWMELT TUBING IN CHASE SHIELD WITH SHEET METAL PLATING FROM FLOOR TO CEILING TO PREVENT FUTURE INCIDENTAL PUNCTURES.
6. PROVIDE MEDIUM PRESSURE STEAM HOSE HOSE STATION PIPED WITH SOFT COLD WATER. COORDINATE EXACT LOCATION WITH ARCHITECT AND PLUMBING CONTRACTOR. PIPING CONTRACTOR TO PROVIDE MIXING VALVE AND SHIELDED HOSE.

**1** GROUND LEVEL FLOOR PLAN - PIPING  
1/8" = 1'-0"

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| CONSULTANT   |  | ARCHITECT/ENGINEER OF RECORD   |  | STAMP   | Office of Construction and Facilities Management |  | Drawing Title |  | Phase             |  | Project Title    |  | Project Number |  |
| <div><div></div><div>2882 NORTH STREET<br/>DES MOINES, IA 50322<br/>515.334.9900 FAX: 515.334.9908<br/>www.imegcorp.com<br/>PROJECT # 19004249.04</div></div> <div>IMEG CORP. RESERVES PROPRIETARY RIGHTS, INCLUDING COPYRIGHTS, TO THIS DRAWING AND THE DATA SHOWN THEREON. NO DRAWING OR DATA ARE THE EXCLUSIVE PROPERTY OF IMEG CORP. AND SHALL NOT BE USED OR REPRODUCED FOR ANY OTHER PROJECT WITHOUT THE EXPRESS WRITTEN APPROVAL AND PARTICIPATION OF IMEG CORP. © 2022 IMEG CORP.</div> <div><div>0</div><div>1</div><div>2</div><div>3</div><div>REFERENCE SCALE IN INCHES</div></div> |  | <div>ANDERSON</div> <div>13605 1st Ave. N. #100 Plymouth, MN 55441<br/>P 763.412.4000   F 763.412.4090   ae-mn.com<br/>Anderson Engineering of Minnesota, LLC   Proj # 16584</div> |  | <div><div>PROFESSIONAL ENGINEER</div><div>ERIC J. HENDERSON</div><div>20825</div><div>4-4-2025</div><div>IOWA</div></div> | GROUND LEVEL FLOOR PLAN - PIPING                 |  | BID DOCUMENTS |  | CONSTRUCT NEW SPS |  | 438-460          |  |                |  |
|  |  |  |  |   | Approved:  |  |               |  |                   |  | Building Number  |  | 5              |  |
|  |  |  |  |   |  |  |               |  | FULLY SPRINKLERED |  | Location         |  | Drawing Number |  |
|  |  |  |  |   |  |  |               |  |                   |  | Sioux Falls, SD. |  | MP101          |  |
|  |  |  |  |   |  |  |               |  |                   |  | Issue Date       |  | Checked        |  |
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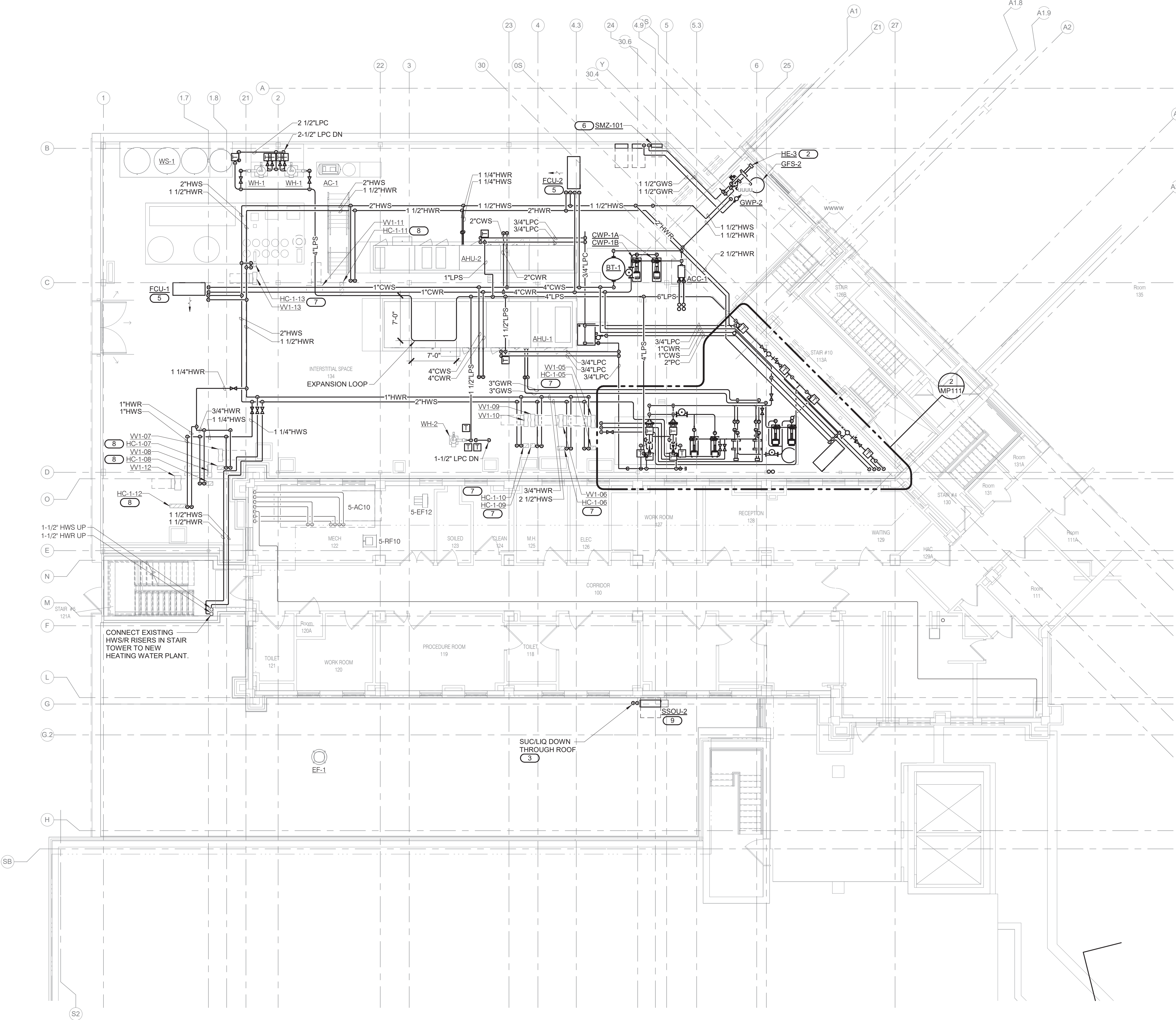
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GENERAL MECHANICAL NOTES:

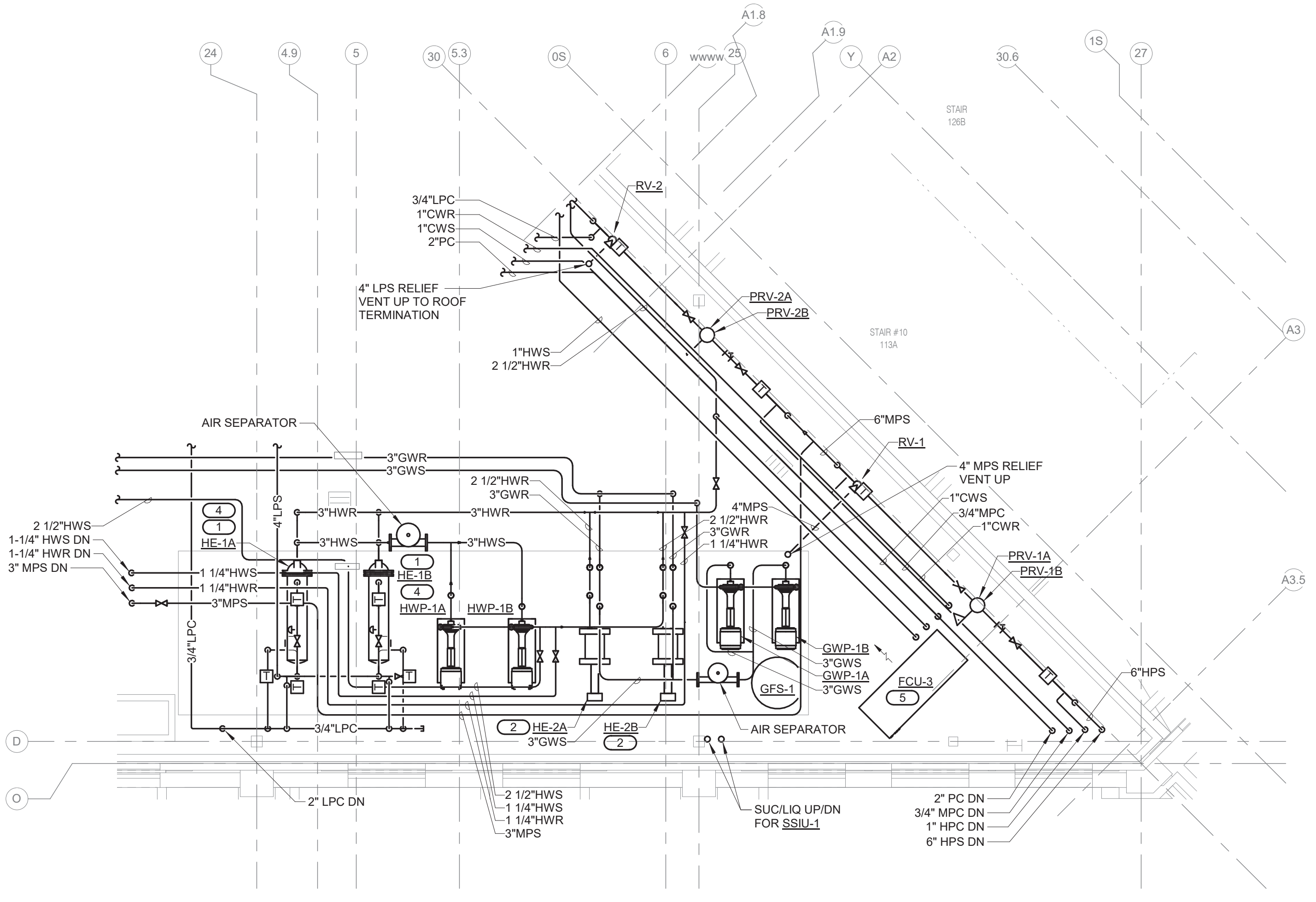
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11. REFERENCE 3/MP400 FOR NON-FIRE RATED WALL PENETRATION DETAIL.

KEYNOTES: ( # )

1. REFERENCE 5/MP401 FOR SHELL & TUBE HEAT EXCHANGER PIPING DETAIL.
2. REFERENCE 6/MP401 FOR PLATE & FRAME HEAT EXCHANGER PIPING DETAIL.
3. REFERENCE 5/MP400 FOR INSULATED PIPE HOUSING ROOF PENETRATION DETAIL.
4. REFERENCE 6/MP400 FOR HEAT EXCHANGER SUPPORT DETAIL.
5. REFERENCE 9/MP401 FOR 4-PIPE FAN COIL UNIT PIPING DETAIL.
6. REFERENCE 10/MP401 FOR SNOW MELT MANIFOLD PIPING DETAIL.
7. REFERENCE 7/MP401 FOR HEATING WATER COIL PIPING DIAGRAM WITH 2-WAY VALVE.
8. REFERENCE 8/MP401 FOR HEATING WATER COIL PIPING DIAGRAM WITH 3-WAY VALVE.
9. PROVIDE SPLIT SYSTEM OUTDOOR UNIT WITH WALL HANGING MOUNTING BRACKET. MOUNT APPROXIMATELY 24" ABOVE TOP OF ROOF INSULATION.



1 INTERSTITIAL/FIRST LEVEL FLOOR PLAN - PIPING  
1/8" = 1'-0"



2 ENLARGED INTERSTITIAL/FIRST LEVEL FLOOR PLAN - PIPING  
1/4" = 1'-0"

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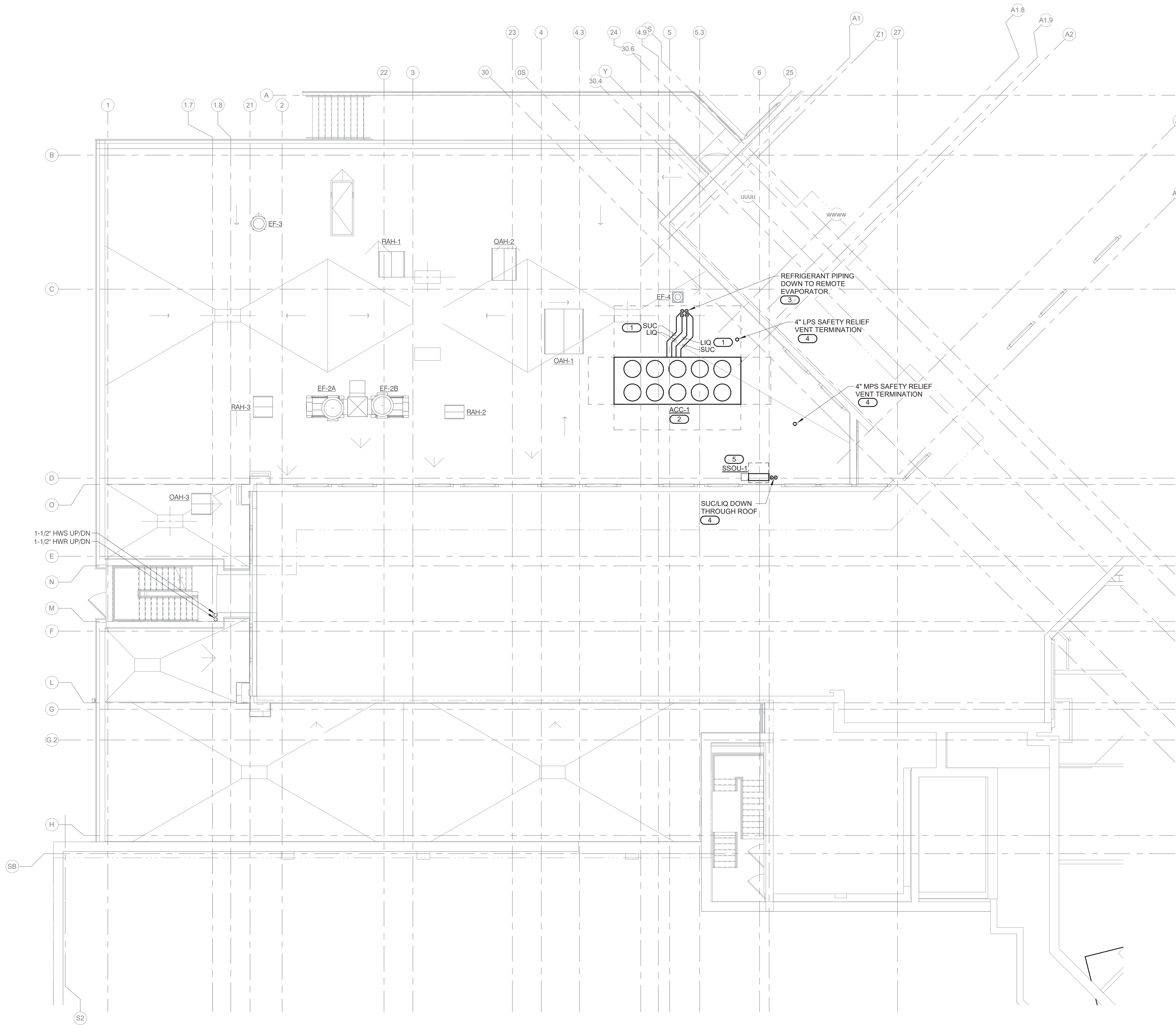
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GENERAL MECHANICAL NOTES:

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2. COORDINATE AND CONFIRM ALL ARCHITECTURALLY EXPOSED DEVICE LOCATIONS WITH ARCHITECT PRIOR TO ROUGH-IN OR INSTALLATION.
3. REFERENCE MP500 FOR STEAM FLOW DIAGRAM.
4. REFERENCE MP501 FOR HEATING WATER FLOW DIAGRAM.
5. REFERENCE MP502 FOR CHILLED WATER FLOW DIAGRAM.
6. REFERENCE MP600 FOR PIPING SCHEDULES.
7. COMPLETE LAYOUT DRAWINGS SHALL BE REQUIRED BY SPECIFICATION SECTION 23 05 11. CONSTRUCTION WORK SHALL NOT BEGIN UNTIL SYSTEM LAYOUT DRAWINGS HAVE BEEN APPROVED BY THE C.O.R.
8. ALL PIPING, OF ANY KIND, ABOVE SOLID LID CEILING SHALL BE CONSTRUCTED OF AS FEW PIECES AS POSSIBLE AND SHALL ONLY UTILIZE WELDED OR SWEATED JOINTS AND CONNECTIONS.
9. REFERENCE 1/MP400 FOR PIPE HANGERS AND SUPPORTS DETAIL.
10. REFERENCE 2/MP400 FOR FIRE RATED FLOOR/WALL PENETRATION DETAIL.
11. REFERENCE 3/MP400 FOR NON-FIRE RATED WALL PENETRATION DETAIL.

KEYNOTES: (#)

1. ROUTE REFRIGERANT PIPING ACROSS ROOF. FOLLOW CHILLER MANUFACTURER'S REQUIREMENTS FOR REFRIGERANT PIPE ROUTING AND SIZING. EXTERIOR REFRIGERANT PIPING SHALL BE INSULATED AND WRAPPED WITH ALUMINUM JACKETING. REFERENCE 4/MP400 FOR EXTERIOR PIPING ROOF SUPPORT DETAIL.
2. REFERENCE 7/MP400 FOR AIR COOLED CHILLER ROOF SUPPORT DETAIL.
3. REFERENCE 5/MP400 FOR INSULATED PIPE HOUSING ROOF PENETRATION DETAIL.
4. REFERENCE 3/MP401 FOR SAFETY VALVE DISCHARGE PIPING DETAIL.
5. PROVIDE SPLIT SYSTEM OUTDOOR UNIT WITH WALL HANGING MOUNTING BRACKET. MOUNT APPROXIMATELY 24" ABOVE TOP OF ROOF INSULATION.

1 ROOF PLAN - PIPING  
1/8" = 1'-0"

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26-4-2022  
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Office of  
Construction  
and Facilities  
Management

VA U.S. Department  
of Veterans  
Affairs

Drawing Title  
ROOF PLAN - PIPING

Approved:

Phase  
BID DOCUMENTS

FULLY SPRINKLERED

Project Title  
CONSTRUCT NEW SPS

Location  
Sioux Falls, SD.

Issue Date  
08/04/22

Checked  
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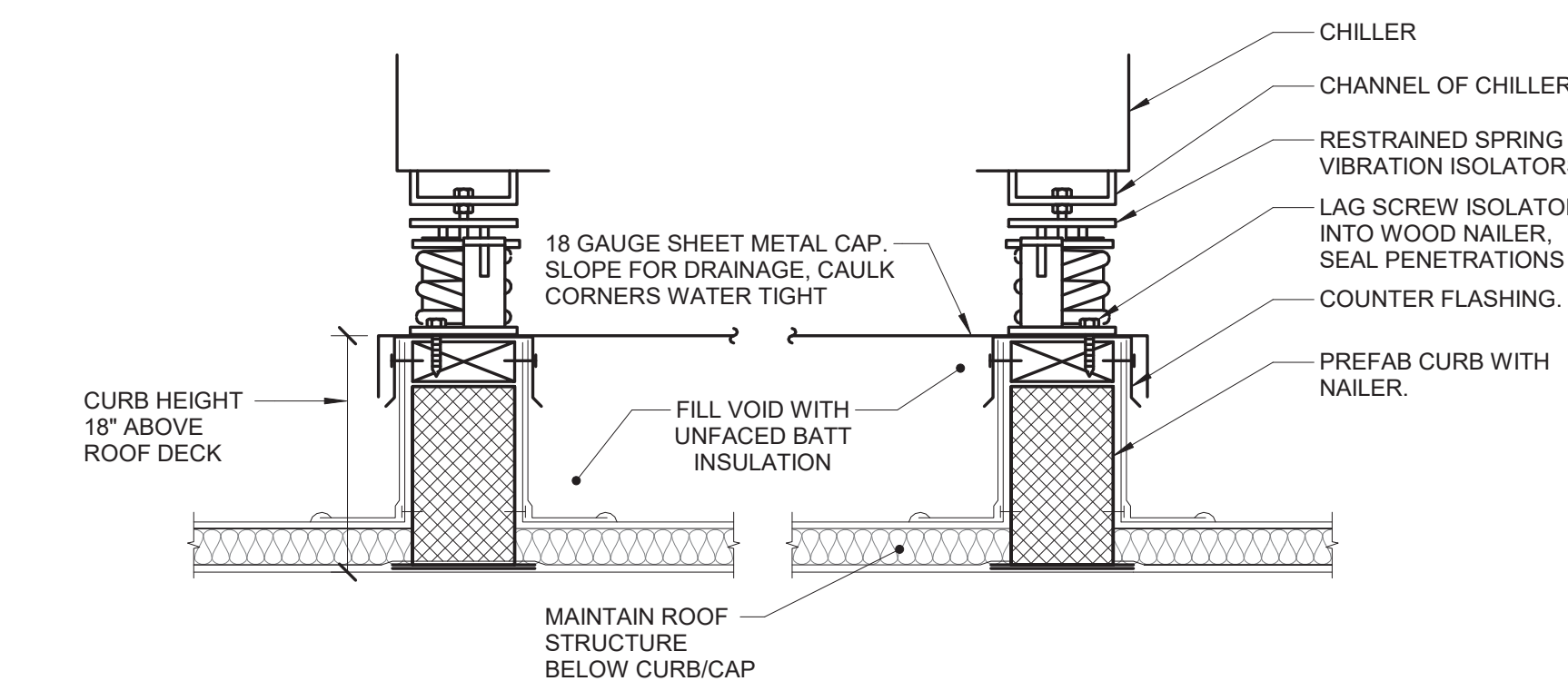
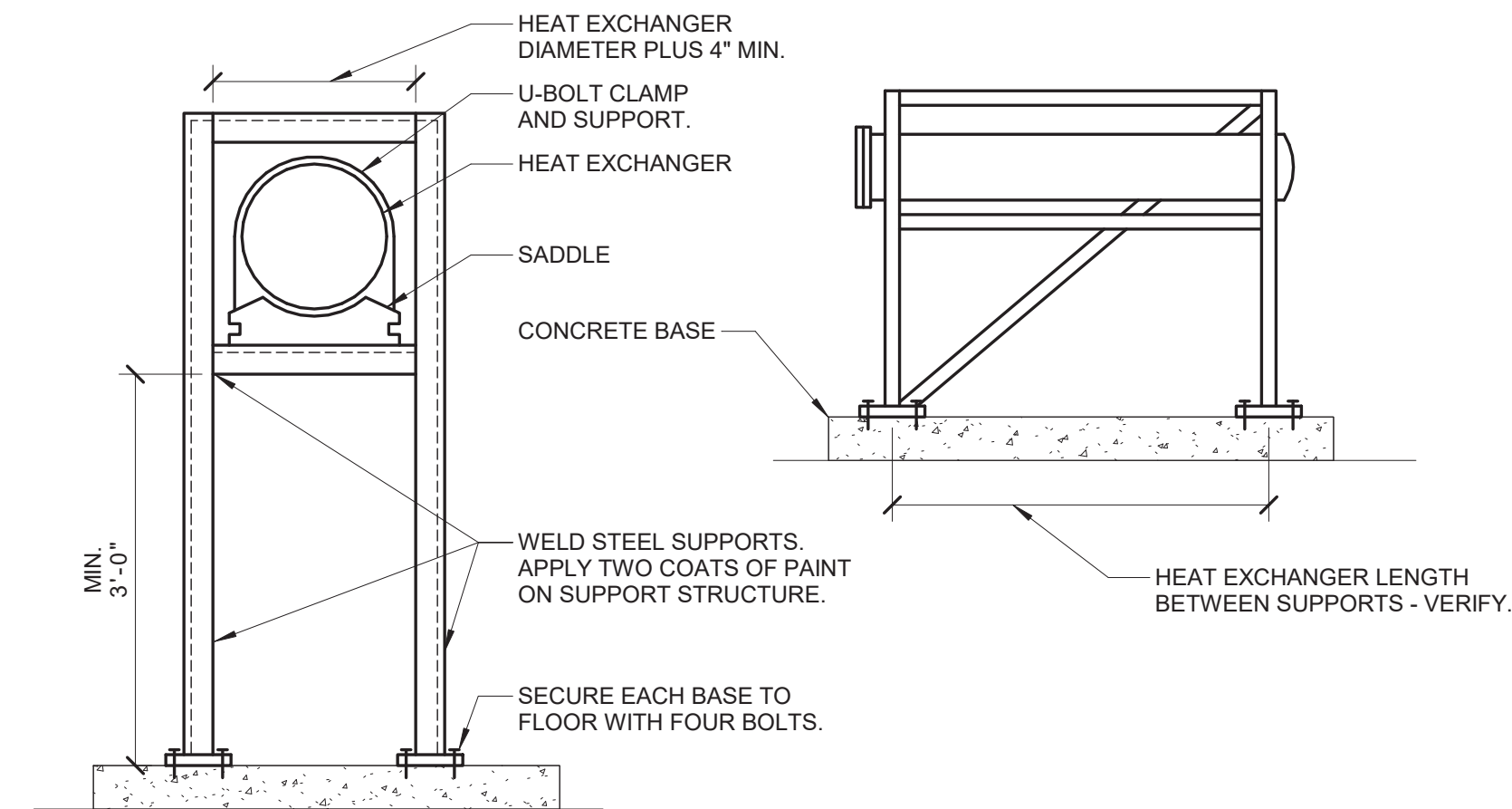
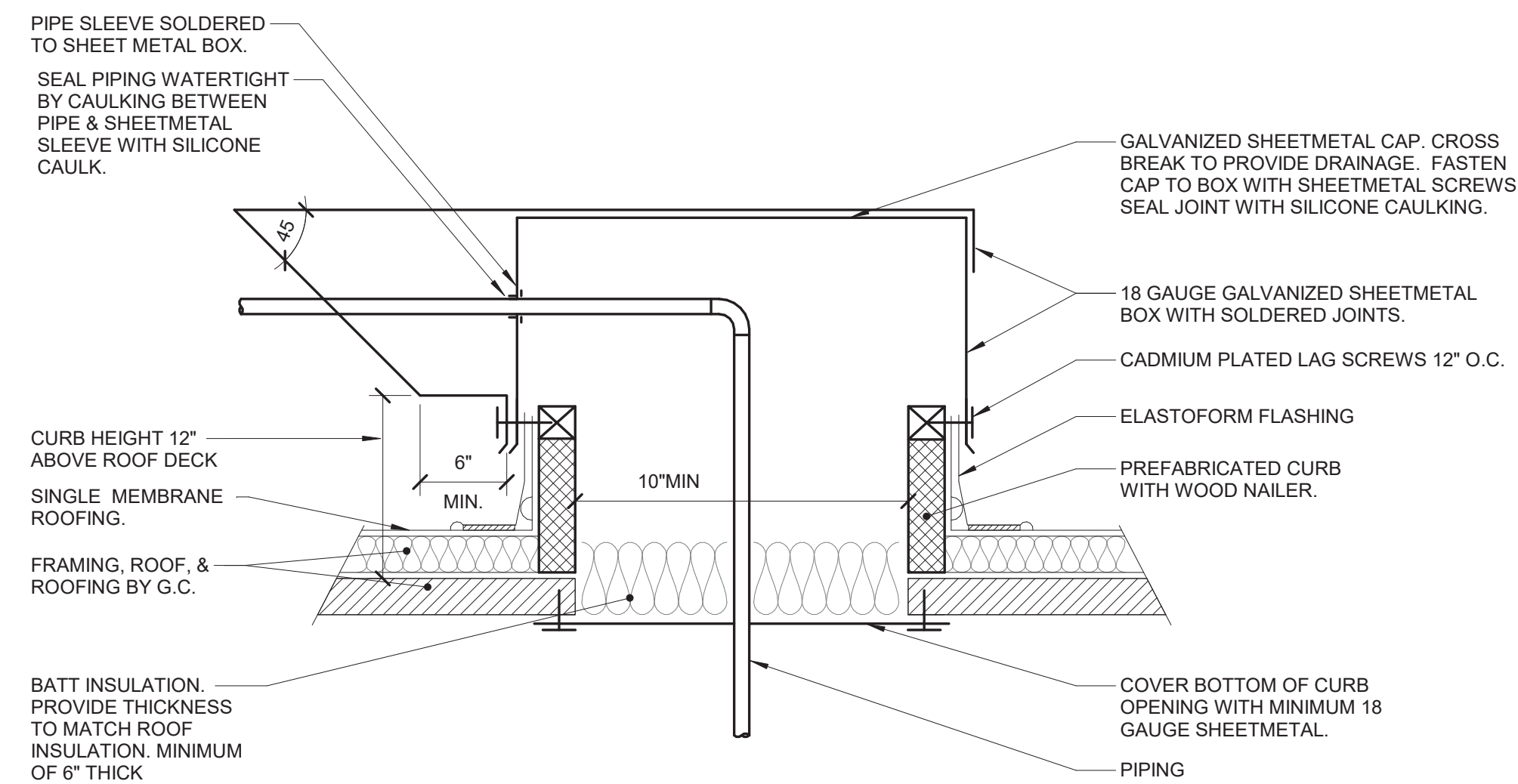
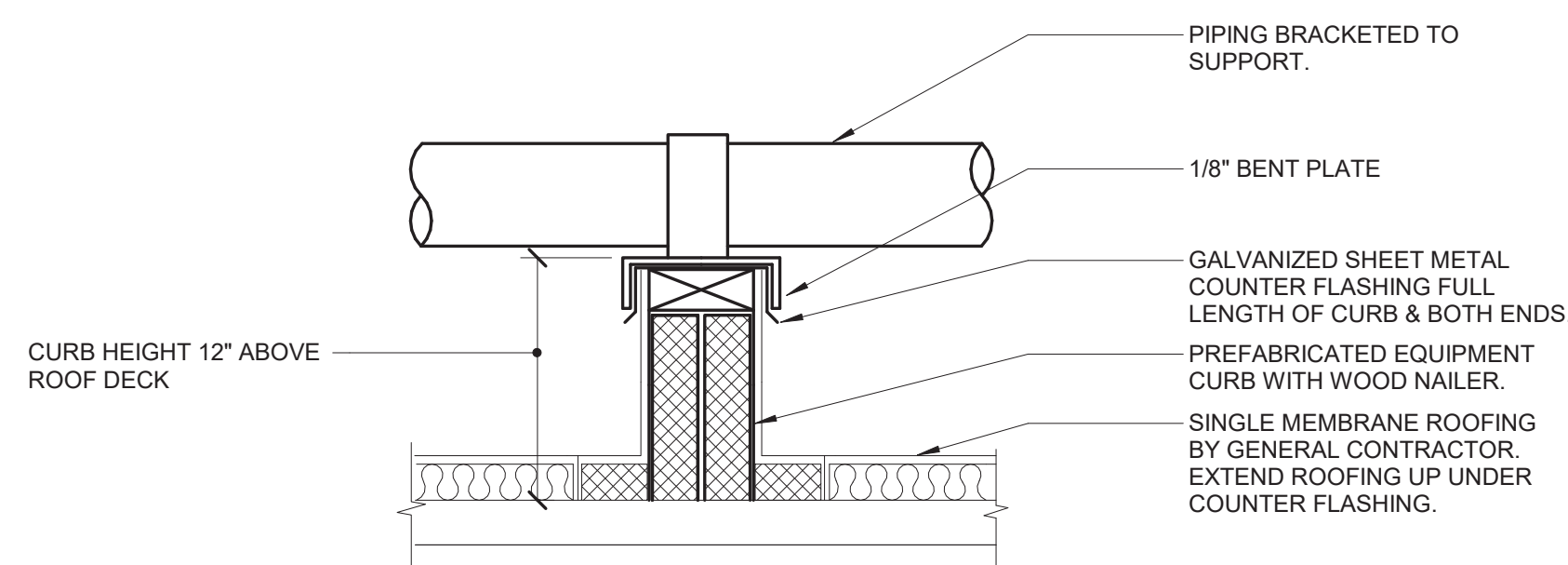
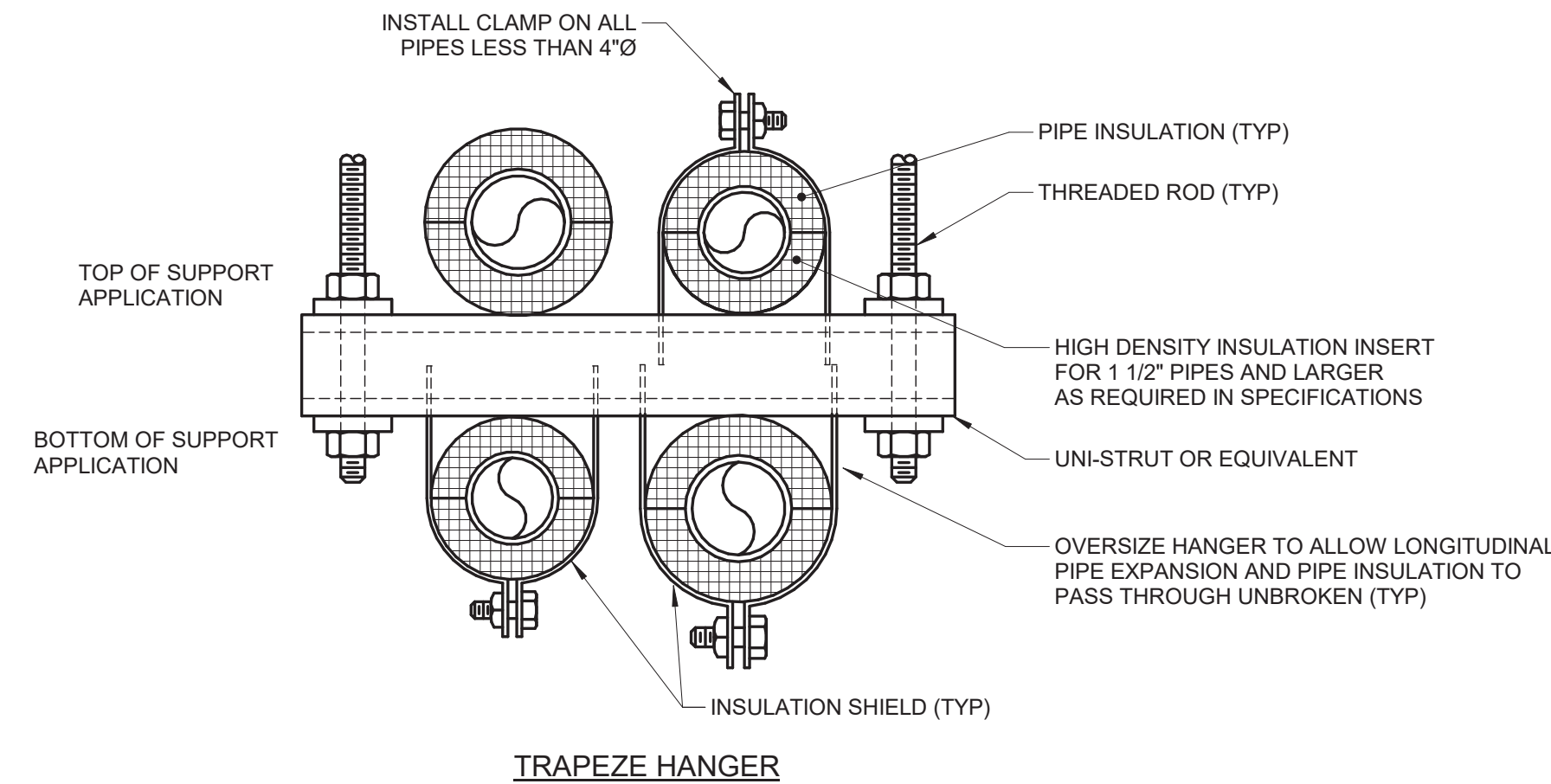
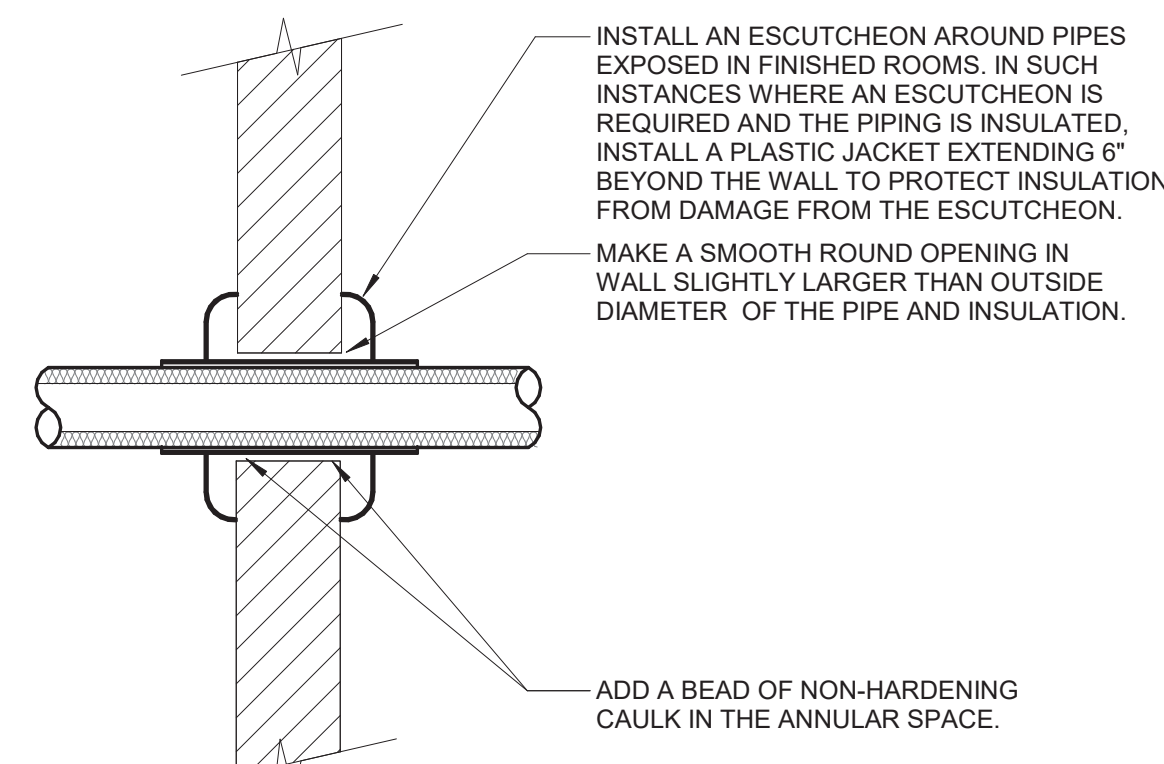
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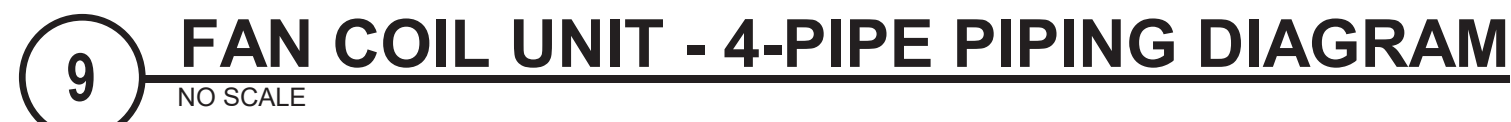
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| <p><b>CONSULTANT</b></p> <div>  <p>2802 100TH STREET<br/>DEEP MONNET, IA 50522<br/>615.334.0900 FAX: 615.334.9908<br/>www.imegcorp.com<br/>PROJECT # 1605420-04</p> <p>IMEG CORP. RESERVES PROPRIETARY RIGHTS, INCLUDING COPYRIGHTS, TO THIS DRAWING AND THE DATA SHOWN THEREIN. S&amp;B DRAWING AND/OR DATA ARE THE EXCLUSIVE PROPERTY OF IMEG CORP. AND SHALL NOT BE USED OR REPRODUCED FOR ANY OTHER PROJECT WITHOUT THE EXPRESS WRITTEN APPROVAL AND PARTICIPATION OF IMEG CORP. © 2002 IMEG CORP.</p> <p>REFERENCE SCALE IN INCHES</p>  </div> |  | <p><b>ARCHITECT/ENGINEER OF RECORD</b></p> <div>  <p>13605 1st Ave. N. #100 Plymouth, MN 55441<br/>P 763.412.4000   F 763.412.4090   ae-mn.com<br/>Anderson Engineering of Minnesota, LLC   Proj# 16584</p> </div> |  | <p><b>STAMP</b></p>  |  | <p><b>Office of Construction and Facilities Management</b></p> <div>  <p>U.S. Department of Veterans Affairs</p> </div> |  | <p><b>Drawing Title</b></p> <p>PIPING DETAILS</p> <p><b>Approved:</b></p> |  | <p><b>Phase</b></p> <p>BID DOCUMENTS</p> <p><b>FULLY SPRINKLERED</b></p> |  | <p><b>Project Title</b></p> <p>CONSTRUCT NEW SPS</p> <p><b>Location</b></p> <p>Sioux Falls, SD.</p> <p><b>Issue Date</b></p> <p>08/04/22</p> <p><b>Checked</b></p> <p>DAVING</p> <p><b>Drawn</b></p> <p>DELLLE</p> |  | <p><b>Project Number</b></p> <p>438-460</p> <p><b>Building Number</b></p> <p>5</p> <p><b>Drawing Number</b></p> <p>MP401</p> |  |
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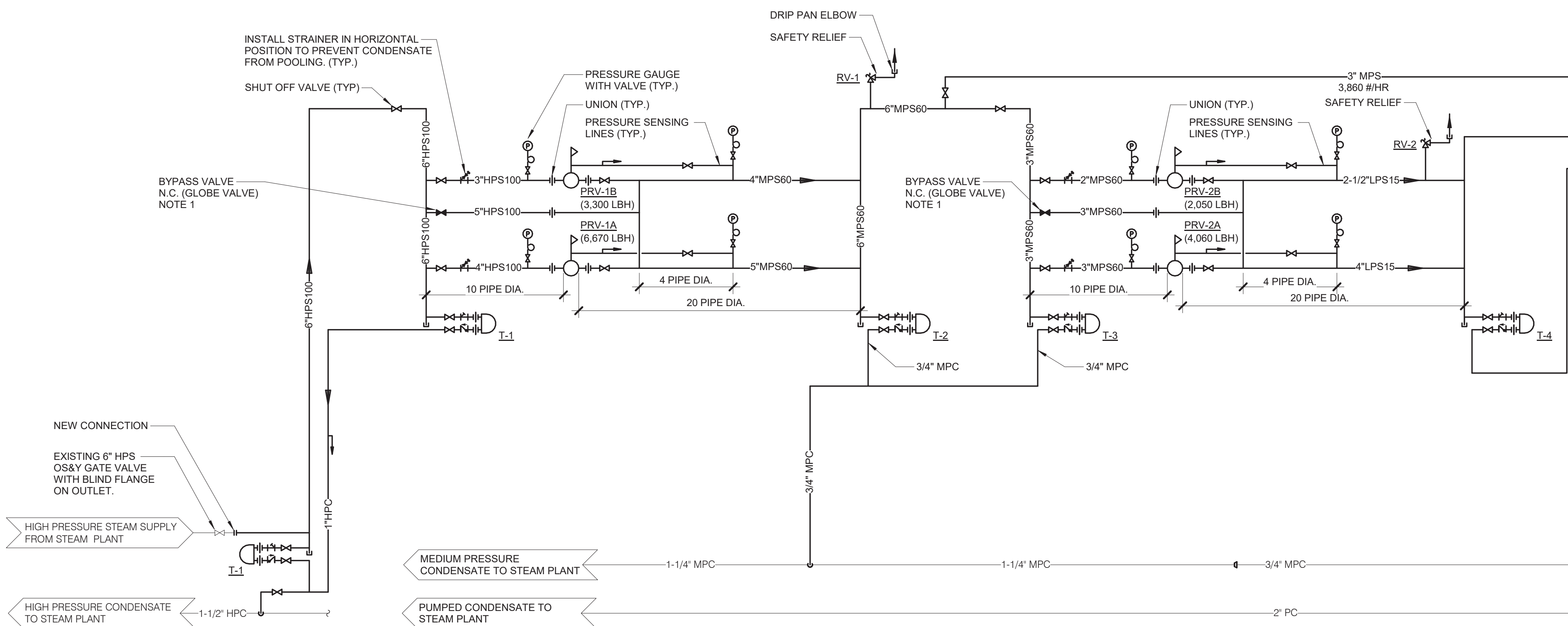
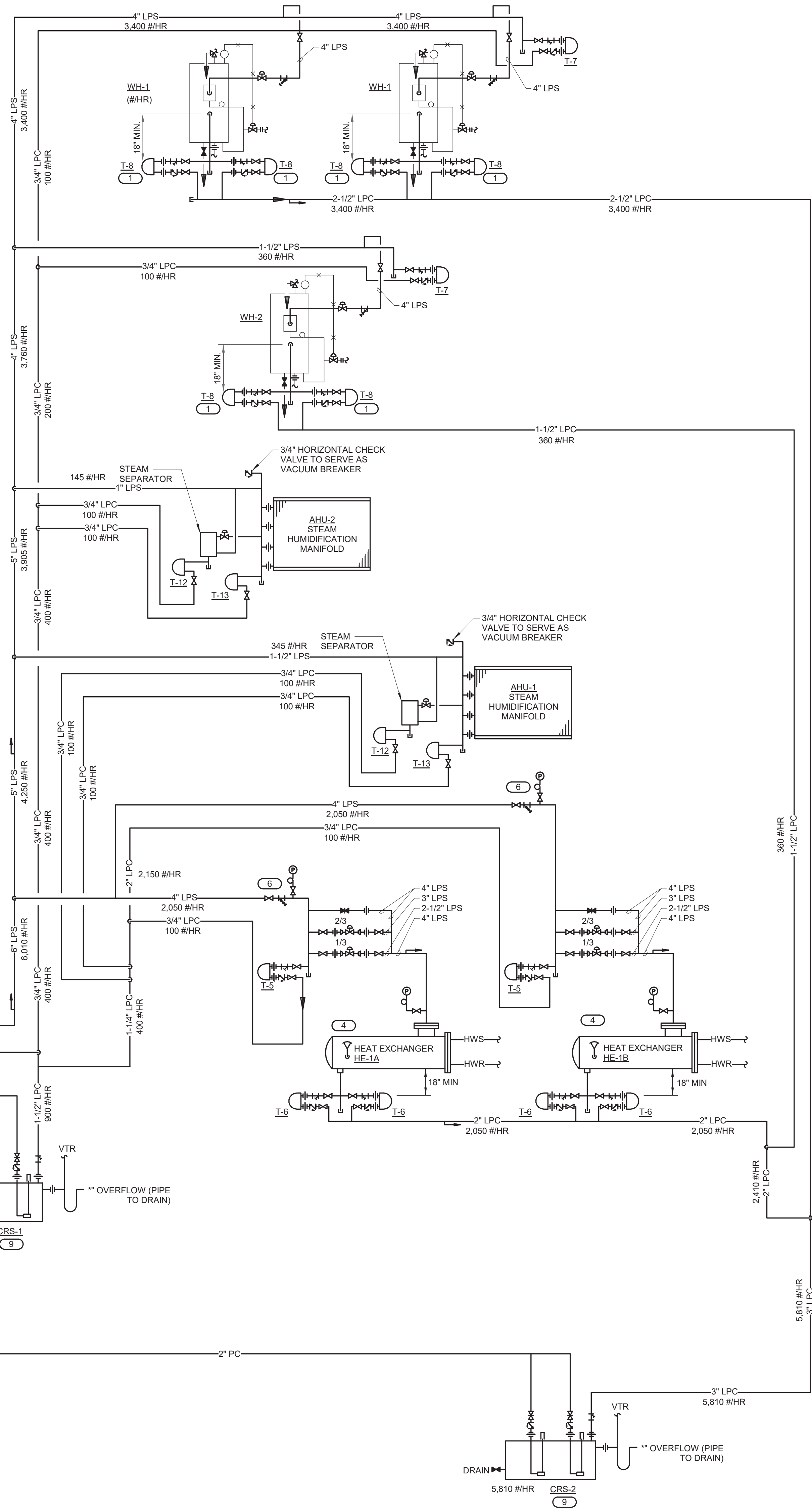
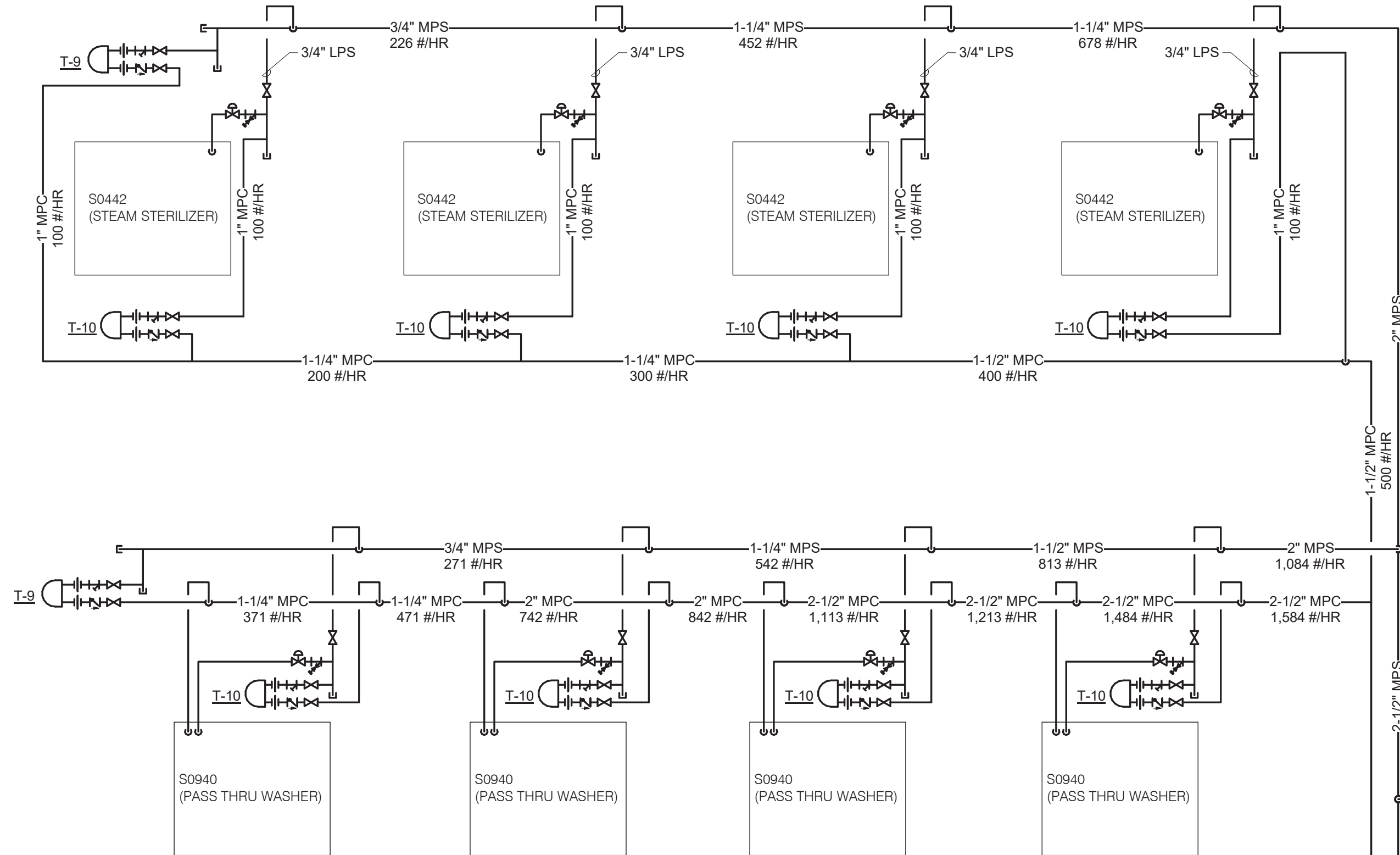


GENERAL NOTES:

1. MAKE ALL TAPS FOR STEAM DISTRIBUTION PIPING FROM TOP (OR WITHIN 45°) OF PIPE.
2. PITCH ALL STEAM AND CONDENSATE LINES 1" PER 40'-0" MINIMUM IN THE DIRECTION OF FLOW.
3. ON STEAM PIPING INSTALL STRAINERS ON HORIZONTAL PIPES WITH STRAINER WYE AT SIDE OF PIPE, NOT BOTTOM. BLOW DOWN CONNECTION SHALL BE AT LOWEST POINT OF STRAINER SCREEN (FLANGED STRAINER). FOR LARGE STRAINERS OR WHERE THE STRAINER WYE IS NOT HORIZONTAL THE BLOWDOWN SHOULD HAVE STEAM TRAP TO REMOVE ACCUMULATING CONDENSATE.

KEYNOTES: **#**

1. F&T TRAPS TO BE FURNISHED LOOSE BY WATER HEATER MANUFACTURER AND INSTALLED BY M.C.



# 1 STEAM FLOW DIAGRAM

- NO SCALE
- NOTES:
1. CV OF BYPASS VALVE SHALL NOT BE GREATER THAN CV OF LARGEST PRV.
  2. PRVS ARE DESIGNED TO REDUCE 1/3 AND 2/3 OF THE TOTAL STEAM LOAD. THE 2/3 PRV SHALL BE SET 2-3 PSI BELOW THE 1/3 CAPACITY PRV.

| Revisions: | Date: |
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Office of  
Construction  
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Management

**VA** U.S. Department  
of Veterans  
Affairs

Drawing Title

**STEAM FLOW DIAGRAM**

Approved:

Phase

**BID DOCUMENTS**

**FULLY SPRINKLERED**

Project Title

**CONSTRUCT NEW SPS**

Location  
Sioux Falls, SD.

Issue Date  
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Project Number

**438-460**

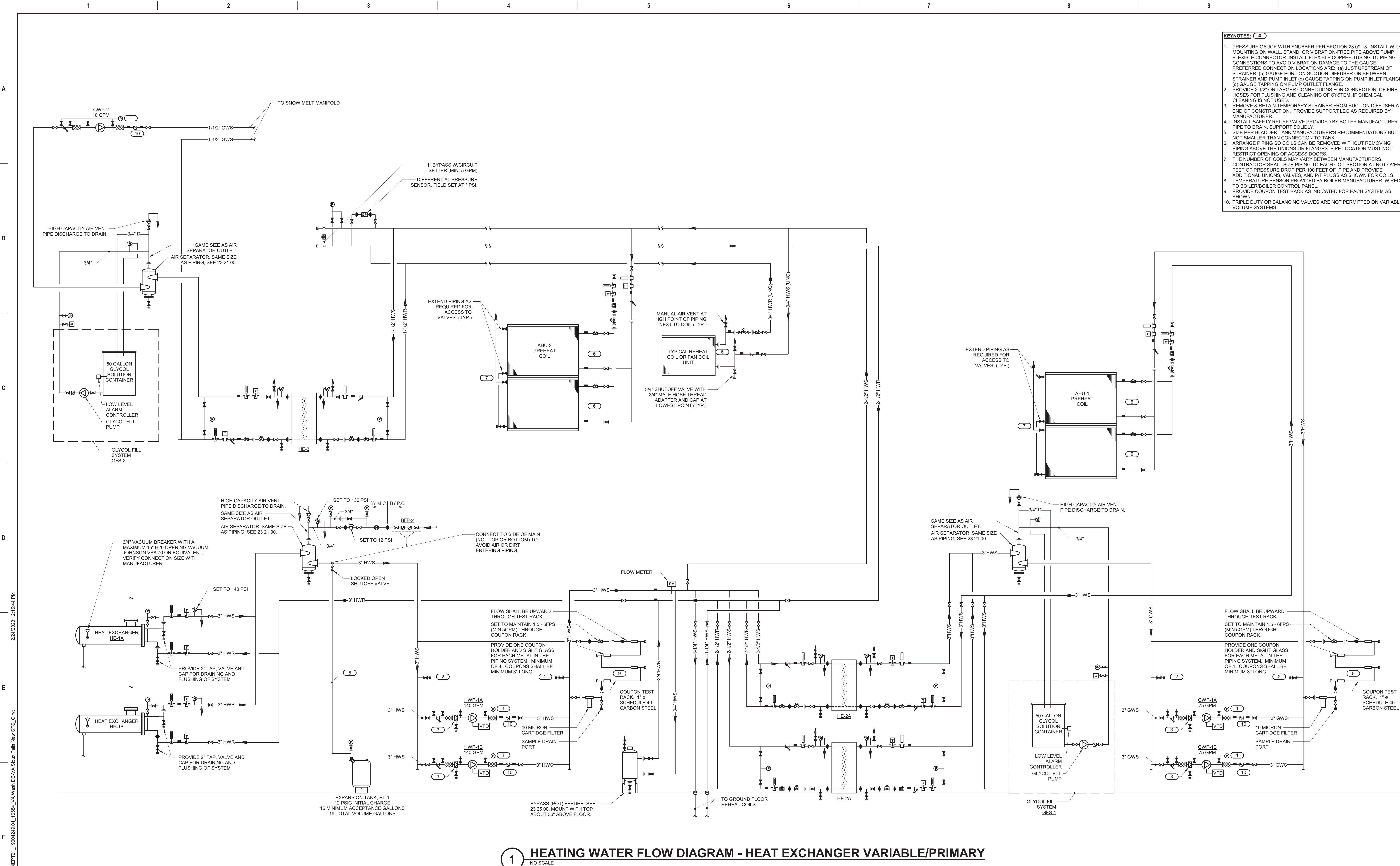
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### RELIEF VALVE SCHEDULE

NOTES:  
1.ASME CODE STAMPED VALVE PROVIDED WITH PRV TO RELIEV MAXIMUM COMBINED CAPACITY OF STATION.  
2.PROVIDE WITH DRIP PAN BELOW.

| TAG NAME | SERVICE     | CAPACITY LB/HR | SET POINT PSIG | INLET SIZE (IN.) | OUTLET SIZE (IN.) | ORIFICE (IN.) | MANUFACTURER | MODEL | NOTES       |
|----------|-------------|----------------|----------------|------------------|-------------------|---------------|--------------|-------|-------------|
| RV-1     | PRV-1A & 1B | 9242           | 70             | 2 1/2"           | 4"                | 4 3/4"        | KUNKLE       | 6252  | NOTES 1 & 2 |
| RV-2     | PRV-2A & 2B | 5860           | 25             | 2 1/2"           | 4"                | 4 3/4"        | KUNKLE       | 6252  | NOTES 1 & 2 |

### PRESSURE REDUCING VALVE SCHEDULE

NOTES:  
1.COMPLETE STATION TO INCLUDE SAFETY VALVE, BYPASS, STEAM TRAPS, ETC. REFER TO STEAM AND CONDENSATE FLOW DIAGRAM FOR ADDITIONAL REQUIREMENTS.  
2.REFER TO SPECIFICATION SECTION 23 22 13 FOR ADDITIONAL INFORMATION.

| TAG NAME | SERVICE                   | LB/HR | INLET PRESSURE PSI | OUTLET PRESSURE PSI | VALVE SIZE | MANUFACTURER | MODEL | NOTES       |
|----------|---------------------------|-------|--------------------|---------------------|------------|--------------|-------|-------------|
| PRV-1A   | SPS MEDIUM PRESSURE STEAM | 6670  | 100                | 60                  | 2"         | THERMAFLO    | JVV   | NOTES 1 & 2 |
| PRV-1B   | SPS MEDIUM PRESSURE STEAM | 3300  | 100                | 60                  | 1 1/4"     | THERMAFLO    | JVV   | NOTES 1 & 2 |
| PRV-2A   | SPS LOW PRESSURE STEAM    | 4060  | 60                 | 15                  | 1 1/2"     | THERMAFLO    | JVV   | NOTES 1 & 2 |
| PRV-2B   | SPS MEDIUM PRESSURE STEAM | 2050  | 60                 | 15                  | 1 1/4"     | THERMAFLO    | JVV   | NOTES 1 & 2 |

### HEAT EXCHANGER SCHEDULE - STEAM TO WATER

NOTES:  
1.STEAM PRESSURE INDICATED IS THE PRESSURE AVAILABLE DOWNSTREAM OF THE CONTROL VALVE.  
2.ONE HEAT EXCHANGER IS 100% REDUNDANT.

| TAG NAME | SERVICE              | WATER |                 |        | STEAM (NOTE 1) |      | HEATING SURFACE FT² | FOULING FACTOR | MAX. DIMENSIONS |          | WEIGHT | MANUFACTURER | MODEL | NOTES          |
|----------|----------------------|-------|-----------------|--------|----------------|------|---------------------|----------------|-----------------|----------|--------|--------------|-------|----------------|
|          |                      | GPM   | W.P.D. FT. HEAD | EWI °F | LWT °F         | PSIG | LB/HR               |                | LENGTH          | DIAMETER |        |              |       |                |
| HE-1A    | HEATING WATER SYSTEM | 140.0 | 0.7             | 150    | 180            | 15   | 2050                | 126.0          | 0.0003          | 76"      | 1'-10" | 1396         | TACO  | E22208S NOTE 2 |
| HE-1B    | HEATING WATER SYSTEM | 140.0 | 0.7             | 150    | 180            | 15   | 2050                | 126.0          | 0.0003          | 76"      | 1'-10" | 1396         | TACO  | E22208S NOTE 2 |

### HEAT EXCHANGER SCHEDULE - PLATE AND FRAME

NOTES:  
1.COLD SIDE PERFORMANCE BASED ON 30% PROPYLENE GLYCOL.  
2.COLD SIDE PERFORMANCE BASED ON 50% PROPYLENE GLYCOL.

| TAG NAME | SERVICE                     | HOT SIDE |                 |        |        | COLD SIDE |                 |        |        | HEATING SURFACE |     | PLATE SIZE |       | # OF PLATES | MANUFACTURER | MODEL  | NOTES |
|----------|-----------------------------|----------|-----------------|--------|--------|-----------|-----------------|--------|--------|-----------------|-----|------------|-------|-------------|--------------|--------|-------|
|          |                             | GPM      | W.P.D. FT. HEAD | EWI °F | LWT °F | GPM       | W.P.D. FT. HEAD | EWI °F | LWT °F | FT²             | FT² | HEIGHT     | WIDTH |             |              |        |       |
| HE-2A    | GLYCOL HEATING WATER SYSTEM | 75 GPM   | 18.2            | 180.0  | 150.0  | 75 GPM    | 20.60           | 145.0  | 175.0  | 33.6            | 48  | 24         | 18    | ALFA LAVAL  | AQ           | NOTE 1 |       |
| HE-2B    | GLYCOL HEATING WATER SYSTEM | 75 GPM   | 18.2            | 180.0  | 150.0  | 75 GPM    | 20.60           | 145.0  | 175.0  | 33.6            | 48  | 24         | 18    | ALFA LAVAL  | AQ           | NOTE 1 |       |
| HE-3     | SNOW MELT SYSTEM            | 1 GPM    | 3.4             | 180.0  | 150.0  | 7.5 GPM   | 22.60           | 95.0   | 115.0  | 4               | 30  | 10         | 7     | ALFA LAVAL  | AQ           | NOTE 2 |       |

### CONDENSATE RETURN STATION SCHEDULE

1.LB/HR IS ACTUAL MAXIMUM LOAD OF SYSTEM.  
2.PROVIDE WITH GAUGE GLASS, DIAL THERMOMETER, INLET BASKET STRAINER, DISCHARGE PRESSURE GAUGE, LIFTING EYES, NEMA 1 HIGH LEVEL FLOAT SWITCH, AND SUCTION VALVES.  
3.PROVIDE HARD WIRED CONNECTION TO BAS FOR PUMP FAILURE ALARM.

| TAG NAME | SERVICE                | CONFIGURATION | LB/HR (NOTE 1) | CONDENSATE TEMPERATURE °F | GPM TOTAL | RECEIVER CAPACITY GALLONS | DISCHARGE PRESSURE (PSI) | NO. OF PUMPS | ELECTRICAL |                         |         |        |             |             |                     |      |               |       | MANUFACTURER    | MODEL | NOTES |
|----------|------------------------|---------------|----------------|---------------------------|-----------|---------------------------|--------------------------|--------------|------------|-------------------------|---------|--------|-------------|-------------|---------------------|------|---------------|-------|-----------------|-------|-------|
|          |                        |               |                |                           |           |                           |                          |              | HP EA.     | NO OF POWER CONNECTIONS | VOLTAGE | PHASES | DISCONNECT  |             | CONTROLLER/ STARTER |      |               |       |                 |       |       |
|          |                        |               |                |                           |           |                           |                          |              |            |                         |         |        | BY (NOTE A) | BY (NOTE B) | SCCR                |      |               |       |                 |       |       |
| CRS-1    | SPS LOW PRESSURE STEAM | DUPLEX        | 900            | 210                       | 22        | 23                        | 40                       | 2            | 1.5        | 2                       | 480 V   | 3      | MFR         | NF          | MFR                 | 5000 | DOMESTIC PUMP | 120CB | NOTES 1, 2, & 3 |       |       |
| CRS-2    | SPS LOW PRESSURE STEAM | DUPLEX        | 5810           | 210                       | 22        | 23                        | 40                       | 2            | 1.5        | 2                       | 480 V   | 3      | MFR         | NF          | MFR                 | 5000 | DOMESTIC PUMP | 120CB | NOTES 1, 2, & 3 |       |       |

### AIR COOLED CHILLER SCHEDULE

NOTES:  
1.SEE SPECIFICATION SECTION 23 64 30 FOR ADDITIONAL REQUIREMENTS.

| TAG NAME | SERVICE                     | REFRIGERANT | CAPACITY/PERFORMANCE |                     |   |      |      |      |       | EVAPORATOR PERFORMANCE |        |     |                             | COMPRESSOR TYPE | ELECTRICAL     |                       |                    |         |        |       |       |                    |          |                     | MAX. DIMENSIONS |      |        | WEIGHT |        | VIBRATION ISOLATION |           | MANUFACTURER | MODEL | NOTES          |        |        |
|----------|-----------------------------|-------------|----------------------|---------------------|---|------|------|------|-------|------------------------|--------|-----|-----------------------------|-----------------|----------------|-----------------------|--------------------|---------|--------|-------|-------|--------------------|----------|---------------------|-----------------|------|--------|--------|--------|---------------------|-----------|--------------|-------|----------------|--------|--------|
|          |                             |             | DESIGN TONS          | STAGES OF UNLOADING | MIN. EER AT % LOAD<br>(BASED ON AIR AND WATER<br>CONDITIONS AS LISTED.) |      |      |      | NPLV  | EWT °F                 | LWT °F | GPM | MAX. PRESSURE<br>(FT. W.G.) |                 | FOULING FACTOR | NUMBER OF COMPRESSORS | NO. OF CONNECTIONS | VOLTAGE | PHASES | MCA   | MOC   | DISCONNECT BY TYPE |          | CONTROLLER/ STARTER |                 | SCCR | LENGTH | WIDTH  | HEIGHT | DRY                 | OPERATING |              |       |                | TYPE   | DEFL.  |
|          |                             |             |                      |                     | 100   | 75   | 50   | 25   |       |                        |        |     |                             |                 |                |                       |                    |         |        |       |       | (NOTE A)           | (NOTE B) | (NOTE A)            | (NOTE C)        |      |        |        |        |                     |           |              |       |                |        |        |
| ACC-1    | STERILE PROCESSING ADDITION | R-410A      | 171.6                | VFD                 | 9.6   | 13.8 | 15.9 | 17.5 | 15.73 | 52                     | 40     | 342 | 0                           | 0.0001          | 6              | SCROLL                | 1                  | 480 V   | 3      | 431 A | 500 A | EC                 | NF       | MFR                 | VFD             | 65   | 282"   | 88"    | 96.6"  | 7325                | 7693      | M4           | 3/4"  | DAIKIN APPLIED | AGZ191 | NOTE 1 |

### GLYCOL FEED SYSTEM

NOTES:  
1.PACKAGE SYSTEM COMPLETE WITH STORAGE TANK, PUMP, AND CONTROLS WITH AUDIBLE AND VISUAL ALARM, DESIGNED TO ADD GLYCOL SOLUTION TO A CLOSED LOOP WATER SYSTEM. SYSTEM SHALL AUTOMATICALLY MAINTAIN PRESSURE IN THE PIPING SYSTEM.  
2.PROVIDE CUT-OFF AND ALARM TO STOP PUMP IN CASE OF LOW LEVEL OR HIGH PRESSURE. PROVIDE DRY CONTACT FOR ALARM POINT TO DDC.  
3.COMPLETE WITH POLYETHYLENE STORAGE TANK AND LID. MOUNT ON FLOOR ABOVE PUMPING ASSEMBLY IN A STEEL FRAME WITH LEGS. LID SHALL BE REMOVABLE FOR FILLING AND PROVIDE MEANS FOR SYSTEM RELIEF VALVE OUTLET TO BE PIPED BACK TO TANK WITHOUT REMOVAL OF PIPING FROM RELIEF VALVE OR AUTOMATIC AIR VENT.  
4.PUMPING SYSTEM SHALL CONSIST OF A PUMP, STARTER, PRESSURE TANK WITH CONTROL, PRESSURE REDUCING VALVE, SHUTOFF VALVE, AND PRESSURE GAUGE.

| TAG<br>NAME | SERVICE            | TANK<br>VOLUME | PUMP<br>HEAD<br>PSI | ELECTRICAL |         |        |                                 |                     |      |         | MANUFACTURER | MODEL<br>(NOTE 1)  | NOTES |
|-------------|--------------------|----------------|---------------------|------------|---------|--------|---------------------------------|---------------------|------|---------|--------------|--------------------|-------|
|             |                    |                |                     | MHP        | VOLTAGE | PHASES | BY<br>DISCONNECT<br>BY (NOTE A) | CONTROLLER/ STARTER |      |         |              |                    |       |
|             |                    |                |                     |            |         |        |                                 | (NOTE A)            | SCCR |         |              |                    |       |
| GFS-1       | AHU-1 PREHEAT COIL | 50.0           | 15                  | 0.33       | 120     | 1      | MFR                             | MFR                 | 5000 | WESSELS | GMP          | NOTES 1, 2, 3, & 4 |       |
| GFS-2       | SNOW MELT SYSTEM   | 50.0           | 15                  | 0.33       | 120     | 1      | MFR                             | MFR                 | 5000 | WESSELS | GMP          | NOTES 1, 2, 3, & 4 |       |

### PIPE INSULATION SCHEDULE (HYDRONIC)

GENERAL NOTES:  
1. REFER TO THE SPECIFICATIONS FOR TYPE DESCRIPTIONS AND JACKETING REQUIREMENTS. VALUES LISTED BELOW ARE BASED ON ASHRAE / IECC REQUIREMENTS.  
2. TYPE A INSULATION IS NOT ALLOWED IN NON-AIR CONDITIONED SPACES (SUCH AS MECHANICAL ROOMS, EXTERIOR, ATTICS, ETC) ON PIPE SYSTEMS WITH FLUID TEMPERATURES BELOW 60 DEG. F.  
3. TYPE B INSULATION GREATER THAN 1" THICK SHALL BE INSTALLED USING MULTIPLE LAYERS OF 3/4" OR 1" WITH STAGGERED SEAMS.  
4. TYPE E IS NOT ALLOWED IN RETURN AIR FLEXJUNGS, UNLESS LISTED AND LABELED AS 2550 RATED PER ASTM E84UL723  
5. TYPE G 4" SHALL BE INSTALLED IN TWO (2) 2" LAYERS WITH STAGGERED SEAMS.  
6. PROVIDE RIGID INSERT AT HANGERS, EITHER PRE-MANUFACTURED COUPLINGS OR TYPE C, D (HOT PIPE ONLY), E (WHERE ALLOWED BY CODE) OR F INSULATION. SEE SPEC FOR MORE DETAILS.

| PIPE SYSTEM                                | INSULATION TYPE AND THICKNESS PER NOMINAL PIPE OR TUBE SIZE |                |             |            |            |            |             |             |            |            | NOTES |
|--|---|----------------|-------------|------------|------------|------------|-------------|-------------|------------|------------|-------|
|  | <1"   | 1" TO <1.5"    | 1.5" TO <4" | 4" TO <8"  | ≥8"        | <1"        | 1" TO <1.5" | 1.5" TO <4" | 4" TO <8"  | ≥8"        |       |
| CWR - CHILLED WATER RETURN                 | A 0.5", B 0.5"  | A 0.5", B 0.5" | A 1", B 1"  | A 1", B 1" | A 1", B 1" | C 1", E 1" | C 1", E 1"  | C 1", E 1"  | C 1", E 1" | C 1", E 1" |       |
| CWS - CHILLED WATER SUPPLY                 | A 0.5", B 0.5"  | A 0.5", B 0.5" | A 1", B 1"  | A 1", B 1" | A 1", B 1" | C 1", E 1" | C 1", E 1"  | C 1", E 1"  | C 1", E 1" | C 1", E 1" |       |
| GWR - GLYCOL WATER RETURN                  | B 1"  | B 1", E 1"     | B 1"        | B 1"       | B 1.5"     | C 1", E 1" | C 1", E 1"  | C 1", E 1"  | C 1", E 1" | C 1", E 1" |       |
| GWS - GLYCOL WATER SUPPLY                  | B 1"  | B 1"           | B 1"        | B 1"       | B 1.5"     | C 1", E 1" | C 1", E 1"  | C 1", E 1"  | C 1", E 1" | C 1", E 1" |       |
| HPC - HIGH PRESSURE CONDENSATE             | A 4.5"  | A 5"           | A 5"        | A 5"       | A 5"       | G 4"       | G 4"        | G 4"        | G 5"       | G 5"       |       |
| HPS - HIGH PRESSURE STEAM                  | A 4.5"  | A 5"           | A 5"        | A 5"       | A 5"       | G 4"       | G 4"        | G 4"        | G 5"       | G 5"       |       |
| HWR - HEATING WATER RETURN                 | A 1.5"  | A 1.5"         | A 2"        | A 2"       | A 2"       | C 1", E 1" | C 1", E 1"  | C 1", E 1"  | C 1", E 1" | C 1", E 1" |       |
| HWS - HEATING WATER SUPPLY                 | A 1.5"  | A 1.5"         | A 2"        | A 2"       | A 2"       | C 1", E 1" | C 1", E 1"  | C 1", E 1"  | C 1", E 1" | C 1", E 1" |       |
| LJO - REFRIGERANT LIQUID                   | A 0.5", B 0.5"  | A 0.5", B 0.5" | A 1", B 1"  | A 1", B 1" | A 1", B 1" | C 1", E 1" | C 1", E 1"  | C 1", E 1"  | C 1", E 1" | C 1", E 1" |       |
| LPC - LOW PRESSURE CONDENSATE              | A 2.5"  | A 2.5"         | A 2.5"      | A 3"       | A 3"       | G 4"       | G 4"        | G 4"        | G 5"       | G 5"       |       |
| LPS - LOW PRESSURE STEAM                   | A 2.5"  | A 2.5"         | A 2.5"      | A 3"       | A 3"       | G 4"       | G 4"        | G 4"        | G 5"       | G 5"       |       |
| MISC RELIEF VENTS, INTAKES, AND DISCHARGES | A 0.5", B 0.5"  | A 0.5", B 0.5" | A 1", B 1"  | A 1", B 1" | A 1", B 1" | G 4"       | G 4"        | G 4"        | G 5"       | G 5"       |       |
| MPC - MEDIUM PRESSURE CONDENSATE           | A 4.5"  | A 5"           | A 5"        | A 5"       | A 5"       | G 4"       | G 4"        | G 4"        | G 5"       | G 5"       |       |
| MPS - MEDIUM PRESSURE STEAM                | A 4.5"  | A 5"           | A 5"        | A 5"       | A 5"       | G 4"       | G 4"        | G 4"        | G 5"       | G 5"       |       |
| PC - PUMPED CONDENSATE                     | A 2.5"  | A 2.5"         | A 2.5"      | A 3"       | A 3"       | G 4"       | G 4"        | G 4"        | G 5"       | G 5"       |       |
| SUC - REFRIGERANT SUCTION                  | A 0.5", B 0.5"  | A 0.5", B 0.5" | A 1", B 1"  | A 1", B 1" | A 1", B 1" | C 1", E 1" | C 1", E 1"  | C 1", E 1"  | C 1", E 1" | C 1", E 1" |       |

### PUMP SCHEDULE

NOTES:  
1.PROVIDE SHAFT GROUNDING AS REQUIRED IN THE MOTOR SPECIFICATION 23 05 13.  
2.PUMP SELECTED FOR 30% PROPYLENE GLYCOL.  
3.PUMP SELECTED FOR 50% PROPYLENE GLYCOL.

| ELECTRICAL (NOTE 1) |                             |       |                         |                         |            |               |              |             |      |         |        |             |               | MAX. DIMENSIONS     |               |               |        |        | VIBRATION ISOLATION |       |              |       |             |             |
|---------------------|-----------------------------|-------|-------------------------|-------------------------|------------|---------------|--------------|-------------|------|---------|--------|-------------|---------------|---------------------|---------------|---------------|--------|--------|---------------------|-------|--------------|-------|-------------|-------------|
| TAG NAME            | SERVICE                     | GPM   | PUMP FT. HEAD AT DESIGN | MINIMUM PUMP EFFICIENCY | INLET SIZE | IMPELLER SIZE | BHP (NOTE E) | HP (NOTE E) | RPM  | VOLTAGE | PHASES | DISCONNECT  |               | CONTROLLER/ STARTER |               |               | WEIGHT | HEIGHT | TYPE                | DEF'L | MANUFACTURER | MODEL | NOTES       |             |
|                     |                             |       |                         |                         |            |               |              |             |      |         |        | BY (NOTE A) | TYPE (NOTE B) | BY (NOTE A)         | TYPE (NOTE C) | TYPE (NOTE D) |        |        |                     |       |              |       |             |             |
| CWP-1A              | CHILLED WATER SYSTEM        | 275.0 | 90.00                   | 73.3                    | 3"         | 10.625        | 7.87         | 10          | 1680 | 480     | 3      | EC          | F             | EC                  | VFD           | 42.25"        | 16"    | 22"    | 413                 | M3    | 3/4"         | B & G | 1510 2E     | NOTE 1      |
| CWP-1B              | CHILLED WATER SYSTEM        | 275.0 | 90.00                   | 73.3                    | 3"         | 10.625        | 7.87         | 10          | 1680 | 480     | 3      | EC          | F             | EC                  | VFD           | 42.25"        | 16"    | 22"    | 413                 | M3    | 3/4"         | B & G | 1510 2E     | NOTE 1      |
| GWP-1A              | GLYCOL HEATING WATER SYSTEM | 75.0  | 100.00                  | 46.7                    | 2"         | 9.500         | 3.38         | 7.5         | 1692 | 480     | 3      | EC          | F             | EC                  | VFD           | 34.63"        | 14.63" | 17.25" | 297                 | M3    | 3/4"         | B & G | 1510 SERIES | NOTES 1 & 2 |
| GWP-1B              | GLYCOL HEATING WATER SYSTEM | 75.0  | 100.00                  | 46.7                    | 2"         | 9.500         | 3.38         | 7.5         | 1692 | 480     | 3      | EC          | F             | EC                  | VFD           | 34.63"        | 14.63" | 17.25" | 297                 | M3    | 3/4"         | B & G | 1510 SERIES | NOTES 1 & 2 |
| GWP-2               | SNOW MELT SYSTEM            | 8.0   | 60.00                   | 45.3                    | 1"         | 4.500         | 1.2          | 2           | 3600 | 480     | 3      | EC          | F             | EC                  | VFD           | 14"           | 14"    | 18"    | 60                  | H3    | 3/4"         | B & G | 1.5A        | NOTES 1 & 3 |
| HWP-1A              | HEATING WATER SYSTEM        | 140.0 | 80.00                   | 61.5                    | 2"         | 9.500         | 4.45         | 7.5         | 1652 | 480     | 3      | EC          | F             | EC                  | VFD           | 34.63"        | 14.63" | 17.25" | 297                 | M3    | 3/4"         | B & G | 1510 SERIES | NOTE 1      |
| HWP-1B              | HEATING WATER SYSTEM        | 140.0 | 80.00                   | 61.5                    | 2"         | 9.500         | 4.45         | 7.5         | 1652 | 480     | 3      | EC          | F             | EC                  | VFD           | 34.63"        | 14.63" | 17.25" | 297                 | M3    | 3/4"         | B & G | 1510 SERIES | NOTE 1      |

### FAN COIL UNIT SCHEDULE - HYDRONIC

NOTES:  
1.PROVIDE FAN COIL UNIT WITH CONDENSATE PUMP.  
2.PROVIDE FAN COIL UNIT WITH WALL MOUNTED THERMOSTAT.  
3.FAN COIL UNIT SHALL BE EXPOSED CEILING HUNG TYPE.  
4.SCHEDULED LOADS ARE MINIMUM CAPACITIES BASED ON ZONE HEATING AND COOLING DEMANDS. FAN COIL UNIT CAPACITIES MAY BE GREATER.  
5.LISTED FLOW RATE IS MAXIMUM FOR BASIS OF DESIGN EQUIPMENT. COORDINATE BALANCE FLOW RATES WITH BALANCING CONTRACTOR BASED ON PERFORMANCE OF FAN COIL UNITS BEING PROVIDED.

| TAG NAME | AREA SERVED     | CFM | EXT. S.P. IN W.C. | EAT   |       |           | COOLING COIL |     |        |        | HEATING COIL  |           |     |        | ELECTRICAL |               |      |      |         |        |             |               | MAX. DIMENSIONS     |      |        | MANUFACTURER | MODEL | NOTES |         |                       |
|----------|-----------------|-----|-------------------|-------|-------|-----------|--------------|-----|--------|--------|---------------|-----------|-----|--------|------------|---------------|------|------|---------|--------|-------------|---------------|---------------------|------|--------|--------------|-------|-------|---------|-----------------------|
|          |                 |     |                   | DB °F | WB °F | TOTAL MBH | SENSIBLE MBH | GPM | EWT °F | LWT °F | W.P.D. FT. HD | TOTAL MBH | GPM | EWT °F | LWT °F     | W.P.D. FT. HD | HP   | RPM  | VOLTAGE | PHASES | DISCONNECT  |               | CONTROLLER/ STARTER | SCCR | LENGTH |              |       |       | WIDTH   | HEIGHT                |
|          |                 |     |                   |       |       |           |              |     |        |        |               |           |     |        |            |               |      |      |         |        | BY (NOTE A) | TYPE (NOTE B) |                     |      |        |              |       |       |         |                       |
| FCU-1    | MECHANICAL ROOM | 500 | 0.3               | 60.0  | 53.0  | 19.3      | 7.85         | 3.8 | 40     | 52     | 5.00          | 26.3      | 1.8 | 180    | 150        | 3.50          | 0.25 | 1800 | 277     | 1      | MFR         | NF            | FV                  | 5000 | 20     | 31           | 10    | IEC   | CXB08A6 | NOTES 1, 2, 3, 4, & 5 |
| FCU-2    | MECHANICAL ROOM | 500 | 0.3               | 60.0  | 53.0  | 19.3      | 7.85         | 3.8 | 40     | 52     | 5.00          | 26.3      | 1.8 | 180    | 150        | 3.50          | 0.25 | 1800 | 277     | 1      | MFR         | NF            | FV                  | 5000 | 20     | 31           | 10    | IEC   | CXB08A6 | NOTES 1, 2, 3, 4, & 5 |
| FCU-3    | MECHANICAL ROOM | 500 | 0.3               | 60.0  | 53.0  | 19.3      | 7.85         | 3.8 | 40     | 52     | 5.00          | 26.3      | 1.8 | 180    | 150        | 3.50          | 0.25 | 1800 | 277     | 1      | MFR         | NF            | FV                  | 5000 | 20     | 31           | 10    | IEC   | CXB08A6 | NOTES 1, 2, 3, 4, & 5 |



|   |                          |                        |                                  |  |
|---|--------------------------|------------------------|----------------------------------|--|
| Project Title<br><b>CONSTRUCT NEW SPS</b> |                          |                        | Project Number<br><b>438-460</b> |  |
| Location<br><b>Sioux Falls, SD.</b>       |                          |                        | Building Number<br><b>5</b>      |  |
|   |                          |                        | Drawing Number<br><b>MV000</b>   |  |
| Issue Date<br><b>08/04/22</b>             | Checked<br><b>DAVING</b> | Drawn<br><b>DELLLE</b> |                                  |  |





- VA FORM 08-6231




$$1/8" = 1'-0"$$

|                 |         |
|-----------------|---------|
| Project Number  | 438-460 |
| Building Number | 5       |
| Drawing Number  | MVD102  |




$$1/8'' = 1'-0''$$

|                   |  |         |                 |        |
|-------------------|--|---------|-----------------|--------|
| Project Title     |  |         | Project Number  |        |
| CONSTRUCT NEW SPS |  |         | 438-460         |        |
| Location          |  |         | Building Number |        |
| Sioux Falls, SD.  |  |         | 5               |        |
| Issue Date        |  | Checked | Drawn           | MVD112 |
| 08/04/22          |  | DAVING  | DELLE           |        |

VA FORM 08-6231

1. PRIOR TO DEMOLITION OF EXISTING LOUVERS, AN AIR BALANCE TEST SHALL BE PERFORMED BY THE TESTING, ADJUSTING, AND BALANCING CONTRACTOR FOR ONE HOUR AT EACH OF THE 5-1F, 5-2F, AND 5-5F/2. AIRFLOW AND DUCT PRESSURE READINGS SHALL BE RECORDED FOR THE INDICATED LOCATIONS IN A PRE-DEMOLITION REPORT. FOLLOWING DEMOLITION, THESE SYSTEMS SHALL BE RE-BALANCED TO THE PRE-DEMOLITION VALUES.
2. DOWNTIME OF EXISTING MECHANICAL SYSTEMS (VAC-10, 5-1F, AND 5-5F/2) SHALL BE MINIMIZED BY INSTALLING NEW DUCTWORK AND HOODS TO THE GREATEST EXTENT POSSIBLE PRIOR TO DEMOLITION OF LOUVERS AND CHAQUEVED. THE MECHANICAL CONTRACTOR SHALL COMPLETE ANY CLEANING REQUIRED FOR EXISTING SYSTEMS WHICH WILL BE RE-USED FOR CONSTRUCTION DUST AND DEBRIS.



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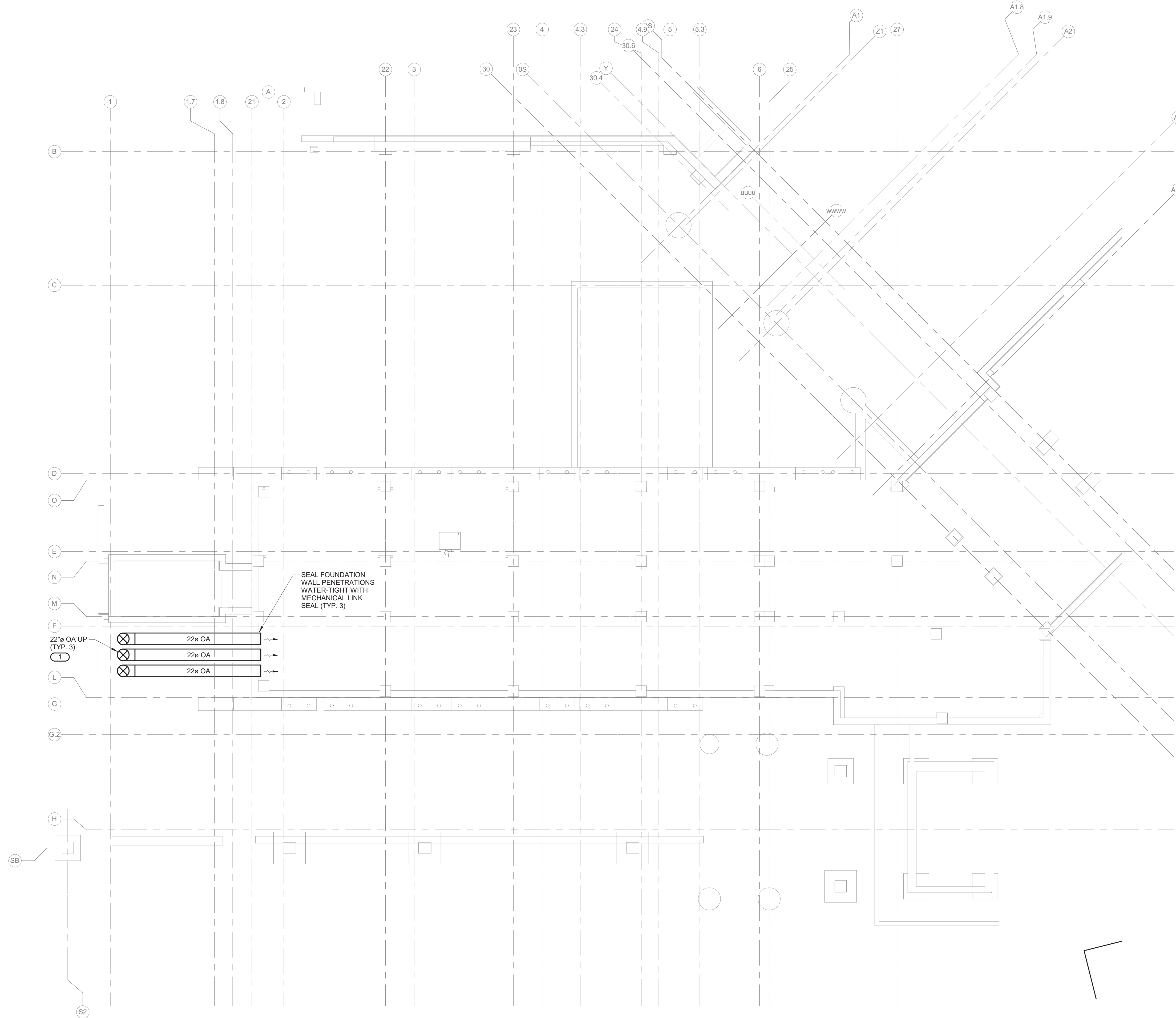
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GENERAL VENTILATION NOTES:

1. REFERENCE MV000 - VENTILATION COVERSHEET FOR VENTILATION SYMBOLS, ABBREVIATIONS, AND GENERAL NOTES.
2. COORDINATE AND CONFIRM ALL ARCHITECTURALLY EXPOSED DEVICE LOCATIONS WITH ARCHITECT PRIOR TO ROUGH-IN OR INSTALLATION.
3. REFERENCE MV600 FOR VENTILATION SCHEDULES.

KEYNOTES: ( # )

1. OUTSIDE AIR DUCTWORK SHALL TRANSITION TO FIBERGLASS REINFORCED MATERIAL PRIOR TO SLAB PENETRATION AND SHALL REMAIN AS SUCH WHILE UNDERGROUND THROUGH THE FOUNDATION WALL. PENETRATION IN THE PIPE BASEMENT SLOPE HORIZONTAL UNDERGROUND DUCTWORK TOWARDS THE PIPE BASEMENT. REFERENCE SPECIFICATION SECTION 23 31 00 FOR ADDITIONAL INFORMATION.




1

PIPE BASEMENT FLOOR PLAN - VENTILATION

1/8" = 1'-0"

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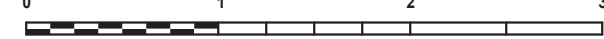
CONSULTANT




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DES MOINES, IA 50325  
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PROJECT # 19004249.04

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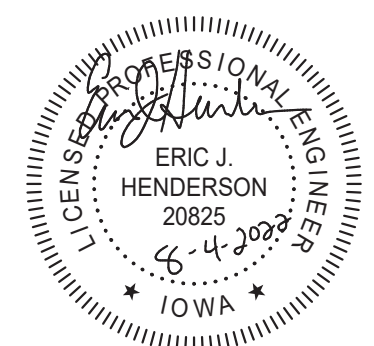


ARCHITECT/ENGINEER OF RECORD



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Anderson Engineering of Minnesota, LLC | Proj # 16584

STAMP



Office of  
Construction  
and Facilities  
Management

 U.S. Department  
of Veterans  
Affairs

Drawing Title

PIPE BASEMENT FLOOR PLAN -  
VENTILATION

Approved:

Phase

BID DOCUMENTS

FULLY SPRINKLERED

Project Title

CONSTRUCT NEW SPS

Location

Sioux Falls, SD.

Issue Date

08/04/22

Checked

DAVING

Drawn

DELLLE

Project Number

438-460

Building Number

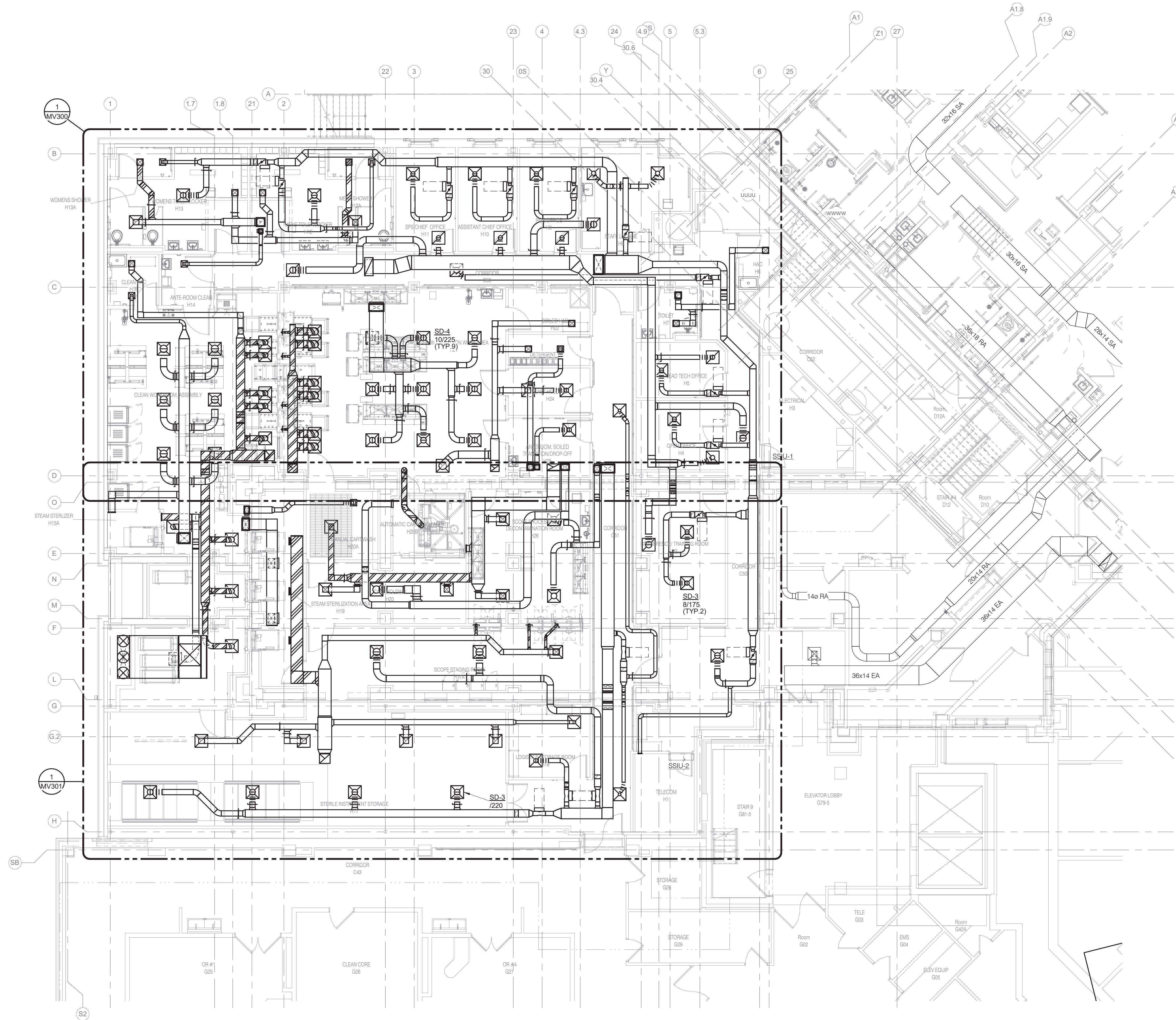
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Drawing Number

MV091



- GENERAL VENTILATION NOTES:
1. REFERENCE MV000 – VENTILATION COVERSHEET FOR VENTILATION SYMBOLS, ABBREVIATIONS, AND GENERAL NOTES.
  2. COORDINATE AND CONFIRM ALL ARCHITECTURALLY EXPOSED DEVICE LOCATIONS WITH ARCHITECT PRIOR TO ROUGH-IN OR INSTALLATION.
  3. REFERENCE MV000 FOR VENTILATION SCHEDULES.



**1 GROUND LEVEL FLOOR PLAN - VENTILATION**  
1/8" = 1'-0"

|  |  |   |  |  |  |   |                               |   |   |
|--|--|---|--|--|--|---|-------------------------------|---|---|
| <b>CONSULTANT</b><br><b>IMEG</b><br>2882 NORTH STREET<br>DES MOINES, IA 50322<br>515.334.9900 FAX: 515.334.9988<br>www.imegcorp.com<br>PROJECT # 19004249.04 |  | <b>ARCHITECT/ENGINEER OF RECORD</b><br><b>ANDERSON</b><br>13605 1st Ave. N. #100 Plymouth, MN 55441<br>P 763.412.4000   F 763.412.4090   ae-mn.com<br>Anderson Engineering of Minnesota, LLC   Proj # 16584 |  | <b>STAMP</b><br>ERIC J. HENDERSON<br>20825<br>4-4-2022<br>IOWA | <b>Office of Construction and Facilities Management</b><br><b>VA</b> U.S. Department of Veterans Affairs | <b>Drawing Title</b><br>GROUND LEVEL FLOOR PLAN - VENTILATION<br><b>Approved:</b> | <b>Phase</b><br>BID DOCUMENTS | <b>Project Title</b><br>CONSTRUCT NEW SPS   | <b>Project Number</b><br>438-460<br><b>Building Number</b><br>5 |
| <b>Revisions:</b>  |  | <b>Date:</b>  |  |  |  | <b>FULLY SPRINKLERED</b>  |                               | <b>Location</b><br>Sioux Falls, SD.<br><b>Issue Date</b><br>08/04/22<br><b>Checked</b><br>DAVING<br><b>Drawn</b><br>DELLE | <b>Drawing Number</b><br>MV101                                  |



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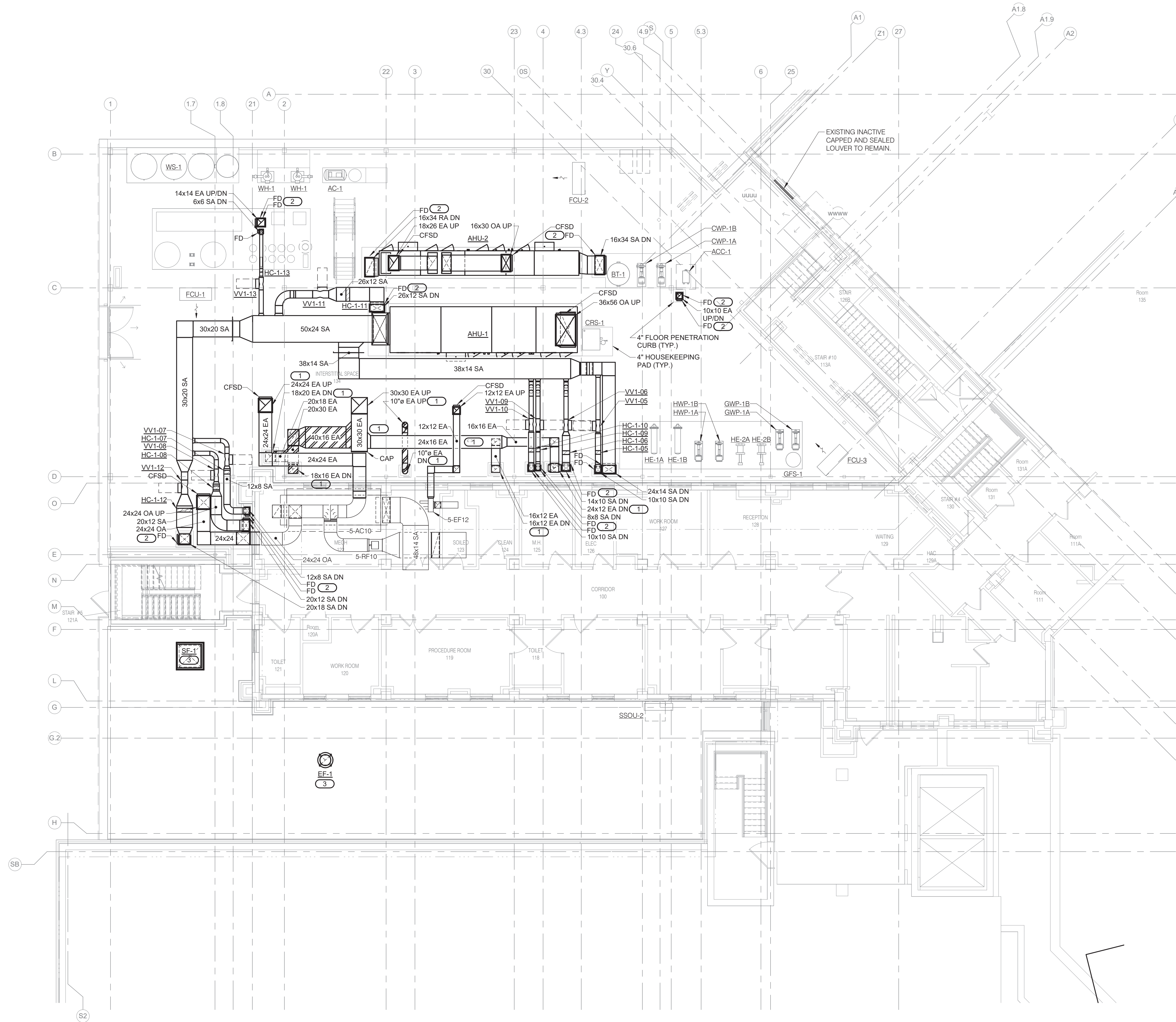
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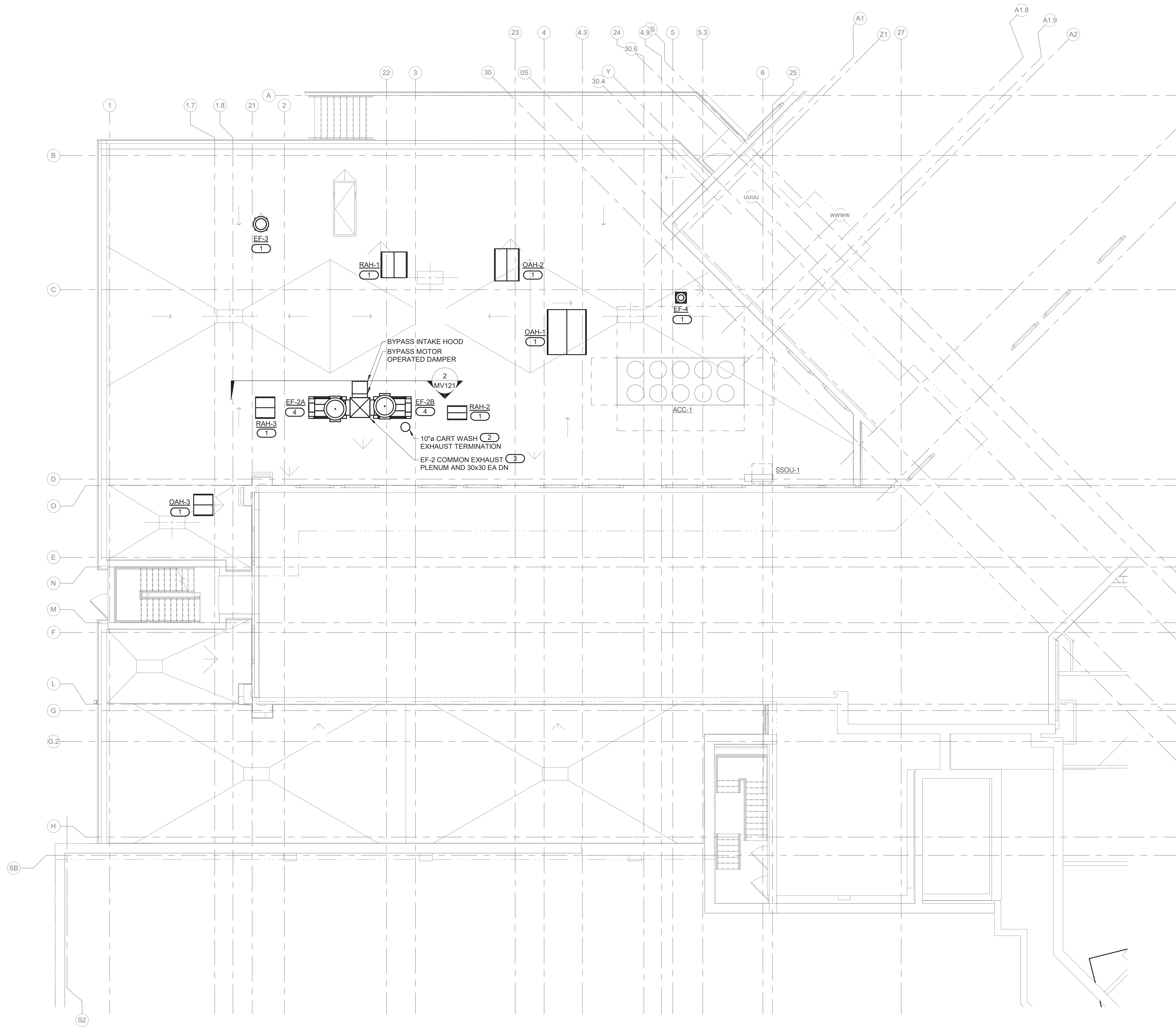
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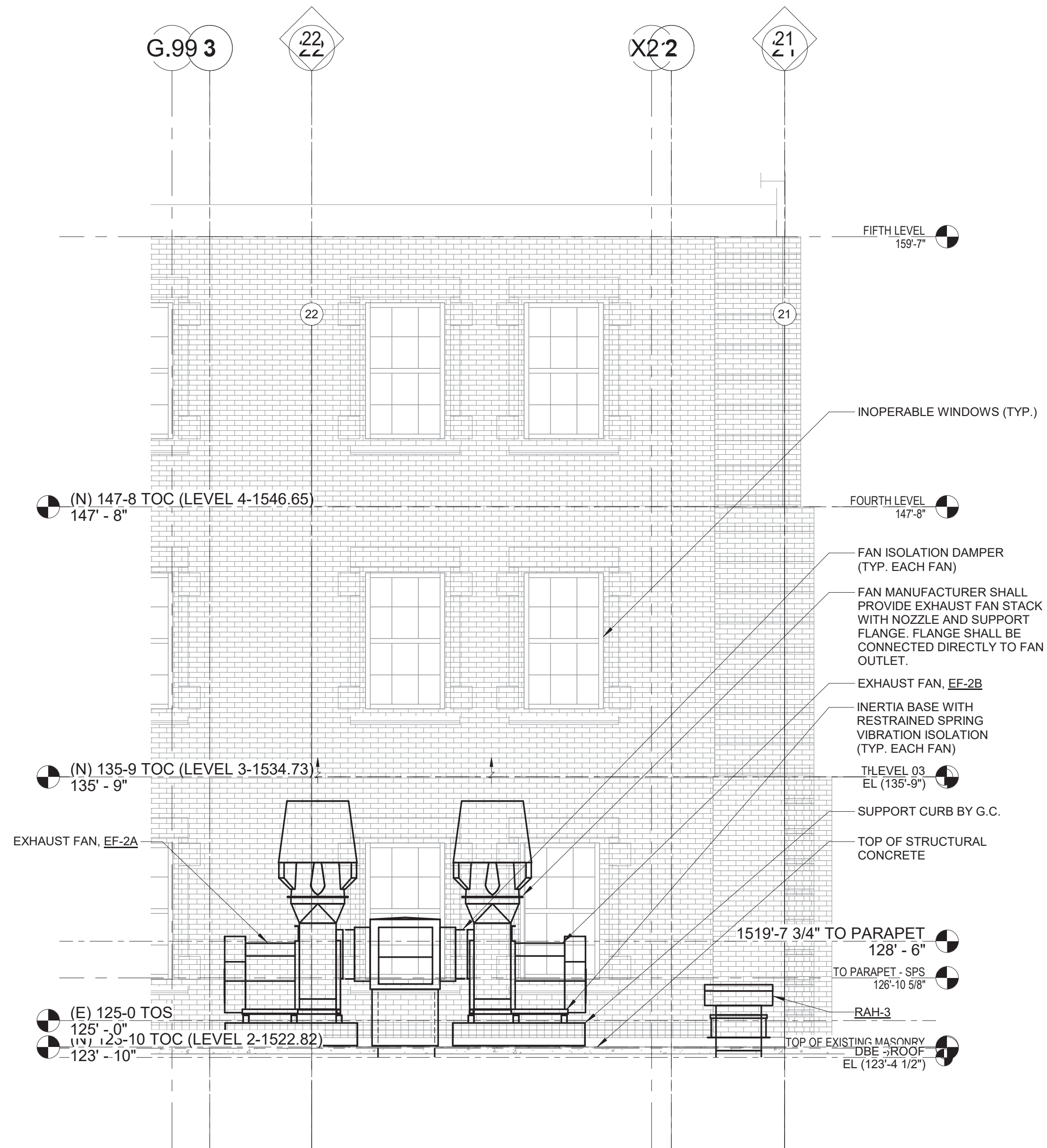


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- GENERAL VENTILATION NOTES:**
1. REFERENCE MV000 - VENTILATION COVERSHEET FOR VENTILATION SYMBOLS, ABBREVIATIONS, AND GENERAL NOTES.
  2. COORDINATE AND CONFIRM ALL ARCHITECTURALLY EXPOSED DEVICE LOCATIONS WITH ARCHITECT PRIOR TO ROUGH-IN OR INSTALLATION.
  3. REFERENCE MV000 FOR VENTILATION SCHEDULES.
- KEYNOTES: ( # )**
1. REFERENCE 3MV/401 FOR FANHOOD CURB ROOF SUPPORT DETAIL.
  2. REFERENCE 4MV/401 FOR EXHAUST STACK THROUGH ROOF DETAIL.
  3. REFERENCE 5MV/401 FOR DUCT ROOF PENETRATION DETAIL.
  4. FAN SHALL BE MOUNTED ON AN EQUIPMENT SUPPORT RAIL WITH RESTRAINED SPRING ISOLATORS WITH 0.75" DEFLECTION. REFERENCE 6MV/401 FOR HIGH PLUME EXHAUST FAN ROOF SUPPORT DETAIL.



**1 ROOF PLAN - VENTILATION**  
1/8" = 1'-0"



**2 HIGH PLUME EXHAUST FAN SECTION LOOKING SOUTH**  
NO SCALE

| Revisions: | Date: |
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2025  
IOWA

Office of  
Construction  
and Facilities  
Management

**VA** U.S. Department  
of Veterans  
Affairs

Drawing Title  
**ROOF PLAN - VENTILATION**

Approved:

Phase  
**BID DOCUMENTS**

**FULLY SPRINKLERED**

Project Title  
**CONSTRUCT NEW SPS**

Location  
Sioux Falls, SD.

Issue Date  
08/04/22

Checked  
DAVING

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Project Number  
**438-460**

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GENERAL VENTILATION NOTES:

1. REFERENCE MV000 - VENTILATION COVERSHEET FOR VENTILATION SYMBOLS, ABBREVIATIONS, AND GENERAL NOTES.
2. COORDINATE AND CONFIRM ALL ARCHITECTURALLY EXPOSED DEVICE LOCATIONS WITH ARCHITECT PRIOR TO ROUGH-IN OR INSTALLATION.
3. REFERENCE MV000 FOR VENTILATION SCHEDULES.
4. THE SIZE OF BRANCH DUCTS TO TERMINAL AIR BOXES AND AIR OUTLETS SHALL MATCH THEIR INLET SIZE UNLESS OTHERWISE NOTED.
5. ALL BALANCING DAMPERS SHOWN ABOVE HARD LID CEILINGS SHALL BE ELECTRONIC REMOTELY OPERATED TYPE. GENERALLY, ALL GRILLES AND DIFFUSERS SERVED BY AHU-1 OR E-2-208 HAVE BALANCING DAMPERS LOCATED ABOVE HARD LID CEILINGS. MECHANICAL CONTRACTOR SHALL REVIEW ARCHITECTURAL REFLECTED CEILING PLANS AND VERIFY QUANTITY PRIOR TO BID. PROVIDE EACH DAMPER WITH 9V ELECTRONIC ACTUATOR, MINIMUM 14 FOOT PLENUM RATED CABLE, AND A STAINLESS-STEEL CEILING PLATE WITH ONE RJ11 PORT. PROVIDE ONE HANDHELD REMOTE EQUIPPED WITH 9V POWER SUPPLY AND 5 FOOT CABLE WITH RJ11 PLUG FOR CONNECTION TO ALL DAMPERS.
6. REFERENCE 1/MV400 FOR BRANCH CONNECTIONS DETAIL.
7. REFERENCE 2/MV400 FOR DUCT REINFORCEMENT DETAIL.
8. REFERENCE 3/MV400 FOR ELBOW CONSTRUCTION DETAIL.
9. REFERENCE 4/MV400 FOR LONGITUDINAL SEAMS DETAIL.
10. REFERENCE 5/MV400 FOR TRAPEZE HANGER DUCT WRAP VAPOR SEAL DETAIL.
11. REFERENCE 6/MV400 FOR DIFFUSER CONNECTION DETAIL.
12. REFERENCE 1/MV401 FOR TERMINAL AIR BOX DETAIL.
13. REFERENCE 2/MV401 FOR COIL-IN-DUCT DETAIL.

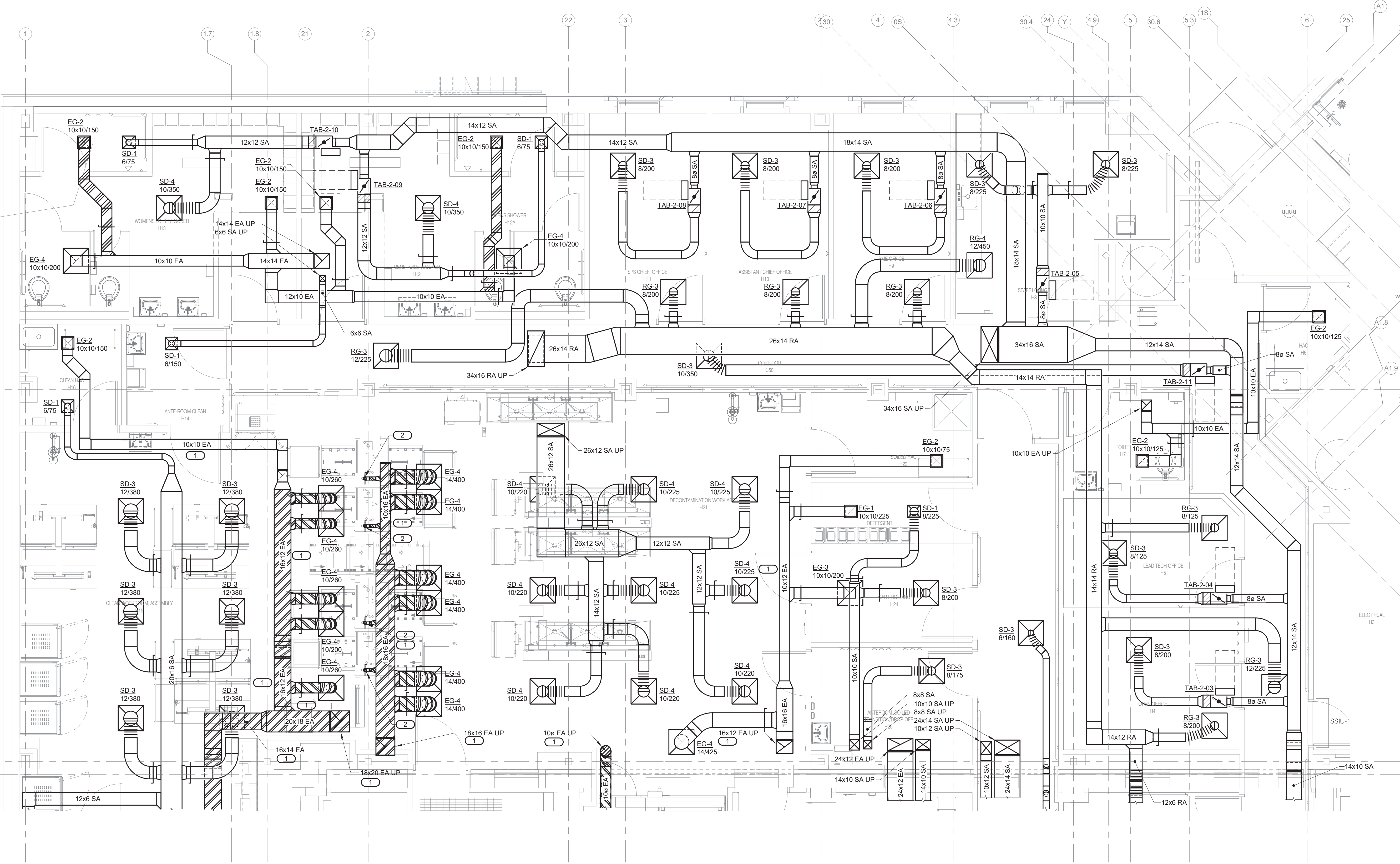
KEYNOTES: (#)

1. ALL EXHAUST AIR DUCTWORK ASSOCIATED WITH E-2 AND CART WASHER EXHAUST FROM ROOF PENETRATION TO INDIVIDUAL EXHAUST GRILLES SHALL BE WRAPPED WITH FIRE RATED INSULATION TO CREATE A 2-HR FIRE SEPARATION RATING WITH ZERO CLEARANCE TO COMBUSTIBLE MATERIALS.
2. 3" STAINLESS STEEL EXHAUST DUCT DOWN TO WASHER/INSPECTOR WITH MANUAL BALANCING DAMPER, BALANCE TO 60 CFM. VERIFY SIZE AND AIRFLOW WITH EQUIPMENT MANUFACTURER.

DUCT MATERIAL KEY:

- DUCTWORK SHALL BE OF ALUMINUM CONSTRUCTION.
- DUCTWORK SHALL BE OF STAINLESS STEEL CONSTRUCTION.

NOTE: THIS KEY IS INTENDED TO HIGHLIGHT CONDITIONS WHICH VARY FROM THE GENERALLY APPLICABLE DUCTWORK MATERIAL AND INSULATION REQUIREMENTS OF SPECIFICATION SECTION 23 31 00. CONTRACTOR SHALL CONFORM TO SPECIFICATIONS FOR ALL DUCTWORK WHICH IS NOT MODIFIED BY HATCHING ON FLOOR PLANS.



1 ENLARGED GROUND LEVEL FLOOR PLAN - VENTILATION - NORTH  
1/4" = 1'-0"

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GENERAL VENTILATION NOTES:

1. REFERENCE MV000 - VENTILATION COVERSHEET FOR VENTILATION SYMBOLS, ABBREVIATIONS, AND GENERAL NOTES.
2. COORDINATE AND CONFIRM ALL ARCHITECTUALLY EXPOSED DEVICE LOCATIONS WITH ARCHITECT PRIOR TO ROUGH-IN OR INSTALLATION.
3. REFERENCE MV000 FOR VENTILATION SCHEDULES.
4. THE SIZE OF BRANCH DUCTS TO TERMINAL AIR BOXES AND AIR OUTLETS SHALL MATCH THEIR INLET SIZE UNLESS OTHERWISE NOTED.
5. ALL BALANCING DAMPERS SHOWN ABOVE HARD LID CEILINGS SHALL BE ELECTRONIC REMOTELY OPERATED TYPE. GENERALLY ALL GRILLES AND DIFFUSERS SERVED BY AHU-1 OR EE-2A/B HAVE BALANCING DAMPERS LOCATED ABOVE HARD LID CEILINGS. MECHANICAL CONTRACTOR SHALL REVIEW ARCHITECTURAL REFLECTED CEILING PLANS AND VERIFY QUANTITY PRIOR TO BID. PROVIDE EACH DAMPER WITH 9V ELECTRONIC ACTUATOR, MINIMUM 14 FOOT PLENUM RATED CABLE, AND A STAINLESS-STEEL CEILING PLATE WITH ONE RJ11 PORT. PROVIDE ONE HANDHELD REMOTE EQUIPPED WITH 9V POWER SUPPLY AND 5 FOOT CABLE WITH RJ11 PLUG FOR CONNECTION TO ALL DAMPERS.
6. REFERENCE 1/MV400 FOR BRANCH CONNECTIONS DETAIL.
7. REFERENCE 2/MV400 FOR DUCT REINFORCEMENT DETAIL.
8. REFERENCE 3/MV400 FOR ELBOW CONSTRUCTION DETAIL.
9. REFERENCE 4/MV400 FOR LONGITUDINAL SEAMS DETAIL.
10. REFERENCE 5/MV400 FOR TRAPEZE HANGER DUCT WRAP VAPOR SEAL DETAIL.
11. REFERENCE 6/MV400 FOR DIFFUSER CONNECTION DETAIL.
12. REFERENCE 1/MV401 FOR TERMINAL AIR BOX DETAIL.
13. REFERENCE 2/MV401 FOR COIL-IN-DUCT DETAIL.

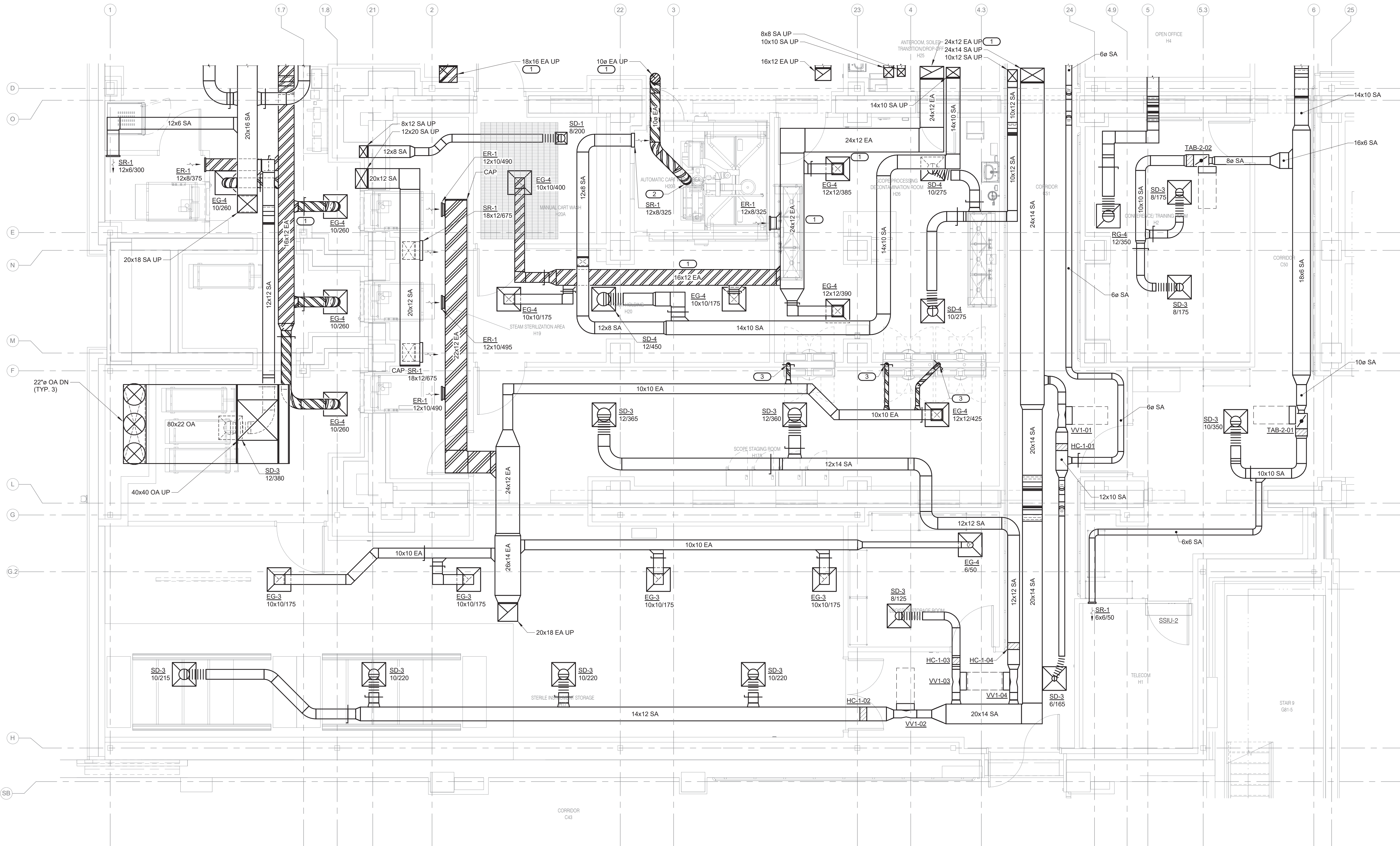
KEYNOTES: (#)

1. ALL EXHAUST AIR DUCTWORK ASSOCIATED WITH EE-2 AND CART WASHER EXHAUST FROM ROOF PENETRATION TO INDIVIDUAL EXHAUST GRILLES SHALL BE WRAPPED WITH FIRE RATED INSULATION TO CREATE A 2-HR FIRE SEPARATION RATING WITH ZERO CLEARANCE TO COMBUSTIBLE MATERIALS.
2. CONNECT 10" EA TO AUTOMATIC CART WASHER.
3. 4" STAINLESS STEEL EXHAUST DUCT DOWN TO ENDOSCOPE REPROCESSOR WITH MANUAL BALANCING DAMPER, BALANCE TO 50 CFM. VERIFY SIZE AND AIRFLOW WITH EQUIPMENT MANUFACTURER.

DUCT MATERIAL KEY:

- DUCTWORK SHALL BE OF ALUMINUM CONSTRUCTION.
- DUCTWORK SHALL BE OF STAINLESS STEEL CONSTRUCTION.

NOTE: THIS KEY IS INTENDED TO HIGHLIGHT CONDITIONS WHICH VARY FROM THE GENERALLY APPLICABLE DUCTWORK MATERIAL AND INSULATION REQUIREMENTS OF SPECIFICATION SECTION 23 31 00. CONTRACTOR SHALL CONFORM TO SPECIFICATIONS FOR ALL DUCTWORK WHICH IS NOT MODIFIED BY HATCHING ON FLOOR PLANS.



1 ENLARGED GROUND LEVEL FLOOR PLAN - VENTILATION - SOUTH

1/4" = 1'-0"

| Revisions: | Date: |
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CONSULTANT

2882 NORTH STREET  
DES MOINES, IA 50322  
515.334.9900 FAX: 515.334.9908  
www.imegcorp.com  
PROJECT # 19004249.04

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REFERENCE SCALE IN INCHES

ARCHITECT/ENGINEER OF RECORD

13605 1st Ave. N. #100 Plymouth, MN 55441  
P 763.412.4000 | F 763.412.4090 | ae-mn.com  
Anderson Engineering of Minnesota, LLC | Proj # 16584

STAMP

Office of  
Construction  
and Facilities  
Management

U.S. Department  
of Veterans  
Affairs

Drawing Title

VENTILATION ENLARGED PLANS

Approved:

Phase

BID DOCUMENTS

FULLY SPRINKLERED

Project Title

CONSTRUCT NEW SPS

Location

Sioux Falls, SD.

Issue Date

08/04/22

Checked

DAVING

Drawn

DELLLE

Project Number

438-460

Building Number

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Drawing Number

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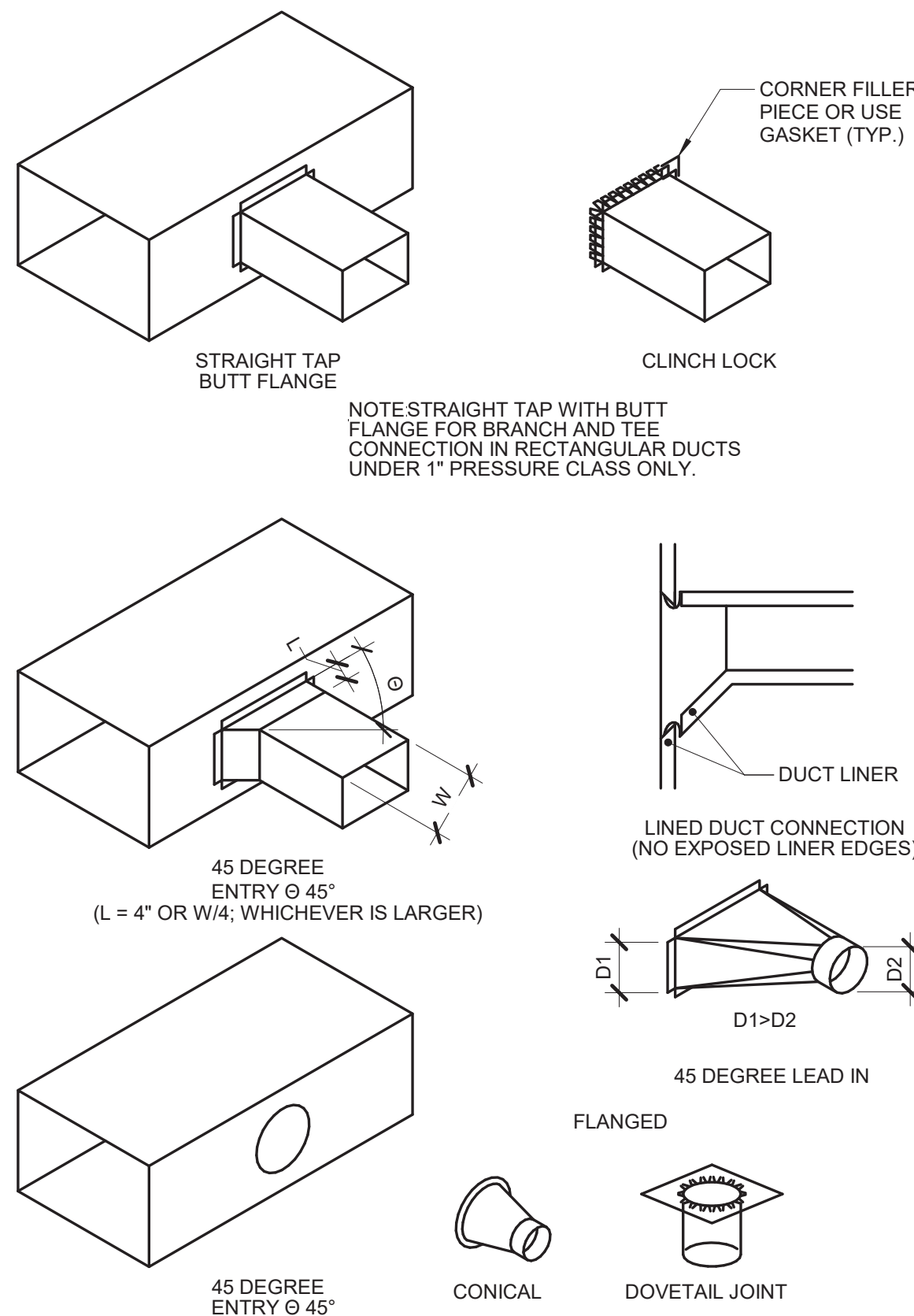
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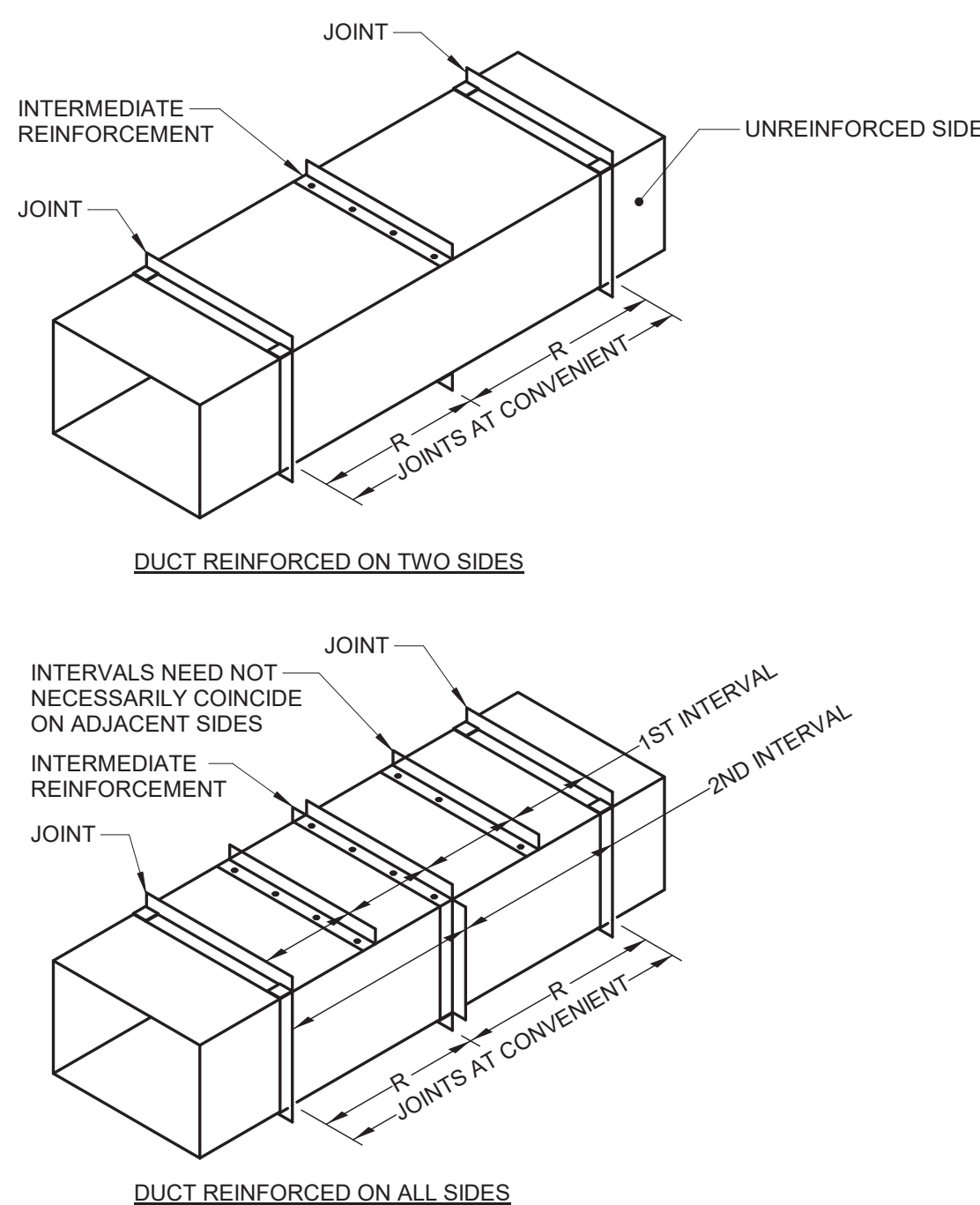
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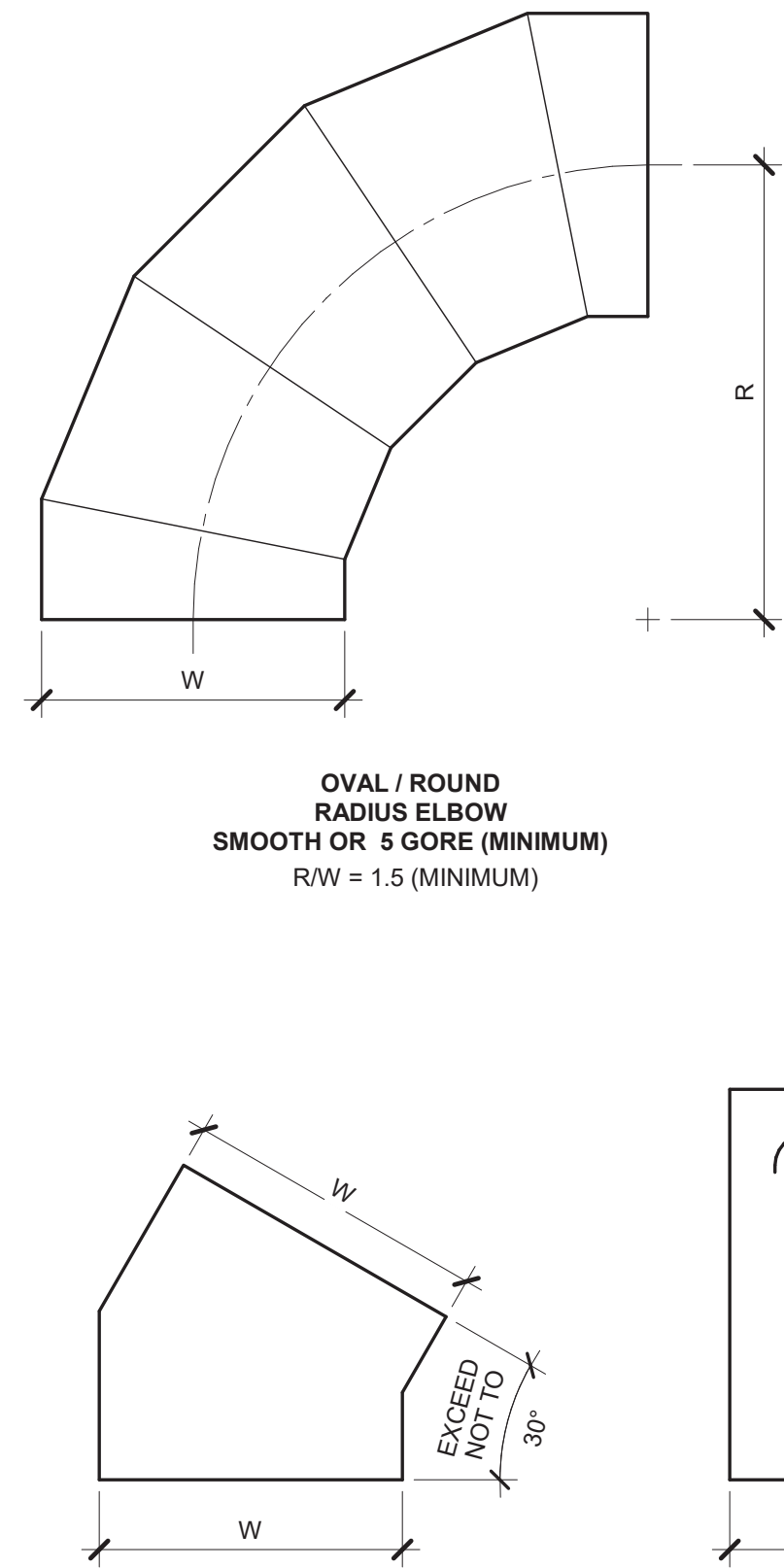
### 1 BRANCH CONNECTIONS

- NO SCALE
- NOTES:
- DO NOT USE CONNECTIONS WITH SCOOPS.
  - FIT ALL CONNECTIONS TO AVOID VISIBLE OPENINGS AND SECURE THEM SUITABLY FOR THE PRESSURE CLASS.
  - ADDITIONAL MECHANICAL FASTENERS ARE REQUIRED FOR 4"W.G. AND OVER.
  - SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.



### 2 DUCT REINFORCEMENT DETAIL

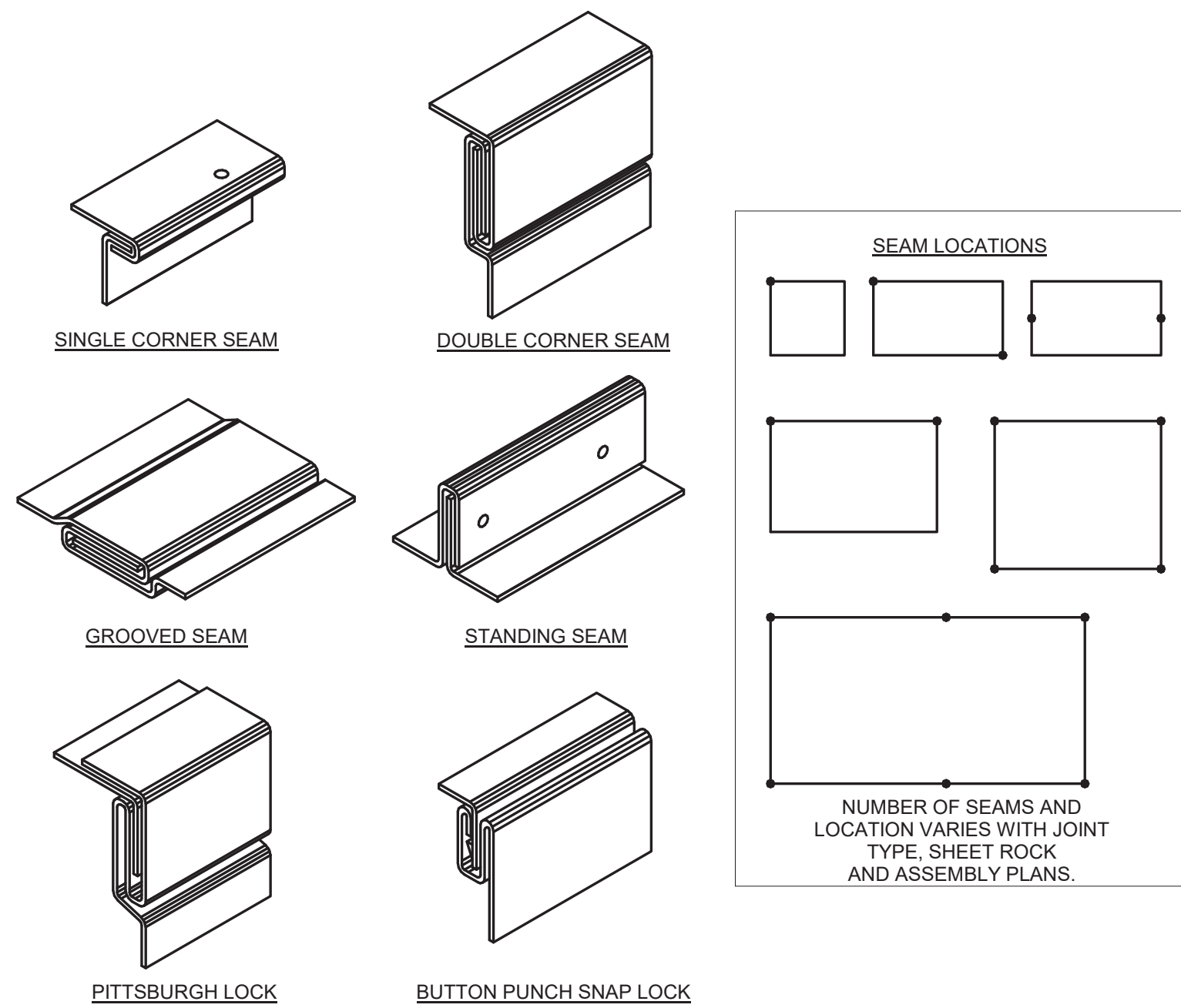
- NO SCALE
- NOTES:
- "R" IS AN ALLOWABLE REINFORCEMENT INTERVAL.
  - TOP AND BOTTOM JOINTS MUST QUALIFY AS REINFORCEMENT
  - DUCT SIZES THAT ARE 19 INCHES (483 mm) AND OVER ARE 20 GAGE (1.00 mm) OR LESS, WITH MORE THAN 10 SQUARE FEET (0.93 SQUARE METERS) OF UNBRACED PANEL AREA, SHALL BE CROSSBROKEN OR BEADED UNLESS THEY ARE LINED OR EXTERNALLY INSULATED. DUCTS THAT ARE OF HEAVIER GAGE, SMALLER DIMENSIONS, AND SMALLER PANEL AREA AND THOSE THAT ARE LINED OR EXTERNALLY INSULATED ARE NOT REQUIRED TO HAVE CROSSBREAKING OR BEADING.
  - SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.



- NO SCALE
- NOTES:
- USE ONLY AS PART OF OFFSETS AND TRANSITIONS PER FIGURE 4-7 TYPE 2 OR AS SHOWN ON DRAWINGS. OFFSETS ABOVE 30" SHALL BE TYPE RE1.

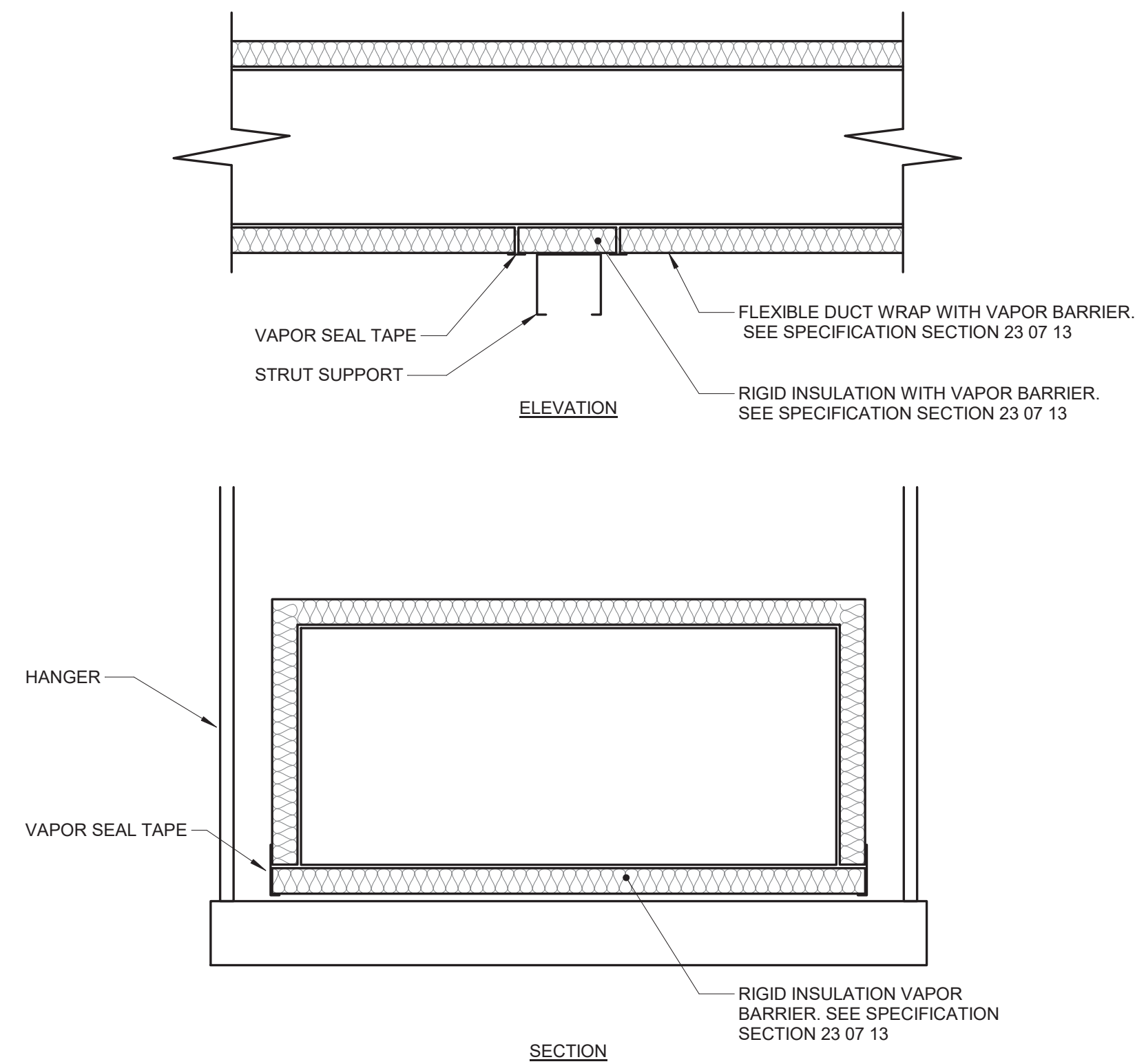
### 3 ELBOW CONSTRUCTION

- NO SCALE
- NOTES:
- BEAD, CROSSBREAK, AND REINFORCE FLAT SURFACES AS IN STRAIGHT DUCT.
  - REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
  - DEFAULT ELBOW SHALL BE TYPE "RE1".
  - ELBOW TYPES SHALL BE INSTALLED AS SHOWN AND NOT BE SUBSTITUTED WITHOUT PERMISSION. EXCEPTION: RE1 OR RE3 MAY BE SUBSTITUTED FOR RE2.



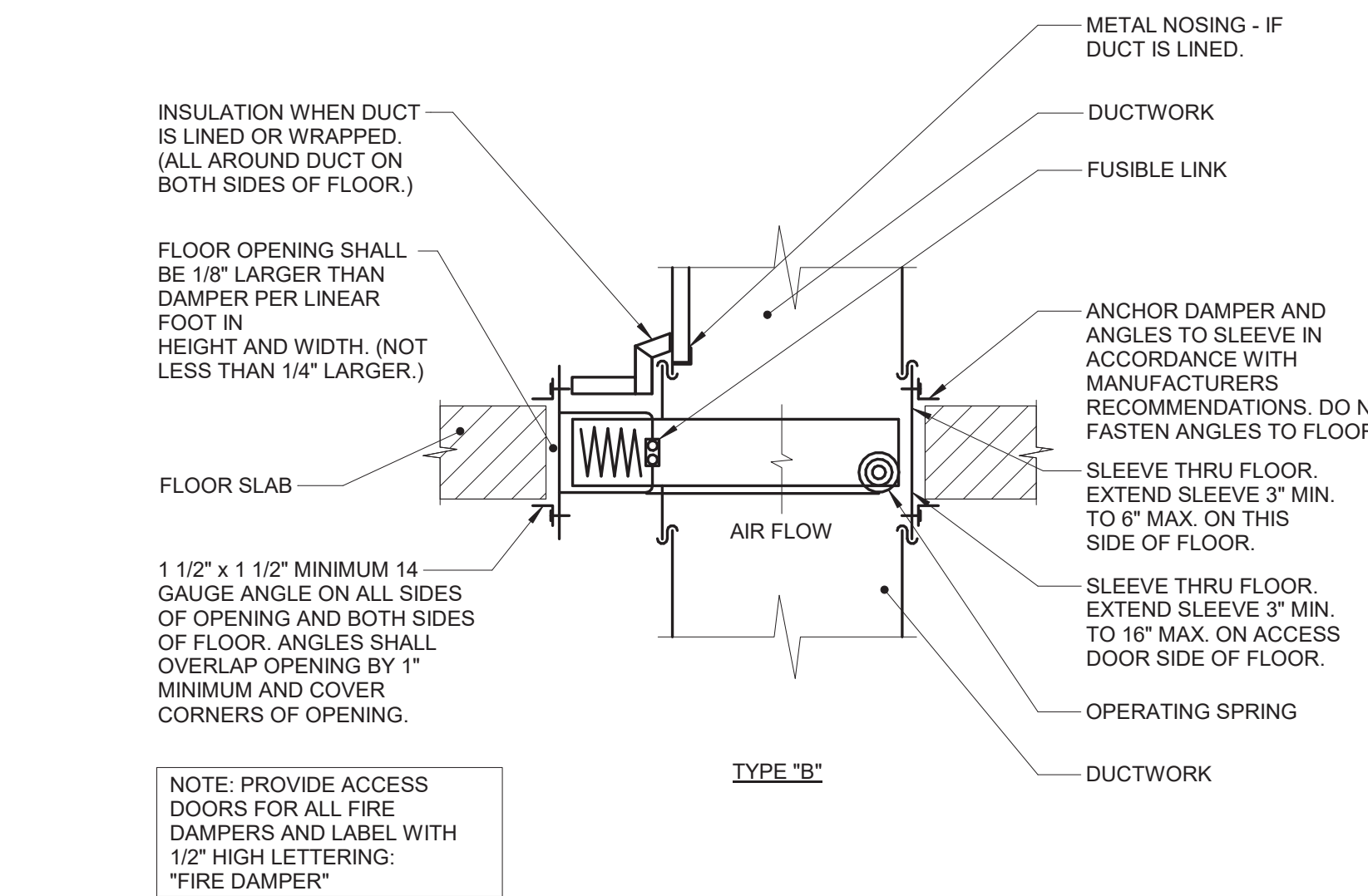
### 4 LONGITUDINAL SEAMS - RECTANGULAR DUCT

- NO SCALE
- NOTES:
- SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.



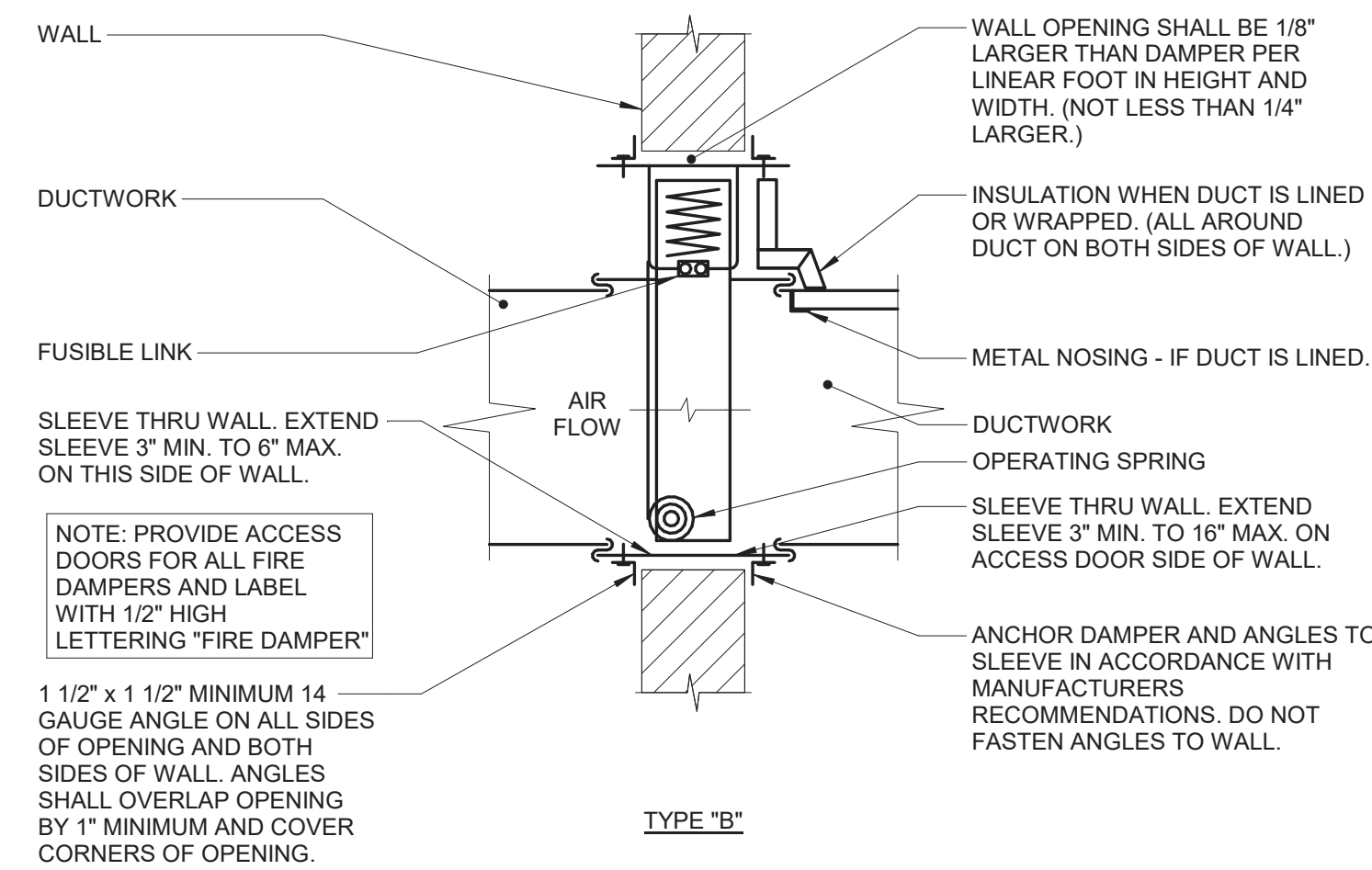
### 5 TRAPEZE HANGER DUCT WRAP VAPOR SEAL

NO SCALE



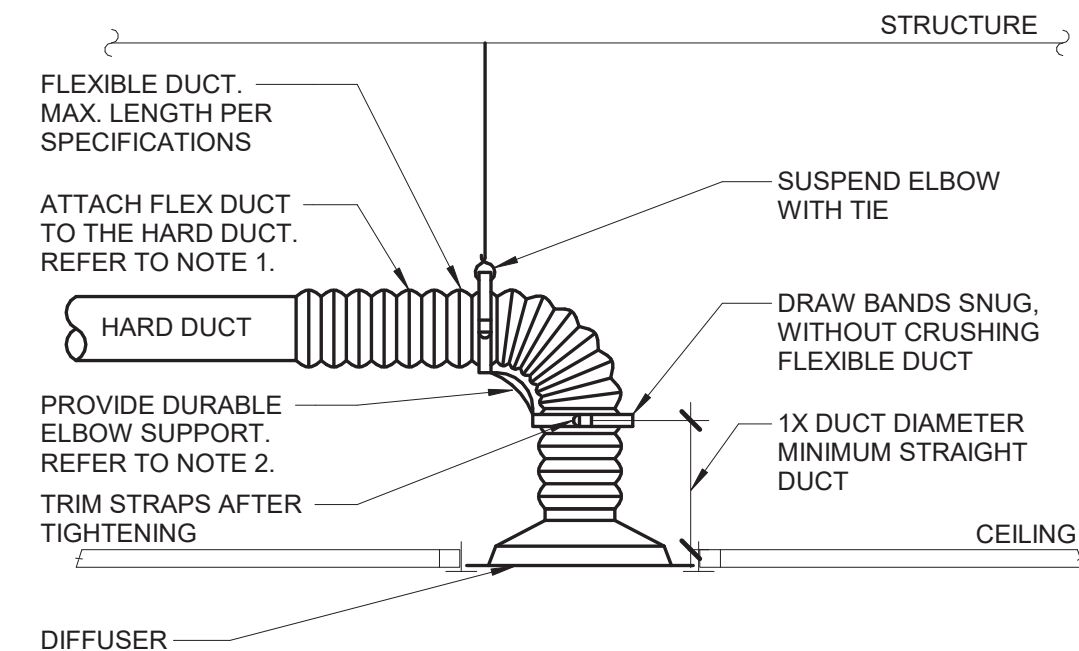
### 6 FIRE DAMPER THRU FLOOR DETAIL (TYPE B)

NO SCALE



### 7 FIRE DAMPER THRU WALL DETAIL (TYPE B)

NO SCALE



### 8 DIFFUSER CONNECTION DETAIL

- NO SCALE
- NOTES:
- DETAIL GENERALLY APPLIES TO SUPPLY AIR DIFFUSERS. CONNECTIONS TO CEILING MOUNTED EXHAUST AIR GRILLES SHALL BE MADE WITH CONTINUOUS HARD DUCT
  - TO ATTACH FLEX DUCT TO THE HARD DUCT, TAPE THE INNER LINER TO THE HARD DUCT THEN ATTACH WITH TWO NYLON TIE WRAPS. ONE FOR THE INNER LINER AND ONE FOR THE OUTER SHELL. FOLD THE OUTER SHELL INSIDE ITSELF SO IT HAS NEAT EDGES PRIOR TO TIE WRAPPING.
  - DURABLE ELBOW SUPPORT ACCEPTABLE MANUFACTURER AND MODEL: HART AND COOLEY - SMARTFLOW, THERMAFLEX - FLEXFLOW, TITUS - FLEXRIGHT, OR APPROVED EQUAL.

|            |       |
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| Revisions: | Date: |
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REFERENCE SCALE IN INCHES

0 1 2 3

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4-4-2023  
IOWA

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title

VENTILATION DETAILS

Approved:

Phase

BID DOCUMENTS

FULLY SPRINKLERED

Project Title

CONSTRUCT NEW SPS

Location

Sioux Falls, SD.

Issue Date

08/04/22

Checked

DAVING

Drawn

DELLLE

Project Number

438-460

Building Number

5

Drawing Number

MV400



|                        |                                    |                   |                 |                           |
|------------------------|------------------------------------|-------------------|-----------------|---------------------------|
| Phase<br>BID DOCUMENTS | Project Title<br>CONSTRUCT NEW SPS |                   |                 | Project Number<br>438-460 |
|                        |                                    |                   |                 | Building Number<br>5      |
| FULLY SPRINKLERED      | Location<br>Sioux Falls, SD.       |                   |                 | Drawing Number            |
|                        | Issue Date<br>08/04/22             | Checked<br>DAVING | Drawn<br>DELLLE | MV401                     |



A

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D

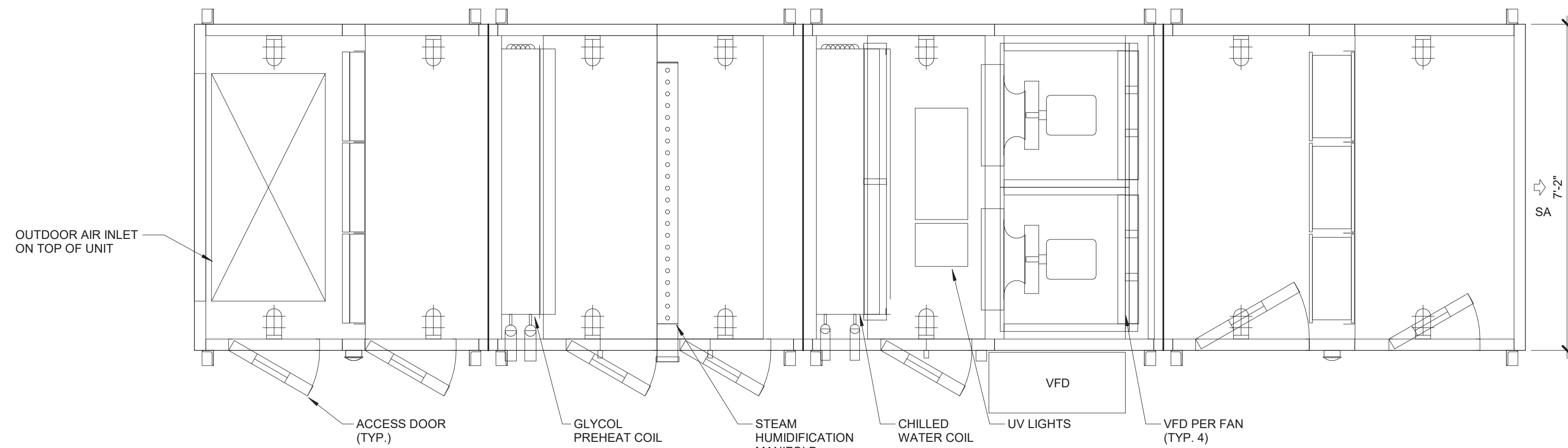
E

F

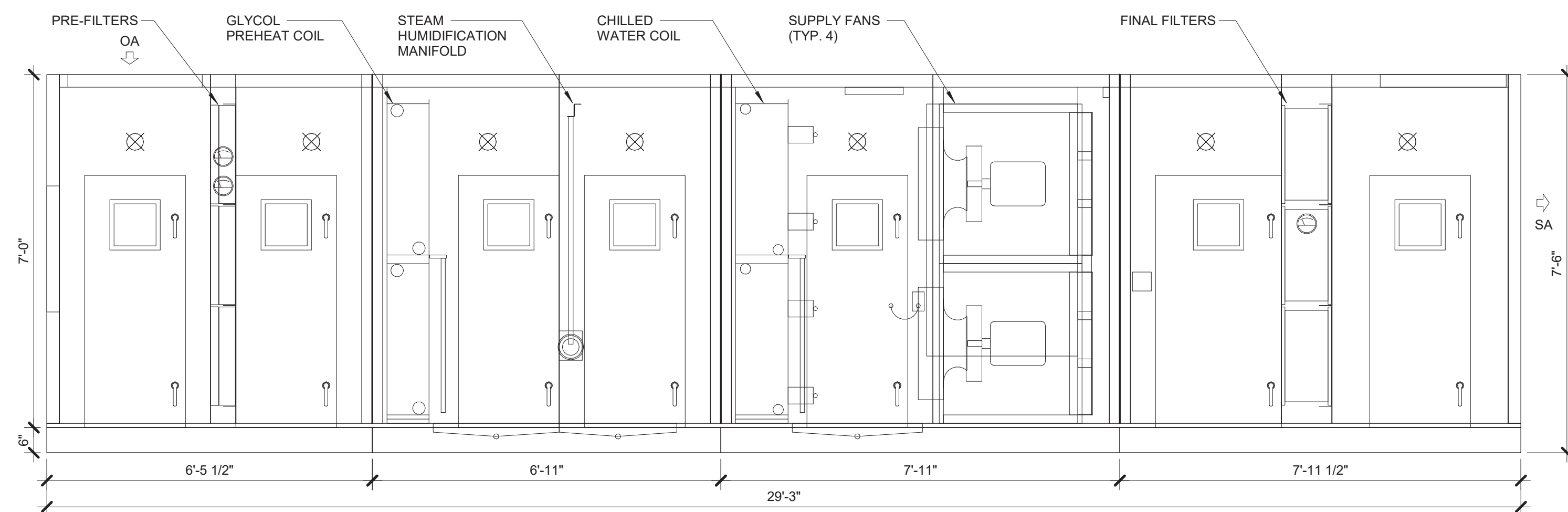
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VA FORM 08 - 6231

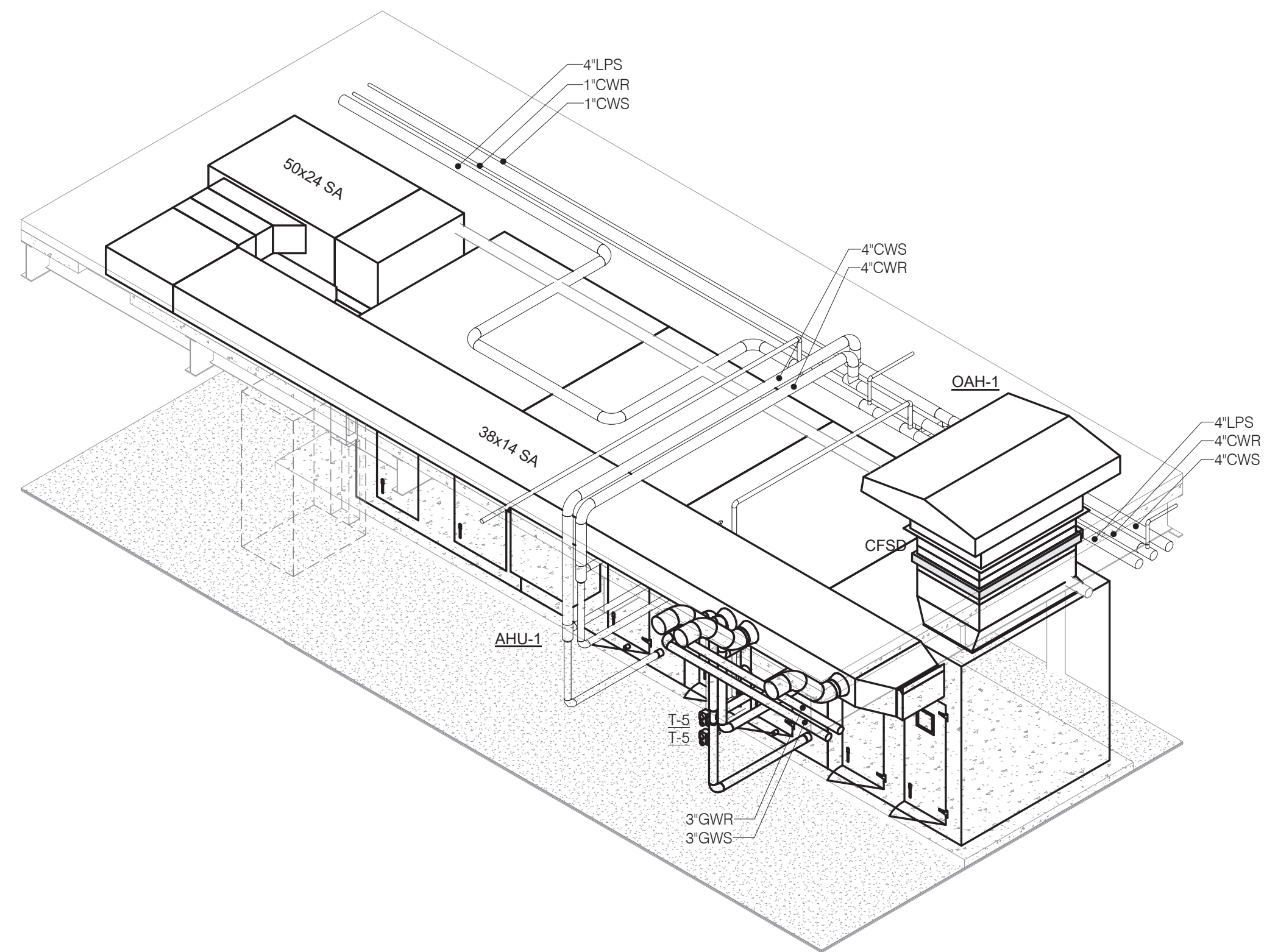


PLAN VIEW

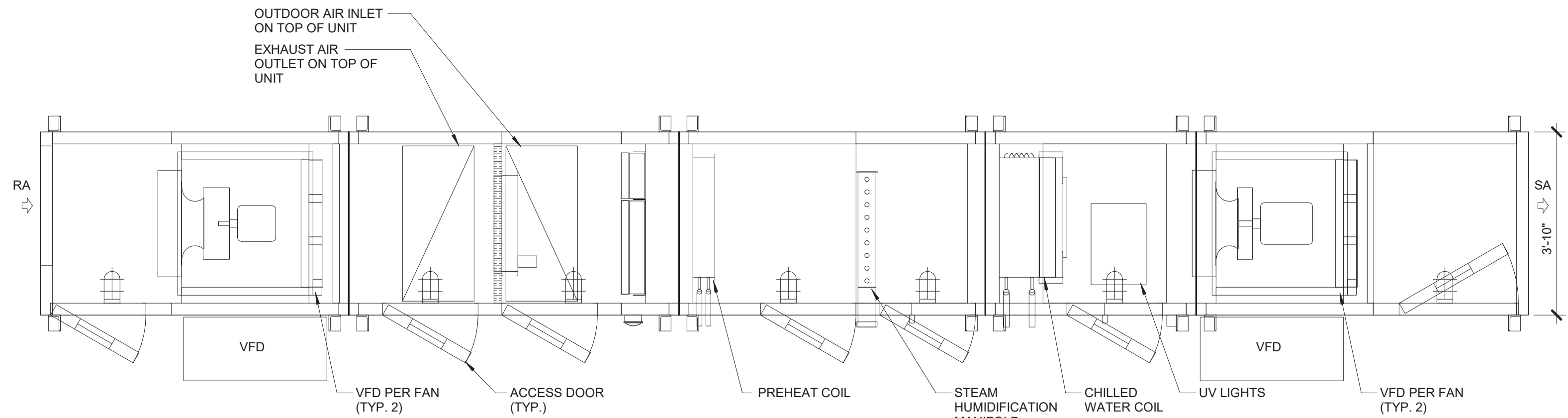


ELEVATION VIEW

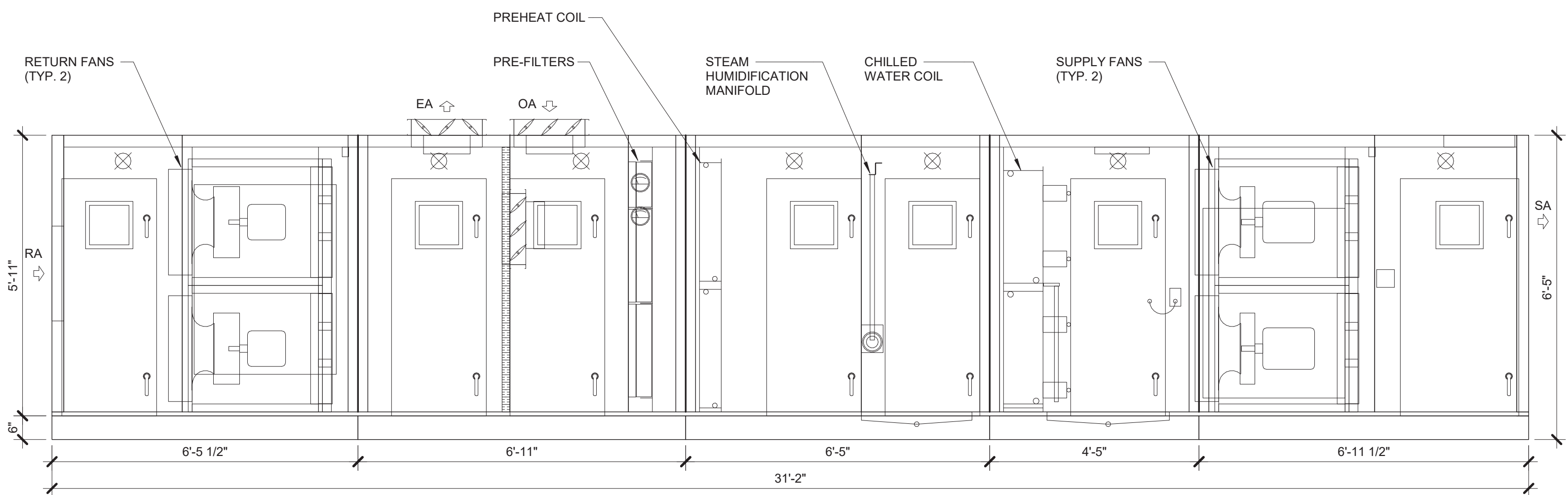
1 AHU-1 COMPONENT DETAIL  
1/2" = 1'-0"



3 AHU-1 ISOMETRIC LOOKING NORTHWEST  
NO SCALE

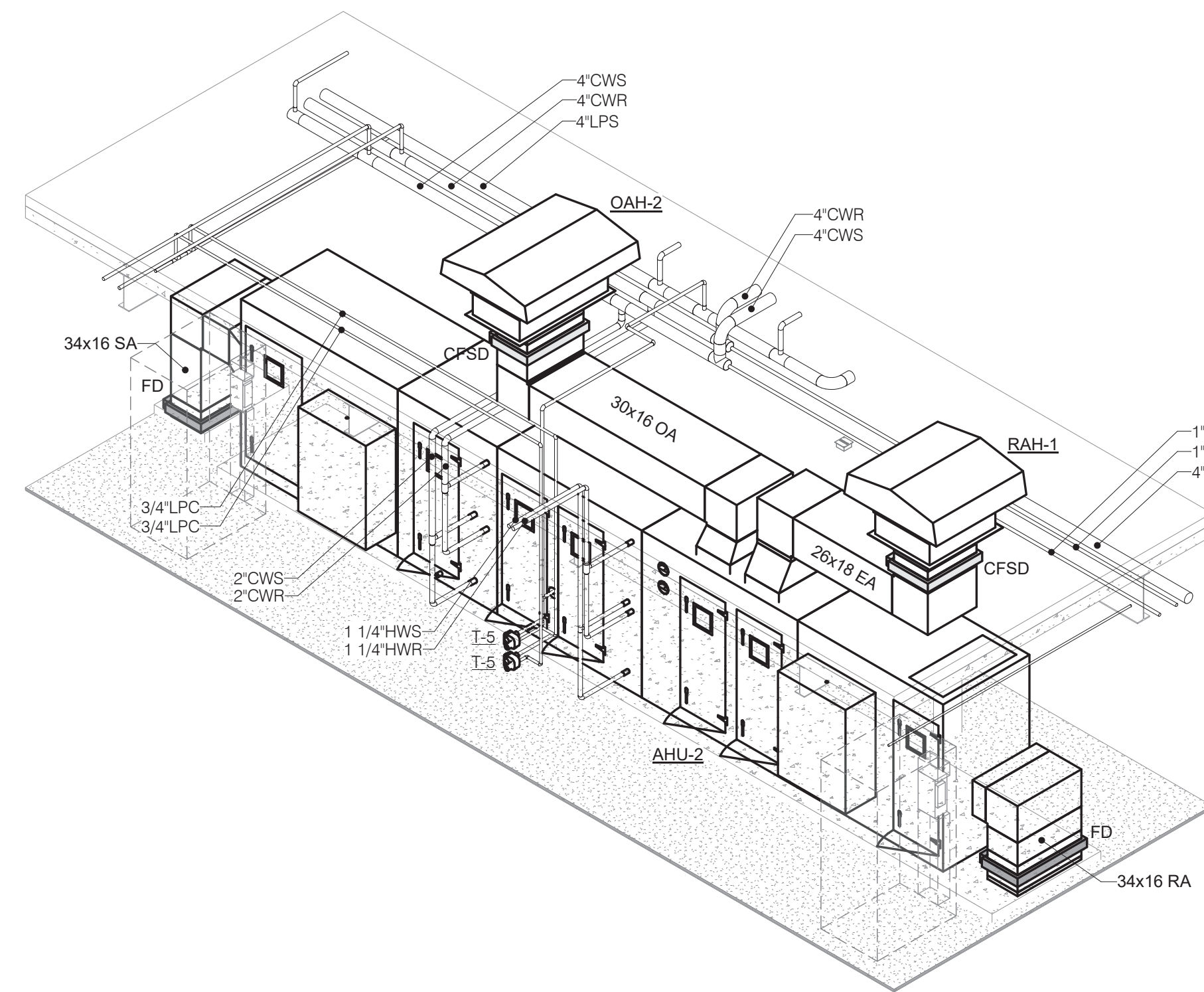


PLAN VIEW



ELEVATION VIEW

2 AHU-2 COMPONENT DETAIL  
1/2" = 1'-0"



4 AHU-2 ISOMETRIC LOOKING SOUTHEAST  
NO SCALE

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| Revisions: | Date: |
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| <div>CONSULTANT</div> <div><div><div></div><div>2882 NORTH STREET<br/>DES MOINES, IA 50322<br/>515.334.9900 FAX 515.334.9988<br/>www.imegcorp.com<br/>PROJECT # 19004249.04</div></div><div>IMEG CORP. RESERVES PROPRIETARY RIGHTS, INCLUDING COPYRIGHTS, TO THIS DRAWING AND THE DATA SHOWN THEREON. THIS DRAWING AND/OR DATA ARE THE EXCLUSIVE PROPERTY OF IMEG CORP. AND SHALL NOT BE USED OR REPRODUCED FOR ANY OTHER PROJECT WITHOUT THE EXPRESS WRITTEN APPROVAL AND PARTICIPATION OF IMEG CORP. © 2022 IMEG CORP.</div><div><div>01"=1'-0"</div><div>01"=1'-0"</div><div>01"=1'-0"</div></div></div> | <div>ARCHITECT/ENGINEER OF RECORD</div> <div><div>ANDERSON</div><div>13605 1st Ave. N. #100 Plymouth, MN 55441<br/>P 763.412.4000   F 763.412.4090   ae-mn.com<br/>Anderson Engineering of Minnesota, LLC   Proj # 16584</div></div> | <div>STAMP</div> <div><div></div><div>ERIC J. HENDERSON<br/>20825<br/>6-4-2025<br/>IOWA</div></div> | <div>Office of Construction and Facilities Management</div> <div><div>VA</div><div>U.S. Department of Veterans Affairs</div></div> | <div>Drawing Title</div> <div>VENTILATION DETAILS</div> | <div>Phase</div> <div>BID DOCUMENTS</div> | <div>Project Title</div> <div>CONSTRUCT NEW SPS</div> | <div>Project Number</div> <div>438-460</div> |
|  |  |  |  | <div>Approved:</div>                                    | <div>FULLY SPRINKLERED</div>              | <div>Location</div> <div>Sioux Falls, SD.</div>       | <div>Building Number</div> <div>5</div>      |
|  |  |  |  |   |   | <div>Issue Date</div> <div>08/04/22</div>             | <div>Checked</div> <div>DAVING</div>         |



## AIR HANDLING SCHEDULE - 100% OUTSIDE AIR

NOTES:

1. REFERENCE SPECIFICATION SECTION 23 37 00 FOR INDOOR CENTRAL-STATION AIR-HANDLING UNITS.
2. PROVIDE SHAFT GROUNDING AS REQUIRED IN THE MOTOR SPECIFICATION 23 05 12.
3. ONE FULLY REDUNDANT (N+1) SUPPLY FAN SHALL BE PROVIDED FOR EACH FAN ARRAY.
4. PROVIDE 1/2" VEE FAN SUPPLY FAN.
5. CHILLED WATER COIL IS SELECTED WITH 100% WATER. GLYCOL HEATING WATER COIL IS SELECTED WITH 30% PROPYLENE GLYCOL.
6. TOTAL EXTERNAL STATIC PRESSURE DOES NOT INCLUDE FAN LOADING. MANUFACTURER SHALL INCLUDE DIRT FILTER ALLOWANCE IN TOTAL STATIC PRESSURE CALCULATION.
7. PROVIDE DIRT FILTER PRESSURE AVAILABLE DOWNSTREAM OF THE CONTROL VALVE.
8. PROVIDE AHU WITH INTERNAL MOTOR REMOVAL RAILS FOR FAN MOTOR SERVICING.

[illegible]

## AIR HANDLING SCHEDULE - MIXED AIR VAV

NOTES:

1. REFERENCE SPECIFICATION SECTION 23 73 10 INDOOR CENTRAL-STATION AIR-HANDLING UNITS.
2. PROVIDE SHAFT GROUNDINGS AS REQUIRED IN THE MOTOR SPECIFICATION 23 05 12.
3. ONE FULLY REDUNDANT (N+1) SUPPLY/RETURN FAN SHALL BE PROVIDED FOR EACH FAN ARRAY.
4. PROVIDE 1 VFD PER SUPPLY/RETURN FAN.
5. CHILLED AND HEATING WATER COILS ARE SELECTED WITH 100% WATER.
6. TOTAL EXHAUST STATIC PRESSURE DOES NOT INCLUDE FILTER LOADING. MANUFACTURER SHALL INCLUDE DIRT FILTER ALLOWANCE IN TOTAL STATIC PRESSURE CALCULATION.
7. SYSTEM AVAILABLE PRESSURE AVAILABLE DOWNSTREAM OF THE CONTROL VALVE.
8. PROVIDE AHU WITH INTERNAL MOTOR REMOVAL RAILS FOR FAN MOTOR SERVICING.

[illegible]

## FAN SCHEDULE

NOTES:  
 1. PROVIDE SHAFT GROUNDINGS AS REQUIRED IN THE MOTOR SPECIFICATION 23 05 12.  
 2. PROVIDE FAN VAN WITH SOLID STATE SPEED CONTROL, FOR USE BY TAB CONTRACTOR IN INITIAL BALANCING.  
 3. PROVIDE FAN IN A DUAL FAN CONFIGURATION WITH SHARED INLET PLENUM AND BYPASS AIR DAMPERS. TOTAL AIRFLOW WITH BYPASS AIR SHALL BE APPROXIMATELY 4,200 CFM TO BE ADJUSTED BY THE BALANCING CONTRACTOR.  
 4. PROVIDE AIR DAMPERS TO BE OPERATED BY THE TAB CONTRACTOR. THE CONTRACTOR SHALL PROVIDE ACTUATORS AND END SWITCHES FOR ALL DAMPERS AND CONFIRM POSITION PRIOR TO START-UP SEQUENCE.  
 5. PROVIDE FANS WITH FINISH THAT INCLUDES AN EPOXY BASE COAT AND ELECTROSTATIC POWDER COAT HI-PO POLYESTER TOPCOAT.

|          |  |         |                |           |              |          |            |                 |                  |                    | ELECTRICAL (NOTE 1) |                     |         |        |          |          |          |          |       |        | VIBRATION ISOLATION |       |              |               |                    |  |
|----------|--|---------|----------------|-----------|--------------|----------|------------|-----------------|------------------|--------------------|---------------------|---------------------|---------|--------|----------|----------|----------|----------|-------|--------|---------------------|-------|--------------|---------------|--------------------|--|
|          |  |         |                |           |              |          | DISCONNECT |                 |                  |                    |                     | CONTROLLER/ STARTER |         |        |          |          |          |          |       |        |                     |       |              |               |                    |  |
|          |  | BY TYPE |                | BY TYPE   |              | BY TYPE  |            | BY TYPE         |                  | BY TYPE            |                     |                     |         |        |          |          |          |          |       |        |                     |       |              |               |                    |  |
| TAG NAME | SERVICE                                | CFM     | S.P. DIA. W.C. | FAN CLASS | WHEEL INCHES | NOTE (F) | DRIVE TYPE | MAX. AMI/ SONES | BACKDRIFT DAMPER | CURB TYPE (NOTE G) | BHP                 | MHP                 | VOLTAJE | PHASES | (NOTE A) | (NOTE B) | (NOTE A) | (NOTE C) | SCCR  | WEIGHT | TYPE                | DEFL  | MANUFACTURER | MODEL         | NOTES              |  |
| EF-1     | CLEAN WORKROOM INSTRUMENT SET ASSEMBLY | 1760    | 1.75           | I         | 18           | 1539     | DIRECT     | 15.6            | MOD              | MFR                | 5.06                | 1.5                 | 480     | 3      | EC       | NF       | MFR      | VFD      | 5000  | 98     | N/A                 | 0.00" | PENN BARRY   | DX14B         | NOTE 1             |  |
| EF-2AB   | DECONTAMINATION WORK AREA              | 3750    | 3.50           | II        | 25.9         | 1330     | BELT       | 85              | MOD              | GCR                | 1.05                | 7.5                 | 480     | 3      | EC       | NF       | MFR      | VFD      | 65000 | 1048   | M/A                 | 0.75" | MK PLASTICS  | AJXUET-F 2017 | NOTES 1, 3, 4, & 5 |  |
| EF-3     | GENERAL EXHAUST                        | 1200    | 1.00           | I         | 20           | 1455     | DIRECT     | 11.8            | MOD              | MFR                | 0.36                | 0.5                 | 120     | 1      | EC       | NF       | MFR      | FV       | 5000  | 61     | N/A                 | 0.00" | PENN BARRY   | DX1HGP        | NOTE 2             |  |
| EF-4     | GENERAL EXHAUST                        | 150     | 0.25           | I         | 18           | 1215     | DIRECT     | 6.25            | MOD              | MFR                | 0.06                | 0.25                | 120     | 1      | EC       | NF       | MFR      | FV       | 5000  | 61     | N/A                 | 0.00" | PENN BARRY   | DX13GQP       | NOTE 2             |  |
| SF-1     | PIPE BASEMENT VENTILATION              | 24000   | 5.00           | I         | 20           | 515      | DIRECT     | 13.84           | MOD              | MFR                | 5.2                 | 6                   | 480     | 3      | EC       | NF       | MFR      | VFD      | 5000  | 98     | N/A                 | 0.00" | PENN BARRY   | LF40CB        | NOTE 1             |  |

## AIR VALVE SCHEDULE

NOTES:  
1. NEITHER RADIATED NOR DISCHARGE SOUND LEVELS SHALL EXCEED NC 35 AT 1.5" INLET STATIC PRESSURE WHEN TESTED PER AHRI STANDARD 885-2008 USING 5/8" 20-LB DENSITY MINERAL FIBER CEILING TILE.  
2. REFER TO INTEGRATOR SECTION 23 36 00, VENTURI VALVE AIRFLOW CONTROL SYSTEM.  
3. PROVIDE ROOM INTEGRATOR TO CONNECT DIRECTLY TO FMCS VIA NETWORK.  
4. FAST ACTING VALVE, REFER TO CONTROL DRAWINGS FOR DESCRIPTION OF CONTROL TYPE.  
5. SENSOR TYPES: 1 - SENSOR ONLY, 2 - SENSOR WITH ADJUSTMENT, 3 - SENSOR WITH OVERRIDE, 4 - SENSOR WITH ADJUSTMENT AND OVERRIDE.

| TAG NAME | AREA SERVED                               | CFM  |      | MIN. INLET SIZE (N.) |            | CONTROL TYPE (NOTE 4) |        | SENSOR TYPE (NOTE 5) |        | MANUFACTURER | MODEL            | NOTES |
|----------|---|------|------|----------------------|------------|-----------------------|--------|----------------------|--------|--------------|------------------|-------|
|          |   | MAX. | MIN. | DIA. (IN.)           | DIA. (IN.) | TYPE 1                | TYPE 2 | TYPE 1               | TYPE 2 |              |                  |       |
| WV-01    | C51 CORRIDOR                              | 325  | 325  | 6"                   | 6"         | TYPE A                | TYPE 1 | CRITICAL ROOM        | CLVI   |              | NOTES 1, 2, 3    |       |
| WV-02    | H17 STERILE INSTRUMENT STORAGE            | 875  | 875  | 8"                   | 8"         | TYPE A                | TYPE 1 | CRITICAL ROOM        | CLVI   |              | NOTES 1, 2, 2, 3 |       |
| WV-03    | H18 LOGISTICS STORAGE ROOM                | 125  | 125  | 6"                   | 6"         | TYPE A                | TYPE 1 | CRITICAL ROOM        | CLVI   |              | NOTES 1, 2, 2, 3 |       |
| WV-05    | H14 SCOPE STORAGE ROOM                    | 125  | 125  | 6"                   | 6"         | TYPE A                | TYPE 1 | CRITICAL ROOM        | CLVI   |              | NOTES 1, 2, 2, 3 |       |
| WV-06    | H26 SCOPE PROCESSING DECONTAMINATION AREA | 550  | 550  | 8"                   | 8"         | TYPE A                | TYPE 2 | CRITICAL ROOM        | CLVI   |              | NOTES 1, 2, 2, 3 |       |
| WV-06    | H24 CART HOLDING                          | 775  | 775  | 8"                   | 8"         | TYPE A                | TYPE 1 | CRITICAL ROOM        | CLVI   |              | NOTES 1, 2, 2, 3 |       |
| WV-07    | H20A MANUAL CARTWASH                      | 200  | 200  | 8"                   | 8"         | TYPE A                | TYPE 3 | CRITICAL ROOM        | CLVI   |              | NOTES 1, 2, 2, 3 |       |
| WV-08    | H20M STERILIZATION AREA                   | 1550 | 1550 | 10"                  | 10"        | TYPE A                | TYPE 1 | CRITICAL ROOM        | CLVI   |              | NOTES 1, 2, 2, 3 |       |
| WV-09    | H25 ANTEROOM, SOLID TRANSITION/DROPOFF    | 175  | 175  | 8"                   | 8"         | TYPE A                | TYPE 1 | CRITICAL ROOM        | CLVI   |              | NOTES 1, 2, 2, 3 |       |
| WV-10    | H23 DECONTENANT                           | 425  | 425  | 8"                   | 8"         | TYPE A                | TYPE 1 | CRITICAL ROOM        | CLVI   |              | NOTES 1, 2, 2, 3 |       |
| WV-11    | H21 DECONTAMINATION WORK AREA             | 2000 | 2000 | 14"                  | 14"        | TYPE A                | TYPE 2 | CRITICAL ROOM        | CLVI   |              | NOTES 1, 2, 2, 3 |       |
| WV-12    | H15 CLEAN WORKROOM ASSEMBLY               | 3035 | 3035 | 12"                  | 12"        | TYPE A                | TYPE 2 | CRITICAL ROOM        | CLVI   |              | NOTES 1, 2, 2, 3 |       |
| WV-13    | H14 ANTE-ROOM CLEAN                       | 150  | 150  | 8"                   | 8"         | TYPE A                | TYPE 2 | CRITICAL ROOM        | CLVI   |              | NOTES 1, 2, 2, 3 |       |

### COIL SCHEDULE - WATER

NOTES:  
1. HEATING COIL SELECTION SHALL BE BASED ON A FIXED LEAVING AIR TEMPERATURE AND VARIABLE FLOW (GPM). PROVIDE FINAL MAXIMUM FLOW RATE (GPM) TO TEST & BALANCE TEMPERATURE CONTROLS CONTRACTORS.

| TAG NAME | D.B.T. |      |      |     | TOTAL | A.P.D. IN |         | W.P.D. FT. |     |      | MANUFACTURER | MODEL  | NOTES |
|----------|--------|------|------|-----|-------|-----------|---------|------------|-----|------|--------------|--------|-------|
|          | CFM    | DBT  | LABT | DBT |       | W.C. IN   | EWTF FT | LWT FT     | GPM |      |              |        |       |
| HC-1-02  | 870    | 50.0 | 85.0 | 28  | 0.50  | 180       | 150     | 1.9        | 5.0 | AACN | CS           | NOTE 1 |       |
| HC-1-03  | 126    | 50.0 | 85.0 | 4   | 0.50  | 180       | 150     | 0.5        | 5.0 | AACN | CS           | NOTE 1 |       |
| HC-1-04  | 725    | 50.0 | 85.0 | 23  | 0.50  | 180       | 150     | 1.6        | 5.0 | AACN | CS           | NOTE 1 |       |
| HC-1-05  | 500    | 50.0 | 85.0 | 18  | 0.50  | 180       | 150     | 1.2        | 5.0 | AACN | CS           | NOTE 1 |       |
| HC-1-06  | 580    | 50.0 | 85.0 | 25  | 0.50  | 180       | 150     | 1.5        | 5.0 | AACN | CS           | NOTE 1 |       |
| HC-1-07  | 200    | 50.0 | 85.0 | 6   | 0.50  | 180       | 150     | 0.5        | 5.0 | AACN | CS           | NOTE 1 |       |
| HC-1-08  | 1350   | 50.0 | 85.0 | 44  | 0.50  | 180       | 150     | 2.9        | 5.0 | AACN | CS           | NOTE 1 |       |
| HC-1-09  | 176    | 50.0 | 85.0 | 6   | 0.50  | 180       | 150     | 0.5        | 5.0 | AACN | CS           | NOTE 1 |       |
| HC-1-10  | 425    | 50.0 | 85.0 | 14  | 0.50  | 180       | 150     | 0.9        | 5.0 | AACN | CS           | NOTE 1 |       |
| HC-1-11  | 2000   | 50.0 | 85.0 | 65  | 0.50  | 180       | 150     | 4.1        | 5.0 | AACN | CS           | NOTE 1 |       |
| HC-1-12  | 3035   | 50.0 | 85.0 | 98  | 0.50  | 180       | 150     | 6.6        | 5.0 | AACN | CS           | NOTE 1 |       |
| HC-1-13  | 150    | 50.0 | 85.0 | 5   | 0.50  | 180       | 150     | 0.5        | 5.0 | AACN | CS           | NOTE 1 |       |

## VENTILATION SCHEDULE

### GENERAL NOTES

A. DISCONNECT AND CONTROLLER STARTER FURNISHED AND INSTALLED BY:  
MFR = MANUFACTURER  
EC = ELECTRICAL CONTRACTOR

B. DISCONNECT TYPE:  
F = FUSED  
NF = NON-FUSED

C. CONTROLLER STARTER TYPE:  
FV = FULL VOLTAGE  
VFD = VARIABLE FREQUENCY DRIVE  
VFDB = VARIABLE FREQUENCY DRIVE WITH BYPASS

D. FAN RPM SHALL NOT EXCEED 110% OF SCHEDULED VOLTAGE  
WHEEL TYPE: SUBSTITUTION OF BI OR BA FANS FOR FC IS ACCEPTABLE IF EFFICIENCY IS NOT LOWER.

E. NO EQUIPMENT SHALL BE SELECTED ABOVE 90% OF MOTOR NAME PLATE RATING.

F. MUST BE WITHIN +/- 10% OF SCHEDULED RPM.

G. CURB TYPE:  
MFR = STANDARD CURB BY MANUFACTURER  
GC = BY GENERAL CONTRACTOR

## TERMINAL AIR BOX SCHEDULE - SINGLE DUCT

NOTES:

1. NEITHER RADIATED NOR DISCHARGE SOUND LEVELS SHALL EXCEED NC 35 AT 1' 5" INLET STATIC PRESSURE WHEN TESTED PER AHRI STANDARD 885-2008 USING 5/8" 20-LB DENSITY MINERAL FIBER CEILING TILE
2. TOTAL AIR PRESSURE DROP OF TAB AND REHEAT COIL SHALL NOT EXCEED 0.50" WC. PROVIDE REHEAT COILS SEPARATE FROM BOXES IF REQUIRED TO MEET AIR PRESSURE DROP REQUIREMENTS
3. REFER TO CONTROL DRAWINGS FOR DESCRIPTION OF CONTROL TYPE.
4. SENSOR TYPES: 1 - SENSOR ONLY; 2 - SENSOR WITH ADJUSTMENT; 3 - SENSOR WITH OVERRIDE; 4 - SENSOR WITH ADJUSTMENT AND OVERRIDE.
5. HEATING COIL BEING USED ON HEATING AIR FLOW. WATER PRESSURE DROP OF REHEAT COILS SHALL NOT EXCEED 5' PROVIDE REHEAT COILS SEPARATE FROM BOXES IF REQUIRED TO MEET WATER PRESSURE DROP REQUIREMENTS.
6. WHEN TAB L, F, WET T, AND GPM VALUES ARE BASED, HEATING COILS IS NOT REQUIRED FOR TAB.
7. HEATING COIL SELECTION SHALL BE BASED ON A FIXED LEAVING AIR TEMPERATURE AND VARIABLE FLOW (GPM). PROVIDE FINAL MAXIMUM FLOW RATE (GPM) TO TEST & BALANCE TEMPERATURE CONTROL CONTRACTORS.

| TAG      | NAME               | AREA SERVED | COOLING |      | HEATING |         | HEATING LOAD (NOTES 5, 6, & 7) |        |     |     |    |        | MIN. INLET<br>SIZE (IN.) | CONTROL<br>TYPE (NOTE 3) | SENSOR<br>TYPE (NOTE 4) | MANUFACTURER | MODEL<br>(NOTE 1, 2) | NOTES |
|----------|--------------------|-------------|---------|------|---------|---------|--------------------------------|--------|-----|-----|----|--------|--------------------------|--------------------------|-------------------------|--------------|----------------------|-------|
|          |                    |             | MAX     | MIN. | EAT °F  | HLAT °F | EWT °F                         | LWT °F | MAX | GPM |    |        |                          |                          |                         |              |                      |       |
| TAB-2-01 | C50 CORRIDOR       |             | 400     | 400  | 400     | 55.0    | 85.0                           | 180    | 150 | 0.9 | 6" | TYPE B | TYPE 1                   | TITUS                    | DES'V                   | NOTES 1, 2   |                      |       |
| TAB-2-02 | H2 REFERENCE       |             | 350     | 350  | 175     | 55.0    | 85.0                           | 180    | 150 | 0.8 | 6" | TYPE B | TYPE 3                   | TITUS                    | DES'V                   | NOTES 1, 2   |                      |       |
| TAB-2-03 | H4 REFERENCE       |             | 200     | 200  | 80      | 55.0    | 85.0                           | 180    | 150 | 0.5 | 6" | TYPE B | TYPE 3                   | TITUS                    | DES'V                   | NOTES 1, 2   |                      |       |
| TAB-2-04 | H5 OFFICE          |             | 125     | 125  | 80      | 55.0    | 85.0                           | 180    | 150 | 0.5 | 6" | TYPE B | TYPE 4                   | TITUS                    | DES'V                   | NOTES 1, 2   |                      |       |
| TAB-2-05 | H8 STAFF LOUNGE    |             | 450     | 450  | 150     | 55.0    | 85.0                           | 180    | 150 | 1.0 | 8" | TYPE B | TYPE 3                   | TITUS                    | DES'V                   | NOTES 1, 2   |                      |       |
| TAB-2-06 | H9 OFFICE          |             | 250     | 200  | 80      | 55.0    | 85.0                           | 180    | 150 | 0.5 | 6" | TYPE B | TYPE 4                   | TITUS                    | DES'V                   | NOTES 1, 2   |                      |       |
| TAB-2-07 | H10 OFFICE         |             | 200     | 200  | 80      | 55.0    | 85.0                           | 180    | 150 | 0.5 | 6" | TYPE B | TYPE 4                   | TITUS                    | DES'V                   | NOTES 1, 2   |                      |       |
| TAB-2-08 | H11 OFFICE         |             | 200     | 200  | 80      | 55.0    | 85.0                           | 180    | 150 | 0.5 | 6" | TYPE B | TYPE 4                   | TITUS                    | DES'V                   | NOTES 1, 2   |                      |       |
| TAB-2-09 | H12 MEN'S LOCKER   |             | 425     | 425  | 425     | 55.0    | 85.0                           | 180    | 150 | 0.9 | 8" | TYPE B | TYPE 2                   | TITUS                    | DES'V                   | NOTES 1, 2   |                      |       |
| TAB-2-10 | H13 WOMEN'S LOCKER |             | 425     | 425  | 425     | 55.0    | 85.0                           | 180    | 150 | 0.9 | 8" | TYPE B | TYPE 2                   | TITUS                    | DES'V                   | NOTES 1, 2   |                      |       |
| TAB-2-11 | C50 CORRIDOR       |             | 350     | 350  | 350     | 55.0    | 85.0                           | 180    | 150 | 0.8 | 6" | TYPE B | TYPE 1                   | TITUS                    | DES'V                   | NOTES 1, 2   |                      |       |

## HOOD SCHEDULE

NOTES:  
1.MOUNT HOOD ON MANUFACTURER'S CURB. TOP OF CURB SHALL BE A MINIMUM OF 18" ABOVE TOP OF ROOF INSULATION.

| TAG NAME |                | SERVICE | THROAT SIZE |       |        |          | STATIC PRESSURE DROP | FREE AREA (FT <sup>2</sup> ) | CONFIGURATION | MAX. HEIGHT (NOTE 2) | DAMPER TYPE | CURB TYPE | MAX. DIMENSIONS |        |        |            |        | MANUFACTURER | MODEL | NOTES |
|----------|----------------|---------|-------------|-------|--------|----------|----------------------|------------------------------|---------------|----------------------|-------------|-----------|-----------------|--------|--------|------------|--------|--------------|-------|-------|
|          |                |         | CFM         | WIDTH | LENGTH | VELOCITY |                      |                              |               |                      |             |           | LENGTH          | HEIGHT | WEIGHT |            |        |              |       |       |
| QAH-1    | AHU-1          | 12000   | 36          | 54    | 889    | 0.08     | 13.5                 | GRAVITY HOOD                 | 24            | MOD                  | MFR         | 92.5      | 68.5            | 17     | 110.6  | PENN BARRY | PG3654 | NOTE 1       |       |       |
| QAH-2    | AHU-2          | 5000    | 20          | 42    | 93.3   | 0.07     | 6                    | GRAVITY HOOD                 | 20            | MOD                  | MFR         | 62.5      | 50.5            | 13     | 64.1   | PENN BARRY | PG2436 | NOTE 1       |       |       |
| RAH-1    | 5-EF10 EXHAUST | 4750    | 18          | 36    | 93.3   | 0.07     | 6                    | GRAVITY HOOD                 | 18            | MOD                  | MFR         | 58.5      | 42.5            | 11     | 58.9   | PENN BARRY | PG2036 | NOTE 1       |       |       |
| RAH-1    | AHU-2          | 4000    | 24          | 30    | 667    | 0.06     | 6                    | GRAVITY HOOD                 | 17            | MOD                  | MFR         | 66.5      | 38.5            | 10     | 50     | PENN BARRY | PG2436 | NOTE 1       |       |       |
| RAH-2    | 5-EF12 EXHAUST | 625     | 12          | 18    | 625    | 0.05     | 1                    | GRAVITY HOOD                 | 12            | MOD                  | MFR         | 20.5      | 20.5            | 5      | 18.9   | PENN BARRY | PG1212 | NOTE 1       |       |       |
| RAH-3    | 5-A010 RELIEF  | 4750    | 18          | 24    | 534    | 0.04     | 8.75                 | GRAVITY HOOD                 | 18            | MOD                  | MFR         | 62.5      | 44.5            | 11     | 63.4   | PENN BARRY | PG2036 | NOTE 1       |       |       |


## AIR TERMINAL SCHEDULE

NOTES:

- 1.CONTRACTOR SHALL DETERMINE PROPER BORDER TYPE TO MATCH CEILING CONSTRUCTION.
- 2.REFER TO DRAWINGS FOR NECK SIZE. ALL BRANCH DUCTWORK TO AIR TERMINALS SHALL BE NECK SIZE UNLESS NOTED OTHERWISE.
- 3.DUCTED RETURN
- 4.FRONT BLADES VERTICAL UNLESS OTHERWISE NOTED.
- 5.FLUSH FACE PANEL.

| TAG NAME | FACE SIZE (IN.)<br>NOTE 2) | TYPE                 | BORDER | MATERIAL | FINISH | VOLUME DAMPER<br>REQUIRED | MANUFACTURER | MODEL | NOTES       |
|----------|----------------------------|----------------------|--------|----------|--------|---------------------------|--------------|-------|-------------|
| EG-1     | 12x12                      | PERFORATED FACE      | NOTE 1 | STEEL    | WHITE  | NO                        | TITUS        | PAR   | NOTES 3 & 6 |
| EG-2     | 24x12                      | PERFORATED FACE      | NOTE 1 | ALUMINUM | WHITE  | NO                        | TITUS        | PAR   | NOTES 3 & 6 |
| EG-3     | 24x24                      | PERFORATED FACE      | NOTE 1 | STEEL    | WHITE  | NO                        | TITUS        | PAR   | NOTES 3 & 6 |
| EG-4     | 24x24                      | PERFORATED FACE      | NOTE 1 | ALUMINUM | WHITE  | NO                        | TITUS        | PAR   | NOTES 3 & 6 |
| ER-1     | INLET x 2                  | 35 DEGREE DEFLECTION | NOTE 1 | ALUMINUM | WHITE  | YES                       | TITUS        | 350F  | NOTE 4 & 6  |
| RG-3     | 24x24                      | PERFORATED FACE      | NOTE 1 | STEEL    | WHITE  | NO                        | TITUS        | PAR   | NOTES 3 & 6 |
| RG-4     | 24x24                      | PERFORATED FACE      | NOTE 1 | ALUMINUM | WHITE  | NO                        | TITUS        | PAR   | NOTES 3 & 6 |
| SD-1     | 12x12                      | PANEL FACE           | NOTE 1 | STEEL    | WHITE  | NO                        | TITUS        | OMNI  | NOTES 5 & 6 |
| SD-3     | 24x24                      | PANEL FACE           | NOTE 1 | STEEL    | WHITE  | NO                        | TITUS        | OMNI  | NOTES 5 & 6 |
| SD-4     | 24x24                      | PANEL FACE           | NOTE 1 | ALUMINUM | WHITE  | NO                        | TITUS        | OMNI  | NOTES 5 & 6 |
| SR-1     | INLET x 2                  | 35 DEGREE DEFLECTION | NOTE 1 | STEEL    | WHITE  | YES                       | TITUS        | 350R  | NOTE 4 & 6  |

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| <p>Office of<br/>Construction<br/>and Facilities<br/>Management</p> <p><b>VA</b>   U.S. Department<br/>of Veterans<br/>Affairs</p> | <p>Drawing Title</p> <p><b>VENTILATION</b></p> <p>Approved:</p> |
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## ON SCHEDULES

|       |                   |
|-------|-------------------|
| Phase | BID DOCUMENTS     |
|       | FULLY SPRINKLERED |

|   |                          |                       |                                  |
|---|--------------------------|-----------------------|----------------------------------|
| Project Title<br><b>CONSTRUCT NEW SPS</b> |                          |                       | Project Number<br><b>438-460</b> |
| Location<br><b>Sioux Falls, SD.</b>       |                          |                       | Building Number<br><b>5</b>      |
| Issue Date<br><b>08/04/22</b>             | Checked<br><b>DAVING</b> | Drawn<br><b>DELLE</b> | <b>MV600</b>                     |
|   |                          |                       |                                  |







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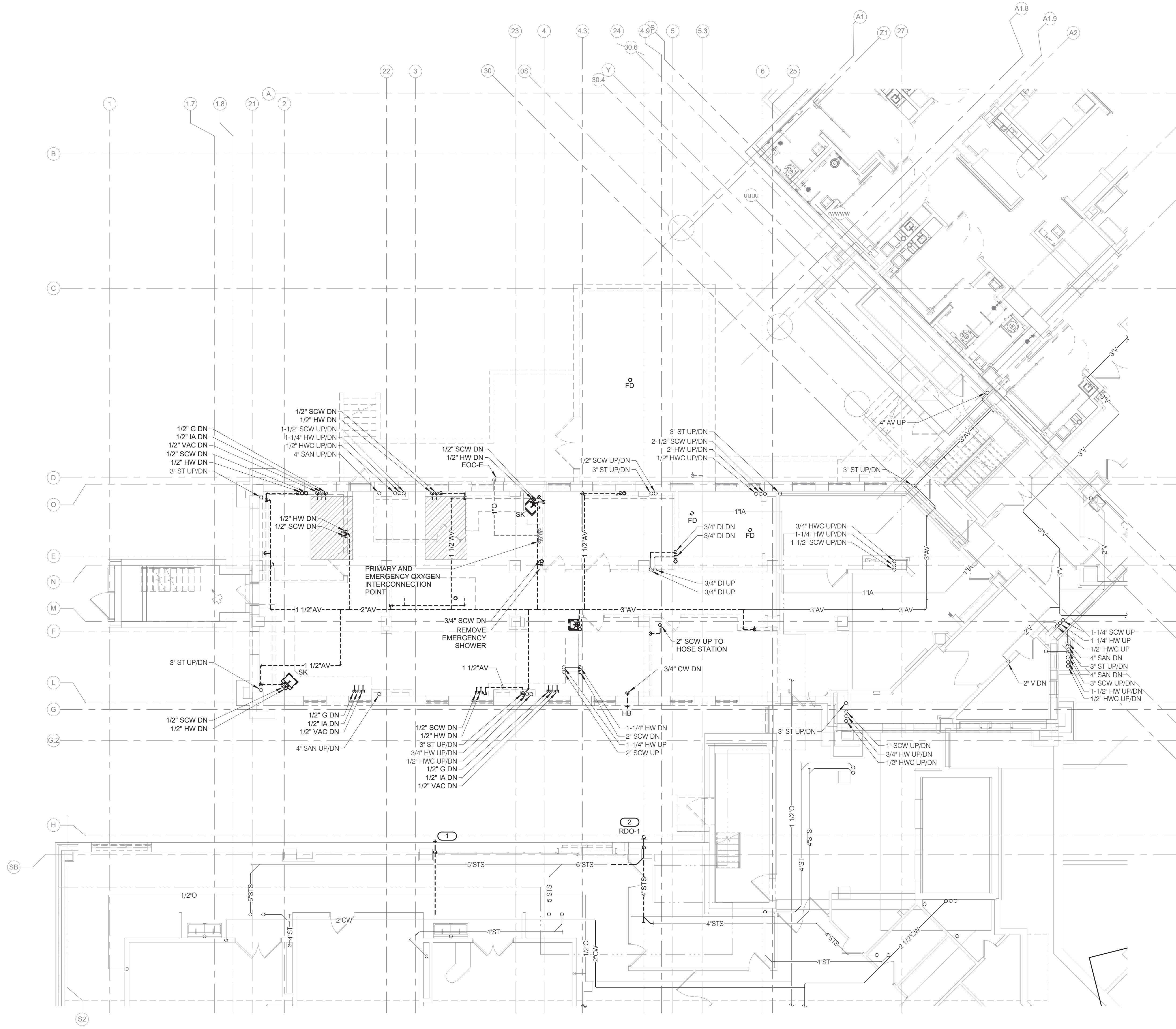
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- GENERAL PLUMBING NOTES:**
1. REFERENCE P000 - PLUMBING COVERSHEET FOR PLUMBING SYMBOLS, ABBREVIATIONS, AND GENERAL NOTES.
  2. EXISTING CONDITIONS ARE SHOWN BASED ON INFORMATION OBTAINED FROM FIELD SURVEYS, EXISTING BUILDING DOCUMENTS, AND STAFF. VERIFY EXISTING CONDITIONS AND REPORT ANY CONFLICTS BEFORE PROCEEDING.
  3. G.C. SHALL CUT AND PATCH EXISTING AS REQUIRED FOR NEW WORK. REFERENCE SPECIFICATION SECTION 22 05 06 FOR ADDITIONAL INFORMATION.
  4. COMPLETE LAYOUT DRAWINGS SHALL BE REQUIRED BY SPECIFICATION SECTION 22 05 11. CONSTRUCTION WORK SHALL NOT BEGIN UNTIL SYSTEM LAYOUT DRAWINGS HAVE BEEN APPROVED BY THE C.O.R.
  5. CONTRACTOR SHALL MINIMIZE DOWNTIME OF EXISTING SYSTEMS BY INSTALLING NEW SYSTEMS PRIOR TO TYING INTO EXISTING. NOTIFY C.O.R. A MINIMUM OF 24 HOURS PRIOR TO SYSTEM SHUTDOWN.
  6. DEMOLISH ALL EXISTING HANGERS, INSULATION, VALVES, AND ACCESSORIES ASSOCIATED WITH MECHANICAL EQUIPMENT AND PIPING SHOWN TO BE REMOVED ON THESE PLANS UNLESS OTHERWISE NOTED.
  7. DEMOLISH ALL EXISTING CONTROL DEVICES, WIRING, AND CONDUIT ASSOCIATED WITH MECHANICAL EQUIPMENT SHOWN TO BE REMOVED ON THESE PLANS UNLESS OTHERWISE NOTED.
  8. NOT ALL MECHANICAL DEMOLITION IS EXPLICITLY SHOWN ON THE DRAWING. CONTRACTOR SHALL CONFIRM EXTENT OF DEMOLITION AT THE SITE.
- KEYNOTES: (#)**
1. REMOVE EXISTING EXTERIOR HOSE BIBB. DEMOLISH ASSOCIATED COLD WATER PIPING BACK TO MAIN AND CAP TO PREVENT PRESENCE OF A DEAD LEG IN THE DOMESTIC WATER SYSTEM.
  2. REMOVE EXISTING SECONDARY STORM DRAIN OUTLET.

**1 GROUND LEVEL FLOOR DEMOLITION PLAN - PLUMBING**  
1/8" = 1'-0"

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| Revisions: | Date: |
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| <div>CONSULTANT</div> <div><div><div><div><div></div><div>IMEG</div></div><div><div>2882 NORTH STREET<br/>DES MOINES, IA 50325<br/>515.334.9900 FAX 515.334.9908<br/>www.imegcorp.com</div></div></div><div><div>IMEG CORP. RESERVES PROPRIETARY RIGHTS, INCLUDING COPYRIGHTS, TO THIS DRAWING AND THE DATA SHOWN THEREON. THIS DRAWING AND/OR DATA ARE THE EXCLUSIVE PROPERTY OF IMEG CORP. AND SHALL NOT BE USED OR REPRODUCED FOR ANY OTHER PROJECT WITHOUT THE EXPRESS WRITTEN APPROVAL AND PARTICIPATION OF IMEG CORP.</div><div>© 2022 IMEG CORP.</div></div></div><div><div>01</div><div>02</div><div>03</div></div><div>REFERENCE SCALE IN INCHES</div></div> | <div>ARCHITECT/ENGINEER OF RECORD</div> <div>ANDERSON</div> <div>13605 1st Ave. N. #100 Plymouth, MN 55441<br/>P 763.412.4000   F 763.412.4090   ae-mn.com<br/>Anderson Engineering of Minnesota, LLC   Proj # 16584</div> | <div>STAMP</div> <div><div><div><div><div></div><div>PROFESSIONAL ENGINEER</div><div>ERIC J. HENDERSON</div><div>08063</div><div>515-474-2900</div><div>IOWA</div></div></div></div></div> | <div>Office of Construction and Facilities Management</div> <div>VA</div> <div>U.S. Department of Veterans Affairs</div> | <div>Drawing Title</div> <div>GROUND LEVEL FLOOR DEMOLITION PLAN - PLUMBING</div> | <div>Phase</div> <div>BID DOCUMENTS</div> | <div>Project Title</div> <div>CONSTRUCT NEW SPS</div> | <div>Project Number</div> <div>438-460</div> |
|   |  |  |  | <div>Approved:</div>  | <div>FULLY SPRINKLERED</div>              | <div>Location</div> <div>Sioux Falls, SD.</div>       | <div>Building Number</div> <div>5</div>      |
|   |  |  |  |   |   | <div>Issue Date</div> <div>08/04/22</div>             | <div>Checked</div> <div>NATJAC</div>         |



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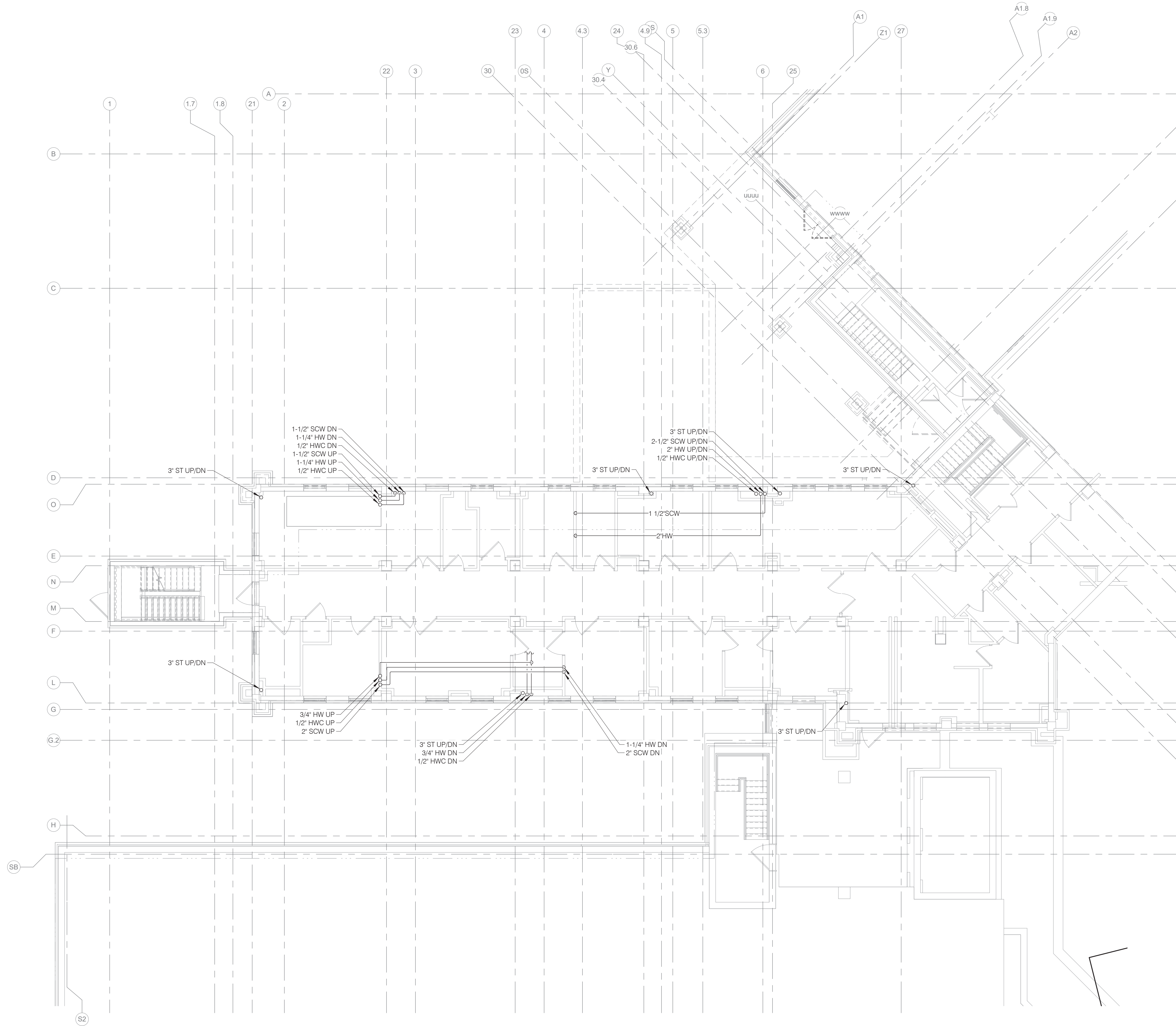
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FIRST LEVEL DEMOLITION PLAN - PLUMBING

1/8" = 1'-0"

| Revisions: | Date: |
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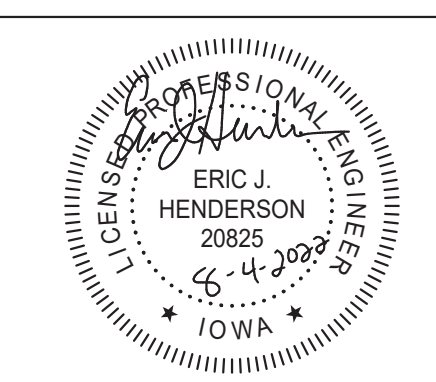
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of Veterans  
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Drawing Title

FIRST LEVEL DEMOLITION PLAN -  
PLUMBING

Approved:

Phase

BID DOCUMENTS

FULLY SPRINKLERED

Project Title

CONSTRUCT NEW SPS

Location

Sioux Falls, SD.

Issue Date

08/04/22

Checked

NATJAC

Drawn

DELLLE

Project Number

438-460

Building Number

5

Drawing Number

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