

**EQUIPMENT PLAN GENERAL NOTES**

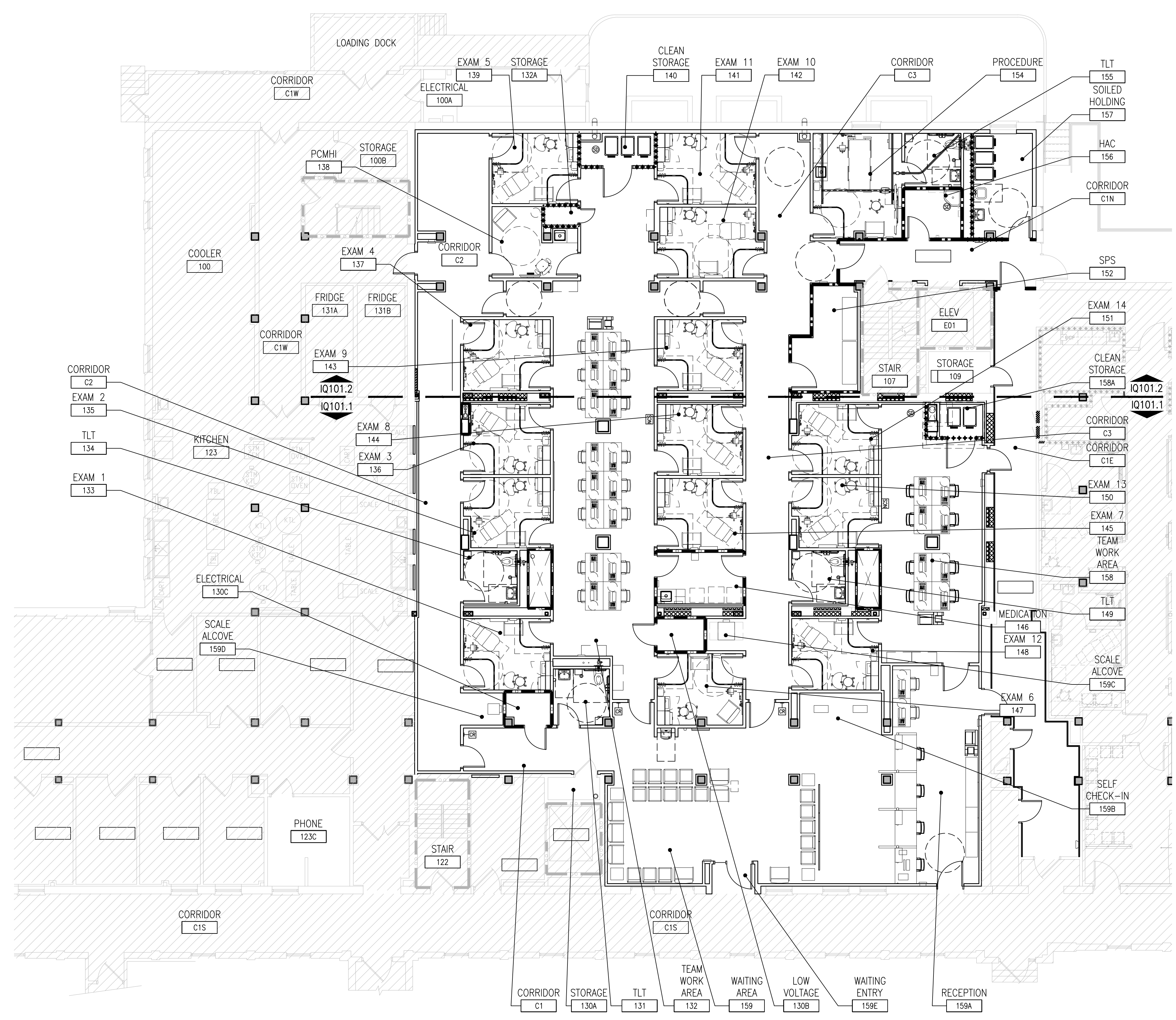
- A. SEE GI001 FOR GENERAL NOTES, SAFETY NOTES AND BASIS OF DESIGN COMPLIANCE.
- B. SEE SHEET QH100 FOR EQUIPMENT SCHEDULE.
- C. VA FURNISHED, VA INSTALLED (W) AND EXISTING EQUIPMENT, VA INSTALLED (EV) ITEMS SHALL BE FURNISHED AND INSTALLED DURING THE CONSTRUCTION TIMELINE BY THE VA. THE GENERAL CONTRACTOR SHALL COORDINATE SCHEDULING AND ALLOW FOR ADEQUATE TIME IN THE PROJECT SCHEDULE FOR EQUIPMENT INSTALLATION.
- D. VA FURNISHED, CONTRACTOR INSTALLED (VC) ITEMS SHALL BE FURNISHED BY THE VA AND INSTALLED BY THE GENERAL CONTRACTOR DURING THE CONSTRUCTION TIMELINE. THE GENERAL CONTRACTOR SHALL COORDINATE WITH THE VA AND THE VA EQUIPMENT VENDOR AND ALLOW FOR ADEQUATE TIME IN THE PROJECT SCHEDULE FOR EQUIPMENT INSTALLATION.
- E. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING WITH THE VA ALL ITEMS TO BE PROVIDED AND INSTALLED BY THE GENERAL CONTRACTOR (CC) AND EXISTING EQUIPMENT TO BE INSTALLED BY THE GENERAL CONTRACTOR (EC).
- F. THE GENERAL CONTRACTOR SHALL VERIFY, COORDINATE, AND PROVIDE ALL UTILITY SERVICES REQUIRED FOR OWNER INSTALLED EQUIPMENT AND CONTRACTOR INSTALLED EQUIPMENT.
- G. REFER TO PLUMBING AND ELECTRICAL DRAWINGS FOR UTILITY CONNECTIONS.
- H. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND INSTALLING ALL BACKING PLATES FOR WALL MOUNTED EQUIPMENT OR EQUIPMENT SHELVING. SEE 6/AS50 FOR BASIS OF DESIGN BACKING PLATE DETAIL. EQUIPMENT WEIGHT AND SUPPORT REQUIREMENTS ARE TO BE VERIFIED WITH THE MANUFACTURER AND BACKING PLATE SIZES, GAUGES, AND LOCATIONS ARE TO BE DESIGNED AND INSTALLED BY THE GENERAL CONTRACTOR.
- I. AT COMPLETION OF INSTALLATION, CLEAN AND ADJUST EQUIPMENT AS REQUIRED TO PRODUCE A CLEAN, READY-FOR-USE CONDITION.
- J. INSTRUCT VA PERSONNEL AND TRANSMIT OPERATION INSTRUCTIONS IN ACCORDANCE WITH REQUIREMENTS IN SPECIFICATION SECTION 01 00 00, GENERAL REQUIREMENTS.
- K. UNLABELED FURNITURE SHOWN IS FOR COORDINATION PURPOSES. ALL FURNITURE IS VA PROVIDED AND INSTALLED UNLESS NOTED OTHERWISE.

**RATED PARTITION LEGEND**

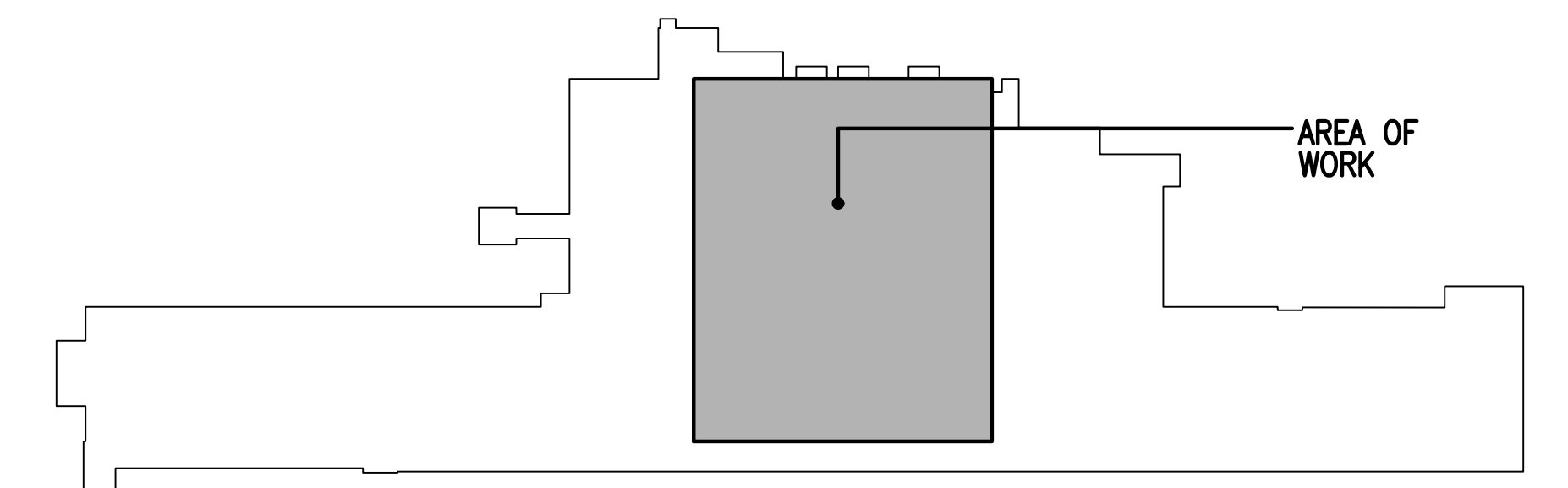
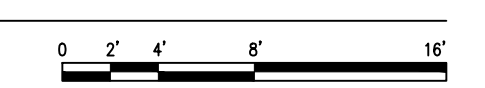
- SMOKE RESISTIVE HAZARDOUS ROOM ENCLOSURE
- 1-HOUR FIRE/SMOKE BARRIER
- 2-HOUR FIRE/SMOKE BARRIER
- SMOKE RESISTIVE HAZARDOUS ROOM ENCLOSURE (EXISTING)
- 1-HOUR FIRE/SMOKE BARRIER (EXISTING)
- 2-HOUR FIRE/SMOKE BARRIER (EXISTING)

**SPECIAL SYMBOL LEGEND**

- DENOTES 5'-0" WHEELCHAIR TURNING RADIUS CLEARANCE.



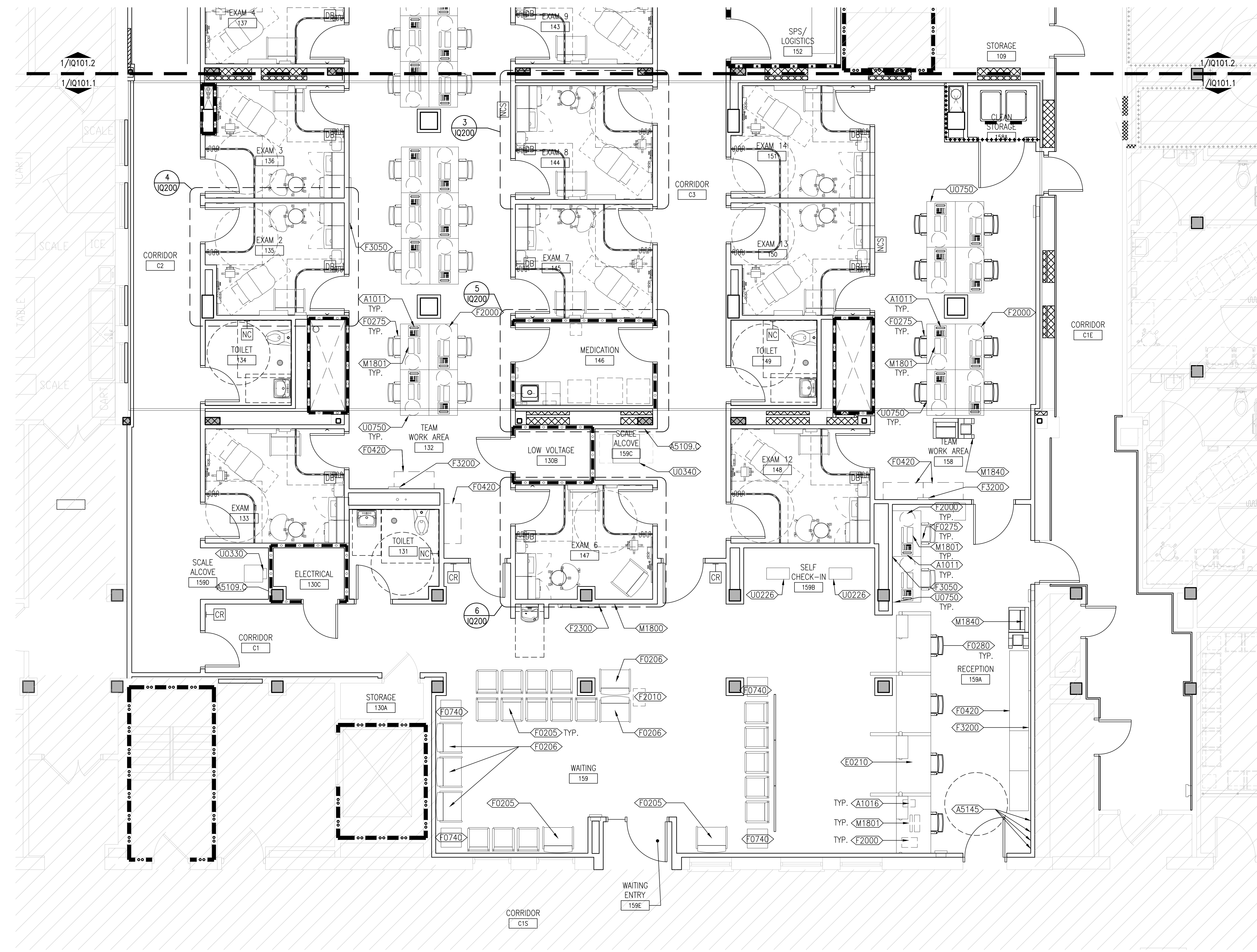
**1 EQUIPMENT - GENERAL PLAN - FIRST FLOOR**  
1/8"=1'-0"



**KEY PLAN BUILDING 4**  
NTS

10/28/2022 - ISSUE FOR 100% CONSTRUCTION DOCUMENTS

No. REVISION DATE ISSUE FOR 100% CONSTRUCTION DOCUMENTS 10/28/22	I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Architect under the laws of the State of Minnesota. Print Name: DENNIS J MIKA Signature: <i>[Signature]</i> Date: 10-28-22 License # 56382	ARCHITECT/ENGINEER OF RECORD <i>[Signature]</i> BANCROFT ARCHITECTS + ENGINEERS 700 Nicholas Blvd, Suite 300 Elk Grove Village, IL 60007 T: 847.952.9362 www.bancroft-ae.com BAE PROJECT NO.: 18-116	APPROVED PROJECT GDR DATE: _____ APPROVED SERVICE LINE DIRECTOR DATE: _____ APPROVED INFECTION CONTROL NURSE DATE: _____ APPROVED GENR PROJECT MANAGER DATE: _____ APPROVED PATIENT SAFETY DATE: _____ APPROVED PROJECTS SECTION MANAGER DATE: _____ APPROVED CHIEF OF POLICE DATE: _____ APPROVED DIRECTOR PMS DATE: _____ APPROVED CHIEF OF STAFF DATE: _____ APPROVED HEALTH CARE SYSTEM DIRECTOR DATE: _____	DRAWING TITLE: EQUIPMENT - GENERAL PLAN - FIRST FLOOR PROJECT TITLE: CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR BUILDING NO: 4 CHECKED BY: DA DRAWN BY: LC LOCATION: ST. CLOUD VAHCS ST. CLOUD, MN 56303	DATE: 10/28/22 PROJECT NO: 656-400 DRAWING NO: IO101	U.S. Department of Veterans Affairs Veterans Health Administration St. Cloud VA Health Care System
			APPROVED ASSOCIATE HEALTH CARE SYSTEM DIRECTOR DATE: _____ APPROVED CHIEF OF STAFF DATE: _____ APPROVED HEALTH CARE SYSTEM DIRECTOR DATE: _____	PROJECT NO: 656-400 DRAWING NO: IO101	U.S. Department of Veterans Affairs Veterans Health Administration St. Cloud VA Health Care System	



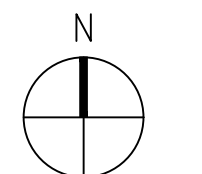
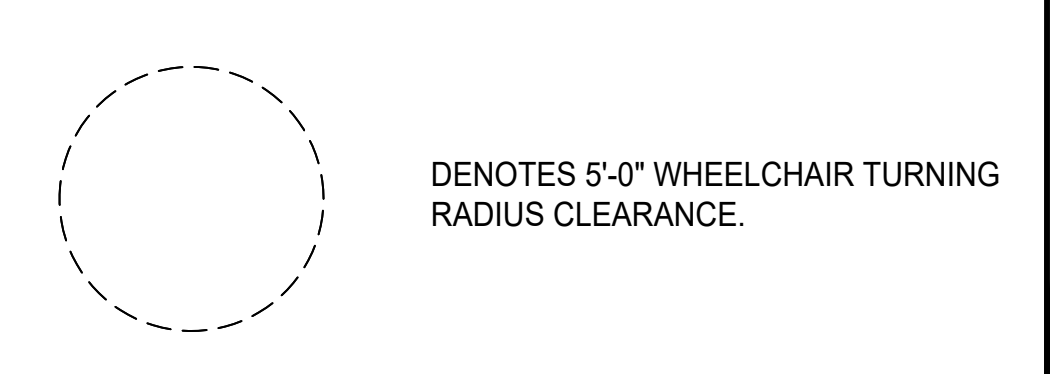
**EQUIPMENT PLAN GENERAL NOTES**

- A. SEE 61001 FOR GENERAL NOTES, SAFETY NOTES AND BASIS OF DESIGN COMPLIANCE.
- B. SEE SHEET QH100 FOR EQUIPMENT SCHEDULE.
- C. VA FURNISHED, VA INSTALLED (W) AND EXISTING EQUIPMENT, VA INSTALLED (EV) ITEMS SHALL BE FURNISHED AND INSTALLED DURING THE CONSTRUCTION TIMELINE BY THE GENERAL CONTRACTOR SHALL COORDINATE SCHEDULING AND ALLOW FOR ADEQUATE TIME IN THE PROJECT SCHEDULE FOR EQUIPMENT INSTALLATION.
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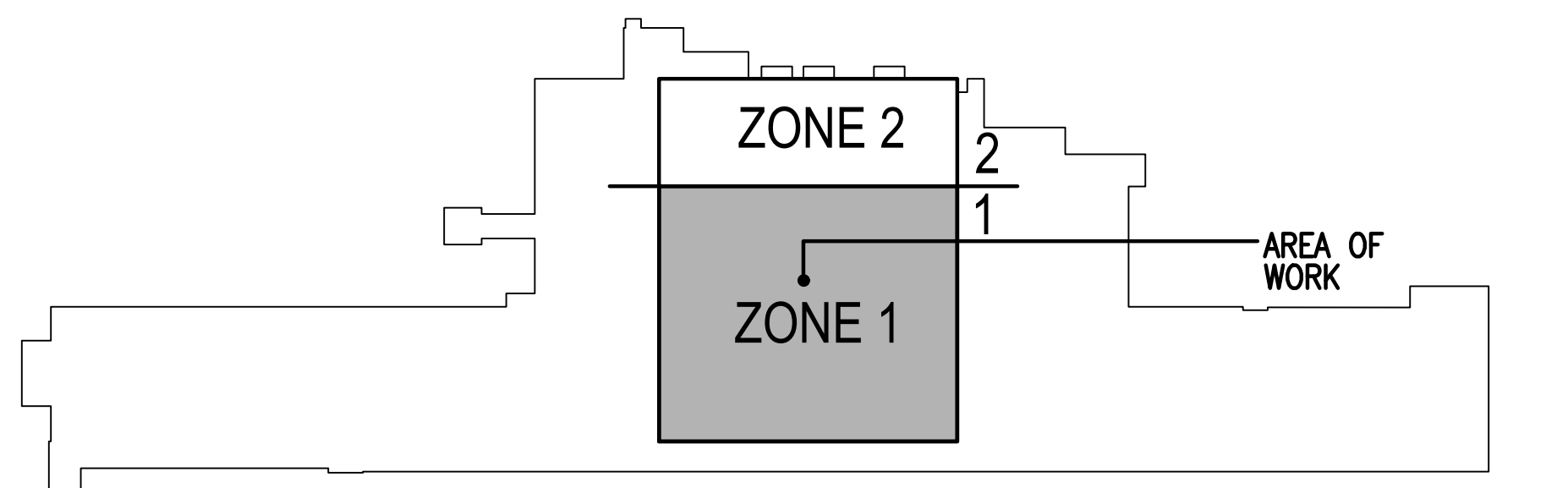
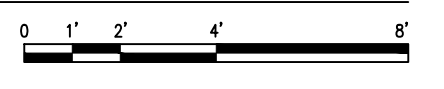
**RATED PARTITION LEGEND**

- SMOKE RESISTIVE HAZARDOUS ROOM ENCLOSURE
- 1-HOUR FIRE/SMOKE BARRIER
- 2-HOUR FIRE/SMOKE BARRIER
- SMOKE RESISTIVE HAZARDOUS ROOM ENCLOSURE (EXISTING)
- 1-HOUR FIRE/SMOKE BARRIER (EXISTING)
- 2-HOUR FIRE/SMOKE BARRIER (EXISTING)

**SPECIAL SYMBOL LEGEND**



**1** EQUIPMENT - PLAN - FIRST FLOOR - ZONE 1  
1/4"=1'-0"



**KEY PLAN BUILDING 4**  
NTS

10/28/2022 - ISSUE FOR 100% CONSTRUCTION DOCUMENTS

ISSUE FOR 100% CONSTRUCTION DOCUMENTS	10/28/22
No. REVISION	DATE

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Architect under the laws of the State of Minnesota.  
 Print Name: DENNIS J MIKA  
 Signature: *[Signature]*  
 Date: 10-28-22 License # 56382

ARCHITECT/ENGINEER OF RECORD  
**Bancroft**  
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 700 Nicholas Blvd, Suite 300  
 Elk Grove Village, IL 60007  
 T: 847.952.9362  
 www.bancroft-ae.com  
 BAE PROJECT NO. 18-116

APPROVED PROJECT GSR	DATE:	APPROVED SERVICE LINE DIRECTOR	DATE:	APPROVED INFECTION CONTROL NURSE	DATE:
APPROVED GENR PROJECT MANAGER	DATE:	APPROVED PATIENT SAFETY	DATE:	APPROVED CHIEF OF POLICE	DATE:
APPROVED PROJECTS SECTION MANAGER	DATE:	APPROVED CHIEF OF POLICE	DATE:	APPROVED SAFETY MANAGER	DATE:
APPROVED DIRECTOR PMS	DATE:	APPROVED SAFETY MANAGER	DATE:		

DRAWING TITLE	DATE:	BUILDING No.	CHECKED BY	DRAWN	DRAWING No.
EQUIPMENT - PLAN - FIRST FLOOR - ZONE 1	10/28/22	4	DA	LC	101011
PROJECT TITLE	PROJECT No.	LOCATION	DWG. OF		
CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR	656-400	ST. CLOUD VAHCS ST. CLOUD, MN 56303			

**VA**  
 U.S. Department of Veterans Affairs  
 Veterans Health Administration  
 St. Cloud VA Health Care System

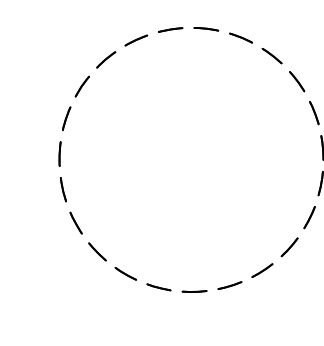
**EQUIPMENT PLAN GENERAL NOTES**

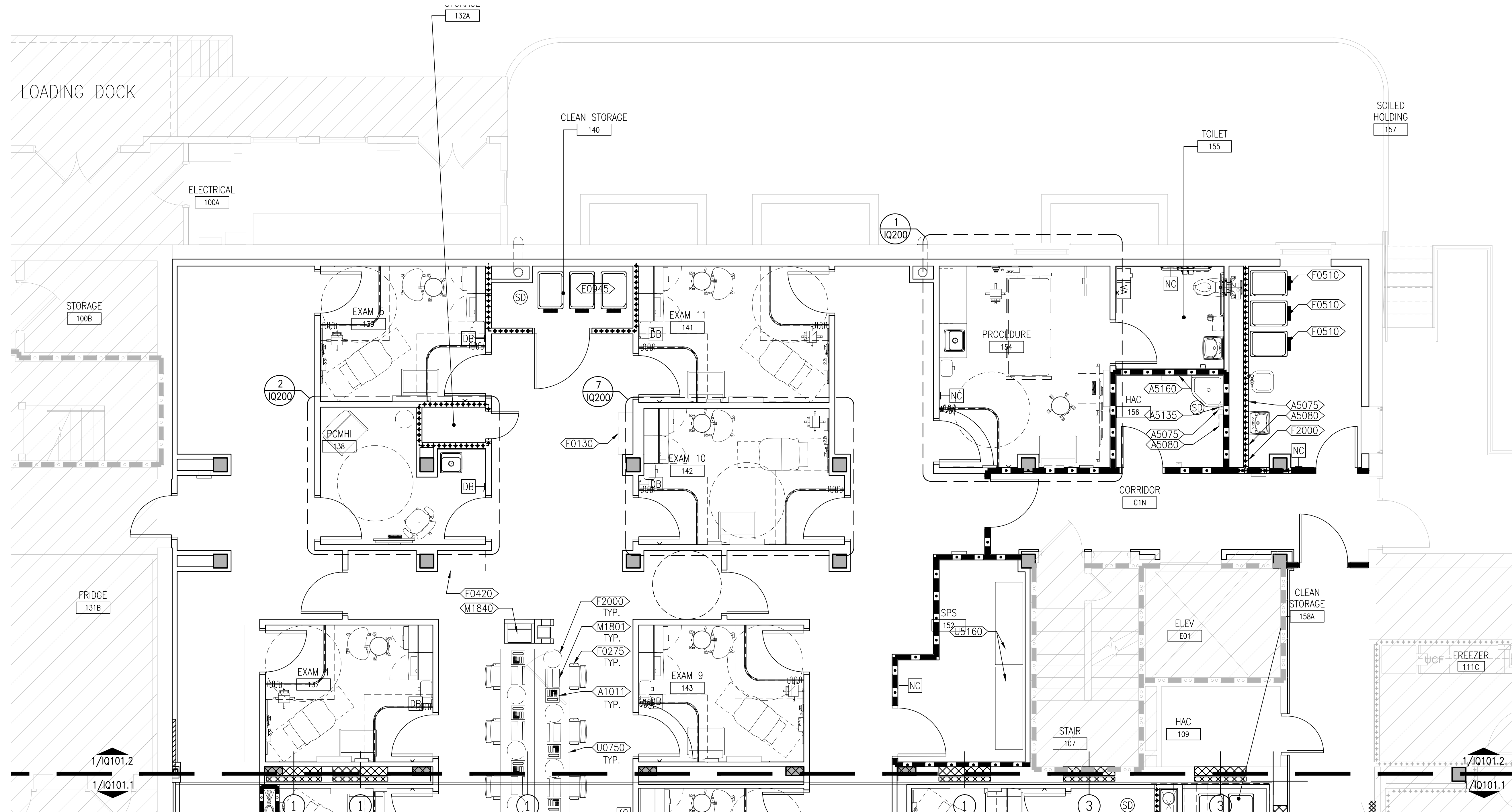
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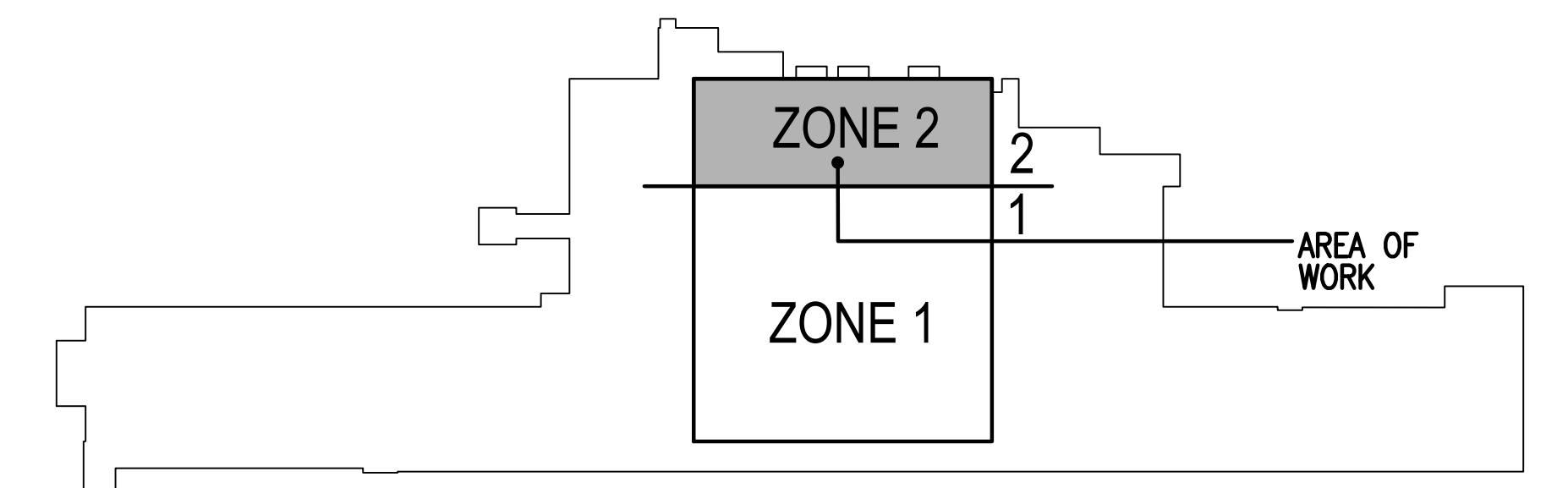
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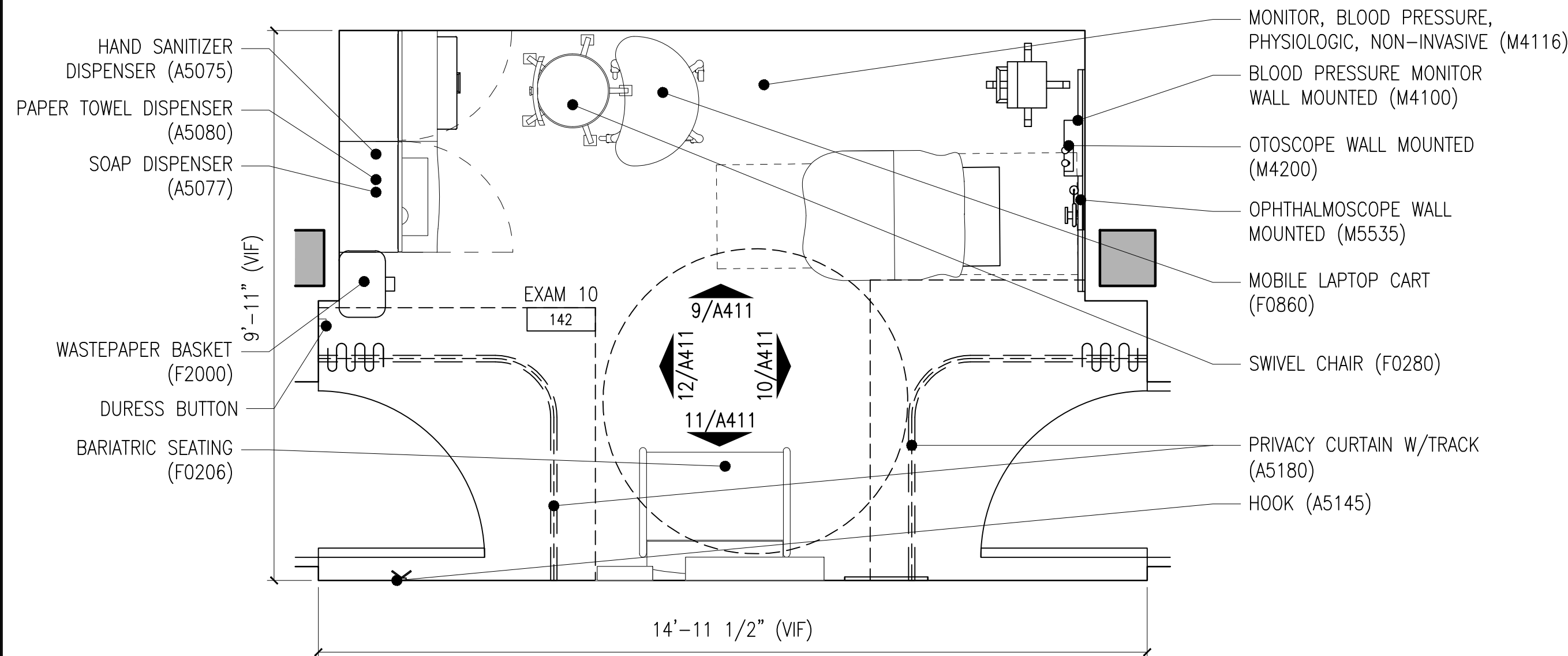


1 EQUIPMENT - PLAN - FIRST FLOOR - ZONE 2  
1/4"=1'-0"

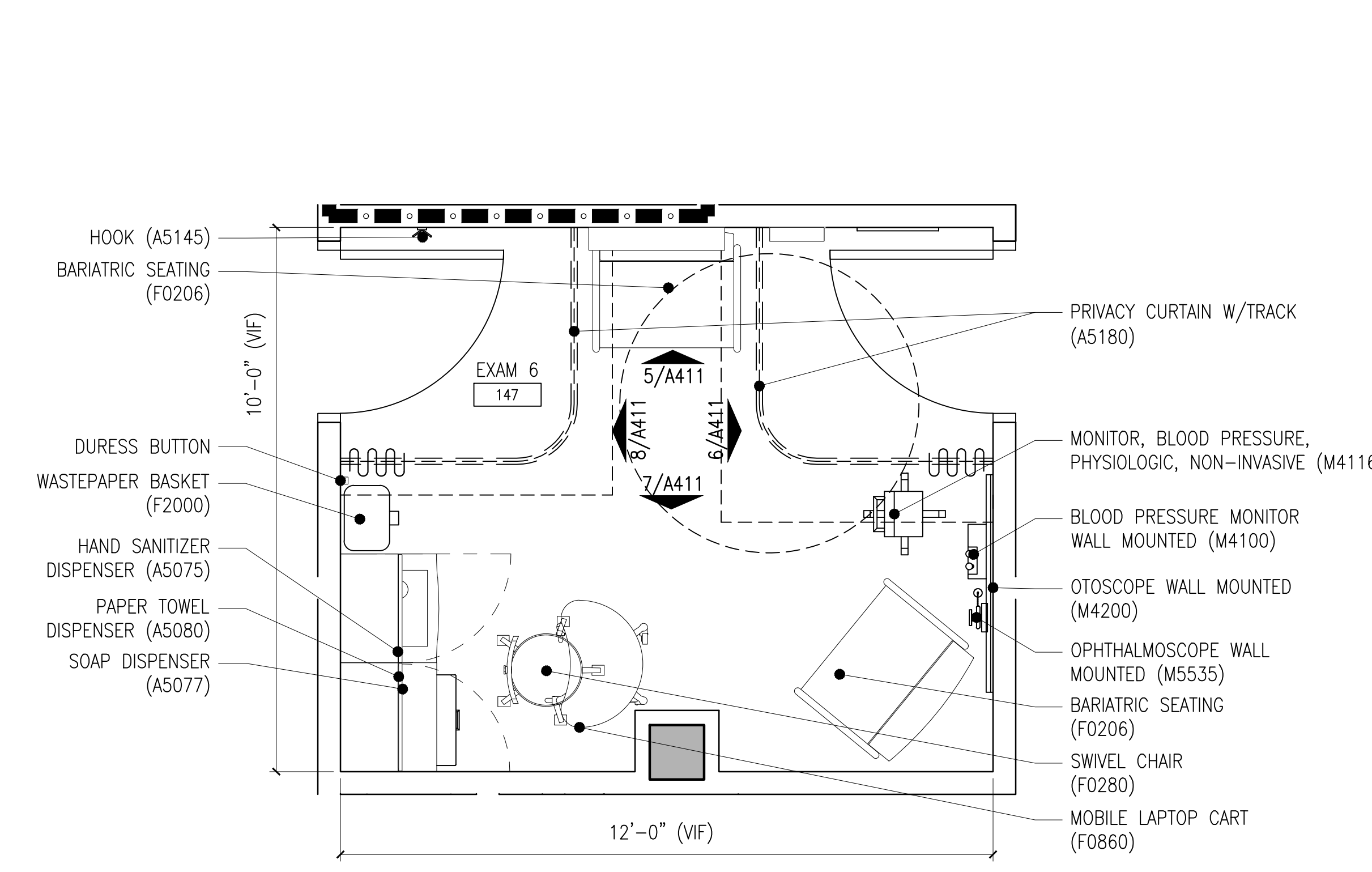


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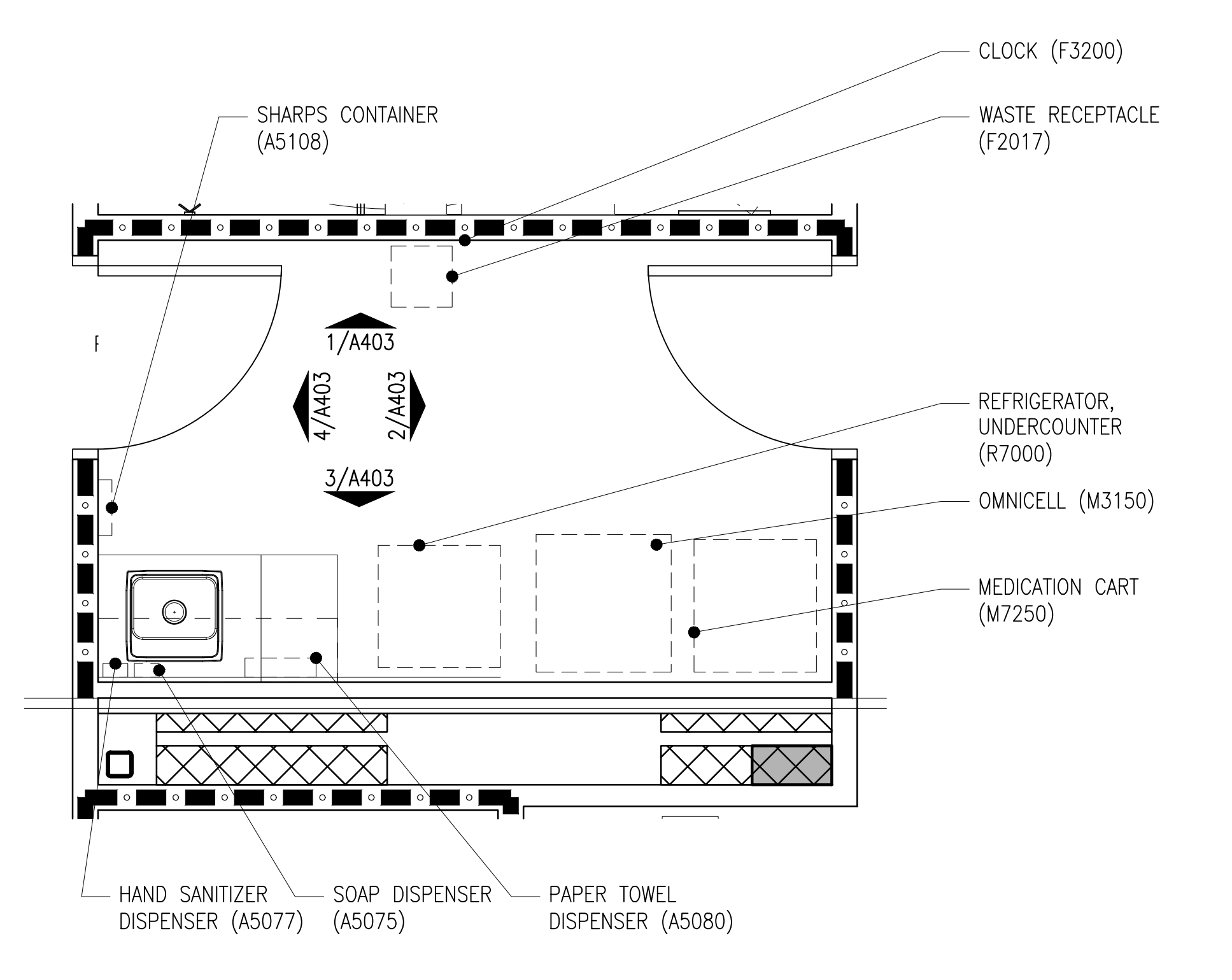
ISSUE FOR 100% CONSTRUCTION DOCUMENTS No. REVISION DATE		I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Architect under the laws of the State of Minnesota. Print Name: DENNIS J MIKA Signature: <i>[Signature]</i> Date: 10-28-22 License # 56382	ARCHITECT/ENGINEER OF RECORD <i>[Signature]</i> BANCROFT ARCHITECTS + ENGINEERS 700 Nicholas Blvd, Suite 300 Elk Grove Village, IL 60007 T: 847.952.9362 www.bancroft-ae.com BAE PROJECT NO: 18-116	APPROVED PROJECT GSR DATE: _____ APPROVED SERVICE LINE DIRECTOR DATE: _____ APPROVED INFECTION CONTROL NURSE DATE: _____ APPROVED CHIEF OF STAFF DATE: _____ APPROVED HEALTH CARE SYSTEM DIRECTOR DATE: _____	APPROVED GEN. PROJECT MANAGER DATE: _____ APPROVED PATIENT SAFETY DATE: _____ APPROVED CHIEF OF POLICE DATE: _____ APPROVED SAFETY MANAGER DATE: _____	DRAWING TITLE: EQUIPMENT - PLAN - FIRST FLOOR - ZONE 2 PROJECT TITLE: CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR BUILDING NO: 4 CHECKED BY: DA DRAWN BY: LC LOCATION: ST. CLOUD VAHCS ST. CLOUD, MN 56303	DATE: 10/28/22 PROJECT NO: 656-400 DRAWING NO: 101012 DIV. OF:	 U.S. Department of Veterans Affairs Veterans Health Administration St. Cloud VA Health Care System
	NORTH KEY PLAN BUILDING 4 NTS							
	10/28/2022 - ISSUE FOR 100% CONSTRUCTION DOCUMENTS							
	EQUIPMENT PLAN GENERAL NOTES							



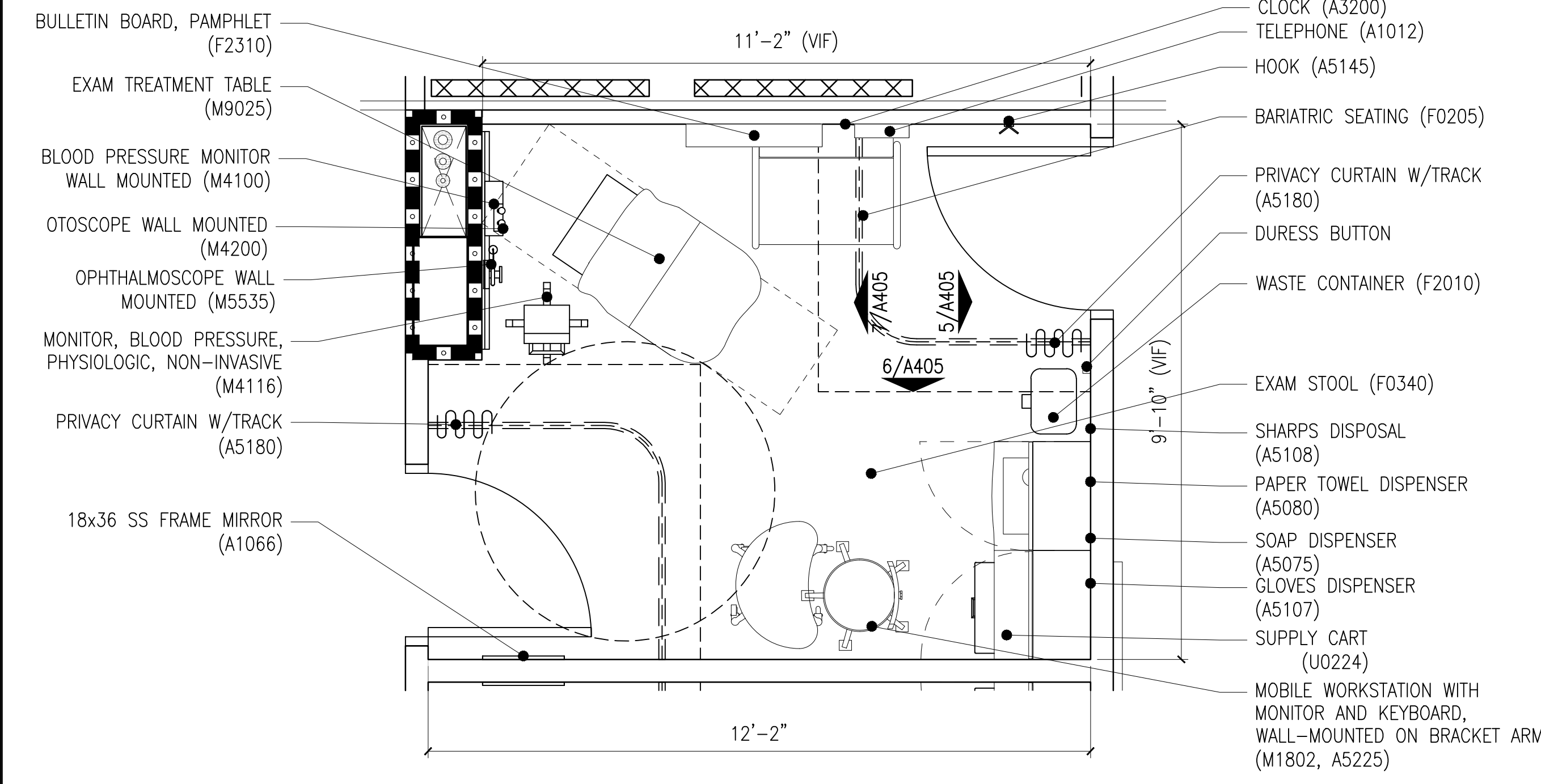
7 EXAM 142 - ROOM LAYOUT  
1/2"=1'-0"



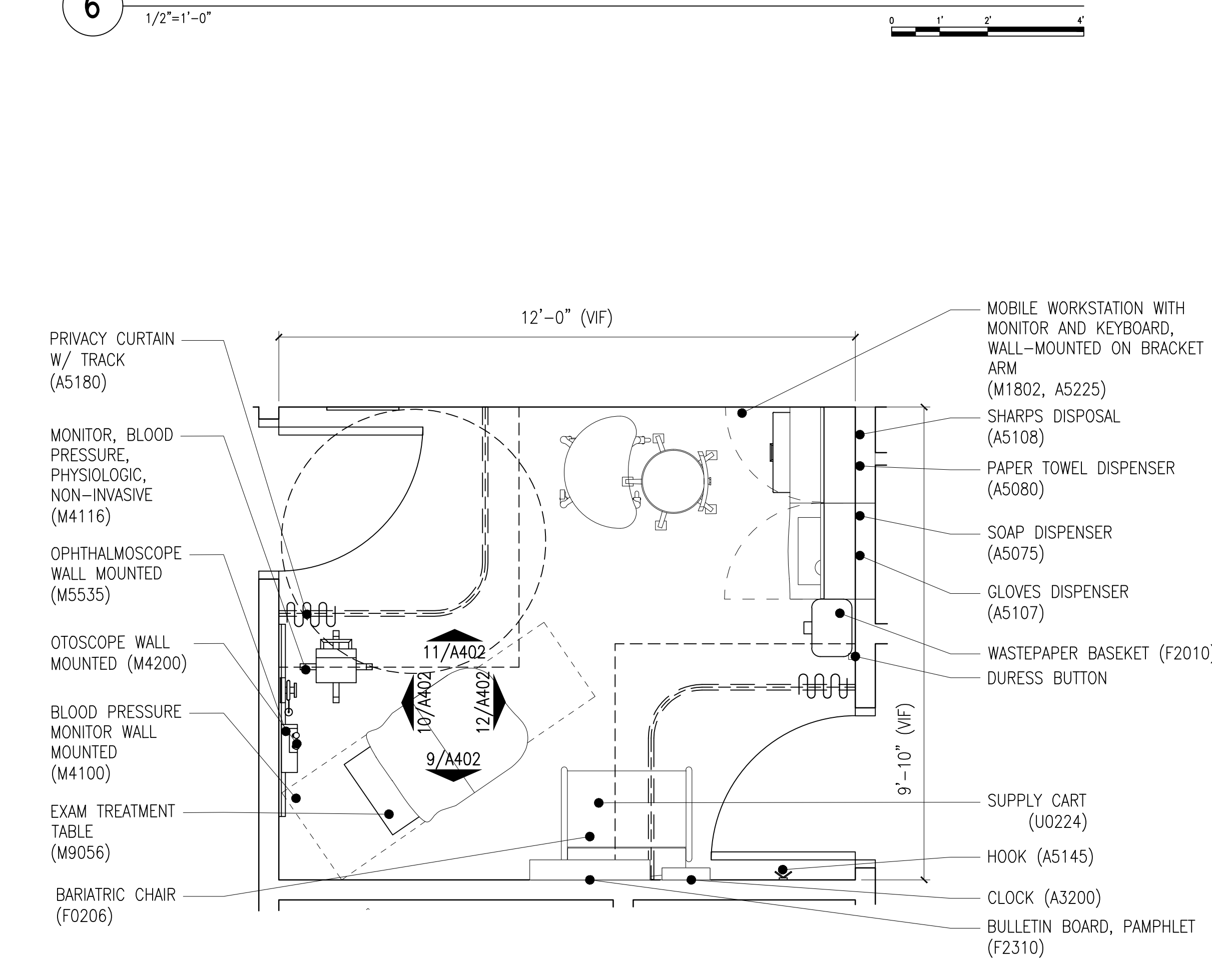
6 EXAM 147 - ROOM LAYOUT  
1/2"=1'-0"



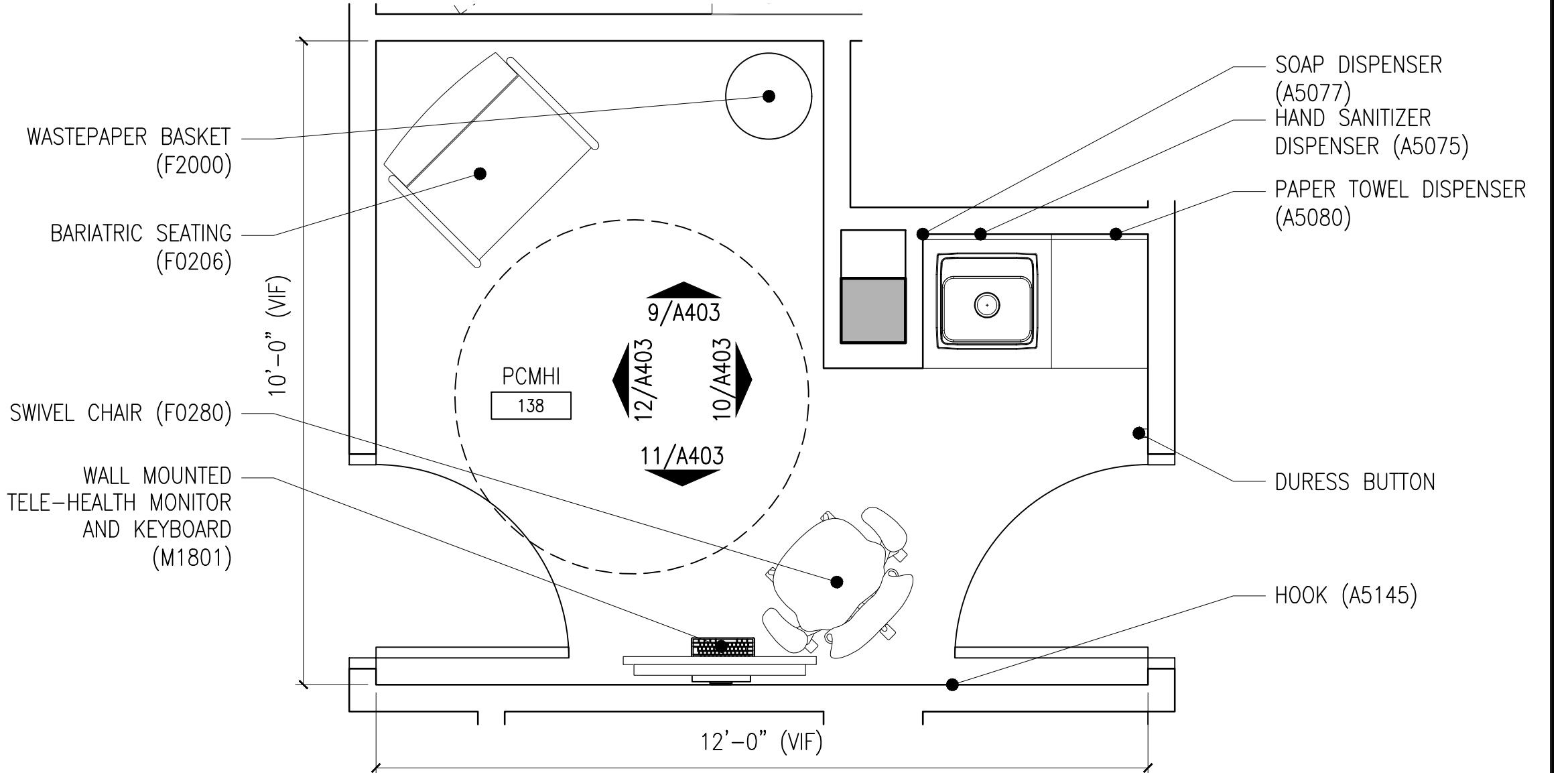
5 MEDICATION ROOM LAYOUT - 146  
1/2"=1'-0"



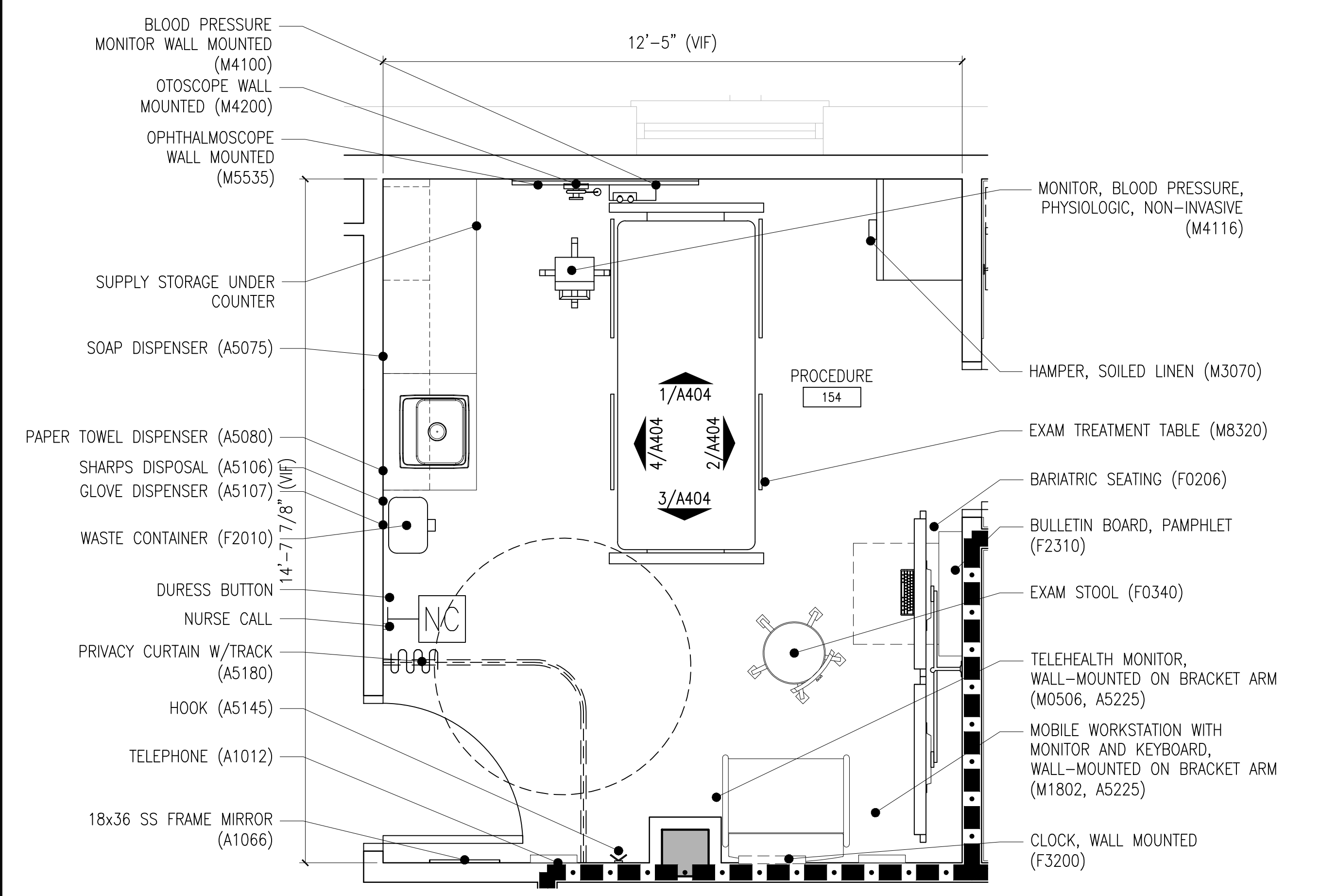
4 EXAM ROOM LAYOUT AT EXAM ROOMS: 2, 3, 13, 14  
1/2"=1'-0"



3 TYPICAL EXAM ROOM LAYOUT  
1/2"=1'-0"



2 PCMHI 138 - ROOM LAYOUT  
1/2"=1'-0"



1 PROCEDURE 154 - ROOM LAYOUT  
1/2"=1'-0"

**ENLARGED PLAN KEY NOTES**

- AREA NOT INCLUDED IN CONTRACT
- WALL OPENING TO BE INFILLED
- MASONRY PIER STRUCTURAL SUPPORT
- EXISTING CONCRETE COLUMN

NOTE: SEE ELECTRICAL/TECHNOLOGY DRAWINGS FOR PATIENT CALL BUTTONS, DURESS BUTTONS, NURSE CALL BUTTONS.

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No	REVISION DATE

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Architect under the laws of the State of Minnesota.  
 Print Name: DENNIS J MIKA  
 Signature: *[Signature]*  
 Date: 10-28-22 License # 56382

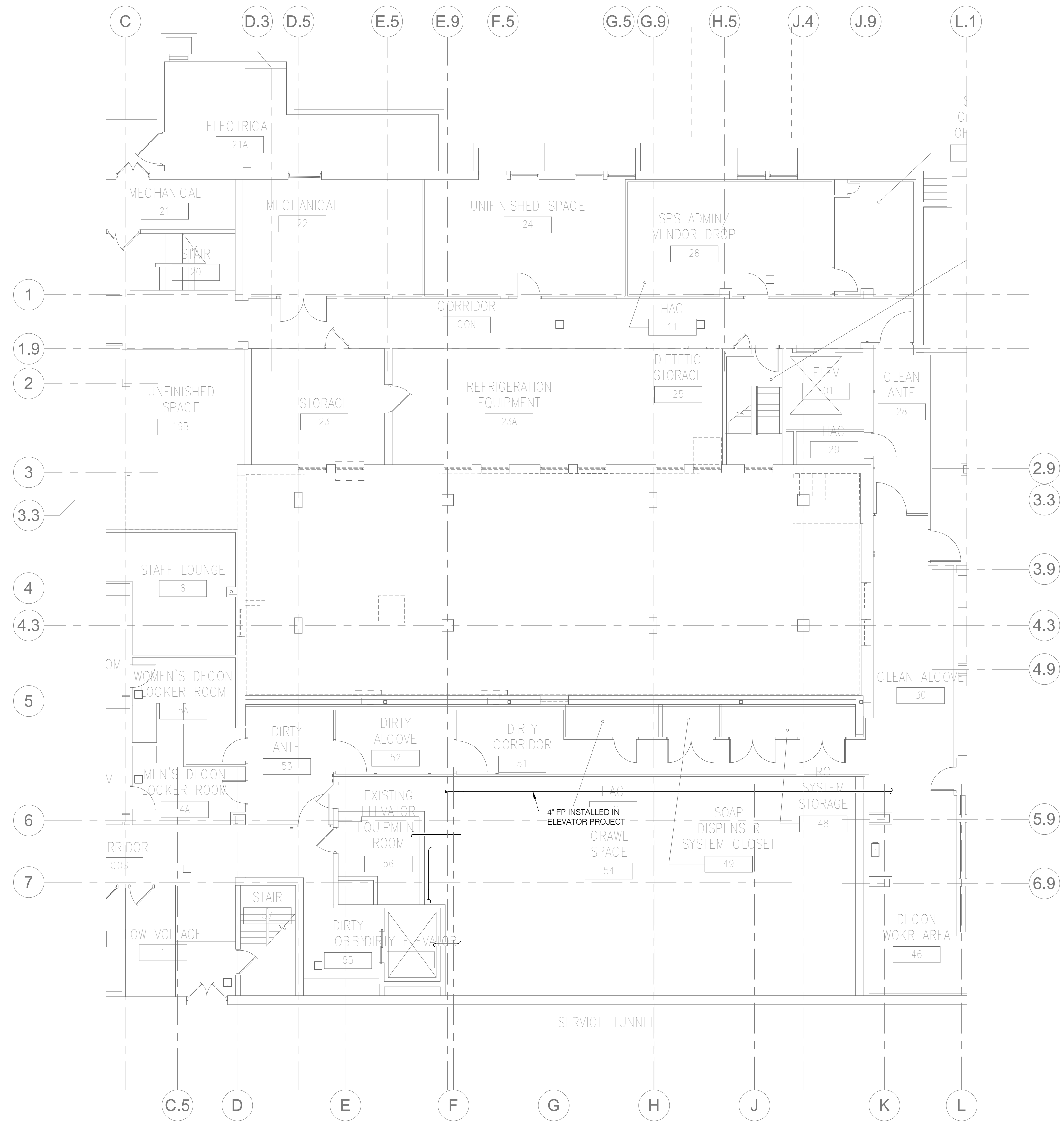
ARCHITECT/ENGINEER OF RECORD  
*[Signature]*  
 BANCROFT ARCHITECTS + ENGINEERS  
 700 Nicholas Blvd, Suite 300  
 Elk Grove Village, IL 60007  
 T: 847.952.9362  
 www.bancroft-ae.com  
 BAE PROJECT NO. 18-116

APPROVED PROJECT GDR	DATE:	APPROVED SERVICE LINE DIRECTOR	DATE:	APPROVED INFECTION CONTROL NURSE	DATE:
APPROVED GENR PROJECT MANAGER	DATE:	APPROVED PATIENT SAFETY	DATE:	APPROVED CHIEF OF POLICE	DATE:
APPROVED PROJECTS SECTION MANAGER	DATE:	APPROVED CHIEF OF STAFF	DATE:	APPROVED HEALTH CARE SYSTEM DIRECTOR	DATE:
APPROVED DIRECTOR PMS	DATE:	APPROVED SAFETY MANAGER	DATE:		

DRAWING TITLE	EQUIPMENT - TYPICAL ROOM LAYOUTS	PROJECT TITLE	CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR	DATE:	10/28/22
APPROVED ASSOCIATE HEALTH CARE SYSTEM DIRECTOR	DATE:	BUILDING No	4	CHECKED BY	DA
APPROVED CHIEF OF STAFF	DATE:	DRAWN	LC	DRAWING No	0200
APPROVED HEALTH CARE SYSTEM DIRECTOR	DATE:	LOCATION	ST. CLOUD VAHCS ST. CLOUD, MN 56303	DWG. OF	

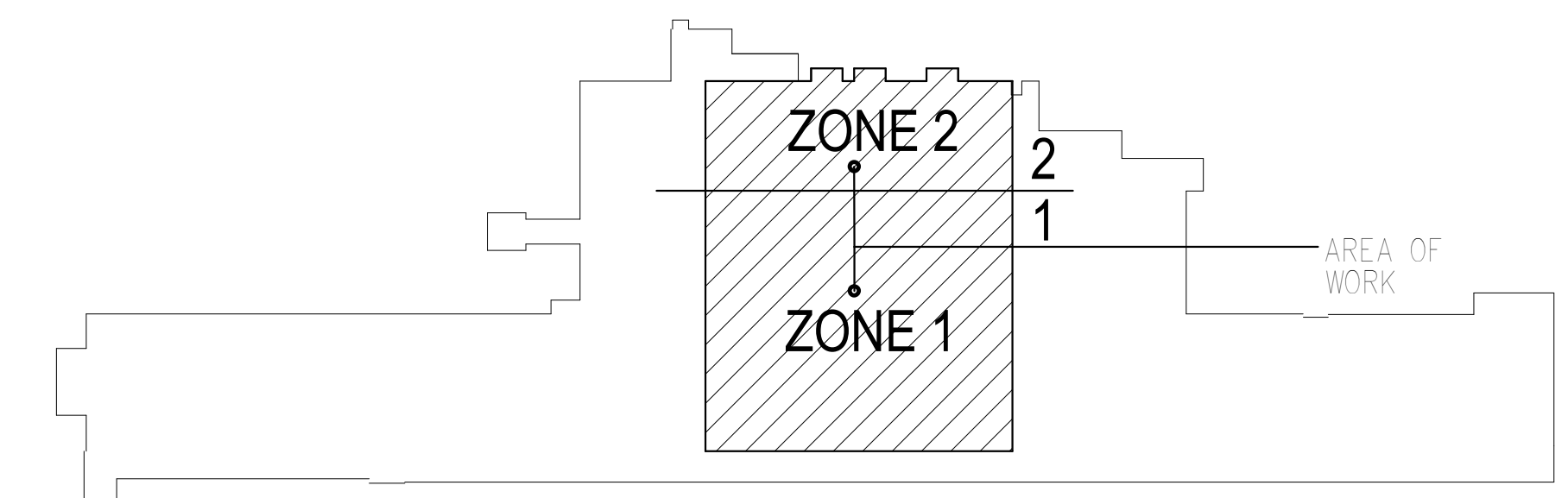






NOTE:  
NO DEMOLITION WORK IN THIS AREA.  
SHOWN FOR REFERENCE PURPOSES ONLY.

**1 FIRE PROTECTION - DEMOLITION PLAN - BASEMENT**  
1/8" = 1'-0"

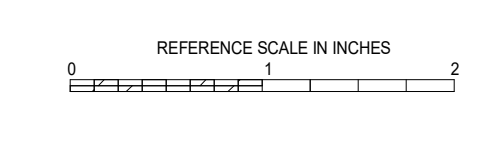


**KEY PLAN BUILDING 4**  
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No.	REVISION	DATE

**IMEG**  
3001 BROADWAY  
STREET NE, SUITE 601  
MINNEAPOLIS, MN  
55413  
PH: 612.540.5000  
www.imegcorp.com



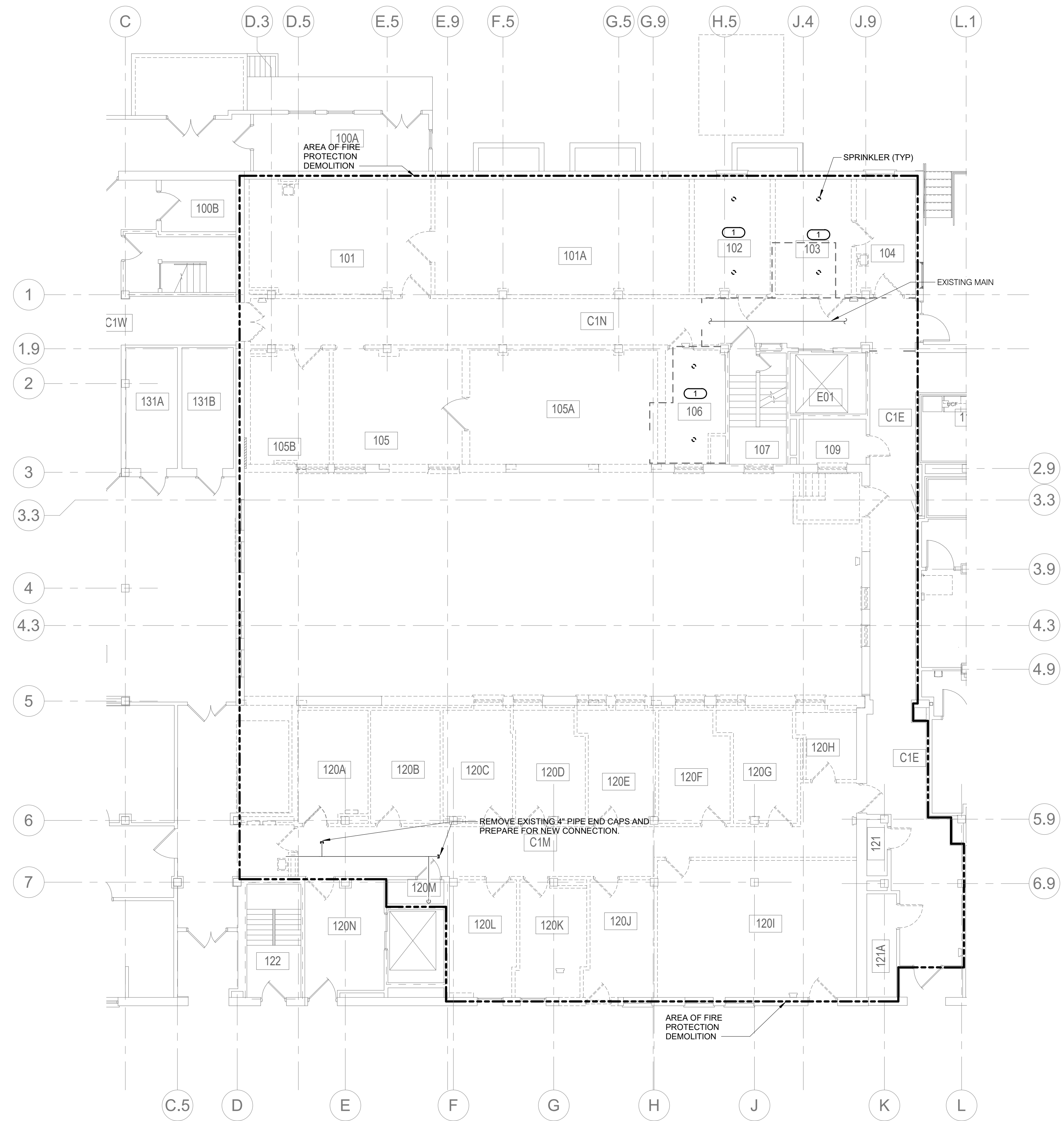
I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the state of Minnesota.  
Signature: *Robert Douglas Lowe*  
Typed or Printed Name: Robert Douglas Lowe  
Date: 10/28/2022 License Number: 24706

ARCHITECT/ENGINEER OF RECORD  
**Bancroft**  
BANCROFT ARCHITECTS + ENGINEERS  
700 Nichols Blvd, Suite 300  
Ely, Grove Village, IL 60007  
T: 847.952.9362 F: 847.952.9403  
www.bancroft-ae.com  
BAE PROJECT NO. 15-116

APPROVED PROJECT COP	DATE	APPROVED SERVICE LINE DIRECTOR	DATE	APPROVED INSPECTION CONTROL NUMBER	DATE
APPROVED GERM PROJECT MANAGER	DATE	APPROVED PATIENT SAFETY	DATE		
APPROVED PROJECTS SECTION MANAGER	DATE	APPROVED CHIEF OF POLICE	DATE		
APPROVED DIRECTOR FIN	DATE	APPROVED SAFETY MANAGER	DATE		

ISSUING TITLE <b>FIRE PROTECTION - DEMOLITION PLAN - BASEMENT</b>	PROJECT TITLE <b>CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR</b>	DATE <b>10/28/2022</b>
APPROVED ASSOCIATE HEALTH CARE SYSTEM DIRECTOR	PROJECT NO. <b>656-400</b>	DRAWING NO. <b>FD100</b>
APPROVED CHIEF OF STAFF	BUILDING NO. <b>4</b>	SECRETARY <b>NKJ</b>
APPROVED HEALTH CARE SYSTEM DIRECTOR	LOCATION <b>ST. CLOUD VAHCS ST. CLOUD, MN 56303</b>	DRAWN BY <b>TGE</b>

**VA** U.S. Department of Veterans Affairs  
Veterans Health Administration  
St. Cloud VA Health Care System



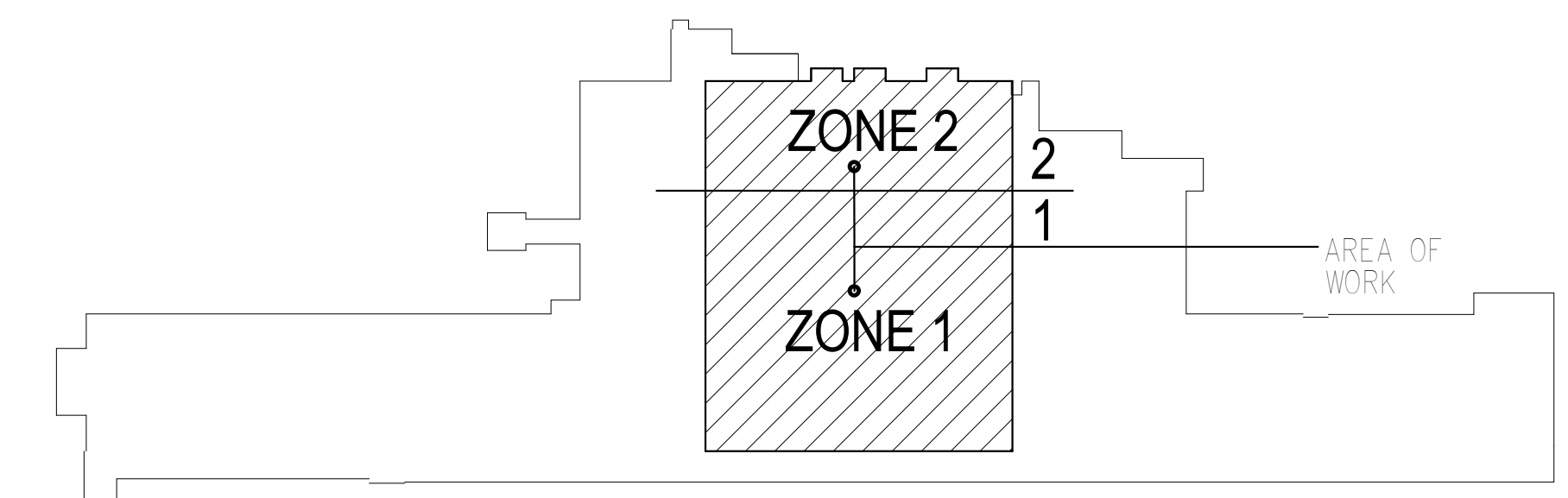
**SHEET NOTES:**

- WITHIN THE AREA OF FIRE PROTECTION DEMOLITION REMOVE ALL SPRINKLER HEADS, BRANCH LINES, HANGERS, ETC. CAP PIPING AT MAINS.
- AREAS OUTSIDE THE DEFINED AREA OF FIRE PROTECTION DEMOLITION ARE OUTSIDE THE PRIMARY SCOPE OF WORK BUT MAY HAVE INCIDENTAL RELATED WORK PASSING THROUGH OR AT THE BOUNDARY.
- AREAS OUTSIDE THE AREA OF FIRE PROTECTION DEMOLITION ARE OCCUPIED AND SPRINKLER SYSTEMS SHALL REMAIN OPERATIONAL THROUGHOUT CONSTRUCTION. ANY SHUT-DOWNS SHALL BE COORDINATED WITH COR. CONTRACTOR SHALL BE RESPONSIBLE FOR FIRE WATCH DURING ANY SHUT-DOWNS.

**KEYNOTES:**

- REMOVE SPRINKLERS AND PIPING. CAP PIPING AT MAIN. PROVIDE FIRE WATCH PER NFPA FOR OCCUPIED AREAS SERVED BY SPRINKLER SYSTEMS DURING REQUIRED SHUT-DOWNS.

**1 FIRE PROTECTION - DEMOLITION PLAN - FIRST FLOOR**  
 1/8" = 1'-0"

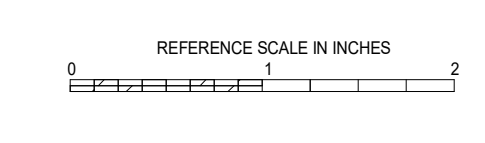


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 PH: 612.540.5000  
 www.imegcorp.com



I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the state of Minnesota.  
 Signature: *Robert Douglas Lowe*  
 Typed or Printed Name: Robert Douglas Lowe  
 Date: 10/28/2022 License Number: 24706

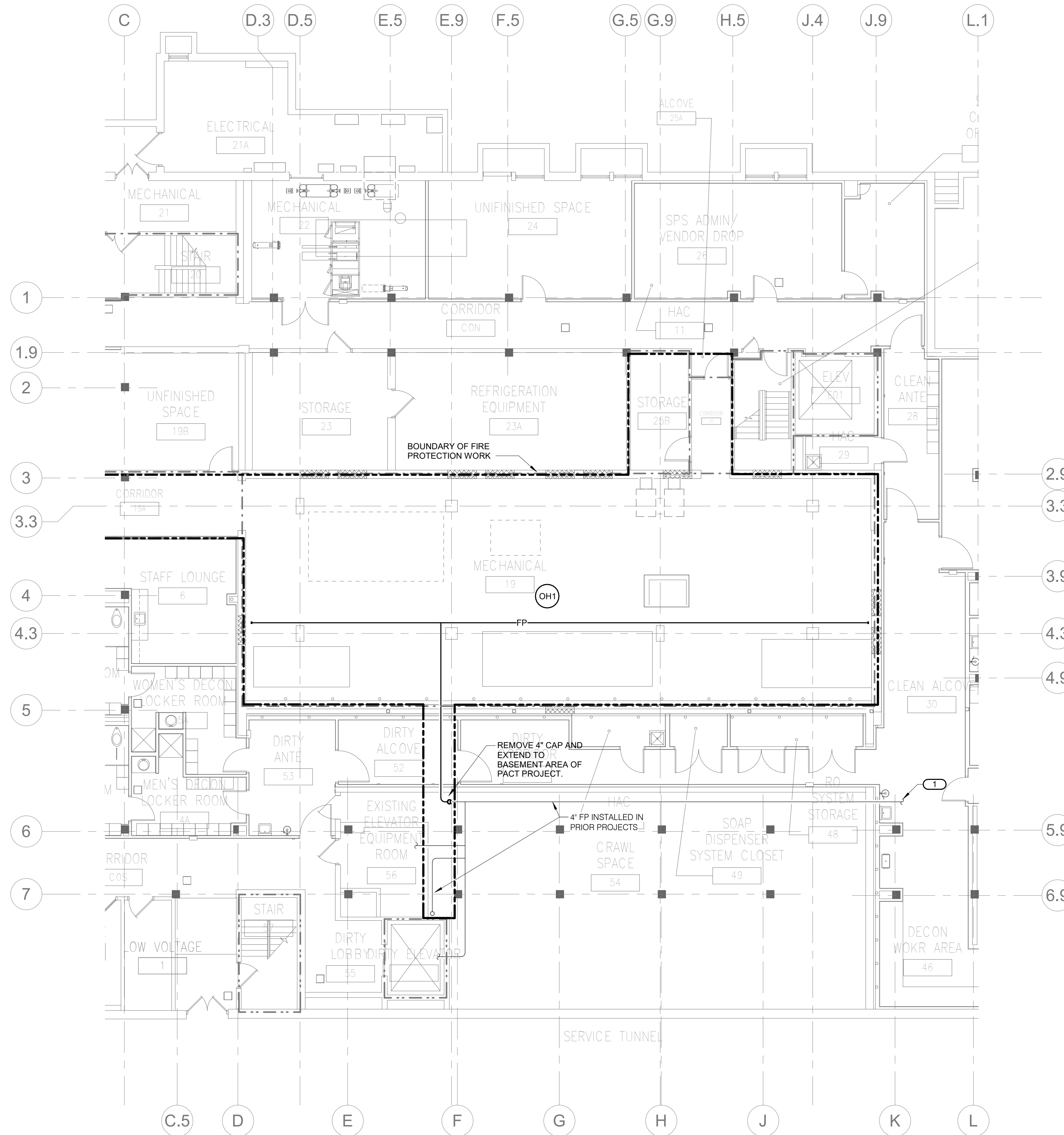
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 Elk Grove Village, IL 60007  
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 BAE PROJECT NO. 15-116

APPROVED PROJECT COR:	DATE:	APPROVED SERVICE LINE DIRECTOR:	DATE:	APPROVED INFECTION CONTROL NURSE:	DATE:
APPROVED GEN. PROJECT MANAGER:	DATE:	APPROVED PATIENT SAFETY:	DATE:	APPROVED HEALTH CARE SYSTEM DIRECTOR:	DATE:
APPROVED PROJECTS SECTION MANAGER:	DATE:	APPROVED CHIEF OF POLICE:	DATE:	APPROVED CHIEF OF STAFF:	DATE:
APPROVED DIRECTOR FIN:	DATE:	APPROVED SAFETY MANAGER:	DATE:	APPROVED HEALTH CARE SYSTEM DIRECTOR:	DATE:

DRAWING TITLE	DATE	PROJECT TITLE	DATE
FIRE PROTECTION - DEMOLITION PLAN - FIRST FLOOR	10/28/2022	CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR	10/28/2022
PROJ. NO. 656-400		DRAWING NO. FD101	
BUILDING NO. 4	PROJ. MGR. NKJ	DRAWN BY TGE	
LOCATION ST. CLOUD VAHCS ST. CLOUD, MN 56303		DWG. OF	

**VA**  
 U.S. Department of Veterans Affairs  
 Veterans Health Administration  
 St. Cloud VA Health Care System



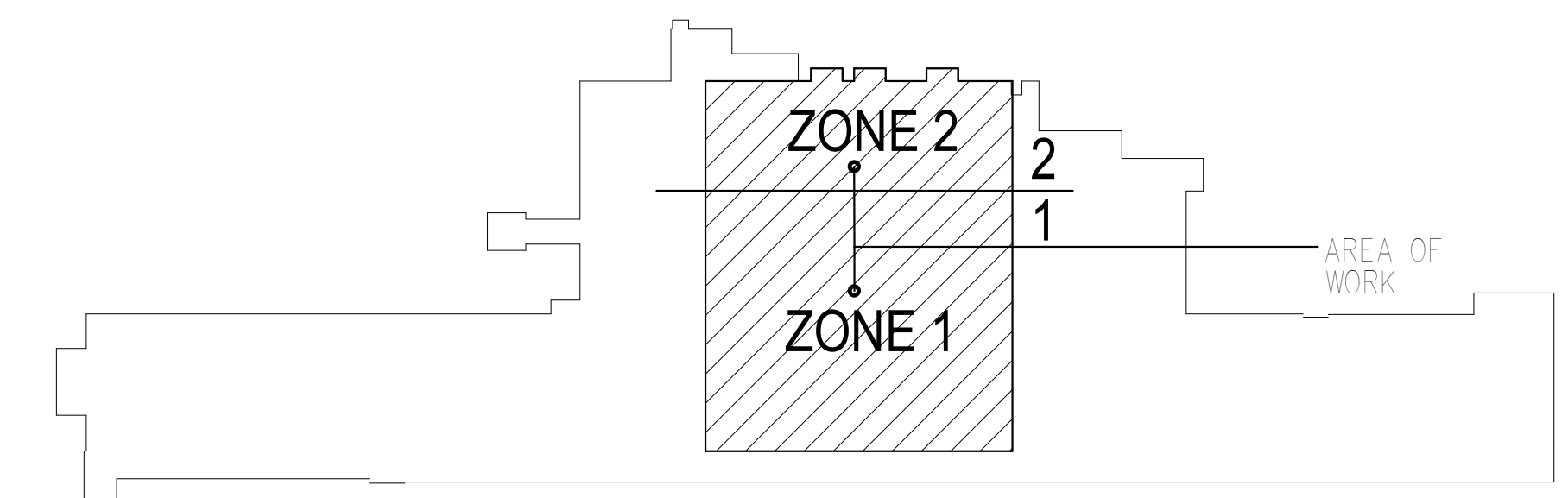
**SHEET NOTES:**

- WITHIN THE AREA OF FIRE PROTECTION WORK, PROVIDE A COMPLETE FIRE SPRINKLER INSTALLATION SUCH THAT THE AREA WILL BE CONSIDERED SPRINKLERED THROUGHOUT IN ACCORDANCE WITH THE MINNESOTA FIRE CODE.
- PIPE ROUTING WHICH RESULTS IN PIPING BELOW FINISHED CEILING IN FINISHED AREAS MUST RECEIVE APPROVAL BY THE ARCHITECT PRIOR TO INSTALLATION.
- USE OF NON SPECIFIED SPRINKLERS MUST RECEIVE APPROVAL BY ENGINEER PRIOR TO INSTALLATION.
- DIVISION 21 CONTRACTOR SHALL BE RESPONSIBLE TO SURVEY EXISTING CONDITIONS, DETERMINE HYDRAULICALLY REMOTE AREAS, OBTAIN FLOW TEST DATA, AND SUBMIT HYDRAULIC CALCULATIONS TO ALL AUTHORITIES HAVING JURISDICTION. SEE SPECIFICATIONS FOR SPECIFIC HYDRAULIC CALCULATION REQUIREMENTS.
- DIVISION 21 CONTRACTOR SHALL BE RESPONSIBLE FOR THE CORE DRILLING, CUTTING, PATCH AND REPAIR OF ALL SURFACES NECESSARY FOR THE INSTALLATION OF ITEMS INSTALLED AS PART OF THE DIVISION 21 CONTRACT. PATCH AND REPAIR TO MATCH SURROUNDING SURFACE.
- SPRINKLER HEAD AND PIPING LAYOUT SHALL BE DETERMINED BY DIVISION 21 CONTRACTOR. DIVISION 21 CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE ALL PIPE ROUTING WITH OTHER TRADES AND BUILDING CONFIGURATION.
- REFER TO ARCHITECTURAL DRAWINGS FOR CURRENT REFLECTED CEILING PLAN INFORMATION.
- AREAS OUTSIDE THE AREA OF FIRE PROTECTION WORK ARE OCCUPIED AND SPRINKLER SYSTEMS SHALL REMAIN OPERATIONAL THROUGHOUT CONSTRUCTION. ANY SHUT-DOWNS SHALL BE COORDINATED WITH COR. CONTRACTOR SHALL BE RESPONSIBLE FOR FIRE WATCH DURING ANY SHUT-DOWNS.
- ALL AREAS TO BE CONSIDERED LIGHT HAZARD UNLESS NOTED OTHERWISE.
- FIRE PROTECTION CONTRACTOR SHALL DESIGN AND INSTALL A SYSTEM IN COMPLIANCE WITH NFPA 13 AND NFPA 24. REFER TO 21 13 13 FOR ADDITIONAL REQUIREMENTS, INCLUDING RECORD DOCUMENTATION, TESTING AND INSPECTION.
- REFER TO 21 08 00 FOR COMMISSIONING REQUIREMENTS.

**KEYNOTES:** (E)

- EXISTING 4\"/>

**1 FIRE PROTECTION - PLAN - BASEMENT**  
 1/8\"/>



**KEY PLAN BUILDING 4**  
 NTS

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 55413  
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 www.imegcorp.com

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the state of Minnesota.

Signature: *Robert Douglas Lowe*  
 Typed or Printed Name: Robert Douglas Lowe  
 Date: 10/28/2022 License Number: 24706

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 www.bancroft-ar.com  
 BAE PROJECT NO. 18-116

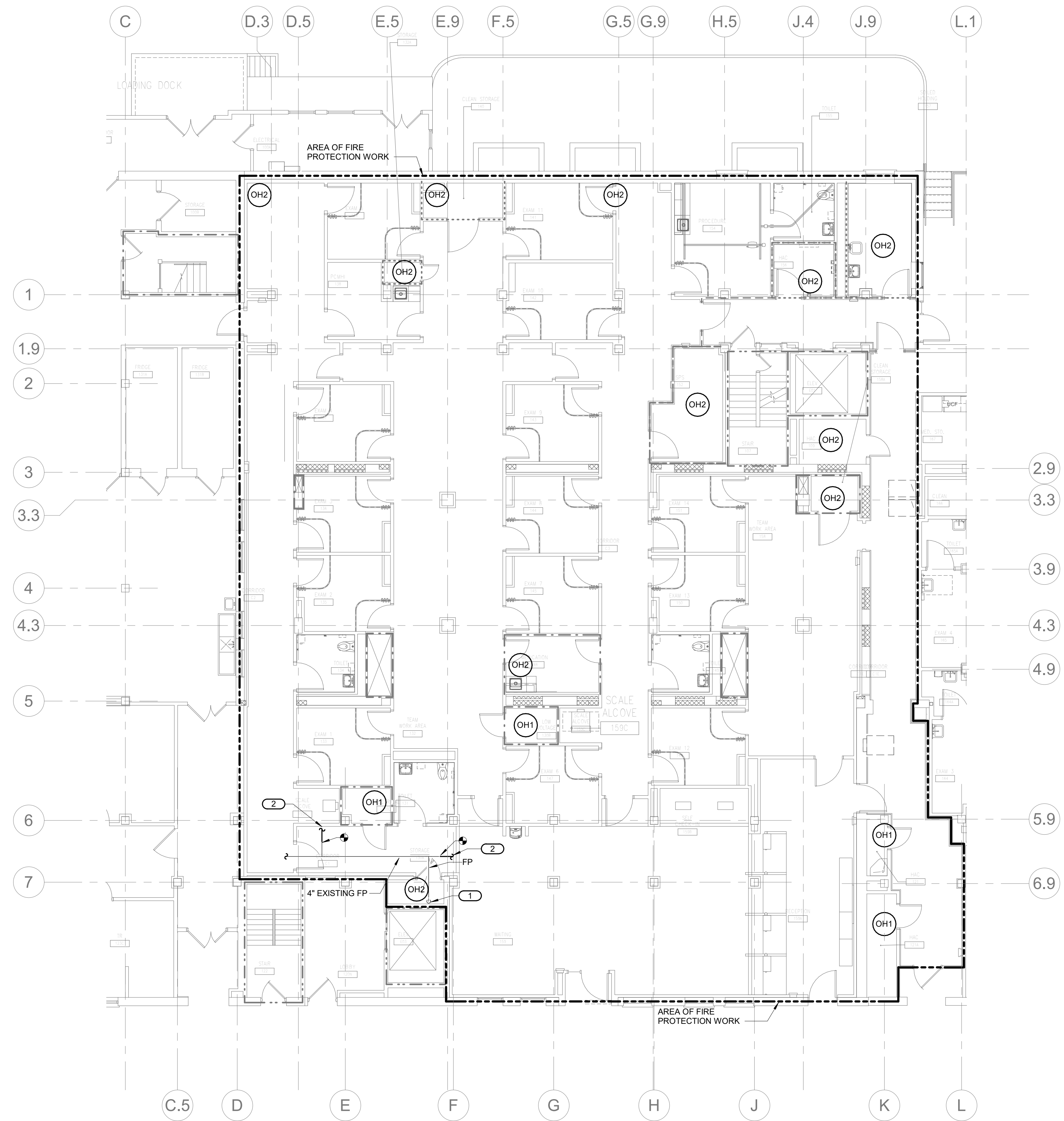
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ISSUING TITLE	DATE	PROJECT TITLE	DATE
FIRE PROTECTION - PLAN - BASEMENT	10/28/2022	CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR	10/28/2022

APPROVED ASSOCIATE HEALTH CARE SYSTEM DIRECTOR	DATE	APPROVED CHIEF OF STAFF	DATE

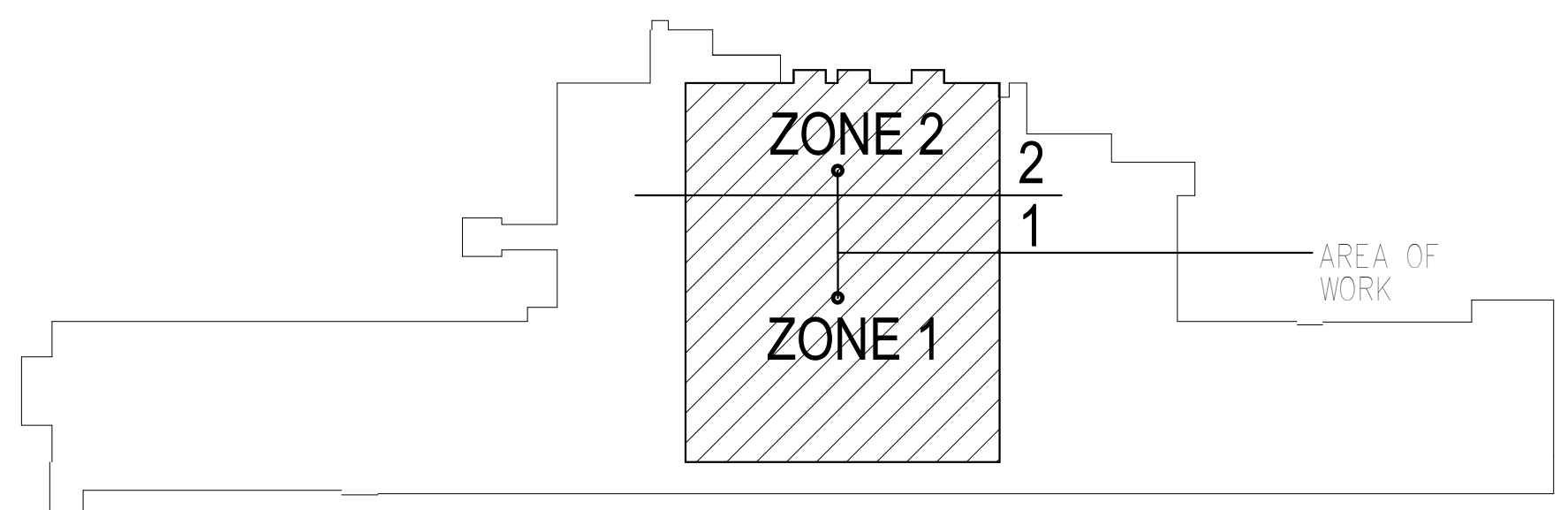
U.S. Department of Veterans Affairs  
 Veterans Health Administration  
 St. Cloud VA Health Care System





- SHEET NOTES:**
1. WITHIN THE AREA OF FIRE PROTECTION WORK, PROVIDE A COMPLETE FIRE SPRINKLER INSTALLATION SUCH THAT THE AREA WILL BE CONSIDERED SPRINKLERED THROUGHOUT IN ACCORDANCE WITH THE MINNESOTA FIRE CODE.
  2. PIPE ROUTING WHICH RESULTS IN PIPING BELOW FINISHED CEILING IN FINISHED AREAS MUST RECEIVE APPROVAL BY THE ARCHITECT PRIOR TO INSTALLATION.
  3. USE OF NON SPECIFIED SPRINKLERS MUST RECEIVE APPROVAL BY ENGINEER PRIOR TO INSTALLATION.
  4. DIVISION 21 CONTRACTOR SHALL BE RESPONSIBLE TO SURVEY EXISTING CONDITIONS, DETERMINE HYDRAULICALLY REMOTE AREAS, OBTAIN FLOW TEST DATA, AND SUBMIT HYDRAULIC CALCULATIONS TO ALL AUTHORITIES HAVING JURISDICTION. SEE SPECIFICATIONS FOR SPECIFIC HYDRAULIC CALCULATION REQUIREMENTS.
  5. DIVISION 21 CONTRACTOR SHALL BE RESPONSIBLE FOR THE CORE DRILLING, CUTTING, PATCH AND REPAIR OF ALL SURFACES NECESSARY FOR THE INSTALLATION OF ITEMS INSTALLED AS PART OF THE DIVISION 21 CONTRACT. PATCH AND REPAIR TO MATCH SURROUNDING SURFACE.
  6. SPRINKLER HEAD AND PIPING LAYOUT SHALL BE DETERMINED BY DIVISION 21 CONTRACTOR. DIVISION 21 CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE ALL PIPE ROUTINGS WITH OTHER TRADES AND BUILDING CONFIGURATION.
  7. REFER TO ARCHITECTURAL DRAWINGS FOR CURRENT REFLECTED CEILING PLAN INFORMATION.
  8. AREAS OUTSIDE THE AREA OF FIRE PROTECTION WORK ARE OCCUPIED AND SPRINKLER SYSTEMS SHALL REMAIN OPERATIONAL THROUGHOUT CONSTRUCTION. ANY SHUT-DOWNS SHALL BE COORDINATED WITH COR. CONTRACTOR SHALL BE RESPONSIBLE FOR FIRE WATCH DURING ANY SHUT-DOWNS.
  9. ALL AREAS TO BE CONSIDERED LIGHT HAZARD UNLESS NOTED OTHERWISE.
  10. FIRE PROTECTION CONTRACTOR SHALL DESIGN AND INSTALL A SYSTEM IN COMPLIANCE WITH NFPA 13 AND NFPA 24. REFER TO 21 13 13 FOR ADDITIONAL REQUIREMENTS, INCLUDING RECORD DOCUMENTATION, TESTING AND INSPECTION.
  11. REFER TO 21 08 00 FOR COMMISSIONING REQUIREMENTS.
- KEYNOTES: (C-E)**
1. EXISTING FIRE PROTECTION MAN UP FROM BASEMENT.
  2. EXTEND EXISTING ZONE PIPING TO PROVIDE SPRINKLER COVERAGE FOR PACT.

**1 FIRE PROTECTION - PLAN - FIRST FLOOR**  
 1/8" = 1'-0"

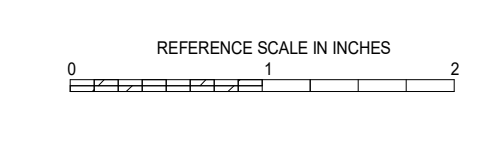


**KEY PLAN BUILDING 4**  
 NTS

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ISSUE FOR 100% CONSTRUCTION DOCUMENTS	10/28/22
No.	REVISION
	DATE

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 55413  
 PH: 612.540.5000  
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 BAE PROJECT NO. 18-116

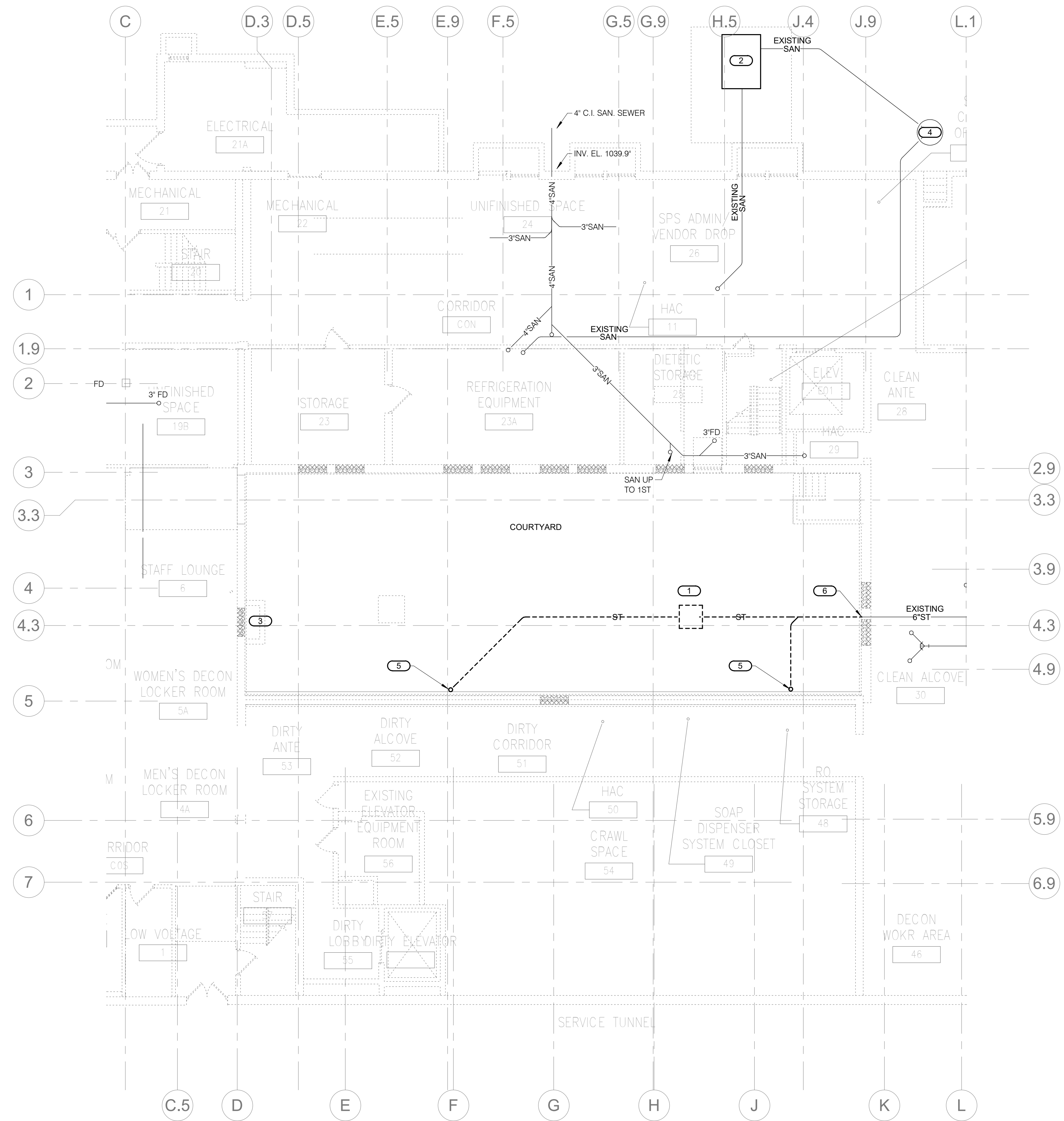
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APPROVED GENS PROJECT MANAGER	DATE	APPROVED PATIENT SAFETY	DATE	APPROVED HEALTH-CARE SYSTEM DIRECTOR	DATE
APPROVED PROJECTS SECTION MANAGER	DATE	APPROVED CHIEF OF POLICE	DATE	APPROVED CHIEF OF STAFF	DATE
APPROVED DIRECTOR FIN	DATE	APPROVED SAFETY MANAGER	DATE	APPROVED HEALTH-CARE SYSTEM DIRECTOR	DATE

DRAWING TITLE	FIRE PROTECTION - PLAN - FIRST FLOOR	DATE	10/28/2022
PROJECT TITLE	CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR	PROJ NO.	656-400
BUILDING No.	4	DESIGNER	TGE
PROJECT No.	NKJ	DRAWING No.	F101
LOCATION	ST. CLOUD VAHCS ST. CLOUD, MN 56303	DWG. OF	

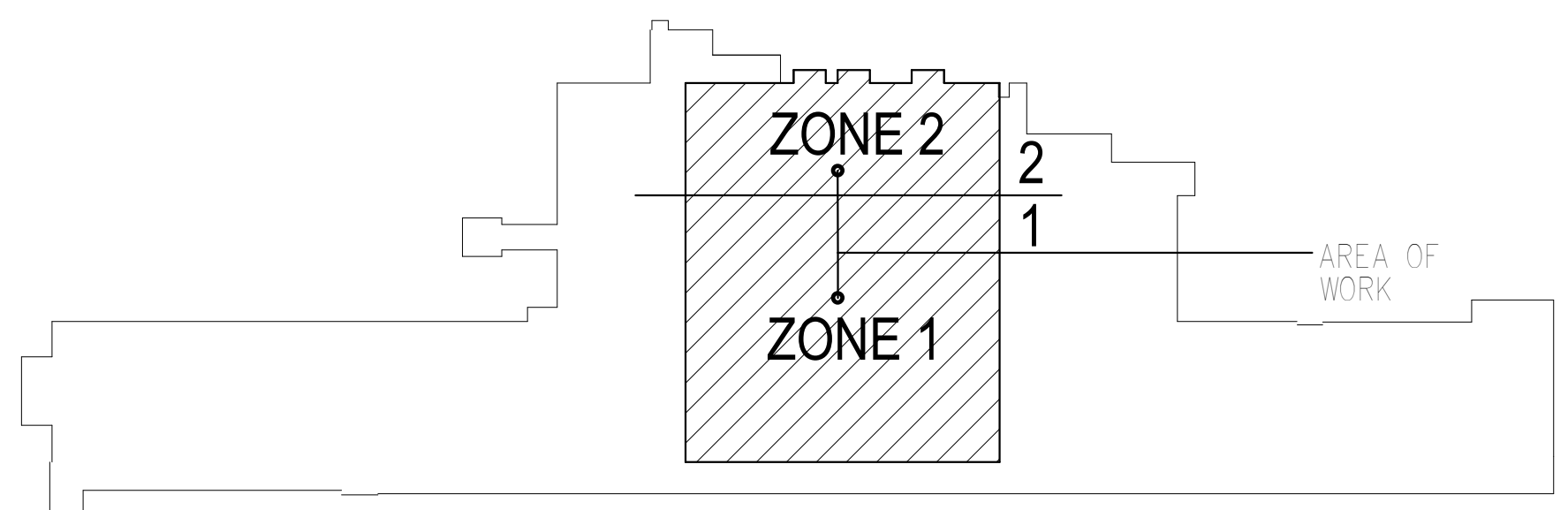
**VA**  
 U.S. Department of Veterans Affairs  
 Veterans Health Administration  
 St. Cloud VA Health Care System



- SHEET NOTES:**
- ALL DEMOLISHED PIPING SHALL BE REMOVED BACK TO SOURCE AND TERMINATED IN A METHOD THAT LEAVES NO DEAD ENDS.
- KEYNOTES: C #**
- REMOVE CATCH BASIN AND RELATED PIPING. REMOVE DOWNSPOUT PIPING UP TO CHANGE IN MATERIAL.
  - APPROXIMATE LOCATION OF GREASE TRAP. REMOVE GREASE TRAP.
  - REMOVE AREA DRAIN AND PIPING. CAP PIPING AT MAIN.
  - APPROXIMATE LOCATION OF EXISTING MANHOLE.
  - REMOVE 4"ST DOWNSPOUT PIPING UP AND WHERE CHANGE IN PIPE MATERIAL.
  - REMOVE 6"ST BACK TO THIS POINT AND PREPARE TO NEW CONNECTION.



**1 PLUMBING - DEMOLITION PLAN - BASEMENT UNDERFLOOR**  
 1/8" = 1'-0"

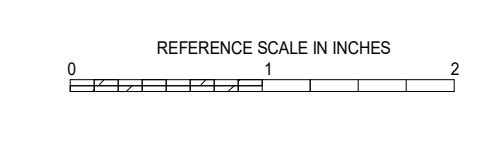


**KEY PLAN BUILDING 4**  
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 BAE PROJECT NO. 15-116

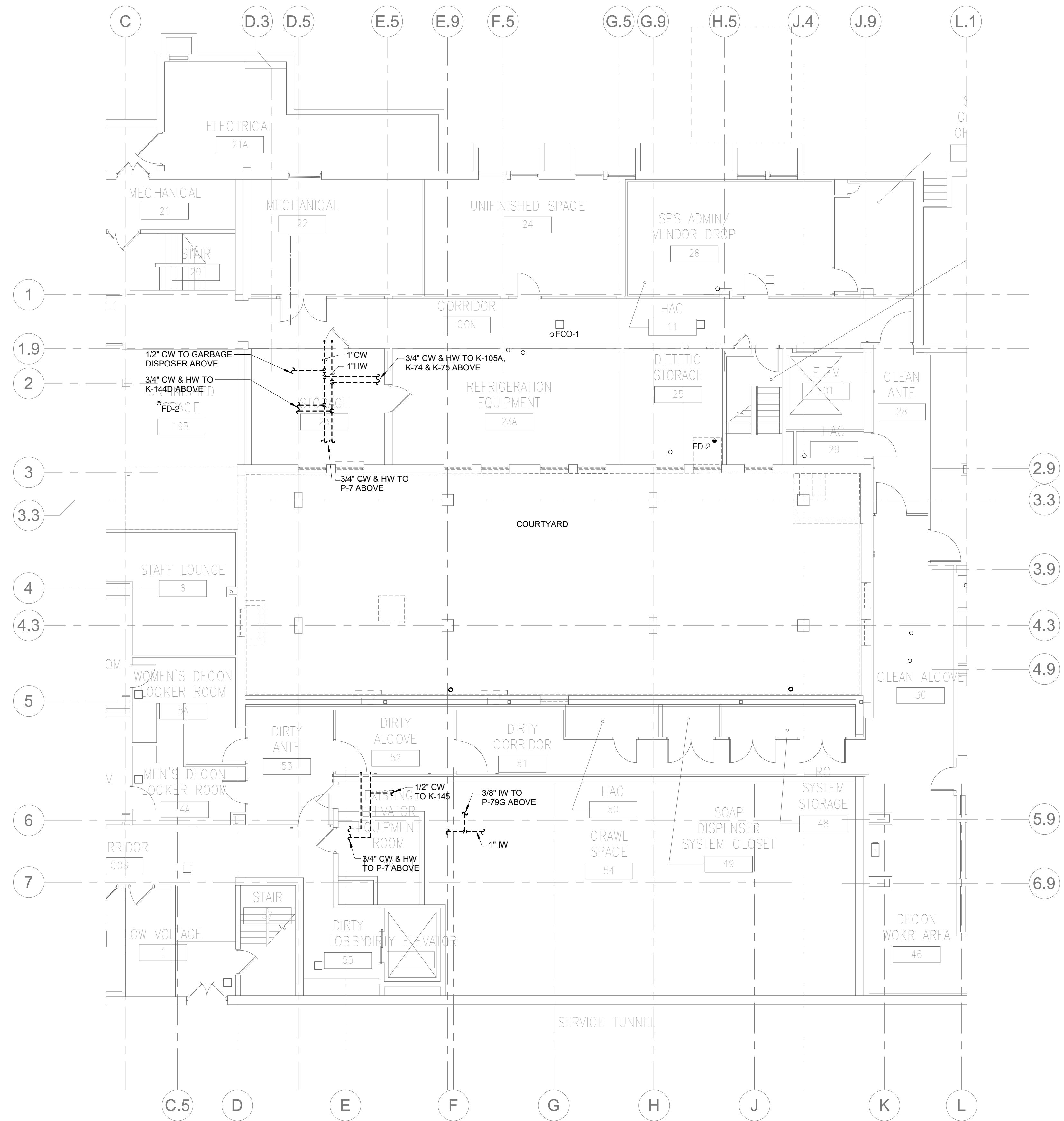
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APPROVED GERM PROJECT MANAGER	DATE	APPROVED PATIENT SAFETY	DATE	APPROVED ASSOCIATE HEALTH CARE SYSTEM DIRECTOR	DATE
APPROVED PROJECTS SECTION MANAGER	DATE	APPROVED CHIEF OF POLICE	DATE	APPROVED CHIEF OF STAFF	DATE
APPROVED DIRECTOR FIN	DATE	APPROVED SAFETY MANAGER	DATE	APPROVED HEALTH CARE SYSTEM DIRECTOR	DATE

DRAWING TITLE <b>PLUMBING - DEMOLITION PLAN - BASEMENT UNDERFLOOR</b>	DATE <b>10/28/2022</b>
PROJECT TITLE <b>CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR</b>	PROJECT NO. <b>656-400</b>
PROJECT NO. <b>656-400</b>	DRAWING NO. <b>PDU100</b>
BUILDING No. <b>4</b>	SECRETARY <b>NKJ</b>
LOCATION <b>ST. CLOUD VAHCS ST. CLOUD, MN 56303</b>	DWG. OF

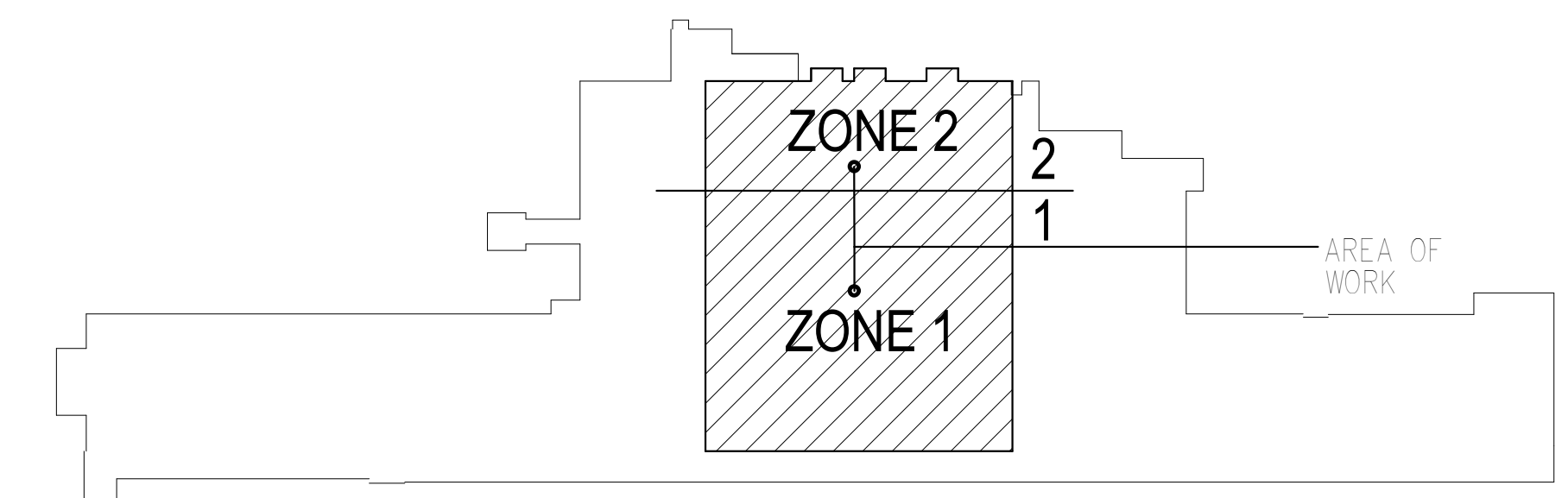
**VA**  
 U.S. Department of Veterans Affairs  
 Veterans Health Administration  
 St. Cloud VA Health Care System

**SHEET NOTES:**  
 1. ALL DEMOLISHED PIPING SHALL BE REMOVED BACK TO SOURCE AND TERMINATED IN A METHOD THAT LEAVES NO DEAD ENDS.

**KEYNOTES: C #**  
 1. .



**1 PLUMBING - DEMOLITION PLAN - BASEMENT**  
 1/8" = 1'-0"

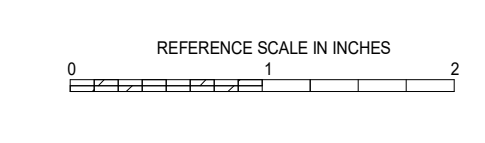


**KEY PLAN BUILDING 4**  
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 BAE PROJECT NO. 15-116

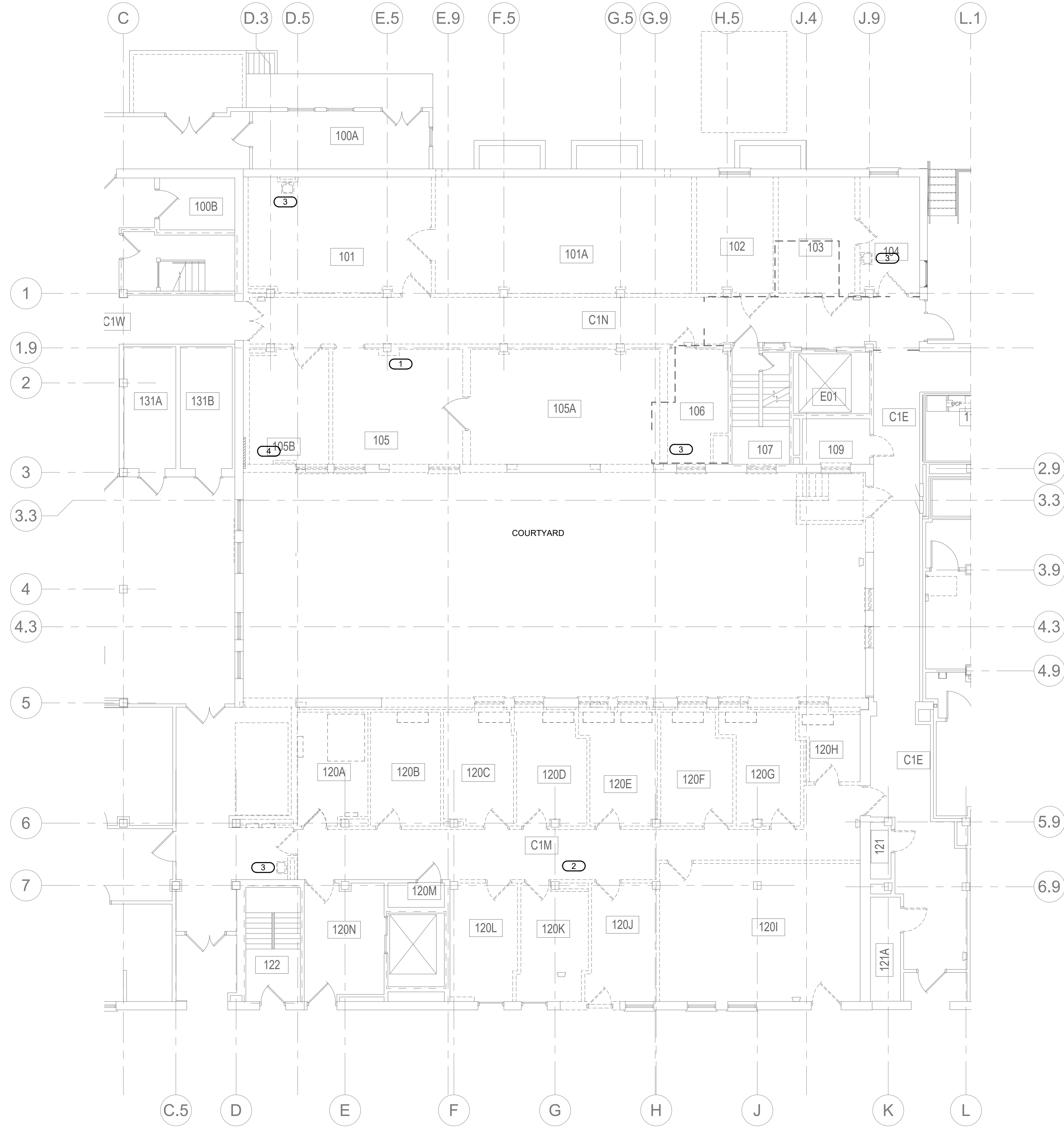
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ISSUING TITLE	DATE	PROJECT TITLE	DATE	DWG. NO.
PLUMBING - DEMOLITION PLAN - BASEMENT <td>10/28/2022 <td>CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR <td>10/28/2022 <td>PD100 </td></td></td></td>	10/28/2022 <td>CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR <td>10/28/2022 <td>PD100 </td></td></td>	CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR <td>10/28/2022 <td>PD100 </td></td>	10/28/2022 <td>PD100 </td>	PD100

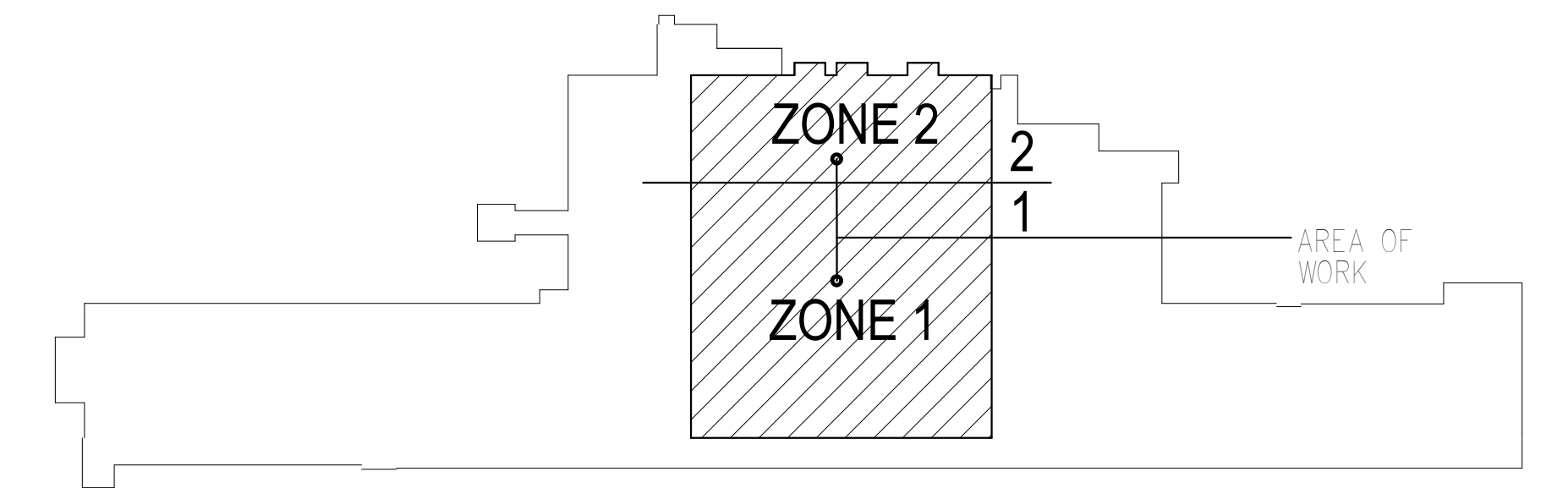
**VA**  
 U.S. Department of Veterans Health Administration  
 St. Cloud VA Health Care System

**SHEET NOTES:**  
 1. ALL DEMOLISHED PIPING SHALL BE REMOVED BACK TO SOURCE AND TERMINATED IN A METHOD THAT LEAVES NO DEAD ENDS.

**KEYNOTES: (C #)**  
 1. REMOVE EXISTING FLOOR SINKS AND H & CW WATER PIPING. CAP PIPING AT MAINS.  
 2. REMOVE EXISTING EWC AND PIPING. CAP PIPING AT MAINS.  
 3. REMOVE EXISTING SINK AND PIPING ABOVE FLOOR. PIPING BELOW FLOOR SLAB DEMOED IN PREVIOUS PROJECT.  
 4. REMOVE EXISTING SINK, CART WASH EQUIPMENT, AND PIPING. CAP PIPING AT MAINS.



**1 PLUMBING - DEMOLITION PLAN - FIRST FLOOR**  
 1/8" = 1'-0"  
 NORTH

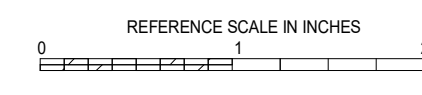


**KEY PLAN BUILDING 4**  
 NORTH

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No.	REVISION	DATE
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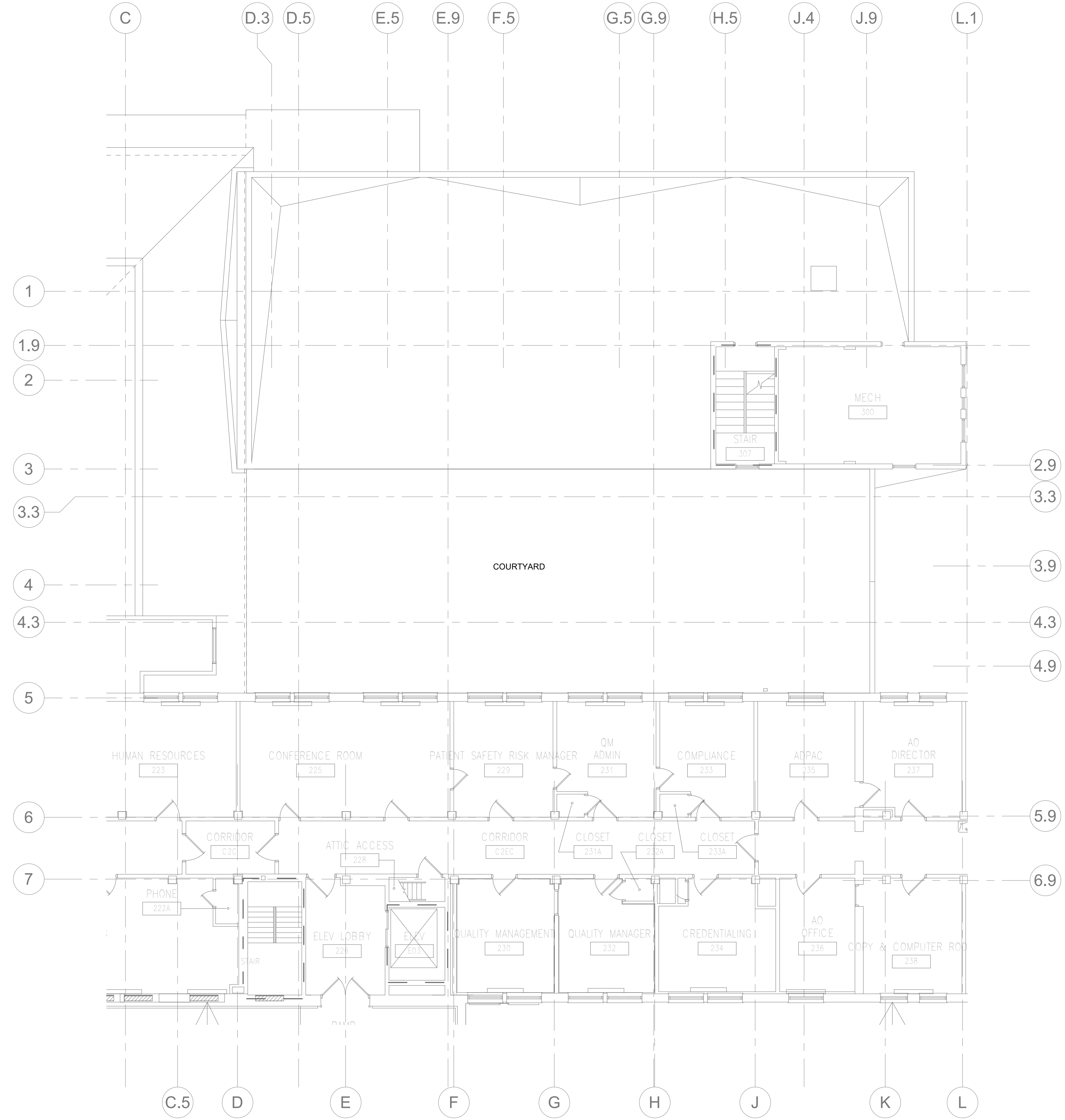


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APPROVED GEM PROJECT MANAGER	DATE	APPROVED PATIENT SAFETY	DATE	APPROVED HEALTH CARE SYSTEM DIRECTOR	DATE
APPROVED PROJECTS SECTION MANAGER	DATE	APPROVED CHIEF OF POLICE	DATE	APPROVED CHIEF OF STAFF	DATE
APPROVED DIRECTOR FIN	DATE	APPROVED SAFETY MANAGER	DATE	APPROVED HEALTH CARE SYSTEM DIRECTOR	DATE

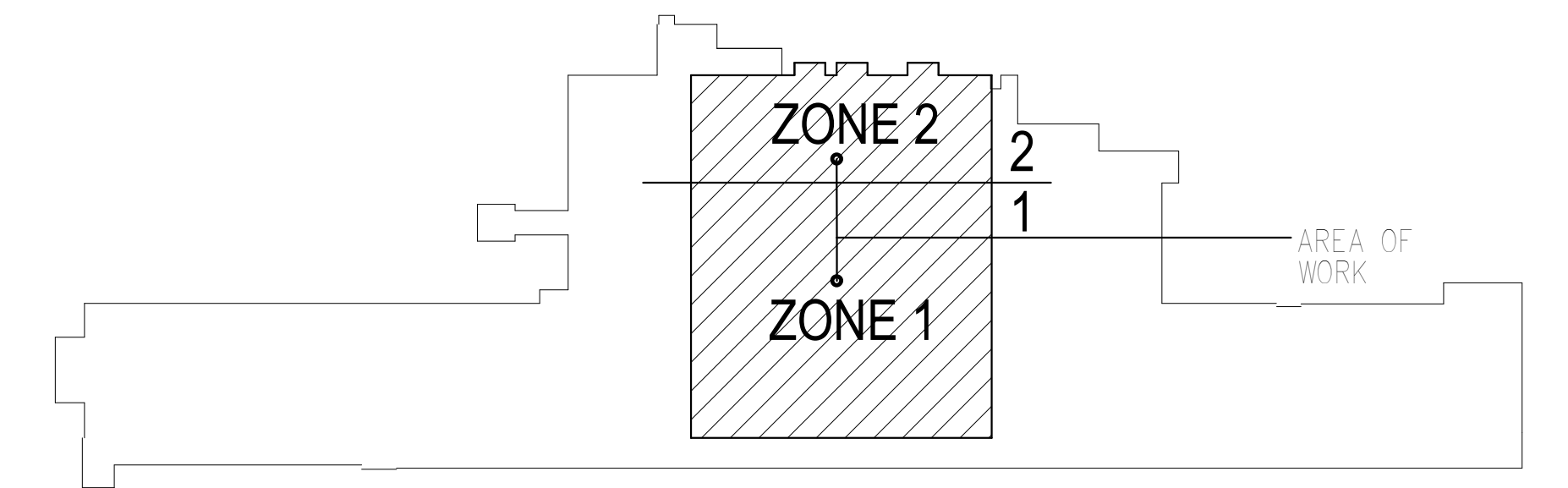
DRAWING TITLE <b>PLUMBING - DEMOLITION PLAN - FIRST FLOOR</b>	PROJECT TITLE <b>CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR</b>	DATE 10/28/2022
BUILDING No. 4	DESIGNER NKJ	DRAWING No. PD101

**VA**  
 U.S. Department of Veterans Affairs  
 Veterans Health Administration  
 St. Cloud VA Health Care System  
 ST. CLOUD, MN 56303



NOTE:  
NO DEMOLITION WORK IN THIS AREA.  
SHOWN FOR REFERENCE PURPOSES ONLY.

**LOWER ROOF DEMOLITION - PLUMBING**  
1 1/8" = 1'-0"

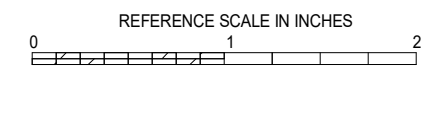


**KEY PLAN BUILDING 4**  
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BAE PROJECT NO. 19-116

APPROVED PROJECT GPM	DATE	APPROVED SERVICE LINE DIRECTOR	DATE	APPROVED INSPECTION CONTROL NUMBER	DATE

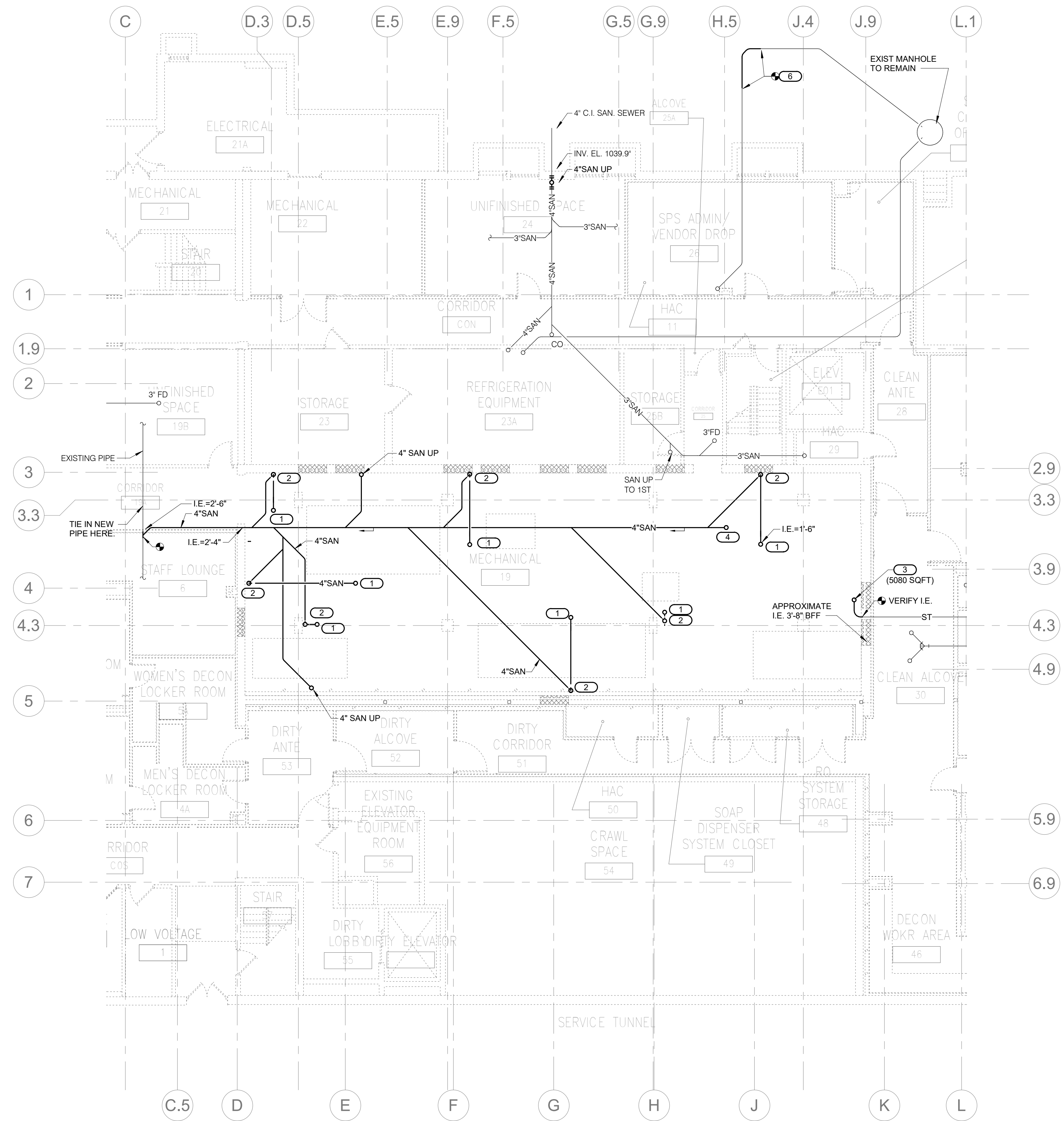
APPROVED GERM PROJECT MANAGER	DATE	APPROVED PATIENT SAFETY	DATE
APPROVED PROJECTS SECTION MANAGER	DATE	APPROVED CHIEF OF POLICE	DATE
APPROVED DIRECTOR FMS	DATE	APPROVED SAFETY MANAGER	DATE

DRAWING TITLE <b>PLUMBING - DEMOLITION PLAN - LOWER ROOF</b>	PROJECT TITLE <b>CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR</b>	DATE <b>10/28/2022</b>
APPROVED ASSOCIATE HEALTH CARE SYSTEM DIRECTOR	DATE	PROJECT NO. <b>656-400</b>
APPROVED CHIEF OF STAFF	DATE	DRAWING NO. <b>PD102</b>
APPROVED HEALTH CARE SYSTEM DIRECTOR	DATE	LOGON <b>ST. CLOUD VAHCS ST. CLOUD, MN 56303</b>

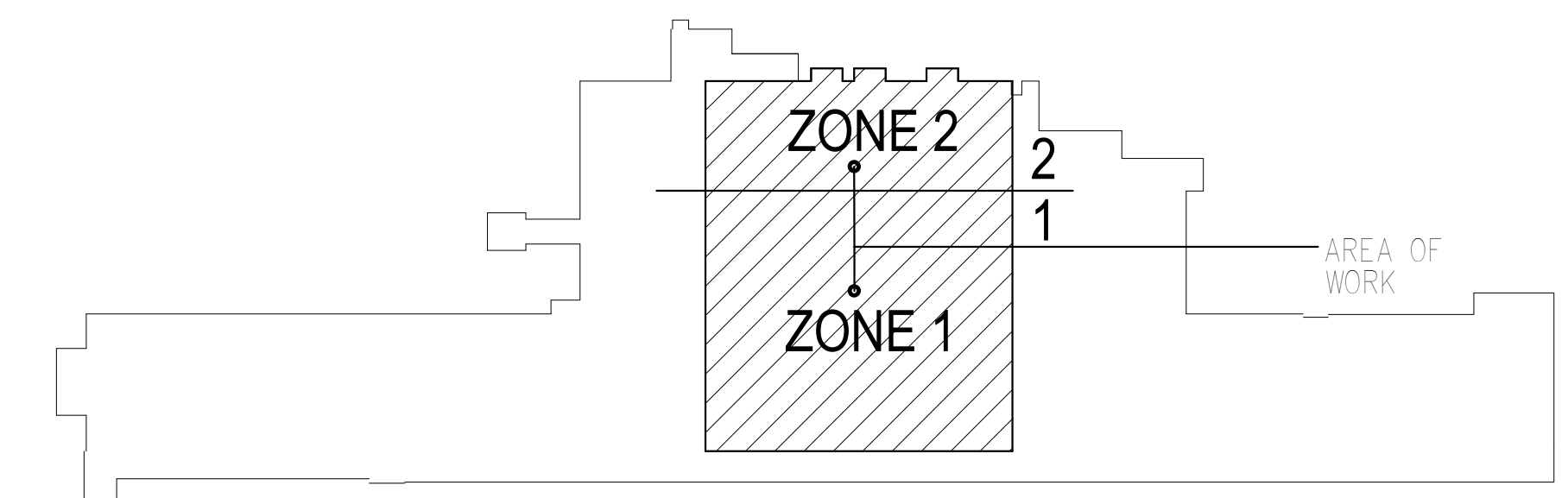
**VA**  
U.S. Department  
of Veterans Affairs  
Veterans Health  
Administration  
St. Cloud VA  
Health Care System

**SHEET NOTES:**  
 1. ALL DEMOLISHED PIPING SHALL BE REMOVED BACK TO SOURCE AND TERMINATED IN A METHOD THAT LEAVES NO DEAD ENDS.

**KEYNOTES:** #  
 1. 4" SAN UP TO FD  
 2. 2" V UP  
 3. 6" ST UP  
 4. 4" SAN UP TO FGD  
 5. 4" SAN UP  
 6. CONNECT NEW WASTE PIPING TO EXISTING GREASE TRAP INLET AND OUTLET PIPING. VERIFY AND MAINTAIN EXISTING PIPE SIZE AND LOCATIONS.



**1 PLUMBING - PLAN - BASEMENT UNDERFLOOR**  
 1/8" = 1'-0"

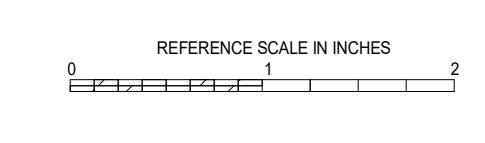


**KEY PLAN BUILDING 4**  
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ISSUE FOR 100% CONSTRUCTION DOCUMENTS	10/28/22
No	REVISION
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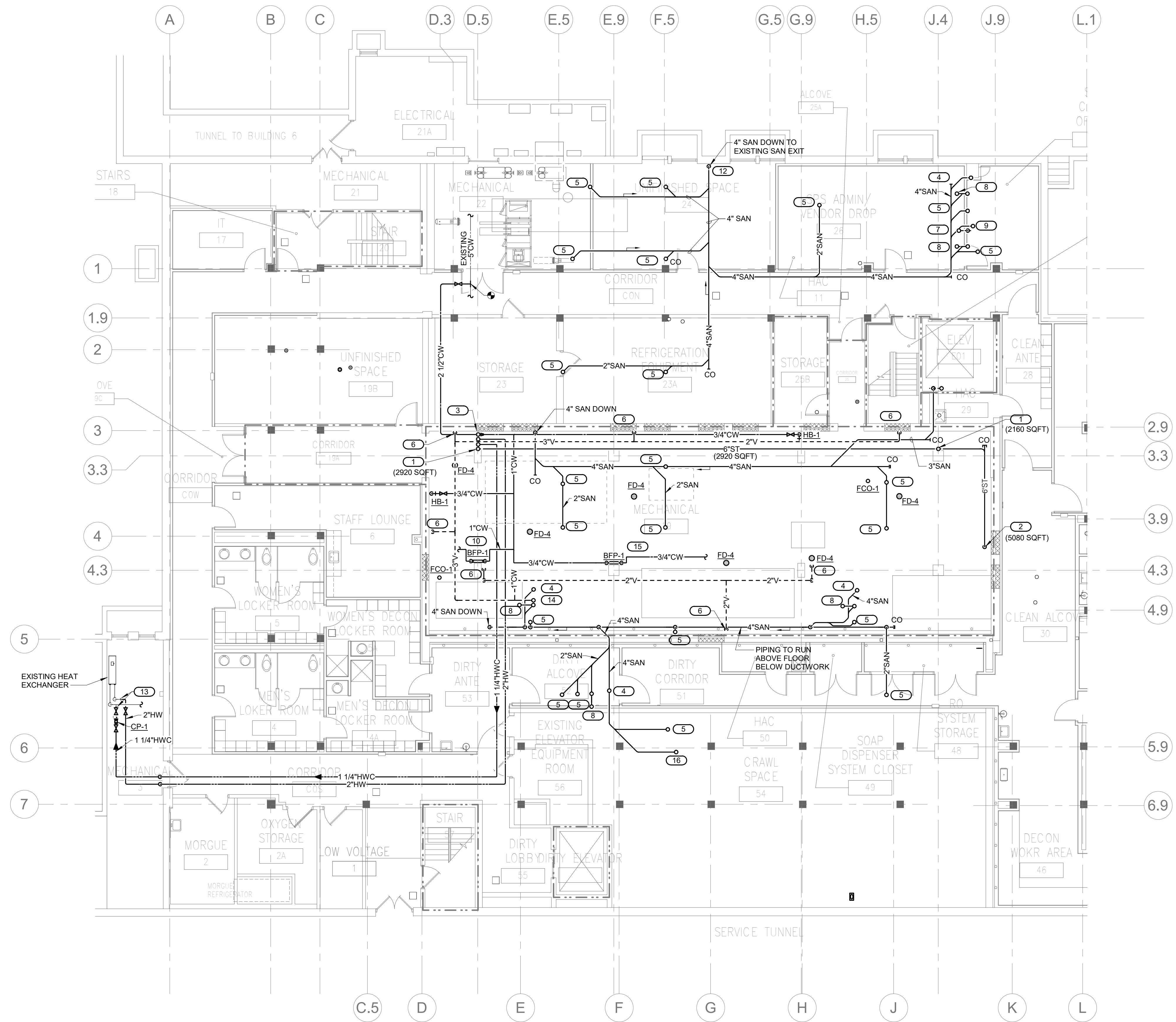


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APPROVED PROJECTS SECTION MANAGER	DATE	APPROVED CHIEF OF POLICE	DATE	APPROVED SAFETY MANAGER	DATE
APPROVED DIRECTOR FIN	DATE	APPROVED SAFETY MANAGER	DATE		

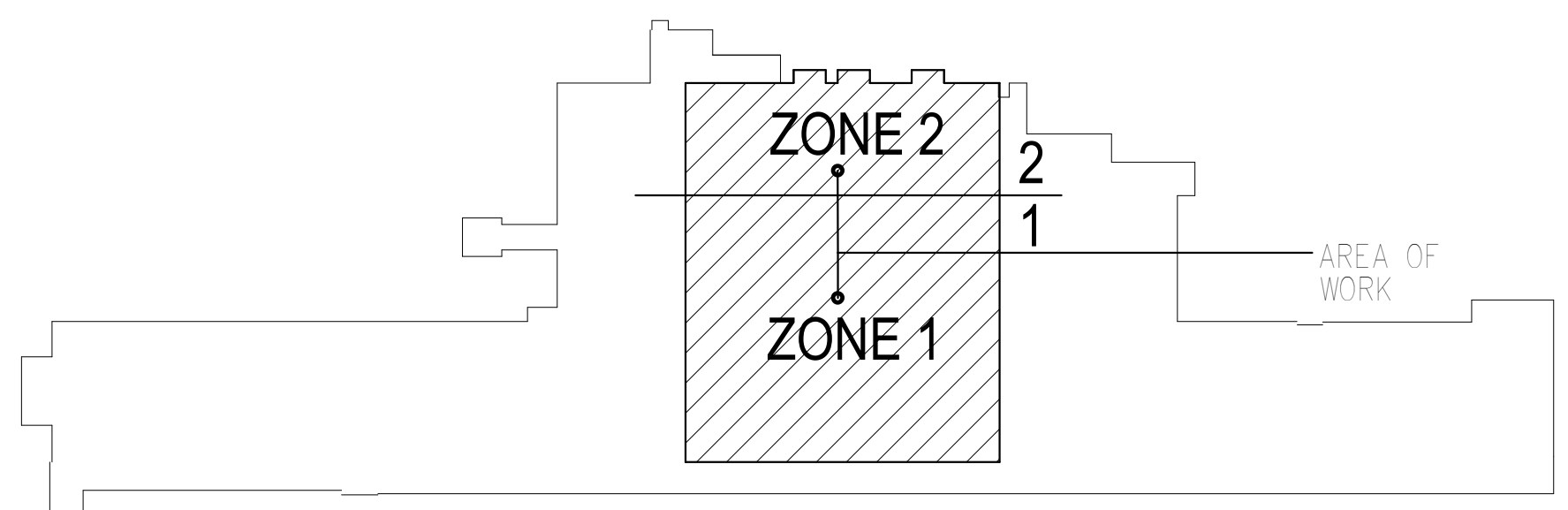
DRAWING TITLE PLUMBING - PLAN - BASEMENT UNDERFLOOR	DATE 10/28/2022
PROJECT TITLE CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR	PROJECT NO. 656-400
APPROVED ASSOCIATE HEALTH CARE SYSTEM DIRECTOR	DRAWING NO. PU100
APPROVED CHIEF OF STAFF	BUILDING NO. 4
APPROVED HEALTH CARE SYSTEM DIRECTOR	SECRETARY NKJ TGE
	LOCATION ST. CLOUD VAHCS ST. CLOUD, MN 56303

**VA**  
 U.S. Department of Veterans Affairs  
 Veterans Health Administration  
 St. Cloud VA Health Care System



- KEYNOTES: #**
1. 6" ST UP
  2. 6" ST DN
  3. 2 1/2" CW, 2" HW, 1 1/4" HWC, & 6" ST UP
  4. 4" SAN UP TO WC
  5. 2" SAN UP TO SINK OR LAV
  6. 2" V DN TO FD
  7. 3" W UP TO MB
  8. 2" SAN UP TO FD
  9. 4" SAN UP TO CS
  10. 1" CW TO HEATING WATER FILL WITH RPZ BACKFLOW PREVENTER. REFER TO 3/P300 DETAIL.
  11. 2" V UP
  12. 4" SAN DN AND CONNECT TO EXISTING. PIPING TO EXISTING CAPPED HW & HWC AT EXISTING HEAT EXCHANGER. PROVIDE NEW RECIRCULATING PUMP (CP-1), PIPING, VALVES, CONTROLS AND VALVES. REFER TO 4/P300 FOR DETAIL. VERIFY EXACT LOCATION FOR EQUIPMENT AND PIPING CONNECTIONS PRIOR TO INSTALLATION.
  13. 3" V UP
  14. 3" V UP
  15. 3/4" CW TO CONDENSATE COOLER WITH RPZ BACKFLOW PREVENTER. REFER TO 3/P300 DETAIL.
  16. 2" SAN UP TO EWC

**1 PLUMBING - PLAN - BASEMENT**  
1/8" = 1'-0"

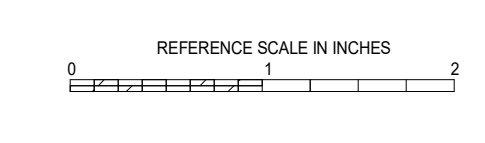


**KEY PLAN BUILDING 4**  
NTS

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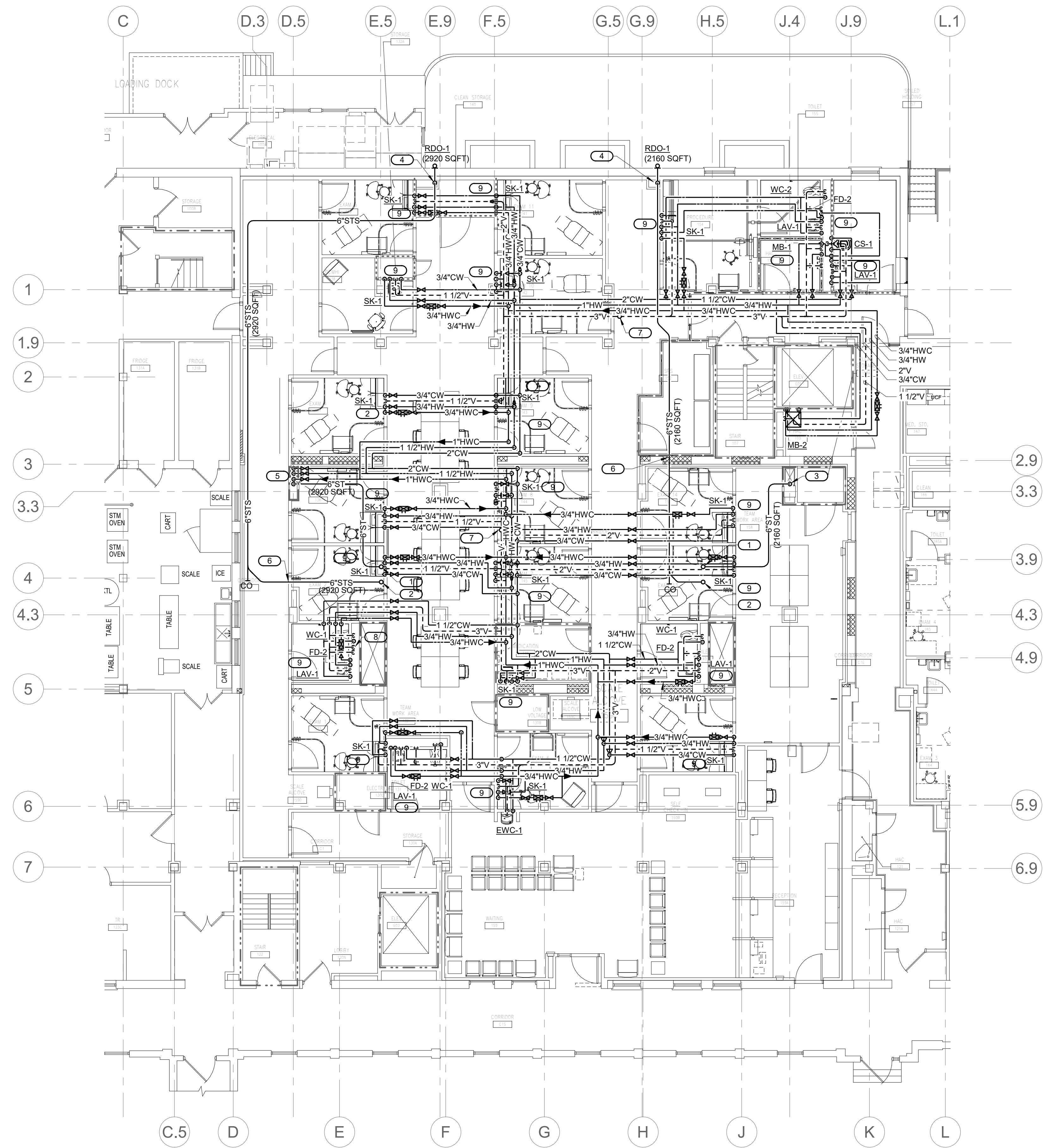
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BAE PROJECT NO. 19-116

APPROVED PROJECT COP	DATE	APPROVED SERVICE LINE DIRECTOR	DATE	APPROVED INSPECTION CONTROL NUMBER	DATE

ISSUING TITLE	DATE	PROJECT TITLE	DATE	DWG. NO.	DATE
PLUMBING - PLAN - BASEMENT	10/28/2022	CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR	10/28/2022	656-400	P100

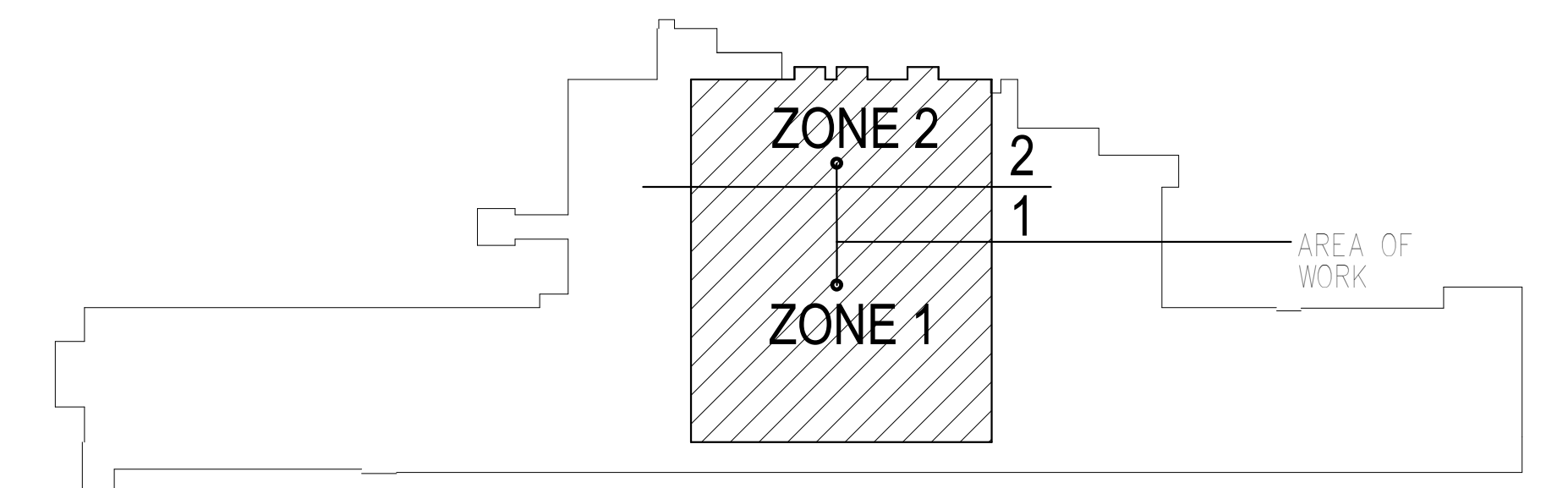
**VA**  
U.S. Department of Veterans Affairs  
Veterans Health Administration  
St. Cloud VA Health Care System





- KEYNOTES:**
1. 6" ST UP TO RD
  2. 6" STS UP TO ORD
  3. 6" ST DN
  4. 6" STS DN TO ROOF DRAIN OUTLET
  5. 2 1/2" CW, 2" HW, 1 1/4" HWC, & 6" ST DN
  6. INSTALL AS HIGH AS POSSIBLE. VERIFY AND COORDINATE WITH ARCHITECT AND STRUCTURAL.
  7. 3" V UP TO 4" VTR
  8. 3" V DN
  9. ROUTE 1/2" HWC DOWN WALL TO MIXING VALVE AT FIXTURE PER DETAIL 1/P300.

**1 PLUMBING - PLAN - FIRST FLOOR**  
 1/8" = 1'-0"

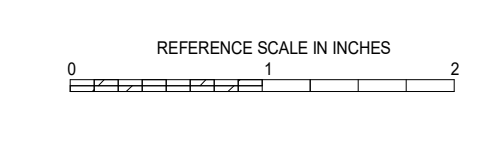


**KEY PLAN BUILDING 4**  
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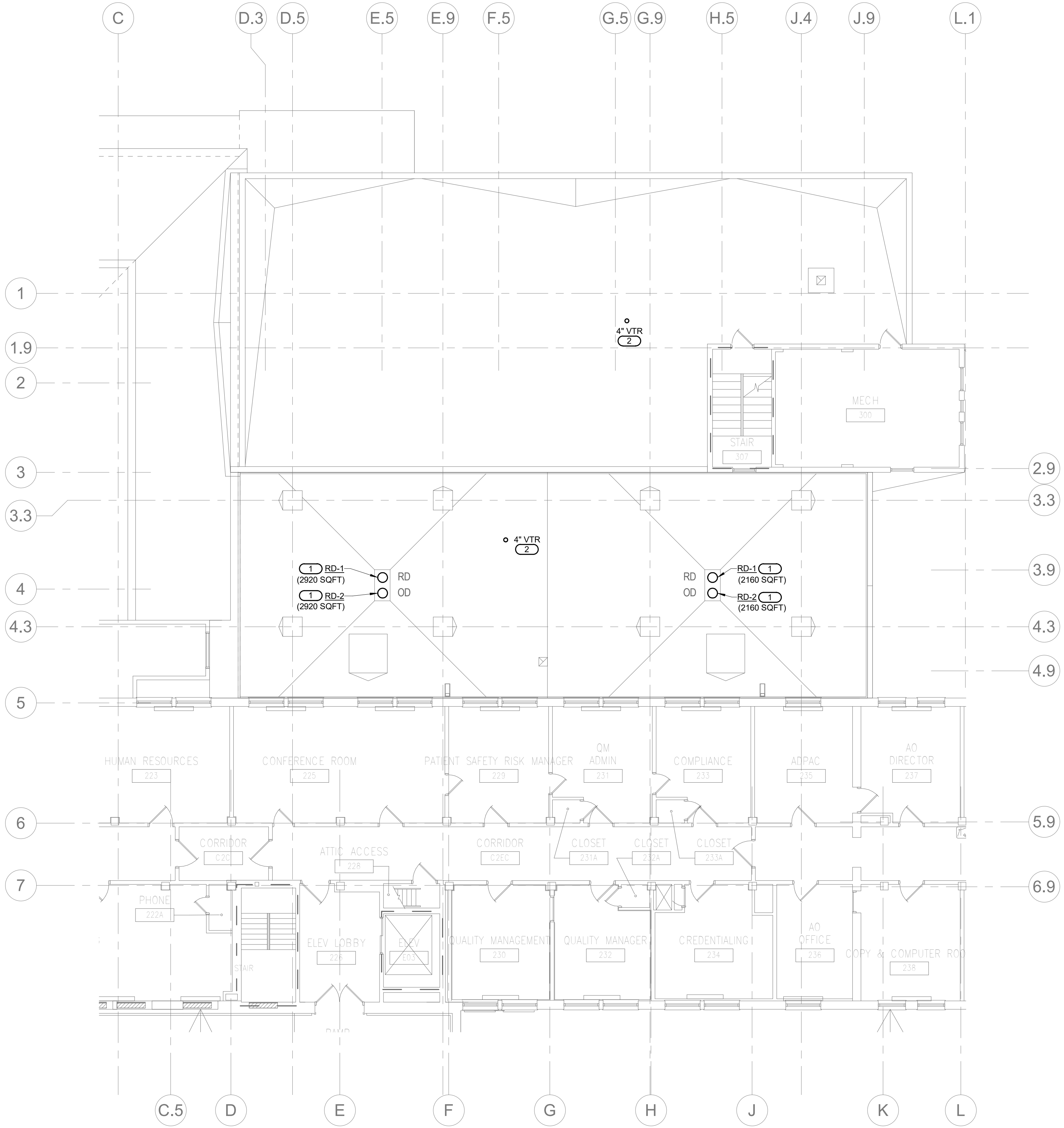
APPROVED PROJECT COP	DATE	APPROVED SERVICE LINE DIRECTOR	DATE	APPROVED INSPECTION CONTROL NUMBER	DATE

ISSUING TITLE	DATE	PROJECT TITLE	DATE
PLUMBING - PLAN - FIRST FLOOR <td>10/28/2022 <td>CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR <td>10/28/2022 </td></td></td>	10/28/2022 <td>CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR <td>10/28/2022 </td></td>	CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR <td>10/28/2022 </td>	10/28/2022

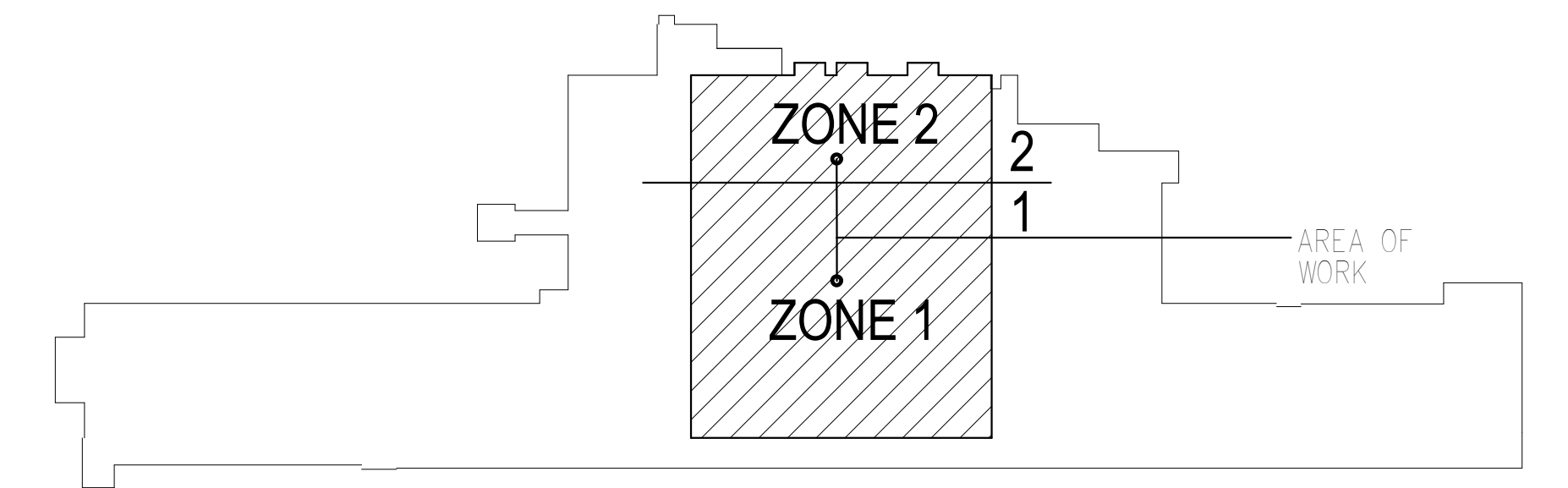
**VA**  
 U.S. Department of Veterans Affairs  
 Veterans Health Administration  
 St. Cloud VA Health Care System  
 ST. CLOUD, MN 56303

**KEYNOTES:** **#**

1. PROVIDE PRIMARY AND SECONDARY ROOF DRAINS. REFER TO DETAIL 6/P300 AND COORDINATE WITH ARCHITECTURAL.
2. PROVIDE VENT THROUGH ROOF. REFER DETAIL 7/P300. COORDINATE WITH ARCHITECTURAL.



**1 PLUMBING - PLAN - LOWER ROOF**  
1/8" = 1'-0"

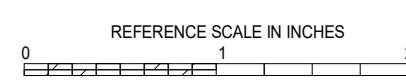


**KEY PLAN BUILDING 4**  
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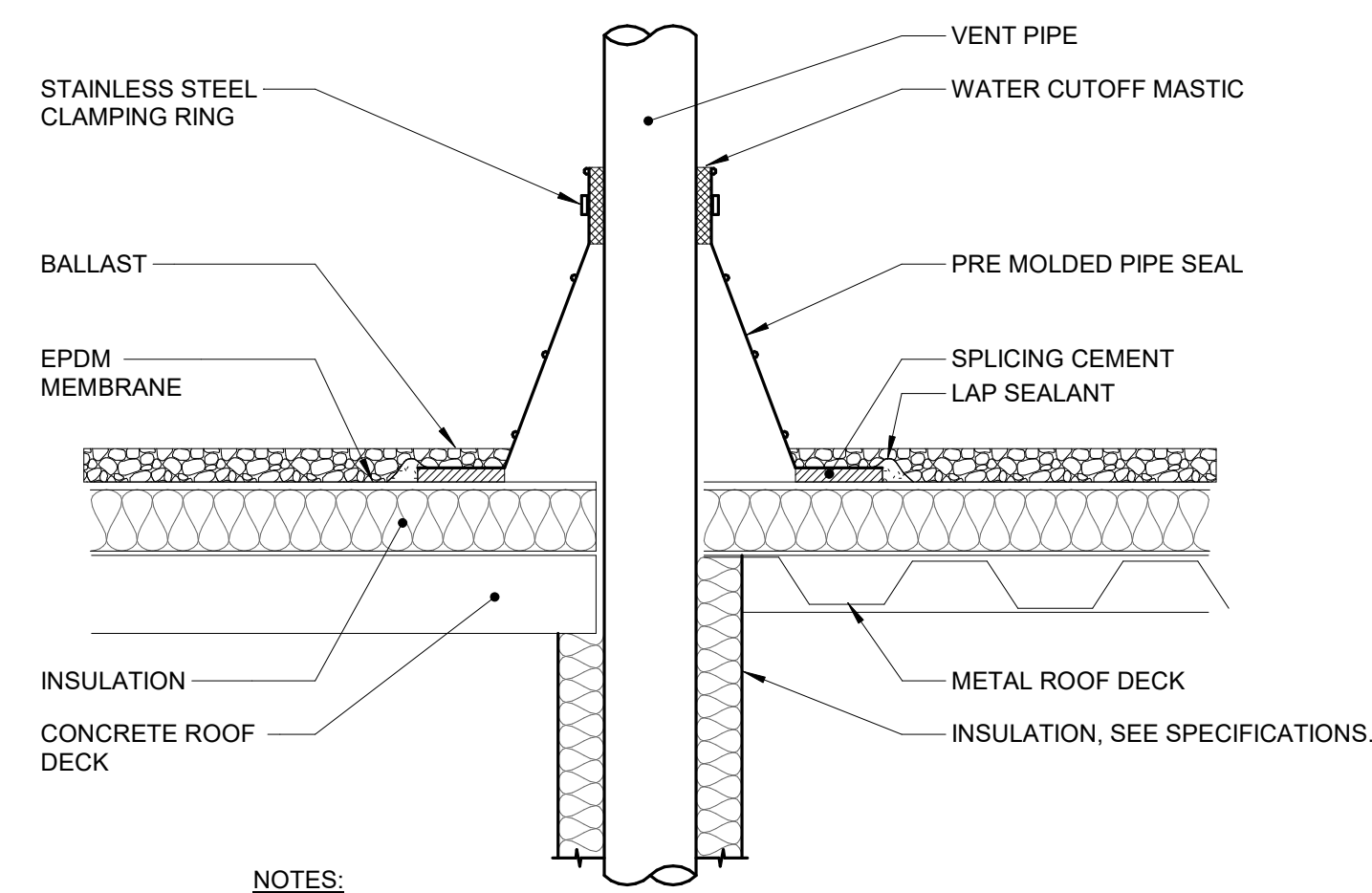
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APPROVED PROJECT COP	DATE	APPROVED SERVICE LINE DIRECTOR	DATE	APPROVED INSPECTION CONTROL NUMBER	DATE

DRAWING TITLE	PROJECT TITLE	DATE
PLUMBING - PLAN - LOWER ROOF	CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR	10/28/2022

BUILDING No.	PROJECT	DRAWING No.
4	NKJ TGE	P102

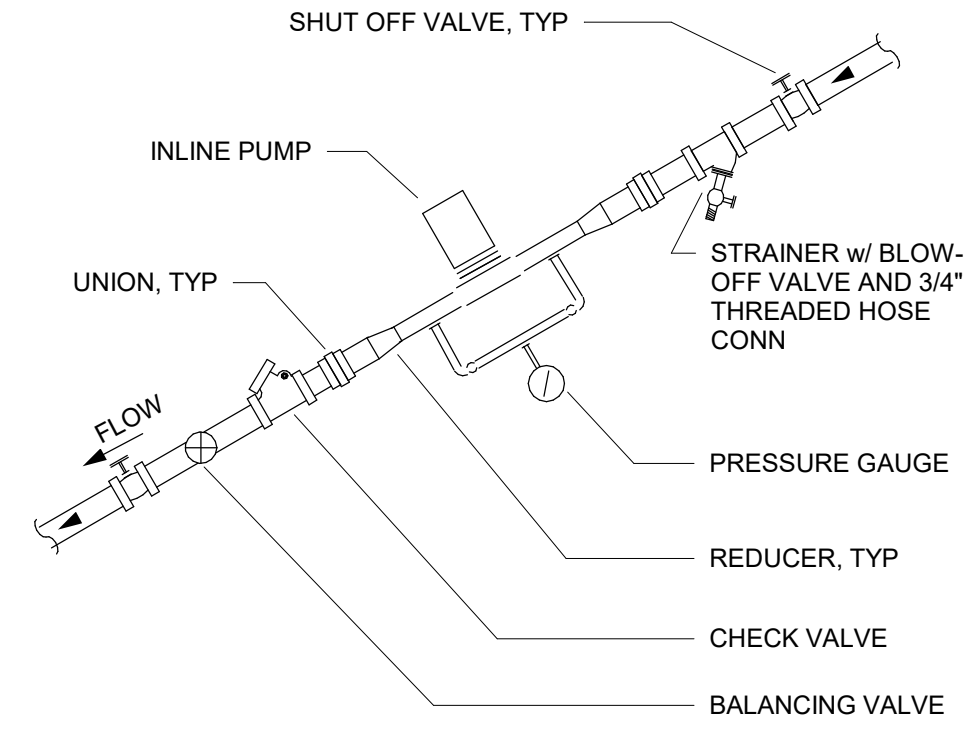




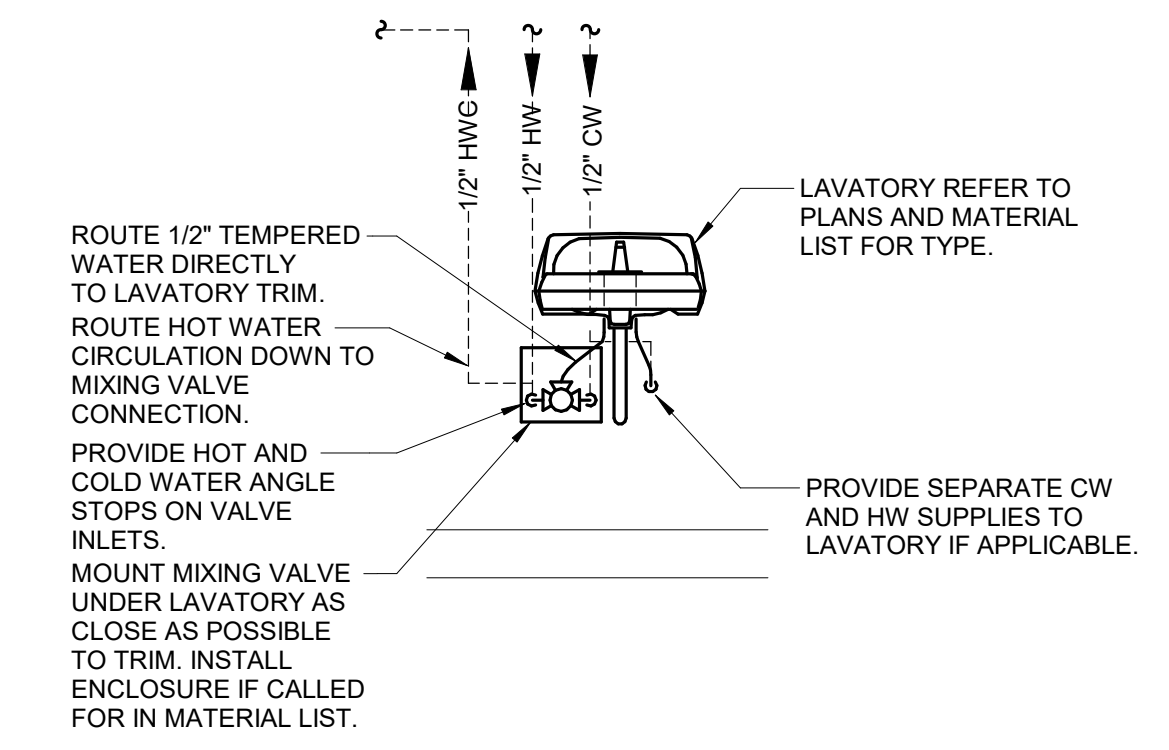
**NOTES:**

1. VENT PIPE SHALL BE A MINIMUM OF 3" DIAMETER UNLESS NOTED LARGER ON FLOOR PLANS. INCREASES, IF REQUIRED TO TRANSITION TO THE LARGER VTR SIZE, MUST BE INSTALLED AT LEAST 12 INCHES BELOW THE THERMAL ENVELOPE OF THE BUILDING.
2. EXTEND VENT PIPE AT LEAST 7 FEET ABOVE ROOF LEVEL WHEN ROOF AREA IS INTENDED TO BE USED BY THE GENERAL PUBLIC. THIS INCLUDES PROMENADES, OBSERVATION DECKS, ETC. THIS IS NOT REQUIRED FOR ROOFS THAT ARE ACCESSIBLE BY MAINTENANCE PERSONNEL ONLY.

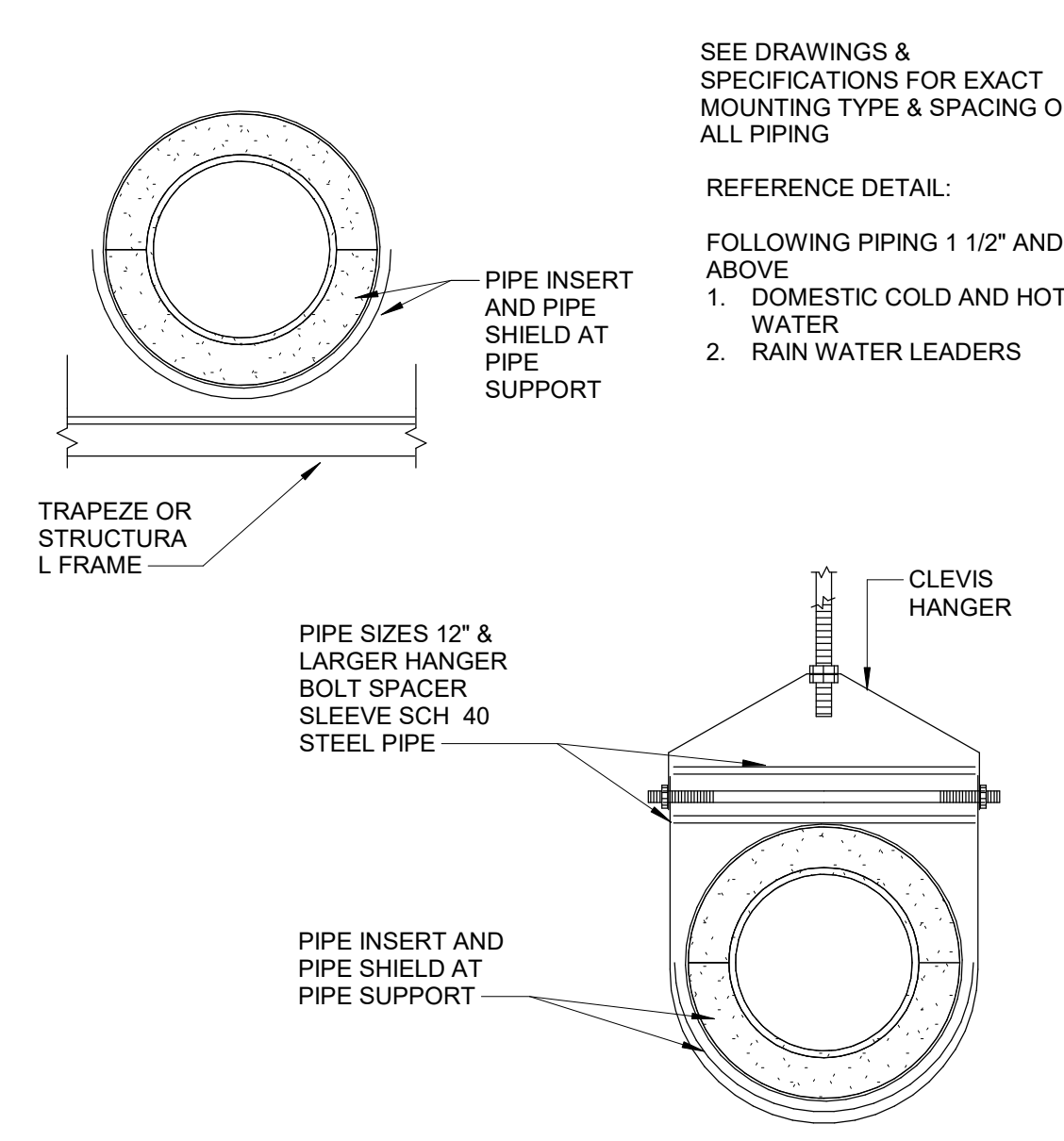
**7 VENT PIPE FLASHING**  
12" = 1'-0"



**4 INLINE PUMP**  
NO SCALE



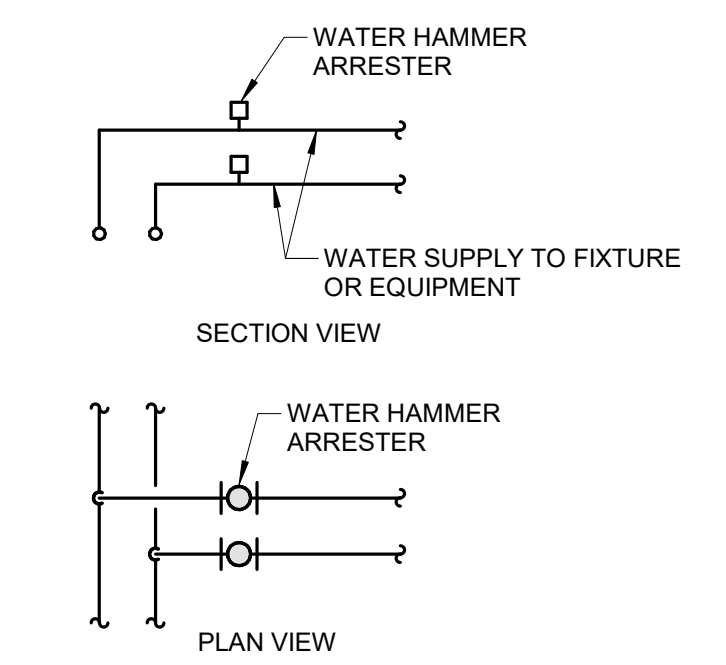
**1 LAVATORY MIXING VALVE DETAIL**  
NO SCALE



**5 INSULATED PIPE HANGER & SUPPORT**  
NO SCALE

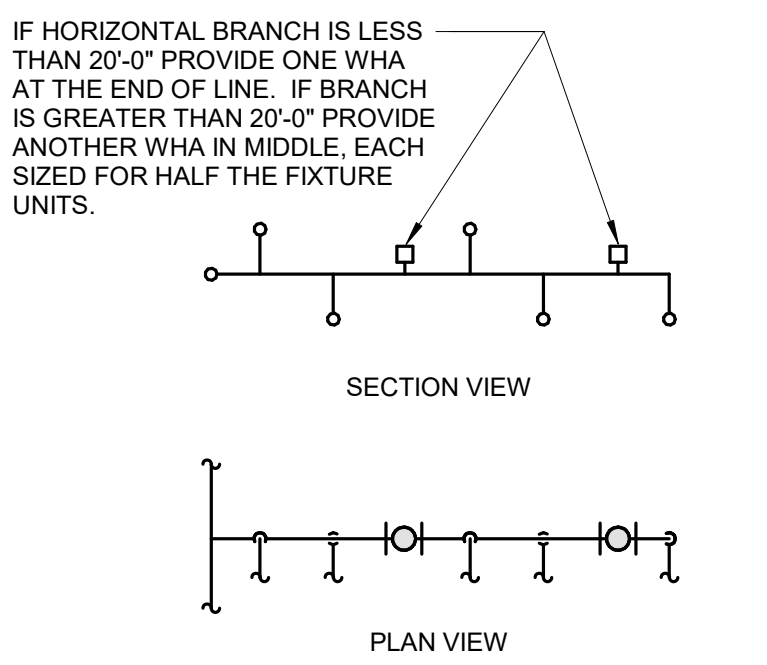
PROVIDE WATER HAMMER ARRESTER (WHA-#) AT PLUMBING FIXTURES AND QUICK CLOSING VALVES AS INDICATED ON DRAWINGS AND AS RECOMMENDED BY STANDARD PDI-WH201. REFER TO PLUMBING MATERIAL LIST FOR WATER HAMMER ARRESTER DESCRIPTION.

**SINGLE / DOUBLE FIXTURE**



PDI SIZE	PIPE SIZE	FIXTURE UNIT LOAD
A	1/2"	1-11
B	3/4"	12-32
C	1"	33-60
D	1-1/4"	61-113
E	1-1/2"	114-154
F	2"	155-330

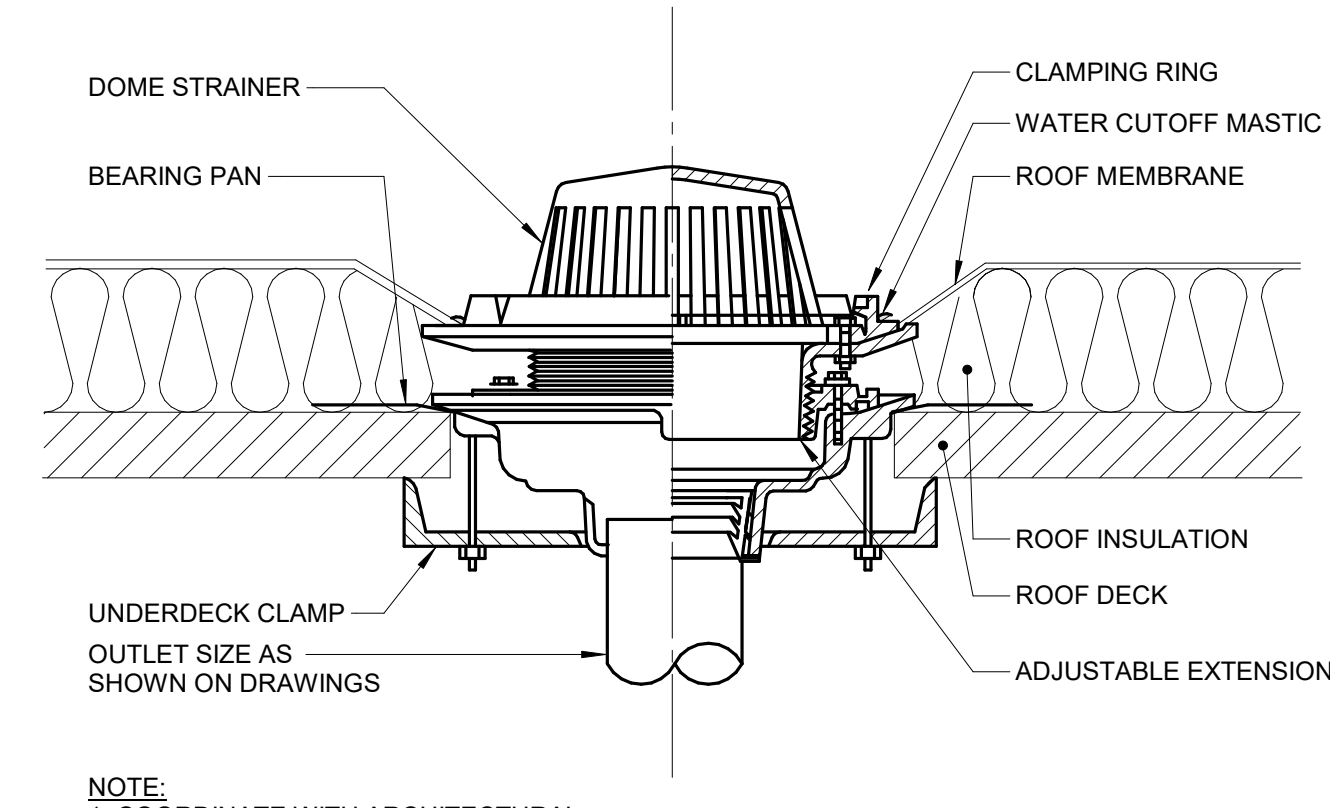
**MULTIPLE FIXTURES**



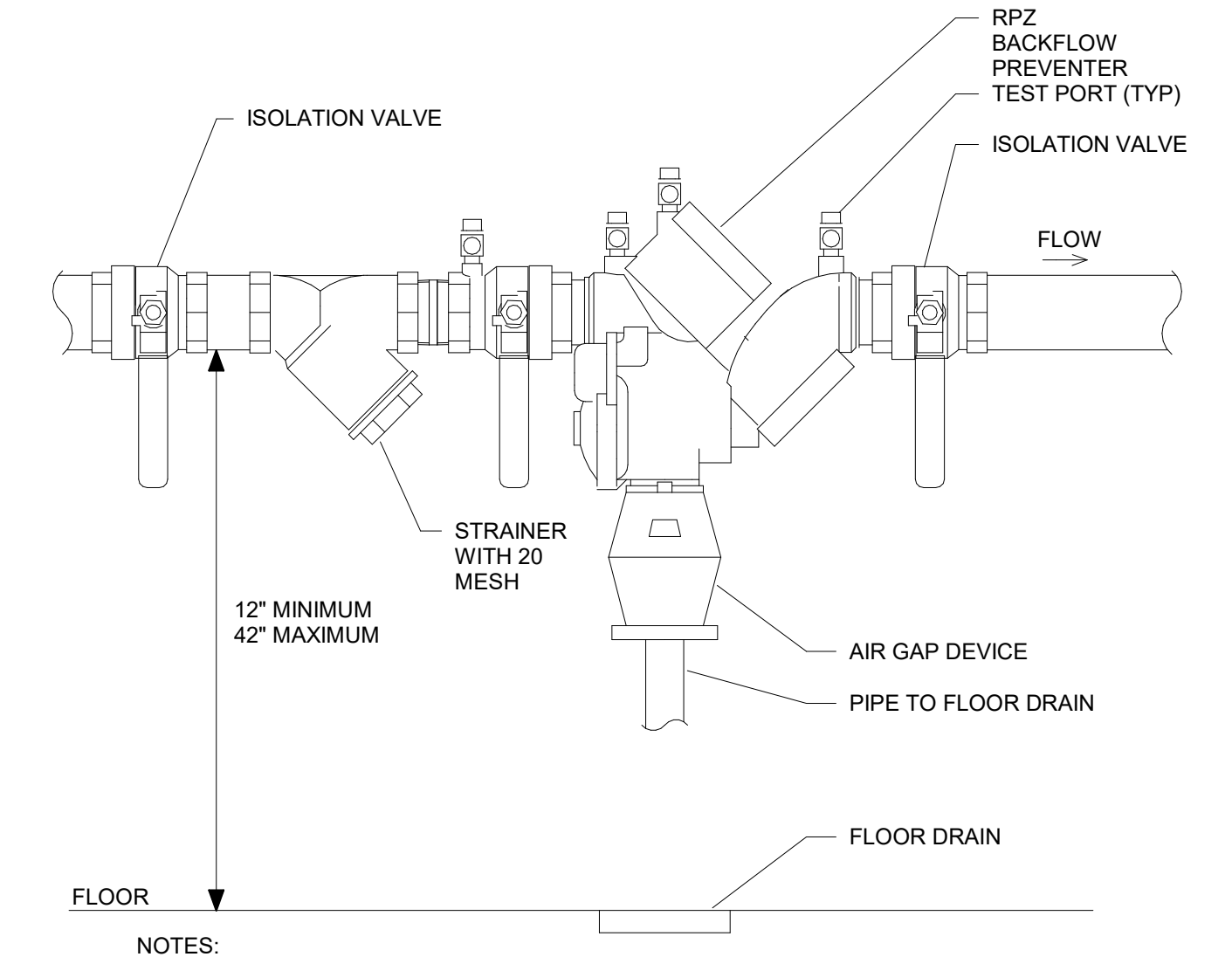
FIXTURE UNIT CALCULATION		
FIXTURE	COLD	HOT
WATER CLOSET (F.V.)	10	--
WATER CLOSET (TANK)	5	--
URINAL	5	--
LAVATORY	1.5	1.5
JANITOR'S SINK	3	3
SHOWER/BATHTUB	2	3
DRINKING FOUNTAIN	2	-
KITCHEN SINK	2	2
ICE MAKER / BEVERAGE	1	-

INSTALL WHA'S PER PDI STANDARDS AND MANUFACTURER'S INSTRUCTIONS. INSTALL IN HORIZONTAL OR VERTICAL POSITION, BUT NEVER UPSIDE DOWN. INSTALL IN LINE WITH WATER FLOW DIRECTION IF POSSIBLE. SIZE THE WHA AS SHOWN PER THE TABLES ABOVE. PROVIDE ACCESSIBILITY TO WHA WITH ACCESS PANEL OR INSTALL ABOVE ACCESSIBLE CEILING.

**2 WATER HAMMER ARRESTER LOCATION DETAIL**  
NO SCALE



**6 ROOF DRAIN DETAIL**  
12" = 1'-0"

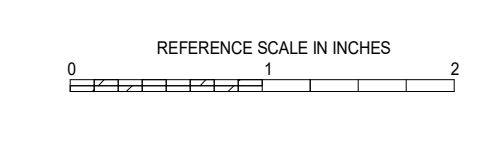


**3 RPZ BACKFLOW PREVENTER DETAIL**  
NO SCALE

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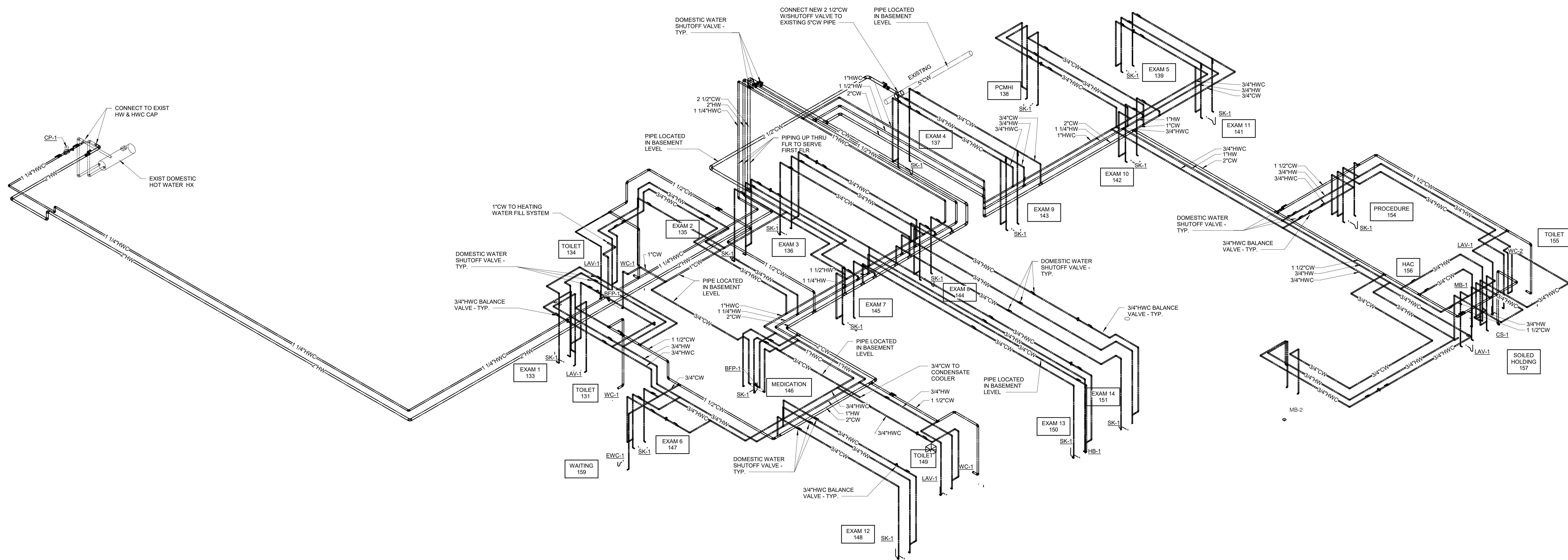
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BAE PROJECT NO. 18-116

APPROVED PROJECT COP	DATE	APPROVED SERVICE LINE DIRECTOR	DATE	APPROVED INSPECTION CONTROL NUMBER	DATE

DRAWING TITLE	PROJECT TITLE	DATE
PLUMBING - DETAILS	CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR	10/28/2022

**VA**  
U.S. Department of Veterans Affairs  
Veterans Health Administration  
St. Cloud VA Health Care System

**SHEET NOTES:**  
 1. SEE PLUMBING FIXTURE ROUGH-IN SCHEDULE ON SHEET P000 FOR ADDITIONAL PIPE SIZES.  
 2. DOMESTIC HOT WATER DISTRIBUTION PIPING OUT TO SERVE PLUMBING FIXTURES WITH 120 DEG F WATER TEMP.

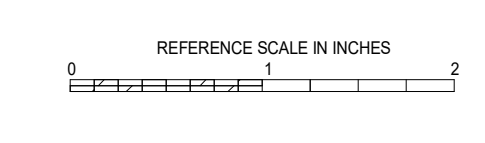


**1 WATER RISER DIAGRAM**  
 NO SCALE

10/28/2022 - ISSUE FOR 100% CONSTRUCTION DOCUMENTS

ISSUE FOR 100% CONSTRUCTION DOCUMENTS	10/28/22
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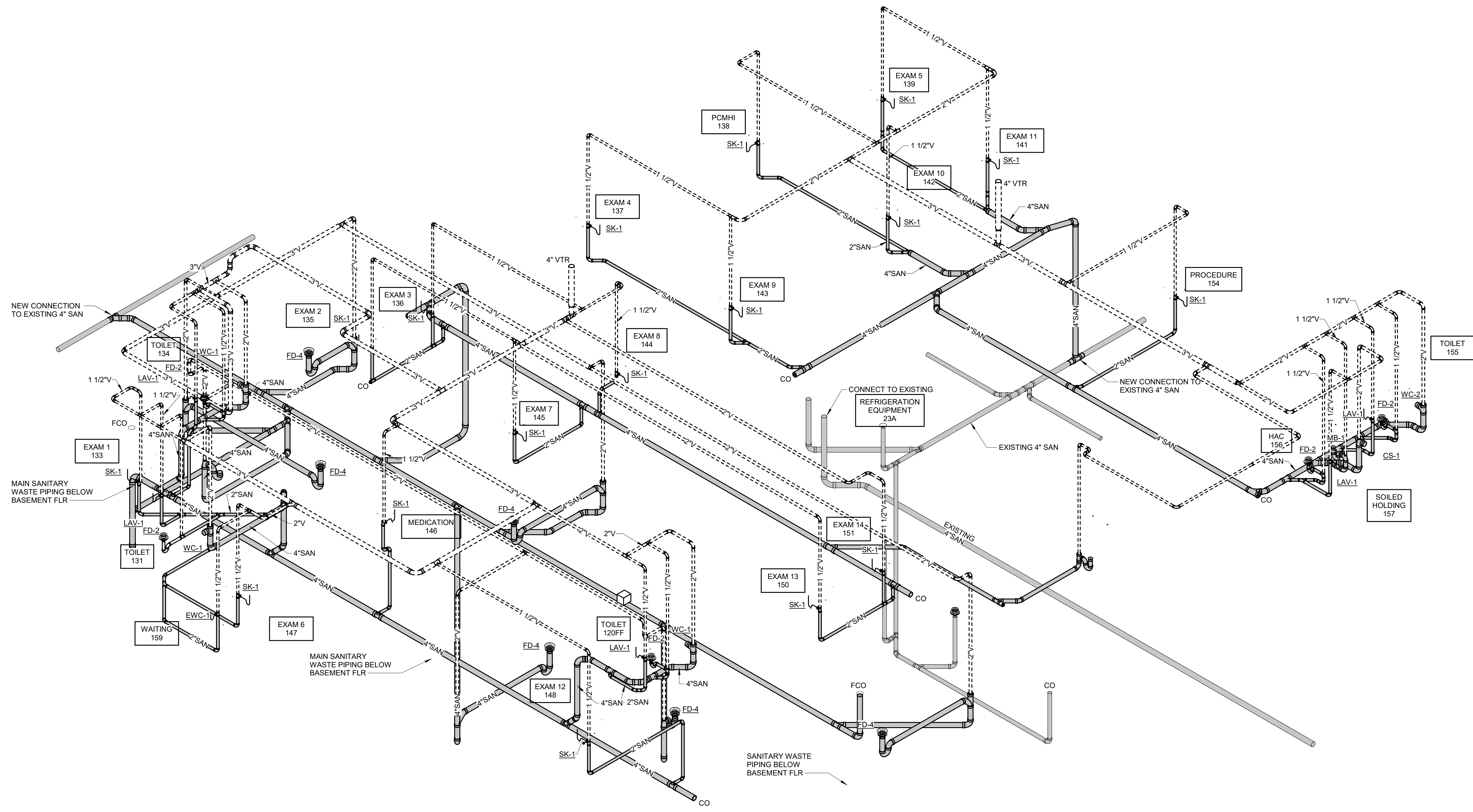
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APPROVED PROJECT COP	DATE	APPROVED SERVICE LINE DIRECTOR	DATE	APPROVED INSPECTION CONTROL MANAGER	DATE
APPROVED GERM PROJECT MANAGER	DATE	APPROVED PATIENT SAFETY	DATE	APPROVED ASSOCIATE HEALTH CARE SYSTEM DIRECTOR	DATE
APPROVED PROJECTS SECTION MANAGER	DATE	APPROVED CHIEF OF POLICE	DATE	APPROVED CHIEF OF STAFF	DATE
APPROVED DIRECTOR FIN	DATE	APPROVED SAFETY MANAGER	DATE	APPROVED HEALTH CARE SYSTEM DIRECTOR	DATE

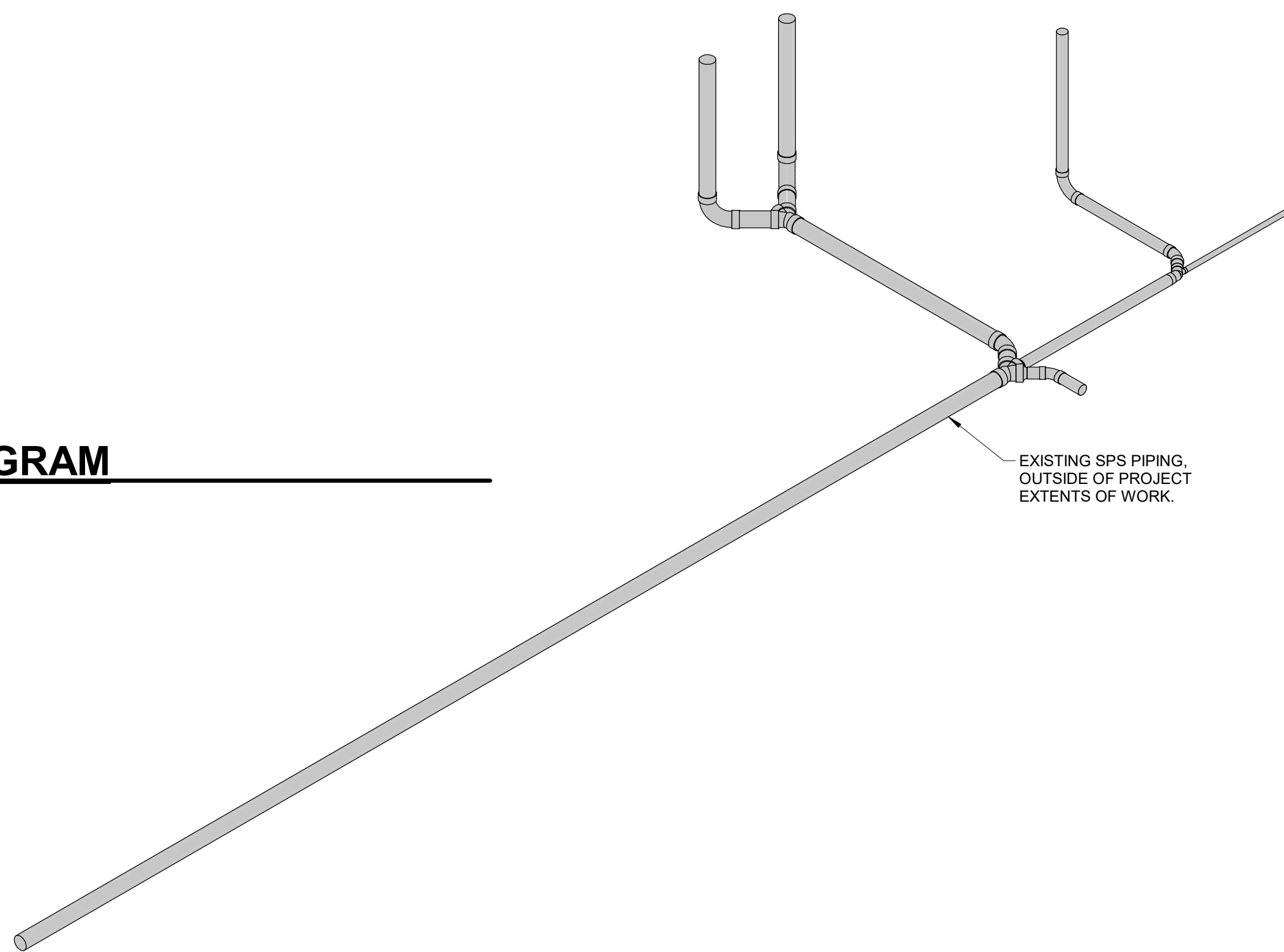
DRAWING TITLE PLUMBING - WATER RISER DIAGRAM	PROJECT TITLE CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR	DATE 10/28/2022
PROJECT NO. 656-400	DRAWING NO. P400	
BUILDING NO. 4	PROJECT NO. NKJ	DRAWN BY TGE
LOCATION ST. CLOUD VAHCS ST. CLOUD, MN 56303		DWG. OF

**VA**  
 U.S. Department of Veterans Affairs  
 Veterans Health Administration  
 St. Cloud VA Health Care System

**SHEET NOTES:**  
 1. SEE PLUMBING FIXTURE ROUGH-IN SCHEDULE ON SHEET P000 FOR ADDITIONAL PIPE SIZES



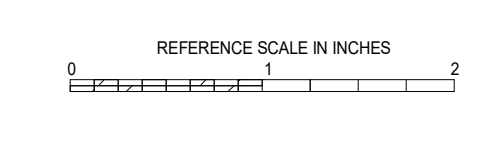
**1 WASTE AND VENT RISER DIAGRAM**  
 NO SCALE



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ISSUE FOR 100% CONSTRUCTION DOCUMENTS	10/28/22
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APPROVED DIRECTOR FIN	DATE	APPROVED SAFETY MANAGER	DATE	APPROVED HEALTH CARE SYSTEM DIRECTOR	DATE

DRAWING TITLE PLUMBING - WASTE AND VENT RISER DIAGRAM	DATE 10/28/2022
PROJECT TITLE CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR	PROJ SCALE 656-400
BUILDING No 4	DRAWING No P401
LOCATION ST. CLOUD VAHCS ST. CLOUD, MN 56303	DWG OF

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 U.S. Department of Veterans Affairs  
 Veterans Health Administration  
 St. Cloud VA Health Care System

PLUMBING MATERIAL LIST	
TAG NAME	DESCRIPTION
BFP-1	BACK FLOW PREVENTER - REDUCED PRESSURE ZONE, LEAD FREE BRONZE CONSTRUCTION, SIZE SAME AS PIPE, NON-CORROSIVE INTERNAL PARTS, STAINLESS STEEL SPRINGS, DIFFERENTIAL PRESSURE RELIEF VALVE BETWEEN SPRING-LOADED CHECK VALVES, BALL STYLE SHUT-OFF VALVES ON INLET AND OUTLET OF UNIT, AIR GAP DRAIN FITTING, TEST PORTS WITH SHUT-OFF VALVES, RATED FOR 175 PSI AT 33°F TO 140°F, 15 PSI (MAXIMUM) PRESSURE DROP AT 10 FPS, FACTORY TESTED, ALL PARTS TO BE SERVICEABLE WITHOUT REMOVING UNIT FROM LINE, APPROVED BY USC FCCC & HR, AWWA C511-92, ASSE 1013, IAPMO AND SBCCI LISTED.  MOUNT WITHIN 60" OF FINISHED FLOOR, ROUTE DRAIN PIPE FROM AIR GAP FITTING TO FLOOR DRAIN, PROVIDE AND INSTALL BRONZE OR EPOXY COATED STRAINER UPSTREAM OF EACH UNIT AND ADDITIONAL VALVE UPSTREAM OF EACH STRAINER, FLOW PRESSURE DROP CURVES SHALL BE SUBMITTED.
CP-1	CIRCULATING PUMP - VARIABLE SPEED CONTROLLER WITH SETTINGS TO ADJUST AND MAINTAIN A CONSTANT SPEED, FIXED PRESSURE, OR PROPORTIONAL PRESSURE, LEAD FREE BRONZE OR STAINLESS STEEL CONSTRUCTION, PERMANENTLY LUBRICATED SEALED BEARINGS, MECHANICAL SEAL, OIL LUBRICATED, ECM MOTOR WITH INTEGRATED VARIABLE SPEED CONTROL, FLANGED CONNECTIONS, RATED FOR 125 PSIG AT 225°F, UL LISTED, 8 GPM @ 10 FEET OF HEAD, MOTOR SHALL BE 0.65 AMPS.
CS-1	ELECTRICAL REQUIREMENTS - 120V, 1 PHASE HARD-WIRE  CLINICAL SINK - WALL MOUNTED, WHITE VITREOUS CHINA, BLOWOUT ACTION FLUSHING RIM, 1-1/2" TOP SPUD, STAINLESS STEEL RIM GUARDS.  FLUSH VALVE - EXPOSED, BRASS CONSTRUCTION, CHROME-PLATED FINISH, 1" I.P.S., SCREWDRIVER STOP-CHECK VALVE, CHEMICAL RESISTANT MATERIAL, WALL AND SPUD FLANGES, 6.5 GPF.  BEDPAN WASHER - WALL MOUNTED, BRASS CONSTRUCTION, SELF-CLOSING DOUBLE FOOT CONTROL MIXING VALVE WITH INTEGRAL STOPS, OUTLET TO WALL WITH VOLUME CONTROL, HOSE WITH INSULATED HANDLE, ANGLE SPRAY NOZZLE, ELVATED CHROME-PLATED VACUUM BREAKER, EXPOSED PIPING, FITTINGS, AND FLANGES SHALL BE CHROME-PLATED.  SINK FAUCET - WALL MOUNTED, BRASS CONSTRUCTION, CHROME-PLATED FINISH, ADJUSTABLE INLETS, 8" SPOUT WITH INTEGRAL 3/4" HOSE THREADED OUTLET AND VACUUM BREAKER, CHECK STOPS, QUARTER-TURN 6" WRIST BLADE HANDLES, PAIL HOOK, FORKED WALL BRACE.  ACCESSORIES - SUPPORT CARRIER RATED FOR 350 LBS.  MOUNT CLINICAL SINK WITH CARRIER MOUNTED SECURELY TO FLOOR, TOP OF RIM SHALL BE AT 20" TO 30" ABOVE FINISHED FLOOR (VERIFY EXACT MOUNTING HEIGHT WITH OWNER).
EW-1	ELECTRIC WATER COOLER - WALL HUNG, 18 GAUGE STAINLESS STEEL CABINET AND NON-SPLASH BASIN WITH STAINLESS STEEL FINISH, STREAM PROJECTOR WITH PROTECTIVE HOOD, PUSH BAR OR LEVER OPERATING CONTROLS ON FRONT AND SIDES, BUILT-IN FLOW REGULATOR, PLASTIC P-TRAP ASSEMBLY, ADJUSTABLE THERMOSTAT, MOUNTING ACCESSORIES, TANK DRAIN AND ANGLE STOPS, HERMETIC COMPRESSOR TO OPERATE ON HFC-134a REFRIGERANT, COMPLIANT TO LATEST ANSI A117.1 AND ADA STANDARDS, UNIT SHALL COMPLY WITH FEDERAL ACT S.3874.  BOTTLE FILLING STATION - UNIT MOUNTED, STAINLESS STEEL CONSTRUCTION AND FINISH, INTEGRAL DRAIN, SENSOR OPERATED WITH AUTOMATIC SHUTOFF, REPLACEABLE LEAD-CHLORINE-TASTE-ODOR WATER FILTER, BOTTLE COUNTER, FILTER REPLACEMENT INDICATOR.  UNIT SHALL PROVIDE 8.0 GPH OF WATER FROM 80°F TO 50°F AT 90°F AMBIENT, WATER SYSTEM SHALL BE OF LEAD FREE CONSTRUCTION, TANK SHALL BE TESTED TO 125 PSIG.  ORIFICE SHALL BE AT 36" (MAXIMUM) ABOVE FINISHED FLOOR, BOTTOM OF APRON SHALL BE AT 27" ABOVE FINISHED FLOOR IN COMPLIANCE WITH LATEST ADA STANDARDS.  ELECTRICAL REQUIREMENTS - 15 HP MOTOR, 120V-1 PHASE, CORD AND PLUG, PLAIN RECEPTACLE MOUNTED WITHIN EWC LOWER ENCLOSURE, GFCI BREAKER.
FCO-1	FLOOR CLEANOUT - ADJUSTABLE, CAST IRON HOUSING, ANCHOR FLANGE, TAPERED THREAD PLUG, SECURED NICKEL BRONZE TOP, TOP STYLE SHALL MATCH FLOOR FINISH AS FOLLOWS:  UNFINISHED FLOOR - ROUND SOLID SCORATED TOP TILE OR TERRAZZO - ROUND RECESSED TOP CARPET - ROUND TOP WITH CARPET FLANGE.
FD-2	FLOOR DRAIN - CAST IRON BODY, NICKEL BRONZE ADJUSTABLE TOP, 6" ROUND 2" BOTTOM OUTLET, FLASHING COLLAR, DEEP SEAL TRAP.
FD-4	FLOOR DRAIN - CAST IRON BODY, HEAVY DUTY CAST IRON GRATE, 12" SQUARE, 4" BOTTOM OUTLET, DEEP SUMP, SUSPENDED PERFORATED SEDIMENT BUCKET, FLASHING COLLAR, DEEP SEAL TRAP.

PLUMBING MATERIAL LIST	
TAG NAME	DESCRIPTION
HB-1	HOSE BIBB - FOR INDOOR USE, BRASS VALVE BODY AND SEAT, STANDARD FINISH, NON-FERROUS METAL STEM, AUTOMATIC DRAINING, VACUUM BREAKER, 3/4" MALE HOSE THREAD, KEY OPERATED, 360 DEGREE SWIVEL INLET, ASSE 1019 OR 1052 LISTED AND APPROVED.  VERIFY NUMBER OF KEY OPERATORS TO BE PROVIDED WITH OWNER, MOUNT AT ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE ON DRAWINGS.
LAV-1	LAVATORY - ACCESSIBLE WALL MOUNTED, WHITE VITREOUS CHINA, 20"x18", 4" HIGH CONTOURED BACKPLASH, SINGLE FAUCET HOLE, DRILLED FOR CONCEALED ARM CARRIER.  LAVATORY TRIM - SENSOR ACTIVATED MIXING FAUCET, BATTERY POWERED, BRASS CONSTRUCTION, CHROME-PLATED FINISH, SPOUT WITH LAMINAR FLOW OUTLET, 4" CENTERSET INSTALLATION, PERFORATED GRID STRAINER WITH 1-1/4" 17 GAUGE TAILPIECE, SOLID BRASS SOLENOID WITH BUILT-IN FILTER, SOLID BRASS THERMOSTATIC MIXING VALVE MEETING ASSE 1070 REQUIREMENTS WITH ADJUSTABLE TEMPERATURE LIMIT STOP AND INTEGRAL CHECK VALVES, WATERPROOF CONNECTORS AND CABLE.  MOUNT CONTROLS AND BATTERIES IN WATERPROOF VANDAL-RESISTANT ENCLOSURE BELOW LAVATORY.  MAXIMUM FLOW TO BE 0.5 GPM IN COMPLIANCE WITH ENERGY POLICY ACT OF 2005 AND ASME/ANSI STANDARD A112.18.1M, FAUCET SHALL COMPLY WITH FEDERAL ACT S.3874. PROVIDE RESTRICTIVE DEVICE AND ESCUTCHEON PLATE AS REQUIRED.  INSULATION KIT - PRE-MANUFACTURED FOR P-TRAP, STOP VALVES AND SUPPLY LINES.  ACCESSORIES - QUARTER-TURN 3/8" CHROME PLATED HEAVY BRASS ANGLE SUPPLY STOPS, CHROME PLATED SOFT COPPER SUPPLY LINES, DRAIN AND TAILPIECE, 1-1/4" 17 GAUGE CAST BRASS P-TRAP, SUPPORT CARRIER.
MB-1	MOP BASIN - NEO-ANGLE CORNER STYLE, PRECAST TERRAZZO, 24"x24"x12", 6" DEEP FRONT, STAINLESS STEEL INTEGRAL DRAIN WITH REMOVABLE STRAINER, 3" OUTLET, STAINLESS STEEL THRESHOLD.  TRIM - EXPOSED TWO HANDLE MIXING FAUCET, BRASS CONSTRUCTION, CHROME-PLATED FINISH, SINGLE WING HANDLES, 1/4 TURN CERAMIC DISC CARTRIDGE, 3/4" HOSE THREAD SPOUT WITH INTEGRAL VACUUM BREAKER, WALL BRACE, PAIL HOOK, CHECK STOPS OR INLINE CHECK VALVES TO PREVENT THERMAL CROSSOVER, FAUCET SHALL COMPLY WITH FEDERAL ACT S.3874.  ACCESSORIES - MOP HANGER, HOSE AND HOSE BRACKET, DEEP SEAL TRAP
MB-2	MOP BASIN - NEO-ANGLE CORNER STYLE, PRECAST TERRAZZO, 24"x24"x12", 6" DEEP FRONT, STAINLESS STEEL INTEGRAL DRAIN WITH REMOVABLE STRAINER, 3" OUTLET, STAINLESS STEEL THRESHOLD.  TRIM - EXPOSED TWO HANDLE MIXING FAUCET, BRASS CONSTRUCTION, CHROME-PLATED FINISH, SINGLE WING HANDLES, 1/4 TURN CERAMIC DISC CARTRIDGE, 3/4" HOSE THREAD SPOUT WITH INTEGRAL VACUUM BREAKER, WALL BRACE, PAIL HOOK, CHECK STOPS OR INLINE CHECK VALVES TO PREVENT THERMAL CROSSOVER, FAUCET SHALL COMPLY WITH FEDERAL ACT S.3874.  ACCESSORIES - MOP HANGER, HOSE AND HOSE BRACKET, DEEP SEAL TRAP
RD-1	ROOF DRAIN - CAST IRON BODY, SECURED CAST IRON DOME, 15" ROUND, BOTTOM OUTLET, FLASHING CLAMP, GRAVEL STOP, UNDERDECK CLAMP, BEARING PAN, ADJUSTABLE EXTENSION TO MATCH INSULATION THICKNESS, OUTLET SIZE AS LISTED ON DRAWINGS.
RD-2	ROOF DRAIN - CAST IRON BODY, SECURED CAST IRON DOME, 15" ROUND, BOTTOM OUTLET, FLASHING CLAMP, GRAVEL STOP, UNDERDECK CLAMP, BEARING PAN, ADJUSTABLE EXTENSION TO MATCH INSULATION THICKNESS, 4" TALL INTERNAL STANDPIPE, OUTLET SIZE AS LISTED ON DRAWINGS.
RDO-1	ROOF DRAIN OUTLET - LAMBS TONGUE DOWNSPOUT NOZZLE, BRONZE BODY, INTEGRAL ANCHORING FLANGE, OUTLET SIZE AS LISTED ON DRAWINGS.
SK-1	SINK - ACCESSIBLE SELF-RIMMING SINGLE COMPARTMENT WITH FAUCET DECK, 18 GAUGE TYPE 304 STAINLESS STEEL, (SIDE-TO-SIDE) x (FRONT-TO-BACK) OVERALL SIZE, DEEP BOWL, COMPLETELY UNDERCOATED, 3-1/2" DIAMETER DRAIN OUTLET LOCATION CENTERED.  SINK TRIM - SENSOR ACTIVATED MIXING FAUCET, BATTERY POWERED, BRASS CONSTRUCTION, CHROME-PLATED FINISH, DECK MOUNTED, RIGID GOOSENECK SPOUT WITH NOMINAL 8" REACH AND LAMINAR FLOW SPOUT, SOLID BRASS SOLENOID WITH BUILT-IN FILTER, SOLID BRASS THERMOSTATIC MIXING VALVE MEETING ASSE 1070 REQUIREMENTS WITH ADJUSTABLE TEMPERATURE LIMIT STOP AND INTEGRAL CHECK VALVES, WATERPROOF CONNECTORS AND CABLE.  MOUNT CONTROLS AND BATTERIES IN WATERPROOF VANDAL-RESISTANT ENCLOSURE BELOW SINK OR ABOVE DECK IN FAUCET BASE.  ACCESSORIES - 1-1/2" 17 GAUGE CHROME-PLATED BRASS TAILPIECE AND P-TRAP, QUARTER-TURN BALL VALVE TYPE 3/8" CHROME-PLATED BRASS ANGLE SUPPLIES WITH STOPS, CHROME-PLATED SOFT COPPER SUPPLY LINES.  INSULATION KIT - PRE-MANUFACTURED FOR P-TRAP, STOP VALVES, AND SUPPLY LINES
WC-1	WATER CLOSET - ACCESSIBLE, WALL MOUNTED, FLUSH VALVE TYPE, WHITE VITREOUS CHINA, SIPHON JET, WATER SAVING, ELONGATED BOWL, 1-1/2" TOP SPUD.  FLUSH VALVE - EXPOSED, SENSOR OPERATED, BATTERY POWERED, 1.28 GALLONS PER FLUSH, CHROME PLATED 1" I.P.S. SCREWDRIVER STOP-CHECK VALVE, CHEMICAL RESISTANT MATERIAL, VACUUM BREAKER, SPUD COUPLING AND FLANGE, WALL FLANGE WITH SET SCREW, MECHANICAL OVER-RIDE BUTTON, LOW BATTERY INDICATOR LIGHT, RANGE ADJUSTMENT SCREW, 3 YEAR WARRANTY.  SEAT - WHITE, EXTRA HEAVY, OPEN FRONT, INJECTION MOLDED SOLID PLASTIC, SELF-SUSTAINING HINGE, STAINLESS STEEL OR PLATED STEEL POSTS AND NUTS.  CONTRACTOR OPTION - COMBINATION WATER CLOSET/FLUSH VALVE PACKAGED SYSTEM BY AMERICAN STANDARD, KOHLER, SLOAN, OR ZURN  ACCESSORIES - WATER CLOSET SUPPORT CARRIER RATED FOR 500 LBS.  MOUNT WATER CLOSET WITH CARRIER BOLTED SECURELY TO FLOOR, TOP OF SEAT SHALL BE AT 17"-19" ABOVE FINISHED FLOOR (VERIFY EXACT MOUNTING HEIGHT WITH MANUFACTURER). VERIFY EQUIPMENT REQUIREMENTS AND ROUGH-IN LOCATIONS.
WC-2	WATER CLOSET - BARIATRIC, ACCESSIBLE, WALL MOUNTED, FLUSH VALVE TYPE, WHITE VITREOUS CHINA, SIPHON JET, WATER SAVING, ELONGATED BOWL, 1-1/2" TOP SPUD, BEDPAN LUGS.  FLUSH VALVE - EXPOSED, SENSOR OPERATED, BATTERY POWERED, 1.28 GALLONS PER FLUSH, CHROME PLATED 1" I.P.S. SCREWDRIVER STOP-CHECK VALVE, CHEMICAL RESISTANT MATERIAL, VACUUM BREAKER, SPUD COUPLING AND FLANGE, WALL FLANGE WITH SET SCREW, MECHANICAL OVER-RIDE BUTTON, LOW BATTERY INDICATOR LIGHT, RANGE ADJUSTMENT SCREW, 3 YEAR WARRANTY.  SEAT - WHITE, EXTRA HEAVY, OPEN FRONT, INJECTION MOLDED SOLID PLASTIC, SELF-SUSTAINING HINGE, STAINLESS STEEL OR PLATED STEEL POSTS AND NUTS.  CONTRACTOR OPTION - COMBINATION WATER CLOSET/FLUSH VALVE PACKAGED SYSTEM BY AMERICAN STANDARD, KOHLER, SLOAN, OR ZURN  ACCESSORIES - WATER CLOSET SUPPORT CARRIER RATED FOR 1000 LBS.  MOUNT WATER CLOSET WITH CARRIER BOLTED SECURELY TO FLOOR, TOP OF SEAT SHALL BE AT 17"-19" ABOVE FINISHED FLOOR (VERIFY EXACT MOUNTING HEIGHT WITH MANUFACTURER). VERIFY EQUIPMENT REQUIREMENTS AND ROUGH-IN LOCATIONS.
WHA-1	WATER HAMMER ARRESTER - PISTON TYPE, PRE-CHARGED WITH 60 PSIG AIR, LEAD FREE, COPPER BODY, BRASS OR HIGH HEAT POLY-PROPYLENE PISTON WITH DUAL EPDM O-RING SEALS LUBRICATED WITH FDA APPROVED SILICONE LUBRICANT, PDI CERTIFIED, A.S.S.E. 1010 APPROVED FOR SEALED WALL INSTALLATION, RATED FOR 1-11 FIXTURE UNITS.  INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

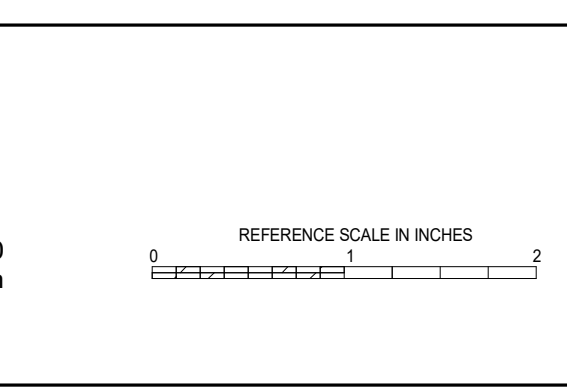
**GENERAL SHEET NOTES:**  
1. ALL FIXTURES, TRIM, AND EQUIPMENT SHALL COORDINATE WITH STATION STANDARDS  
2. MATERIALS SHALL CONFORM TO REQUIREMENTS OF THE VA PLUMBING STANDARDS AND THE FACILITY MAINTENANCE STAFF.

ISSUE FOR 100% CONSTRUCTION DOCUMENTS	10/28/22
No	REVISION
	DATE



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BAE PROJECT NO. 18-116

APPROVED PROJECT COOR.	DATE	APPROVED SERVICE LINE DIRECTOR	DATE	APPROVED INSPECTION CONTROL NUMBER	DATE
APPROVED GEM PROJECT MANAGER	DATE	APPROVED PATIENT SAFETY	DATE	APPROVED ASSOCIATE HEALTHCARE SYSTEM DIRECTOR	DATE
APPROVED PROJECTS SECTION MANAGER	DATE	APPROVED CHIEF OF POLICE	DATE	APPROVED CHIEF OF STAFF	DATE
APPROVED DIRECTOR/FIS	DATE	APPROVED SAFETY MANAGER	DATE	APPROVED HEALTHCARE SYSTEM DIRECTOR	DATE

DRAWING TITLE	PLUMBING - SCHEDULES AND MATERIAL LIST
DRAWING NO.	4
PROJECT NO.	656-400
DATE	
LOCATION	ST. CLOUD VAHCS ST. CLOUD, MN 56303

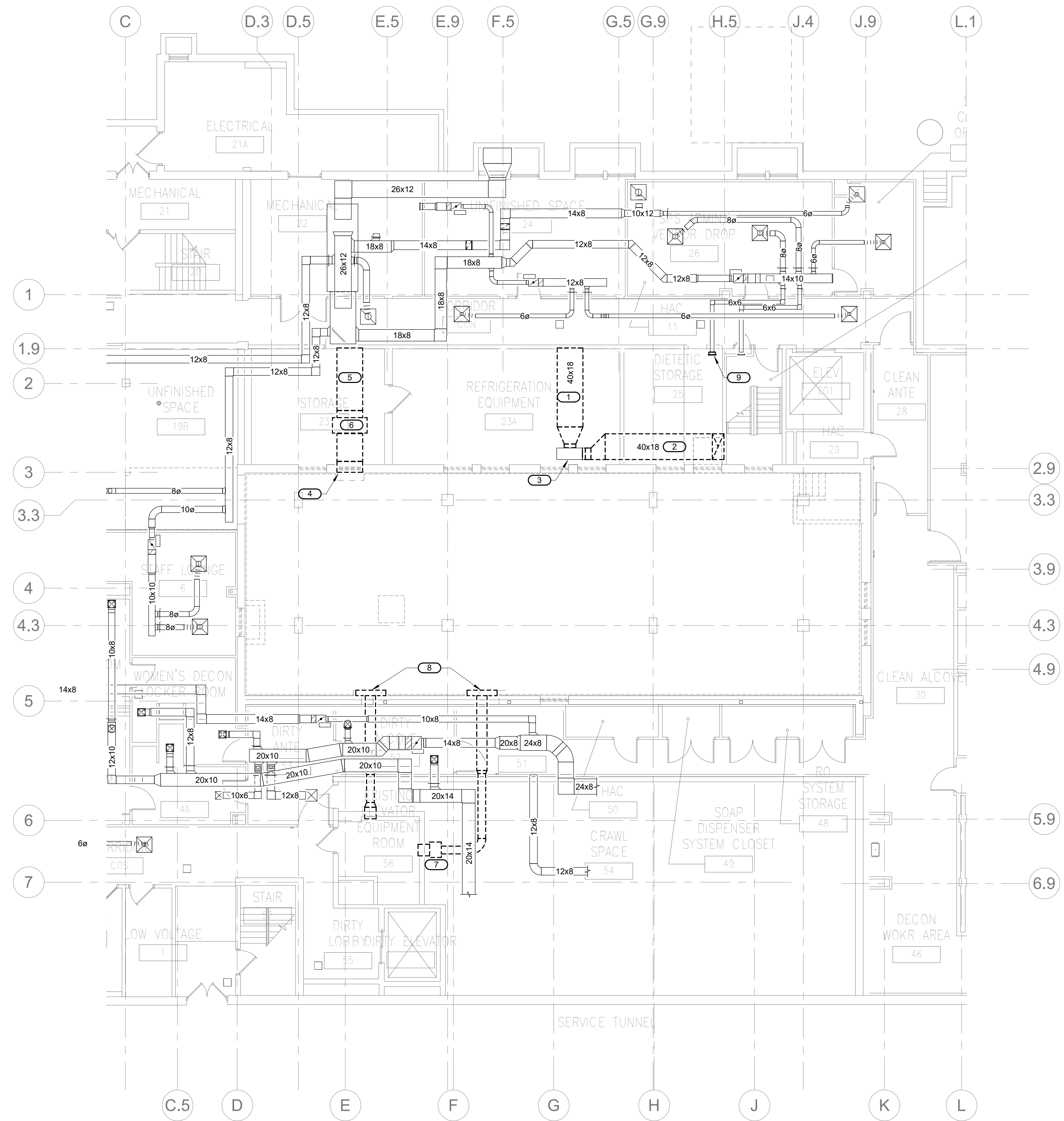
PROJECT TITLE	CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR
DATE	10/28/2022
PROJ SCALE	
DRAWING NO.	P500
DESIGNER	TGE
CHECKER	NKJ
DATE	
LOCATION	ST. CLOUD VAHCS ST. CLOUD, MN 56303
DWG. OF	




U.S. Department of Veterans Affairs  
Veterans Health Administration  
St. Cloud VA Health Care System

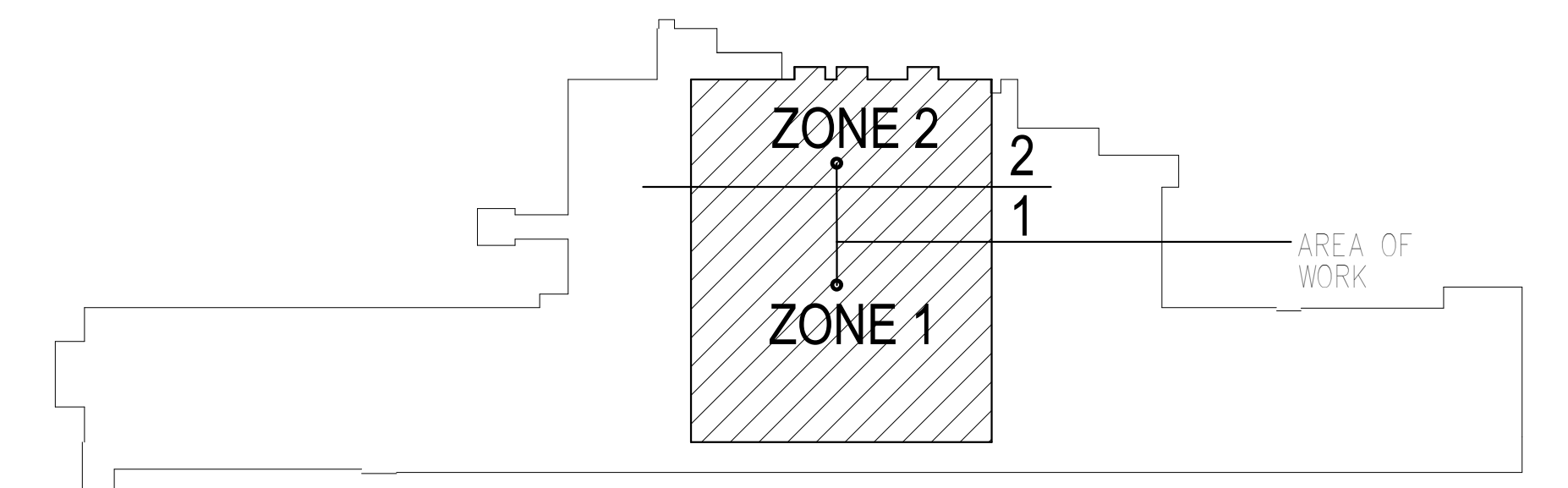
10/28/2022 - ISSUE FOR 100% CONSTRUCTION DOCUMENTS





- KEYNOTES: ( # )**
1. DEMOLISH EXISTING EXHAUST DUCT BACK TO EXISTING EXHAUST FAN. CAP DUCT AT FAN. RISER BACK TO EXISTING EXHAUST FAN. CAP DUCT AT FAN.
  2. DEMOLISH EXISTING EXHAUST DUCT AND RISER BACK TO EXISTING EXHAUST FAN. CAP DUCT AT FAN.
  3. EXISTING EXHAUST FAN TO REMAIN DURING CONSTRUCTION. THIS FAN WILL BE USED FOR CONSTRUCTION ISOLATION INFECTION CONTROL. SEE ARCHITECTURAL FOR SEQUENCING. FAN WILL BE DEMOLISHED AT END OF CONSTRUCTION.
  4. DEMOLISH EXISTING O/A DUCT BACK TO EXISTING HOOD TO BE DEMOLISHED. CAP AT EXISTING FAN COIL UNIT.
  5. DEMOLISH EXISTING SUPPLY DUCT BACK TO EXISTING FAN COIL UNIT AS INDICATED. CAP DUCT AT FAN.
  6. DEMOLISH EXISTING FAN COIL UNIT AND ALL ASSOCIATED PIPING, WIRING, AND CONTROLS.
  7. DEMOLISH EXISTING EXHAUST FAN AND ALL ASSOCIATED DUCTWORK, WIRING, CONTROLS, AND SUPPORTS.
  8. DEMOLISH EXISTING INTAKE AND EXHAUST HOODS ON WALL APPROX. 1 FOOT ABOVE GRADE. DEMOLISH ALL CONNECTED DUCTWORK BACK TO THE EXISTING ELEVATOR EQUIPMENT ROOM. SEE ARCHITECTURAL FOR WALL PATCHING.
  9. DISCONNECT AND REMOVE EXISTING SUPPLY GRILLE. COVER AND SEAL OPENING DURING CONSTRUCTION.

**MECHANICAL - VENTILATION - DEMOLITION PLAN - BASEMENT**  
 1/8" = 1'-0"

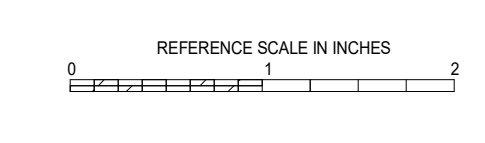


**KEY PLAN BUILDING 4**  
 NTS

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 www.imegcorp.com



I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the state of Minnesota.  
 Signature: *[Signature]*  
 Typed or Printed Name: Robert Douglas Lowe  
 Date: 10/28/2022 License Number: 24706

ARCHITECT/ENGINEER OF RECORD  
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 BAE PROJECT NO. 15-116

APPROVED PROJECT COP	DATE	APPROVED SERVICE LINE DIRECTOR	DATE	APPROVED INSPECTION CONTROL MANAGER	DATE

DRAWING TITLE	PROJECT TITLE	DATE	PROJECT NO.	DRAWING NO.
MECHANICAL - VENTILATION - DEMOLITION PLAN - BASEMENT	CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR	10/28/2022	656-400	MHD100

**VA** U.S. Department of Veterans Affairs  
 Veterans Health Administration  
 St. Cloud VA Health Care System  
 ST. CLOUD, MN 56303



**CONSTRUCTION NOTES:**

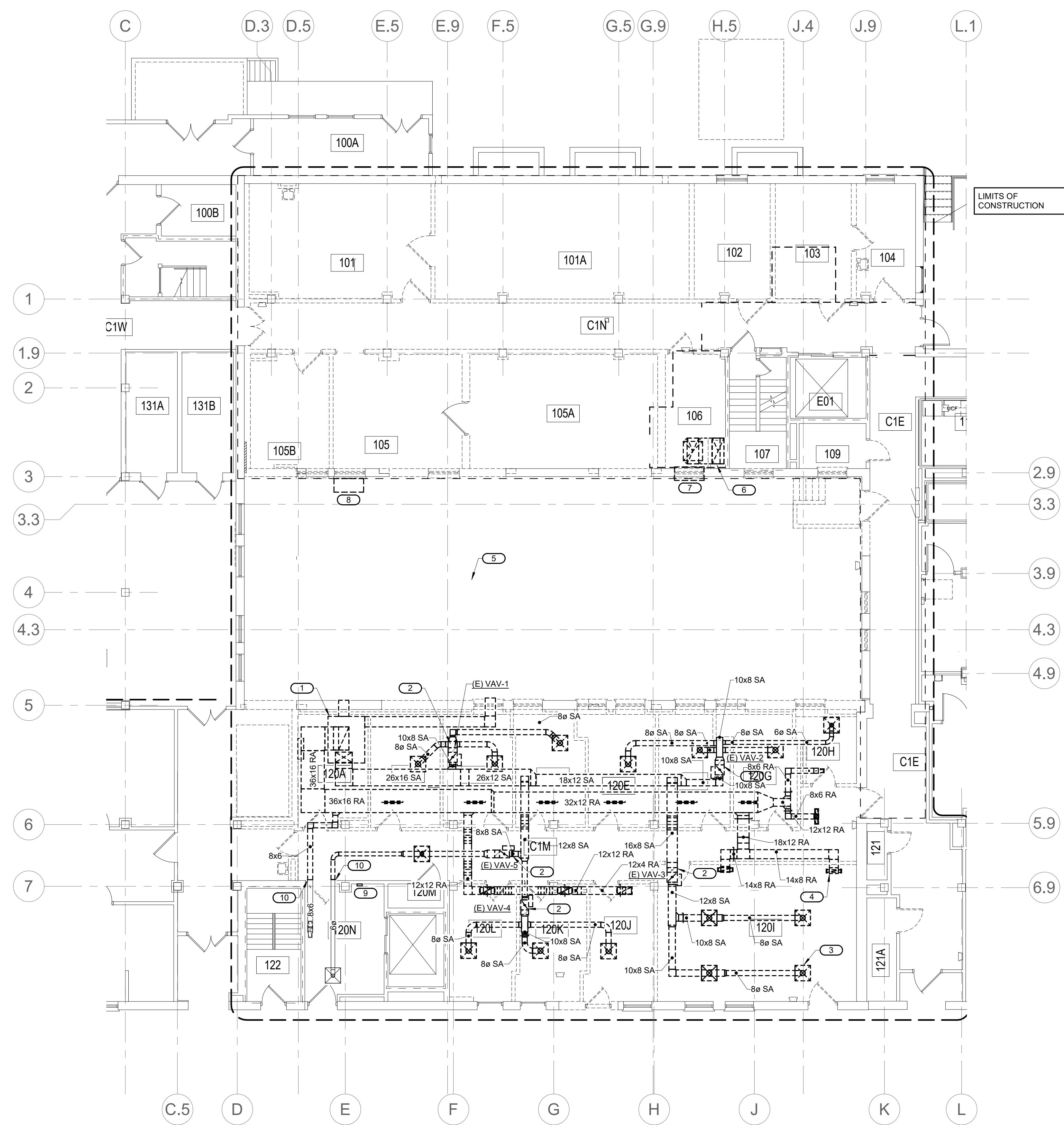
A. DUCTWORK AND EQUIPMENT SHOWN DASHED IS TO BE REMOVED. REMOVAL INCLUDES BUT IS NOT LIMITED TO ALL ASSOCIATED DUCTWORK, WIRING, CONTROLS, HANGERS AND SUPPORTS.

**KEY NOTES:**

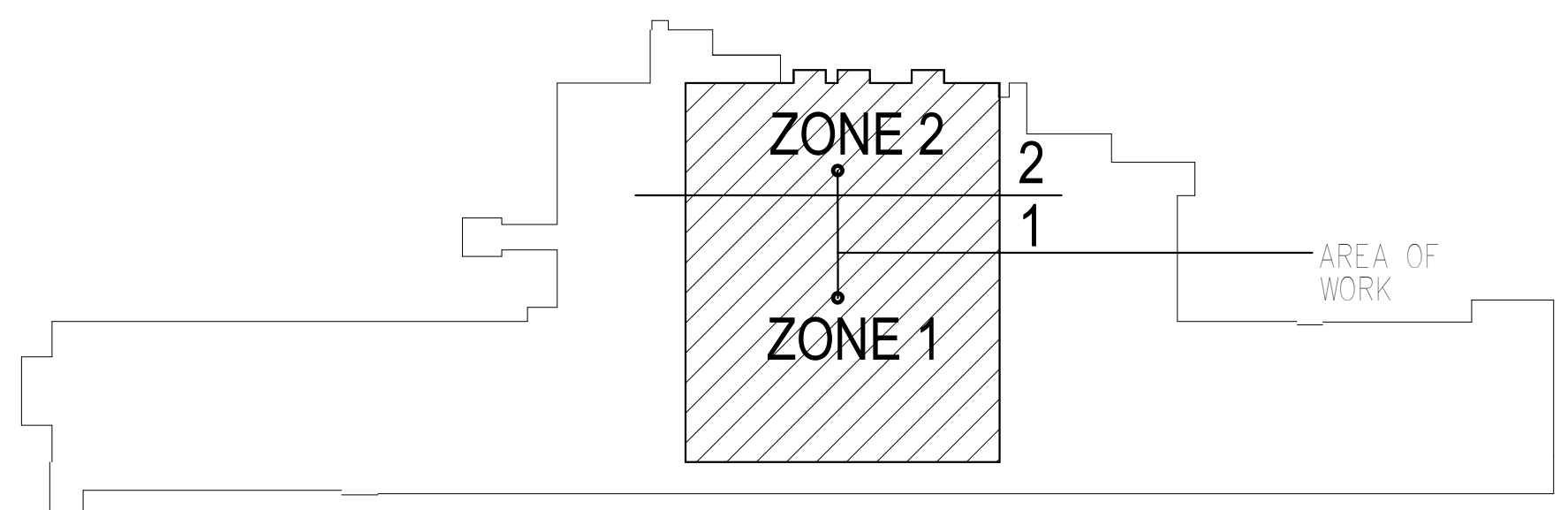
- REMOVE AHU SHOWN DASHED. REMOVAL INCLUDES BUT IS NOT LIMITED TO ALL ASSOCIATED DUCTWORK, HEATING AND COOLING COILS, PIPING, VALVES, WIRING, CONTROLS, HANGERS AND SUPPORTS.
- REMOVE VAV BOX. REMOVAL INCLUDES BUT IS NOT LIMITED TO ASSOCIATED PIPING, VALVES, WIRING, CONTROLS & SUPPORTS.
- REMOVE SUPPLY AIR DIFFUSER SHOWN DASHED (TYPICAL).
- REMOVE RETURN AIR GRILLE SHOWN DASHED (TYPICAL).
- CONDENSING UNIT - SEE PIPING DEMOLITION DRAWING FOR ADDITIONAL INFORMATION.
- DEMOLISH EXISTING EXHAUST DUCT RISER DOWN TO BASEMENT AND UP TO ROOF. SEE ARCHITECTURAL FOR ROOF PATCHING INFORMATION.
- DEMOLISH EXISTING WINDOW A/C UNIT AND ALL ASSOCIATED WIRING AND CONTROLS.
- DEMOLISH EXISTING INTAKE HOOD ON WALL APPROX. 1 FOOT ABOVE GRADE. DEMOLISH ASSOCIATED DUCTWORK BACK INTO BUILDING AND CAP. SEE ARCHITECTURAL FOR WALL PATCHING.

NOTE: THIS EQUIPMENT TO BE USED FOR CONSTRUCTION INFECTION ISOLATION STRATEGIES. SEE ARCHITECTURAL FOR SEQUENCING PLAN.

- EXISTING LOBBY THERMOSTAT SHALL BE DISCONNECTED AND REMOVED. DISCONNECT AND REMOVE EXISTING WIRING OR TUBING BACK OT THE EXISTING UNIT THAT BEING REMOVED. PROVIDE FLAT PLATE COVER, PAINT TO MATCH WALL. COORDINATE COLOR WITH ARCHITECT. MAINTAIN EXISTING LOBBY SUPPLY AND RETURN DUCTWORK AS INDICATED.
- EXTENT OF DUCTWORK DEMOLITION. EXISTING SUPPLY AND RETURN DUCTWORK IN ELEVATOR LOBBY AREA TO BE PRESERVED FOR RECONNECTION AND REUSE IN NEW SYSTEM. SEE MH101 FOR EXTENT OF NEW WORK.



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

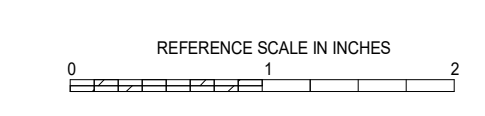


**KEY PLAN BUILDING 4**  
 NTS

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I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the state of Minnesota.  
 Signature: *Robert Douglas Lowe*  
 Typed or Printed Name: Robert Douglas Lowe  
 Date: 10/28/2022 License Number: 24706

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 BAE PROJECT NO. 19-116

APPROVED PROJECT COR	DATE	APPROVED SERVICE LINE DIRECTOR	DATE	APPROVED INFECTION CONTROL NURSE	DATE

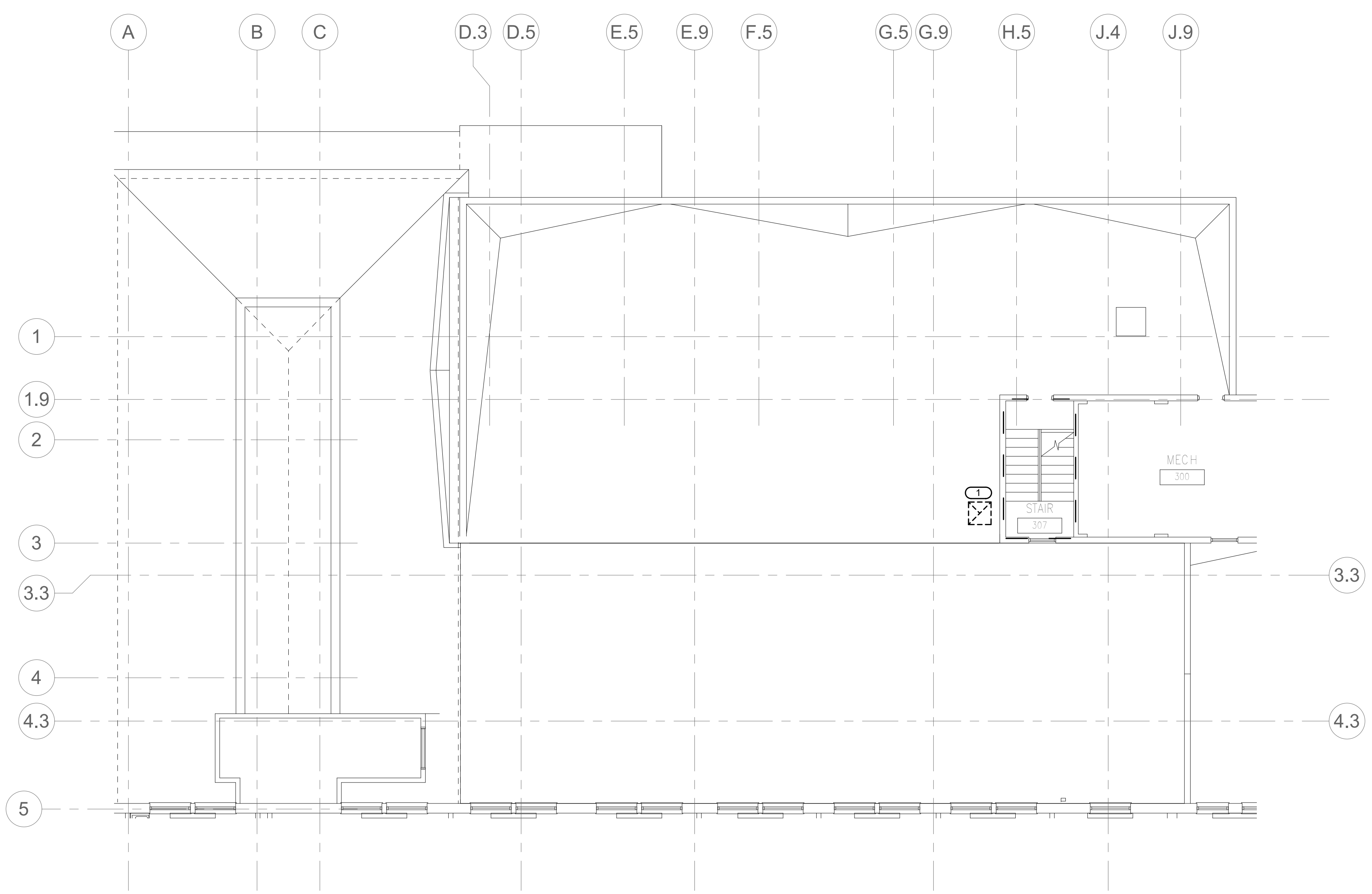
ISSUE FOR 100% CONSTRUCTION DOCUMENTS	DATE	BUILDING NO.	PROJECT NO.	DRAWING NO.	DWG. OF
ISSUE FOR 100% CONSTRUCTION DOCUMENTS	10/28/22	4	656-400	MHD101	

**U.S. Department of Veterans Health Administration**  
 St. Cloud VA Health Care System

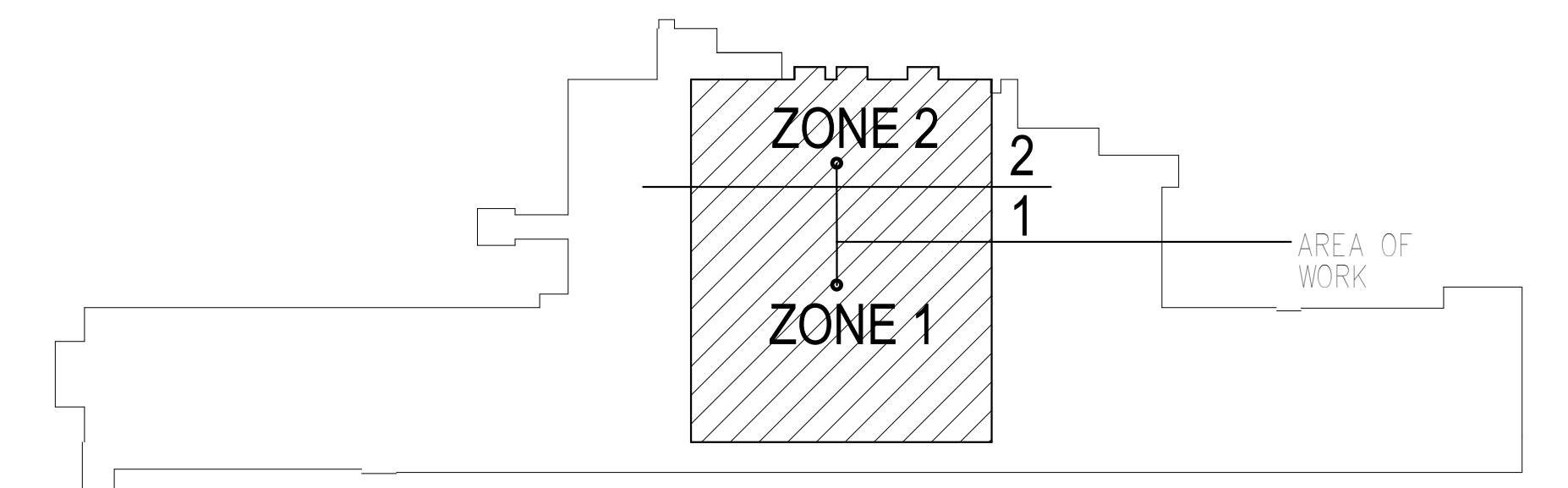
**KEYNOTES:** #

1. REMOVE EXISTING EXHAUST HOOD AND ASSOCIATED ROOF CURB. SEE ARCHITECTURAL FOR ROOF PATCHING AND WATERPROOFING.

NOTE: THIS OPENING TO BE USED FOR CONSTRUCTION INFECTION ISOLATION STRATEGIES. SEE ARCHITECTURAL FOR SEQUENCING PLAN.



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



**KEY PLAN BUILDING 4**  
 NTS

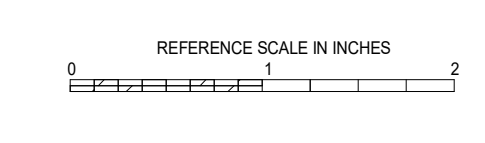
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 BAE PROJECT NO. 15-116

APPROVED PROJECT COP	DATE	APPROVED SERVICE LINE DIRECTOR	DATE	APPROVED INFECTION CONTROL NURSE	DATE

DRAWING TITLE	PROJECT TITLE	DATE
MECHANICAL - VENTILATION - DEMO PLAN - LOWER ROOF	CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR	10/28/2022

**VA**

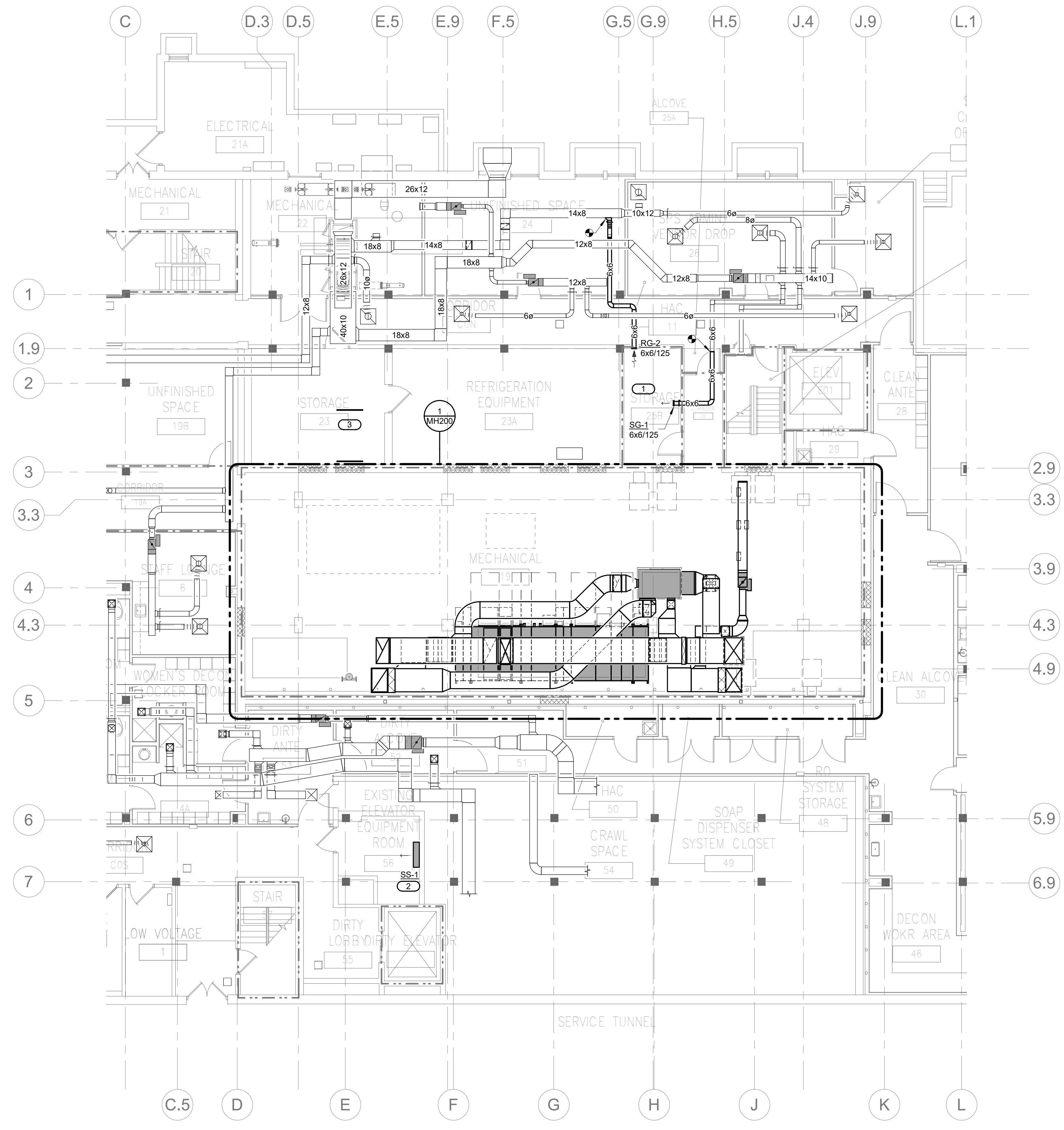
U.S. Department of Veterans Affairs  
 Veterans Health Administration  
 St. Cloud VA Health Care System

**SHEET NOTES:**

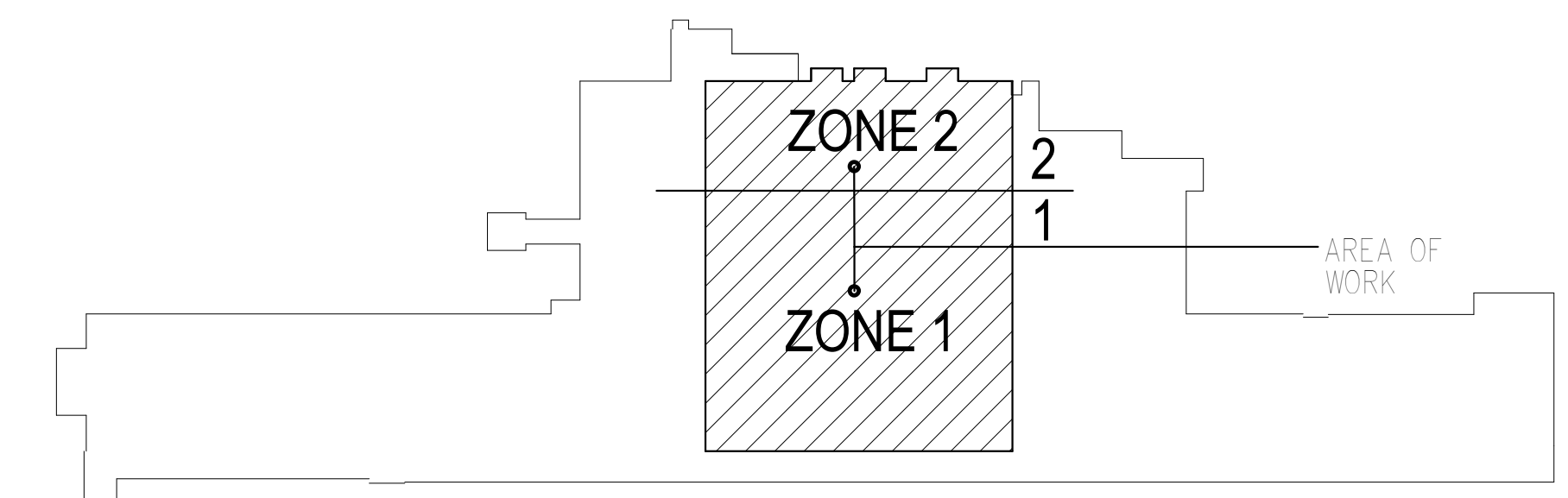
- PROVIDE BALANCING DAMPERS AT ALL SUPPLY DIFFUSERS & GRILLES AND ALL RETURN/EXHAUST GRILLES. ALL DAMPERS MAY NOT BE VISIBLE ON CONSTRUCTION DOCUMENTS.
- CONTRACTOR SHALL REPAIR AND/OR REPLACE ANY DUCTWORK OR INSULATION THAT IS DAMAGED DURING CONSTRUCTION.

**KEYNOTES:** #

- REBALANCE EXISTING SYSTEM TO ACCOMMODATE NEW SUPPLY AND RETURN GRILLES IN STORAGE 25B
- NEW SPLIT SYSTEM EVAPORATOR UNIT. SEE PIPING SHEET MP100 FOR EXTENT OF WORK.



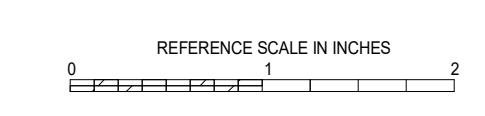
**1 MECHANICAL - VENTILATION - PLAN - BASEMENT**  
1/8" = 1'-0"



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APPROVED PROJECT COP	DATE	APPROVED SERVICE LINE DIRECTOR	DATE	APPROVED INSPECTION CONTROL NUMBER	DATE

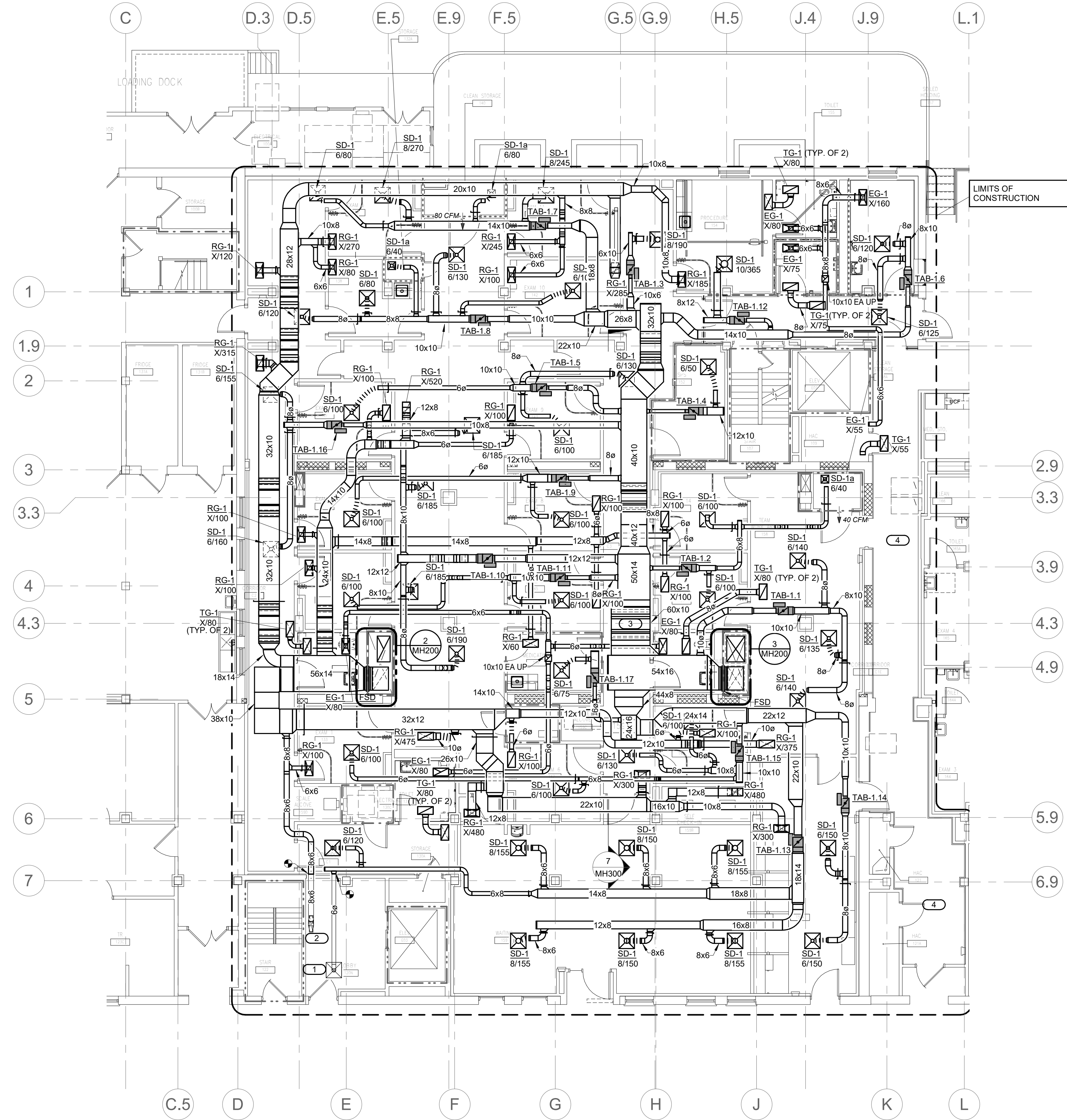
DRAWING TITLE	DATE	PROJECT TITLE	DATE	DWG. NO.
MECHANICAL - VENTILATION - PLAN - BASEMENT <td>10/28/2022 <td>CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR <td>10/28/2022 <td>656-400 </td></td></td></td>	10/28/2022 <td>CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR <td>10/28/2022 <td>656-400 </td></td></td>	CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR <td>10/28/2022 <td>656-400 </td></td>	10/28/2022 <td>656-400 </td>	656-400

**VA**  
U.S. Department of Veterans Affairs  
Veterans Health Administration  
St. Cloud VA Health Care System  
ST. CLOUD, MN 56303

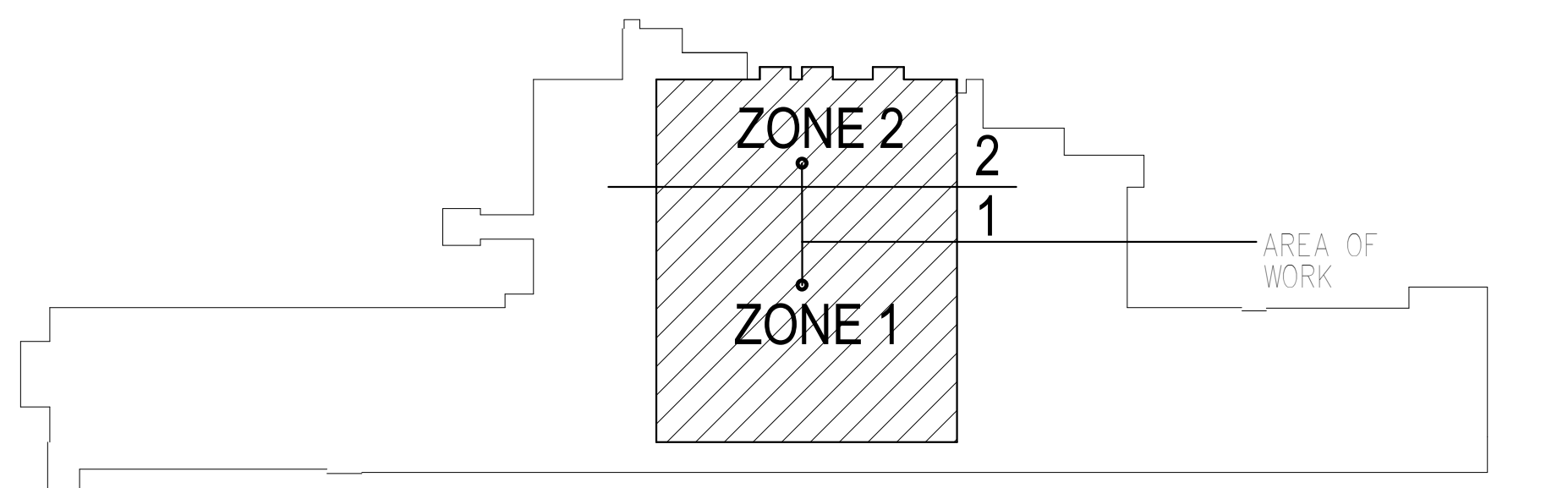
- CONSTRUCTION NOTES:**
- LOCATE ALL VAV BOXES AWAY FROM DOORS AND DOOR SWINGS FOR EASY LADDER ACCESS.
  - LOCATE VAV BOXES WITHIN THE ROOM THEY SERVE WHERE POSSIBLE.
  - LOCATE VAV REHEAT COIL VALVING IN SUCH A MANNER THAT BOTH THE VAV CONTROLLER AND VALVING CAN BE ACCESSED BY A SINGLE LADDER POSITION.
  - PROVIDE 36" CLEARANCE AROUND VAV CONTROLLER.
  - DUCTWORK SHALL BE ROUTED FLUSH TO STRUCTURE IN CORRIDORS.
  - FACE SIZE FOR AIR TERMINALS WITH "X" DESIGNATOR ARE LISTED IN AIR TERMINAL SCHEDULE ON SHEET MH500.

- KEYNOTES: C #**
- REBALANCE EXISTING SUPPLY DIFFUSER TO 100 CFM.
  - REBALANCE EXISTING RETURN GRILLE TO 100 CFM.
  - SUPPLY DUCT MUST BE ROUTED UNDER STRUCTURAL BEAM AT THIS LOCATION. THIS AREA IS ALSO OCCUPIED BY VARIOUS OTHER SYSTEMS. DUCT SHALL BE ROUTED FLUSH TO STRUCTURE. COORDINATE WITH ALL OTHER DISCIPLINES.
  - THIS AREA IS NOT WITHIN THE SCOPE FOR MECHANICAL RENOVATIONS. NO NEW DUCTWORK IN THIS AREA.

- SHEET NOTES:**
- PROVIDE BALANCING DAMPERS AT ALL SUPPLY DIFFUSERS & GRILLES AND ALL RETURN EXHAUST GRILLES. ALL DAMPERS MAY NOT BE VISIBLE ON CONSTRUCTION DOCUMENTS.
  - CONTRACTOR SHALL REPAIR AND/OR REPLACE ANY DUCTWORK OR INSULATION THAT IS DAMAGED DURING CONSTRUCTION.



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

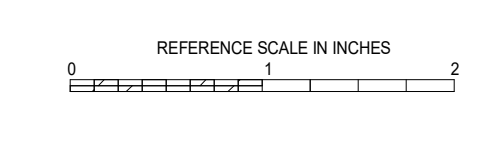


**KEY PLAN BUILDING 4**  
 NORTH

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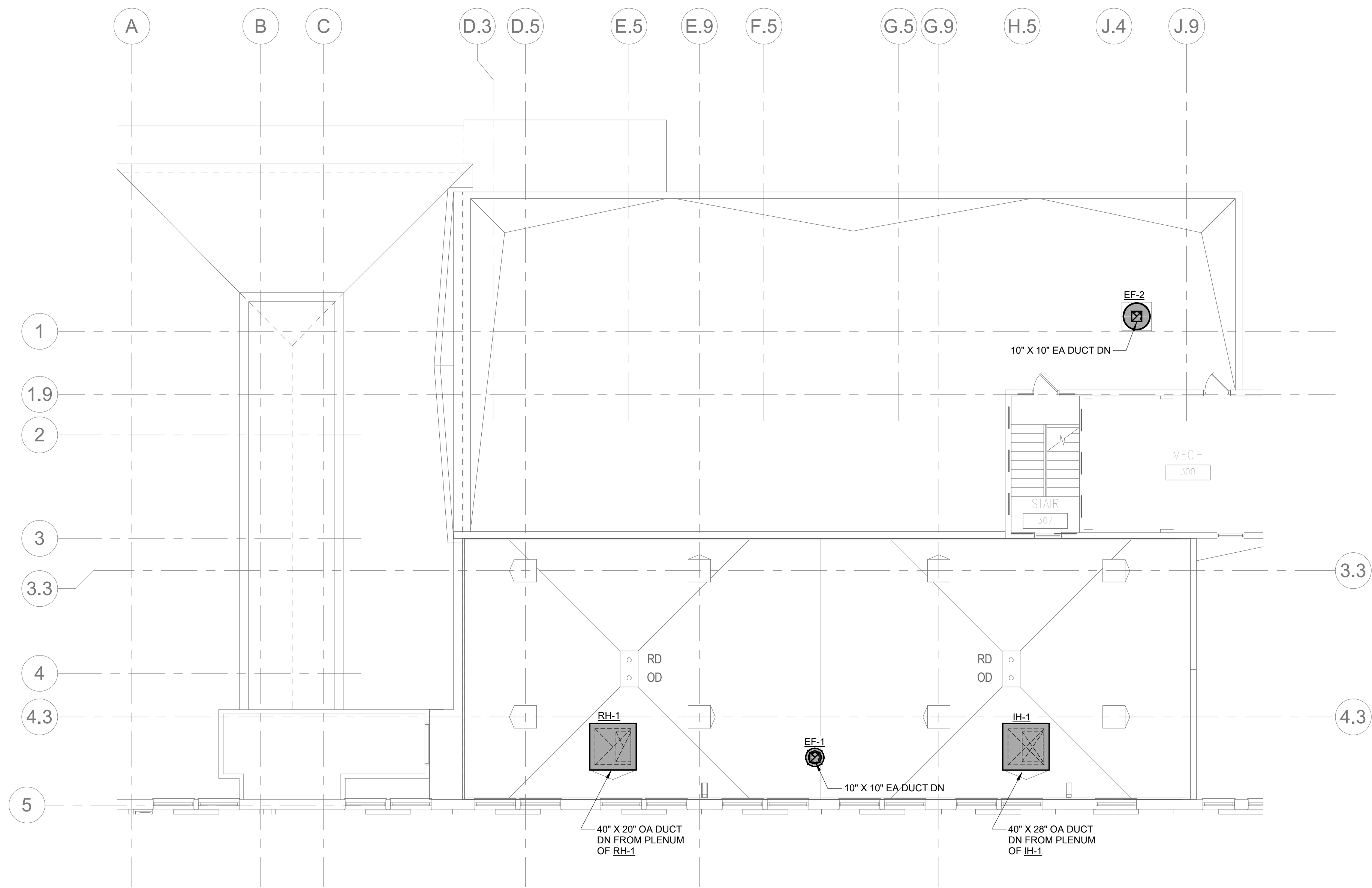
I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the state of Minnesota.  
 Signature: [Signature]  
 Typed or Printed Name: Robert Douglas Lowe  
 Date: 10/28/2022 License Number: 24706

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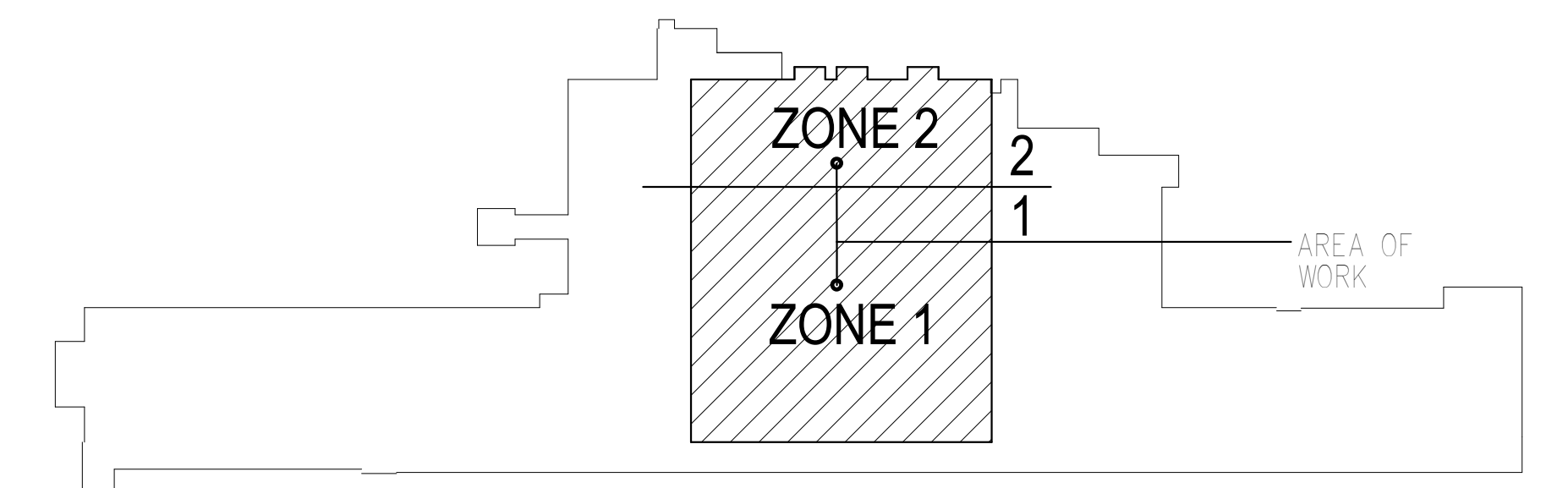
APPROVED PROJECT COPIES	DATE	APPROVED SERVICE LINE DIRECTOR	DATE	APPROVED INSPECTION CONTROL NUMBER	DATE

ISSUE FOR 100% CONSTRUCTION DOCUMENTS	10/28/22
MECHANICAL - VENTILATION - PLAN - FIRST FLOOR	
CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR	
DRAWING TITLE	DATE
PROJECT NO. 656-400	
PROJ. MGR. NKJ	
DRAWN BY WDM	
DWG. NO. MH101	
LOCATION ST. CLOUD VAHCS	
ST. CLOUD, MN 56303	

**VA**  
 U.S. Department of Veterans Health Administration  
 St. Cloud VA Health Care System



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

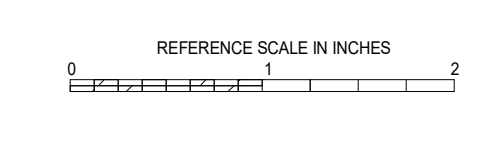


**KEY PLAN BUILDING 4**  
 NTS

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No.	REVISION	DATE

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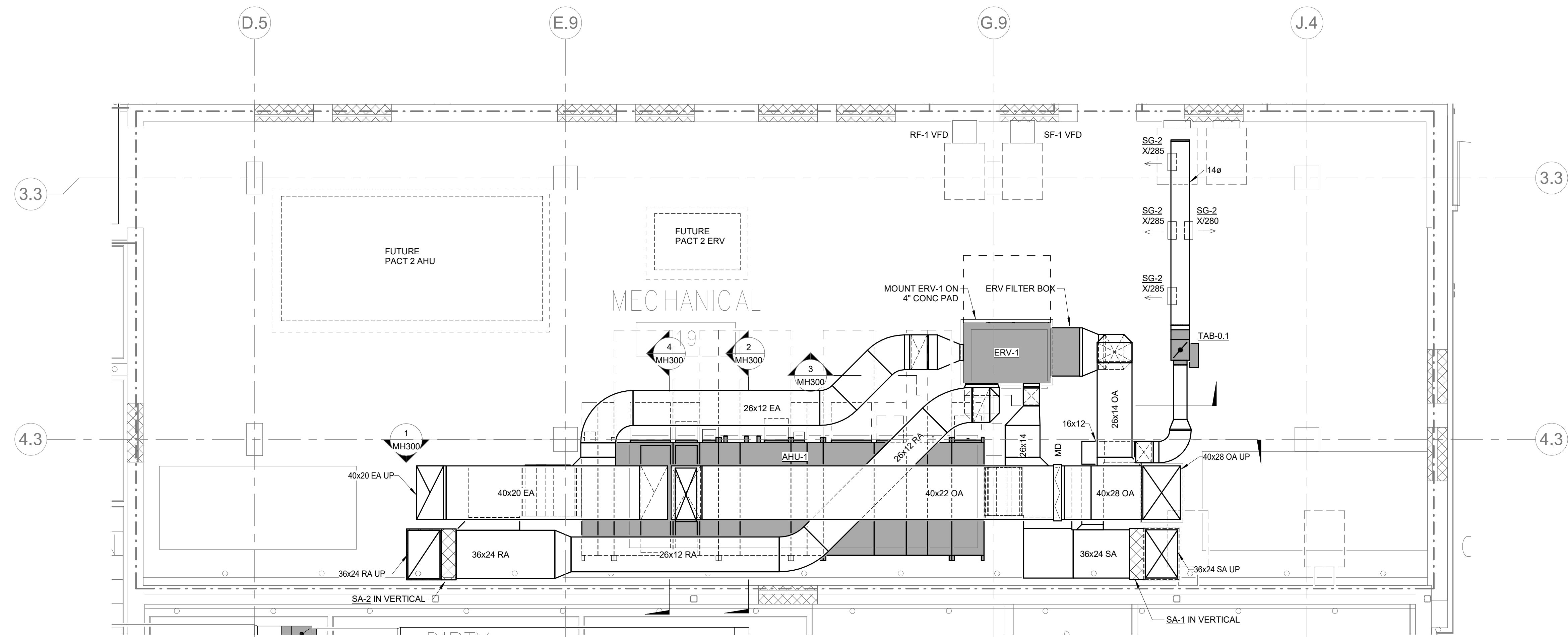
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 BAE PROJECT NO. 15-116

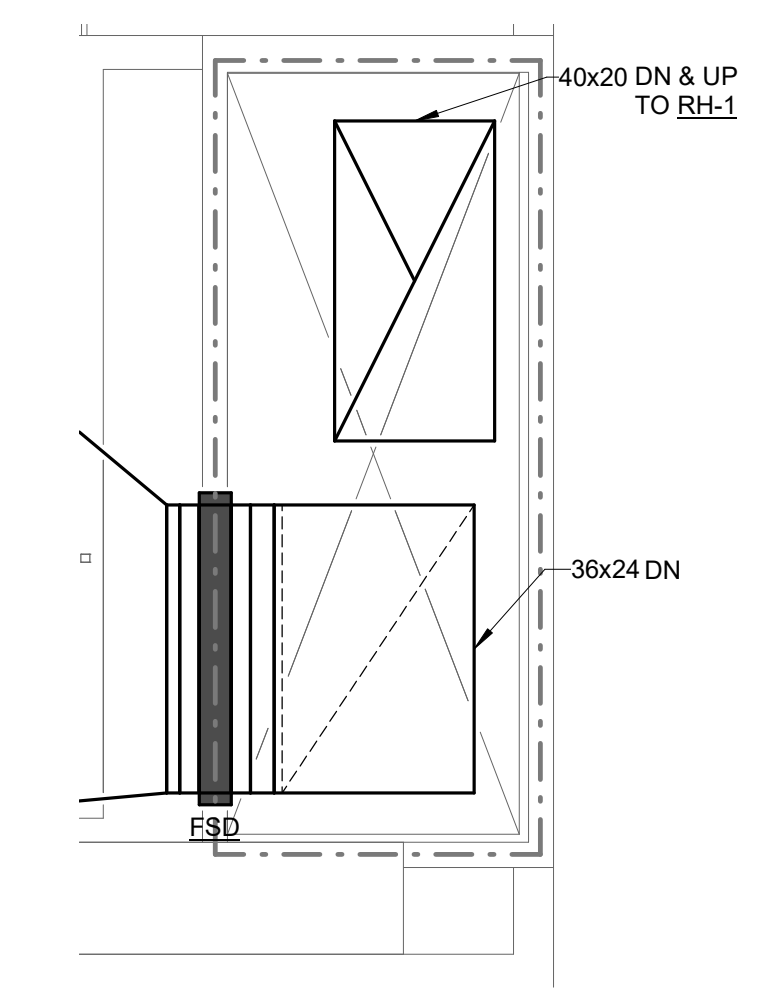
APPROVED PROJECT COP	DATE	APPROVED SERVICE LINE DIRECTOR	DATE	APPROVED INFECTION CONTROL NURSE	DATE
APPROVED GENR PROJECT MANAGER	DATE	APPROVED PATIENT SAFETY	DATE	APPROVED HEALTH CARE SYSTEM DIRECTOR	DATE
APPROVED PROJECTS SECTION MANAGER	DATE	APPROVED CHIEF OF POLICE	DATE	APPROVED CHIEF OF STAFF	DATE
APPROVED DIRECTOR FIN	DATE	APPROVED SAFETY MANAGER	DATE	APPROVED HEALTH CARE SYSTEM DIRECTOR	DATE

DRAWING TITLE MECHANICAL - VENTILATION - PLAN - LOWER ROOF	PROJECT TITLE CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR	DATE 10/28/2022
APPROVED ASSOCIATE HEALTH CARE SYSTEM DIRECTOR	PROJECT NO. 656-400	PROJ SCALE
APPROVED CHIEF OF STAFF	BUILDING No. 4	DESIGNER NKJ
APPROVED HEALTH CARE SYSTEM DIRECTOR	LOCATION ST. CLOUD VAHCS ST. CLOUD, MN 56303	DRAWING NO. MH102

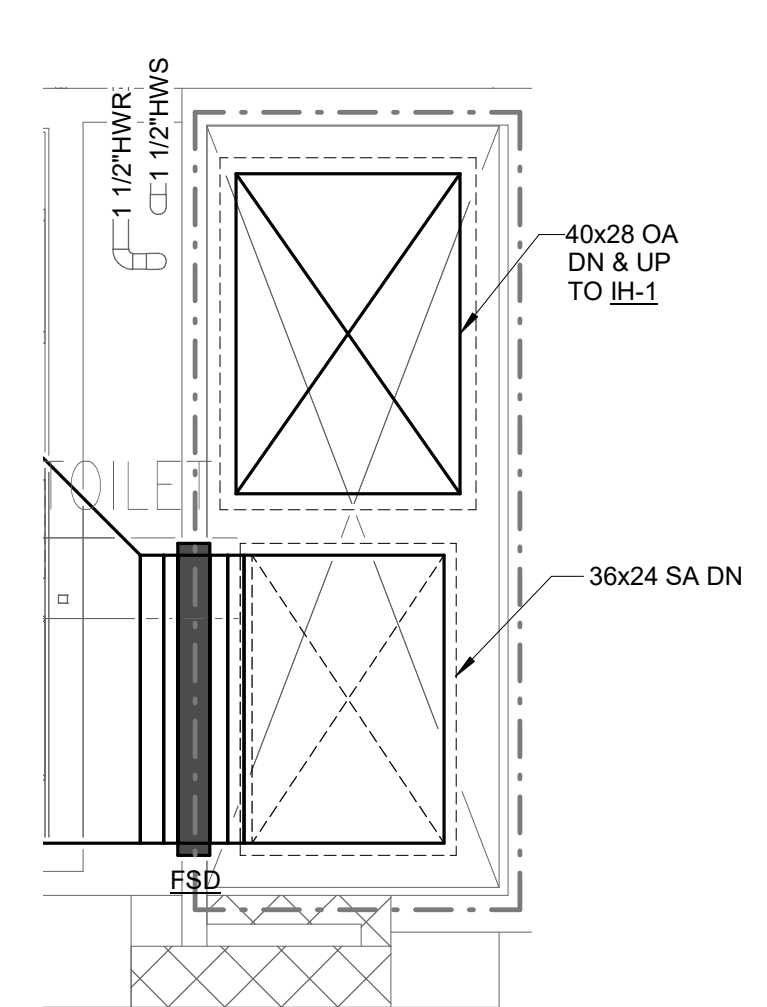
**VA**  
 U.S. Department of Veterans Affairs  
 Veterans Health Administration  
 St. Cloud VA Health Care System



**1 NEW MECHANICAL ROOM - VENTILATION**  
1/4" = 1'-0"



**2 ENLARGED SHAFT PLAN**  
1/2" = 1'-0"

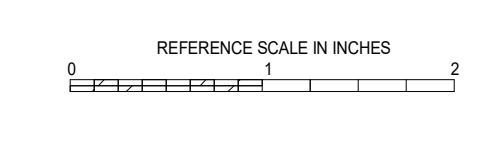


**3 ENLARGED SHAFT PLAN**  
1/2" = 1'-0"

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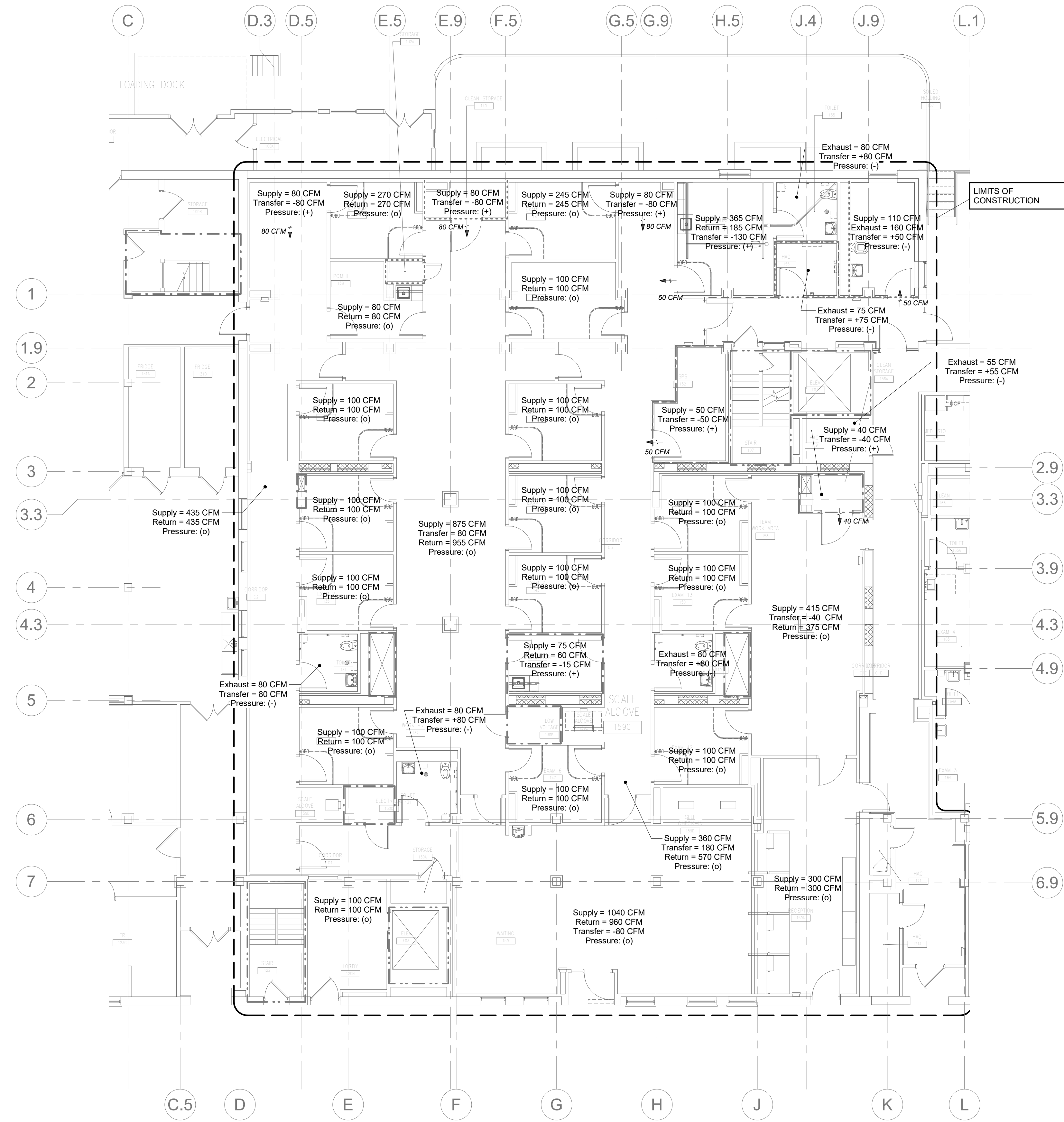
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APPROVED PROJECT COP	DATE	APPROVED SERVICE LINE DIRECTOR	DATE	APPROVED INSPECTION CONTROL MANAGER	DATE
APPROVED GERM PROJECT MANAGER	DATE	APPROVED PATIENT SAFETY	DATE	APPROVED ASSOCIATE HEALTH CARE SYSTEM DIRECTOR	DATE
APPROVED PROJECTS SECTION MANAGER	DATE	APPROVED CHIEF OF POLICE	DATE	APPROVED CHIEF OF STAFF	DATE
APPROVED DIRECTOR FINES	DATE	APPROVED SAFETY MANAGER	DATE	APPROVED HEALTH CARE SYSTEM DIRECTOR	DATE

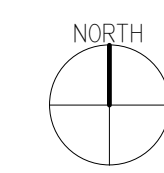
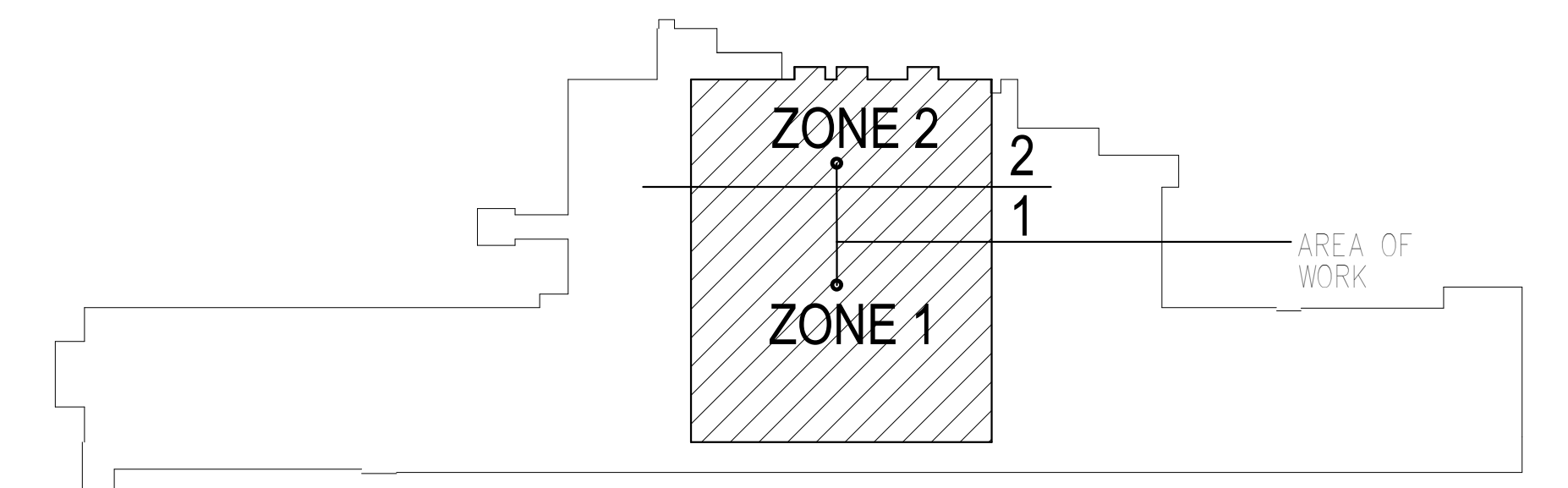
DRAWING TITLE MECHANICAL - VENTILATION - ENLARGED PLANS	DATE 10/28/2022
PROJECT TITLE CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR	PROJECT NO. 656-400
BUILDING NO. 4	DRAWING NO. MH200
LOCATION ST. CLOUD VAHCS ST. CLOUD, MN 56303	DWG. OF

**VA**  
U.S. Department of Veterans Affairs  
Veterans Health Administration  
St. Cloud VA Health Care System



**MECHANICAL - VENTILATION - AIRFLOW AND PRESSURE PLAN**

1/8" = 1'-0"



**KEY PLAN BUILDING 4**

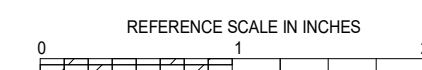
NTS

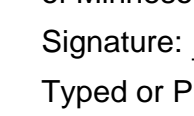
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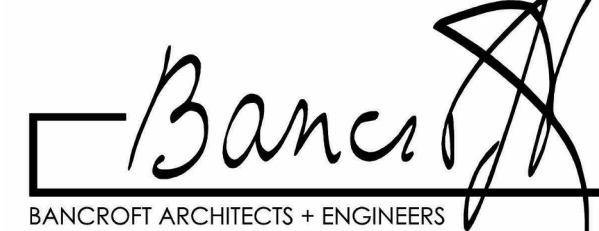
No.	REVISION	DATE



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BAE PROJECT NO. 15-116

APPROVED PROJECT DIR.	DATE	APPROVED SERVICE LINE DIRECTOR	DATE	APPROVED INFECTION CONTROL NURSE	DATE

APPROVED ASSOCIATE HEALTH CARE SYSTEM DIRECTOR	DATE	APPROVED CHIEF OF STAFF	DATE	APPROVED HEALTH CARE SYSTEM DIRECTOR	DATE

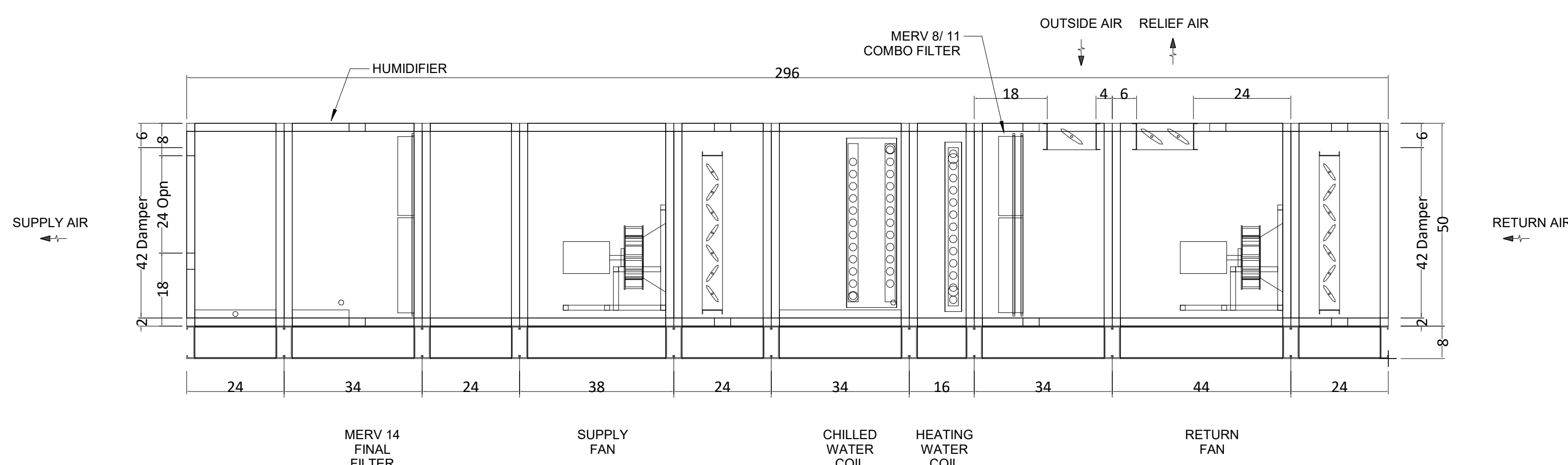
PROJECT TITLE	DATE
MECHANICAL - SPACE AIRFLOW AND PRESSURE PLAN	10/28/2022
CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR	
PROJECT NO.	656-400
DRAWING NO.	MH201
BUILDING NO.	4
PROJ. MGR.	NKJ
DRAWN BY	WDM
LOCATION	ST. CLOUD VAHCS ST. CLOUD, MN 56303
DWG. OF	



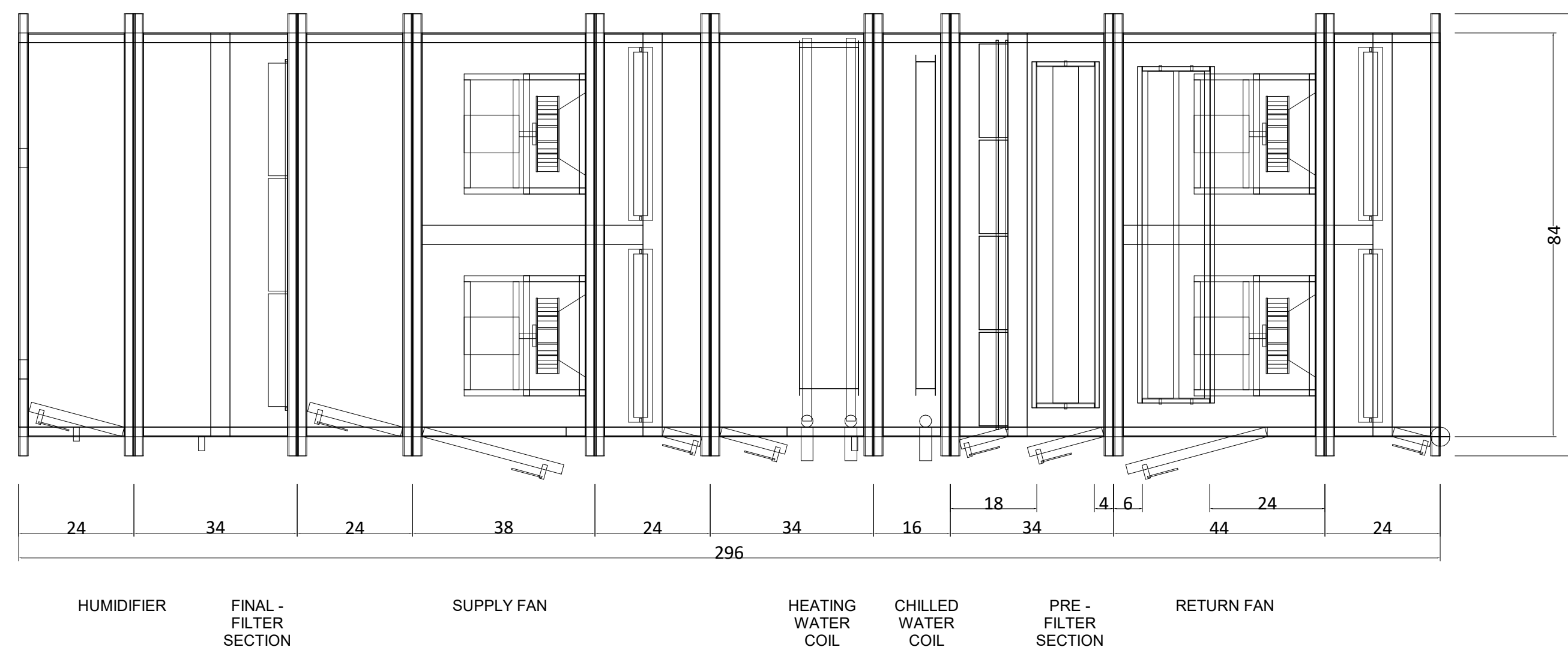
U.S. Department of Veterans Affairs  
Veterans Health Administration  
St. Cloud VA Health Care System

**NOTES:**  
 A. AIR HANDLING UNIT SHALL BE ORDERED WITH SHIPPING SPLITS AS DESCRIBED BELOW. UNIT SECTIONS ARE REQUIRED TO FIT THROUGH A 3' WIDE DOOR.  
 B. FAN SECTIONS WILL BE DISASSEMBLED BY CONTRACTOR FOR TRANSPORT INTO MECHANICAL ROOM. FAN SECTIONS SHALL BE RE-ASSEMBLED PER MANUFACTURER'S INSTRUCTIONS.

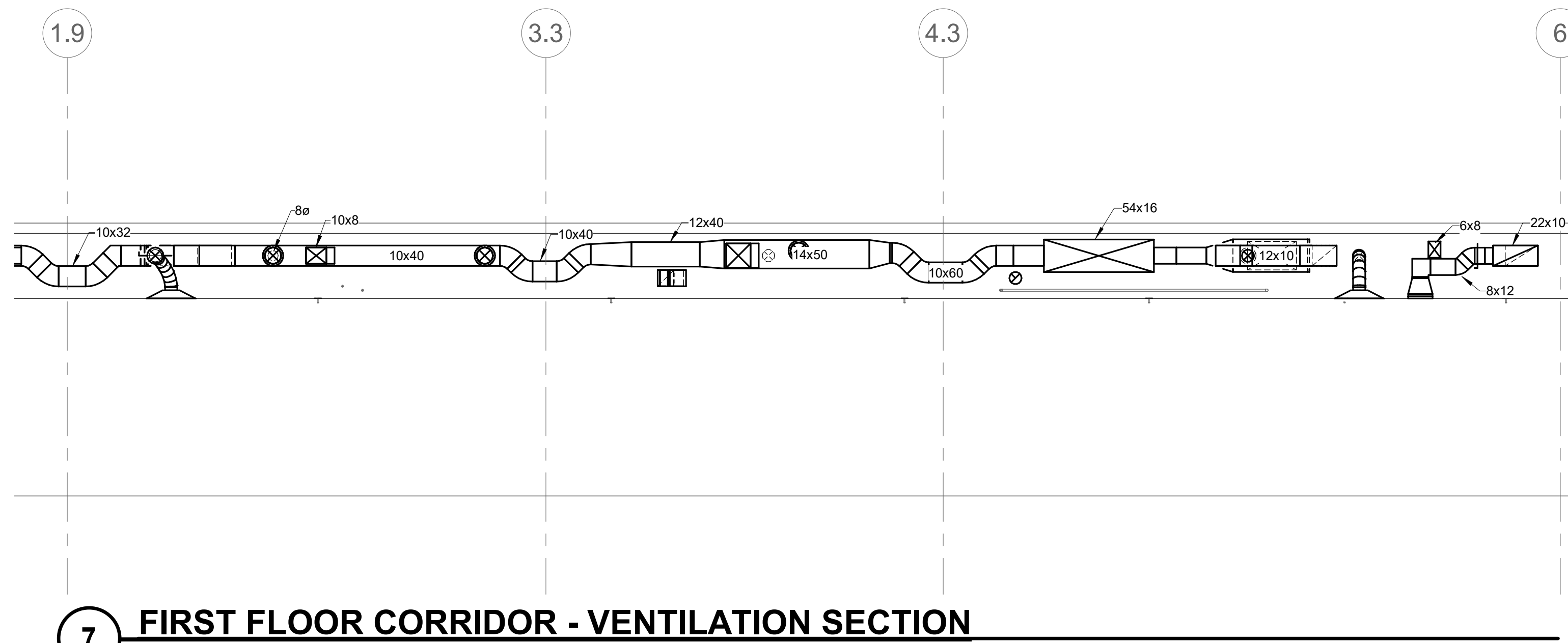
**KEYNOTES:** E  
 1. PROVIDE 18" X 24" ACCESS PANELS ON DOWNSTREAM AND UPSTREAM SIDES OF SA-2.



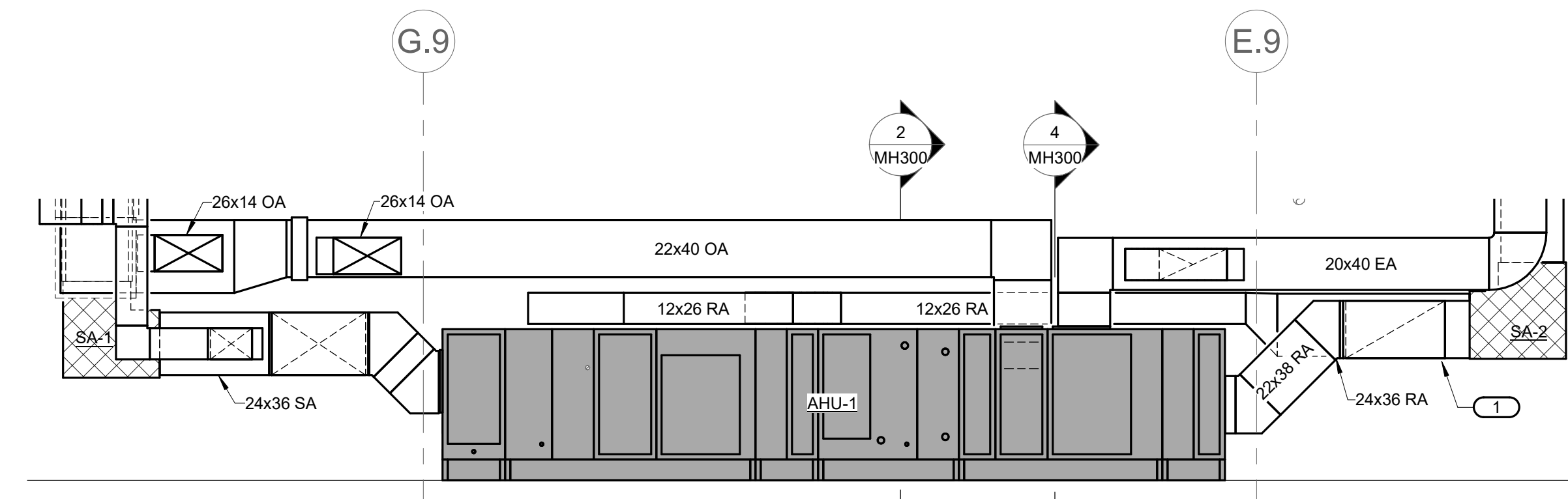
**5 AIR HANDLING UNIT AHU-1 - ELEVATION**  
 NO SCALE



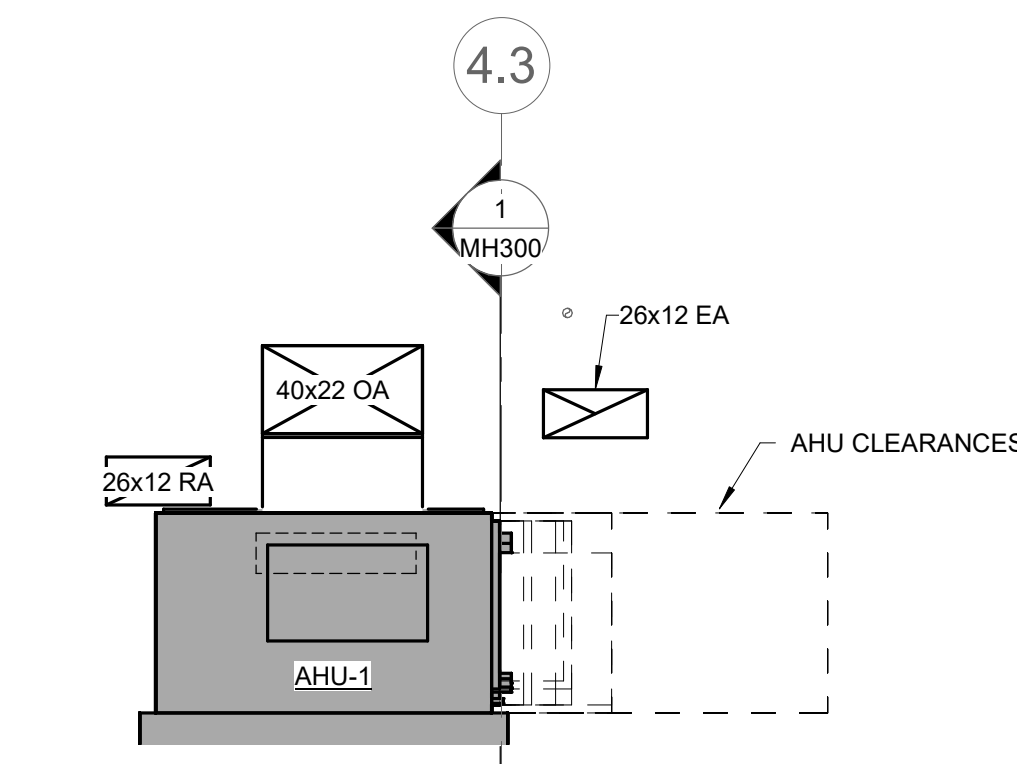
**6 AIR HANDLING UNIT AHU-1 - PLAN**  
 NO SCALE



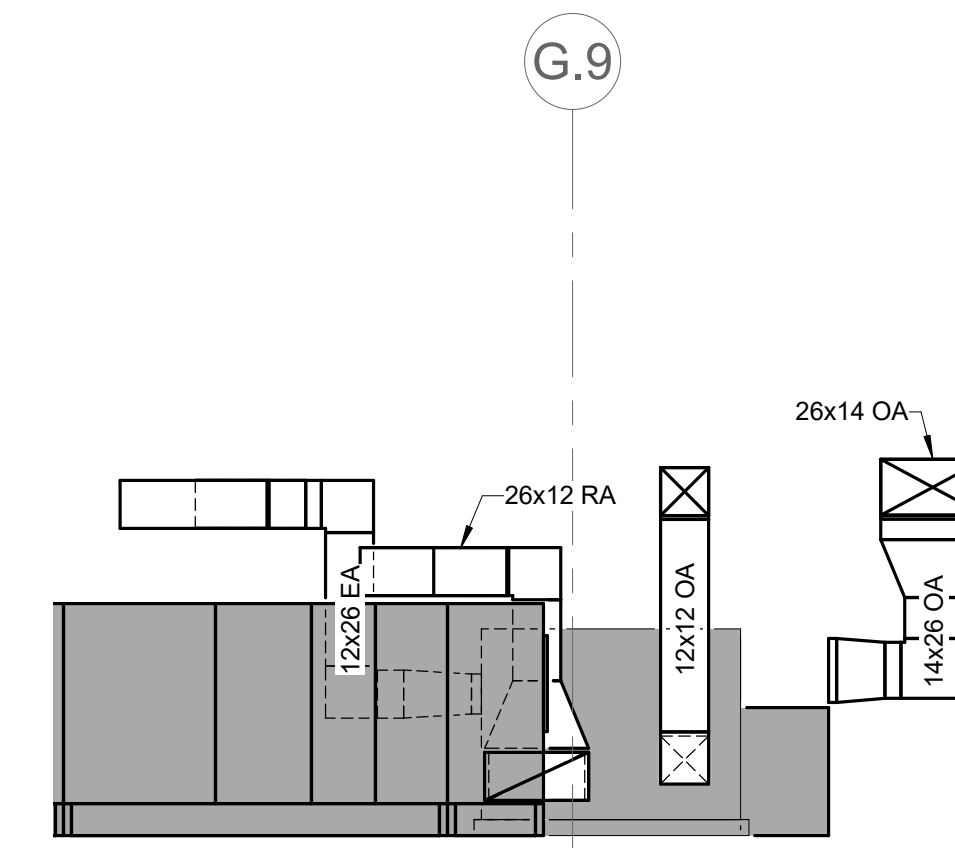
**7 FIRST FLOOR CORRIDOR - VENTILATION SECTION**  
 1/4" = 1'-0"



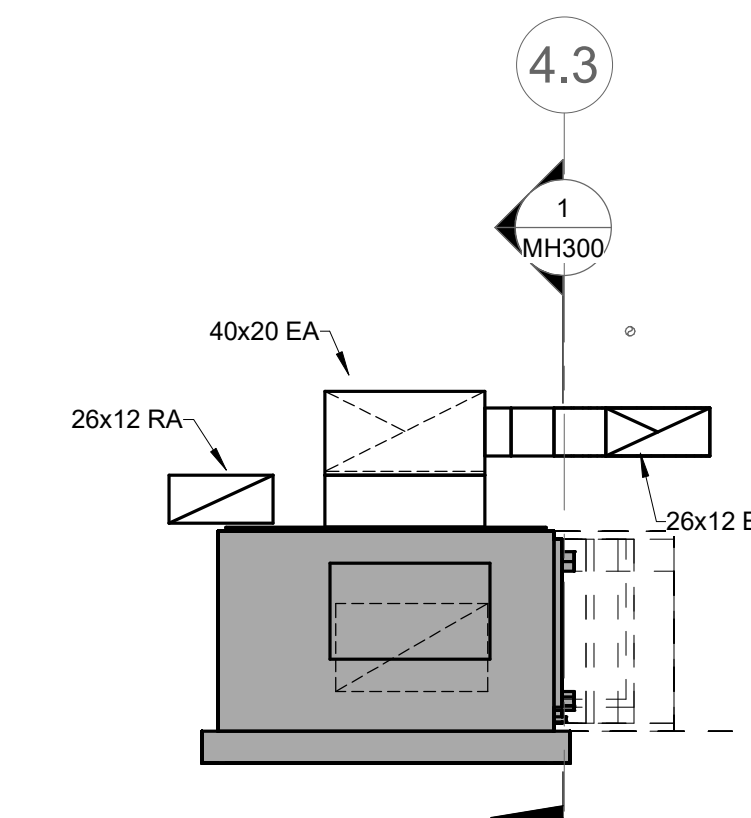
**1 PACT MECHANICAL ROOM - AHU-01**  
 1/4" = 1'-0"



**2 PACT MECHANICAL ROOM - LOOKING WEST**  
 1/4" = 1'-0"



**3 PACT MECHANICAL ROOM - ENERGY RECOVERY UNIT**  
 1/4" = 1'-0"

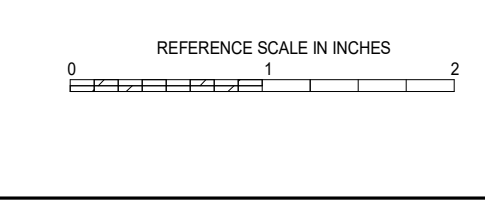


**4 PACT MECHANICAL ROOM - LOOKING WEST AT WEST SHAFT**  
 1/4" = 1'-0"

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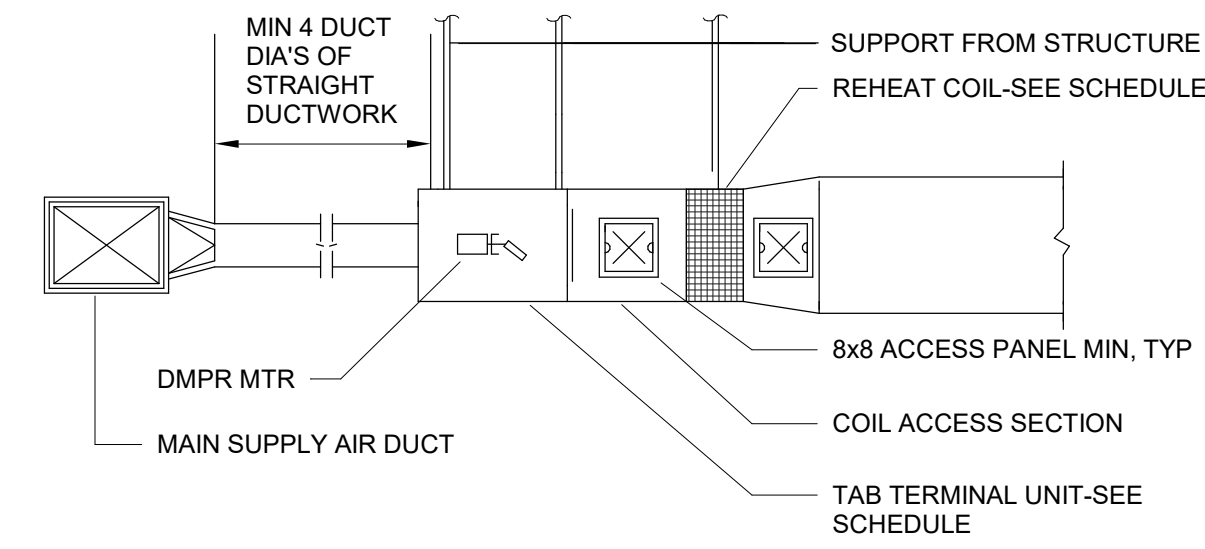
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 BAE PROJECT NO. 19-116

APPROVED PROJECT COP	DATE	APPROVED SERVICE LINE DIRECTOR	DATE	APPROVED INSPECTION CONTROL NUMBER	DATE
APPROVED GERM PROJECT MANAGER	DATE	APPROVED PATIENT SAFETY	DATE	APPROVED ASSOCIATE HEALTHCARE SYSTEM DIRECTOR	DATE
APPROVED PROJECTS SECTION MANAGER	DATE	APPROVED CHIEF OF POLICE	DATE	APPROVED CHIEF OF STAFF	DATE
APPROVED DIRECTOR FMS	DATE	APPROVED SAFETY MANAGER	DATE	APPROVED HEALTHCARE SYSTEM DIRECTOR	DATE

DRAWING TITLE MECHANICAL - VENTILATION - SECTIONS	PROJECT TITLE CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR	DATE 10/28/2022
		PROJECT SCALE
		REVISION NO. 656-400
		DRAWING NO. MH300
BUILDING NO. 4	PROJECT NO. NKJ	DRAWN BY WDM
LOCATION ST. CLOUD VAHCS ST. CLOUD, MN 56303		DATE OF 

**VA**  
 U.S. Department of Veterans Affairs  
 Veterans Health Administration  
 St. Cloud VA Health Care System

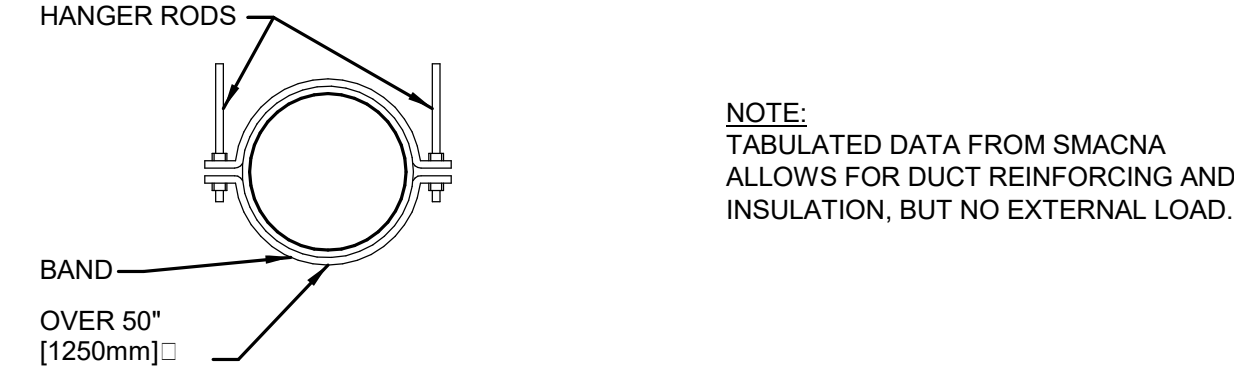




**11 TAB UNIT TERMINAL w/ACCESS PANEL**  
NO SCALE

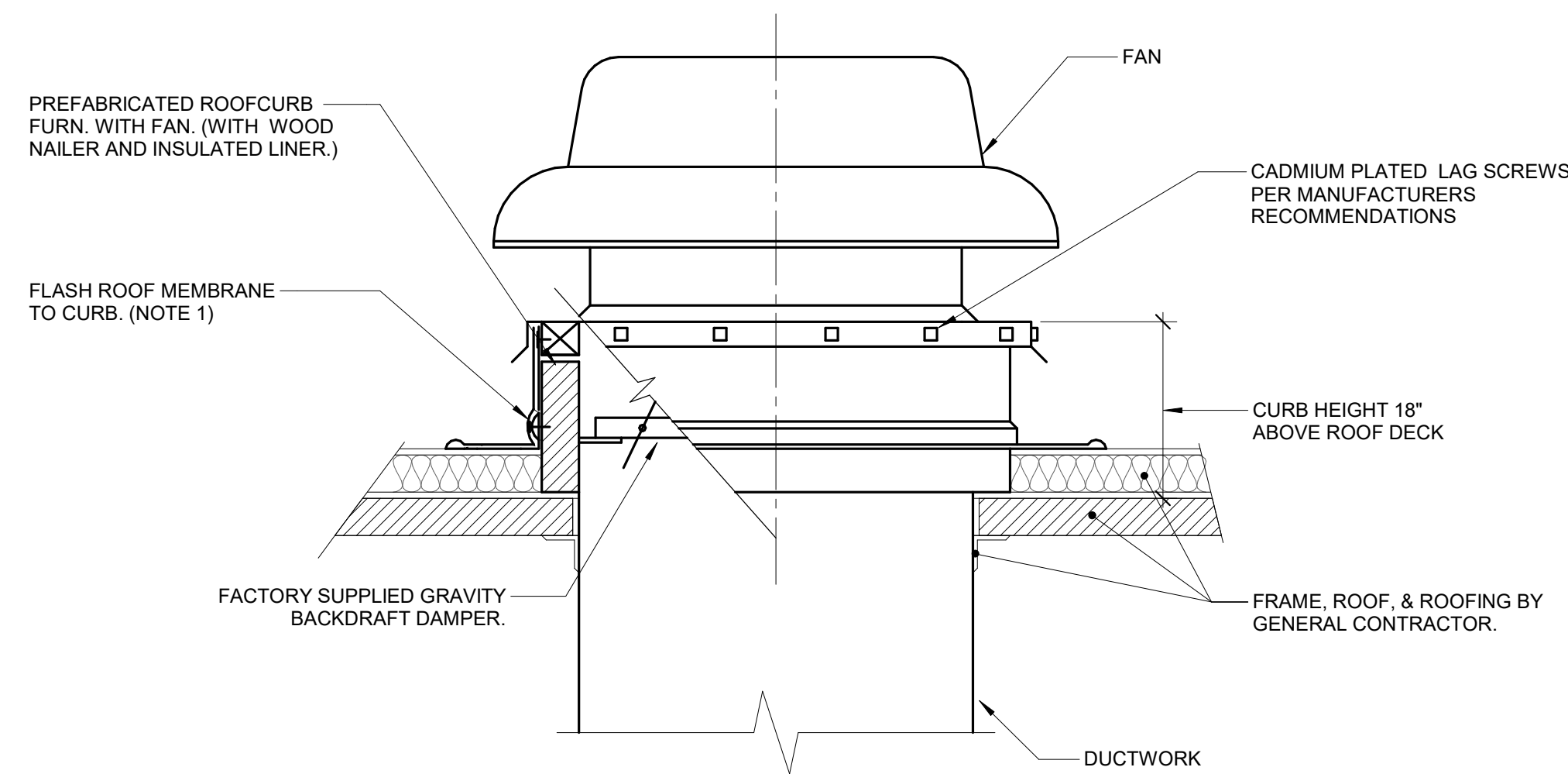
**HANGER STRAPS OR RODS**

MAX. DUCT IN. [mm]	QUANTITY/SIZE IN. [mm]	MAX. LOAD LBS. [kg]	MAX. SPACING IN. [mm]
26 [650]	ONE 1 [25] x 22 GA STRAP	260 [119]	144 [3600]
36 [900]	ONE 1 [25] x 18 GA STRAP	420 [190]	144 [3600]
50 [1250]	ONE 1 [25] x 16 GA STRAP	700 [317]	144 [3600]
60 [1500]	TWO 3/8 [10] RODS	1320 [598]	144 [3600]
84 [2100]	TWO 1/2 [13] RODS	2500 [1133]	144 [3600]



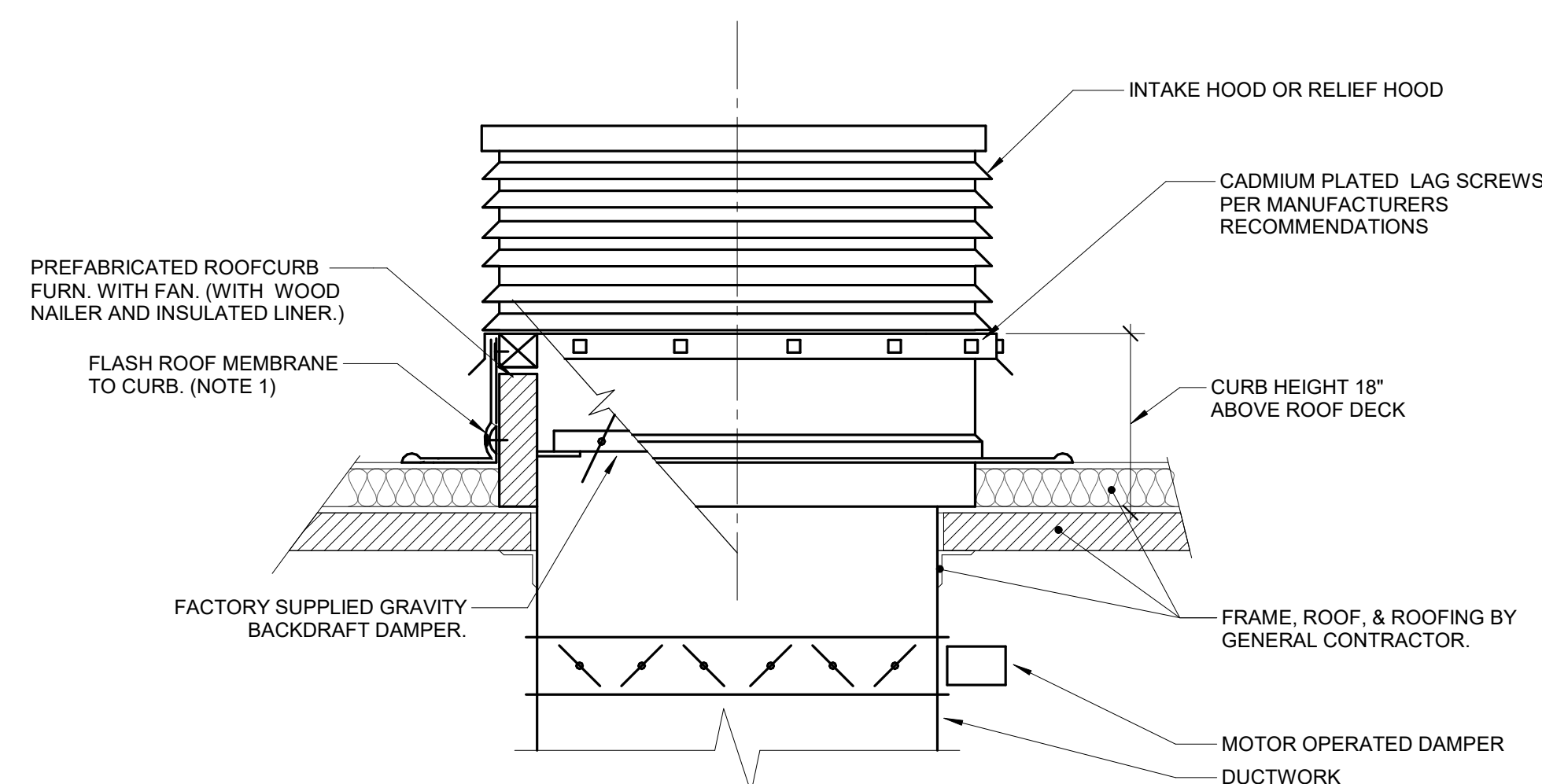
NOTE:  
TABULATED DATA FROM SMACNA  
ALLOWS FOR DUCT REINFORCING AND  
INSULATION, BUT NO EXTERNAL LOAD.

**8 ROUND DUCT HANGERS**  
NO SCALE



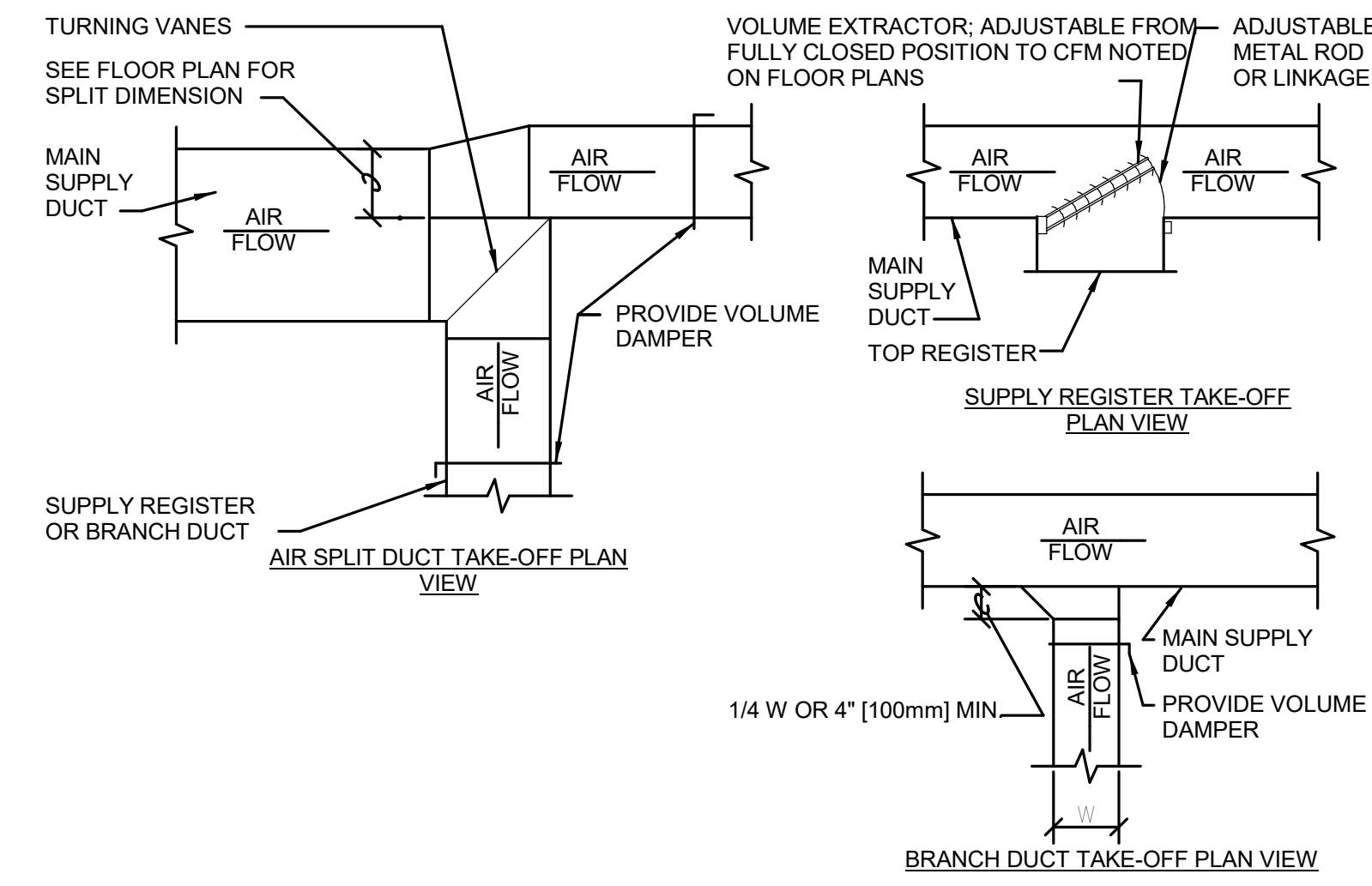
NOTES:  
1. CURB DETAIL FOR REFERENCE ONLY. SEE SHEET A506 FOR ARCHITECTURAL DETAIL WITH COMPLETE CURB INSTALLATION DETAIL.  
2. ALL ROOF FLASHING SHALL BE PER ROOFING MANUFACTURERS RECOMMENDATIONS.

**9 ROOF MOUNTED FAN**  
NO SCALE

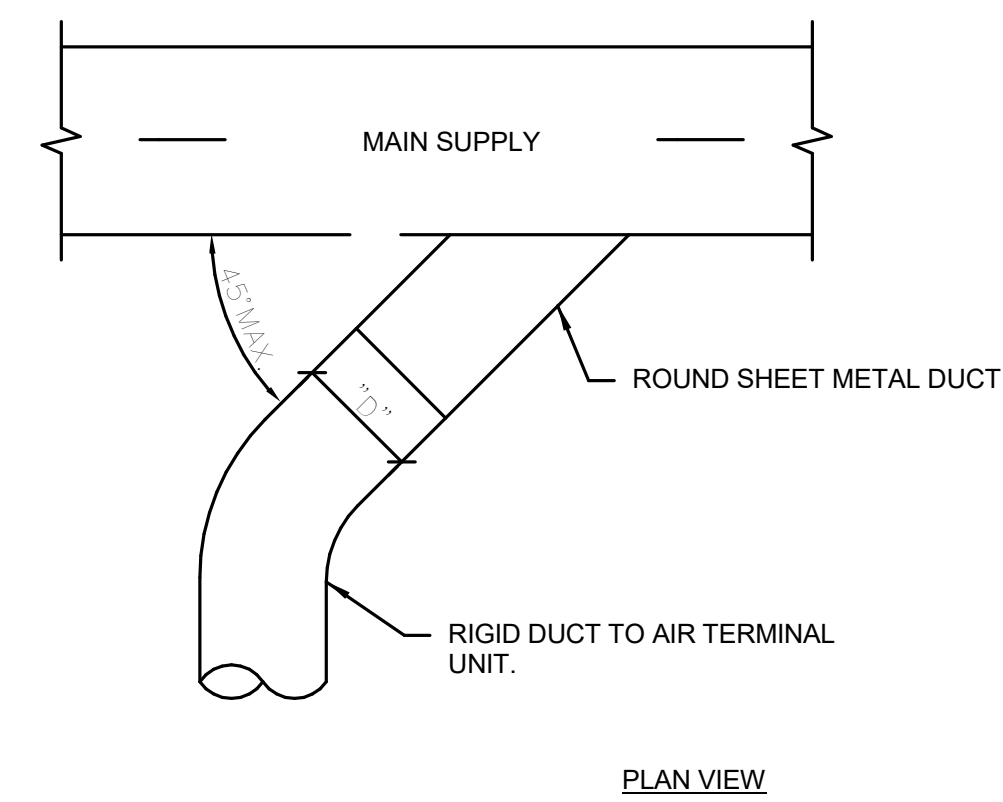


NOTES:  
1. CURB DETAIL FOR REFERENCE ONLY. SEE SHEET A506 FOR ARCHITECTURAL DETAIL WITH COMPLETE CURB INSTALLATION DETAIL.  
2. ALL ROOF FLASHING SHALL BE PER ROOFING MANUFACTURERS RECOMMENDATIONS.

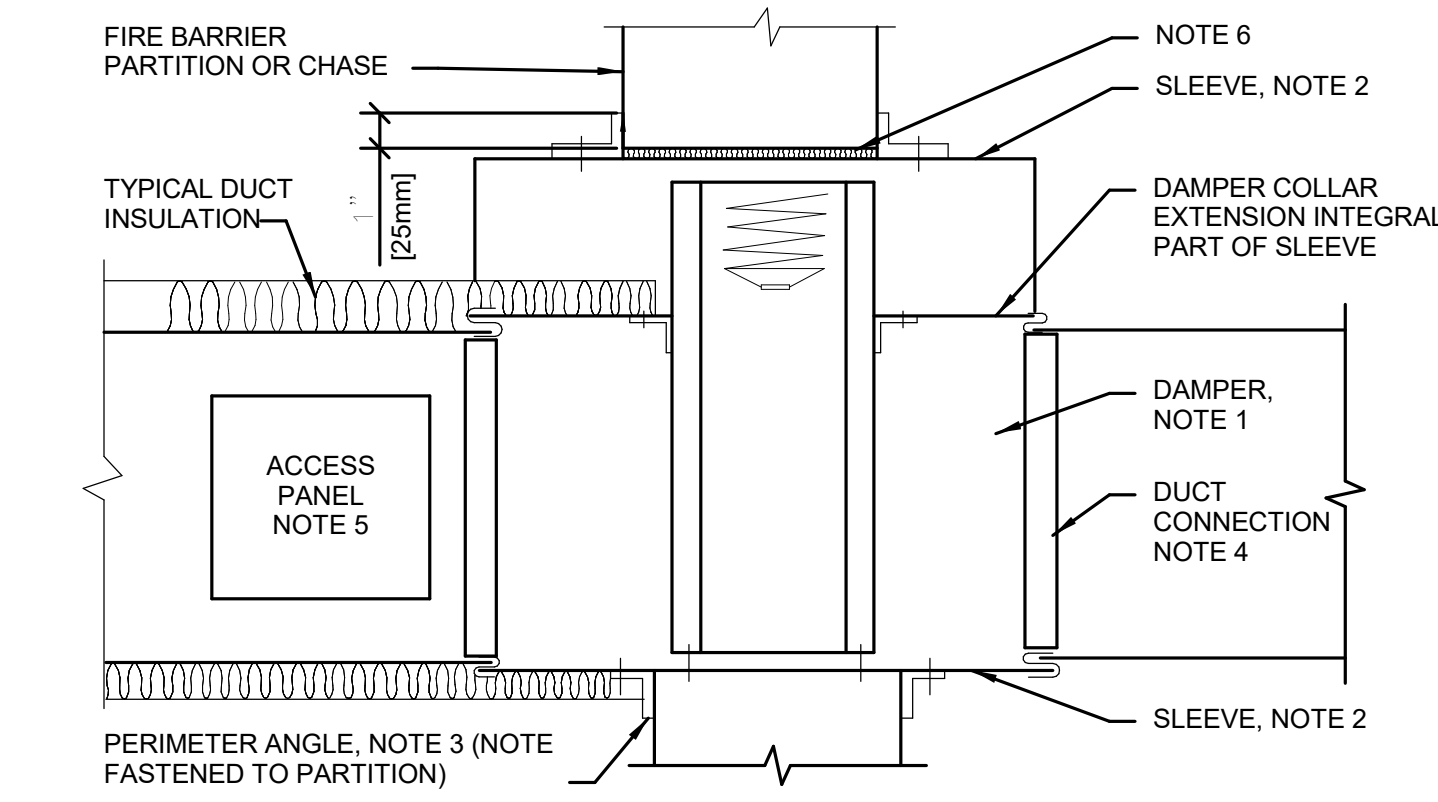
**10 ROOF MOUNTED HOOD**  
NO SCALE



**5 DUCT TAKEOFFS DETAIL**  
NO SCALE

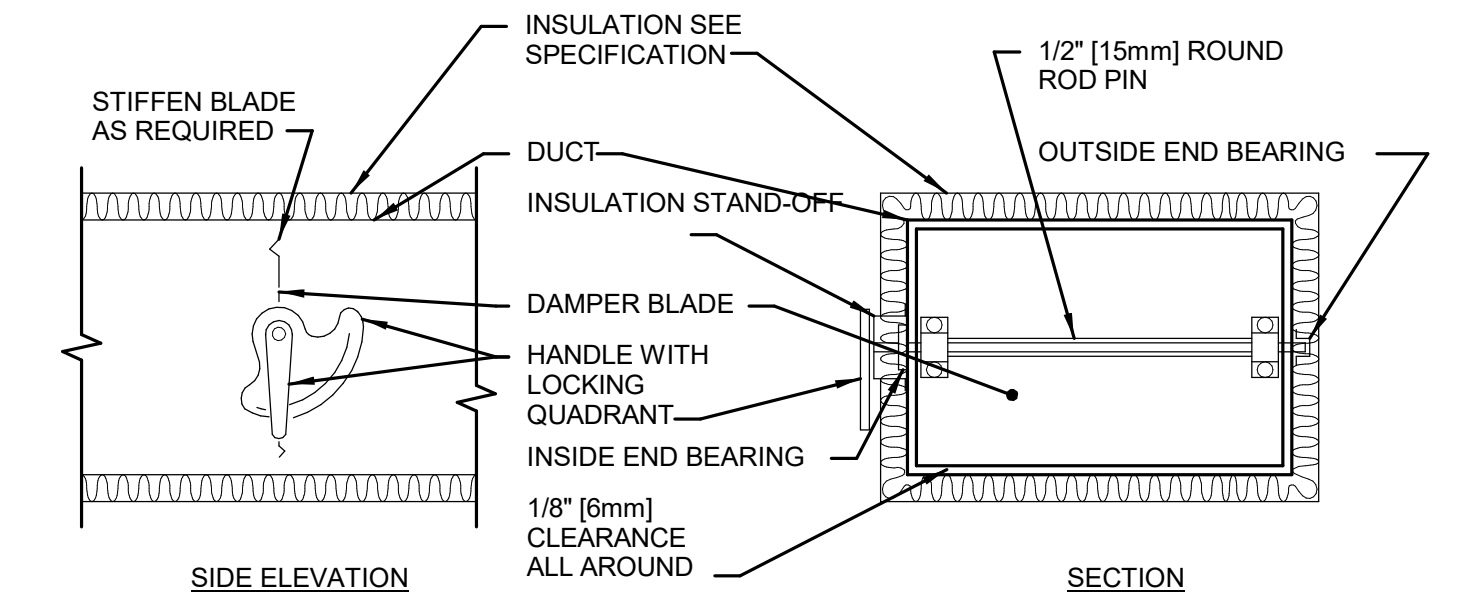


**6 DUCT TAKEOFF - TERMINAL UNIT DETAIL**  
NO SCALE



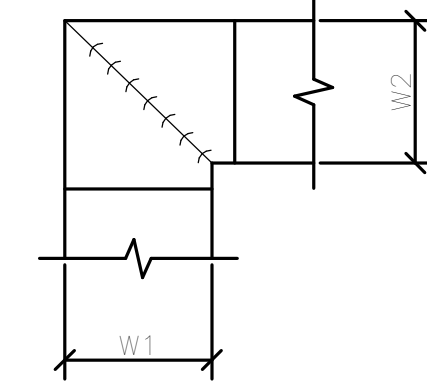
NOTE:  
1. A VERTICAL DAMPER IS SHOWN. HORIZONTAL DAMPER INSTALLATION IS SIMILAR. FOLLOW DAMPER MANUFACTURER'S INSTRUCTIONS, INCLUDING FASTENER OPTIONS AND GAGES FOR SLEEVE AND PERIMETER ANGLES. FIRE DAMPERS MUST BE INSTALLED IN THE PARTITION OR FLOOR AND NOT OUTSIDE THE PENETRATION.  
2. GALVANIZED SLEEVE: GAGE NOT LESS THAN CONNECTING DUCT. FASTEN SLEEVE TO DAMPER FRAME AND TO PERIMETER ANGLES.  
3. PERIMETER ANGLES: GALVANIZED STEEL, NOT LESS THAN 1 1/2"x1 1/2" [40x40mm], 14 GAGE, TO PROVIDE 1" [25mm] MINIMUM OVERLAP OF OPENING ON ALL 4 SIDES.  
4. BREAKAWAY DUCT CONNECTION: CONTRACTOR'S OPTION OF TYPES SHOWN IN SMACNA. ACCESS PANELS: SIZE AND LOCATION TO PERMIT SERVICING THE FUSIBLE LINK OR LINKS.  
5. PROVIDE 1/4" TO 1/2" [6 TO 15mm] CLEARANCE ON HEIGHT AND WIDTH. FILL OPEN SPACE WITH ROCK WOOL FIRESTOP FIBER.  
6. ALL DUCT WORK RISERS WHICH ARE RUN EXPOSED, SUCH AS THRU ATTIC FLOORS AND MECHANICAL ROOM FLOORS, SHALL BE PROVIDED WITH 3" [75mm] HIGH CONCRETE CURB AROUND OPENING FOR DUCT.  
7.

**7 FIRE DAMPER INSTALLATION DETAIL**  
NO SCALE



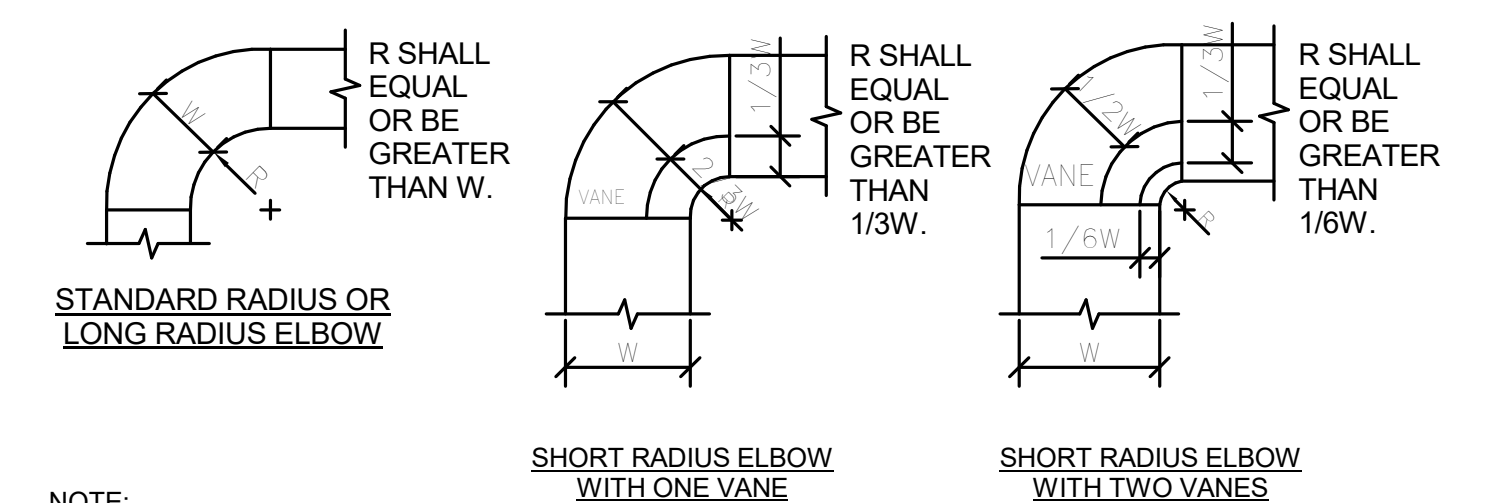
NOTE:  
1. DELETE INSULATION STAND-OFF ON DUCTWORK WITHOUT EXTERIOR INSULATION.  
2. DETAIL SHOWS SINGLE BLADE DAMPER. DAMPER INSTALLATION SHALL BE SIMILAR FOR MULTI-BLADE DAMPERS & ROUND DAMPERS.

**1 VOLUME DAMPER DETAIL**  
NO SCALE



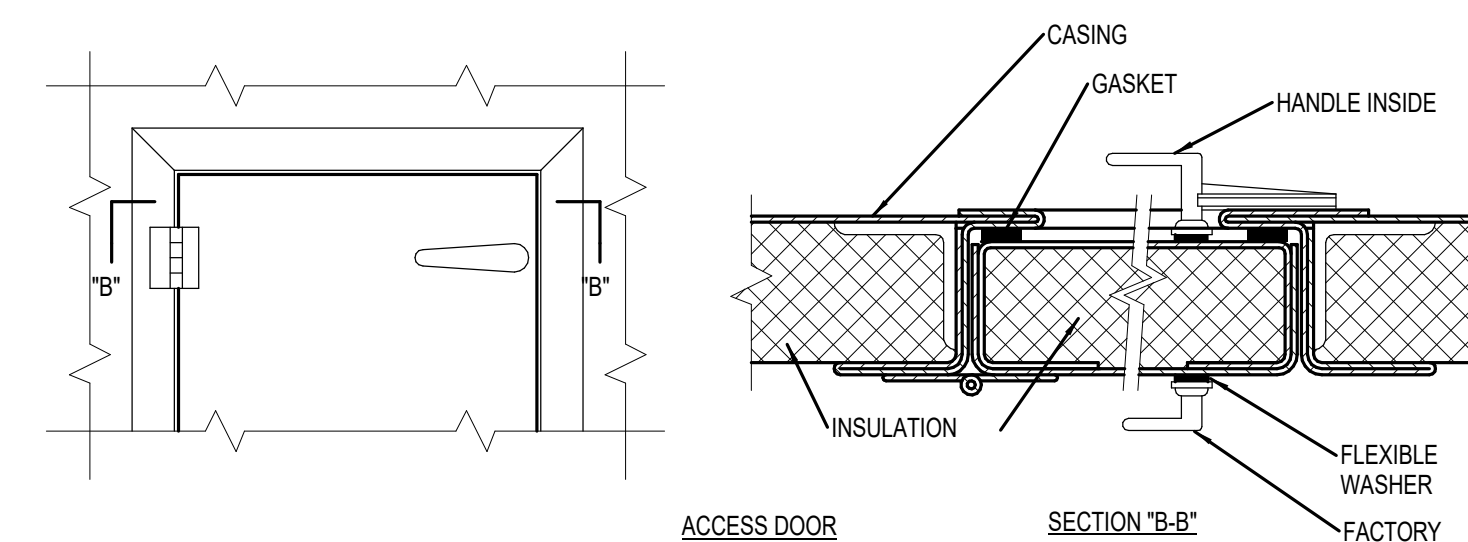
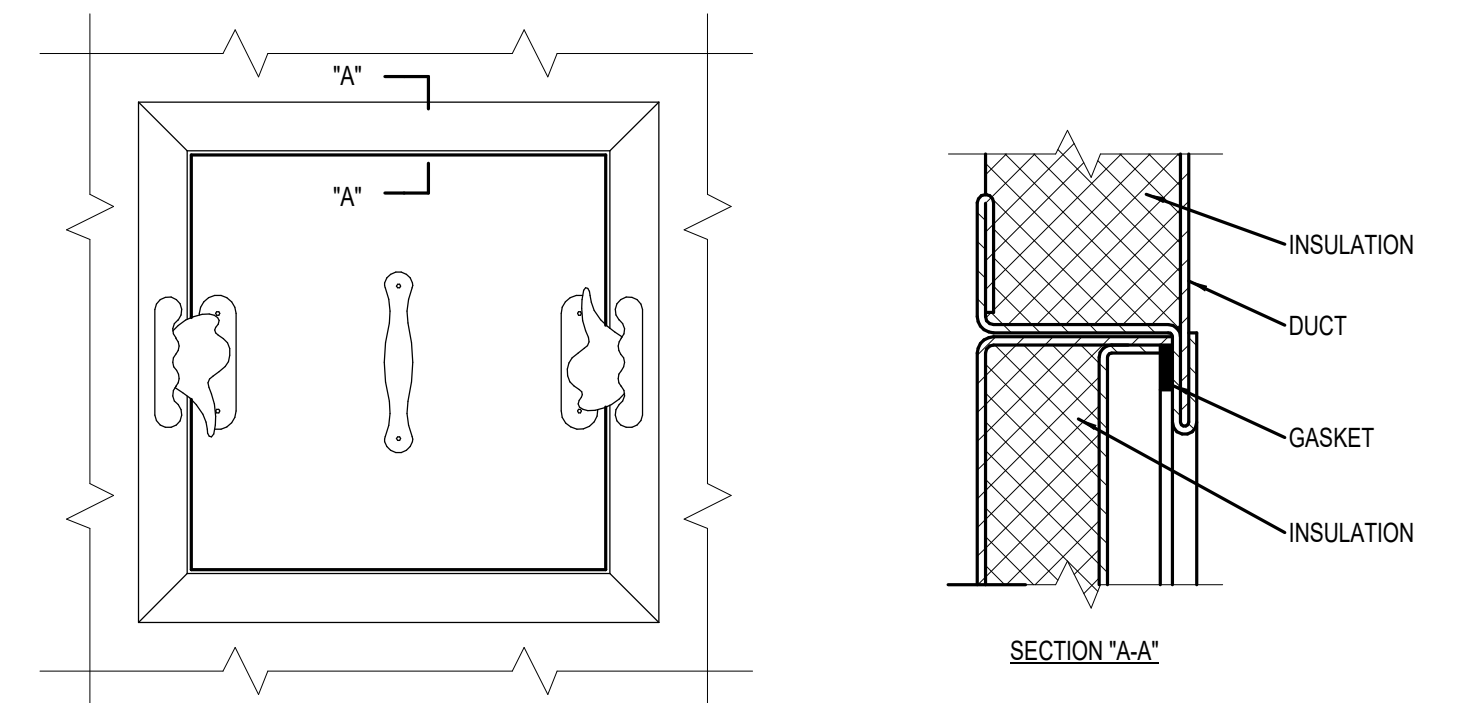
NOTE:  
1. ALL VANE ELBOWS SHALL BE CONSTRUCTED AND INSTALLED AS DETAILED BY SMACNA.  
WHEN W1 DOES NOT EQUAL W2, VANE SHALL BE SINGLE THICKNESS VANE TYPE REGARDLESS OF W DIMENSION.  
2. REGARDLESS OF W DIMENSION.  
ALL SINGLE THICKNESS VANES SHALL HAVE A 2" [50mm] RADIUS, 1 1/2" [40mm] MAXIMUM SPACE BETWEEN VANES AND A 3/4" [20mm] TRAILING EDGE.  
3. SPACE BETWEEN VANES AND A 3/4" [20mm] TRAILING EDGE.  
WHEN W EQUALS W2 AND W1 IS GREATER THAN 20" [500mm] VANES SHALL BE DOUBLE VANE TYPE.  
4.

**2 RECTANGULAR ELBOW DETAIL**  
NO SCALE



NOTE:  
1. THE INTERIOR SURFACE OF ALL RADIUS ELBOWS SHALL BE MADE ROUND.  
2. ALL STANDARD RADIUS ELBOWS CAN BE SUBSTITUTED WITH SHORT RADIUS ELBOWS. ALL SHORT RADIUS ELBOWS SHALL HAVE VANES. VANES SHALL BE CONSTRUCTED, SUPPORTED AND FASTENED AS RECOMMENDED BY SMACNA.

**3 RADIUS ELBOW DETAIL**  
NO SCALE



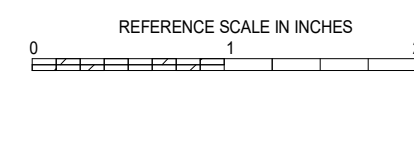
NOTES:  
1. LATCHES SHALL BE OF THE WEDGE TYPE TO CLOSE DOORS TIGHTLY.  
2. HINGES ON THE ACCESS DOORS SHALL HAVE NON-CORROSIVE PINS.  
3. SEE SMACNA 2005, FIGURE 9-15.

**4 DUCT ACCESS PANEL**  
NO SCALE

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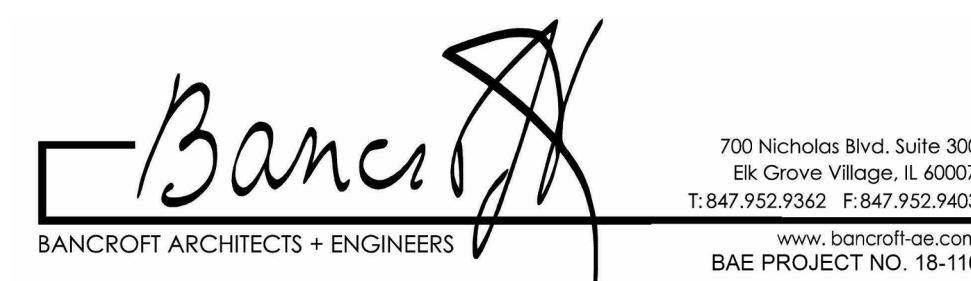


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I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the state of Minnesota.  
Signature: *Robert Douglas Lowe*  
Typed or Printed Name: Robert Douglas Lowe  
Date: 10/28/2022 License Number: 24706

ARCHITECT/ENGINEER OF RECORD



APPROVED PROJECT COP	DATE	APPROVED SERVICE LINE DIRECTOR	DATE	APPROVED INSPECTION CONTROL NUMBER	DATE
APPROVED GEAR PROJECT MANAGER	DATE	APPROVED PATIENT SAFETY	DATE	APPROVED ASSOCIATE HEALTHCARE SYSTEM DIRECTOR	DATE
APPROVED PROJECTS SECTION MANAGER	DATE	APPROVED CHIEF OF POLICE	DATE	APPROVED CHIEF OF STAFF	DATE
APPROVED DIRECTOR PHS	DATE	APPROVED SAFETY MANAGER	DATE	APPROVED HEALTHCARE SYSTEM DIRECTOR	DATE

PROJECT TITLE	DATE	PROJECT TITLE	DATE
MECHANICAL - VENTILATION - DETAILS	10/28/2022	CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR	10/28/2022
BUILDING No.	PROJ No.	DRAWING No.	REV
4	656-400	656-400	
LOCATION	ST. CLOUD VAHCS	ST. CLOUD, MN 56303	



ISSUE FOR 100% CONSTRUCTION DOCUMENTS	10/28/22
No	REVISION
	DATE

ENERGY RECOVERY SCHEDULE

NOTES:
1. SEMCO FV-3000 IS THE BASIS OF DESIGN.
2. UNIT SHALL HAVE AN EFFECTIVENESS OF 0.8. UNIT SHALL BE PROVIDED WITH MERV 8 FILTER BOX, AND SINGLE-POINT ELECTRICAL CONNECTION.
3. ENERGY RECOVERY WHEEL SHALL BE PROVIDED WITH VFD.

Table with columns for TAG NAME, SYSTEM SERVED, TYPE, MINIMUM EFFICIENCY, and various performance metrics for outside/supply and return/exhaust air streams.

FAN SCHEDULE

NOTES:
1. PROVIDE WITH FACTORY MOUNTED 18" CURB AND BIRDSCREEN.

Table with columns for TAG NAME, AREA SERVED, CFM, S.P. IN. W.C., WHEEL DIA. INCHES, FAN RPM (NOTE F), DRIVE TYPE, MAX. AMCA SONES, BACKDRAFT DAMPER TYPE, CURB TYPE (NOTE G), BHP, MHP, VOLTAGE, PHASES, DISCONNECT BY, DISCONNECT TYPE, CONTROLLER STARTER BY, CONTROLLER STARTER TYPE, VOLTAGE, PHASES, MINIMUM CIRCUIT AMPACITY, MAXIMUM OVERCURRENT PROTECTION, and NOTES.

SOUND ATTENUATOR SCHEDULE

NOTES:
1. PRESSURE DROP VALUES LISTED ARE PER ASTM E477-99 TEST PROCEDURE AND DO NOT INCLUDE SYSTEM EFFECTS.
2. ATTENUATORS SA-1 AND SA-2 ARE RECTANGULAR ELBOW SILENCERS WITH LEG LENGTHS OF 12 INCHES.
3. DOUBLE WALL CONSTRUCTION WITH 20 GAUGE STEEL OUTER CASING AND 22 GAUGE PERFORATED ALUMINUM LINER.

Table with columns for TAG NAME, SYSTEM SERVED, CFM, VELOCITY, MAX. S.P. DROP IN. W.C., and acoustic performance metrics at +1000 FPM and -1000 FPM for return applications, including minimum dynamic insertion loss and maximum allowable generated noise.

HOOD & LOUVERED PENTHOUSE SCHEDULE

NOTES:
1. HOOD TO BE PROVIDED WITH FACTORY MOUNTED 18" CURB AND BIRDSCREEN.

Table with columns for TAG NAME, AREA SERVED, CFM, THROAT SIZE (WIDTH, LENGTH), THROAT VELOCITY, STATIC PRESSURE DROP, FREE AREA (FT^2), CONFIGURATION, CURB TYPE, MAX. DIMENSIONS (LENGTH, WIDTH, HEIGHT), WEIGHT, B.O.D. MANUFACTURER, MODEL, and NOTES.

GRILLES REGISTERS & DIFFUSERS SCHEDULE

NOTES:
1. CONTRACTOR SHALL DETERMINE PROPER MARGIN STYLE TO MATCH CEILING CONSTRUCTION.
2. ALL RUN OUT DUCTWORK TO DIFFUSERS SHALL BE NECK SIZE UNLESS OTHERWISE NOTED.

Table with columns for TAG NAME, MATERIAL, CONFIGURATION, MARGIN (NOTE 1), FACE SIZE (IN.), FINISH, B.O.D. MANUFACTURER, MODEL, and NOTES.

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" W.C.
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 IS BASED 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. WHEN LAT 'F', EWT 'F', AND GPM VALUES ARE BLANK, HEATING COIL IS NOT REQUIRED FOR TAB. ALL REHEATS SHALL BE 2-ROW COILS.
6. 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.
7. FLUID MEDIA IS 35% P.G.

Table with columns for TAG NAME, AREA SERVED, COOLING HEATING MAX., MIN., EAT 'F', LAT 'F', EWT 'F', MAX. GPM, MIN. INLET SIZE (IN.) DIA., SENSOR TYPE (NOTE 4), MANUFACTURER, MODEL (NOTES 1, 2), and NOTES.

SCHEDULE GENERAL NOTES:

A. DISCONNECT AND CONTROLLER STARTER FURNISHED AND INSTALLED BY:
MFR = MANUFACTURER
EC = ELECTRICAL CONTRACTOR
MC = FURNISHED BY MECHANICAL CONTRACTOR, INSTALLED BY ELECTRICAL CONTRACTOR
MFRFC = FURNISHED LOOSE BY MANUFACTURER INSTALLED BY ELECTRICAL CONTRACTOR
ATC = AUTOMATIC TEMPERATURE CONTROL CONTRACTOR
B. DISCONNECT TYPE:
F = FUSED
NF = NON-FUSED
C. CONTROLLER STARTER TYPE:
FV = FULL VOLTAGE
WYE = WYE-DELTA
SS = SOLID STATE (SOFT START)
MS = MANUAL STARTER
VFD = VARIABLE FREQUENCY DRIVE
VFD/B = VARIABLE FREQUENCY DRIVE WITH BYPASS
D. FAN RPM SHALL NOT EXCEED 110% OF SCHEDULED VALUE. WITH THE SCHEDULED WHEEL TYPE. SUBSTITUTION OF BI OR BIA 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
SAC = SOUND ATTENUATOR CURB

AIR HANDLING UNIT SCHEDULE

Table with columns for SYMBOL, SERVICE, SUPPLY FAN (SF-1) (NOTES 3 & 4), RETURN FAN (RF-1) (NOTES 3 & 4), OUTSIDE AIR CFM, VOLT-PHASE, HEATING COIL - HOT WATER (HC-1), COOLING COIL - CHILLED WATER (CC-1), HUMIDIFIER, FILTER, and VIBRATION ISOLATION. Includes various performance metrics like CFM, pressure, RPM, and BHP.

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I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the state of Minnesota.
Signature: Robert Douglas Lowe
Typed or Printed Name: Robert Douglas Lowe
Date: 10/28/2022 License Number: 24706

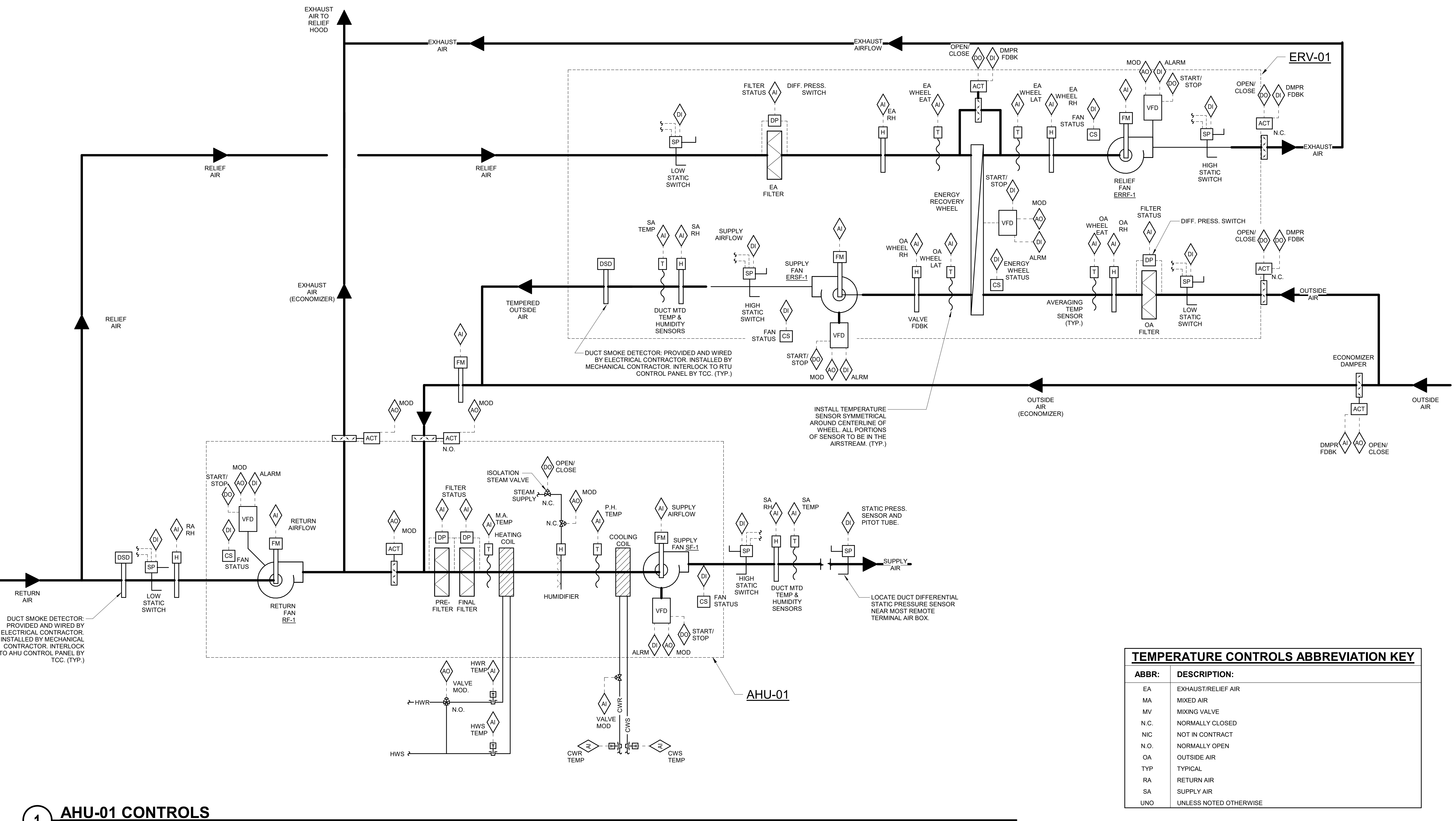
ARCHITECT/ENGINEER OF RECORD: Bancroft Architects + Engineers, 700 Nichols Blvd, Suite 300, Elk Grove Village, IL 60007. T: 847.952.9362 F: 847.952.9403

APPROVED PROJECT COORDINATOR, APPROVED SERVICE LINE DIRECTOR, APPROVED INSPECTION CONTROL MANAGER, APPROVED GENERAL PROJECT MANAGER, APPROVED PATIENT SAFETY, APPROVED PROJECTS SECTION MANAGER, APPROVED CHIEF OF POLICE, APPROVED DIRECTORIES, APPROVED SAFETY MANAGER.

MECHANICAL - VENTILATION - SCHEDULES. CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR. PROJECT NO: 656-400. DRAWING NO: MH500. ST. CLOUD VAHCS ST. CLOUD, MN 56303.

U.S. Department of Veterans Affairs logo and text: Veterans Health Administration, St. Cloud VA Health Care System.

CONTROL SYMBOL LIST	
NOT ALL SYMBOLS MAY APPLY.	
SYMBOL:	DESCRIPTION:
[Symbol]	CW-R CHILLED WATER RETURN
[Symbol]	CW-S CHILLED WATER SUPPLY
[Symbol]	HWR HEATING WATER RETURN
[Symbol]	HWS HEATING WATER SUPPLY
[Symbol]	LPC LOW PRESSURE CONDENSATE
[Symbol]	LPS LOW PRESSURE STEAM
[Symbol]	LWR LOOP WATER RETURN
[Symbol]	LWS LOOP WATER SUPPLY
[Symbol]	PC PUMPED CONDENSATE
[Symbol]	CONTROL VALVE (THREE-WAY)
[Symbol]	CONTROL VALVE (TWO-WAY)
[Symbol]	SOLENOID VALVE
[Symbol]	CHECK VALVE
[Symbol]	THERMOSTAT
[Symbol]	THERMOSTAT/SENSOR WITH HEAVY DUTY ENCLOSURE
[Symbol]	TEMPERATURE SENSOR (DUCT MOUNTED)
[Symbol]	TEMPERATURE SENSOR WITH WELL
[Symbol]	THERMOMETER WITH WELL (DIAL TYPE)
[Symbol]	THERMOMETER WITH WELL (FILLED TYPE)
[Symbol]	AVERAGING TEMPERATURE SENSOR
[Symbol]	LOW LIMIT TEMPERATURE SWITCH
[Symbol]	PROBE TEMPERATURE SENSOR
[Symbol]	PRESSURE SENSOR (FURNISHED WITH BALL VALVE)
[Symbol]	PRESSURE GAUGE (FURNISHED WITH BALL VALVE)
[Symbol]	DIFFERENTIAL PRESSURE SENSOR
[Symbol]	PRESSURE SENSOR (DUCT MOUNTED)
[Symbol]	STATIC SWITCH
[Symbol]	ANALOG INPUT
[Symbol]	ANALOG OUTPUT
[Symbol]	FLOW METER
[Symbol]	FLOW SWITCH
[Symbol]	FLOW SENSOR
[Symbol]	AIR FLOW SWITCH
[Symbol]	DUCT FLOW METER
[Symbol]	HUMIDIFIER
[Symbol]	DUCT SMOKE DETECTOR
[Symbol]	HEATING/ COOLING COIL
[Symbol]	AIR BLENDER
[Symbol]	MANUAL MOTOR STARTER WITH REMOTE OVERLOAD
[Symbol]	FAN
[Symbol]	PUMP
[Symbol]	DIGITAL INPUT
[Symbol]	DIGITAL OUTPUT
[Symbol]	HUMIDISTAT SENSOR
[Symbol]	HUMIDISTAT / SENSOR
[Symbol]	HUMIDITY SENSOR (DUCT MOUNTED)
[Symbol]	CARBON MONOXIDE SENSOR
[Symbol]	CARBON DIOXIDE SENSOR
[Symbol]	CARBON MONOXIDE SENSOR (DUCT MOUNTED)
[Symbol]	CARBON DIOXIDE SENSOR (DUCT MOUNTED)
[Symbol]	FILTER
[Symbol]	TERMINAL AIR BOX
[Symbol]	TERMINAL AIR BOX W/ REHEAT
[Symbol]	OCCUPANCY SENSOR
[Symbol]	ACTUATOR
[Symbol]	DOOR SWITCH
[Symbol]	DIFFERENTIAL PRESSURE SWITCH
[Symbol]	CURRENT SWITCH
[Symbol]	VIBRATION SWITCH
[Symbol]	NORMALLY CLOSED CONTACT
[Symbol]	NORMALLY OPEN CONTACT
[Symbol]	OPPOSED BLADE DAMPER
[Symbol]	PARALLEL BLADE DAMPER



ABBR:	DESCRIPTION:
EA	EXHAUST/RELIEF AIR
MA	MIXED AIR
MV	MIXING VALVE
N.C.	NORMALLY CLOSED
NIC	NOT IN CONTRACT
N.O.	NORMALLY OPEN
OA	OUTSIDE AIR
TYP	TYPICAL
RA	RETURN AIR
SA	SUPPLY AIR
UNO	UNLESS NOTED OTHERWISE

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<p>3001 BROADWAY STREET NE, SUITE 601 MINNEAPOLIS, MN 55413</p> <p>PH: 612.540.5000 www.imegcorp.com</p>	<p>I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the state of Minnesota.</p> <p>Signature: <i>Robert Douglas Lowe</i> Typed or Printed Name: Robert Douglas Lowe Date: 10/28/2022 License Number: 24706</p>	<p>ARCHITECT/ENGINEER OF RECORD</p> <p><i>Bancroft</i> BANCROFT ARCHITECTS + ENGINEERS</p> <p>700 Nichols Blvd, Suite 300 Ely, MN 56501 T: 847.952.9362 F: 847.952.9403 www.bancroft-ae.com BAE PROJECT NO. 19-116</p>	<p>APPROVED PROJECT GDR: _____ DATE: _____</p> <p>APPROVED SERVICE LINE DIRECTOR: _____ DATE: _____</p> <p>APPROVED INFECTION CONTROL MANAGER: _____ DATE: _____</p> <p>APPROVED GERM PROJECT MANAGER: _____ DATE: _____</p> <p>APPROVED PATIENT SAFETY: _____ DATE: _____</p> <p>APPROVED PROJECTS SECTION MANAGER: _____ DATE: _____</p> <p>APPROVED CHIEF OF POLICE: _____ DATE: _____</p> <p>APPROVED DIRECTOR FIN: _____ DATE: _____</p> <p>APPROVED SAFETY MANAGER: _____ DATE: _____</p>	<p>DRAWING TITLE: MECHANICAL - CONTROL SEQUENCES - AHU-01</p> <p>PROJECT TITLE: CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR</p> <p>DATE: 10/28/2022</p> <p>PROJ SCALE: _____</p> <p>PREV. NO: 656-400</p> <p>BUILDING NO: 4</p> <p>PROJ NO: NKJ</p> <p>DRAWING NO: WDM MI100</p> <p>LOCATION: ST. CLOUD VAHCS ST. CLOUD, MN 56303</p> <p>DWG. OF: _____</p>	<p>U.S. Department of Veterans Health Administration St. Cloud VA Health Care System</p>

SEQUENCE OF OPERATION:  
WHEN AHU IS INDEXED TO RUN, THE FOLLOWING SHALL OCCUR:  
• COMBINATION FIRE/SMOKE DAMPERS SHALL OPEN.  
• AFTER A 30 SECOND DELAY (ADJ.) TO ALLOW FOR OPENING OF COMBINATION FIRE/SMOKE DAMPERS, SUPPLY FAN SHALL BE ENABLED TO RUN.  
• WHEN THE SUPPLY FAN HAS STARTED THE RETURN FAN AND INTERLOCKED EXHAUST FANS SHALL START AS SHOWN IN THE FAN INTERLOCK SCHEDULE.

SUPPLY FAN OPERATION:  
FMCS SHALL MODULATE SIGNAL TO SUPPLY FAN VFD TO MAINTAIN DUCT STATIC PRESSURE AS MEASURED BY STATIC PRESSURE TRANSMITTER NEAR THE END OF THE CRITICAL DUCT BRANCH.

RETURN FAN OPERATION:  
RETURN FAN SHALL BE INDEXED TO RUN WHENEVER THE SUPPLY FAN IS INDEXED TO RUN. FMCS SHALL MODULATE SIGNAL TO RETURN FAN VFD AS REQUIRED TO MAINTAIN THE AIRFLOW OFFSET AS INDICATED IN THE RETURN FAN AIRFLOW SCHEDULE.

STATIC PRESSURE RESET:  
FMCS SHALL RESET SUPPLY DUCT STATIC PRESSURE SETPOINT BELOW THE MAXIMUM SETPOINT AS REQUIRED TO MAINTAIN AT LEAST ONE SUPPLY TAB DAMPER 90% (ADJ.) OPEN. FMCS SHALL MONITOR ALL SUPPLY TERMINAL AIR BOX POSITIONS TO RESET THE SUPPLY DUCT DIFFERENTIAL STATIC PRESSURE.

DISCHARGE AIR TEMPERATURE SET POINT:  
DISCHARGE AIR SET POINT SHALL BE 55°F (ADJ.).

DISCHARGE AIR TEMPERATURE RESET:  
RESET DISCHARGE AIR TEMPERATURE BASED ON THE ZONE WITH THE GREATEST CALL FOR COOLING. RESET THE TEMPERATURE AS FOLLOWS:  
• WHEN WORST CASE TAB IS LESS THAN 90% (ADJ.) OPEN FOR TEN MINUTES (ADJ.) THEN THE DISCHARGE AIR TEMPERATURE SHALL INCREASE BY 1°F (ADJ.). THIS SHALL CONTINUE UNTIL AHU MAXIMUM DISCHARGE AIR TEMPERATURE OF 55°F (ADJ.) IS ACHIEVED.  
• WHEN WORST CASE TAB IS MORE THAN 90% OPEN FOR TEN MINUTES (ADJ.) THEN THE DISCHARGE AIR TEMPERATURE SHALL DROP BY 1°F (ADJ.). THIS SHALL CONTINUE UNTIL AHU MINIMUM DISCHARGE AIR TEMPERATURE OF 55°F (ADJ.) IS ACHIEVED.  
• THE MAXIMUM ALLOWABLE RETURN AIR HUMIDITY SETPOINT SHALL BE 60% (ADJ.). IF RETURN AIR HUMIDITY IS GREATER THAN SETPOINT, RESET DISCHARGE AIR TEMPERATURE TO 55°F UNTIL RETURN AIR HUMIDITY IS 5% LESS THAN MAXIMUM SETPOINT FOR 10 MINUTES (ADJ.).

STATIC PRESSURE AND DISCHARGE AIR TEMPERATURE RESET PRIORITY:  
RESET THE DISCHARGE AIR TEMPERATURE PRIOR TO RESETTING THE DUCTWORK STATIC PRESSURE SETPOINT. ONCE THE MAXIMUM SUPPLY TEMPERATURE IS REACHED THEN THE SYSTEM SHALL ENABLE THE STATIC PRESSURE RESET.

VENTILATION AIR CONTROL:  
WHENEVER THE AIR HANDLING UNIT IS IN OCCUPIED MODE, AND NOT IN ECONOMIZER MODE, THE HEAT RECOVERY UNIT (ERV)-1 FANS ERV-1 AND ERV-2 SHALL BE ON. THE MINIMUM OUTSIDE AIR DAMPER AND MINIMUM RELIEF AIR DAMPER SHALL BE FULLY OPEN. WHEN THE UNIT IS IN ECONOMIZER MODE, THE HEAT RECOVERY UNIT FANS SHALL BE OFF AND THE MINIMUM DAMPERS SHALL BE CLOSED. THE RETURN DAMPER SHALL MODULATE TO MAINTAIN THE OUTSIDE AIRFLOW RATE OR TO SATISFY THE ECONOMIZER DISCHARGE AIR SEQUENCE. WHEN BUILDING IS OCCUPIED THE OUTSIDE AIRFLOW SHALL NOT BE LOWER THAN THE MINIMUM OUTSIDE AIRFLOW RATE (2200 CFM).

DISCHARGE AIR TEMPERATURE CONTROL:  
AT FULL HEATING THE ENERGY RECOVERY WHEEL SHALL BE ROTATING AT FULL SPEED WITH THE BYPASS DAMPERS CLOSED AND THE HEATING COIL CONTROL VALVE MODULATING TO MAINTAIN SETPOINT. WHENEVER THE DISCHARGE AIR TEMPERATURE IS ABOVE SETPOINT THE FOLLOWING SHALL OCCUR:  
• THE HEATING COIL CONTROL VALVE SHALL MODULATE CLOSED.  
• THE ENERGY RECOVERY WHEEL SHALL MODULATE TO MAINTAIN SETPOINT.  
• UNIT SHALL ENTER ECONOMIZER OPERATION AND THE RELIEF AIR AND RETURN AIR DAMPERS SHALL MODULATE IN OPPOSITION TO MAINTAIN SETPOINT.  
• IF THE ECONOMIZER SEQUENCE CANNOT MAINTAIN SETPOINT, THE COOLING COIL CONTROL VALVE SHALL MODULATE TO MAINTAIN SETPOINT AND THE UNIT SHALL REMAIN IN FULL ECONOMIZER.  
• THE ECONOMIZER SEQUENCE SHALL BE DISABLED AT AN OUTSIDE AIR DRY BULB TEMPERATURE OF 70°F (ADJ.) OR HIGHER.  
• THE ENERGY RECOVERY SYSTEM SHALL TURN ON TO FULL SPEED AND THE ENERGY RECOVERY WHEEL BYPASS DAMPERS SHALL CLOSE WHEN THE TEMPERATURE DIFFERENCE FROM THE RETURN AIR TO THE OUTSIDE AIR IS 5°F (ADJ.) OR GREATER FOR MORE THAN 20 MINUTES (ADJ.).  
• THE COOLING COIL CONTROL VALVE SHALL CONTINUE TO MODULATE TO MAINTAIN SETPOINT.

AT FULL COOLING THE ENERGY RECOVERY WHEEL SHALL BE ROTATING AT FULL SPEED WITH THE BYPASS DAMPERS CLOSED AND THE COOLING COIL CONTROL VALVE MODULATING TO MAINTAIN SETPOINT. WHENEVER THE DISCHARGE AIR TEMPERATURE IS BELOW SETPOINT THE FOLLOWING SHALL OCCUR:  
• THE COOLING COIL CONTROL VALVE SHALL CONTINUE TO MODULATE TO MAINTAIN SETPOINT.  
• THE ENERGY RECOVERY WHEEL SHALL BE DISABLED AND THE ENERGY RECOVERY WHEEL BYPASS DAMPERS SHALL OPEN WHEN THE TEMPERATURE DIFFERENCE FROM THE RETURN AIR AND OUTSIDE AIR IS 5°F (ADJ.) OR LESS.  
• THE ECONOMIZER OPERATION SHALL BE ENABLED WHEN THE OUTSIDE AIR DRY BULB TEMPERATURE IS LESS THAN 68°F (ADJ.). IN ECONOMIZER MODE THE FMCS SHALL MODULATE THE RETURN AND RELIEF DAMPERS AS REQUIRED TO MAINTAIN DISCHARGE AIR TEMPERATURE SETPOINT.  
• THE COOLING COIL CONTROL VALVE SHALL MODULATE CLOSED. THE ECONOMIZER OPERATION SHALL CONTINUE TO MAINTAIN SETPOINT. THE COOLING COIL CONTROL VALVE SHALL BE DISABLED BELOW 50°F (ADJ.).  
• IF THE SETPOINT CANNOT BE MAINTAINED BY ECONOMIZER OPERATION THE ENERGY RECOVERY WHEEL SHALL BE ENABLED AND THE BYPASS DAMPERS SHALL CLOSE.  
• THE BYPASS DAMPERS SHALL MODULATE TO MAINTAIN SETPOINT.  
• ONCE THE ENERGY RECOVERY WHEEL IS AT FULL SPEED THE HEATING COIL CONTROL VALVE SHALL MODULATE OPEN.

ENERGY RECOVERY WHEEL CONTROL:  
DEFROST CONTROL: JOG THE HEATING WHEEL CONTROL TO LIMIT THE LEAVING EXHAUST AIR TEMPERATURE FROM THE WHEEL TO 15°F (ADJ.) AT A RETURN AIR RELATIVE HUMIDITY OF 30% RH AND RESET TO 5°F (ADJ.) AT 20% RH.

PURGE CONTROL: WHEN THE HEAT WHEEL IS DEACTIVATED, THE WHEEL SHALL RUN FOR 20 SECONDS EVERY 30 MINUTES TO KEEP THE ROTOR SURFACE CLEAN. BYPASS DAMPERS SHALL REMAIN OPEN DURING PURGE SEQUENCE.

HUMIDIFIER CONTROLS:  
HUMIDIFIER CONTROLS AND ALARMS SHALL BE ENABLED WHEN OUTSIDE AIR TEMPERATURE DROPS BELOW 45°F (ADJ.) AT WHICH POINT THE ISOLATION STEAM VALVE SHALL FULLY OPEN. HUMIDIFIER CONTROLS AND ALARMS SHALL BE DISABLED WHEN OUTSIDE AIR TEMPERATURE RISES ABOVE 50°F (ADJ.) AT WHICH POINT THE ISOLATION STEAM VALVE SHALL FULLY CLOSE.

WHEN HUMIDIFIER CONTROLS ARE ENABLED, FMCS CONTROLLER SHALL MODULATE STEAM VALVE AS REQUIRED TO MAINTAIN 43°F DEWPOINT (ADJ.) IN THE SUPPLY AIR DUCT. DUCT MOUNTED HUMIDITY TRANSMITTER AT FAN DISCHARGE SHALL PREVENT SUPPLY AIR RELATIVE HUMIDITY FROM EXCEEDING 70% (ADJ.).

ALARMS, INTERLOCKS, AND SAFETIES:  
WHEN FIRE ALARM CONTROL PANEL INDICATES AN ALARM CONDITION, AHU SHALL BE SHUTDOWN.  
THE FOLLOWING CONDITIONS SHALL SHUTDOWN THE AHU AND SHALL INDICATE AN ALARM CONDITION AT THE FMCS WORKSTATION:  
• LOW STATIC PRESSURE SWITCH INDICATES RETURN DUCT PRESSURE LESS THAN THE SPECIFIED DUCT PRESSURE CLASS.  
• HIGH STATIC PRESSURE SWITCH INDICATES EXHAUST DUCT STATIC PRESSURE GREATER THAN THE SPECIFIED DUCT PRESSURE CLASS.  
• LOW STATIC PRESSURE SWITCH INDICATES OUTSIDE AIR SECTION PRESSURE LESS THAN THE SPECIFIED DUCT PRESSURE CLASS OF THE OUTSIDE AIR DUCTWORK.  
• HIGH STATIC PRESSURE SWITCH INDICATES SUPPLY DUCT STATIC PRESSURE GREATER THAN THE SPECIFIED DUCT PRESSURE CLASS.  
• SHOULD THE DISCHARGE AIR TEMPERATURE SENSOR SENSE AIR TEMPERATURE <34°F (ADJ.).

THE FOLLOWING CONDITIONS SHALL INDICATE AN ALARM AT THE FMCS, HOWEVER AHU SHALL CONTINUE TO OPERATE:  
• AN ALARM IS INDICATED AT ANY SUPPLY FAN VFD OR RETURN FAN VFD.  
• DIFFERENTIAL PRESSURE SENSOR ACROSS ANY PRE-FILTER (50%) BANK MEASURES A PRESSURE EXCEEDING 0.6 INCHES W.G. (50%).  
• DIFFERENTIAL PRESSURE SENSOR ACROSS FINAL FILTER BANK MEASURES A PRESSURE EXCEEDING 1.0 INCHES W.G. (ADJ.)  
• RELATIVE HUMIDITY OF SUPPLY AIR EXCEEDS 85% RH (ADJ.) AS MEASURED BY DISCHARGE AIR HUMIDITY SENSOR, WHEN HUMIDITY SWITCH TRIPS, STEAM CONTROL VALVE SHALL FULLY CLOSE UNTIL ALARM IS MANUALLY RESET AT FMCS WORKSTATION.  
• SEND AN ALARM TO THE FMCS OPERATOR INTERFACE IF THE DISCHARGE AIR TEMPERATURE IS MORE THAN 5°F (ADJ.) ABOVE OR BELOW SETPOINT FOR MORE THAN 10 MINUTES (ADJ.).  
• THE HEAT WHEEL COMES FACTORY EQUIPPED WITH A PROXIMITY SWITCH THAT SHALL PROVIDE A DRY CONTACT IN PUT TO THE DDC SYSTEM. IF THE WHEEL IS INDEXED TO RUN AND TWO SWITCH CLOSURES ARE NOT SENSED WITHIN 10 MINUTES, AN ALARM WILL BE SENT THROUGH THE DDC SYSTEM SIGNALING A WHEEL ROTATION FAILURE.

IN THE EVENT SUPPLY FAN IS NOT RUNNING (AS INDICATED BY THE CURRENT SENSING RELAYS) RETURN AIR FAN SHALL BE DE-ENERGIZED.

WHENEVER AHU IS SHUTDOWN THE FOLLOWING SHALL OCCUR:  
• THE OUTSIDE AIR DAMPER AND RELIEF AIR DAMPER SHALL FULLY CLOSE.  
• RETURN AIR DAMPER SHALL FULLY OPEN.  
• PREHEAT COIL CONTROL VALVE SHALL REMAIN UNDER CONTROL OF ITS INPUT SENSOR.  
• ALL COMBINATION FIRE/SMOKE DAMPERS SHALL FULLY CLOSE.  
• CHILLED WATER CONTROL VALVE SHALL FULLY CLOSE.  
• SUPPLY FAN AND RETURN FAN VFDs SHALL BE DE-ENERGIZED.  
• INTERLOCKED EXHAUST FANS SHALL BE DE-ENERGIZED.  
• ENERGY RECOVERY WHEEL SHALL STOP AND BYPASS DAMPERS WILL CLOSE.

UNOCCUPIED MODE:  
PROVIDE TIME OF DAY SCHEDULE TO ALLOW AHU TO ENTER UNOCCUPIED MODE PER SCHEDULE.  
• THE SUPPLY AND RETURN FANS SHALL SHUTDOWN WHEN USING CONSTANT VOLUME OFFSET FOR RETURN AIR FAN CONTROL. THE OFFSET SHALL GO TO ZERO AND THE SUPPLY FAN SHALL BE LIMITED TO THE MAXIMUM RETURN FAN AIRFLOW.  
• THE OUTSIDE AIR AND RELIEF AIR DAMPERS SHALL CLOSE AND THE RETURN AIR DAMPER SHALL OPEN. ECONOMIZER CYCLE SHALL TAKE PRECEDENCE OVER DAMPER POSITION. THE ENERGY RECOVERY WHEEL SHALL BE DISABLED.  
• IF ANY OF THE SPACE TEMPERATURES FALL BELOW 55°F (ADJ.), THE SYSTEM SHALL RESTART THE SUPPLY AND RETURN FANS. THE FANS SHALL CONTINUE RUNNING UNTIL THE SPACE TEMPERATURE RISES 5°F (ADJ.).  
• IF ANY OF THE SPACE TEMPERATURES RISE ABOVE 80°F (ADJ.), THE SYSTEM SHALL RESTART THE SUPPLY AND RETURN FANS AND CONTINUE RUNNING UNTIL THE SPACE TEMPERATURE FALLS 5°F (ADJ.).

HEATING OPTIMUM START-UP:  
• THIS CYCLE SHALL OVERRIDE THE UNOCCUPIED CYCLE. IF THE SYSTEM WAS OPERATING AS A RESULT OF THE UNOCCUPIED CYCLE, THE SYSTEM SHALL CONTINUE TO OPERATE. THE DDC SYSTEM SHALL DETERMINE THE MINIMUM RUNTIME TO WARM THE SPACES TO THEIR SETPOINT WHEN THE COMPUTED START TIME IS REACHED. THE AIR HANDLING UNIT DISCHARGE AIR TEMPERATURE SHALL BE MAINTAINED AT A SETPOINT OF 85°F (ADJ.). THE SYSTEM SHALL CONTINUE TO OPERATE IN THIS MODE UNTIL ALL TEMPERATURES EXCEED A SETPOINT OF 68°F (ADJ.). AT THAT TIME, THE DDC SYSTEM SHALL SWITCH TO OCCUPIED CONTROL.

COOLING OPTIMUM START-UP:  
• THIS CYCLE SHALL OVERRIDE THE UNOCCUPIED CYCLE. IF THE SYSTEM WAS OPERATING AS A RESULT OF THE UNOCCUPIED CYCLE, THE SYSTEM SHALL CONTINUE TO OPERATE. THE DDC SYSTEM SHALL DETERMINE THE MINIMUM RUNTIME TO COOL THE SPACES TO THEIR SETPOINT WHEN THE COMPUTED START TIME IS REACHED. THE AIR HANDLING UNIT DISCHARGE AIR TEMPERATURE SHALL BE MAINTAINED AT A SETPOINT OF 55°F (ADJ.). THE SYSTEM SHALL CONTINUE TO OPERATE IN THIS MODE UNTIL ALL TEMPERATURES ARE LESS THAN A SETPOINT OF 79°F (ADJ.). AT THAT TIME, THE DDC SYSTEM SHALL SWITCH TO OCCUPIED CONTROL.

GRAPHICAL DISPLAY:  
DISPLAY THE GLOBAL OA TEMPERATURE AND HUMIDITY ON AHU GRAPHIC PAGE.

AHU REPORT GENERATION:  
DDC FMCS SHALL MONITOR THE FOLLOWING POINTS ON 10 MINUTE (ADJ.) INTERVALS WITHIN A SINGLE TREND. THE TREND SHALL RUN FOR A 100-DAY (ADJ.) DURATION AT WHICH POINT THE NEWEST VALUES SHALL AUTOMATICALLY OVERWRITE THE OLDEST VALUES.

- DATE
- TIME
- GLOBAL OUTSIDE AIR TEMP [°F]
- GLOBAL OUTSIDE AIR HUMIDITY [%RH]
- SUPPLY AIRFLOW [CFM]
- SUPPLY AIR TEMP [°F]
- SUPPLY AIR TEMP SETPOINT [°F]
- SUPPLY AIR RELATIVE HUMIDITY [%]
- SUPPLY AIR DEWPOINT [°F]
- RETURN AIRFLOW [CFM]
- RETURN AIR TEMP [°F]
- RETURN AIR RELATIVE HUMIDITY [%]
- OUTSIDE AIRFLOW [CFM]
- MIXED AIR TEMP [°F]
- PRE-FILTER LOADING [STATUS]
- FINAL FILTER LOADING [STATUS]
- HEATING WATER VALVE POSITION [% OPEN]
- PREHEAT COIL DISCHARGE AIR TEMPERATURE [°F]
- CHILLED WATER VALVE POSITION [% OPEN]
- HUMIDIFIER VALVE POSITION [% OPEN]
- WINTER HUMIDIFIER ISOLATION VALVE [OPEN/CLOSED]
- SUPPLY DUCT STATIC PRESSURE SETPOINT [INCHES W.G.]
- SUPPLY DUCT STATIC PRESSURE [INCHES W.G.]
- SUPPLY FAN VFD OUTPUT [% FULL SPEED]
- RETURN FAN VFD OUTPUT [% FULL SPEED]
- OUTSIDE AIR DAMPER POSITION [% OPEN]
- RETURN AIR DAMPER POSITION [% OPEN]
- RELIEF AIR DAMPER POSITION [% OPEN]
- ENERGY RECOVERY WHEEL VFD OUTPUT [% FULL SPEED]
- ENERGY RECOVERY WHEEL OUTSIDE AIR LEAVING AIR TEMPERATURE [°F]
- ENERGY RECOVERY WHEEL OUTSIDE AIR LEAVING RELATIVE HUMIDITY [%]
- ENERGY RECOVERY WHEEL EXHAUST AIR LEAVING AIR TEMPERATURE [°F]
- ENERGY RECOVERY WHEEL EXHAUST AIR LEAVING RELATIVE HUMIDITY [%]
- BYPASS DAMPER POSITION [OPEN/CLOSED]

THIS INFORMATION SHALL BE ACCESSIBLE TO VIEW IN GRAPHICAL FORM ON THE FMCS OPERATOR WORKSTATION.

#### AIR HANDLER REPORT GENERATION TYPICAL FOR AHU-1

RETURN FAN AIRFLOW SCHEDULE				
SYSTEM	SUPPLY CFM	EXHAUST FANS	PRESSURIZATION CFM	REMARKS
AHU-1	7900	EF-1, EF-2	45	NOTES 1,2,3

NOTES:

1. RETURN FAN AIRFLOW SETPOINT SHALL BE THE SUPPLY FAN AIRFLOW (AS MEASURED BY THE FMCS) MINUS THE SUM OF THE EXHAUST FAN AIRFLOWS MINUS THE PRESSURIZATION CFM.
2. FMCS SHALL DETERMINE THE OPERATIONAL STATUS OF EACH EXHAUST FAN VIA THE CURRENT SENSING RELAY TO DETERMINE WHETHER THE CFM ASSOCIATED WITH THAT FAN SHOULD BE INCLUDED IN THE RETURN FAN AIRFLOW CALCULATION.
3. EXHAUST FAN AIRFLOWS SHALL NOT BE THE CFM INDICATED ON THE FAN SCHEDULE, BUT SHALL BE THE AIRFLOW INDICATED IN THE FINAL TAB REPORT.

FAN INTERLOCK SCHEDULE		
SYSTEM	INTERLOCKED EXHAUST FANS	REMARKS
AHU-1	EF-1, EF-2	NOTE 1

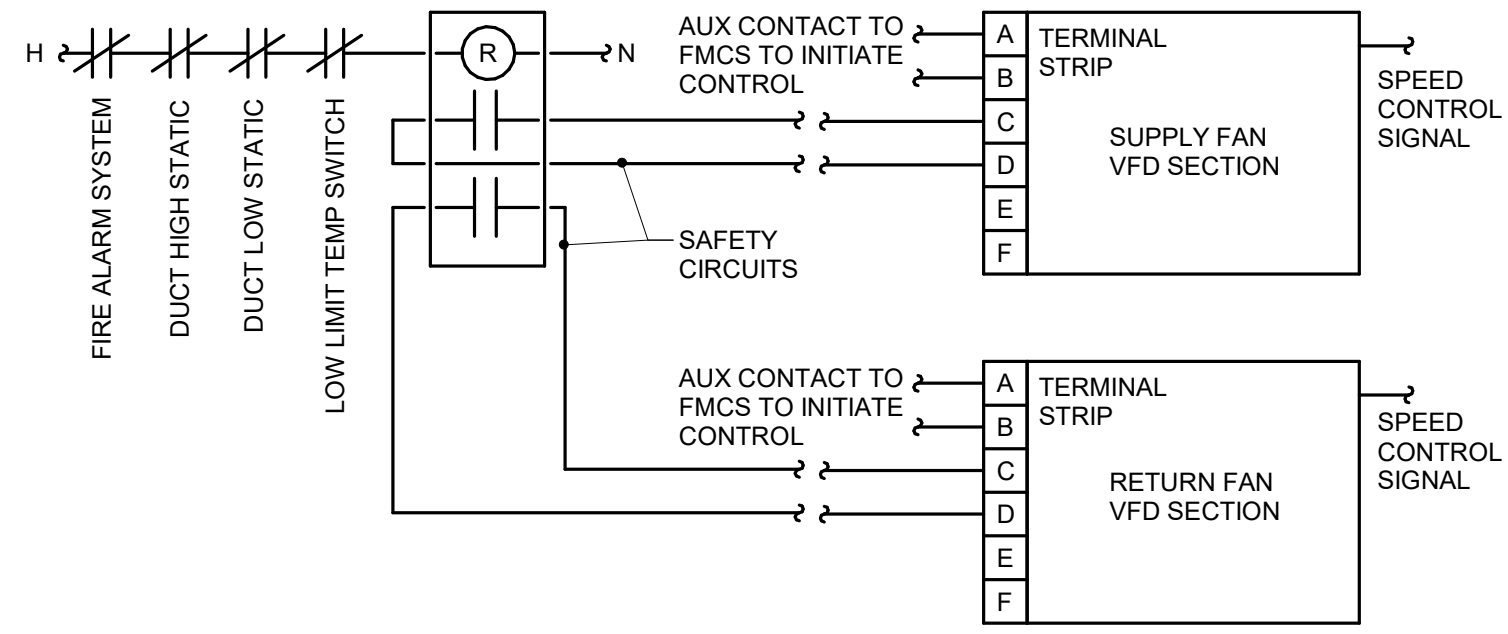
NOTES:

1. INTERLOCK EXHAUST FAN OPERATION THROUGH THE FMCS WITH RESPECTIVE AHU IN ACCORDANCE WITH AHU SEQUENCE OF OPERATION.

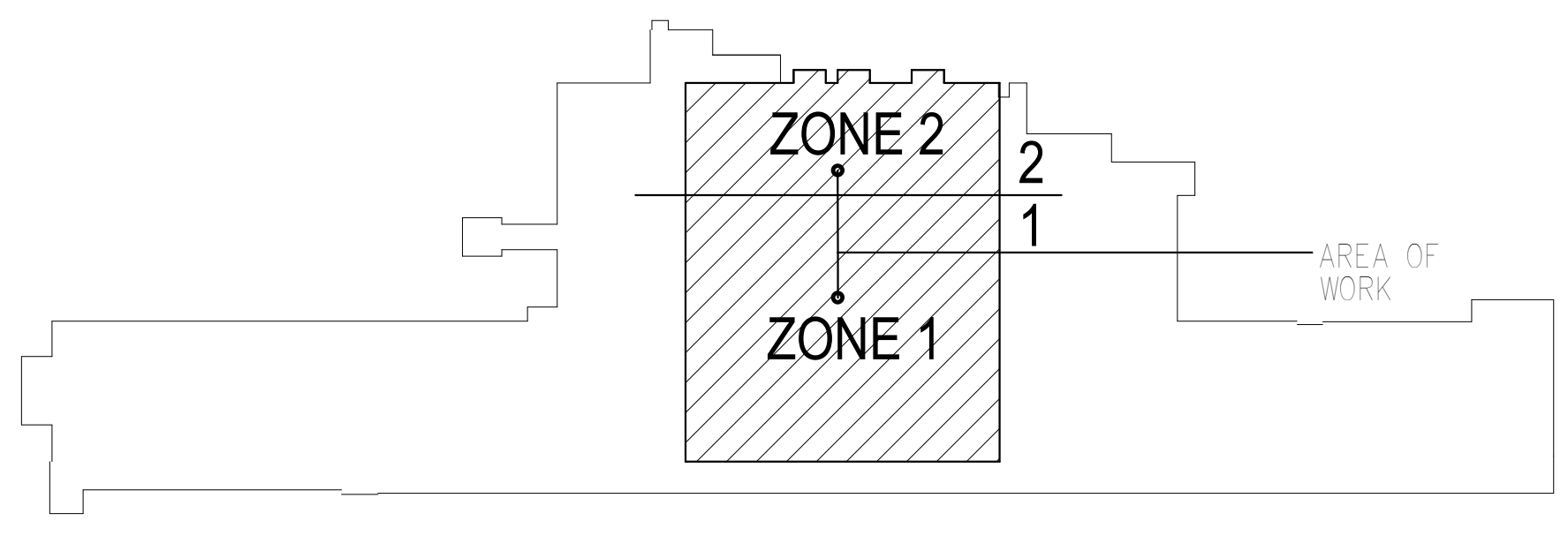
Table based on 55° LAT, 70° RAT, -20° OAT

Heating Coil	Modulating	Off
Wheel	On	On / Partial Recovery Only
Economizer	On	Off
Cooling Coil	Off	Modulating

OAT Temp: -20 -15 -10 -5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95



SUPPLY & RETURN FAN VFD CONTROL



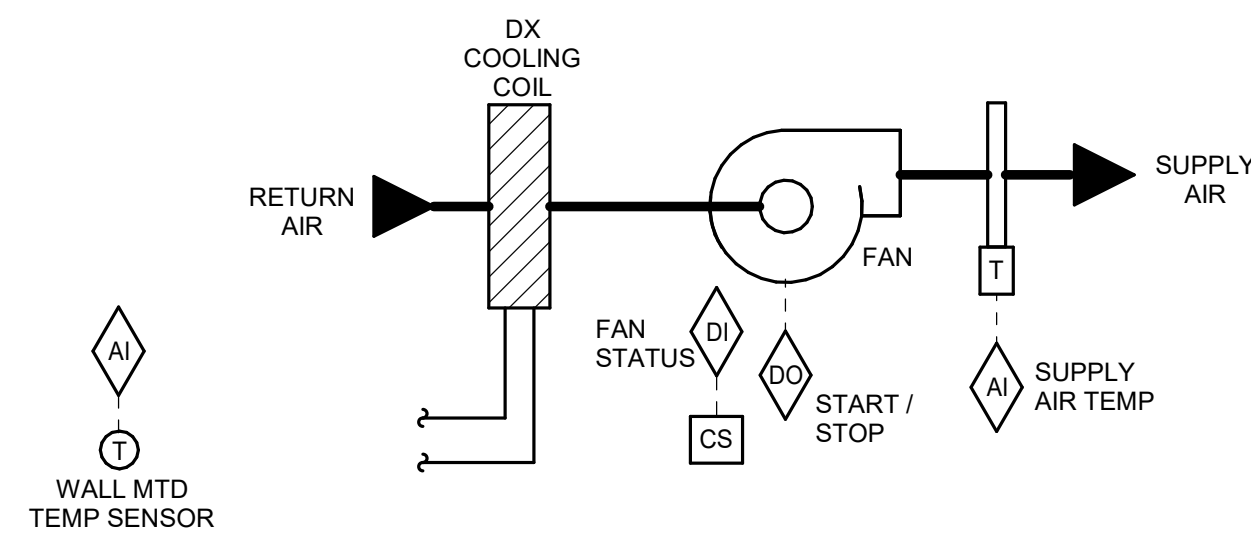
### 1 AHU-01 CONTROLS (CONT.) NO SCALE



10/28/2022 - ISSUE FOR 100% CONSTRUCTION DOCUMENTS

ISSUE FOR 100% CONSTRUCTION DOCUMENTS 10/28/22 No. REVISION DATE	<b>IMEG</b> 3001 BROADWAY STREET NE, SUITE 601 MINNEAPOLIS, MN 55413 PH: 612.540.5000 www.imegcorp.com	I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the state of Minnesota. Signature: <i>[Signature]</i> Typed or Printed Name: Robert Douglas Lowe Date: 10/28/2022 License Number: 24706	<b>ARCHITECT/ENGINEER OF RECORD</b> <i>[Signature]</i> BANCROFT ARCHITECTS + ENGINEERS 702 Nicholas Blvd, Suite 300 St. Cloud, MN 56303 T: 847.952.9362 F: 847.952.9403 www.bancroft-ae.com BAE PROJECT NO. 18-116	APPROVED PROJECT COORD.	DATE	APPROVED SERVICE LINE DIRECTOR	DATE	APPROVED INFECTION CONTROL NURSE	DATE	DRAWING TITLE	DATE	PROJECT TITLE	DATE	ISSUE FOR 100% CONSTRUCTION DOCUMENTS	DATE	PROF. SCALE	656-400	PROJECT NO.	4	BLDG. NO.	4	CITY	ST. CLOUD, MN	DWG. NO.	M101
				APPROVED GEN. PROJECT MANAGER	DATE	APPROVED PATIENT SAFETY	DATE	APPROVED ASSOCIATE HEALTH CARE SYSTEM DIRECTOR	DATE	ST. CLOUD VAHCS	10/28/2022	100%	ST. CLOUD, MN	56303	2										
				APPROVED PROJECTS SECTION MANAGER	DATE	APPROVED CHIEF OF POLICE	DATE	APPROVED CHIEF OF STAFF	DATE	ST. CLOUD VAHCS	10/28/2022	100%	ST. CLOUD, MN	56303	2										
				APPROVED DIRECTOR	DATE	APPROVED SAFETY MANAGER	DATE	APPROVED HEALTH CARE SYSTEM DIRECTOR	DATE	ST. CLOUD VAHCS	10/28/2022	100%	ST. CLOUD, MN	56303	2										





**SEQUENCE OF OPERATION:**  
 SPLIT SYSTEM SHALL BE CONTROLLED BY A STAND-ALONE CONTROLLER. THE UNIT SHALL MAINTAIN A ROOM AIR TEMPERATURE SETPOINT. ROOM TEMPERATURE TO BE MONITORED BY THE FMCS.

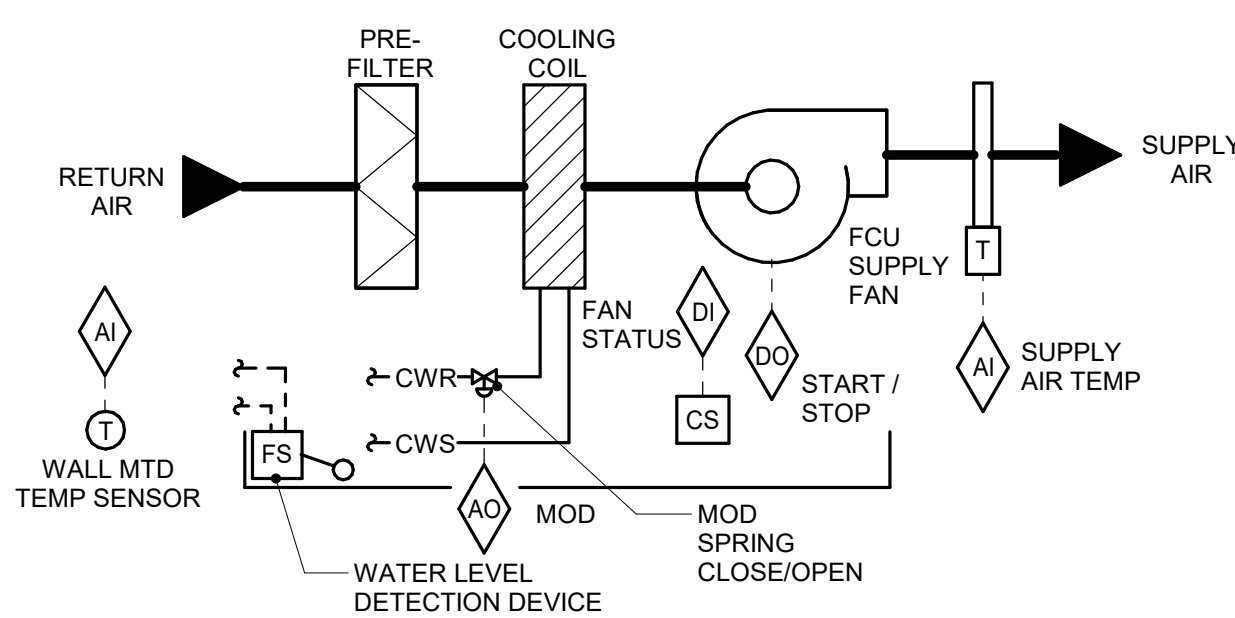
THE CONTROLLER SHALL MODULATE THE DX COOLING COIL TO MAINTAIN A SPACE TEMPERATURE SETPOINT OF 75°F (ADJ.) WITH 5°F (ADJ.) DEAD BAND BASED ON A SIGNAL FROM A WALL MOUNTED TEMPERATURE SENSOR. SPACES WITH ADJUSTABLE THERMOSTATS WILL ALLOW +/- 3°F (ADJ.) OFFSET FROM THE DDC SETPOINT.

IF ROOM AIR TEMPERATURE IS MAINTAINED AND THE DX COOLING COIL IS DE-ENERGIZED, THE SUPPLY FAN SHALL BE DE-ENERGIZED. IF THE DX COOLING COIL ENERGIZES THEN THE SUPPLY FAN SHALL BE ENERGIZED.

**ALARMS, INTERLOCKS & SAFETIES:**  
 IF SPLIT SYSTEM GENERATES AN ALARM, AN ALARM SHALL BE GENERATED AT THE FMCS OPERATOR WORKSTATION.

WHENEVER SPLIT SYSTEM IS SHUTDOWN THE FOLLOWING SHALL OCCUR:  
 • DX COOLING COIL AND ASSOCIATED CONDENSING UNIT SHALL BE DE-ENERGIZED.  
 • SUPPLY FAN SHALL BE DE-ENERGIZED.

**6 SPLIT SYSTEM CONTROL**  
 NO SCALE



**SEQUENCE OF OPERATION:**  
 SUPPLY FAN OPERATION SHALL BE CONTROLLED BY THE FMCS THROUGH A CONTACTOR. THE UNIT SHALL MAINTAIN A ROOM AIR TEMPERATURE SETPOINT.

THE FMCS SHALL MODULATE THE COOLING COIL CONTROL VALVE TO MAINTAIN A SPACE TEMPERATURE SETPOINT OF 75°F (ADJ.) WITH 5°F (ADJ.) DEAD BAND BASED ON A SIGNAL FROM A WALL MOUNTED TEMPERATURE SENSOR. SPACES WITH ADJUSTABLE THERMOSTATS WILL ALLOW +/- 3°F (ADJ.) OFFSET FROM THE DDC SETPOINT.

IF ROOM AIR TEMPERATURE IS MAINTAINED AND THE VALVE IS CLOSED, THE SUPPLY FAN SHALL BE DE-ENERGIZED. IF THE COIL CONTROL VALVE OPENS THEN THE SUPPLY FAN SHALL BE ENERGIZED.

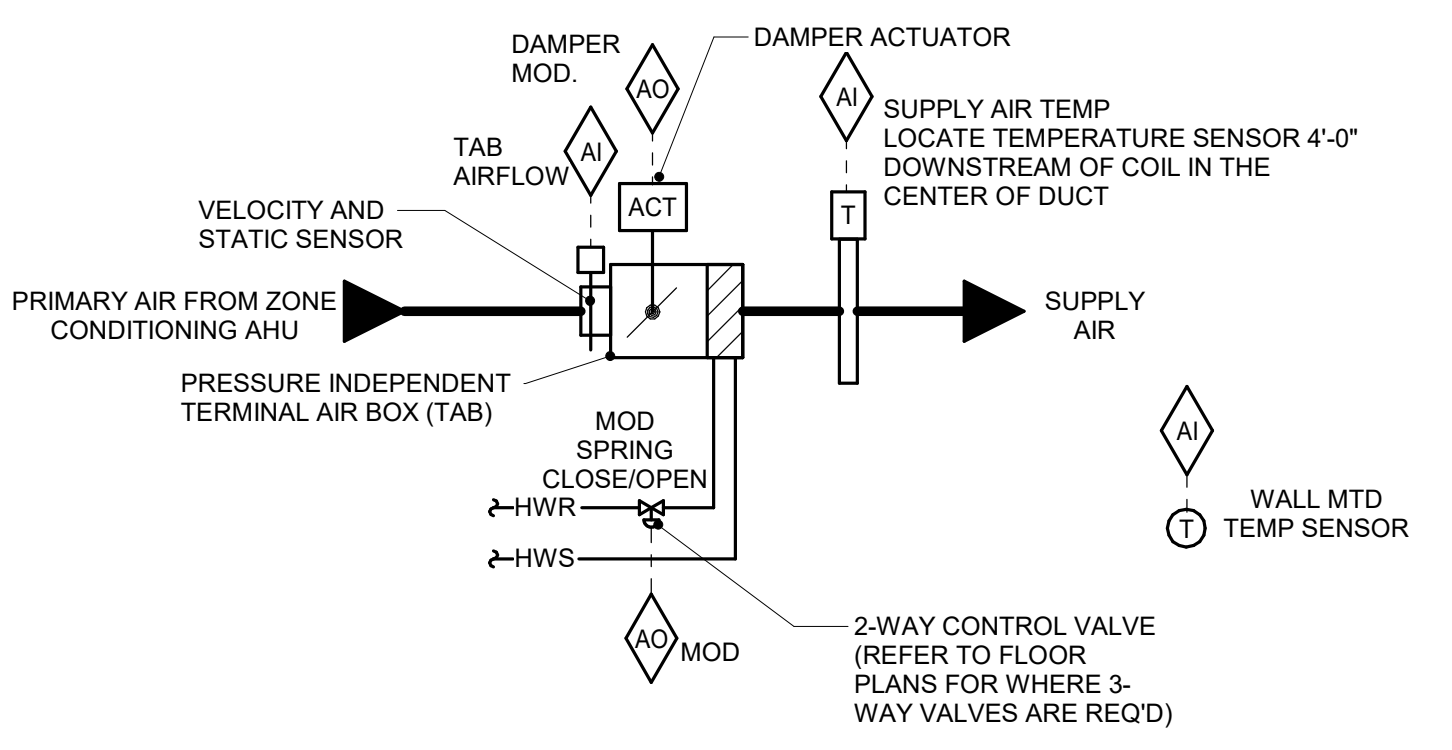
**ALARMS, INTERLOCKS & SAFETIES:**  
 WHEN THE FIRE ALARM CONTROL PANEL INDICATES AN ALARM CONDITION, FCU SHALL SHUTDOWN.

A WATER LEVEL DETECTION DEVICE SHALL CLOSE THE CHILLED WATER VALVE AND PREVENT SUPPLY FAN OPERATION UPON DETECTION OF HIGH WATER LEVEL AND SHALL INDICATE AN ALARM TO THE OPERATOR WORKSTATION.

FMCS SHALL INDICATE AN ALARM TO THE FMCS OPERATOR WORKSTATION IF THE FMCS COMMANDS ANY SUPPLY FAN TO OPERATE AND THE FAN CURRENT RELAY DETECTS INSUFFICIENT CURRENT FLOW.

WHENEVER FCU IS SHUTDOWN THE FOLLOWING SHALL OCCUR:  
 • CHILLED WATER CONTROL VALVE SHALL CLOSE.  
 • SUPPLY FAN SHALL BE DE-ENERGIZED.

**4 FAN COIL UNIT CONTROL - COOLING ONLY - FCU-X**  
 NO SCALE



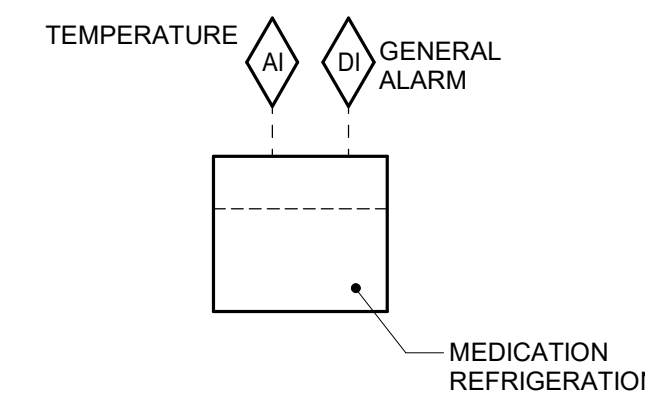
**SEQUENCE OF OPERATION:**  
 FMCS TAB CONTROLLER SHALL MODULATE THE TAB DAMPER TO MAINTAIN CONSTANT SUPPLY AIRFLOW TO THE ROOM.

FMCS TAB CONTROLLER SHALL MODULATE TAB HW REHEAT COIL CONTROL VALVE TO MAINTAIN SPACE TEMPERATURE OF 72°F (ADJ.) WITH 5°F (ADJ.) DEAD BAND BASED ON A SIGNAL FROM A WALL MOUNTED TEMPERATURE SENSOR. SEE DRAWINGS FOR TEMPERATURE SENSOR REQUIREMENTS.

THE FMCS SHALL UTILIZE OUTPUT FROM ALL TERMINAL AIR BOX POSITIONS TO RESET THE SUPPLY DUCT DIFFERENTIAL STATIC PRESSURE.

**ALARMS, INTERLOCKS & SAFETIES:**  
 SEND AN ALARM TO THE FMCS OPERATOR INTERFACE IF THE SPACE TEMPERATURE IS MORE THAN 10°F (ADJ.) ABOVE OR BELOW SETPOINT.

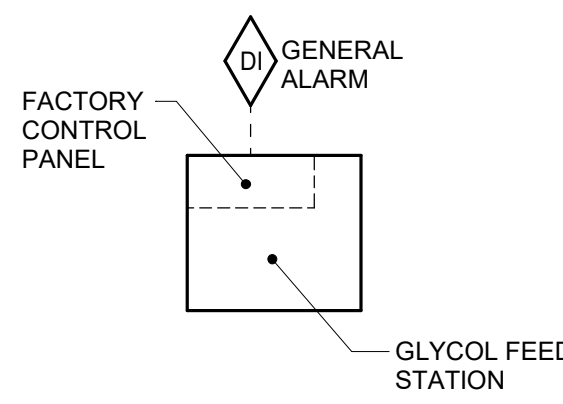
**1 TAB CONTROL W/ HOT WATER REHEAT - TAB-X**  
 NO SCALE



FMCS SHALL MONITOR TEMPERATURE OF MEDICATION REFRIGERATOR.

**ALARMS, INTERLOCKS, AND SAFETIES:**  
 AN ALARM SHALL BE GENERATED AT THE FMCS OPERATOR INTERFACE IF THE TEMPERATURE OF THE REFRIGERATOR RISES ABOVE 45°F (ADJ.) FOR MORE THAN 10 MINUTES (ADJ.) OR THE REFRIGERATOR INDICATES AN ALARM.

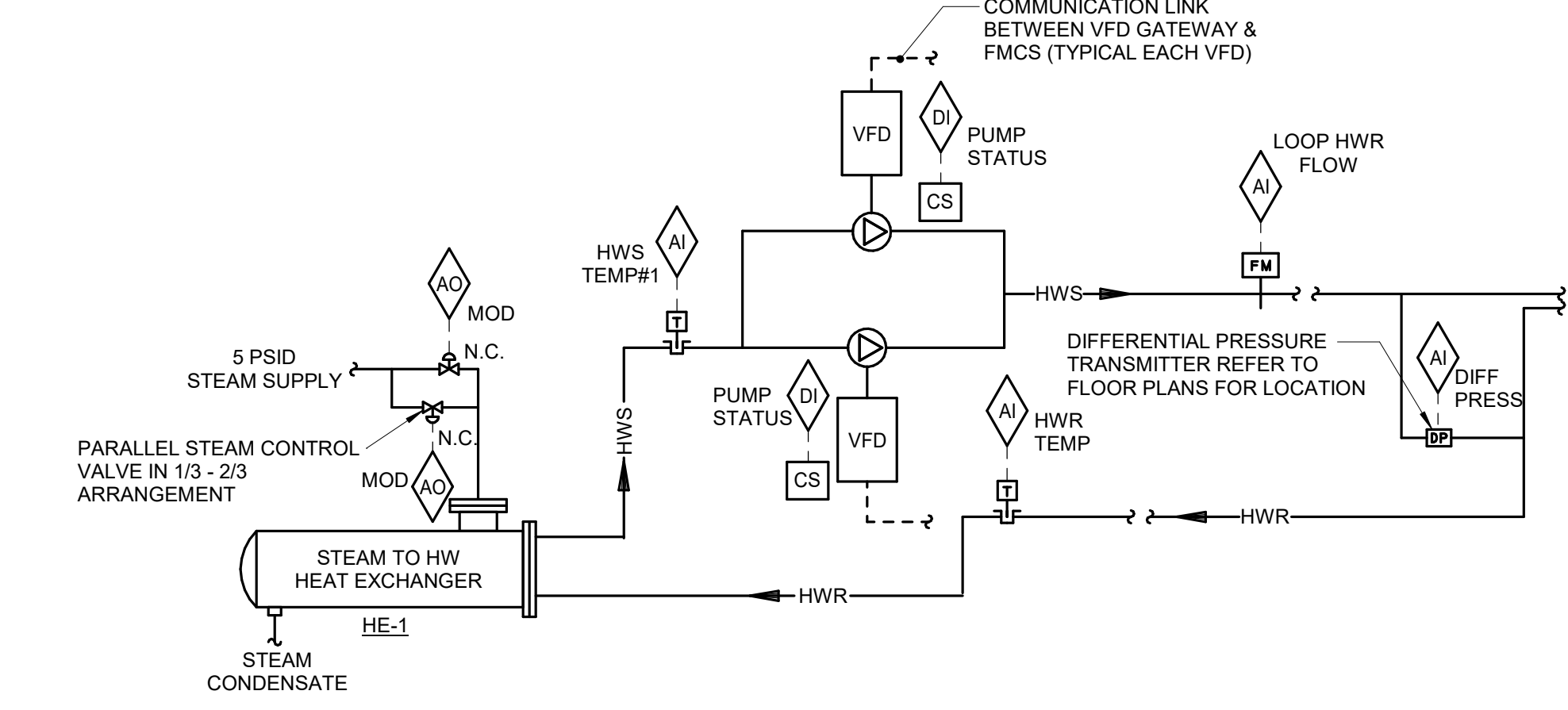
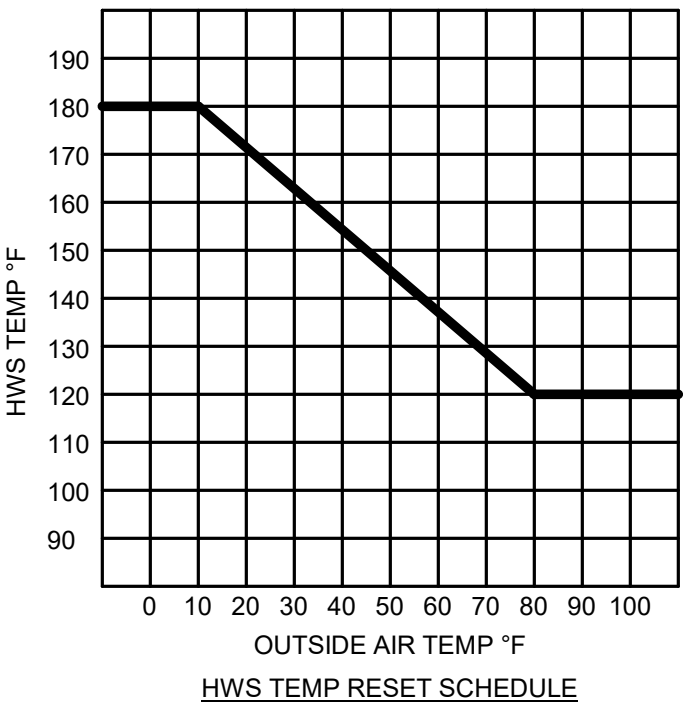
**7 MEDICATION REFRIGERATION MONITORING**  
 NO SCALE



**SEQUENCE OF OPERATION:**  
 THE GLYCOL FEED SYSTEM CONTROLLER SHALL OPERATE THE SYSTEM TO MAINTAIN THE SPECIFIED PRESSURE IN THE WATER SYSTEM.

**ALARMS, INTERLOCKS, AND SAFETIES:**  
 AN ALARM SHALL BE GENERATED AT THE FMCS OPERATOR INTERFACE IF THE GLYCOL CONTROLLER INDICATES AN ALARM.

**5 GLYCOL FEED STATION CONTROL DIAGRAM**  
 NO SCALE



**GENERAL:**  
 TWO 100% CAPACITY HEATING WATER PUMPS ARE PROVIDED IN THE SYSTEM. (ONE PUMP IS REDUNDANT).

**SEQUENCE OF OPERATION:**  
 FMCS SHALL OPEN THE HEATING WATER ISOLATION CONTROL VALVE TO ASSOCIATED HEAT EXCHANGER. THE STEAM CONTROL VALVES SHALL MODULATE TO THE HEAT EXCHANGER AS REQUIRED TO MAINTAIN SYSTEM SUPPLY TEMP HWS#1 AS FOLLOWS:

- IF THE 1/3 CAPACITY STEAM CONTROL VALVE SHALL BE MODULATED IN ORDER TO MAINTAIN THE HEATING WATER SUPPLY TEMPERATURE.
- IF THE 1/3 CAPACITY CONTROL VALVE IS 100% OPEN AND THE HEAT EXCHANGER IS UNABLE TO MAINTAIN SETPOINT, THE 1/3 CAPACITY CONTROL VALVE SHALL CLOSE AND THE 2/3 CAPACITY STEAM CONTROL VALVE SHALL MODULATE TO MAINTAIN SETPOINT.
- IF THE 2/3 CAPACITY CONTROL VALVE IS 100% OPEN AND IS UNABLE TO MAINTAIN SETPOINT, THE 2/3 CAPACITY CONTROL VALVE SHALL REMAIN OPEN AND THE 1/3 CAPACITY CONTROL VALVE SHALL ALSO MODULATE OPEN TO MAINTAIN SETPOINT.
- ON A DECREASE IN LOAD, THE 2/3 CAPACITY STEAM CONTROL VALVE SHALL REMAIN OPEN AND THE 1/3 CAPACITY STEAM CONTROL VALVE SHALL MODULATE CLOSED UNTIL SETPOINT IS ACHIEVED.
- ON A FURTHER DECREASE IN LOAD, THE 1/3 CAPACITY STEAM CONTROL VALVE SHALL REMAIN SHUT AND THE 2/3 CAPACITY STEAM CONTROL VALVE SHALL MODULATE CLOSED UNTIL SETPOINT IS ACHIEVED OR UNTIL IT REACHES 40% (ADJ.) OPEN.
- IF THE 2/3 CAPACITY STEAM CONTROL VALVE REACHES 40% (ADJ.) OPEN AND SETPOINT IS STILL NOT ACHIEVED, THE 2/3 CAPACITY STEAM CONTROL VALVE SHALL CLOSE AND THE 1/3 CAPACITY STEAM CONTROL VALVE SHALL MODULATE OPEN UNTIL SETPOINT IS ACHIEVED.

FMCS SHALL LIMIT THE HWS TEMP#1 TO MAX. 190°F (ADJ.).

STEAM CONTROL VALVE OPERATION SHALL NOT BE ENABLED UNLESS ONE PUMP IS RUNNING AS PROVEN BY VFD STATUS.

**HWS TEMP SETPOINT:**  
 FMCS SHALL RESET THE HWS TEMP IN ACCORDANCE WITH HWS RESET SCHEDULE.

**HEATING WATER PUMP CONTROL:**  
 START/STOP: THE FMCS SHALL START THE LEAD PUMP VIA THE VFD AND SHALL RUN CONTINUOUSLY. HEATING WATER PUMPS SHALL BE STARTED AND STOPPED THROUGH A HAND-OFF-AUTO SWITCH ON THE FACE OF THE VFD. WHEN PLACED IN THE HAND POSITION, PUMP MOTOR SHALL RUN CONTINUOUSLY. WHEN PLACED IN THE AUTO POSITION, THE FMCS SHALL CONTROL PUMP OPERATION. WHEN PLACED IN THE OFF POSITION, THE PUMP MOTOR SHALL BE DE-ENERGIZED.

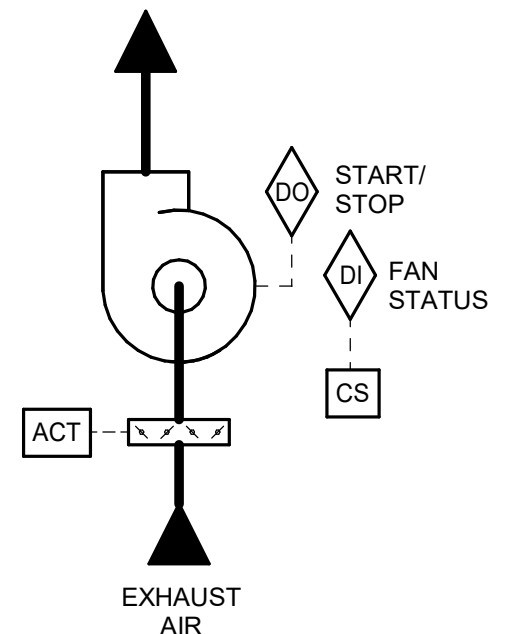
THE FMCS SHALL MODULATE OUTPUT TO THE VFD AS REQUIRED TO MAINTAIN DP SETPOINT AT THE LOCATION OF THE DP TRANSMITTER. DP TRANSMITTER SIGNAL SHALL BE WIRED DIRECTLY TO THE CONTROLLER SERVING PUMP VFD (SIGNAL SHALL NOT BE TRANSMITTED ACROSS THE FMCS NETWORK). FMCS SHALL RESET THE DP SETPOINT UNTIL ONE SYSTEM COIL MODULATING CONTROL VALVE IS 95% OPEN. IN NO CASE SHALL DP SETPOINT EXCEED 10 PSID (ADJ.) OR DROP BELOW 2 PSID.

THE FMCS SHALL LEAD/LAG THE PUMPS ON A WEEKLY BASIS. INCLUDE GRAPHIC TOGGLE ON OPERATOR WORKSTATION GRAPHICAL SCREEN TO ALLOW OPERATOR TO MANUALLY SELECT WHICH PUMP IS LEAD AND WHICH IS LAG.

**ALARMS, INTERLOCKS & SAFETIES:**  
 FMCS SHALL INDICATE AN ALARM TO THE FMCS OPERATOR WORKSTATION IN THE EVENT THE FOLLOWING OCCUR:

- SHOULD THE FMCS COMMAND THE LEAD HW PUMP TO OPERATE AND THE PUMP FAILS TO DO SO AS DETERMINED BY THE VFD STATUS, AN ALARM SHALL BE INDICATED AT THE FMCS OPERATOR WORKSTATION AND THE LAG HW PUMP SHALL AUTOMATICALLY START.
- AN ALARM CONDITION OCCURS AT ANY VFD.
- IF HEATING WATER SUPPLY TEMPERATURE IS MORE THAN 5°F (ADJ.) ABOVE OR BELOW SETPOINT FOR MORE THAN 10 MINUTES (ADJ.).
- IF SYSTEM DIFFERENTIAL PRESSURE IS NOT MAINTAINED FOR MORE THAN 15 MINUTES (ADJ.).

**8 HX HEATING HOT WATER CONTROL**  
 NO SCALE



**SEQUENCE OF OPERATION:**  
 EXHAUST FAN SHALL BE OPERATED INTERLOCKED WITH AHU-01.

2-POSITION DAMPER SHALL FULLY OPEN WHEN FAN IS ENERGIZED. WHEN FAN IS DE-ENERGIZED, 2-POSITION DAMPER SHALL FULLY CLOSE.

**ALARMS, INTERLOCKS AND SAFETIES:**  
 AN ALARM SHALL BE GENERATED AT THE FMCS OPERATOR WORKSTATION IN THE EVENT THE FMCS COMMANDS THE EXHAUST FAN TO OPERATE AND THE CURRENT SENSING RELAY DETECTS INSUFFICIENT CURRENT DRAW.

**3 EXHAUST FAN CONTROL**  
 NO SCALE

10/28/2022 - ISSUE FOR 100% CONSTRUCTION DOCUMENTS

ISSUE FOR 100% CONSTRUCTION DOCUMENTS	10/28/22
No	REVISION
	DATE

**IMEG**  
 3001 BROADWAY  
 STREET NE, SUITE 601  
 MINNEAPOLIS, MN 55413  
 PH: 612.540.5000  
 www.imegcorp.com

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the state of Minnesota.

Signature: *Robert Douglas Lowe*  
 Typed or Printed Name: Robert Douglas Lowe  
 Date: 10/28/2022 License Number: 24706

ARCHITECT/ENGINEER OF RECORD

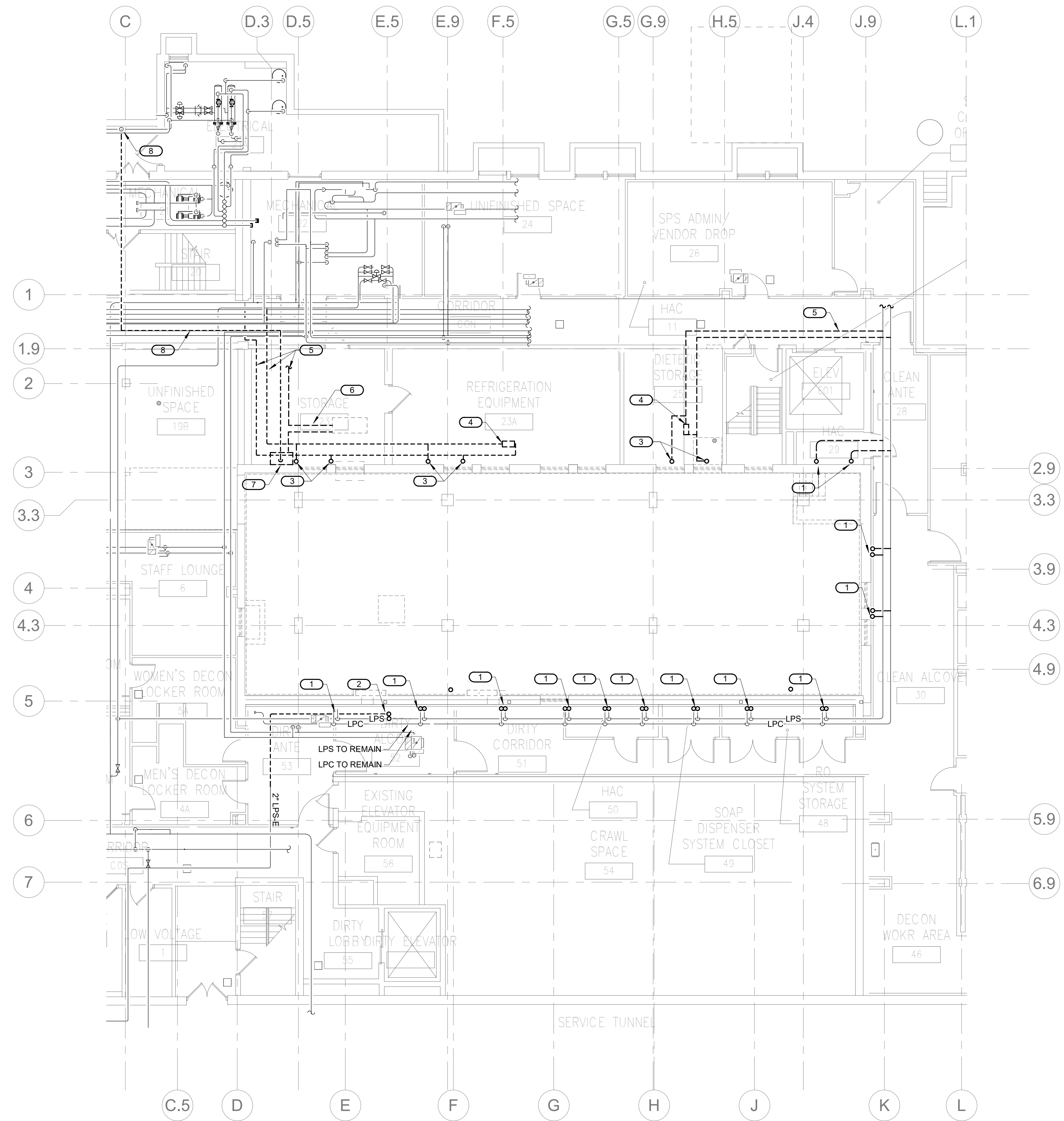
*Bancroft*  
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 BAE PROJECT NO. 19-116

APPROVED PROJECT DIR	DATE	APPROVED SERVICE LINE DIRECTOR	DATE	APPROVED INSPECTION CONTROL NUMBER	DATE
APPROVED GEAR PROJECT MANAGER	DATE	APPROVED PATIENT SAFETY	DATE		
APPROVED PROJECTS SECTION MANAGER	DATE	APPROVED CHIEF OF POLICE	DATE		
APPROVED DIRECTOR PHS	DATE	APPROVED SAFETY MANAGER	DATE		

PROJECT TITLE	DATE	PROJECT TITLE	DATE
MECHANICAL - CONTROL SEQUENCES	10/28/2022	CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR	10/28/2022
APPROVED ASSOCIATE HEALTHCARE SYSTEM DIRECTOR	DATE	APPROVED ASSOCIATE HEALTHCARE SYSTEM DIRECTOR	DATE
APPROVED CHIEF OF STAFF	DATE	APPROVED CHIEF OF STAFF	DATE
APPROVED HEALTHCARE SYSTEM DIRECTOR	DATE	APPROVED HEALTHCARE SYSTEM DIRECTOR	DATE

**VA**

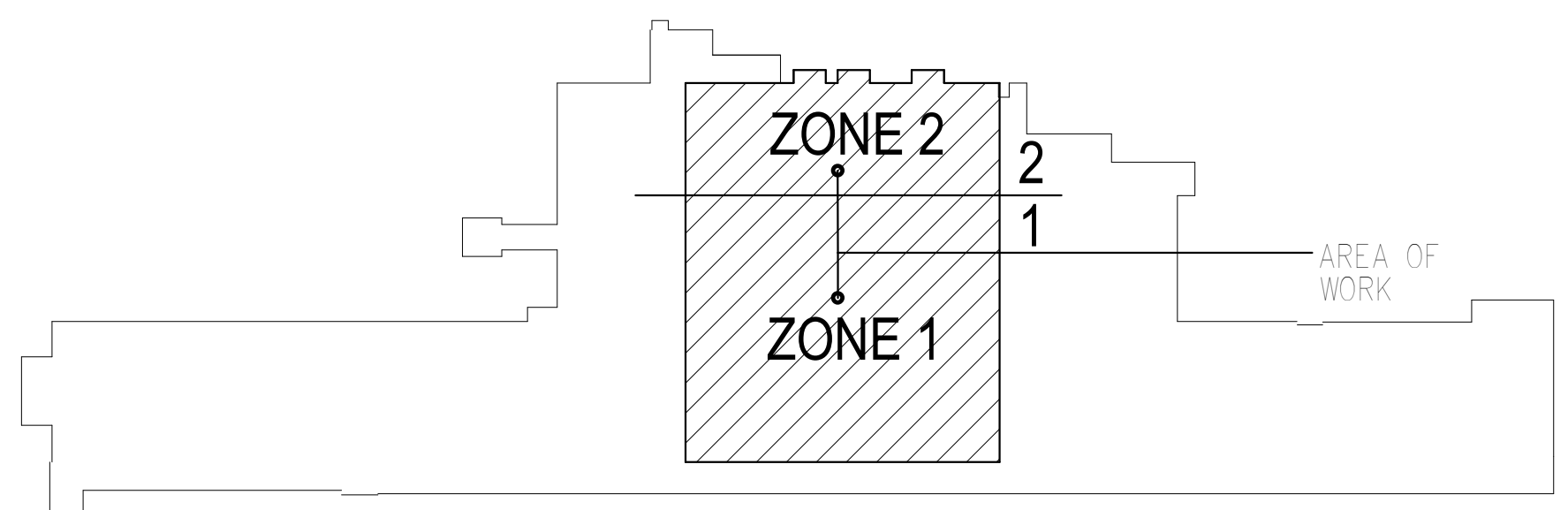
U.S. Department of Veterans Affairs  
 Veterans Health Administration  
 St. Cloud VA Health Care System



- KEY NOTES**
1. DEMOLISH LPS AND LPC SERVING CONNECTORS ON LEVEL ABOVE. CAP PIPING AT MAIN IN BASEMENT.
  2. DEMOLISH LPS & LPC PIPING AND RISERS UP TO FIRST FLOOR LEVEL ABOVE AS INDICATED.
  3. DEMOLISH EXISTING LPS & LPC PIPING UP TO FIRST FLOOR RADIATORS.
  4. DEMOLISH EXISTING END OF MAIN DRIP LEG AND STEAM TRAP.
  5. DEMOLISH EXISTING LPS & LPC PIPING BACK TO MAIN(S). CAP AT MAIN(S).
  6. DEMOLISH EXISTING MPS STEAM LINE AND CONTROL VALVE ASSOCIATED WITH FCU BEING DEMOLISHED.
  7. DEMOLISH EXISTING CONDENSATE PUMP AND ALL ASSOCIATED PIPING AND CONTROLS.
  8. DEMOLISH EXISTING PUMPED STEAM CONDENSATE LINE BACK TO MAIN AS INDICATED. CAP AT MAIN.

- SHEET NOTES:**
1. ALL DEMOLISHED STEAM & CONDENSATE PIPING BRANCHES & MAINS SHALL BE PROPERLY CAPPED AT MAINS. THERE SHALL BE NO ABANDONED DEAD LEGS IN THE STEAM SYSTEM.

**MECHANICAL - PIPING - DEMOLITION PLAN - BASEMENT**  
 1/8" = 1'-0"  
 NORTH

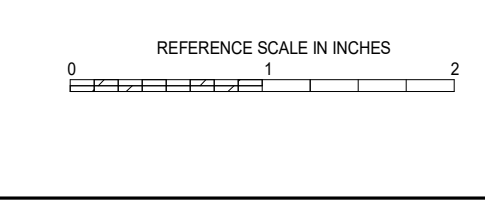


**KEY PLAN BUILDING 4**  
 NORTH

10/28/2022 - ISSUE FOR 100% CONSTRUCTION DOCUMENTS

No.	REVISION	DATE

**IMEG**  
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 MINNEAPOLIS, MN  
 55413



I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the state of Minnesota.  
 Signature: *Robert Douglas Lowe*  
 Typed or Printed Name: Robert Douglas Lowe  
 Date: 10/28/2022 License Number: 24706

**ARCHITECT/ENGINEER OF RECORD**

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 BAE PROJECT NO. 18-116

APPROVED PROJECT COP	DATE	APPROVED SERVICE LINE DIRECTOR	DATE	APPROVED INSPECTION CONTROL NUMBER	DATE

DRAWING TITLE	PROJECT TITLE	DATE
MECHANICAL - PIPING - DEMOLITION PLAN - BASEMENT	CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR	10/28/2022

**VA**

**U.S. Department of Veterans Affairs**  
 Veterans Health Administration  
 St. Cloud VA Health Care System

BUILDING NO.	4	PROJ. NO.	NJK	DRAWN BY	JCL	DWG. NO.	MPD100
LOCATION	ST. CLOUD VAHCS	ST. CLOUD, MN	56303				

CONSTRUCTION NOTES:

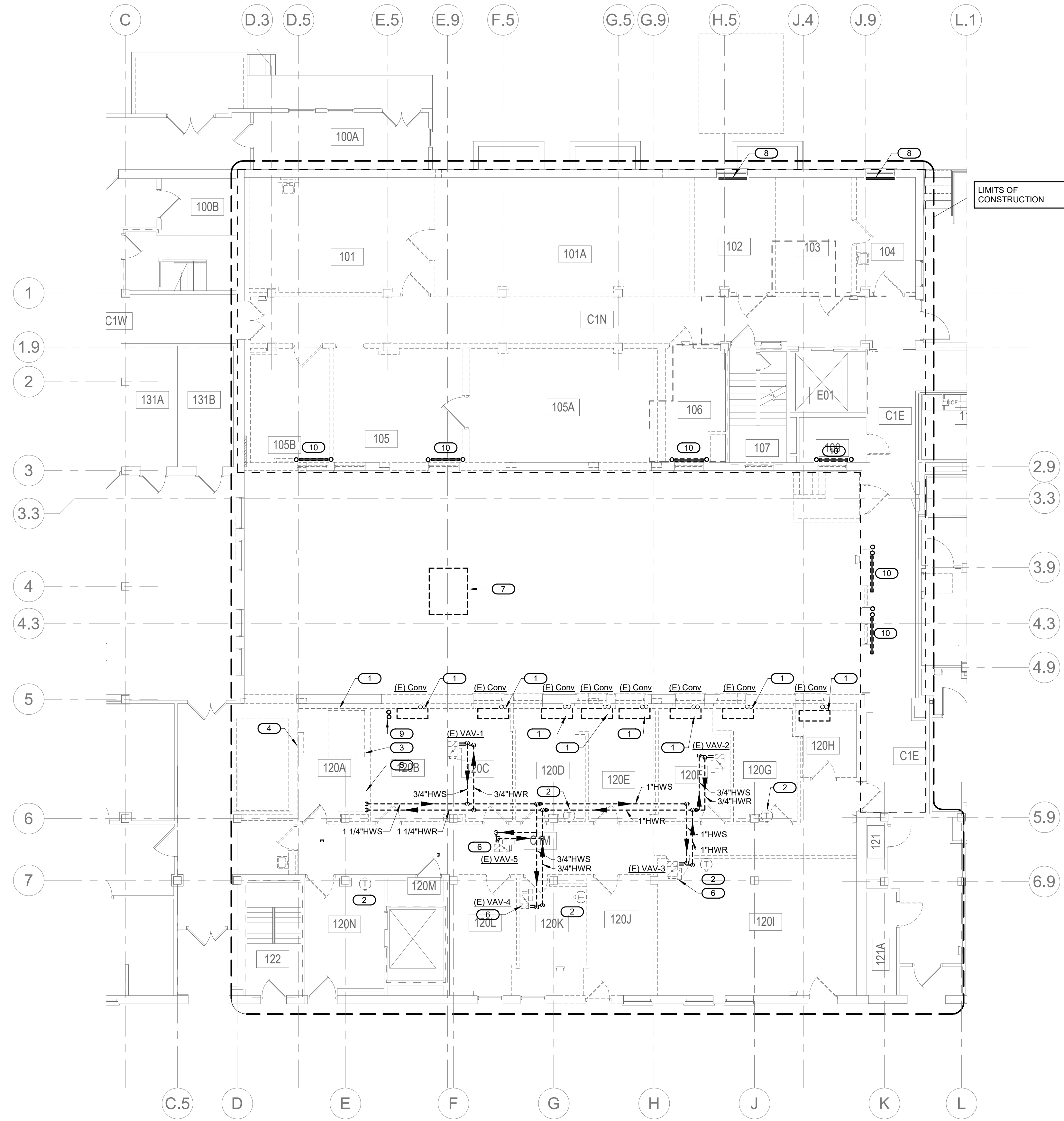
- PIPING AND EQUIPMENT SHOWN DASHED IS TO BE REMOVED. REMOVAL TO INCLUDE BUT IS NOT LIMITED TO ALL ASSOCIATED PIPING, VALVES, WIRING, CONTROLS, HANGERS AND SUPPORTS.

KEY NOTES:

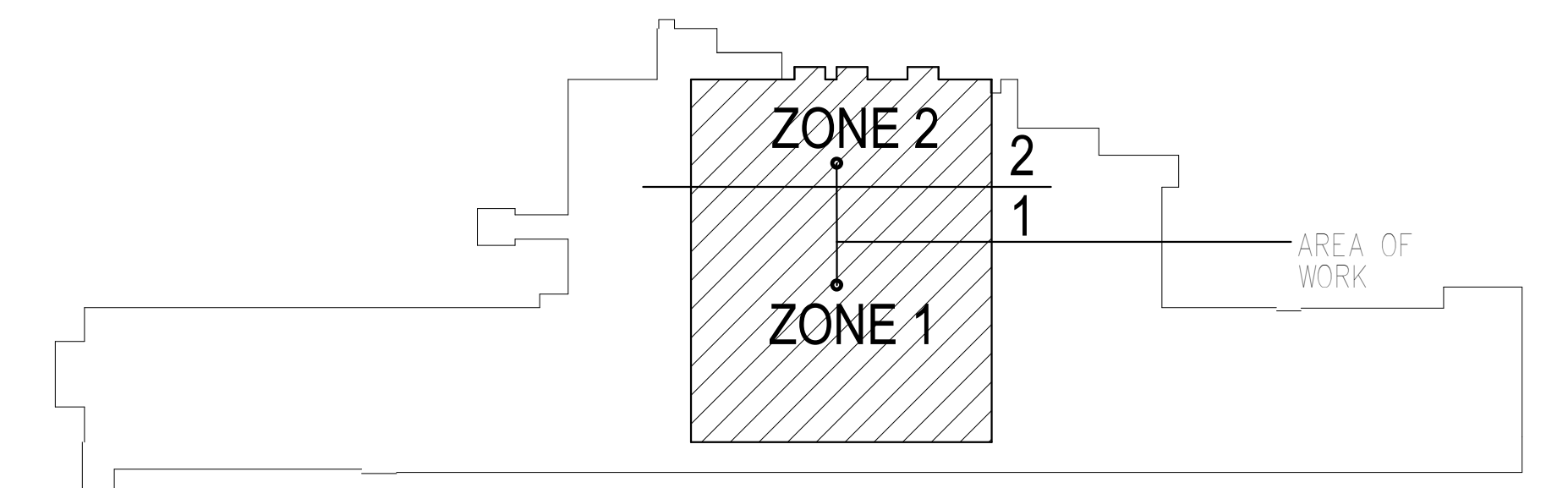
- REMOVE CONVECTOR SHOWN DASHED. REMOVE LPS & LPC SERVING CONVECTOR AND CAP PIPING IN FLOOR BELOW. REMOVAL OF CONVECTOR INCLUDES BUT IS NOT LIMITED TO ALL ASSOCIATED PIPING, VALVES, WIRING, CONTROLS, HANGERS AND SUPPORTS.
- REMOVE THERMOSTAT AND REPLACE WITH COVERPLATE PAINTED TO MATCH WALL. COORDINATE COLOR WITH ARCHITECT.
- REMOVE HEAT EXCHANGER - REMOVAL INCLUDES BUT IS NOT LIMITED TO ALL ASSOCIATED LOW PRESSURE STEAM (LPS), LOW PRESSURE STEAM CONDENSATE (LPC), HYDRONIC HEATING (HWS & HWR) PIPING, VALVES, HANGERS, SUPPORTS, WIRING & CONTROLS. CAP LPS & LPC PIPING BACK TO MAIN.
- REMOVE TEMPERATURE CONTROL PANEL AND ASSOCIATED AIR COMPRESSOR. REMOVAL TO INCLUDE BUT IS NOT LIMITED TO PIPING, VALVES, HANGERS AND SUPPORTS.
- REMOVE HYDRONIC HEATING PUMP. REMOVAL TO INCLUDE BUT IS NOT LIMITED TO ASSOCIATED PIPING, VALVES, SUPPORTS, WIRING, CONTROLS, GLYCOL FEED SYSTEM.
- REMOVE VAV BOX INCLUDING BUT NOT LIMITED TO ASSOCIATED PIPING, VALVES, WIRING, CONTROLS & SUPPORTS.
- REMOVE CONDENSING UNIT ON GRADE. REMOVAL TO INCLUDE BUT IS NOT LIMITED TO ASSOCIATED PIPING, VALVES, SUPPORTS, WIRING, & CONTROLS. REFRIGERANT TO BE RECLAIMED/RECYCLED PER EPA STANDARDS.
- EXISTING STEAM RADIATORS TO REMAIN.
- REMOVE LPS/LPC RISERS AND CAP IN FIRST FLOOR CEILING PLenum.
- DEMOLISH EXISTING STEAM RADIATOR AND ASSOCIATED PIPING & CONTROLS.

SHEET NOTES:

- ALL DEMOLISHED STEAM & CONDENSATE PIPING BRANCHES & MAINS SHALL BE PROPERLY CAPPED AT MAINS. THERE SHALL BE NO ABANDONED DEAD LEGS IN THE STEAM SYSTEM.



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

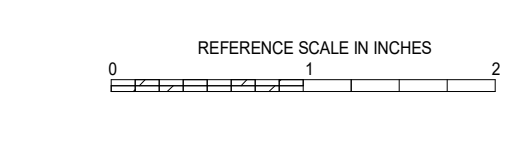


**KEY PLAN BUILDING 4**  
NTS

10/28/2022 - ISSUE FOR 100% CONSTRUCTION DOCUMENTS

No	REVISION	DATE

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 3001 BROADWAY, SUITE 601  
 ST. CLOUD, MN 56303  
 PH: 612.540.5000  
 WWW.IMEG.CORP.COM



I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the state of Minnesota.  
 Signature: *Robert Douglas Lowe*  
 Typed or Printed Name: **Robert Douglas Lowe**  
 Date: 10/28/2022 License Number: 24706

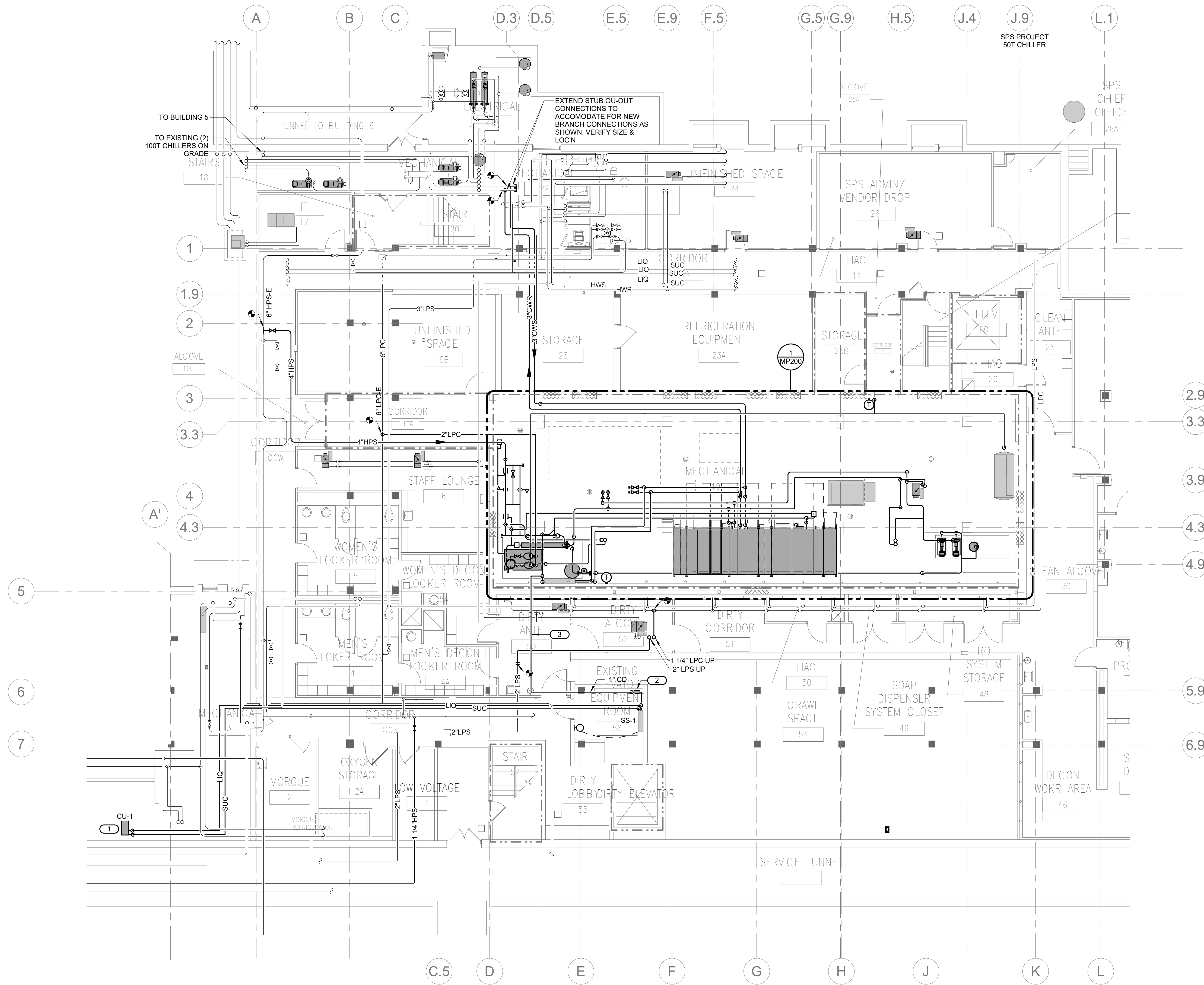
ARCHITECT/ENGINEER OF RECORD  
**Bancroft Architects + Engineers**  
 700 Nichols Blvd, Suite 300  
 Elk Grove Village, IL 60007  
 T: 847.952.9362 F: 847.952.9403  
 WWW.BANCROFT-ARCHITECTS.COM  
 BAE PROJECT NO. 19-116

APPROVED PROJECT COORDINATOR	DATE	APPROVED SERVICE LINE DIRECTOR	DATE	APPROVED INFECTION CONTROL NURSE	DATE

APPROVED HEALTH CARE SYSTEM DIRECTOR	DATE	APPROVED CHIEF OF STAFF	DATE

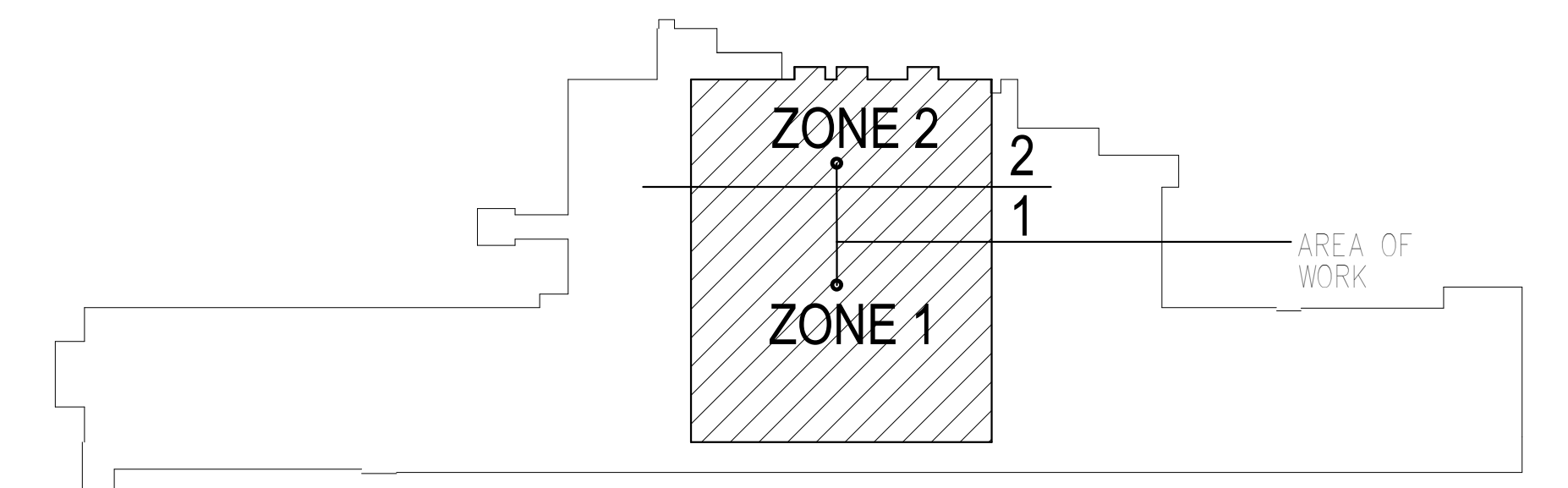
ISSUE FOR 100% CONSTRUCTION DOCUMENTS	10/28/22	PROJECT TITLE	CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR	DATE	10/28/2022
		PROJECT NO.	656-400		
		PROJECT NAME	MPD101		
		BUILDING NO.	4		
		DRAWN BY	NJK		
		CHECKED BY	JCL		
		LOCATION	ST. CLOUD VAHCS ST. CLOUD, MN 56303		

**VA** U.S. Department of Veterans Affairs  
 Veterans Health Administration  
 St. Cloud VA Health Care System



- KEYNOTES: ( # )**
1. LOCATE NEW CONDENSING UNIT IN INTERSTITIAL PLATFORM SPACE ADJACENT TO MECHANICAL ROOM
  2. PROVIDE LITTLE GIANT OR VA APPROVED EQUAL CONDENSATE PUMP FOR SS-1 CONDENSATE RETURN LINE. LITTLE GIANT EG-1-DV IS THE BASIS OF DESIGN.
  3. ROUTE SS-1 CONDENSATE TO NEW MECHANICAL ROOM AND CONNECT TO FCU-1 CONDENSATE LINE TO NEW FLOOR DRAIN.

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

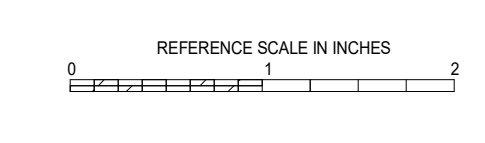


**KEY PLAN BUILDING 4**  
NTS

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No.	REVISION	DATE

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 MINNEAPOLIS, MN 55413  
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 www.imegcorp.com



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 BAE PROJECT NO. 19-116

APPROVED PROJECT GDR	DATE	APPROVED SERVICE LINE DIRECTOR	DATE	APPROVED INSPECTION CONTROL NUMBER	DATE

DRAWING TITLE	PROJECT TITLE	DATE
MECHANICAL - PIPING - PLAN - BASEMENT	CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR	10/28/2022

BUILDING NO.	PROJECT NO.	DRAWING NO.
4	NJK	MP100

**VA**  
 U.S. Department of Veterans Affairs  
 Veterans Health Administration  
 St. Cloud VA Health Care System  
 ST. CLOUD, MN 56303

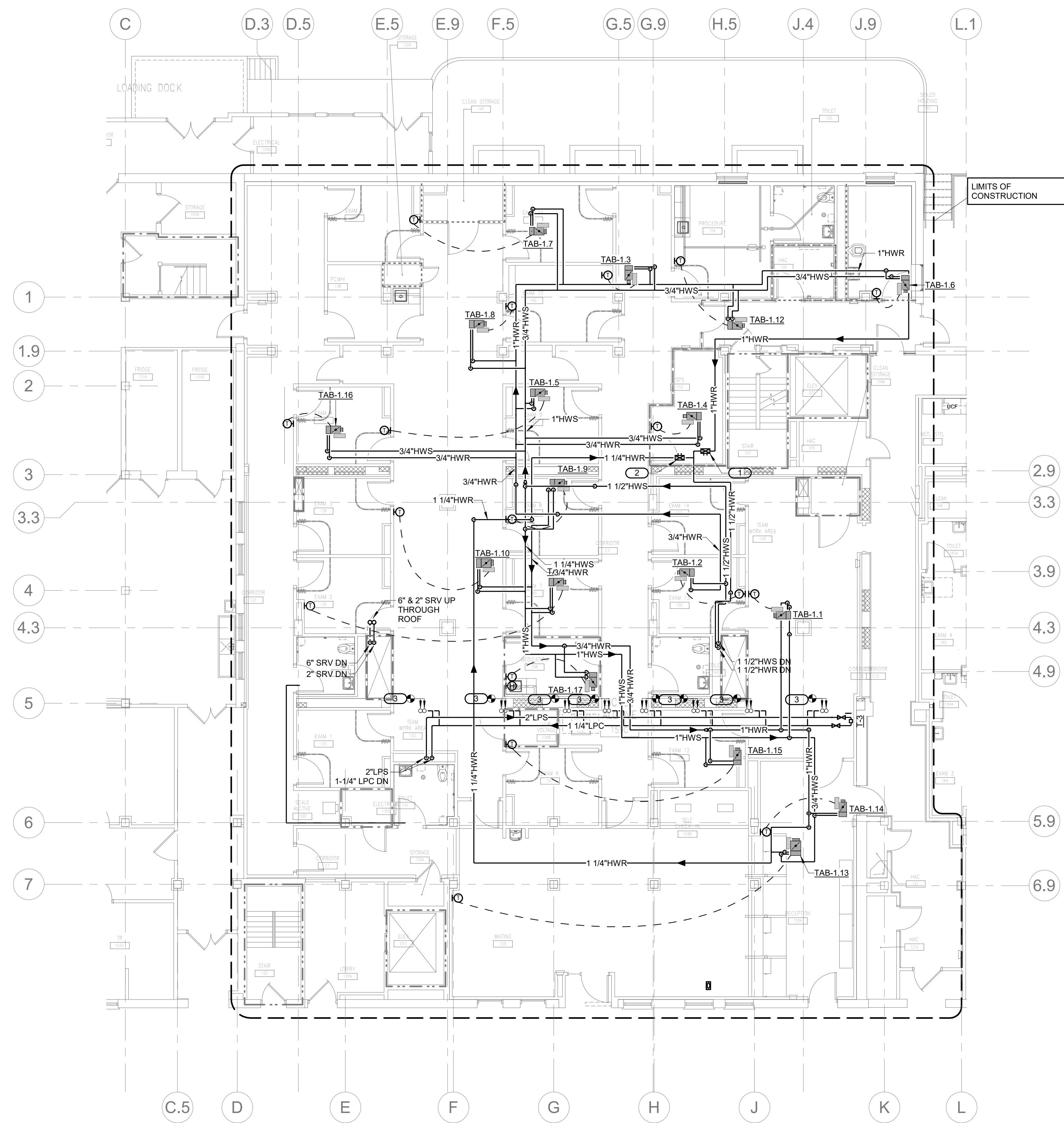


**CONSTRUCTIONS NOTES**

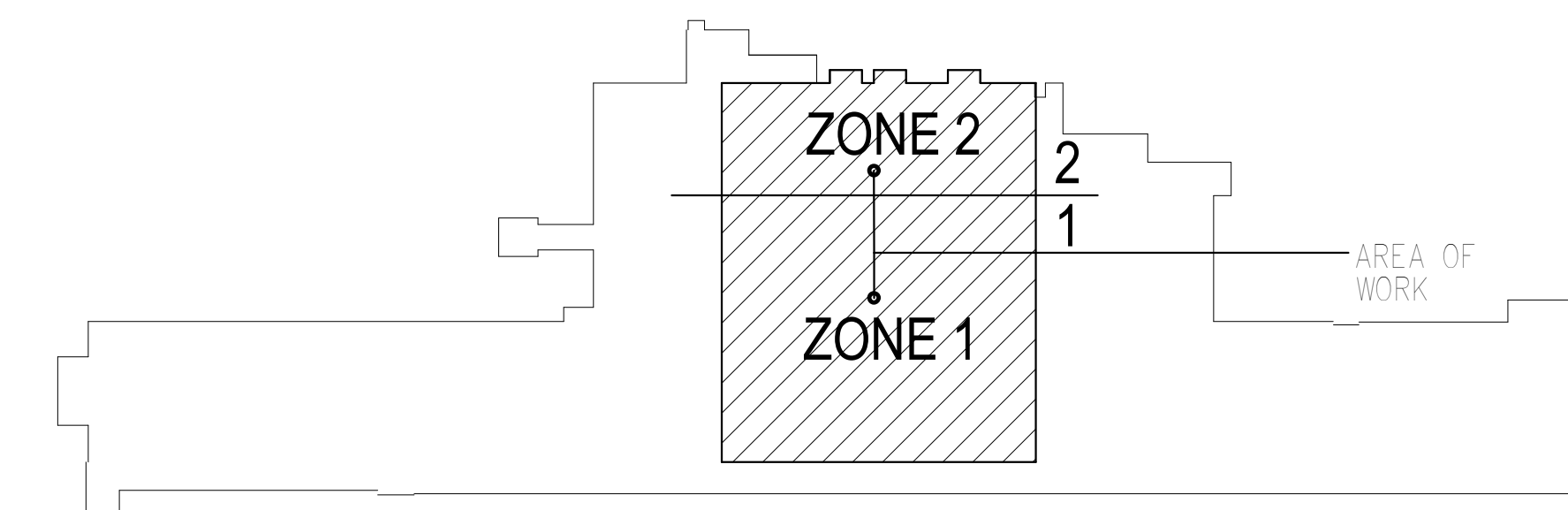
- A. CONTRACTOR TO EXTEND BRANCH PIPING TO PIPING TO VAV BOXES
- B. LOCATE ALL VAV BOXES AWAY FROM DOORS AND DOOR SWINGS
- C. LOCATE VAV BOXES WITHIN THE ROOM THEY SERVE WHERE POSSIBLE.
- D. LOCATE VAV REHEAT COIL VALVING IN SUCH A MANNER THAT BOTH THE VAV CONTROLLER AND VALVING CAN BE ACCESSED BY A SINGLE LADDER POSITION.
- E. PROVIDE 24" CLEARANCE AROUND VAV CONTROLLER.
- F. RUNOUTS TO TERMINAL UNITS ARE 3/4" UNLESS NOTED OTHERWISE.

**KEYNOTES: ( # )**

- 1. BALANCE TO 63 GPM.
- 2. BALANCE TO 9.2 GPM.
- 3. RE-CONNECT STEAM AND CONDENSATE BRANCH PIPING TO EXISTING TERMINAL UNIT PIPE RISERS SERVING FLOOR ABOVE.



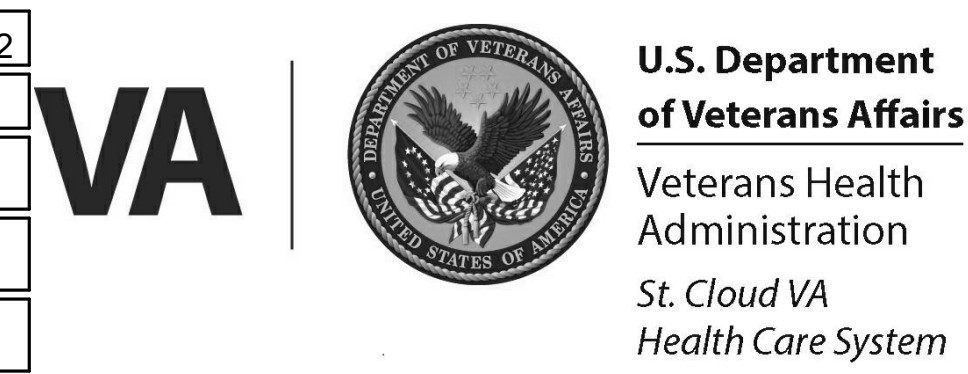
**MECHANICAL - PIPING - PLAN - FIRST FLOOR**  
 1/8" = 1'-0"



**KEY PLAN BUILDING 4**  
 NORTH

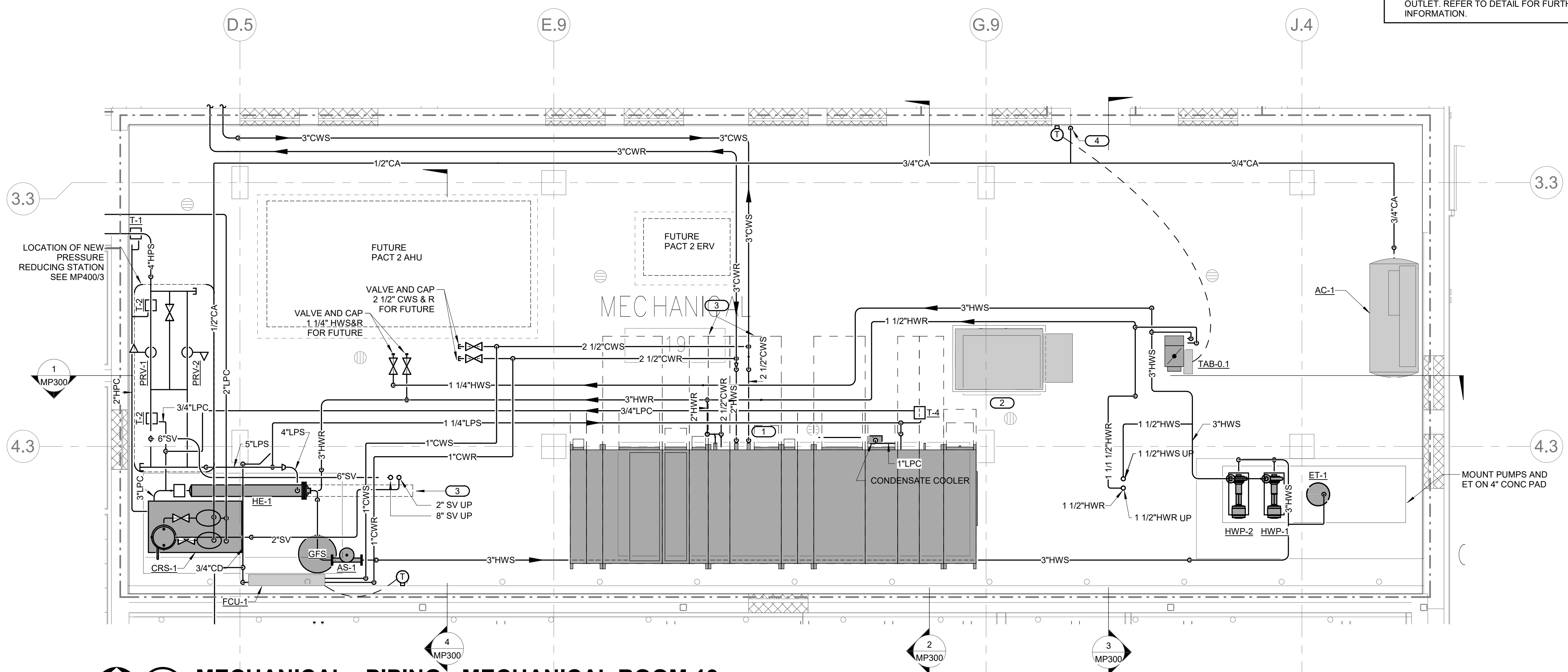
10/28/2022 - ISSUE FOR 100% CONSTRUCTION DOCUMENTS

<p><b>IMEG</b>                  3001 BROADWAY                  STREET NE, SUITE 601                  MINNEAPOLIS, MN                  55413                  PH: 612.540.5000                  www.imegcorp.com</p>	<p>I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the state of Minnesota.</p> <p>Signature: <i>[Signature]</i>                  Typed or Printed Name: Robert Douglas Lowe                  Date: 10/28/2022 License Number: 24706</p>	<p>ARCHITECT/ENGINEER OF RECORD</p> <p><i>[Signature]</i>                  BANCROFT ARCHITECTS + ENGINEERS                  700 Nichols Blvd, Suite 300                  Elk Grove Village, IL 60007                  T: 847.952.9362 F: 847.952.9403                  www.bancroft-ae.com                  BAE PROJECT NO. 18-116</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>APPROVED PROJECT DIR</td> <td>DATE</td> <td>APPROVED SERVICE LINE DIRECTOR</td> <td>DATE</td> <td>APPROVED INSPECTION CONTROL NUMBER</td> <td>DATE</td> </tr> <tr> <td>APPROVED GEAR PROJECT MANAGER</td> <td>DATE</td> <td>APPROVED PATIENT SAFETY</td> <td>DATE</td> <td>APPROVED CHIEF OF POLICE</td> <td>DATE</td> </tr> <tr> <td>APPROVED PROJECTS SECTION MANAGER</td> <td>DATE</td> <td>APPROVED SAFETY MANAGER</td> <td>DATE</td> <td></td> <td></td> </tr> <tr> <td>APPROVED DIRECTOR FIN</td> <td>DATE</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>	APPROVED PROJECT DIR	DATE	APPROVED SERVICE LINE DIRECTOR	DATE	APPROVED INSPECTION CONTROL NUMBER	DATE	APPROVED GEAR PROJECT MANAGER	DATE	APPROVED PATIENT SAFETY	DATE	APPROVED CHIEF OF POLICE	DATE	APPROVED PROJECTS SECTION MANAGER	DATE	APPROVED SAFETY MANAGER	DATE			APPROVED DIRECTOR FIN	DATE					<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>DRAWING TITLE</td> <td>DATE</td> </tr> <tr> <td>MECHANICAL - PIPING - PLAN - FIRST FLOOR</td> <td>10/28/2022</td> </tr> <tr> <td>PROJECT TITLE</td> <td>PROJECT NO.</td> </tr> <tr> <td>CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR</td> <td>656-400</td> </tr> <tr> <td>BUILDING NO.</td> <td>PROJECY</td> </tr> <tr> <td>4</td> <td>NJK</td> </tr> <tr> <td>DRW</td> <td>JCL</td> </tr> <tr> <td>DWG NO.</td> <td>MP101</td> </tr> <tr> <td>LOCATION</td> <td>DWG. OF</td> </tr> <tr> <td>ST. CLOUD VAHCS</td> <td>ST. CLOUD, MN 56303</td> </tr> </table>	DRAWING TITLE	DATE	MECHANICAL - PIPING - PLAN - FIRST FLOOR	10/28/2022	PROJECT TITLE	PROJECT NO.	CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR	656-400	BUILDING NO.	PROJECY	4	NJK	DRW	JCL	DWG NO.	MP101	LOCATION	DWG. OF	ST. CLOUD VAHCS	ST. CLOUD, MN 56303
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ST. CLOUD VAHCS	ST. CLOUD, MN 56303																																															



**SHEET NOTES:**  
 1. HORIZONTAL CONDENSATE PIPING SHALL BE SLOPED AT 1/8" PER FOOT UNLESS NOTED OTHERWISE.

**KEYNOTES:** (E)  
 1. PIPE AHU-1 CONDENSATE TO NEAREST FLOOR DRAIN.  
 2. PIPE ERV-1 CONDENSATE TO NEAREST FLOOR DRAIN.  
 3. EQUIPMENT MAINTENANCE CLEARANCE. KEEP AREA CLEAR.  
 4. 3/4" COMPRESSED AIR DOWN TO WALL OUTLET. REFER TO DETAIL FOR FURTHER INFORMATION.

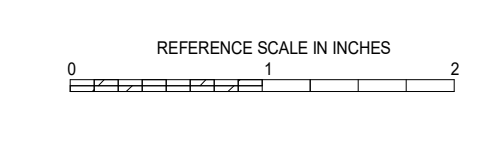


**MECHANICAL - PIPING - MECHANICAL ROOM 19**  
 1/4" = 1'-0"

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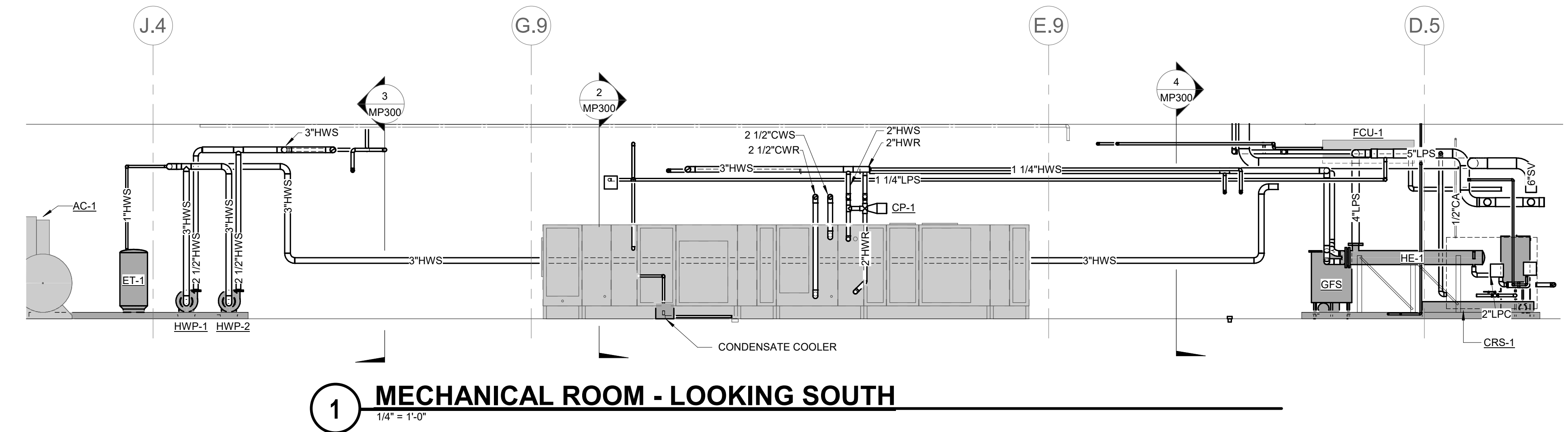
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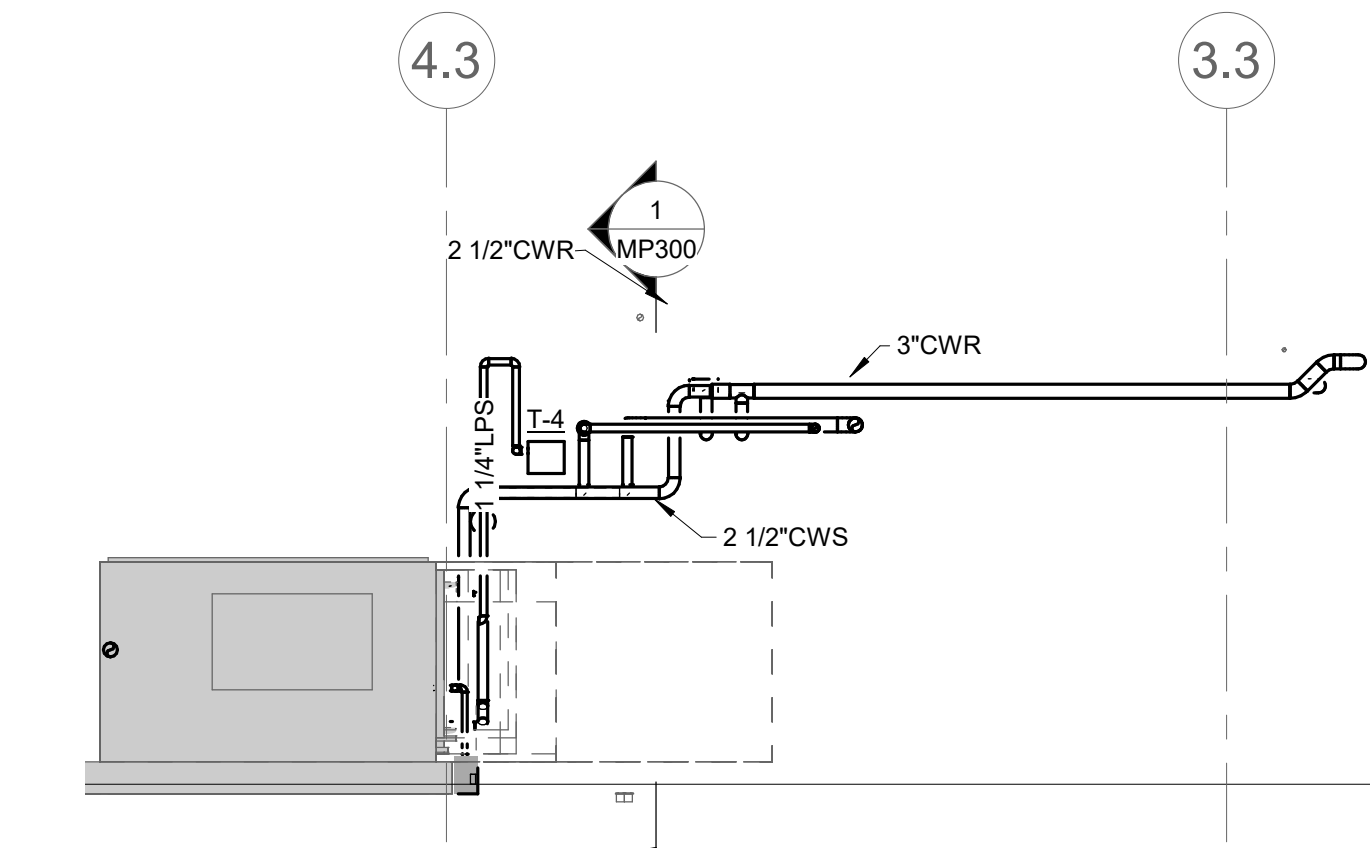
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APPROVED GENR PROJECT MANAGER	DATE	APPROVED PATIENT SAFETY	DATE	APPROVED ASSOCIATE HEALTHCARE SYSTEM DIRECTOR	DATE
APPROVED PROJECTS SECTION MANAGER	DATE	APPROVED CHIEF OF POLICE	DATE	APPROVED CHIEF OF STAFF	DATE
APPROVED DIRECTOR/OPS	DATE	APPROVED SAFETY MANAGER	DATE	APPROVED HEALTHCARE SYSTEM DIRECTOR	DATE

DRAWING TITLE	MECHANICAL - PIPING - ENLARGED PLANS	DATE	10/28/2022
PROJECT TITLE	CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR	PROJECT NO.	656-400
BUILDING No.	4	PROJECY	NJK
DESIGN	JCL	DRAWING NO.	MP200
LOCATION	ST. CLOUD VAHCS ST. CLOUD, MN 56303	DWG. OF	

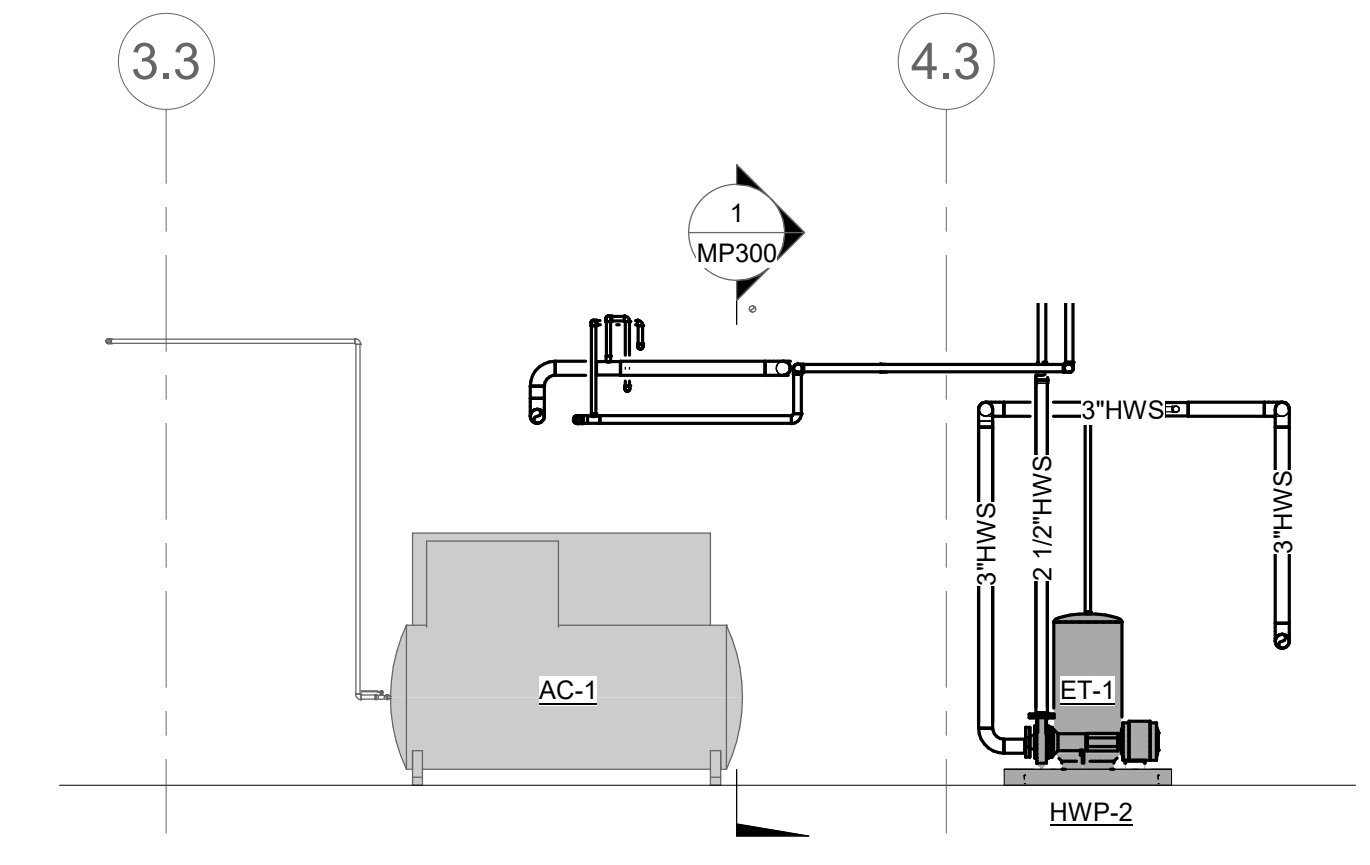
**VA**  
 U.S. Department of Veterans Affairs  
 Veterans Health Administration  
 St. Cloud VA Health Care System



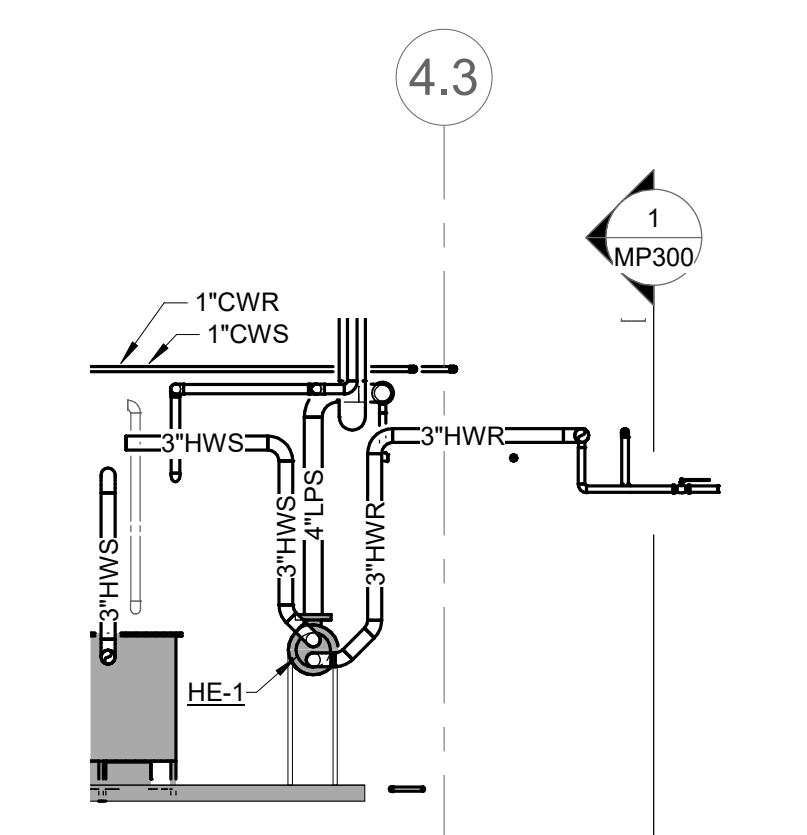
**1 MECHANICAL ROOM - LOOKING SOUTH**  
1/4" = 1'-0"



**2 MECHANICAL ROOM - LOOKING WEST**  
1/4" = 1'-0"



**3 MECHANICAL ROOM - LOOKING EAST**  
1/4" = 1'-0"

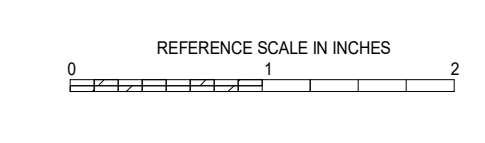


**4 MECHANICAL ROOM - NEW HEAT EXCHANGER**  
1/4" = 1'-0"

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ISSUE FOR 100% CONSTRUCTION DOCUMENTS 10/28/22		

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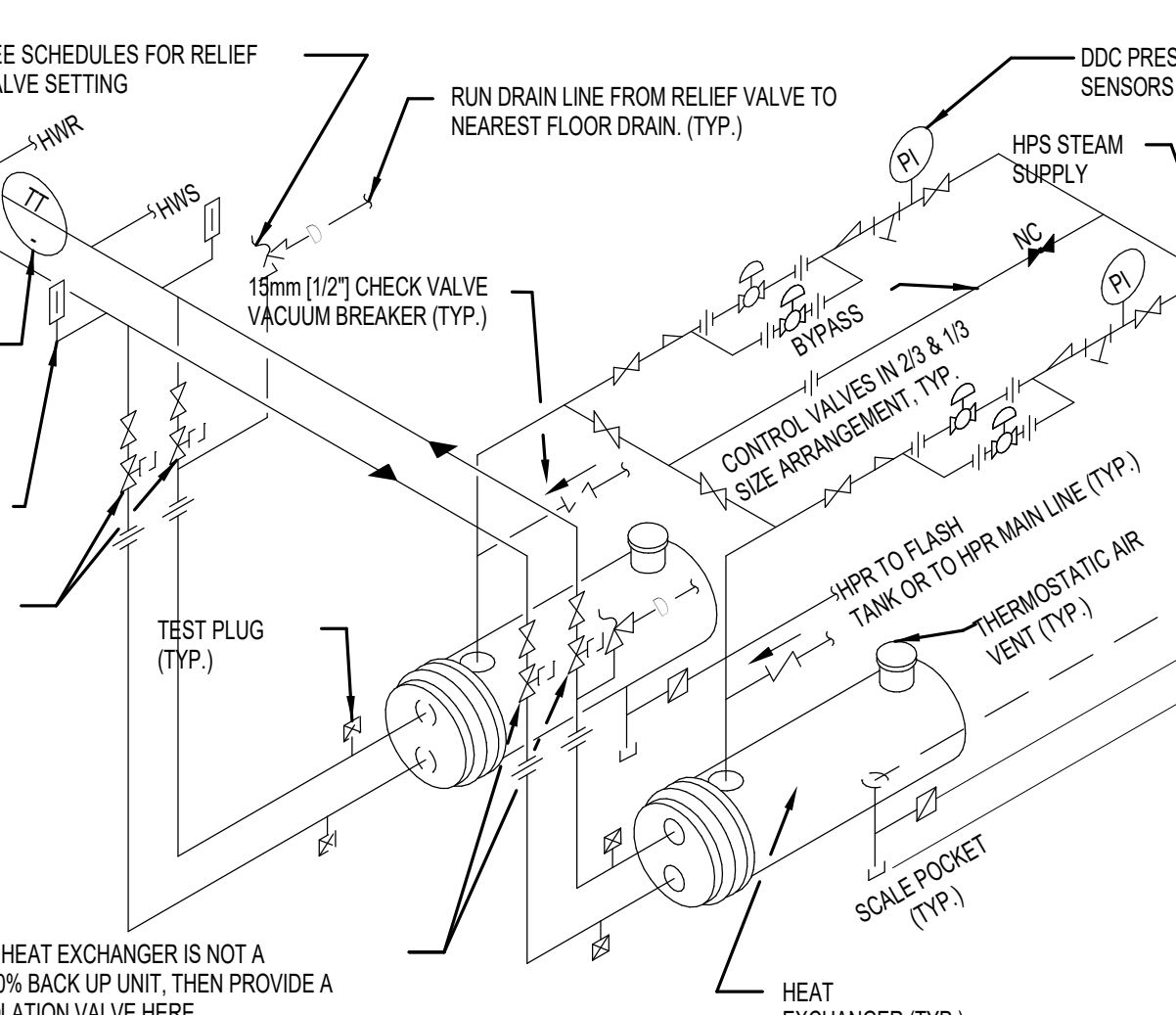
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APPROVED GENS PROJECT MANAGER	DATE	APPROVED PATIENT SAFETY	DATE		
APPROVED PROJECTS SECTION MANAGER	DATE	APPROVED CHIEF OF POLICE	DATE		
APPROVED DIRECTOR FMS	DATE	APPROVED SAFETY MANAGER	DATE		

DRAWING TITLE MECHANICAL - PIPING - SECTIONS			PROJECT TITLE CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR			DATE 10/28/2022
APPROVED ASSOCIATE HEALTH CARE SYSTEM DIRECTOR			PRECEDENCE NO. 656-400			DRAWING NO. MP300
APPROVED CHIEF OF STAFF			BUILDING NO. 4	DESIGNED BY NJK	DRAWN BY Author	
APPROVED HEALTH CARE SYSTEM DIRECTOR			LOCATION ST. CLOUD VAHCS ST. CLOUD, MN 56303			

**VA**  
U.S. Department of Veterans Affairs  
Veterans Health Administration  
St. Cloud VA Health Care System

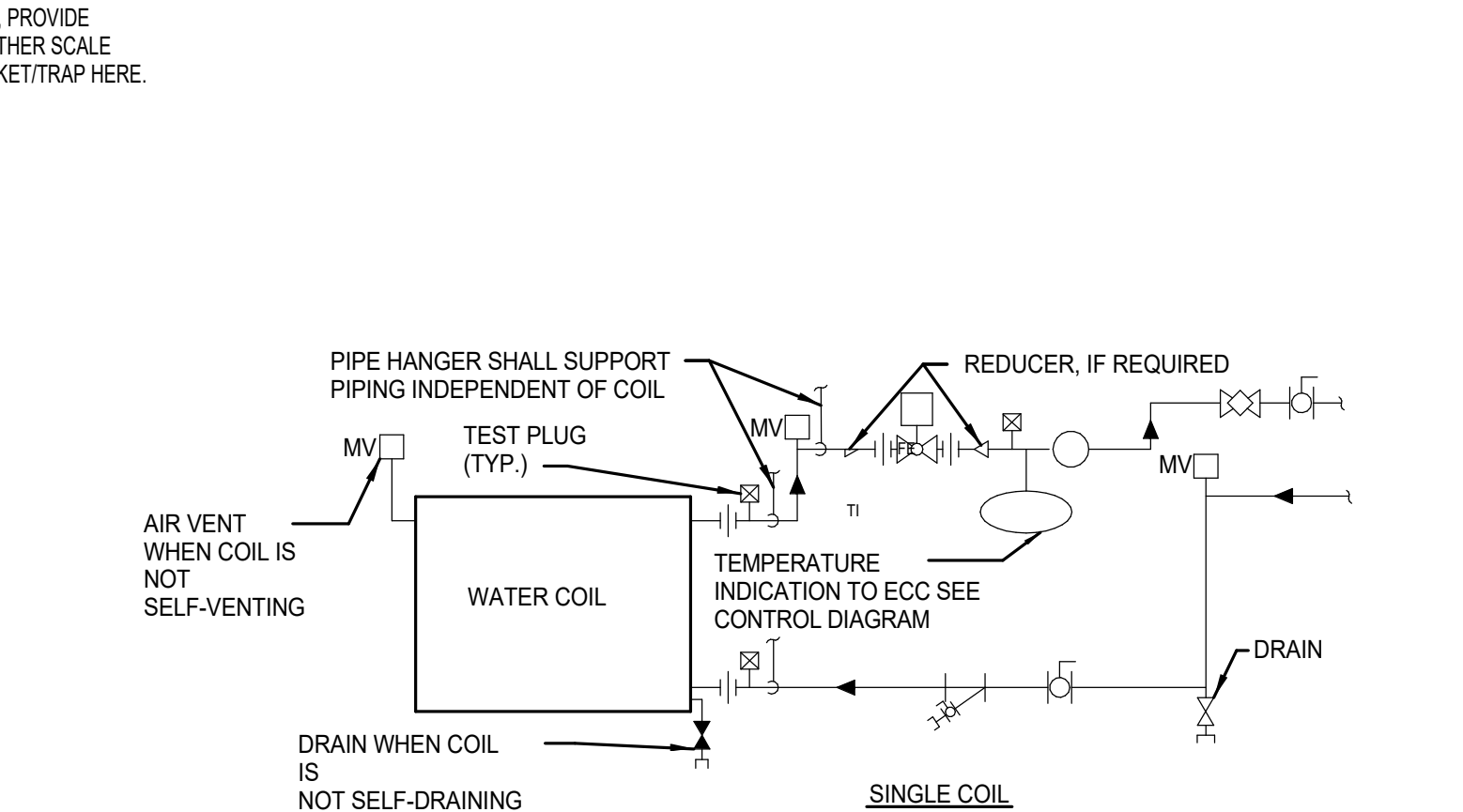
### DRIP AT END OF LOW PRESSURE STEAM MAIN-RETURN PIPING BELOW DRIP

1 NO SCALE



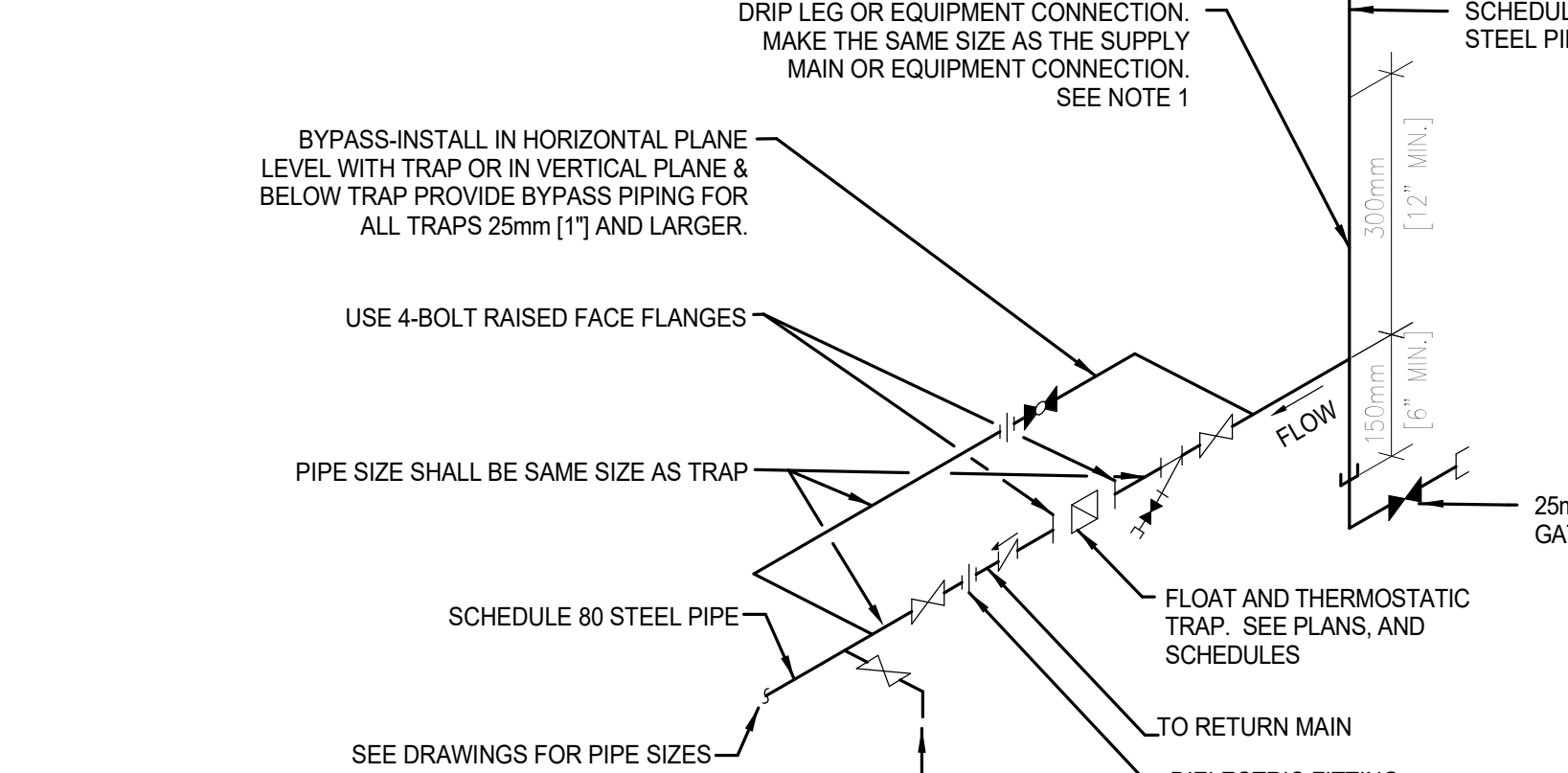
### FAN COIL OR REHEAT WATER COIL PIPING

2 1/2\"/>



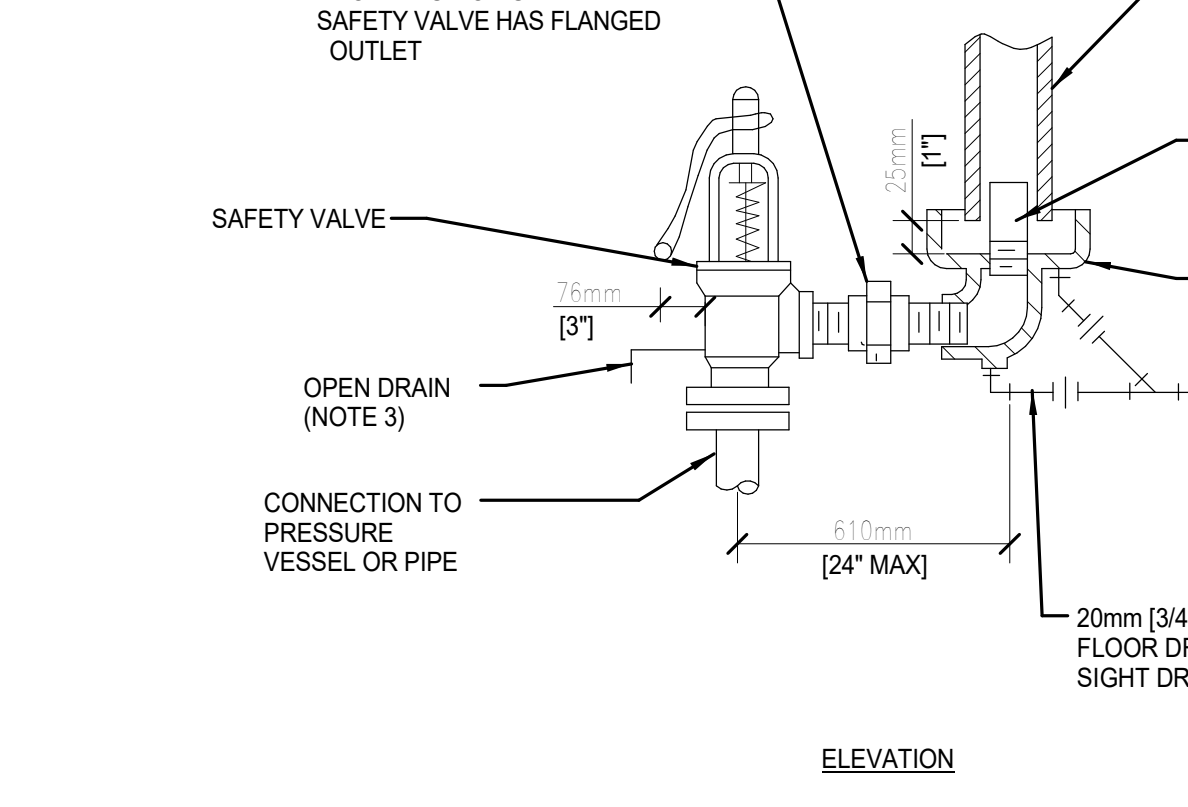
### PRESSURE REDUCING STATION (PARALLEL)

3 NO SCALE



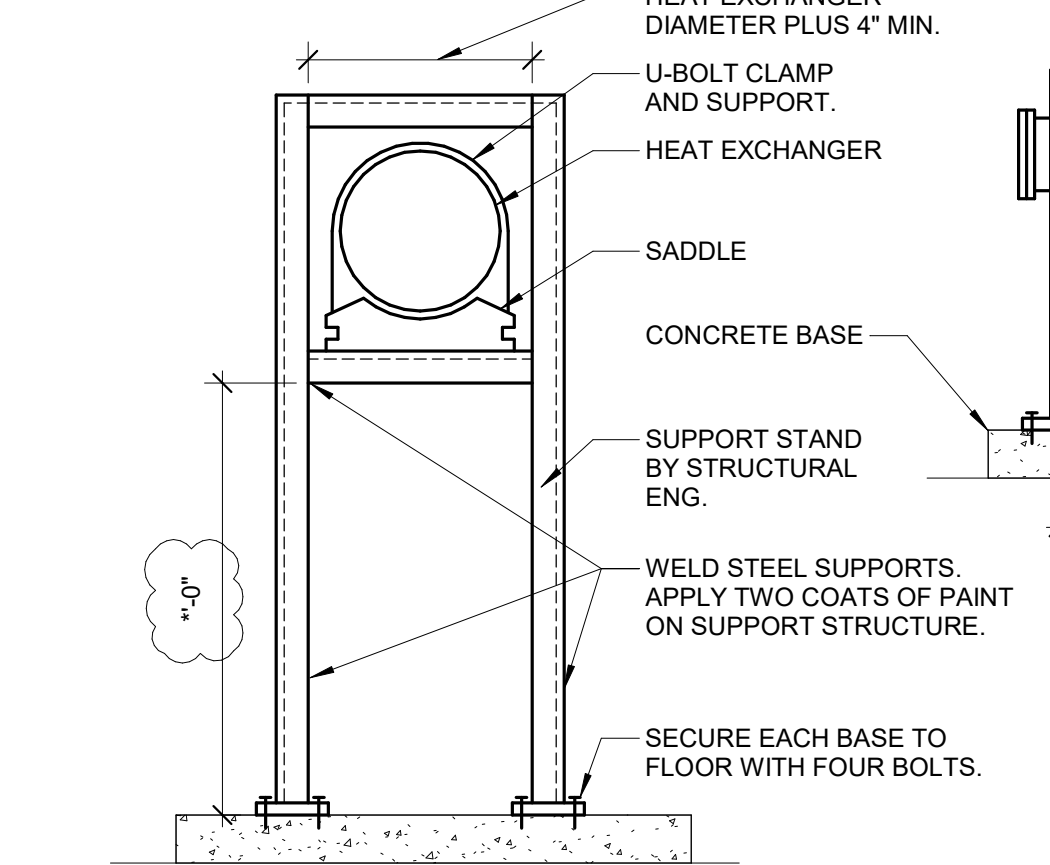
### BASE MOUNTED PUMP DETAIL

4 NO SCALE



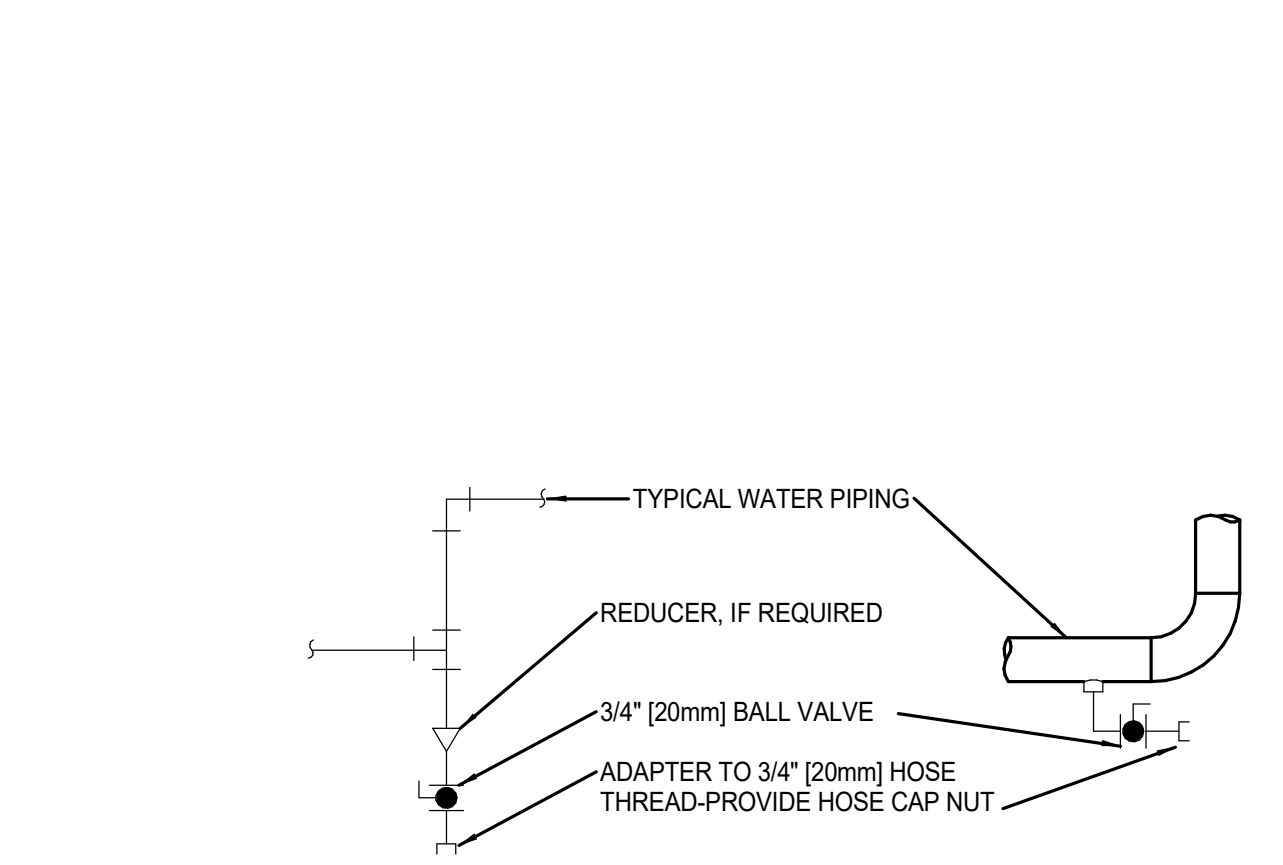
### HEAT EXCHANGER DETAIL

5 NO SCALE



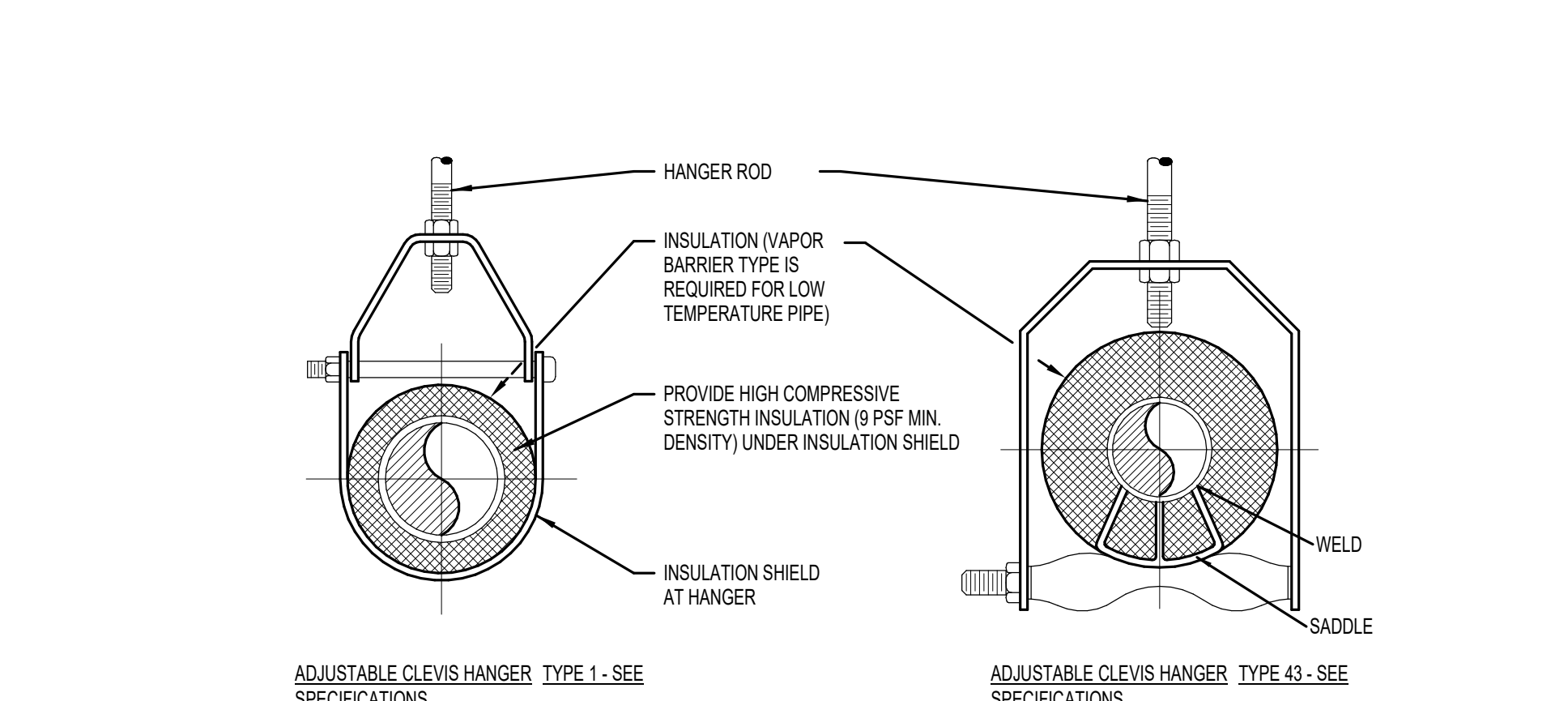
### WATER COIL PIPING CONNECTION

6 NO SCALE



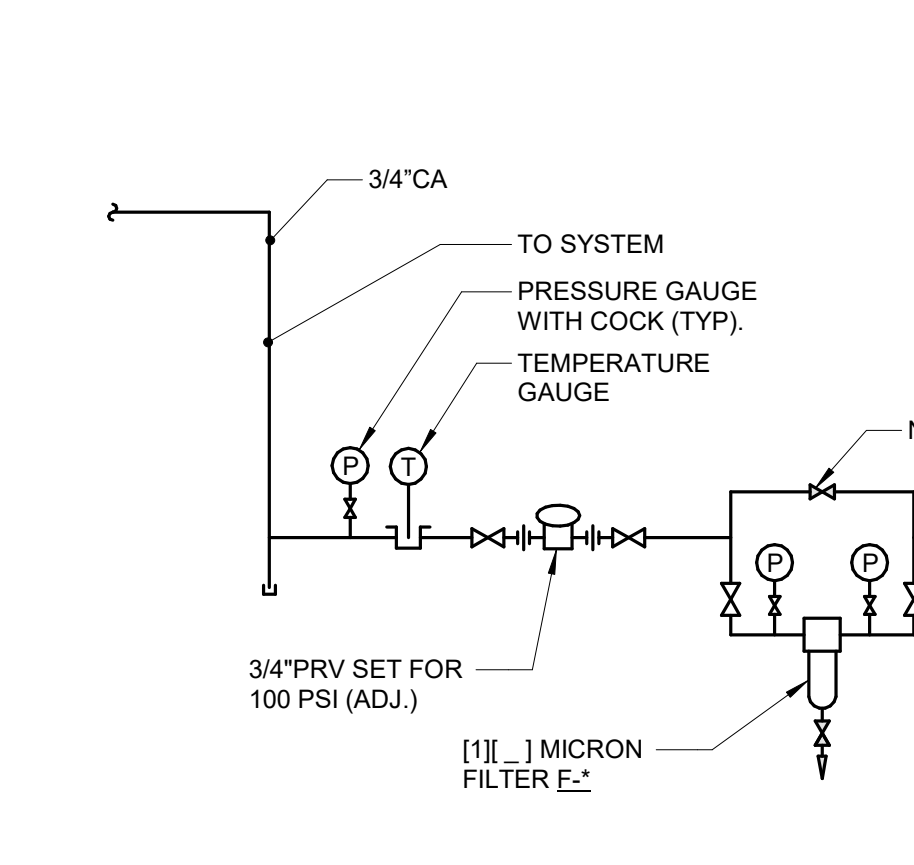
### FLOAT AND THERMOSTATIC STEAM TRAP ASSEMBLY

7 NO SCALE



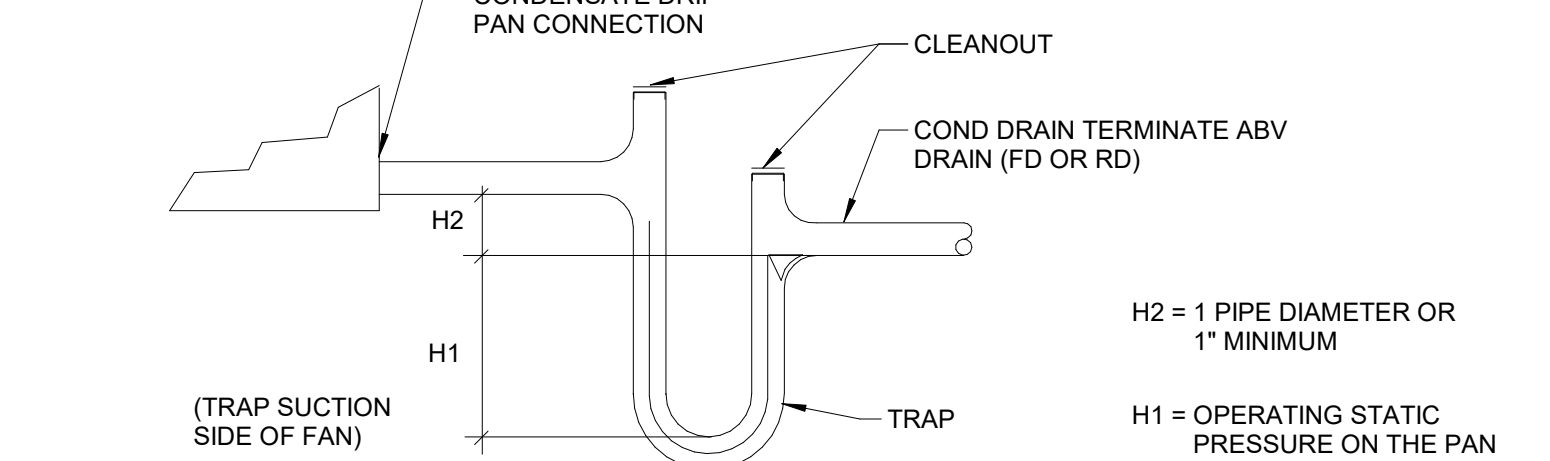
### STEAM RELIEF VALVE

8 1/2\"/>



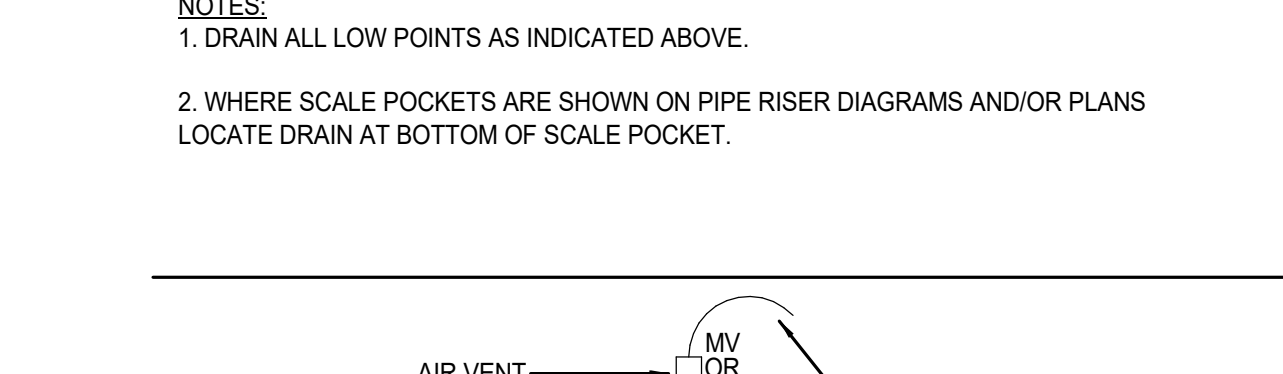
### HEAT EXCHANGER SUPPORT DETAIL

9 NO SCALE



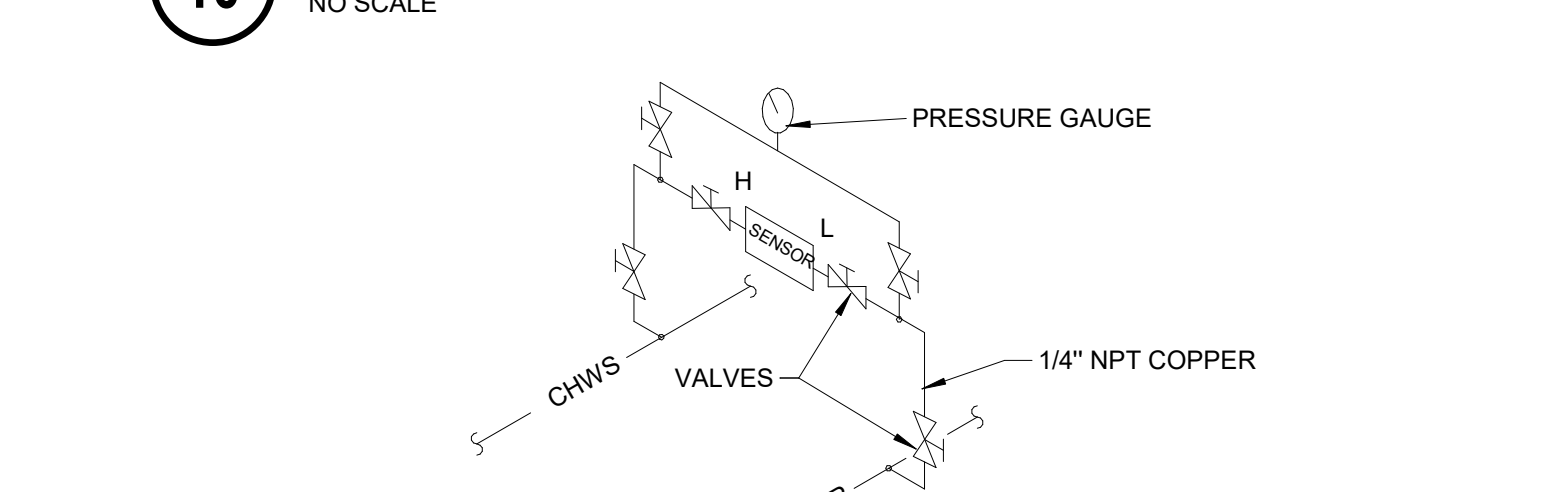
### TYPICAL AND HOT WATER PIPING DRAIN VALVE CONNECTIONS

ELEVATION THREADED PIPING; ELEVATION WELDED PIPING



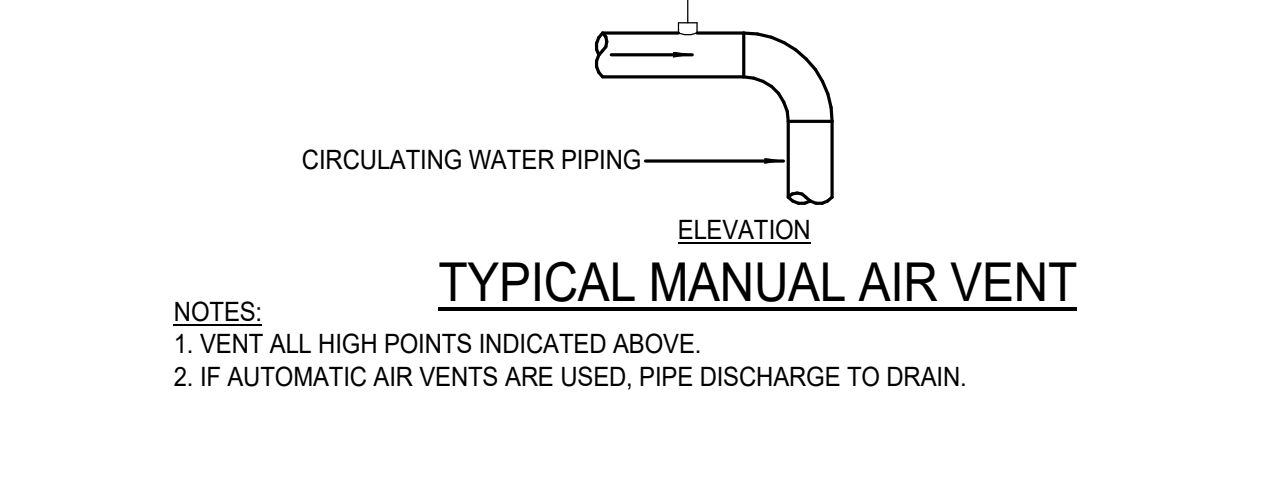
### Cooling Coil Trap Detail

10 NO SCALE



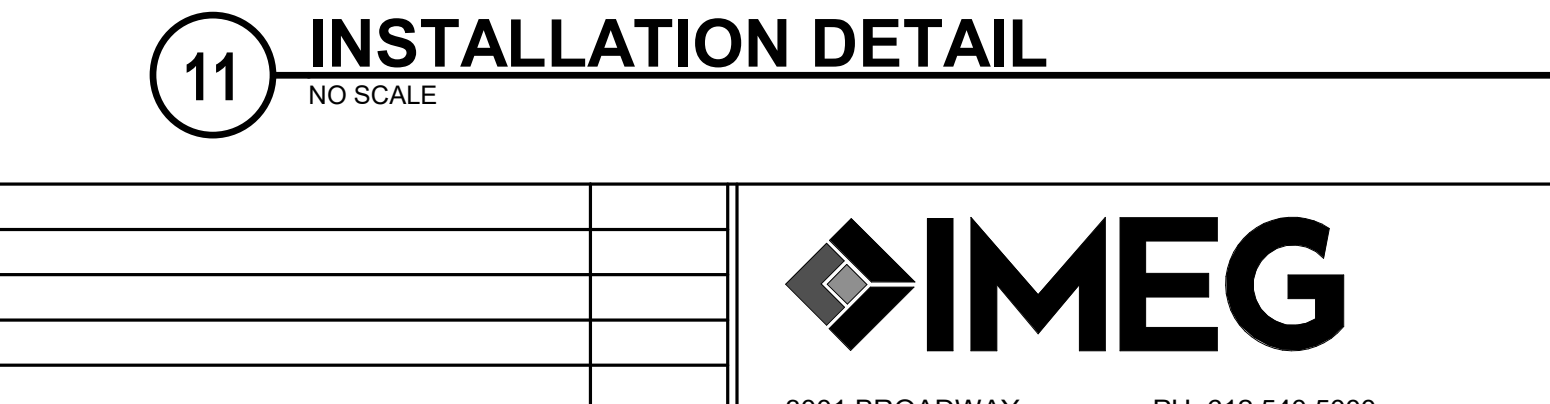
### TYPICAL MANUAL AIR VENT

ELEVATION



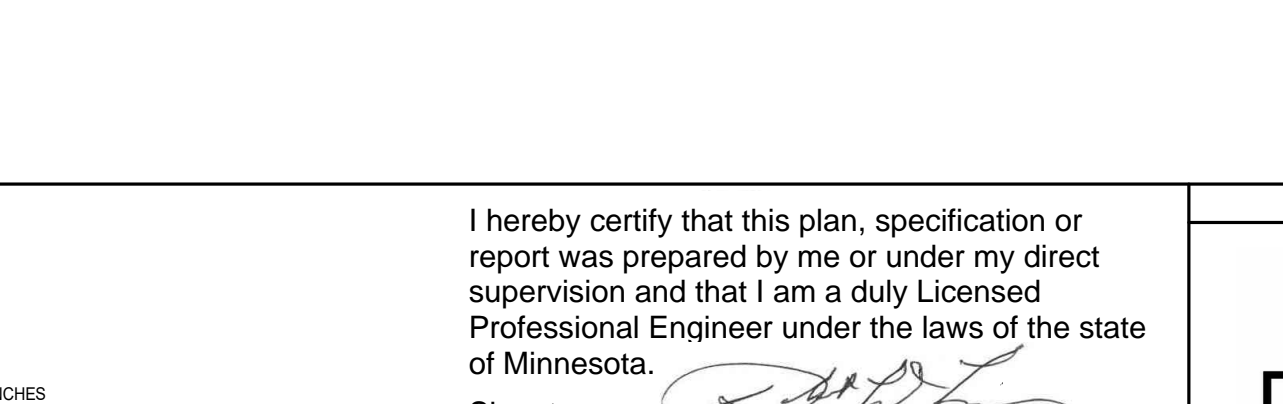
### Pressure Sensor Installation Detail

11 NO SCALE



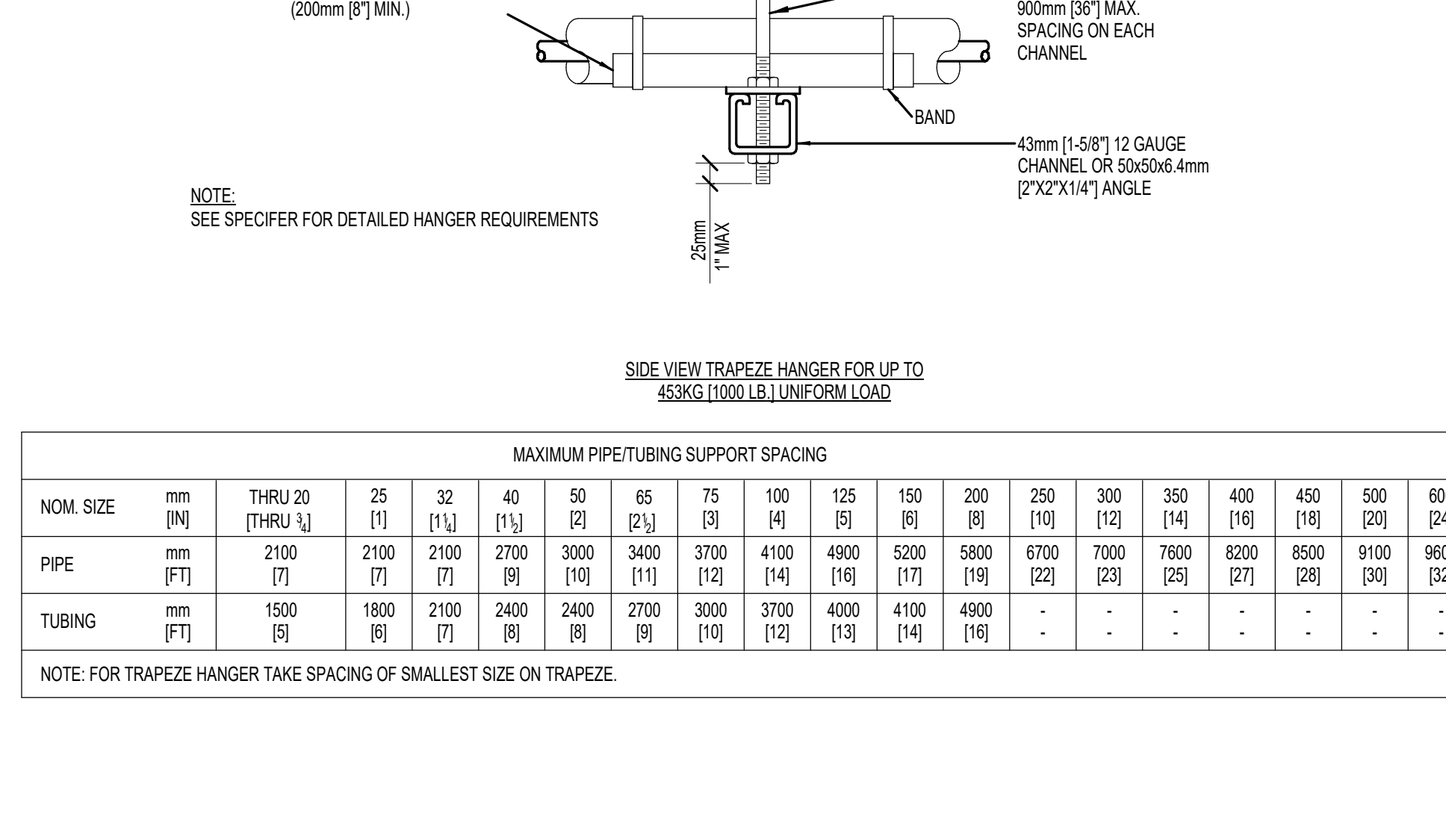
### HW Drain Valve

12 NO SCALE



### PIPE HANGER DETAIL

13 NO SCALE



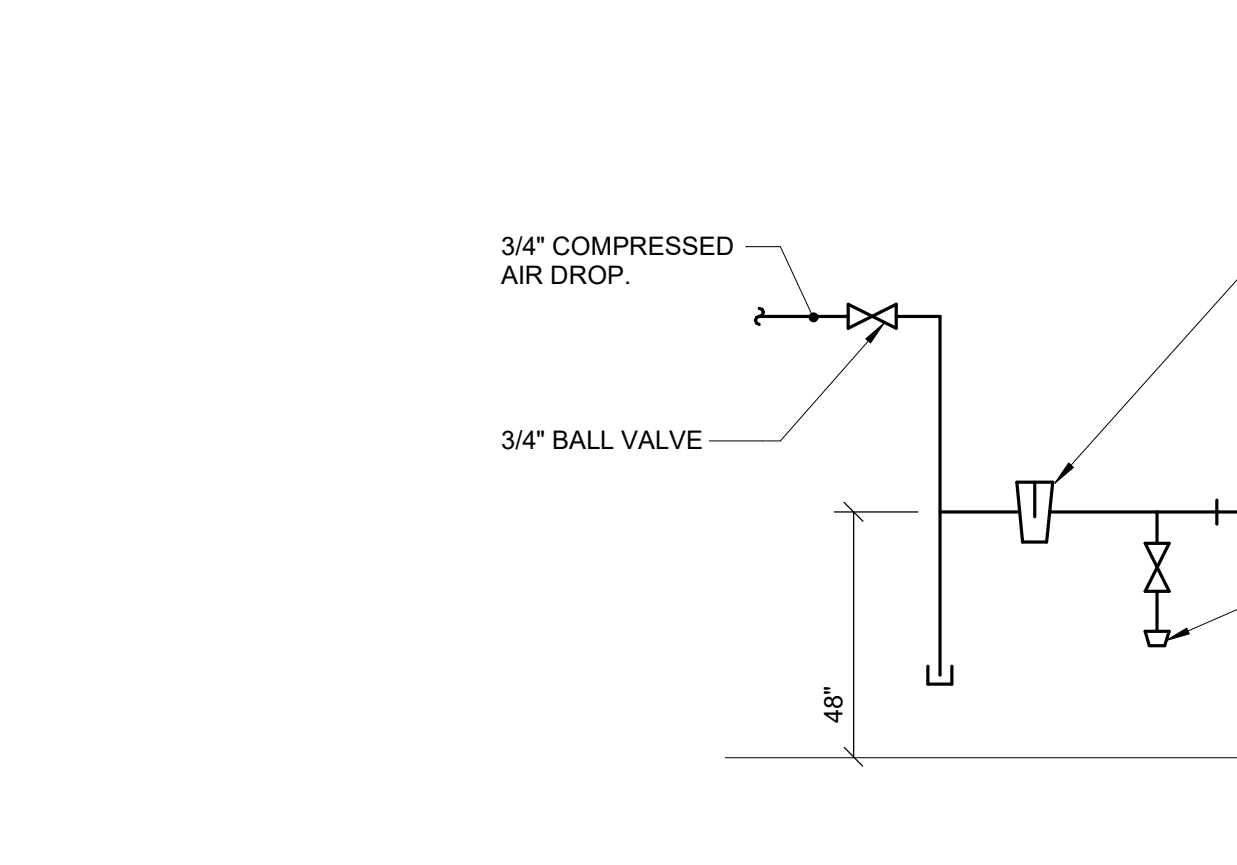
### PIPE HANGER DETAIL

13 NO SCALE

NOM. SIZE	mm [IN.]		MAXIMUM PIPE/TUBING SUPPORT SPACING															
	THRU 20	25	32	40	50	65	75	100	125	150	200	250	300	350	400	450	500	600
PIPE	2100	2100	2100	2700	3000	3400	3700	4100	4800	5200	5800	6700	7000	7600	8200	8500	9100	9600
TUBING	1500	1800	2100	2400	2400	2700	3000	3700	4000	4100	4900	-	-	-	-	-	-	-

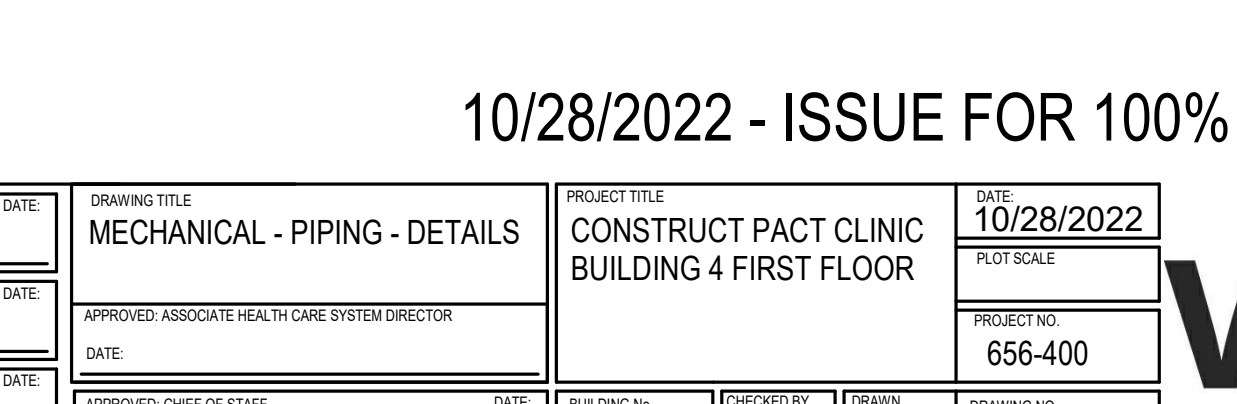
### COMPRESSED AIR FLOW DIAGRAM

14 NO SCALE



### COMPRESSED AIR TERMINAL DETAIL

15 NO SCALE



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 700 Nichols Blvd., Suite 300 Elk Grove Village, IL 60007  
 T: 847.952.9342 F: 847.952.9403 www.bancroft-ae.com BAE PROJECT NO. 18-116

APPROVED PROJECT COOR.	DATE	APPROVED SERVICE LINE DIRECTOR	DATE	APPROVED INSPECTION CONTROL MANAGER	DATE
APPROVED GEOM. PROJECT MANAGER	DATE	APPROVED PATIENT SAFETY	DATE	APPROVED ASSOCIATE HEALTH CARE SYSTEM DIRECTOR	DATE
APPROVED PROJECTS SECTION MANAGER	DATE	APPROVED CHIEF OF POLICE	DATE	APPROVED CHIEF OF STAFF	DATE
APPROVED DIRECTOR/OPS	DATE	APPROVED SAFETY MANAGER	DATE	APPROVED HEALTH CARE SYSTEM DIRECTOR	DATE

MECHANICAL - PIPING - DETAILS  
 CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR  
 DATE: 10/28/2022  
 PROJECT NO: 656-400  
 BUILDING NO: 4  
 DRAWING NO: MP400  
 ST. CLOUD VAHCS ST. CLOUD, MN 56303

**VA**  
 U.S. Department of Veterans Affairs  
 Veterans Health Administration  
 St. Cloud VA Health Care System

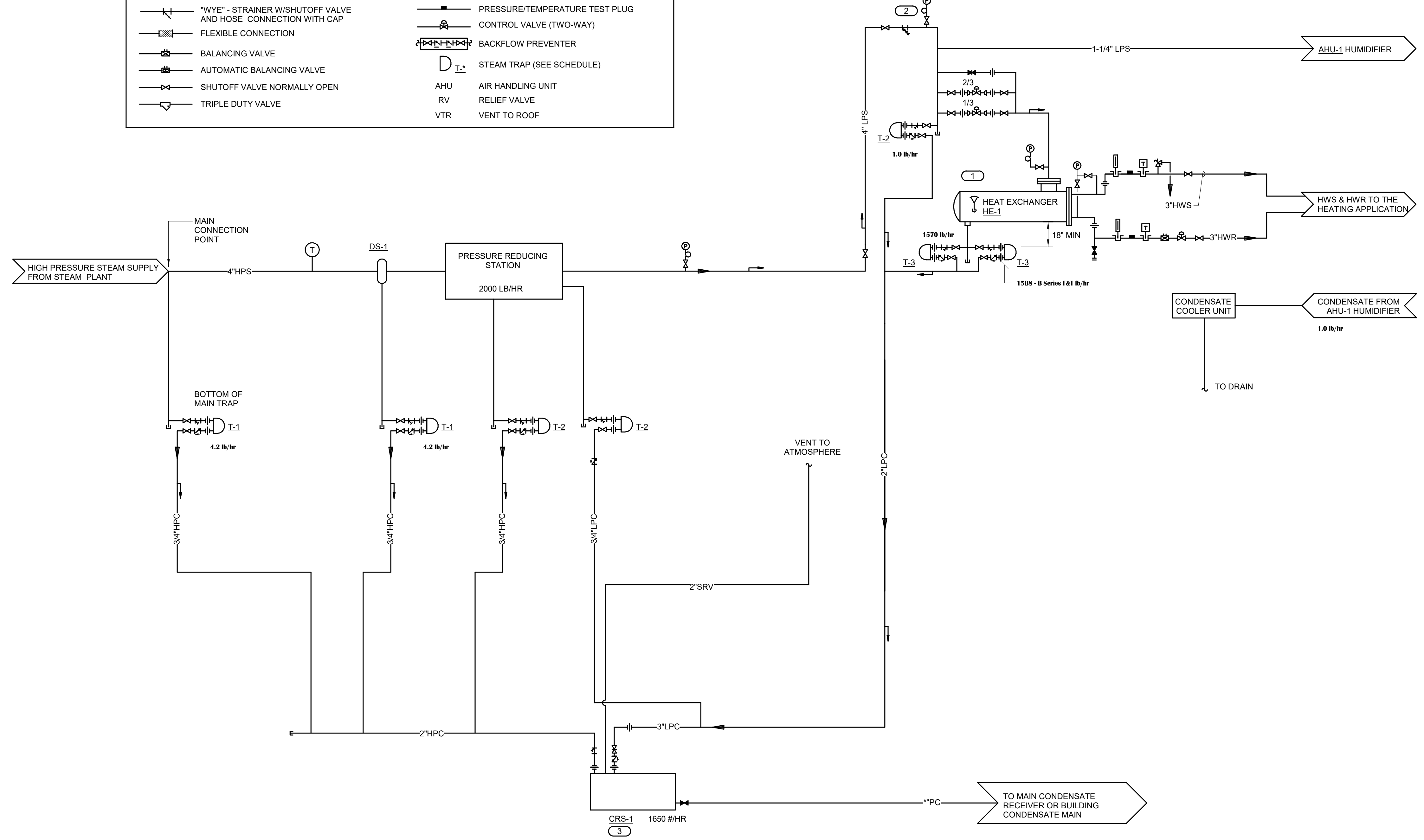
STEAM/HEATING WATER FLOW DIAGRAM SYMBOL LIST	
SYMBOL	DESCRIPTION
	STEAM ( _ OPERATING PRESSURE)
	HEATING WATER RETURN
	HEATING WATER SUPPLY
	HIGH PRESSURE CONDENSATE
	LOW PRESSURE CONDENSATE
	PUMPED CONDENSATE
	PITCH PIPE IN DIRECTION
	DIRECTION OF FLOW IN PIPE
	METER
	PRESSURE GAUGE (FURNISHED WITH BALL VALVE)
	THERMOMETER WITH WELL ( FILLED TYPE)
	TEMPERATURE SENSOR WITH WELL
	"WYE" - STRAINER W/SHUTOFF VALVE AND HOSE CONNECTION WITH CAP
	FLEXIBLE CONNECTION
	BALANCING VALVE
	AUTOMATIC BALANCING VALVE
	SHUTOFF VALVE NORMALLY OPEN
	TRIPLE DUTY VALVE
	SHUTOFF VALVE NORMALLY CLOSED
	THROTTLING VALVE
	CHECK VALVE
	UNION/FLANGE
	REDUCER - REFERENCE SPECIFICATION FOR CONCENTRIC/ECCENTRIC AND FOT/FOB
	PIPE CAP
	AUTOMATIC AIR VENT
	MANUAL AIR VENT W/ BALL VALVE
	DRAIN WITH HOSE CONNECTION, CAP & BALL VALVE
	SAFETY/RELIEF VALVE
	PRESSURE REDUCING VALVE (LIQUID/GAS)
	PRESSURE/TEMPERATURE TEST PLUG
	CONTROL VALVE (TWO-WAY)
	BACKFLOW PREVENTER
	STEAM TRAP (SEE SCHEDULE)
	AHU AIR HANDLING UNIT
	RV RELIEF VALVE
	VTR VENT TO ROOF

**GENERAL NOTES:**

- MAKE ALL TAPS FOR STEAM DISTRIBUTION PIPING FROM TOP (OR WITHIN 45°) OF PIPE.
- PITCH ALL STEAM AND CONDENSATE LINES 1" PER 40'-0" MINIMUM IN THE DIRECTION OF FLOW.

**KEYNOTES:**

- 3/4" VACUUM BREAKER WITH A MAXIMUM 15" H<sub>2</sub>O OPENING VACUUM. JOHNSON VB8-76 OR EQUIVALENT VERIFY CONNECTION SIZE WITH MANUFACTURER.
- 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.
- PIPE AND COORDINATE RECEIVER STATIONS IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS INCLUDING OVERFLOW, DRAIN, VENT, PUMP DISCHARGE PIPING AND ALL LOOSE COMPONENTS SUPPLIED WITH SYSTEM.

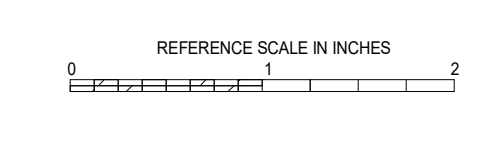


**1 STEAM-HEATING WATER FLOW DIAGRAM**  
NO SCALE

10/28/2022 - ISSUE FOR 100% CONSTRUCTION DOCUMENTS

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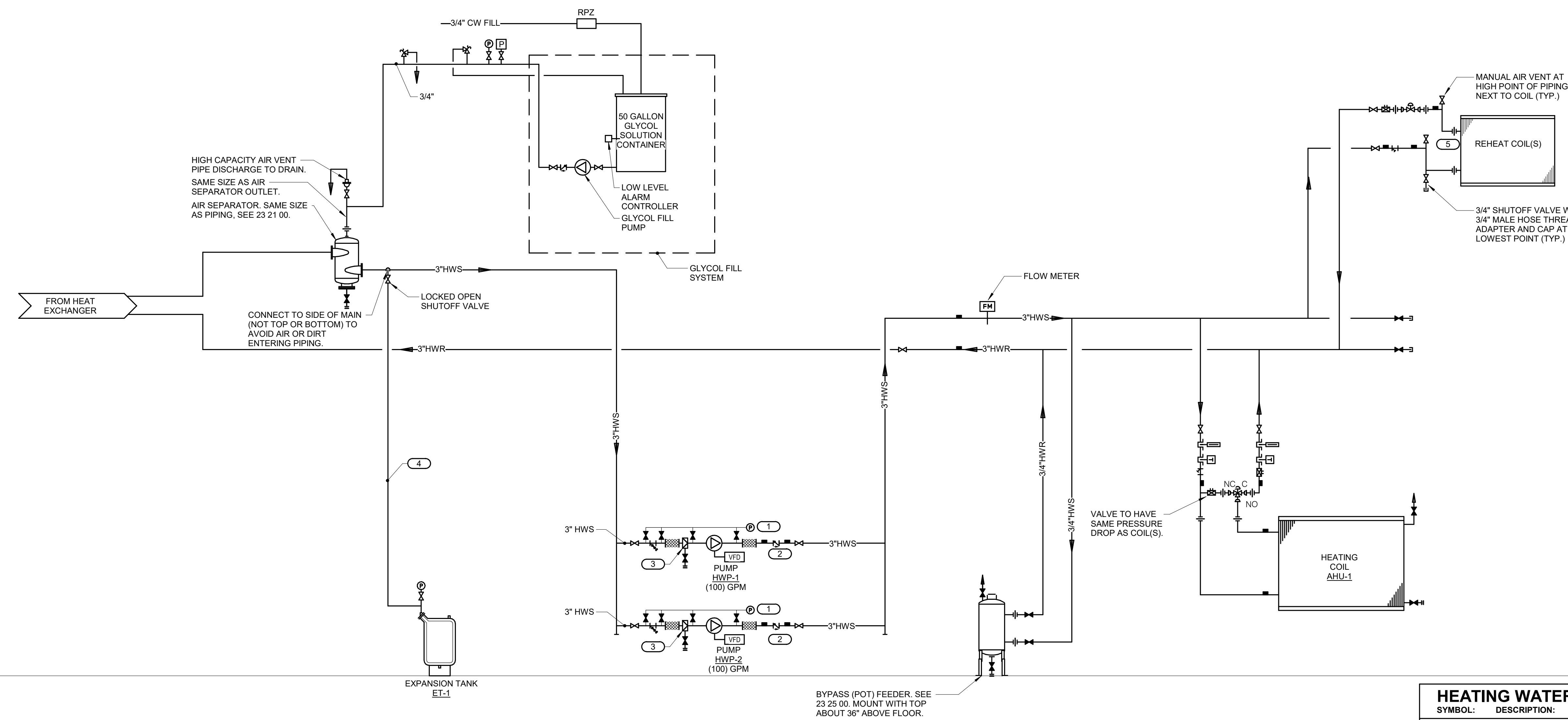
I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the state of Minnesota.  
Signature: *Robert Douglas Lowe*  
Typed or Printed Name: Robert Douglas Lowe  
Date: 10/28/2022 License Number: 24706

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www.bancroft-ae.com  
BAE PROJECT NO. 19-116

APPROVED PROJECT COR	DATE	APPROVED SERVICE LINE DIRECTOR	DATE	APPROVED INSPECTION CONTROL MANAGER	DATE
APPROVED ASSOCIATE HEALTH CARE SYSTEM DIRECTOR	DATE	APPROVED PATIENT SAFETY	DATE	APPROVED CHIEF OF POLICE	DATE
APPROVED DIRECTOR FINES	DATE	APPROVED SAFETY MANAGER	DATE		

DRAWING TITLE MECHANICAL - PIPING - FLOW DIAGRAMS	DATE 10/28/2022
PROJECT TITLE CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR	PROJECT NO. 656-400
BUILDING No. 4	PROJECY No. NJK
LOCATION ST. CLOUD VAHCS ST. CLOUD, MN 56303	DRAWING No. MP401

**VA**  
U.S. Department of Veterans Affairs  
Veterans Health Administration  
St. Cloud VA Health Care System



HEATING WATER FLOW DIAGRAM SYMBOL LIST	
SYMBOL:	DESCRIPTION:
	HEATING WATER RETURN
	HEATING WATER SUPPLY
	COLD WATER - POTABLE
	PITCH PIPE IN DIRECTION
	DIRECTION OF FLOW IN PIPE
	FLEXIBLE CONNECTION
	PRESSURE/TEMPERATURE TEST PLUG
	REDUCER - REFERENCE SPECIFICATION FOR CONCENTRIC/ECCENTRIC AND FOOT/JOB
	METER
	PRESSURE GAUGE (FURNISHED WITH BALL VALVE)
	SUCTION DIFFUSER WITH SUPPORT FOOT
	AUTOMATIC AIR VENT
	MANUAL AIR VENT W/ BALL VALVE
	DRAIN WITH HOSE CONNECTION, CAP & BALL VALVE
	FLOW SWITCH
	FLOW METER
	TEMPERATURE SENSOR WITH WELL
	THERMOMETER WITH WELL ( FILLED TYPE)
	UNION/FLANGE
	SHUTOFF VALVE NORMALLY OPEN
	SHUTOFF VALVE NORMALLY CLOSED
	THROTTLING VALVE
	BALANCING VALVE
	CONTROL VALVE (TWO-WAY)
	CONTROL VALVE (THREE-WAY)
	CHECK VALVE
	SAFETY/RELIEF VALVE
	PRESSURE REDUCING VALVE (LIQUID/GAS)
	"WYE" - STRAINER
	"WYE" - STRAINER W/SHUTOFF VALVE AND HOSE CONNECTION WITH CAP

- KEYNOTES**
- PRESSURE GAUGE WITH SNUBBER PER SECTION 23 09 13. INSTALL WITH MOUNTING ON WALL, STAND, OR VIBRATION-FREE PIPE ABOVE PUMP FLEXIBLE CONNECTOR. INSTALL FLEXIBLE COPPER TUBING TO PIPING CONNECTIONS TO AVOID VIBRATION DAMAGE TO THE GAUGE. PREFERRED CONNECTION LOCATIONS ARE: (a) JUST UPSTREAM OF STRAINER, (b) GAUGE PORT ON SUCTION DIFFUSER OR BETWEEN STRAINER AND PUMP INLET (c) GAUGE TAPPING ON PUMP INLET FLANGE, (d) GAUGE TAPPING ON PUMP OUTLET FLANGE.
  - TRIPLE DUTY OR BALANCING VALVES ARE NOT PERMITTED ON VARIABLE VOLUME SYSTEMS.
  - REMOVE & RETAIN TEMPORARY STRAINER FROM SUCTION DIFFUSER AT END OF CONSTRUCTION. PROVIDE SUPPORT LEG AS REQUIRED BY MANUFACTURER.
  - SIZE PER DIAPHRAGM TANK MANUFACTURER'S RECOMMENDATIONS BUT NOT SMALLER THAN CONNECTION TO TANK.
  - ARRANGE PIPING SO COILS CAN BE REMOVED WITHOUT REMOVING PIPING ABOVE THE UNIONS OR FLANGES. PIPE LOCATION MUST NOT RESTRICT OPENING OF ACCESS DOORS.

**1 HEATING WATER FLOW DIAGRAM**  
NO SCALE

10/28/2022 - ISSUE FOR 100% CONSTRUCTION DOCUMENTS

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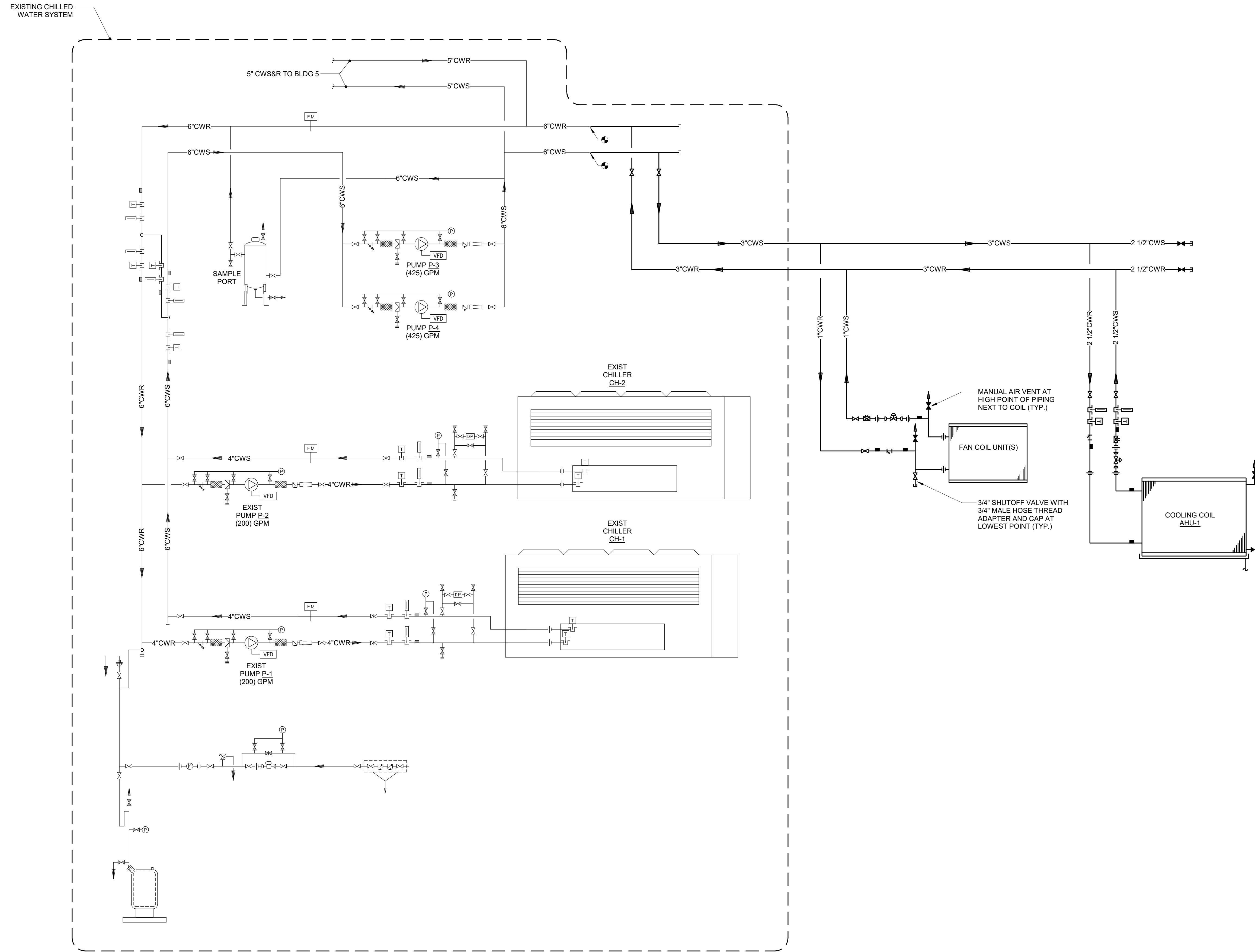
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Signature: *Robert Douglas Lowe*  
Typed or Printed Name: Robert Douglas Lowe  
Date: 10/28/2022 License Number: 24706

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www.bancroft-ae.com  
BAE PROJECT NO. 15-116

APPROVED PROJECT COP	DATE	APPROVED SERVICE LINE DIRECTOR	DATE	APPROVED INFECTION CONTROL NURSE	DATE

DRAWING TITLE	PROJECT TITLE	DATE
MECHANICAL - PIPING - FLOW DIAGRAMS	CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR	10/28/2022
APPROVED ASSOCIATE HEALTHCARE SYSTEM DIRECTOR	PRECEDENCE NO.	656-400
APPROVED CHIEF OF STAFF	BUILDING NO.	4
APPROVED HEALTHCARE SYSTEM DIRECTOR	PROCESSED BY	NJK
	DRAWN BY	JCL
	DRAWING NO.	MP402
	LOCATION	ST. CLOUD VAHCS
		ST. CLOUD, MN 56303
	DWG. OF	

**U.S. Department of Veterans Affairs**  
Veterans Health Administration  
St. Cloud VA Health Care System



FLOW DIAGRAM SYMBOLS LIST	
SYMBOL:	DESCRIPTION:
— CW —	COLD WATER - POTABLE
— CWR —	CHILLED WATER RETURN
— CWS —	CHILLED WATER SUPPLY
— D —	DRAIN LINE
— NCW —	NON-POTABLE COLD WATER
— P —	PITCH PIPE IN DIRECTION
— F —	DIRECTION OF FLOW IN PIPE
— U —	UNION/FLANGE
— V —	SHUTOFF VALVE NORMALLY OPEN
— V —	SHUTOFF VALVE NORMALLY CLOSED
— V —	VENTURI VALVE
— T —	THROTTLING VALVE
— B —	BALANCING VALVE (NO. INDICATES GPM)
— A —	AUTOMATIC DRAIN VALVE
— C —	CONTROL VALVE (THREE-WAY)
— C —	CONTROL VALVE (TWO-WAY)
— S —	SOLENOID/TWO POSITION VALVE
— C —	CHECK VALVE
— S —	SAFETY/RELIEF VALVE
— P —	PRESSURE REDUCING VALVE (LIQUID/GAS)
— W —	"WYE" - STRAINER
— W —	"WYE" - STRAINER W/SHUTOFF VALVE AND HOSE CONNECTION WITH CAP
— F —	FLEXIBLE CONNECTION
— T —	PRESSURE/TEMPERATURE TEST PLUG
— R —	REDUCER - REFERENCE SPECIFICATION FOR CONCENTRIC/ECCENTRIC AND FOT/FOB
— M —	METER
— P —	PRESSURE GAUGE (FURNISHED WITH BALL VALVE)
— S —	SUCTION DIFFUSER WITH SUPPORT FOOT
— A —	AUTOMATIC AIR VENT
— M —	MANUAL AIR VENT W/ BALL VALVE
— D —	DRAIN WITH HOSE CONNECTION, CAP & BALL VALVE
— T —	TEMPERATURE SENSOR WITH WELL
— T —	THERMOMETER WITH WELL (FILLED TYPE)
— F —	FLOW METER

**1 CHILLED WATER FLOW DIAGRAM**  
NO SCALE

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BAE PROJECT NO. 19-116

APPROVED PROJECT GDR	DATE	APPROVED SERVICE LINE DIRECTOR	DATE	APPROVED INFECTION CONTROL NURSE	DATE
APPROVED GERM PROJECT MANAGER	DATE	APPROVED PATIENT SAFETY	DATE	APPROVED ASSOCIATE HEALTH CARE SYSTEM DIRECTOR	DATE
APPROVED PROJECTS SECTION MANAGER	DATE	APPROVED CHIEF OF POLICE	DATE	APPROVED CHIEF OF STAFF	DATE
APPROVED DIRECTOR FIN	DATE	APPROVED SAFETY MANAGER	DATE	APPROVED HEALTH CARE SYSTEM DIRECTOR	DATE

DRAWING TITLE	MECHANICAL - PIPING - FLOW DIAGRAMS
PROJECT TITLE	CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR
DATE	10/28/2022
PROJECT NO.	656-400
DRAWING NO.	MP403
BUILDING NO.	4
PROJECY BY	NJK
DESIGN BY	JCL
LOCATION	ST. CLOUD VAHCS ST. CLOUD, MN 56303
DWG. OF	

**U.S. Department of Veterans Affairs**  
Veterans Health Administration  
St. Cloud VA Health Care System

**SCHEDULE GENERAL NOTES:**

A. DISCONNECT AND CONTROLLER STARTER FURNISHED AND INSTALLED BY:  
 MFR = MANUFACTURER  
 EC = ELECTRICAL CONTRACTOR  
 MC = FURNISHED BY MECHANICAL CONTRACTOR, INSTALLED BY ELECTRICAL CONTRACTOR  
 MFR/EC = FURNISHED LOOSE BY MANUFACTURER INSTALLED BY ELECTRICAL CONTRACTOR  
 ATC = AUTOMATIC TEMPERATURE CONTROL CONTRACTOR

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

C. CONTROLLER STARTER TYPE:  
 FV = FULL VOLTAGE  
 WYE = WYE DELTA  
 SS = SOLID STATE (SOFT START)  
 MS = MANUAL STARTER  
 VFD = VARIABLE FREQUENCY DRIVE  
 VFD/B = VARIABLE FREQUENCY DRIVE WITH BYPASS

D. FAN RPM SHALL NOT EXCEED 110% OF SCHEDULED VALUE, WITH THE SCHEDULED WHEEL TYPE. SUBSTITUTION OF BI OR BIA 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  
 SAC = SOUND ATTENUATOR CURB

**SPLIT SYSTEM UNIT SCHEDULE**

NOTES:  
 1. PROVIDE WITH WIRED THERMOSTAT.  
 2. POWER IS FED TO INDOOR UNIT FROM OUTDOOR UNIT.

TAG NAME	AREA SERVED	INDOOR UNIT (SS-1)						OUTDOOR UNIT (CU-1)						ELECTRICAL				B.O.D. MANUFACTURER	NOTES			
		CFM	MCA	MOC	VOLTAG	PHASE	COOLING MBH	WEIGHT	B.O.D. MODEL	SEER	MCA	MOC	VOLTAG	PHASES	B.O.D. MODEL	DISCONNECT				CONTROLLER/ STARTER		
															BY (NOTE A)	TYPE (NOTE B)	BY (NOTE A)	TYPE (NOTE C)				
SS-1	ELEVATOR EQUIP ROOM	400	1.0	15	208	1	12000	150	NTYWS12	23	7	15	208	1	NTYS12	EC	NF	MFR	SSCR	5	MITSUBISHI	NOTES 1 & 2

**PUMP SCHEDULE**

NOTES:  
 1. PROVIDE SHAFT GROUNDING AS REQUIRED IN THE MOTOR SPECIFICATION ----23 05 13.  
 2. VFD SHALL BE PROVIDED WITH INTEGRAL DISCONNECT.  
 3. VFD SHALL BE PROVIDED BY MC AND INSTALLED BY EC.  
 4. FLUID MEDIA IS 35% PG.

TAG NAME	AREA SERVED	GPM	PUMP FT. HEAD AT DESIGN	MINIMUM PUMP EFFICIENCY	INLET SIZE	IMPELLER SIZE	HP (NOTE E)	RPM	VOLTAGE	PHASES	ELECTRICAL (NOTE 1)				MANUFACTURER	MODEL	NOTES
											DISCONNECT		CONTROLLER/ STARTER				
											BY (NOTE A)	TYPE (NOTE B)	BY (NOTE A)	TYPE (NOTE C)			
HWP-1	HEATING WATER PACT 4 CLINIC	100.0	50.00	0.6	2 1/2"	7.375	3	1691	480	3	NOTE 2	NF	NOTE 3	VFD	B & G	1510 2BD	NOTE 4
HWP-2	HEATING WATER PACT 4 CLINIC	100.0	50.00	0.6	2 1/2"	7.375	3	1691	480	3	NOTE 2	NF	NOTE 3	VFD	B & G	1510 2BD	NOTE 4

**FAN COIL UNIT SCHEDULE - HYDRONIC**

NOTES:  
 1. UNIT SHALL BE PROVIDED WITH 3-SPEED MOTOR AND WASHABLE FILTER

TAG NAME	AREA SERVED	CFM	EXT. S.P. IN W.C.	EAT		COOLING COIL						ELECTRICAL				CONTROLLER/ STARTER	MANUFACTURER	MODEL	NOTES
				DB 'F	WB 'F	TOTAL MBH	GPM	EWI 'F	LWT 'F	W.P.D. FT. HD	HP	VOLTAGE	PHASES	BY (NOTE A)	TYPE (NOTE B)				
FCU-1	MECHANICAL ROOM	850	0.1	80.0	67.0	36	6.5	44	56	15.00	0.1	120	1	MFR	NF	TCC	MULTIQUA	MHW-36-H-3	NOTE 1

**AIR-DRIVEN CONDENSATE RETURN STATION SCHEDULE**

NOTES:  
 1. LB/HR IS ACTUAL MAXIMUM LOAD OF SYSTEM.  
 2. GPM HAS A SAFETY FACTOR OF TWO.

TAG NAME	CONFIGURATION	LB/HR (NOTE 1)	GPM (NOTE 2)	RECEIVER CAPACITY GALLONS	DISCHARGE PRESSURE (PSI)	MANUFACTURER	MODEL	NOTES
CRS-1	DUPLEX - COMPRESSED AIR	1600	0 GPM	0 gal	5	ARMSTRONG	MB-PT312	

**HEAT EXCHANGER SCHEDULE - STEAM TO WATER**

NOTES:  
 1. STEAM PRESSURE INDICATED IS THE PRESSURE AVAILABLE DOWNSTREAM OF THE CONTROL VALVE.

TAG NAME	AREA SERVED	GPM	35% P.G. - 65% Water		STEAM (NOTE 1)		HEATING SURFACE FT.	FOULING FACTOR	MAX. DIMENSIONS		MANUFACTURER	MODEL	NOTES	
			MAX W.P.D. FT. HEAD	LWT 'F	PSIG	LB/HR			LENGTH	DIAMETER				
HE-1	PACT 4 CLINIC HEATING WATER	100.0	15.0	150	180	5	1570	59.2	0.0005	89.75	10"	B & G	SU-87-2	

**EXPANSION TANK SCHEDULE**

TAG NAME	SERVICE	TOTAL SYSTEM VOLUME (GAL)	TANK VOLUME (GAL)	ACCEPTANCE VOLUME (GAL)	MAKE	MODEL	NOTES
ET-1	HEATING WATER	205 gal	23 gal	11.3	AMTROL	AX-40V-DD	

**AIR SEPARATOR SCHEDULE**

TAG NAME	SERVICE	CAPACITY (GPM)	CONNECTION SIZE (IN)	DIAMETER
AS-1	HEATING WATER	100 GPM	3.000	10

**AIR COMPRESSOR SCHEDULE**

NOTES:  
 1. REFER TO SECTION 22 15 00 GENERAL SERVICE COMPRESSED AIR SYSTEMS FOR PRODUCT SPECIFICATIONS.

TAG NAME	AREA SERVED	CONFIGURATION	CAP. SCFM AT 90 PSI	RECEIVER CAPACITY (GAL)	HP	VOLTAGE	PHASES	ELECTRICAL				MAX. DIMENSIONS		MANUFACTURER	MODEL	NOTES			
								DISCONNECT		CONTROLLER/ STARTER		LENGTH	WIDTH				HEIGHT	WEIGHT	
								BY (NOTE A)	TYPE (NOTE B)	BY (NOTE A)	TYPE (NOTE C)	SCCR							
AC-1	MECH 19	HORIZONTAL	35	120	5	480	3	EC	NF	MFR	SS	0	84	36	48	1300	INGERSOLL RAND	2-2475E5	NOTE 1

**TRAP SCHEDULE**

NOTES:  
 1. CAPACITY LISTED IS FOR EACH TRAP AND INCLUDES SAFETY FACTOR.  
 2. SUITABLE TO 125 PSIG. SIDE INLET & OUTLET. SS FLOAT MECHANISM AND VALVE. CAST IRON BODY, BALANCED PRESSURE THERMOSTATIC AIR VENT, ALL INTERNALS REPLACEABLE IN-LINE.  
 3. CAPACITY AT OTHER DIFFERENTIAL PRESSURES SHALL BE AT LEAST 525#/HR AT 10 PSID, AND 1080#/HR AT 75 PSID, 1/8" ORIFICE.  
 4. WITH INTEGRAL VACUUM BREAKER.  
 5. SIDE INLET AND OUTLET INVERTED BUCKET TRAP. 250 PSIG RATED. CAST IRON BODY. ALL INTERNAL COMPONENTS OF STAINLESS STEEL AND REPLACEABLE IN-LINE.  
 6. CAPACITY AT OTHER DIFFERENTIAL PRESSURES SHALL BE AT LEAST 150#/HR AT 10 PSID, 310#/HR AT 40 PSID, & 420#/HR AT 75 PSID, #38 ORIFICE.

TAG NAME	AREA SERVED	TYPE	SAFETY FACTOR	SIZE	CAPACITY LB HR (NOTE 1)	PRESSURE DIFFERENTIAL	MANUFACTURER	MODEL	NOTES
T-1	SEE PLANS	INV. BUCKET	2	1"	320	0.5	ARMSTRONG	TVS-813	1.5
T-2	SEE PLANS	INV. BUCKET	2	3/4"	175	0.5	ARMSTRONG	TVS-811	1.5
T-3	SEE PLANS	F&T	2	2"	4100	0.5	ARMSTRONG	15B8VB	1.2
T-4	HUMIDIFIER	F&T	2	1 1/4"	200	0.5	ARMSTRONG	15B5VB	1.2

**PRESSURE REDUCING VALVE SCHEDULE**

TAG NAME	AREA SERVED	LB/HR	INLET PRESSURE PSI	OUTLET PRESSURE PSI	VALVE SIZE	MANUFACTURER	MODEL	NOTES
PRV-1	HE-1	1332	115	5	1"	SPENCE	100	
PRV-2	HE-1	667	115	5	3/4"	SPENCE	75	

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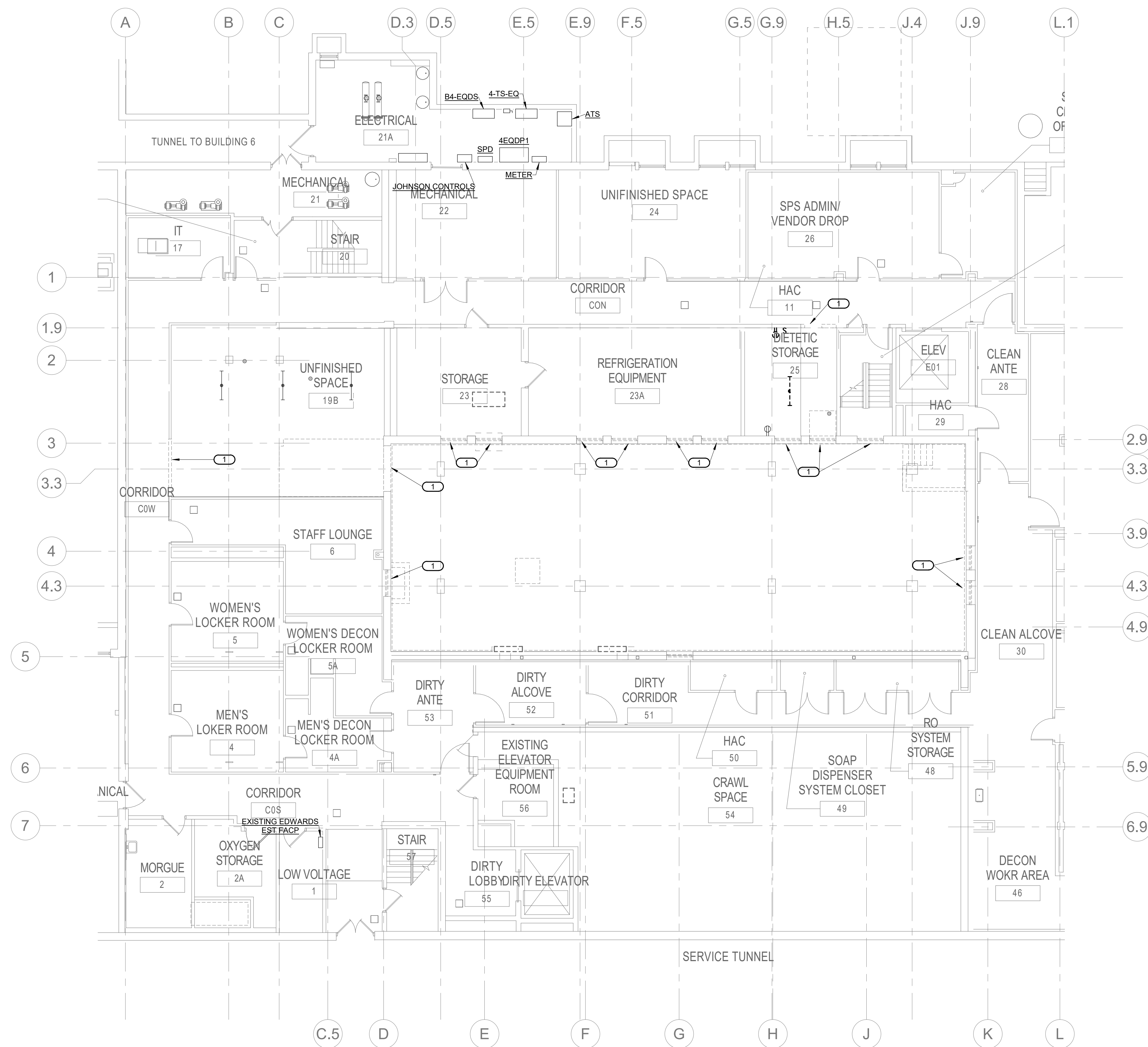
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 BAE PROJECT NO. 19-116

APPROVED PROJECT DIR: \_\_\_\_\_ DATE: \_\_\_\_\_  
 APPROVED SERVICE LINE DIRECTOR: \_\_\_\_\_ DATE: \_\_\_\_\_  
 APPROVED GENERAL PROJECT MANAGER: \_\_\_\_\_ DATE: \_\_\_\_\_  
 APPROVED PROJECTS SECTION MANAGER: \_\_\_\_\_ DATE: \_\_\_\_\_  
 APPROVED DIRECTOR OF SAFETY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 APPROVED INFECTION CONTROL MANAGER: \_\_\_\_\_ DATE: \_\_\_\_\_  
 APPROVED PATIENT SAFETY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 APPROVED CHIEF OF POLICE: \_\_\_\_\_ DATE: \_\_\_\_\_  
 APPROVED SAFETY MANAGER: \_\_\_\_\_ DATE: \_\_\_\_\_  
 DRAWING TITLE: MECHANICAL - PIPING - SCHEDULES  
 PROJECT TITLE: CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR  
 DATE: 10/28/2022  
 PROJECTIONS: 4 NJK JCL  
 DRAWING NO: 656-400  
 MP500  
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 ST. CLOUD, MN 56303

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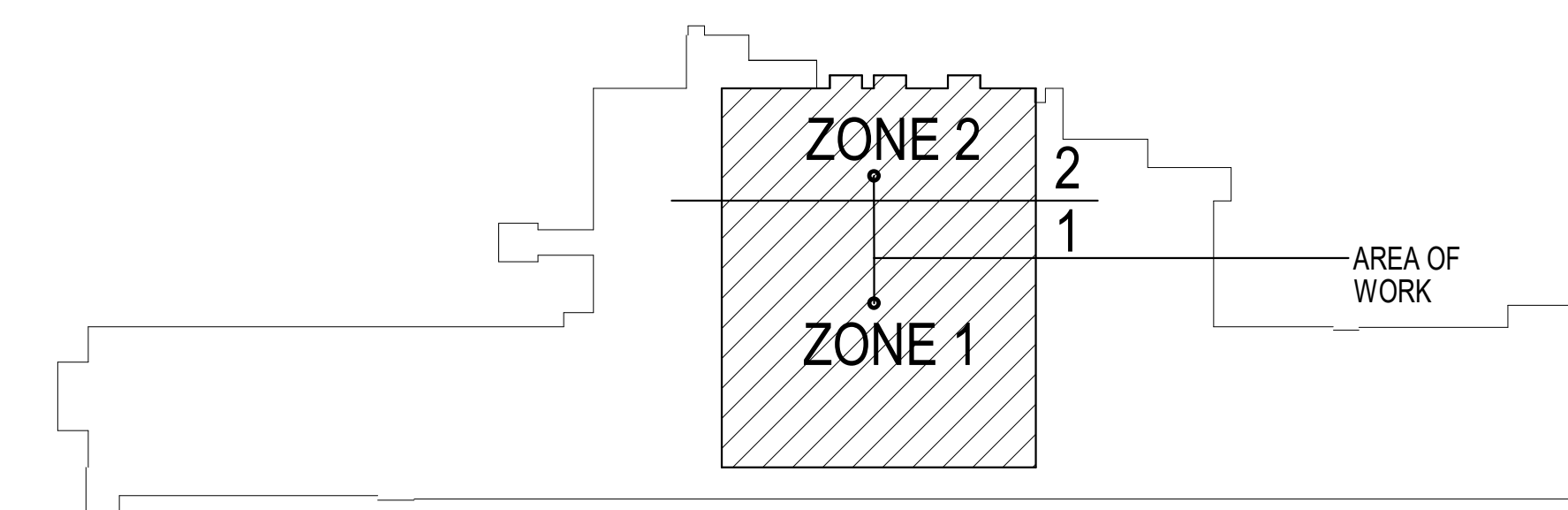






- GENERAL NOTES:**
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEMOLITION OF THE EXISTING ELECTRICAL INSTALLATION AS INDICATED ON THE DRAWINGS AS SPECIFIED HEREIN AND AS REQUIRED FOR A COMPLETE FUNCTIONING PROJECT.
  - THE EXISTING ELECTRICAL INSTALLATION AS SHOWN ON THE DRAWINGS MAY NOT BE COMPLETELY ACCURATE IN ALL RESPECTS WITH REGARD TO QUANTITIES, LOCATIONS, ETC., AND IS SHOWN PRIMARILY TO GENERALLY ILLUSTRATE THE DEGREE OF DEMOLITION WORK INVOLVED. DEMOLITION WORK SHALL BE ALL INCLUSIVE IN AREAS SHOWN.
  - STAGING AND PHASING OF ALL ELECTRICAL WORK SHALL BE COORDINATED WITH THE OTHER CONTRACTORS AND COR TO FACILITATE REMOVAL OF EXISTING MATERIAL AND EQUIPMENT. IN AREAS WHERE WORK INTERFERES WITH EXISTING BUILDING OPERATIONS, PROVIDE TEMPORARY OR PERMANENT CESSATION OR RELOCATION OF BUILDING FACILITIES, ACCEPTABLE TO ALL CONCERNED.
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    - LIGHTING FIXTURES LOCATED IN AREAS WHERE CEILINGS OR WALLS ARE TO BE REPLACED SHALL BE TAKEN DOWN, CLEANED AND REINSTALLED ON NEW CEILING OR WALL UNLESS OTHERWISE NOTED. IF CONDUIT AND WIRING SERVING THESE FIXTURES MUST BE REMOVED TO PERMIT DEMOLITION WORK, NEW CONDUIT AND WIRE SHALL BE INSTALLED TO PROVIDE SAME CIRCUITING ARRANGEMENT AS ORIGINALLY PREVAILLED.
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- KEYNOTES: ( # )**
- CONTRACTOR SHALL RELOCATE ANY BRANCH CIRCUITING IN CONFLICT WITH PORTIONS OF WALL BEING REMOVED.

**1 ELECTRICAL - DEMOLITION PLAN - BASEMENT**  
1/8" = 1'-0"

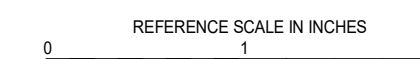


**KEY PLAN BUILDING 4**

10/28/2022 - ISSUE FOR 100% CONSTRUCTION DOCUMENTS

ISSUE FOR 100% CONSTRUCTION DOCUMENTS	10/28/22
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	DATE

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3001 BROADWAY  
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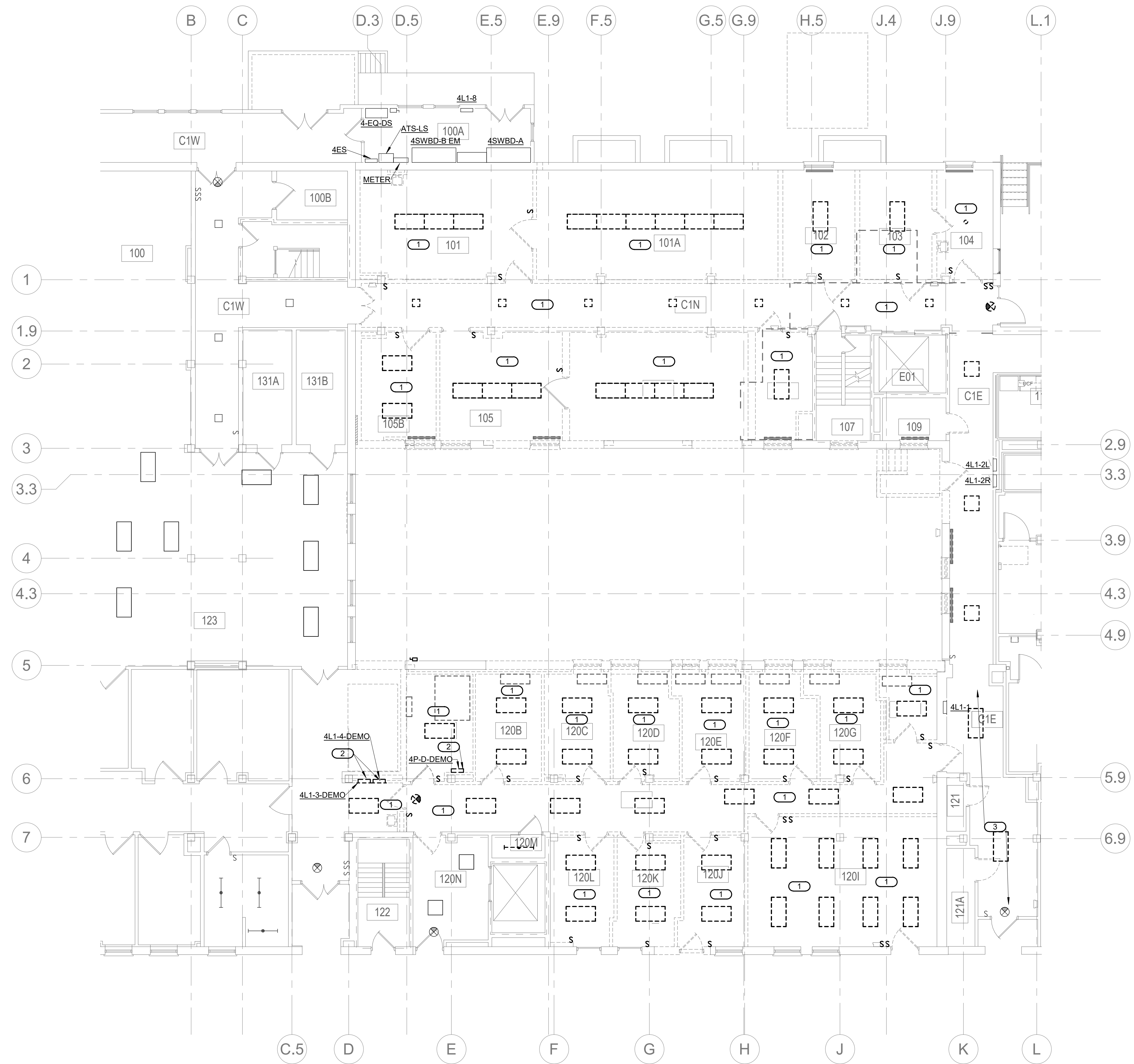
I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the state of Minnesota.  
Signature: *Alexander S. Quast*  
Typed or Printed Name: Alexander S. Quast  
Date: 10/28/2022 License Number: 53095

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Bk. Grove Village, IL 60007  
T: 847.952.9362 F: 847.952.9403  
www.bancroft-ae.com  
BAE PROJECT NO. 18-116

APPROVED PROJECT COR	DATE	APPROVED SERVICE LINE DIRECTOR	DATE	APPROVED INSPECTION CONTROL NUMBER	DATE
APPROVED GERM PROJECT MANAGER	DATE	APPROVED PATIENT SAFETY	DATE	APPROVED ASSOCIATE HEALTHCARE SYSTEM DIRECTOR	DATE
APPROVED PROJECTS SECTION MANAGER	DATE	APPROVED CHIEF OF POLICE	DATE	APPROVED CHIEF OF STAFF	DATE
APPROVED DIRECTOR FIN	DATE	APPROVED SAFETY MANAGER	DATE	APPROVED HEALTHCARE SYSTEM DIRECTOR	DATE

PROJECT TITLE ELECTRICAL - DEMOLITION PLAN - BASEMENT	PROJECT NO. CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR	DATE 10/28/2022
APPROVED ASSOCIATE HEALTHCARE SYSTEM DIRECTOR	DATE	PROJECT NO. 656-400
APPROVED CHIEF OF STAFF	DATE	DRAWING NO. ED100
APPROVED HEALTHCARE SYSTEM DIRECTOR	DATE	LOCATION ST. CLOUD VAHCS ST. CLOUD, MN 56303

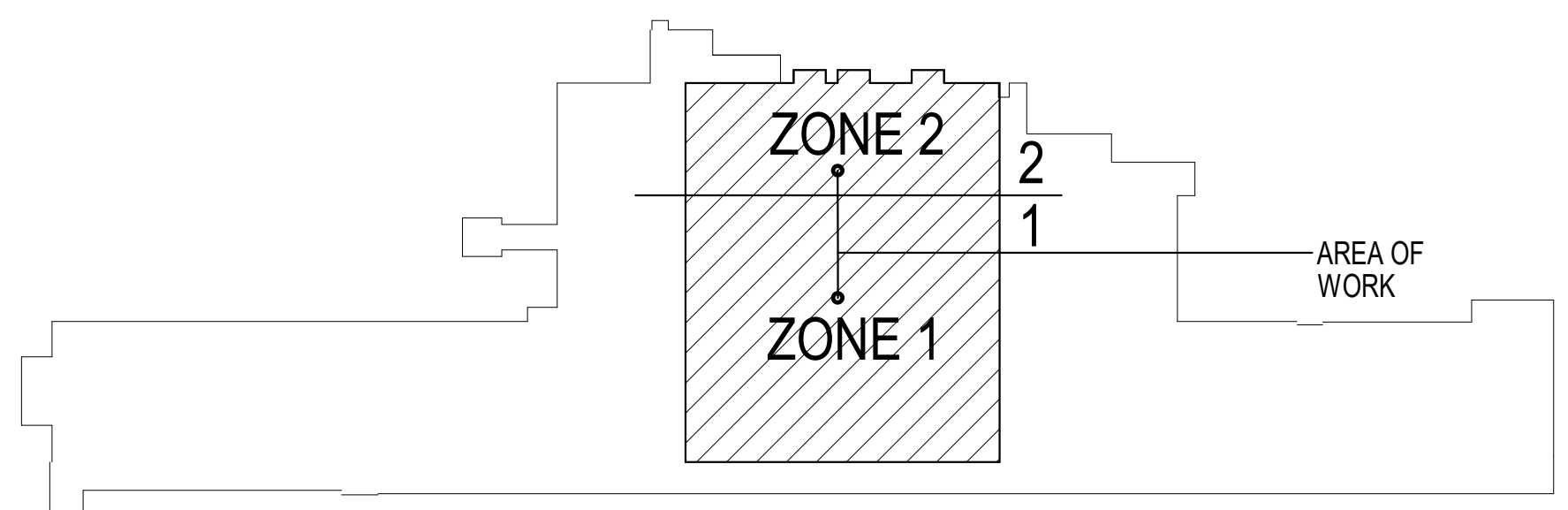
**VA**  
U.S. Department of Veterans Affairs  
Veterans Health Administration  
St. Cloud VA Health Care System



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- KEYNOTES: ( # )**
1. DISCONNECT AND REMOVE ALL LIGHTING & CONTROLS.
  2. CONTRACTOR SHALL EXTEND ALL BRANCH CIRCUITS FROM EXISTING PANELS FOR LOADS REQUIRED TO REMAIN. REFER TO NEW PANELBOARD SCHEDULES FOR ADDITIONAL INFORMATION.
  3. DISCONNECT AND REMOVE EXISTING LIGHT FIXTURES IN THIS SECTION OF CORRIDOR.

**1 ELECTRICAL - DEMOLITION PLAN - FIRST FLOOR - LIGHTING**  
 1/8" = 1'-0"



**KEY PLAN BUILDING 4**

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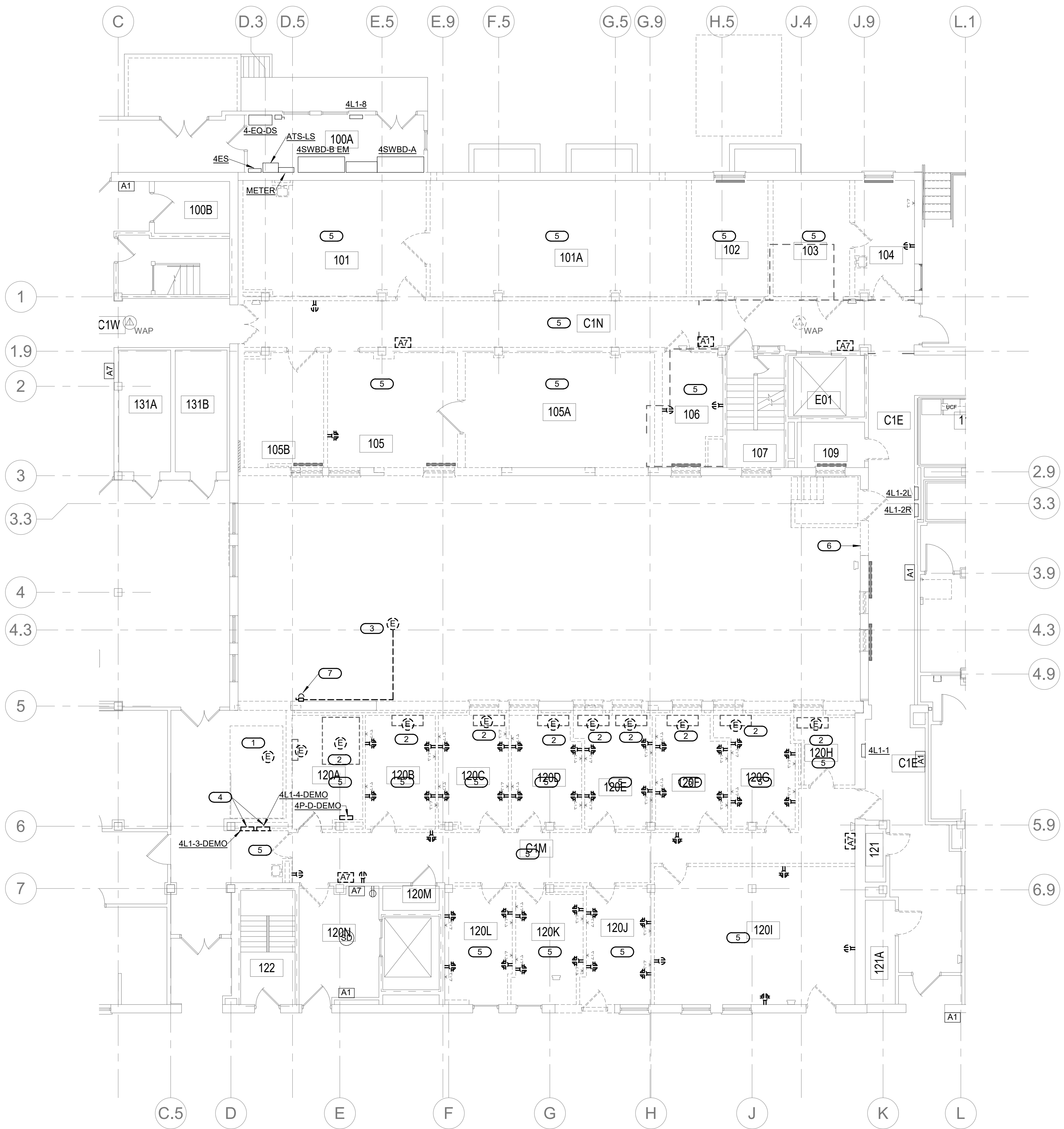
I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the state of Minnesota.  
 Signature: *Alexander S. Quast*  
 Typed or Printed Name: Alexander S. Quast  
 Date: 10/28/2022 License Number: 53095

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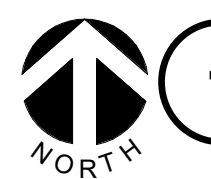
APPROVED PROJECT COR	DATE	APPROVED SERVICE LINE DIRECTOR	DATE	APPROVED INSPECTION CONTROL NUMBER	DATE
APPROVED GEAR PROJECT MANAGER	DATE	APPROVED PATIENT SAFETY	DATE	APPROVED HEALTHCARE SYSTEM DIRECTOR	DATE
APPROVED PROJECTS SECTION MANAGER	DATE	APPROVED CHIEF OF POLICE	DATE	APPROVED CHIEF OF STAFF	DATE
APPROVED DIRECTOR/OPS	DATE	APPROVED SAFETY MANAGER	DATE	APPROVED HEALTHCARE SYSTEM DIRECTOR	DATE

PROJECT TITLE	DATE
ELECTRICAL - LIGHTING - DEMOLITION PLAN - FIRST FLOOR	10/28/2022
PROJECT TITLE	PROJECT NO.
CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR	656-400
BUILDING NO.	DRAWING NO.
4	EDL101
LOCATION	DWG. OF
ST. CLOUD VAHCS ST. CLOUD, MN 56303	

**VA**  
 U.S. Department of Veterans Affairs  
 Veterans Health Administration  
 St. Cloud VA Health Care System

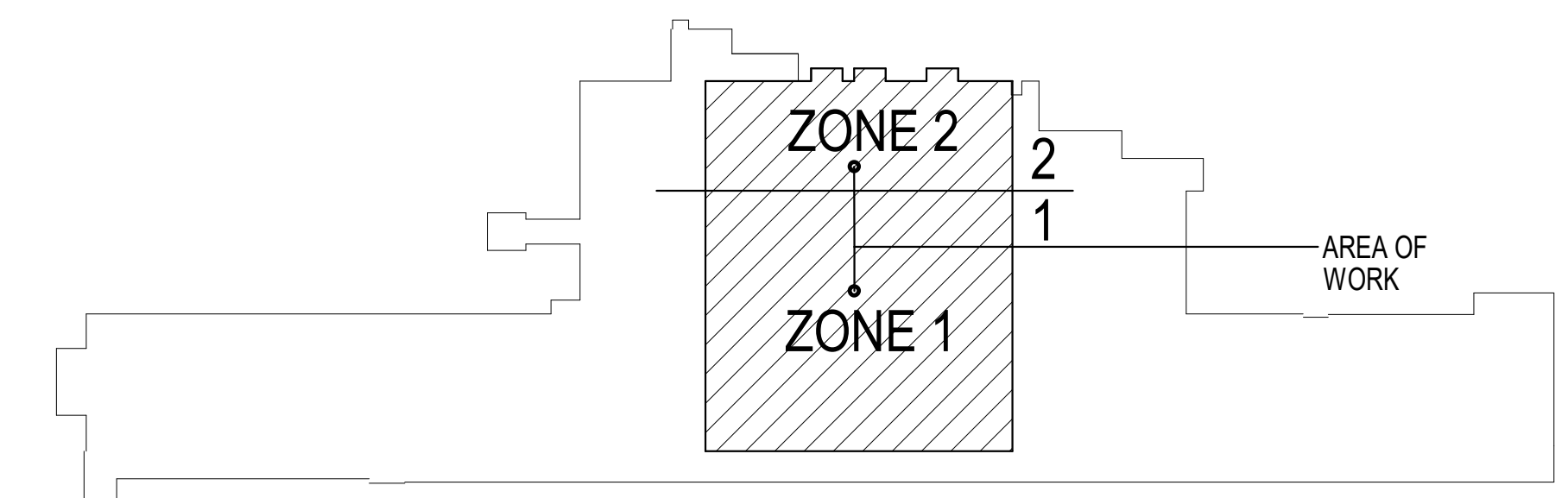


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- KEYNOTES: ( # )**
- DISCONNECT AND REMOVE KITCHEN COOKING RANGE.
  - DISCONNECT AND REMOVE MECHANICAL EQUIPMENT.
  - DISCONNECT AND REMOVE ALL CIRCUITING ASSOCIATED WITH CONDENSING UNIT.
  - DISCONNECT AND REMOVE PANELBOARD. MAINTAIN EXISTING CIRCUITS REQUIRED TO REMAIN AND EXTEND TO NEW PANELBOARDS.
  - DISCONNECT AND REMOVE ALL ELECTRICAL DEVICES AND CIRCUITING IN THIS ROOM/AREA. MAINTAIN ALL CIRCUITING SERVING OTHER AREAS.
  - CONTRACTOR SHALL RELOCATE ALL CIRCUITING WITHIN WALL WHERE NEW DOOR OPENING IS SHOWN.
  - DISCONNECT AND REMOVE EXISTING FEEDER AND DISCONNECT SWITCH.



**1 ELECTRICAL - POWER & SYSTEMS - DEMOLITION PLAN - FIRST FLOOR**

1/8" = 1'-0"



**KEY PLAN BUILDING 4**

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NO.	REVISION	DATE

**IMEG**  
 3001 BROADWAY  
 STREET NE, SUITE 601  
 MINNEAPOLIS, MN 55413  
 PH: 612.540.5000  
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I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the state of Minnesota.  
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 BAE PROJECT NO. 15-116

APPROVED PROJECT COR	DATE	APPROVED SERVICE LINE DIRECTOR	DATE	APPROVED INSPECTION CONTROL NUMBER	DATE

PROJECT TITLE	PROJECT NO.	DATE
ELECTRICAL - POWER & SYSTEMS - DEMO - FIRST FLOOR	656-400	10/28/2022
CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR	EDP101	

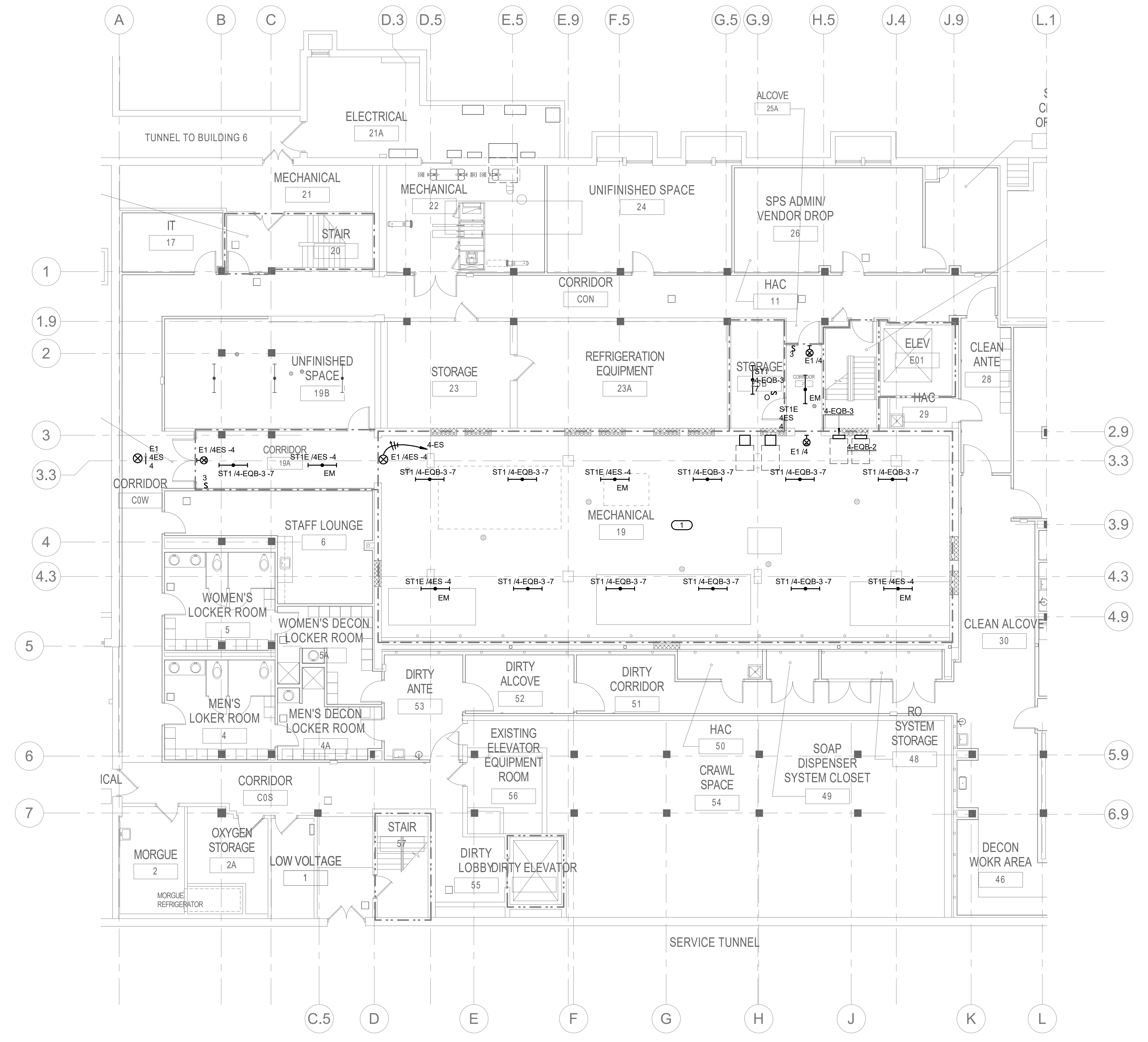
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**GENERAL NOTES:**

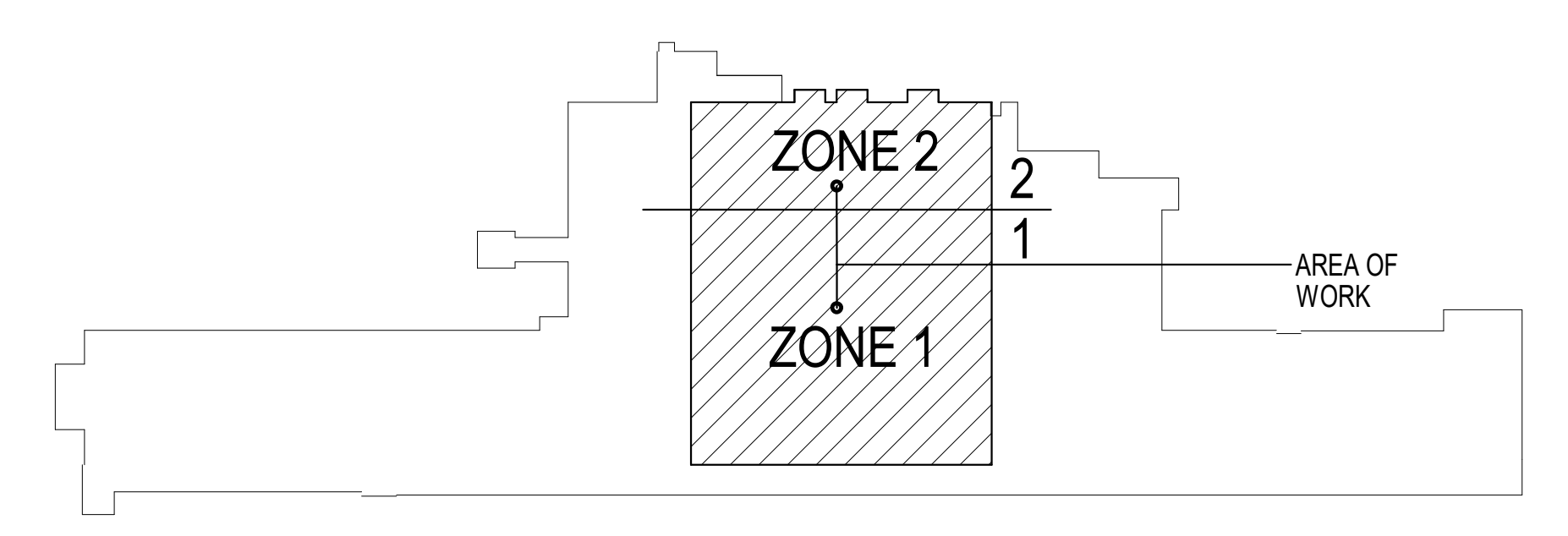
- PROVIDE A MINIMUM #10 AWG FOR HOMERUNS OVER 100FT FOR 120VOLT AND 268FT FOR 277VOLT.
- REFER TO AND COORDINATE LIGHTING LAYOUTS WITH THE ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATION OF LUMINAIRES.
- COORDINATE LOCATION OF LUMINAIRES WITH ALL OTHER TRADES PRIOR TO INSTALLATION.
- MAINTAIN THE FIRE RATING WHEREVER FIRE RATED STRUCTURES ARE PENETRATED BY CONDUIT, LUMINAIRES, ETC. SEE ARCHITECTURAL DOCUMENTS FOR THE FIRE RATINGS OF ALL STRUCTURES.
- EMERGENCY LUMINAIRES SHALL BE CIRCUITED TO PANEL 4ES BLDG4.

**KEYNOTES: (#)**

- PROVIDE UL1008 SWITCHING RELAY FOR CONTROL OF EMERGENCY LIGHTS IN ROOM. SEE DETAIL ON SHEET E300.
- .
- .



**1 ELECTRICAL - LIGHTING - PLAN - BASEMENT**  
 1/8" = 1'-0"



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 Typed or Printed Name: Alexander S. Quast  
 Date: 10/28/2022 License Number: 53095

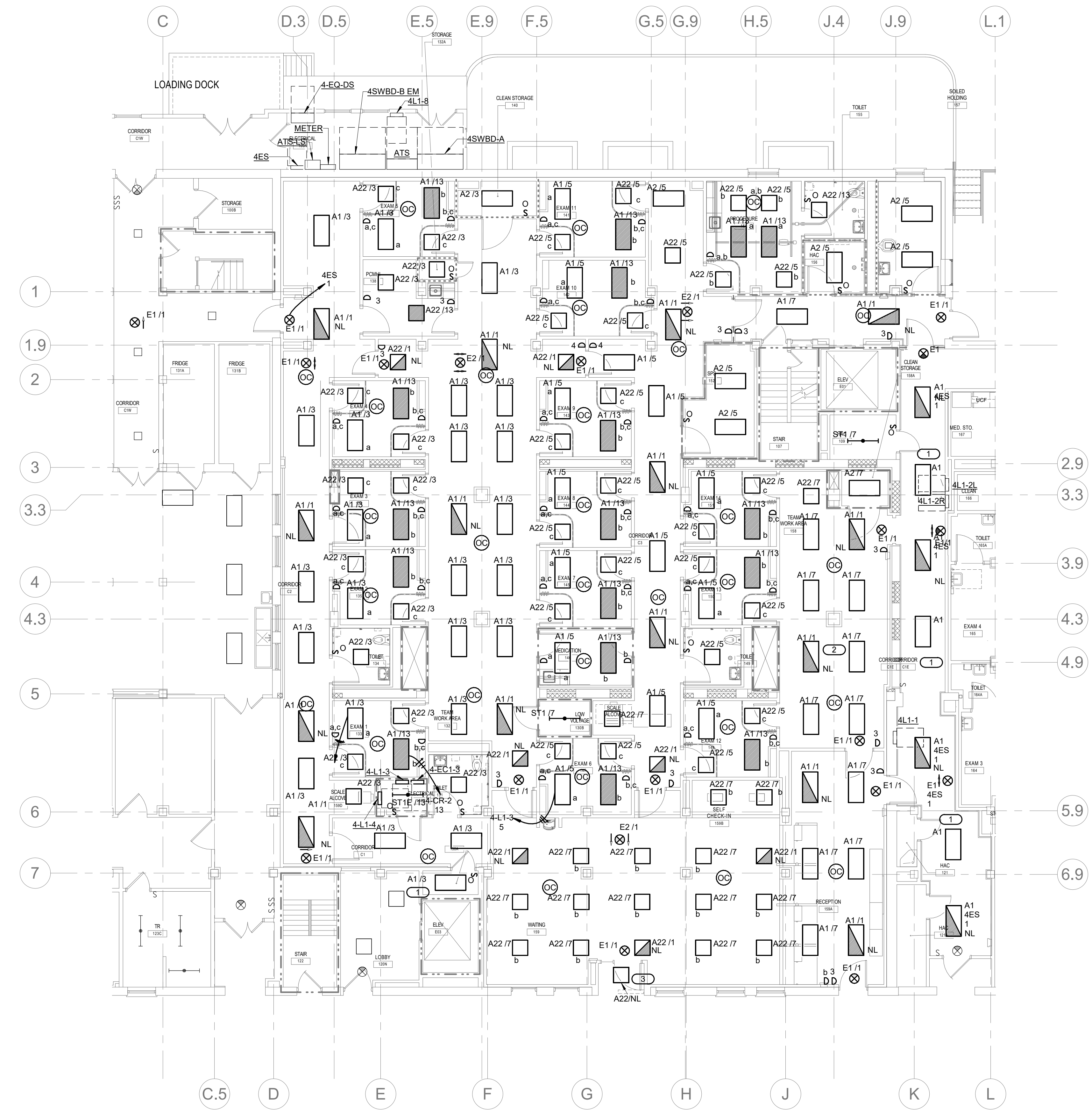
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APPROVED PROJECT COP	DATE	APPROVED SERVICE LINE DIRECTOR	DATE	APPROVED INSPECTION CONTROL NUMBER	DATE

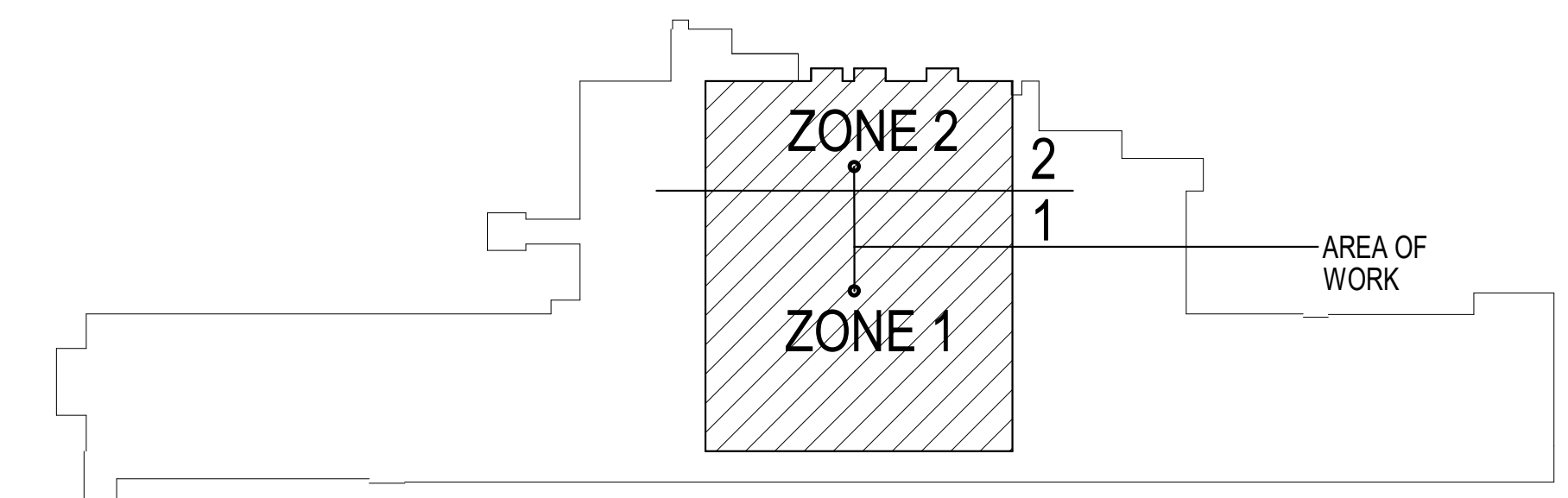
DRAWING TITLE	PROJECT TITLE	DATE
ELECTRICAL - LIGHTING - PLAN - BASEMENT	CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR	10/28/2022

**VA**  
 U.S. Department of Veterans Affairs  
 Veterans Health Administration  
 St. Cloud VA Health Care System  
 ST. CLOUD, MN 56303

- GENERAL NOTES:**
- PROVIDE A MINIMUM #10 AWG FOR HOMERUNS OVER 100FT FOR 120VOLT AND 250FT FOR 277VOLT.
  - REFER TO AND COORDINATE LIGHTING LAYOUTS WITH THE ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATION OF LUMINAIRES.
  - COORDINATE LOCATION OF LUMINAIRES WITH ALL OTHER TRADES PRIOR TO INSTALLATION.
  - MAINTAIN THE FIRE RATING WHEREVER FIRE RATED STRUCTURES ARE PENETRATED BY CONDUIT, LUMINAIRES, ETC. SEE ARCHITECTURAL DOCUMENTS FOR THE FIRE RATINGS OF ALL STRUCTURES.
  - EMERGENCY LUMINAIRES SHALL BE CIRCUITED TO PANEL 4ES BLDG4.
  - NORMAL LUMINAIRES SHALL BE CIRCUITED TO PANELBOARD 4L1-3.
  - CRITICAL LUMINAIRES SHALL BE CIRCUITED TO PANELBOARD 4EC1-3.
  - CONTRACTOR SHALL VERIFY DIMMER SWITCHES ARE NOT IN CONFLICT WITH CURTAIN.
- KEYNOTES: ( # )**
- CONNECT TO EXISTING LIGHTING CONTROL IN ROOM/AREA.
  - PROVIDE UL1008 SWITCHING RELAY FOR CONTROLS OF EMERGENCY LIGHTS IN ROOM. SEE DETAIL ON SHEET E300.
  - PROVIDE CONNECTION TO CORRIDOR EMERGENCY LIGHTING CIRCUIT.



**1 ELECTRICAL - PLAN - FIRST FLOOR - LIGHTING**  
 1/8" = 1'-0"



**KEY PLAN BUILDING 4**

10/28/2022 - ISSUE FOR 100% CONSTRUCTION DOCUMENTS

No.	REVISION	DATE

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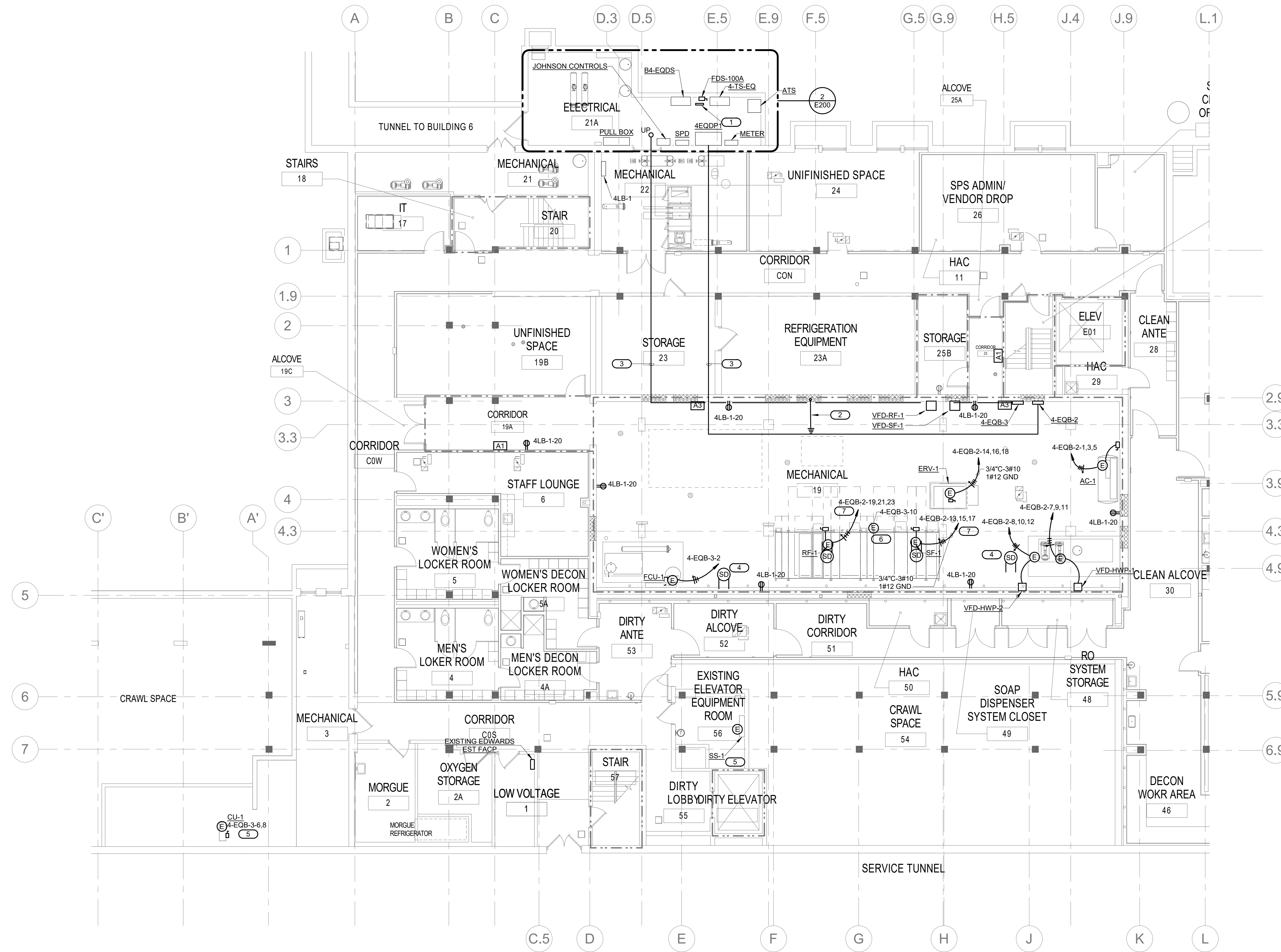
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APPROVED PROJECT COP	DATE	APPROVED SERVICE LINE DIRECTOR	DATE	APPROVED INSPECTION CONTROL NUMBER	DATE

APPROVED TITLE	DATE	APPROVED ASSOCIATE HEALTH CARE SYSTEM DIRECTOR	DATE	APPROVED CHIEF OF STAFF	DATE	APPROVED HEALTH CARE SYSTEM DIRECTOR	DATE

PROJECT TITLE: CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR  
 DATE: 10/28/2022  
 PROJECT NO: 656-400  
 DRAWING NO: EL101  
 BUILDING NO: 4  
 ARCHITECT: GJL  
 DRAWN: DRM  
 LOCATION: ST. CLOUD VAHCS ST. CLOUD, MN 56303

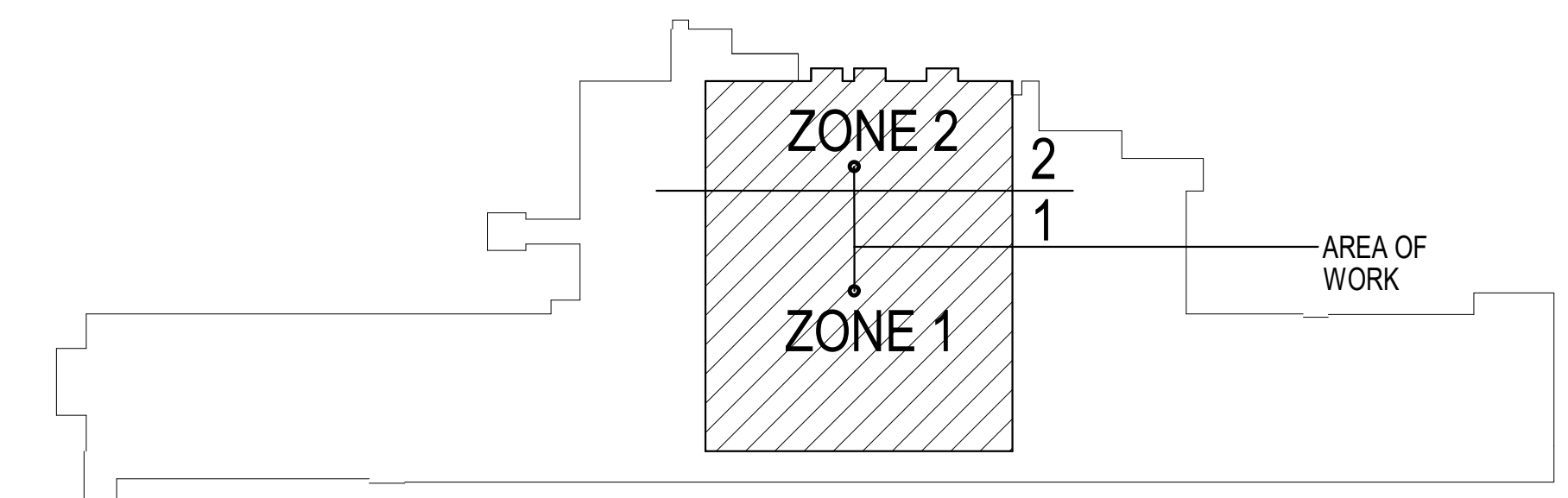
**VA**  
 U.S. Department of Veterans Affairs  
 Veterans Health Administration  
 St. Cloud VA Health Care System



- GENERAL NOTES:**
- PROVIDE #10 AWG CONDUCTORS FOR ALL 120 VOLT HOMERUNS OVER 100FT.
  - REFER TO ARCHITECTURAL DETAILS AND ELEVATION DRAWINGS FOR EXACT MOUNTING HEIGHTS AND LOCATION OF ALL ELECTRICAL DEVICES.
  - VERIFY THE EXACT CIRCUITING REQUIREMENTS OF ELECTRIFIED FURNITURE WITH OWNER AND THE FURNITURE SUPPLIER. GFI RECEPTACLES SHALL NOT BE FED DOWN STREAM.
  - COORDINATE WITH MECHANICAL CONTRACTOR THE EXACT LOCATION OF ALL MECHANICAL EQUIPMENT PRIOR TO ROUGH-IN.
  - PROVIDE UPDATED DIRECTORIES FOR ALL NEW AND EXISTING PANELBOARDS.
  - MAINTAIN CIRCUIT CONTINUITY FOR EXISTING ELECTRICAL DEVICES AND EQUIPMENT THAT ARE TO REMAIN, INCLUDING SPACES ADJACENT TO THE REMODELED AREA.

- KEYNOTES: (K)**
- PROVIDE 4" X 12" GROUND BAR LOCATE ABOVE DISCONNECT SWITCH, CONNECT SPLICE 3 EXISTING GROUND CONDUCTORS TO NEW GROUND BAR.
  - PROVIDE NEW UFER GROUND, CONNECT UFER GROUND TO TO GROUND BAR IN ELECTRICAL ROOM 21A. SEE KEYNOTE #1.
  - FEEDER ROUTING, REFER TO POWER RISER SHEETS.
  - MOUNT DUCT SMOKE DETECTOR AT VERTICAL DUCT, ACCESSIBLE FROM BASEMENT. DUCT SMOKE DETECTOR SHALL CONTROL CLOSING OF ASSOCIATED DAMPER AND SHUTTING DOWN OF AHU.
  - CONTRACTOR SHALL PROVIDE ALL CIRCUITING BETWEEN INDOOR & OUTDOOR UNITS.
  - PROVIDE CONNECTION TO AHU LIGHTING CIRCUIT AT UNIT.
  - ROUTE HOME RUNS VIA VFD ON WALL.

**1 ELECTRICAL - POWER & SYSTEMS - PLAN - BASEMENT**  
 1/8" = 1'-0"



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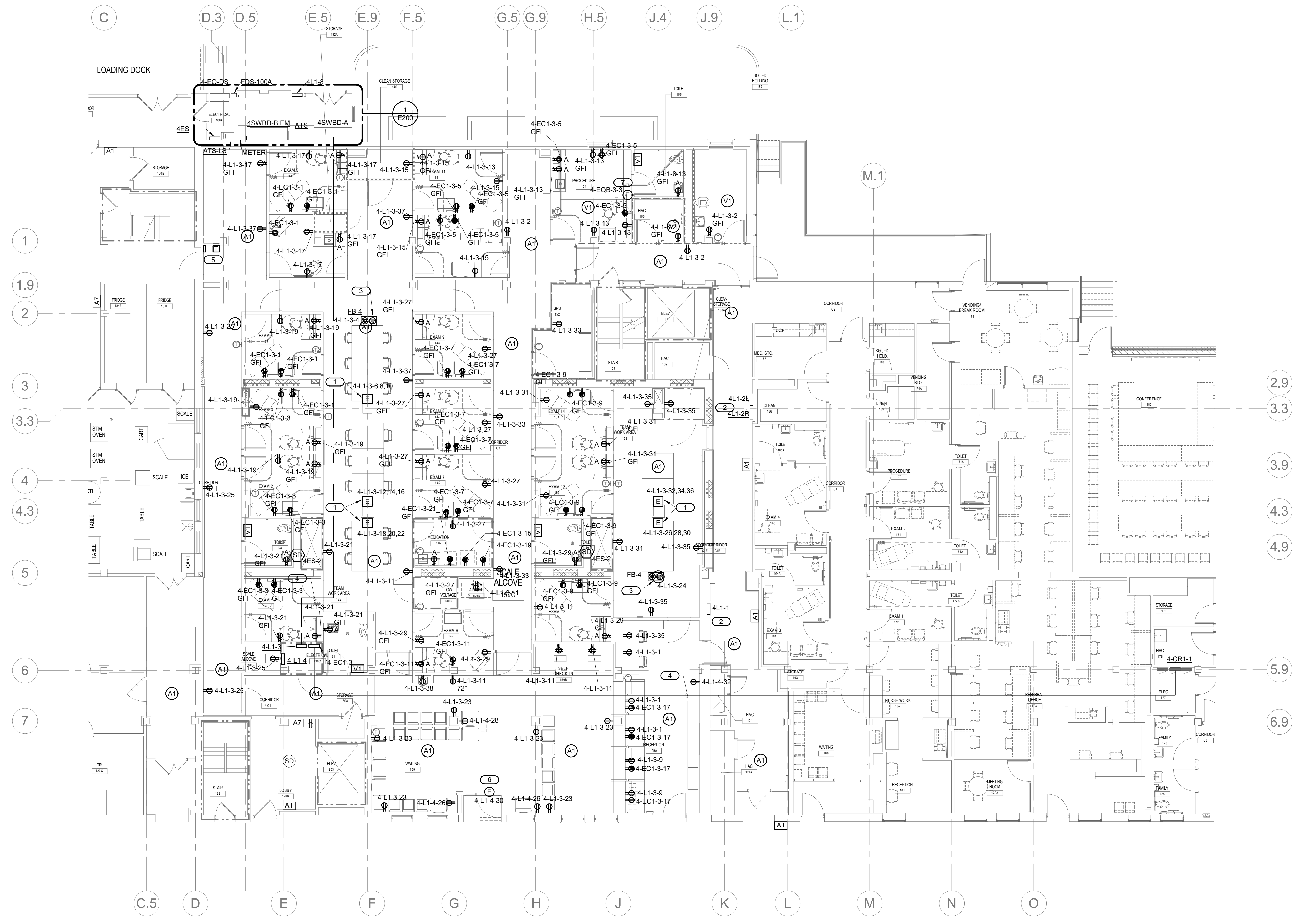
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APPROVED PROJECT DIR	DATE	APPROVED SERVICE LINE DIRECTOR	DATE	APPROVED INSPECTION CONTROL MANAGER	DATE
APPROVED GERM PROJECT MANAGER	DATE	APPROVED PATIENT SAFETY	DATE	APPROVED CHIEF OF POLICE	DATE
APPROVED PROJECTS SECTION MANAGER	DATE	APPROVED CHIEF OF POLICE	DATE	APPROVED SAFETY MANAGER	DATE
APPROVED DIRECTOR FIN	DATE	APPROVED SAFETY MANAGER	DATE		

DRAWING TITLE	ELECTRICAL - POWER & SYSTEMS - PLAN - BASEMENT	DATE	10/28/2022
PROJECT TITLE	CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR	PROJ NO.	656-400
BUILDING No.	4	DRAWING No.	EP100
LOCATION	ST. CLOUD VAHCS ST. CLOUD, MN 56303	DWG. OF	

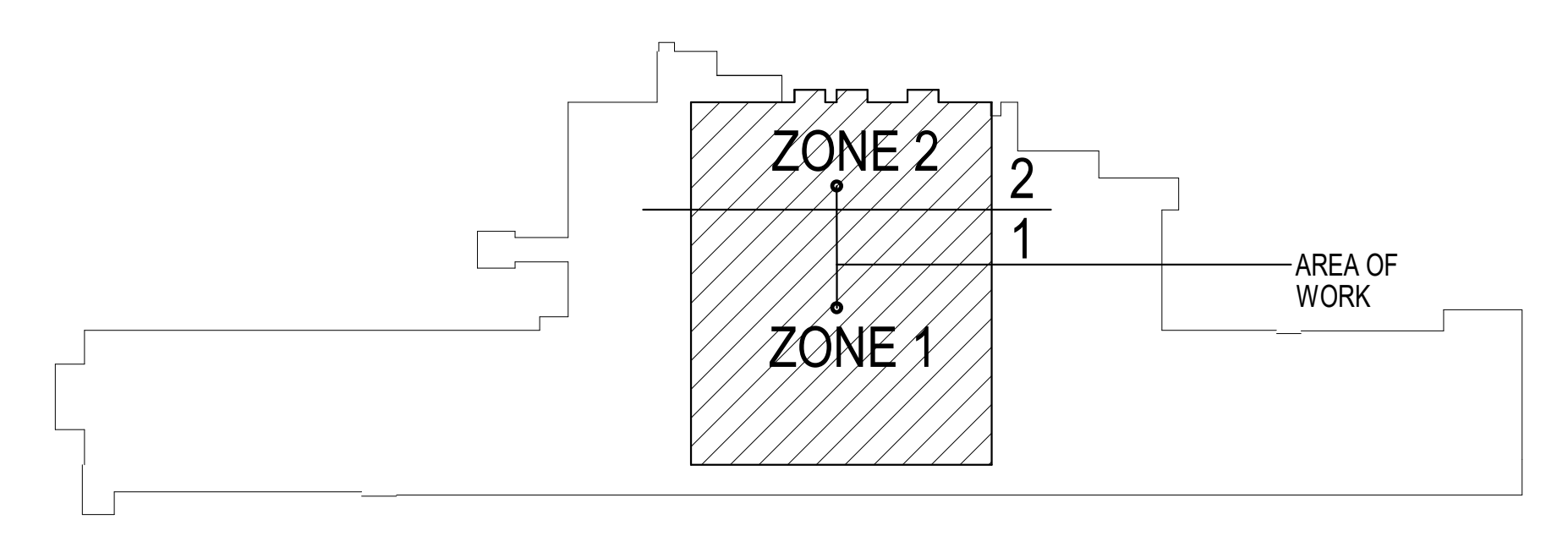
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- GENERAL NOTES:**
- PROVIDE #10 AWG CONDUCTORS FOR ALL 120 VOLT HOMERUNS OVER 100FT.
  - REFER TO ARCHITECTURAL DETAILS AND ELEVATION DRAWINGS FOR EXACT MOUNTING HEIGHTS AND LOCATION OF ALL ELECTRICAL DEVICES.
  - VERIFY THE EXACT CIRCUITING REQUIREMENTS OF ELECTRIFIED FURNITURE WITH OWNER AND THE FURNITURE SUPPLIER. GFI RECEPTACLES SHALL NOT BE FED DOWN STREAM.
  - COORDINATE WITH MECHANICAL CONTRACTOR THE EXACT LOCATION OF ALL MECHANICAL EQUIPMENT PRIOR TO ROUGH-IN. PROVIDE UPDATED DIRECTORIES FOR ALL NEW AND EXISTING PANELBOARDS.
  - MAINTAIN CIRCUIT CONTINUITY FOR EXISTING ELECTRICAL DEVICES AND EQUIPMENT THAT ARE TO REMAIN, INCLUDING SPACES ADJACENT TO THE REMODELED AREA.
  - ALL NEW FIRE ALARM AND NOTIFICATION DEVICES SHALL BE ON A NEW NOTIFICATION LOOP AND NEW ALARM LOOP FROM A NEW FIRE ALARM SUB-PANEL LOCATED IN BASEMENT FACP ROOM. PROVIDE ALL CABLING AND ACCESSORIES TO INTERFACE WITH EXISTING FACP. PROVIDE ADDITIONAL BATTERIES AS REQUIRED IN SPECIFICATION.

- KEYNOTES: ( # )**
- PROVIDE CONNECTION TO POWERED WORK STATIONS. ROUTE FEEDER RECESSED IN COLUMN.
  - EXISTING PANELBOARD TO REMAIN.
  - PROVIDE WIREMOLD SERIES F84. COORDINATE TRIM REQUIREMENTS WITH FLOOR COVERING AND ARCHITECT.
  - FEEDER ROUTING, REFER TO POWER RISER SHEETS.
  - DETEX ALARM ACTIVATED DURING EXITING. REFER TO DETAIL 5 ON E300.
  - PROVIDE CONNECTION TO POWERED DOOR OPERATOR AND PUSH PLATE CONTROLS PER MANUFACTURER'S REQUIREMENTS.
  - PROVIDE CONNECTION TO LIFT AS REQUIRED BY MANUFACTURER. PROVIDE DISCONNECT AT UNIT.

**1 ELECTRICAL - POWER & SYSTEMS - PLAN - FIRST FLOOR**  
 1/8" = 1'-0"

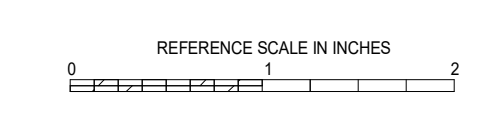


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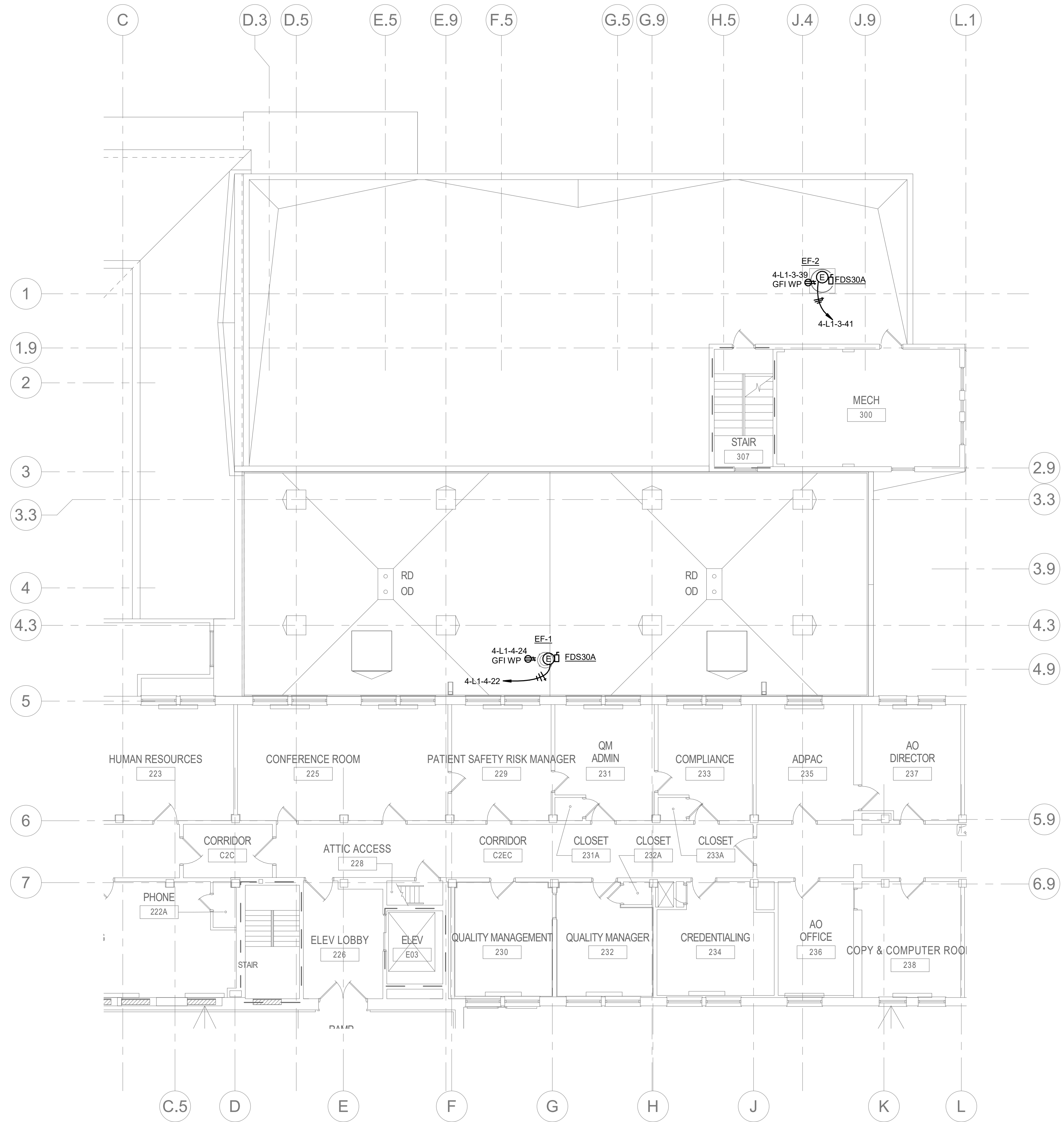
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APPROVED PROJECT COP	DATE	APPROVED SERVICE LINE DIRECTOR	DATE	APPROVED INSPECTION CONTROL NUMBER	DATE
APPROVED GERM PROJECT MANAGER	DATE	APPROVED PATIENT SAFETY	DATE		
APPROVED PROJECTS SECTION MANAGER	DATE	APPROVED CHIEF OF POLICE	DATE		
APPROVED DIRECTOR FIN	DATE	APPROVED SAFETY MANAGER	DATE		

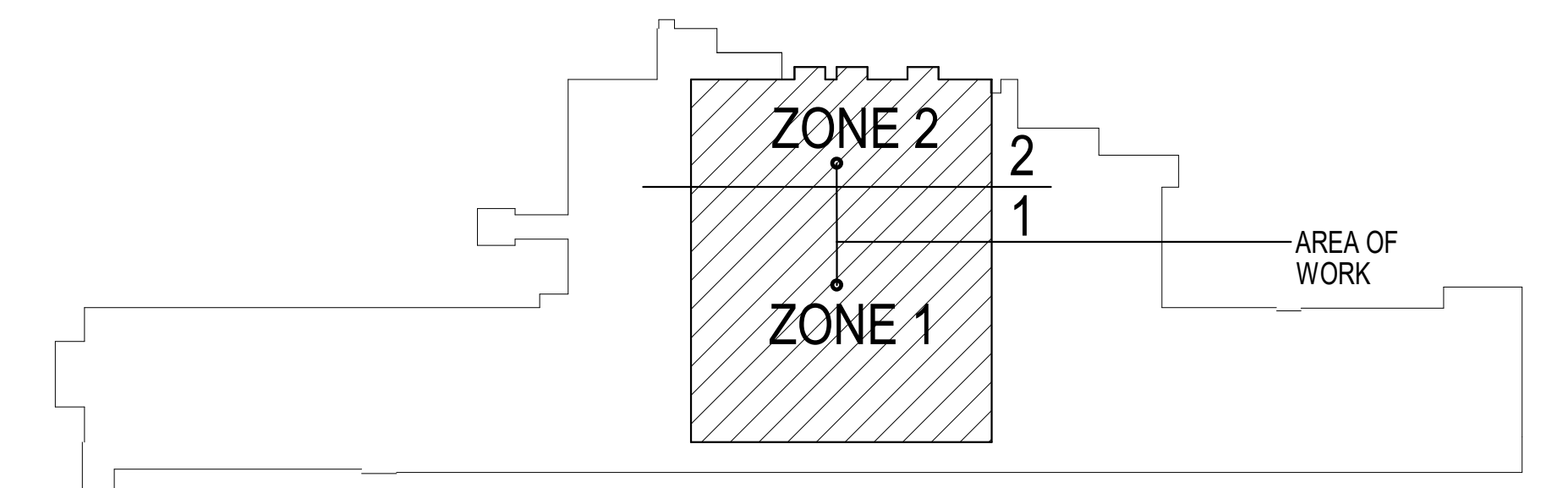
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ELECTRICAL - POWER & SYSTEMS - PLAN - FIRST FLOOR	CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR	10/28/2022
APPROVED ASSOCIATE HEALTHCARE SYSTEM DIRECTOR	PROJECT NO.	656-400
APPROVED CHIEF OF STAFF	BUILDING NO.	4
APPROVED HEALTHCARE SYSTEM DIRECTOR	LOCATION	ST. CLOUD VAHCS ST. CLOUD, MN 56303

**VA** U.S. Department of Veterans Health Administration  
 St. Cloud VA Health Care System





1 ELECTRICAL - PLAN - LOWER ROOF - POWER  
1/8" = 1'-0"

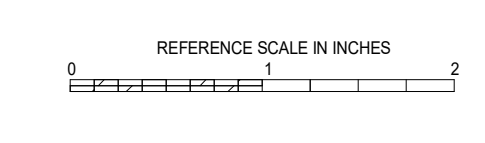


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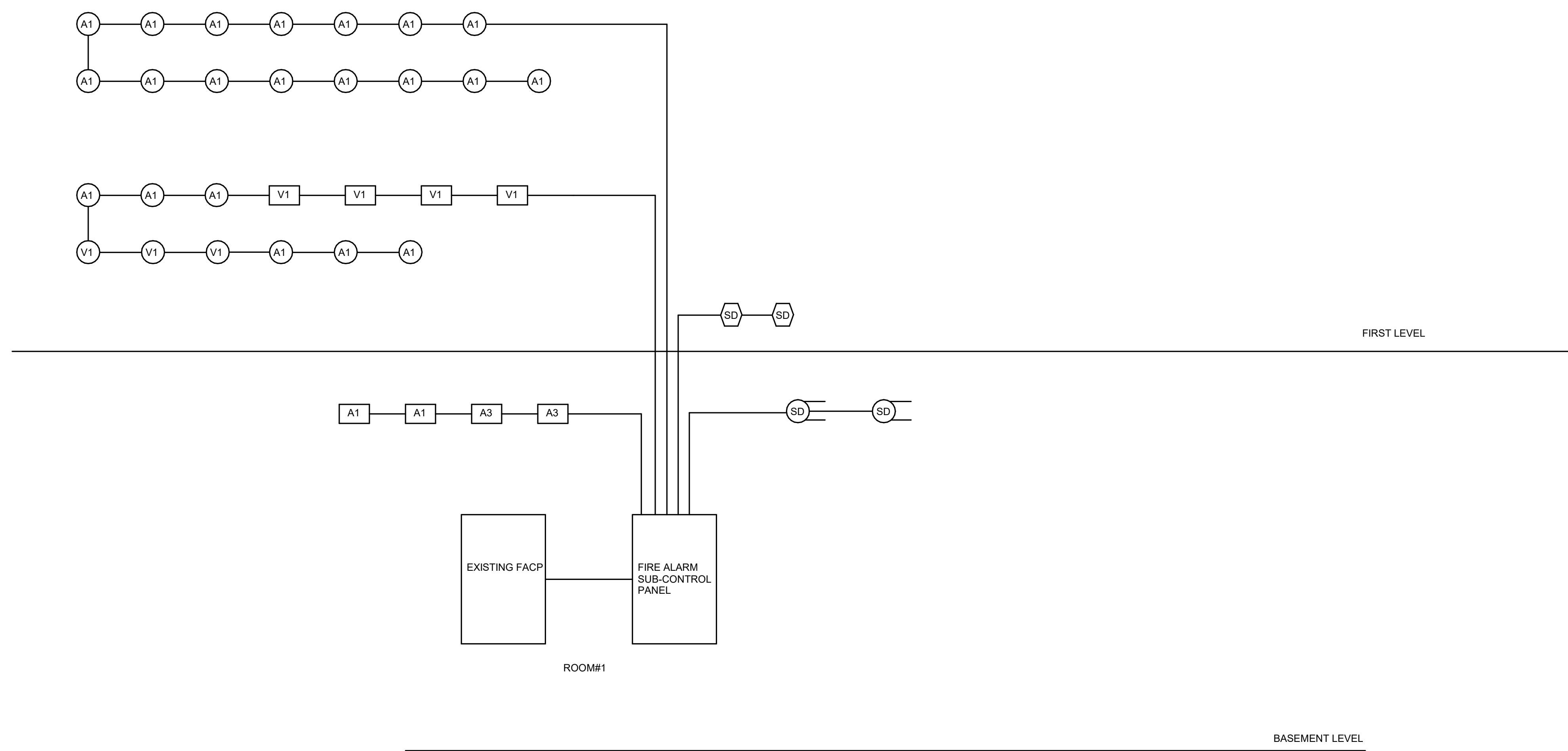
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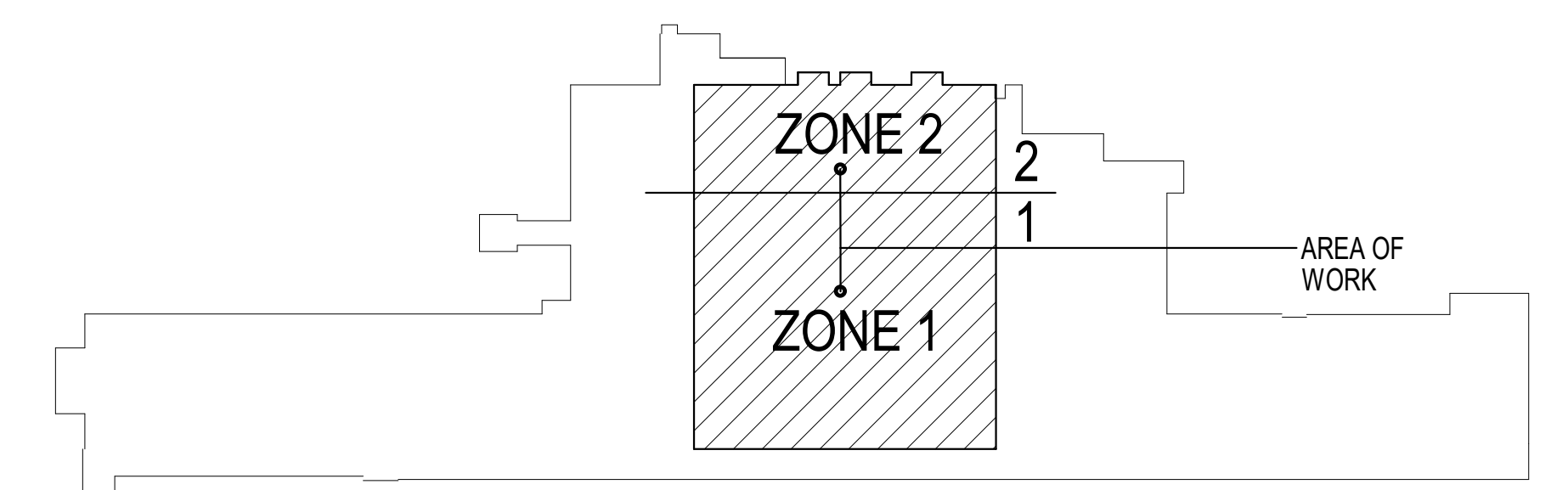
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APPROVED GEN. PROJECT MANAGER	DATE	APPROVED PATIENT SAFETY	DATE	APPROVED CHIEF OF POLICE	DATE
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APPROVED DIRECTOR FIN	DATE	APPROVED SAFETY MANAGER	DATE		

DRAWING TITLE ELECTRICAL - POWER - PLAN - LOWER ROOF	PROJECT TITLE CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR	DATE 10/28/2022
APPROVED ASSOCIATE HEALTHCARE SYSTEM DIRECTOR	PRECEDENCE NO. 656-400	PROJECT NO. EP102
APPROVED CHIEF OF STAFF	BUILDING NO. 4	DRAWING NO. EP102
APPROVED HEALTHCARE SYSTEM DIRECTOR	REVISIONS GJL DRM	DWG. OF
	LOCATION ST. CLOUD VAHCS ST. CLOUD, MN 56303	

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U.S. Department of Veterans Affairs  
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**1** ELECTRICAL - FIRE ALARM RISER DIAGRAM  
NO SCALE

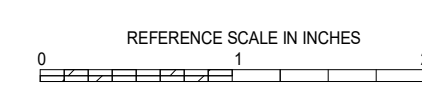


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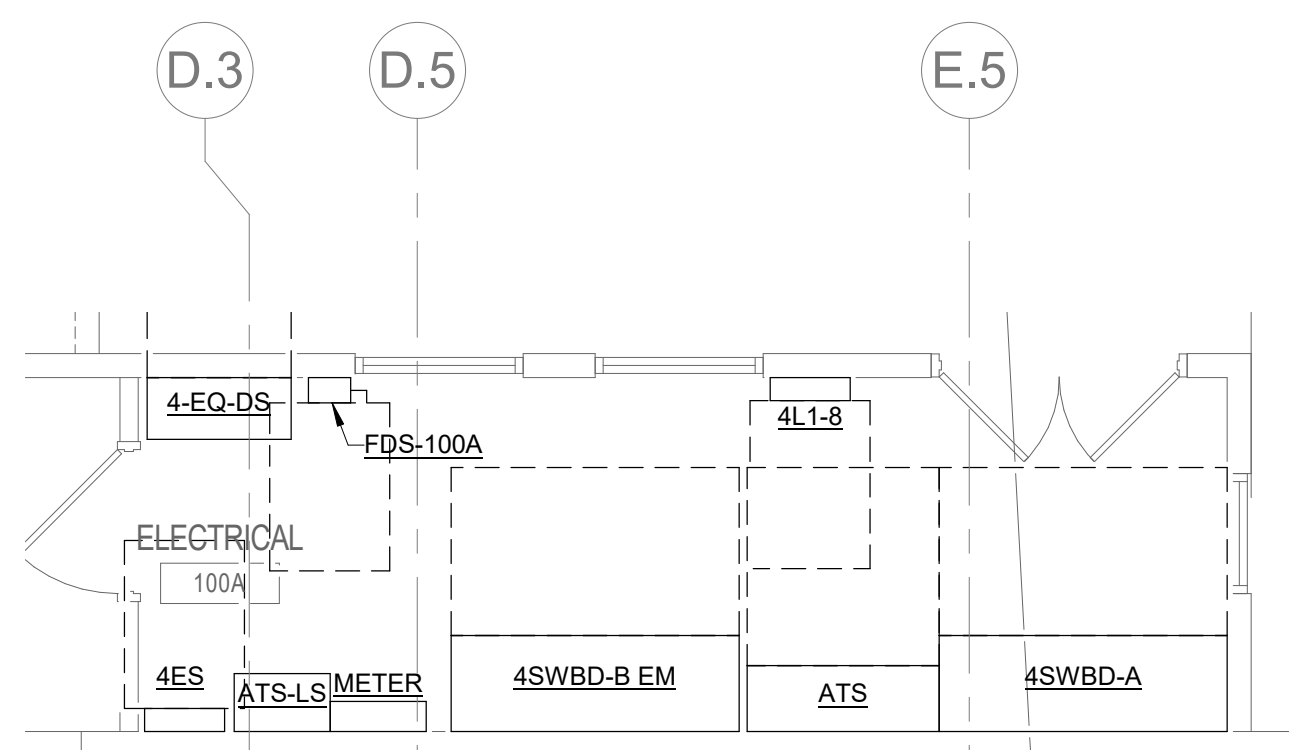
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APPROVED PROJECTS SECTION MANAGER	DATE	APPROVED CHIEF OF POLICE	DATE		
APPROVED DIRECTOR FMS	DATE	APPROVED SAFETY MANAGER	DATE		

DRAWING TITLE ELECTRICAL - FIRE ALARM RISER DIAGRAM	PROJECT TITLE CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR	DATE 10/28/2022
APPROVED ASSOCIATE HEALTH CARE SYSTEM DIRECTOR	PROJECT NO. 656-400	PROF SCALE
APPROVED CHIEF OF STAFF	BUILDING No. 4	DRAWING NO. ES400
	DESIGNED BY GJL	CHECKED BY DRM
APPROVED HEALTH CARE SYSTEM DIRECTOR	LOCATION ST. CLOUD VAHCS ST. CLOUD, MN 56303	DWG. OF

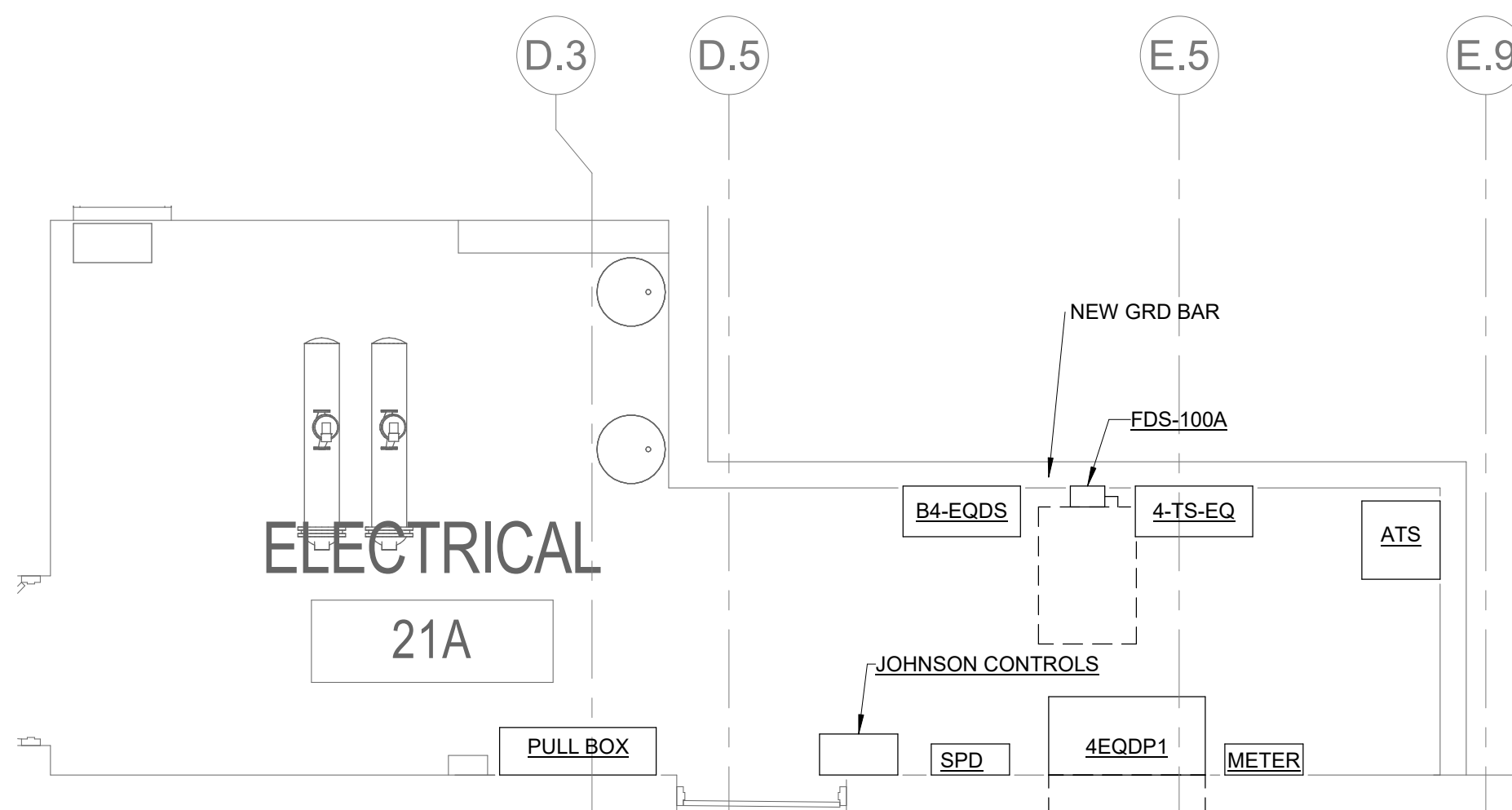
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 St. Cloud VA Health Care System



1

EXISTING MAIN ELECTRICAL ROOM 100A

1/4" = 1'-0"



2

EXISTING ELECTRICAL ROOM 7A

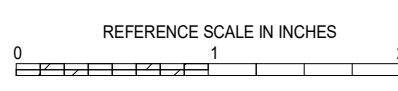
1/4" = 1'-0"

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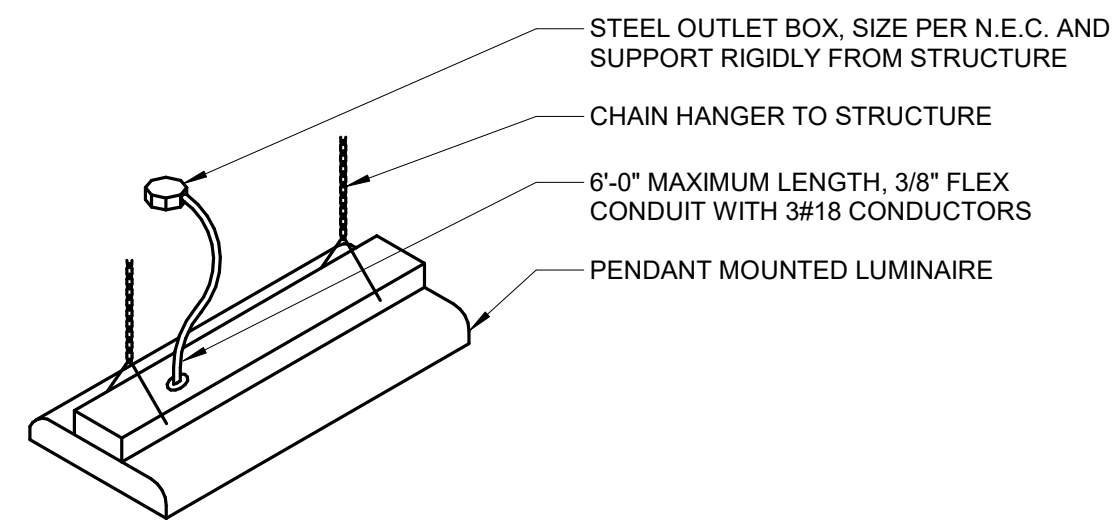
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APPROVED DIRECTOR FMS	DATE	APPROVED SAFETY MANAGER	DATE	APPROVED HEALTHCARE SYSTEM DIRECTOR	DATE

DRAWING TITLE	PROJECT TITLE	DATE
ELECTRICAL - ENLARGED PLANS	CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR	10/28/2022
DATE	PROJECT NO.	DRAWING NO.
	656-400	E200
BUILDING No.	DRAWN	DATE
4	GJL	
PROJECT	DRM	DATE
LOCATION	ST. CLOUD VAHCS	DWG. OF
	ST. CLOUD, MN 56303	

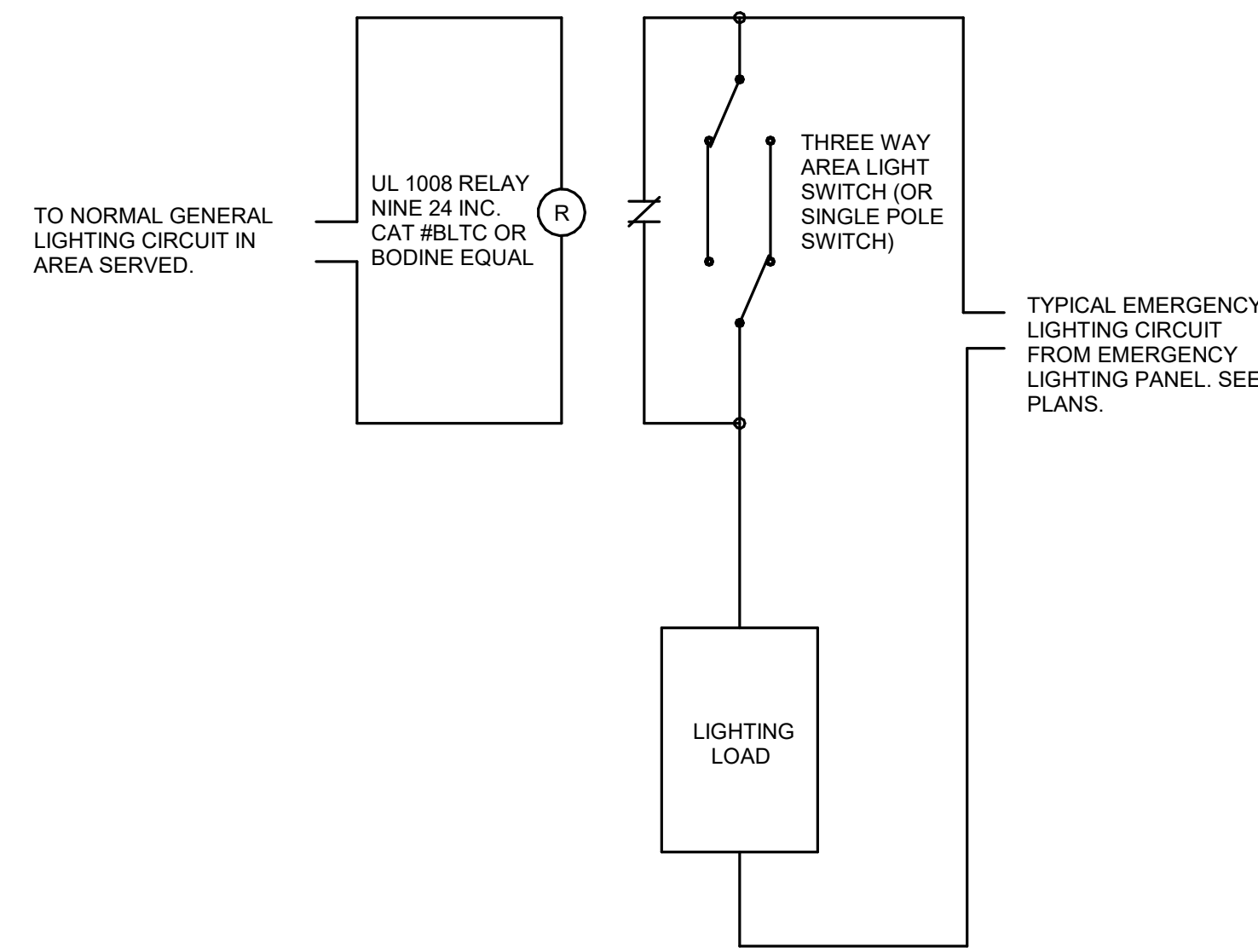
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 U.S. Department of Veterans Affairs  
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**NOTES:**

1. SELECT CHAIN LENGTH TO PROVIDE MOUNTING HEIGHT AS REQUIRED ON DRAWINGS.
2. PROVIDE TWO CHAIN HANGERS FOR EACH LUMINAIRE. ADJUST TO HANG LUMINAIRE LEVEL.

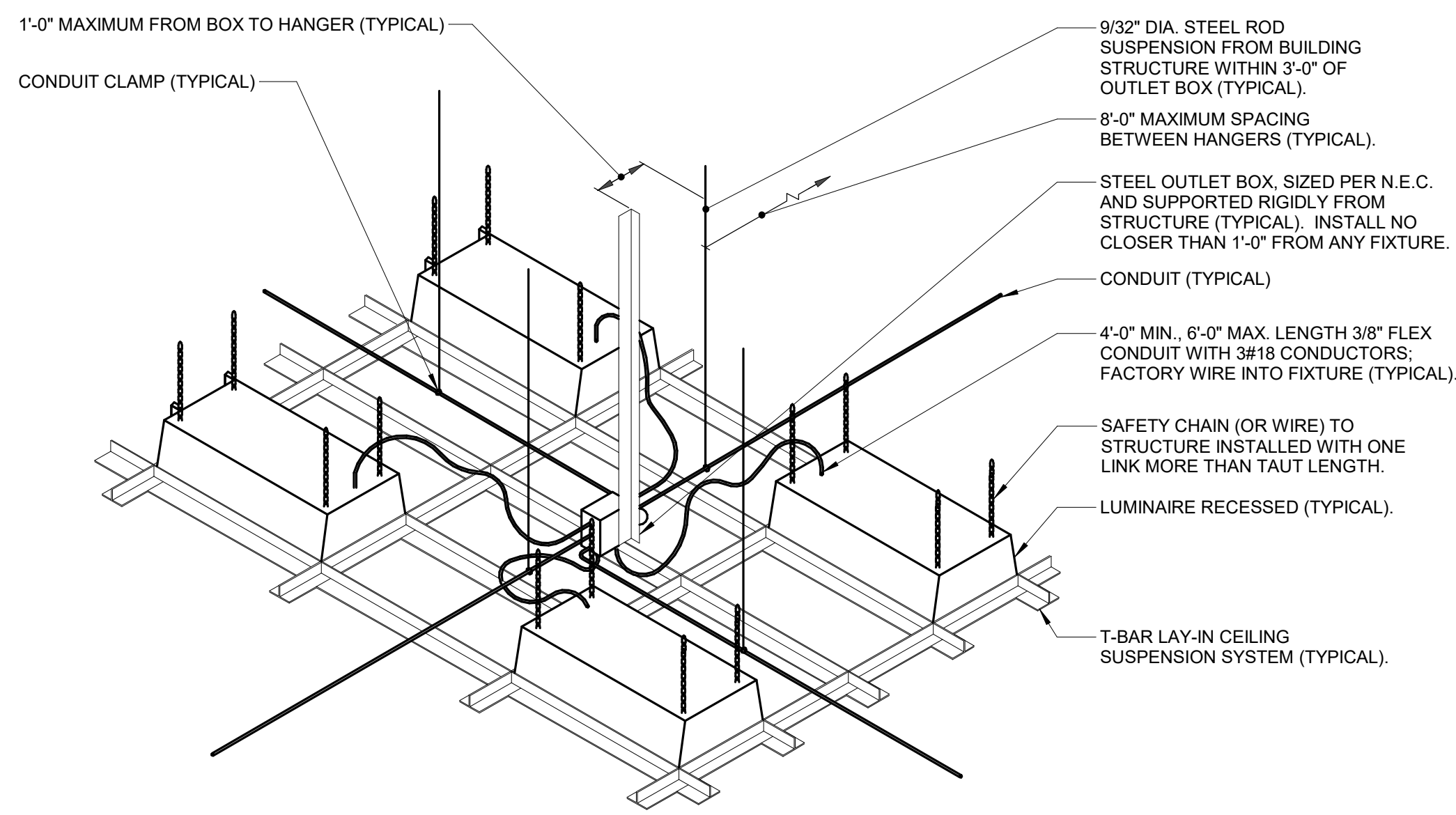
**1 CHAIN SUSPENDED MOUNTING DETAIL**  
NO SCALE



**NOTES:**

1. DO NOT SUPPORT CONDUIT OR BOXES FROM CEILING GRID HANGERS.

**2 EMERGENCY LIGHTING CONTROL DIAGRAM**  
NO SCALE



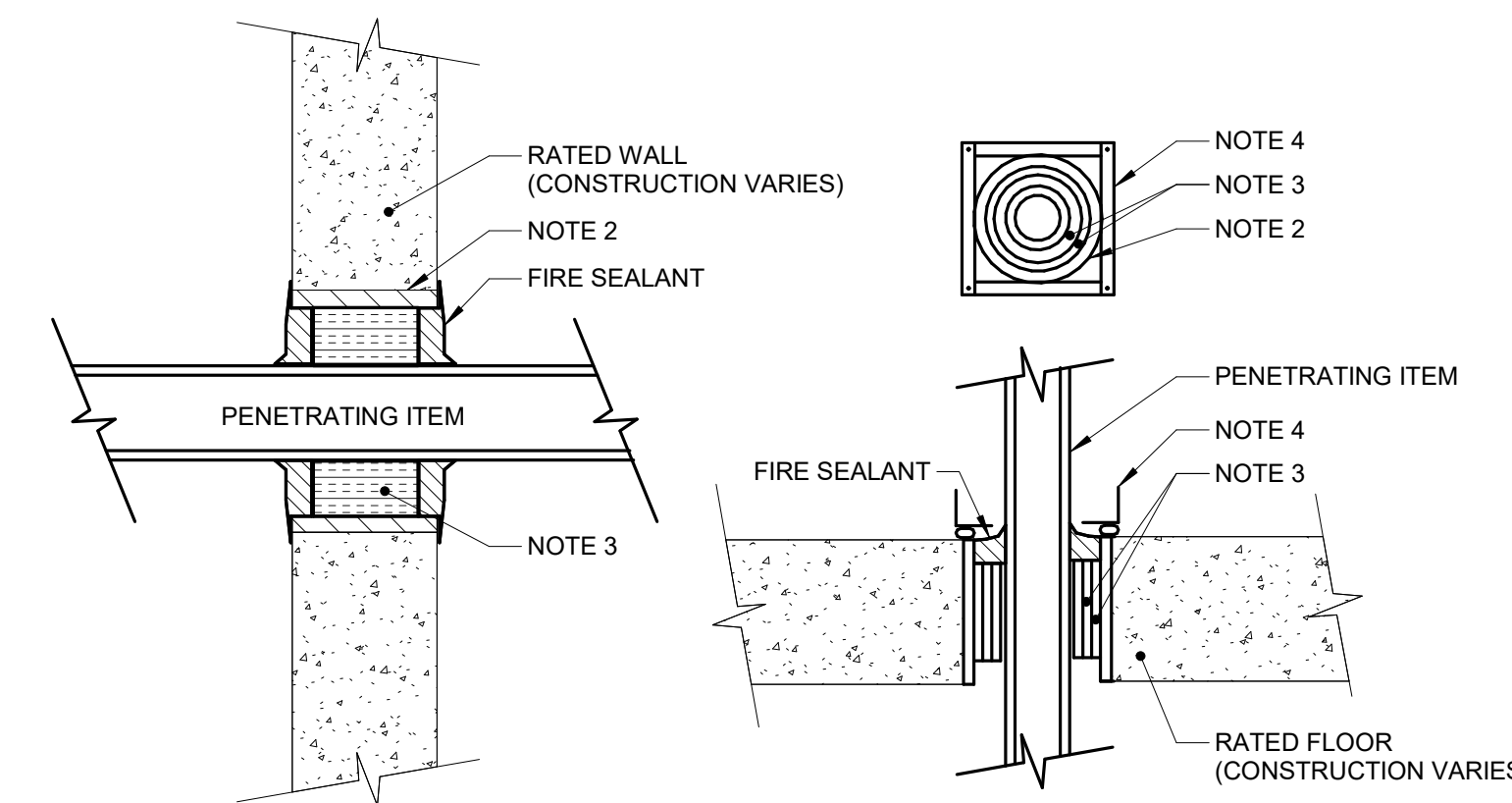
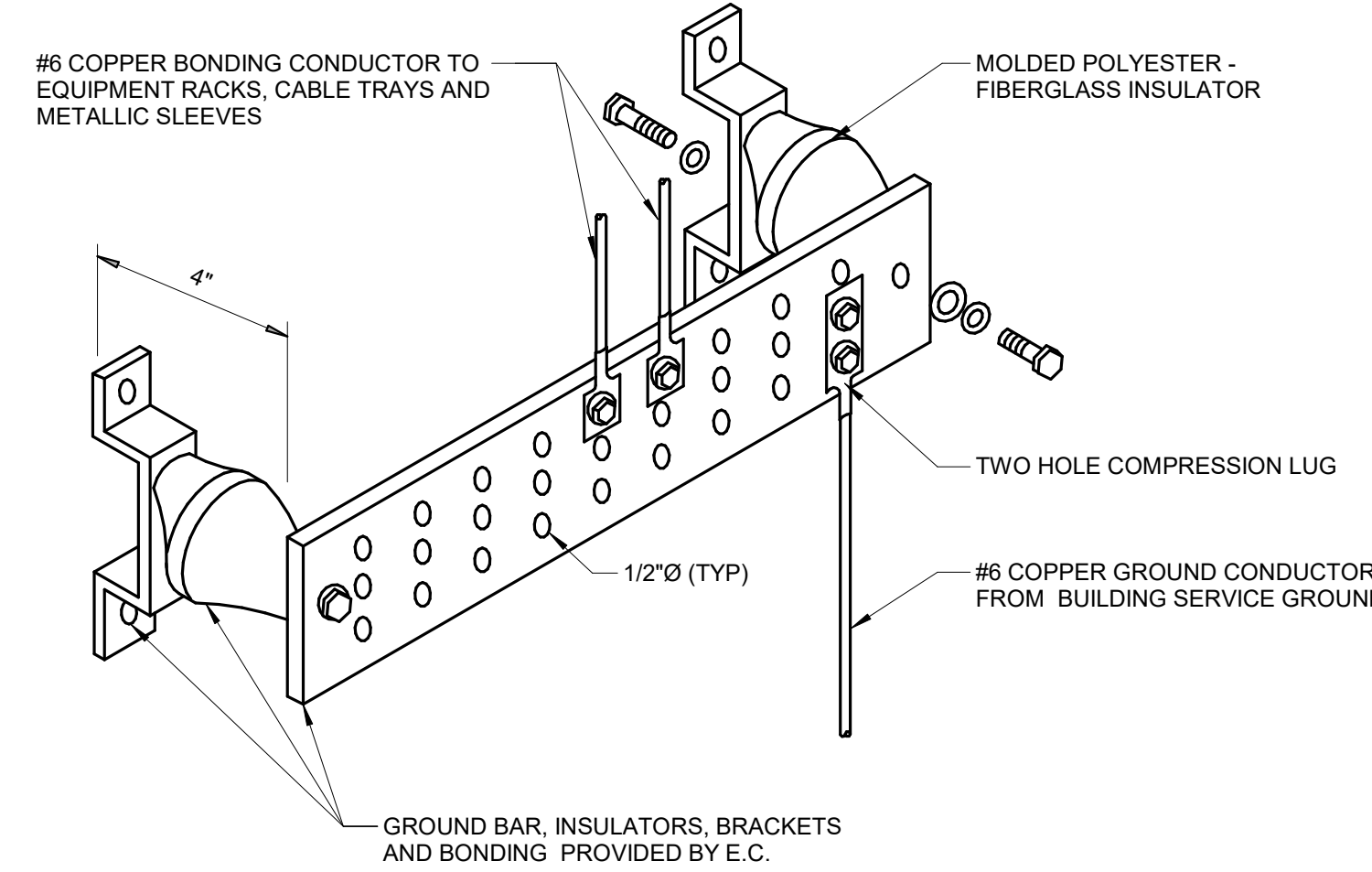
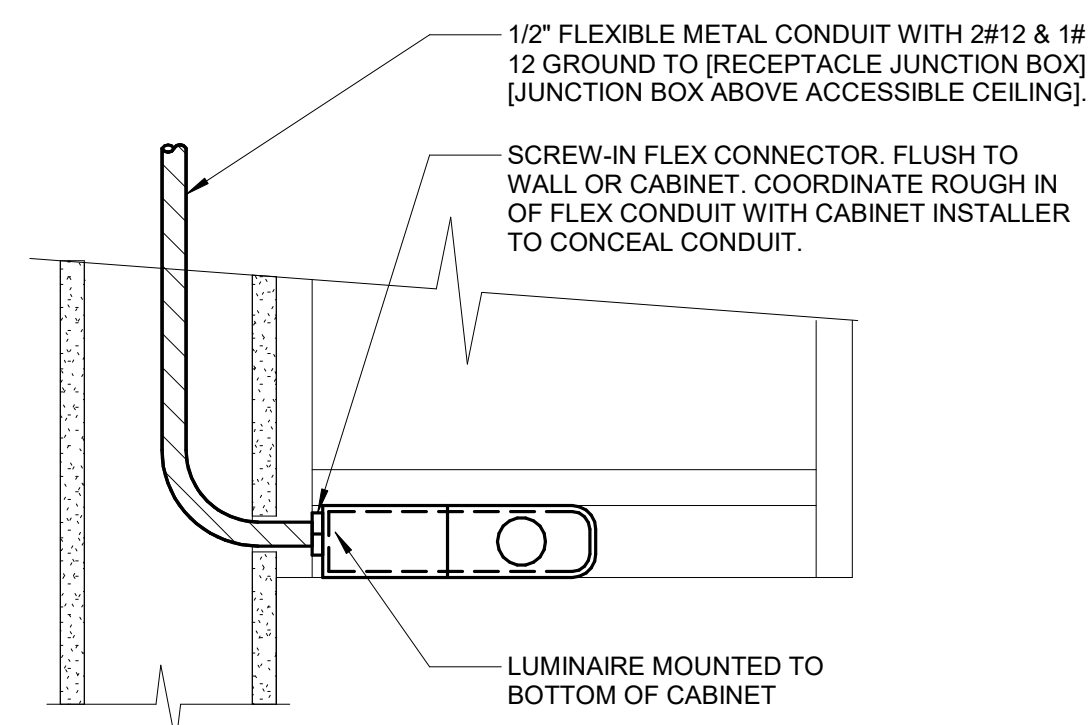
PLASTER RING TO COME WITHIN 1/8" OF FINAL SURFACE  
SEE ARCHITECTURAL PLANS FOR WALL CONSTRUCTION

MOUNTING BRACKET SHALL PROVIDE SUPPORT FROM STUD AND BACK OF WALL OR TWO STUDS.

**NOTES:**

1. THE INTENT OF THE DETAIL IS TO ENSURE DEVICE ROUGH-INS ARE ALIGNED, SOLIDLY MOUNTED AND THE SURFACE OF THE TRIM IS EITHER FLUSH WITH THE WALL SURFACE OR WITHIN 1/8" OF THE WALL SURFACE. JUNCTION BOXES LARGER THAN 4" SQUARE SHALL BE MOUNTED IN A MANNER THAT IS SIMILAR TO THE SYSTEM NOTED ABOVE OR ACHIEVES THE SAME RESULTS.
2. PLASTER RINGS DEPTH SHALL BE 1/8" DEEPER THAN THE GYP BOARD APPLIED TO THE WALL. PLASTER RING SHALL BE 3/4" FOR USE WITH 5/8" GYP BOARD.
3. MOUNTING BRACKET FOR 2 1/2" OR 3 1/2" STUDS SHALL BE CADDY #H23, OR B-LINE BB4-23. MOUNTING BRACKET FOR 4" OR 6" STUDS SHALL BE CADDY #H41C OR B-LINE BB4-# FOR MULTIPLE BOXES BETWEEN STUDS, BRACKET SHALL BE CADDY #H51 OR B-LINE BB6-# OR BBF# FLOOR MOUNT SUPPORT WITH BBFC.
4. WHERE RECEPTACLE AND TECHNOLOGY DEVICES ARE SHOWN SERVING A COMMON COMPUTER OR EQUIPMENT, OR SHOWN IN SIMILAR LOCATIONS ABOVE OR ACHIEVES THE SAME RESULTS. THE DEVICES SHALL BE INSTALLED ON OPPOSITE SIDES OF A COMMON STUD OR IN ADJACENT OPENINGS WITH MOUNTING BRACKETS.

**3 RECESSED LUMINAIRE DETAIL (SAFETY CHAIN)**  
NO SCALE



**NOTES:**

1. THIS GENERAL DETAIL APPLIES TO ALL ITEMS PENETRATING FIRE RATED WALLS OR FLOORS. THE INTENT IS TO MAINTAIN THE FIRE RATING AND TO ALLOW LONGITUDINAL MOVEMENT. REFER TO SPECIFICATION SECTION 07840 FOR SELECTION OF THROUGH PENETRATION FIRE STOPPING.
2. SCHEDULE 5 PIPE SLEEVE EMBEDDED IN WALL OR FLOOR, OR SMOOTH CORE DRILL. EACH CONTRACTOR FURNISHES SLEEVE TO G.C., COORDINATES SLEEVE LOCATIONS AND DEBURRS SLEEVE. G.C. BUILDS SLEEVE INTO WALL OR FLOOR ALLOWING NO GAP AROUND SLEEVE. IF SLEEVE IS NOT PROVIDED WHEN WALL OR FLOOR IS BUILT, CONTRACTOR SHALL INSTALL SLEEVE. SLEEVE SIZE SHALL ALLOW ANNUAL SPACE REQUIRED BY THE SELECTED FIRE STOP SYSTEM.
3. INSTALL BACKING MATERIAL, SUCH AS MINERAL WOOL SAFING, AS REQUIRED FOR FIRE STOP SYSTEM. INSTALL IN ACCORDANCE WITH FIRE STOP SYSTEM APPLICATION LISTING. SECURE TO WALL OR FLOOR TO ALLOW LONGITUDINAL MOVEMENT OF PENETRATING ITEM WITHOUT MOVEMENT OF FIRE BARRIER.
4. WATER-TIGHT WELDED 1"x1" 20 GAUGE MINIMUM GALVANIZED SHEET METAL ANGLE FRAME, BY CONTRACTOR IN EQUIPMENT ROOMS FOR WATER STOP. PLACE A BEAD OF WATERPROOF SEALANT BETWEEN FLOOR AND BOTTOM OF ANGLE FRAME. SECURE TO FLOOR WITH MASONRY ANCHORS IN CORNERS AND ON 12" MAXIMUM CENTERS. MULTIPLE PENETRATING ITEMS MAY BE ENCLOSED IN ONE FRAME.

**4 UNDERCABINET MOUNTING DETAIL**  
NO SCALE

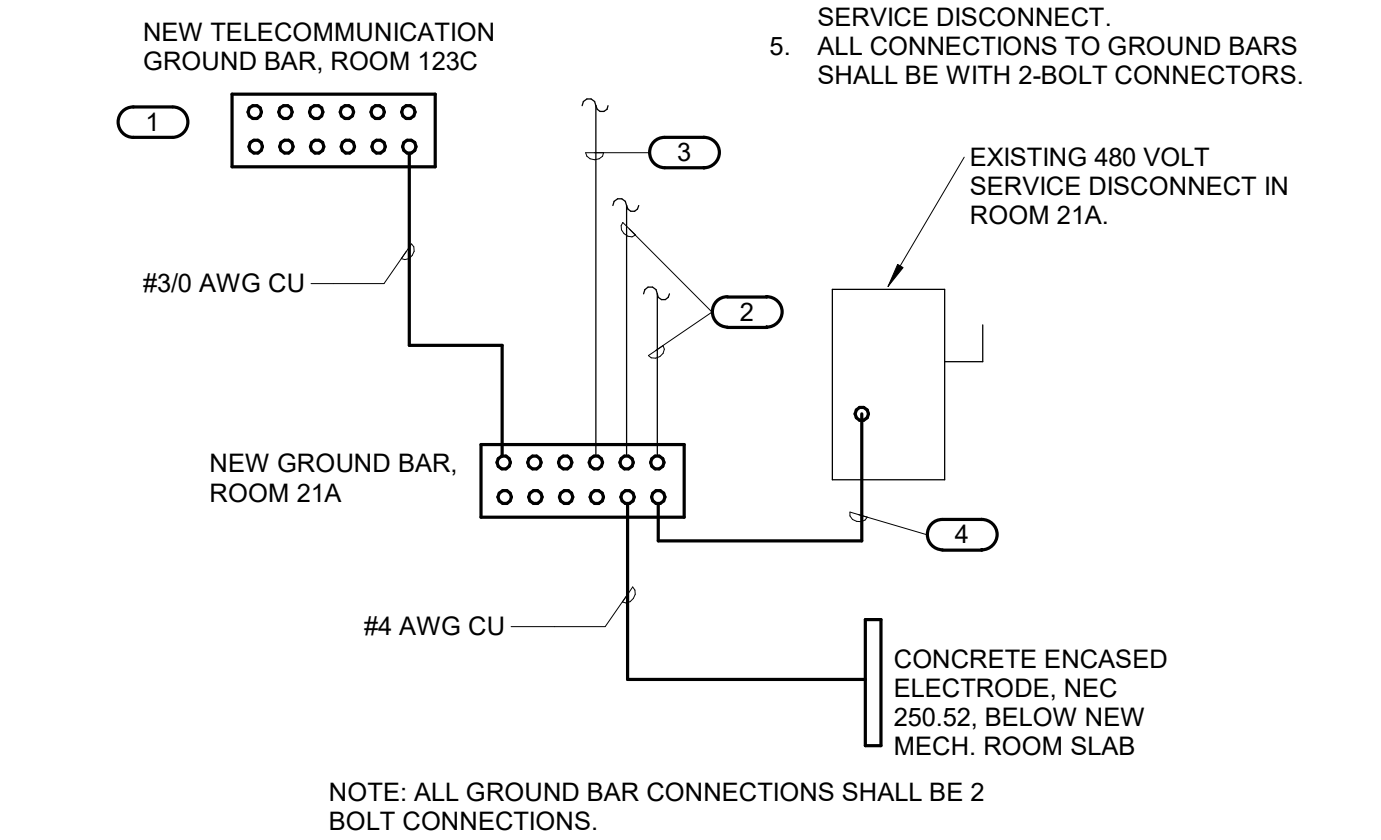
**5 GROUND BAR (GB) DETAIL**  
NO SCALE

**9 FIRE BARRIER PENETRATION**  
NO SCALE

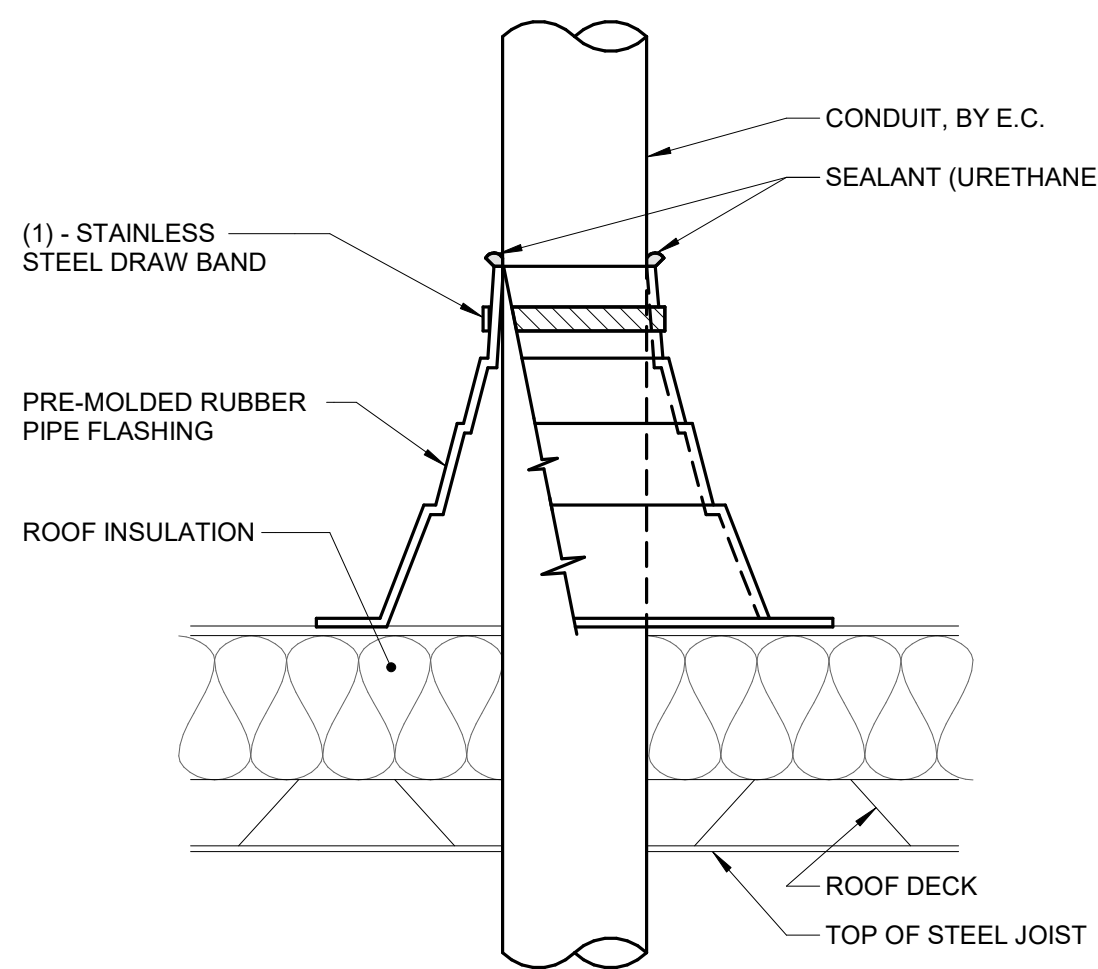
**6 BACKBOX MOUNTING DETAIL**  
NO SCALE

**KEYNOTES:**

1. REFER TO SHEET EP100 AND TECHNOLOGY DRAWINGS FOR ADDITIONAL INFORMATION.
2. RECONNECT EXISTING GREEN GROUND CONDUCTOR TO NEW GROUND BAR. PROVIDE NEW CONNECTORS.
3. RECONNECT EXISTING BARE GROUND CONDUCTOR TO NEW GROUND BAR. PROVIDE NEW CONNECTORS.
4. PROVIDE NEW #40 GROUND CONDUCTOR FROM GROUND BAR TO EXISTING GROUND LUG IN 480 VOLT SERVICE DISCONNECT.
5. ALL CONNECTIONS TO GROUND BARS SHALL BE WITH 2-BOLT CONNECTORS.



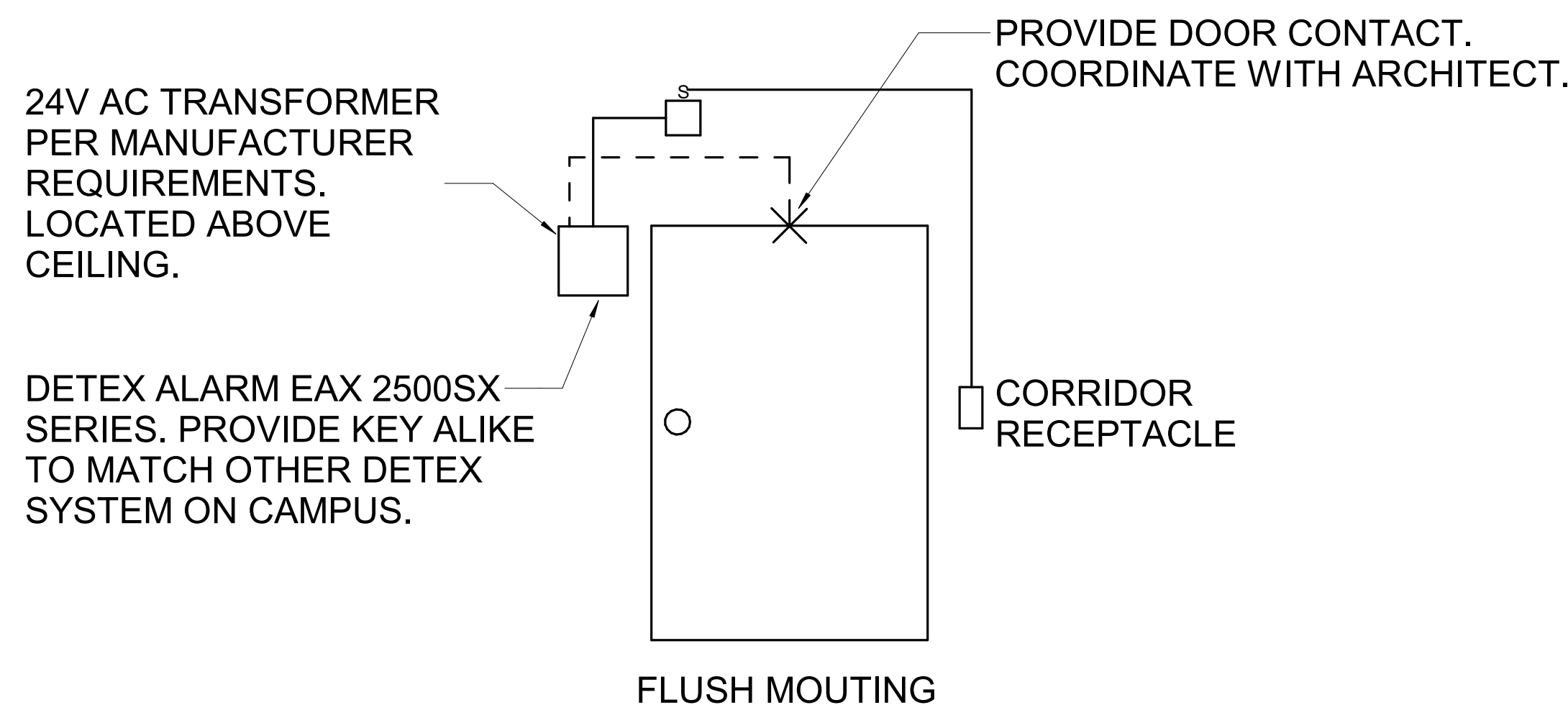
**10 GROUNDING SYSTEM DETAIL FOR EXISTING 480V SERVICE**  
NO SCALE



**NOTES:**

1. CONDUIT SHALL BE SUPPORTED WITHIN 24 INCHES ABOVE AND BELOW ROOF.
2. VERIFY FINAL REQUIREMENTS WITH GENERAL CONTRACTOR (G.C.) AND ROOFING INSTALLER PRIOR TO INSTALLATION.

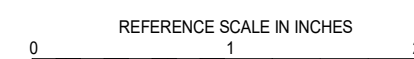
**7 CONDUIT ROOF PENETRATION**  
NO SCALE



**8 GROUND BAR (GB) DETAIL**  
NO SCALE



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I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the state of Minnesota.  
Signature: *Alexander S. Quast*  
Typed or Printed Name: Alexander S. Quast  
Date: 10/28/2022 License Number: 53095

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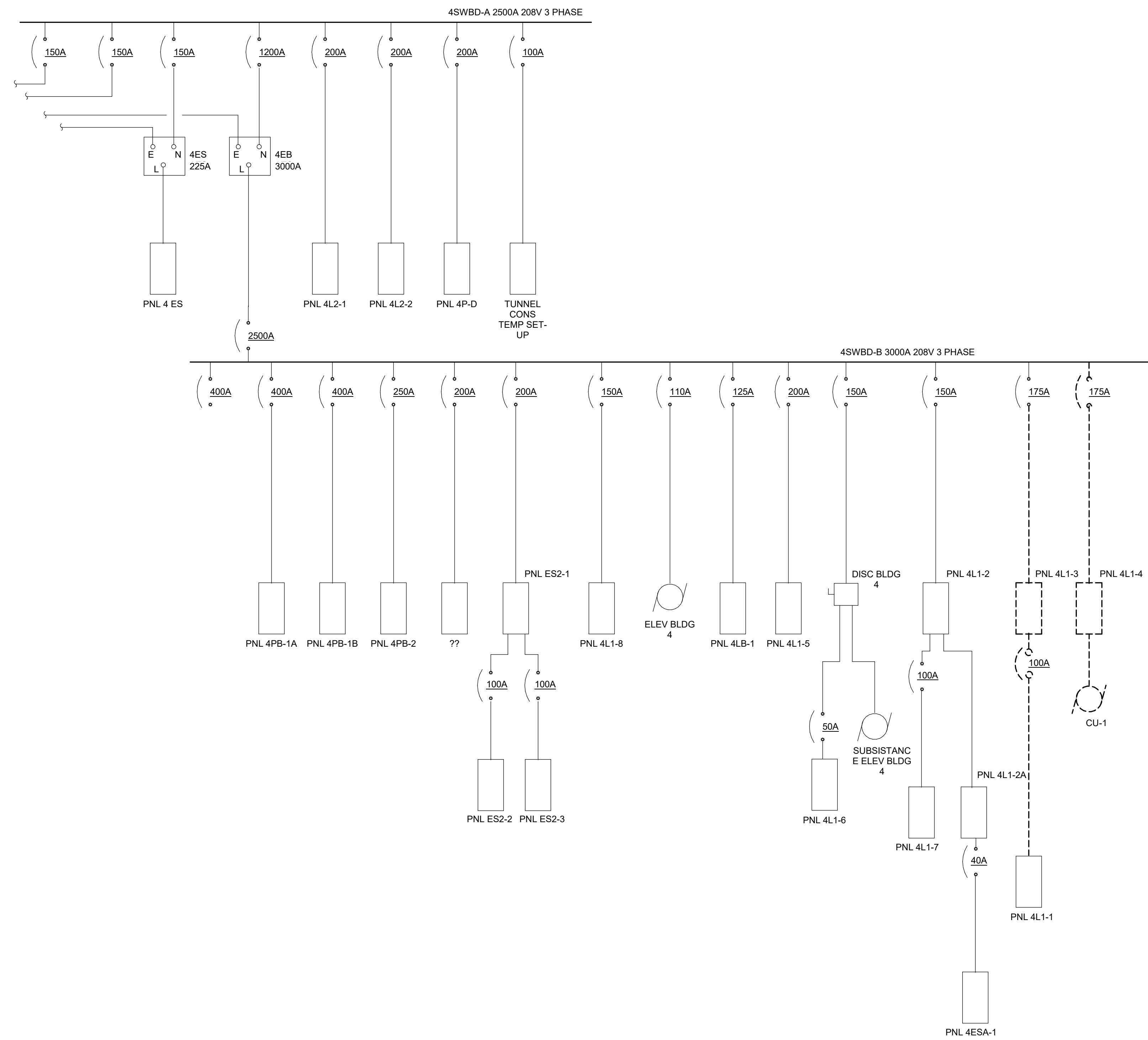
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						ELECTRICAL - DETAILS	CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR	10/28/2022
APPROVED GDR PROJECT MANAGER	DATE	APPROVED PATIENT SAFETY	DATE	APPROVED ASSOCIATE HEALTHCARE SYSTEM DIRECTOR	DATE			
APPROVED PROJECTS SECTION MANAGER	DATE	APPROVED CHIEF OF POLICE	DATE	APPROVED CHIEF OF STAFF	DATE	BUILDING No.	PROCESSED BY	DATE
						4	GJL	656-400
APPROVED DIRECTOR'S	DATE	APPROVED SAFETY MANAGER	DATE	APPROVED HEALTHCARE SYSTEM DIRECTOR	DATE	DRM	DRM	E300
						LOCATION		DWG. OF
						ST. CLOUD VAHCS ST. CLOUD, MN 56303		

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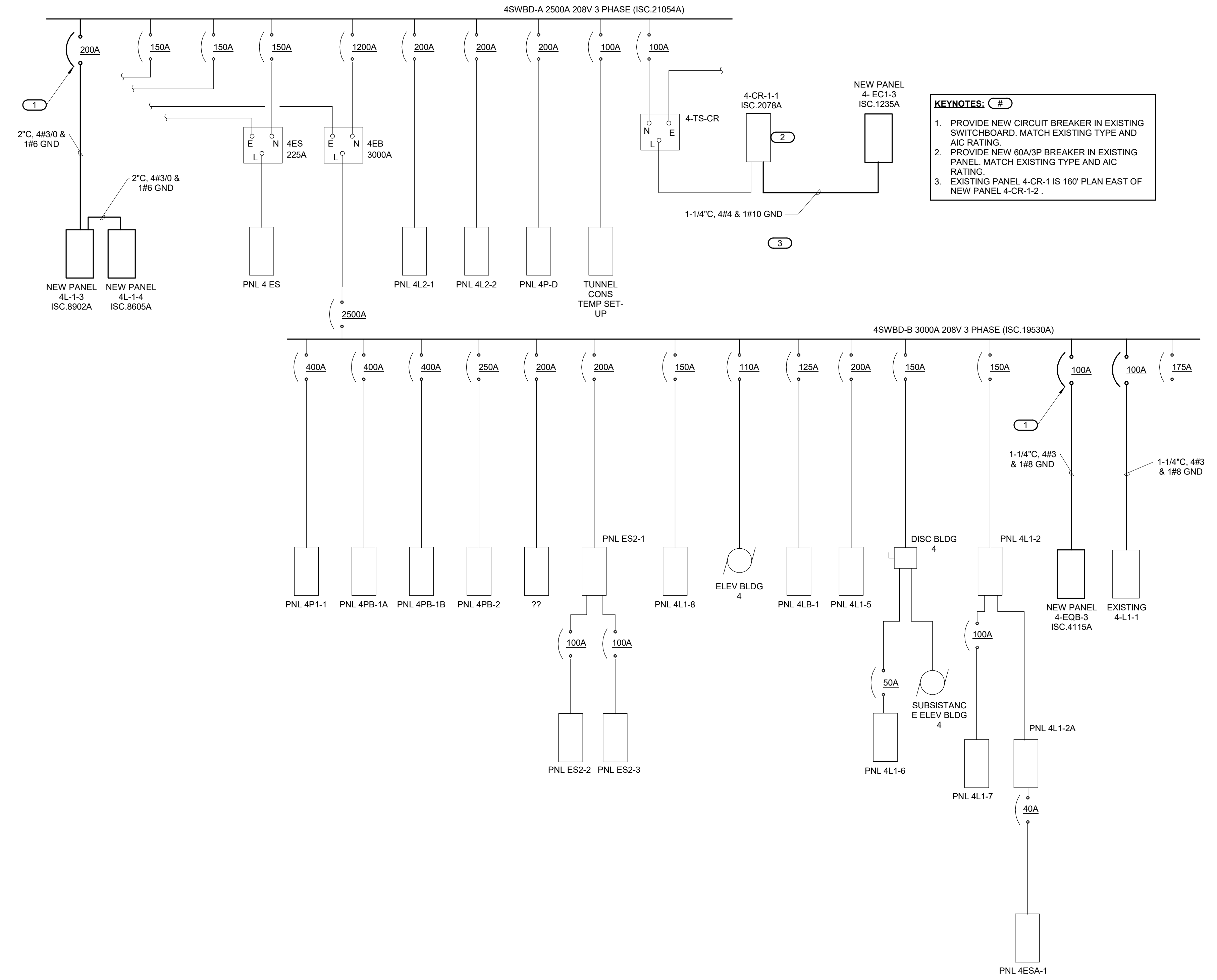
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No REVISION DATE





1 ONE-LINE DIAGRAM - EXISTING & DEMOLITION  
NO SCALE



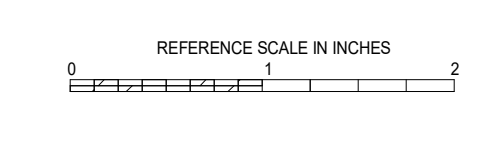
2 ONE-LINE DIAGRAM EXISTING & NEW  
NO SCALE

- KEYNOTES:
1. PROVIDE NEW CIRCUIT BREAKER IN EXISTING SWITCHBOARD, MATCH EXISTING TYPE AND AIC RATING.
  2. PROVIDE NEW 60A/3P BREAKER IN EXISTING PANEL, MATCH EXISTING TYPE AND AIC RATING.
  3. EXISTING PANEL 4-CR-1 IS 160' PLAN EAST OF NEW PANEL 4-CR-1-2.

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	DATE

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Typed or Printed Name: Alexander S. Quast  
Date: 10/28/2022 License Number: 53095

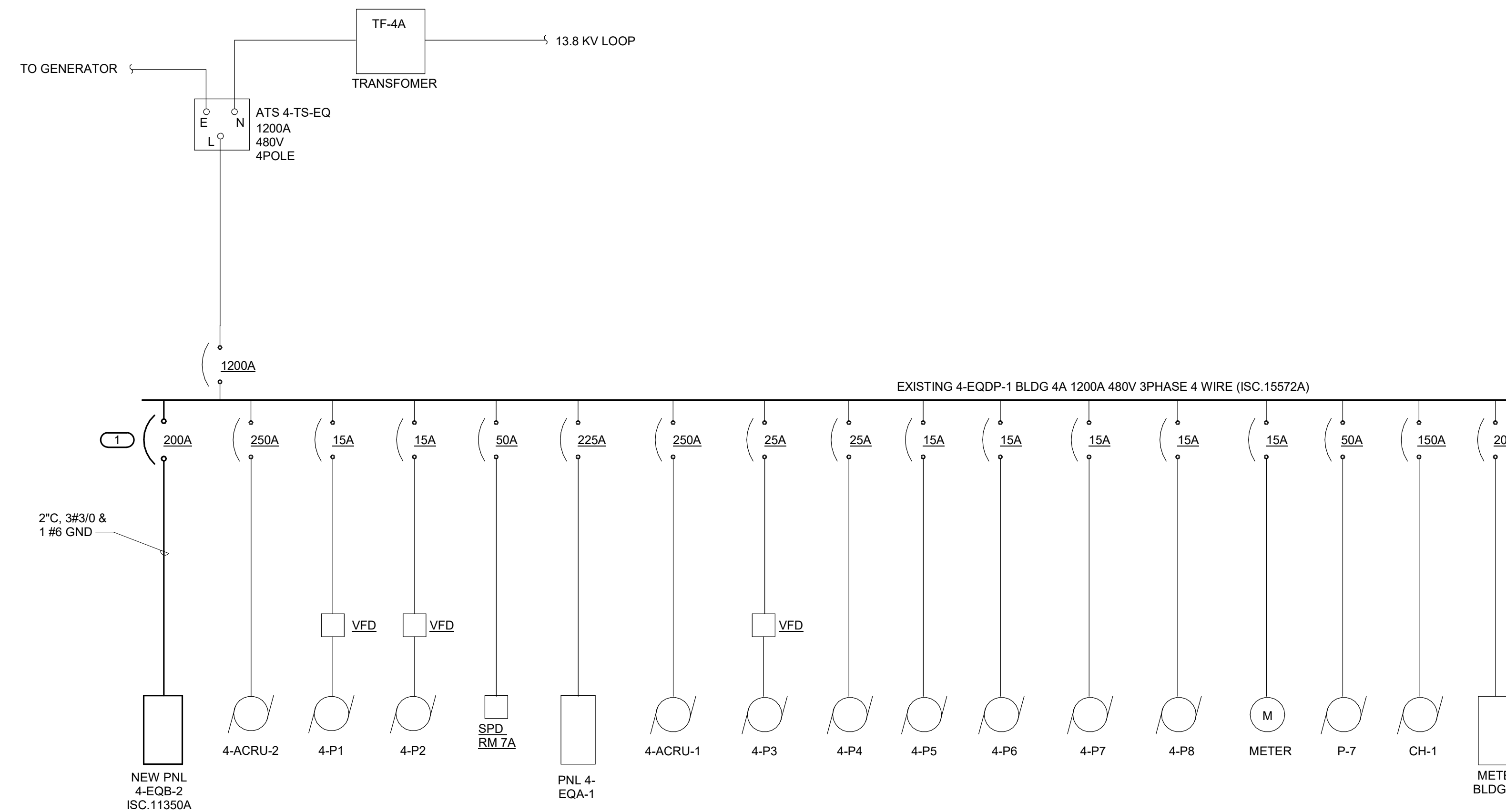
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APPROVED PROJECT COP	DATE	APPROVED SERVICE LINE DIRECTOR	DATE	APPROVED INFECTION CONTROL NURSE	DATE
APPROVED GENR PROJECT MANAGER	DATE	APPROVED PATIENT SAFETY	DATE	APPROVED ASSOCIATE HEALTH CARE SYSTEM DIRECTOR	DATE
APPROVED PROJECTS SECTION MANAGER	DATE	APPROVED CHIEF OF POLICE	DATE	APPROVED CHIEF OF STAFF	DATE
APPROVED DIRECTOR FIN	DATE	APPROVED SAFETY MANAGER	DATE	APPROVED HEALTH CARE SYSTEM DIRECTOR	DATE

DRAWING TITLE ELECTRICAL - ONE-LINE DIAGRAMS	DATE 10/28/2022
PROJECT TITLE CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR	PROJECT NO. 656-400
BUILDING No. 4	SECRETARY GJL
DRAWN DRM	DRAWING NO. E400
LOCATION ST. CLOUD VAHCS ST. CLOUD, MN 56303	DWG. OF

**VA**  
U.S. Department of Veterans Affairs  
Veterans Health Administration  
St. Cloud VA Health Care System

**KEYNOTES:** (E)  
 1. PROVIDE NEW CIRCUIT BREAKER IN EXISTING SWITCHBOARD.

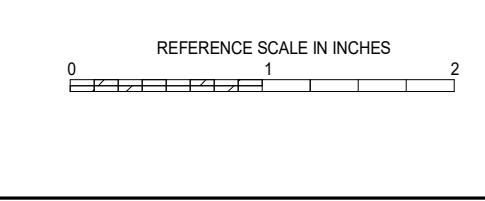


**1 ONE-LINE DIAGRAM EXISTING & NEW 4-EQD-1**  
 NO SCALE

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APPROVED PROJECT COP	DATE	APPROVED SERVICE LINE DIRECTOR	DATE	APPROVED INFECTION CONTROL NURSE	DATE
APPROVED GENP PROJECT MANAGER	DATE	APPROVED PATIENT SAFETY	DATE		
APPROVED PROJECTS SECTION MANAGER	DATE	APPROVED CHIEF OF POLICE	DATE		
APPROVED DIRECTOR FMS	DATE	APPROVED SAFETY MANAGER	DATE		

DRAWING TITLE <b>ELECTRICAL - ONE-LINE DIAGRAMS</b>	DATE <b>10/28/2022</b>
PROJECT TITLE <b>CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR</b>	PROJECT NO. <b>656-400</b>
APPROVED ASSOCIATE HEALTH CARE SYSTEM DIRECTOR	DRAWING NO. <b>E401</b>
DATE	
APPROVED CHIEF OF STAFF	
DATE	
APPROVED HEALTH CARE SYSTEM DIRECTOR	
DATE	
BUILDING No. <b>4</b>	PROJECY <b>GJL</b>
	DRM
LOCATION <b>ST. CLOUD VAHCS ST. CLOUD, MN 56303</b>	DWG. OF

**VA**

**U.S. Department of Veterans Affairs**  
 Veterans Health Administration  
 St. Cloud VA Health Care System

LED LUMINAIRE SCHEDULE (DESC) DOOR: FA - FLAT ALUMINUM, FS - FLAT STEEL, RA - REGRESSED ALUMINUM, RS - REGRESSED STEEL, FINISH: PAF - PAINT AFTER FABRICATION, CSFA - COLOR-FINISH SELECTION BY ARCHITECT (MTG) MOUNTING: CL - CEILING SURFACE, CV - COVE, FR - FLANGED RECESSED, P - PERIMETER, PL - POLE, (TYPE) DRIVER: 0-10V - 0-10V DIMMING, DALI - DIGITAL ADDRESSABLE, DMX - DIGITAL MULTIPLEX, CATALOG NUMBER SHALL NOT BE CONSIDERED COMPLETE AND MATERIAL SHALL NOT BE ORDERED BY MANUFACTURER AND CATALOG NUMBER ONLY...

Table with columns: ITEM, DESCRIPTION, LL, MTG, L, W, H, DIA, ANSI WATT S, PER, TYPE, QTY, ABSOLUTE LUMENS (MIN), VOLTS, TYPE, APPROVED MANUFACTURER. Contains items A1, A2, E1, E2, ST1, ST1E.

NEW PANEL NAME: 4-EQB-2. TYPE: BOLT-ON MOUNTING: SURFACE, FED FROM: 4-ECQB-1, LOCATION: 11.950A. CONNECTED 67.4 kVA. MAIN: 200A MCB, VOLTS: 480/277 Wye, PHASE: 3, WIRE: 4, DEMAND: 67.4 kVA.

NEW PANEL NAME: 4-L1-3. TYPE: BOLT-ON MOUNTING: SURFACE, FED FROM: 4SWBD-A, LOCATION: 8902A. CONNECTED 21.1 kVA. MAIN: 200A MCB, VOLTS: 120/208 Wye, PHASE: 3, WIRE: 4, DEMAND: 17.95 kVA.

NEW PANEL NAME: 4-L1-4. TYPE: BOLT-ON MOUNTING: SURFACE, FED FROM: 4L1-3, LOCATION: 8605A. CONNECTED 1.6 kVA. MAIN: 200A MLO, VOLTS: 120/208 Wye, PHASE: 3, WIRE: 4, DEMAND: 1.6 kVA.

NEW PANEL NAME: 4-EC1-3. TYPE: BOLT-ON MOUNTING: SURFACE, FED FROM: 4-CR-1, LOCATION: 1235A. CONNECTED 8.1 kVA. MAIN: 60A MCB, VOLTS: 120/208 Wye, PHASE: 3, WIRE: 4, DEMAND: 8.1 kVA.

NEW PANEL NAME: 4-EQB-3. TYPE: BOLT-ON MOUNTING: SURFACE, FED FROM: 4SWBD-B, LOCATION: 4115A. CONNECTED 0.9 kVA. MAIN: 100A MCB, VOLTS: 120/208 Wye, PHASE: 3, WIRE: 4, DEMAND: 0.9 kVA.

EXISTING PANEL NAME: 4ES. TYPE: BOLT-ON MOUNTING: EXISTING, FED FROM: 4ES-ATS, LOCATION: 656-400. CONNECTED 1.5 kVA. MAIN: 120/208 Wye, VOLTS: 120/208 Wye, PHASE: 3, WIRE: 4, DEMAND: 1.5 kVA.

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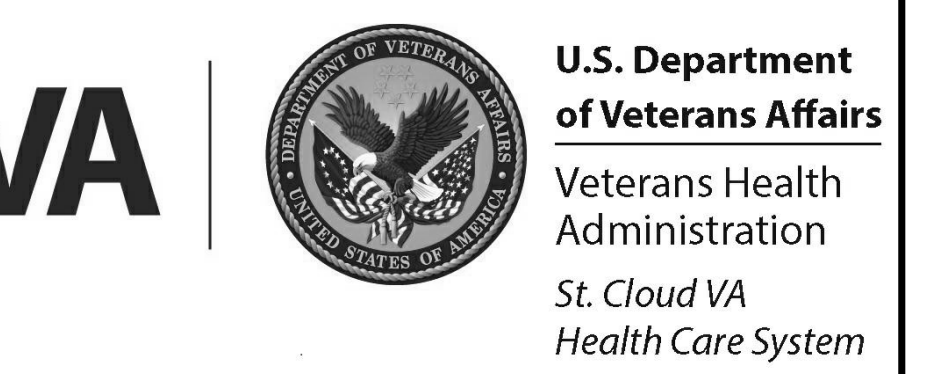
IMEG logo and contact information: 3001 BROADWAY STREET NE, SUITE 601 MINNEAPOLIS, MN 55413. PH: 612.540.5000. www.imegcorp.com

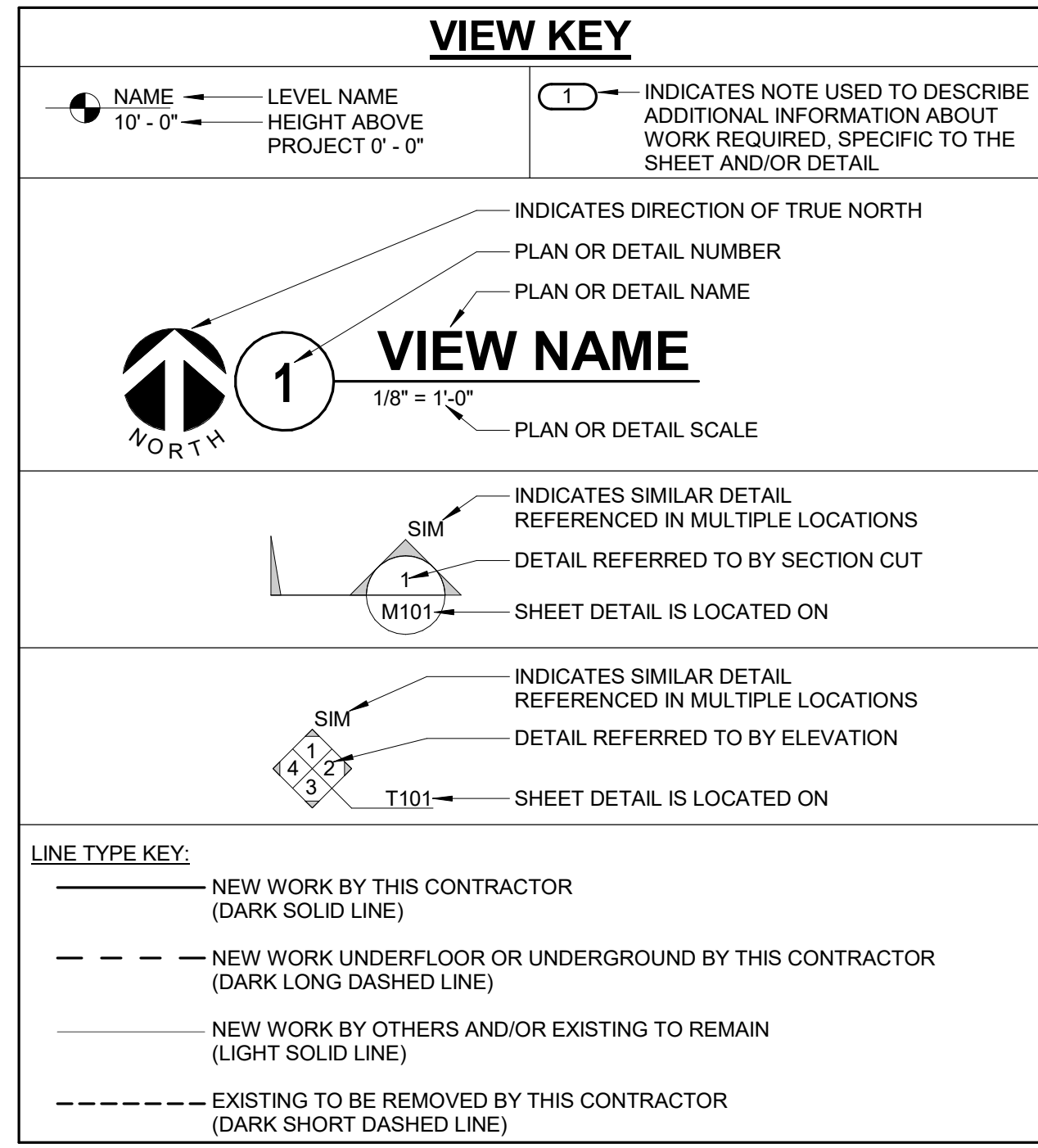
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ARCHITECT/ENGINEER OF RECORD: Bancroft Architects + Engineers, 700 Nichols Blvd, Suite 300, Elk Grove Village, IL 60007, T: 847.952.9342, F: 847.952.9403, www.bancroft-ae.com, BAE PROJECT NO: 19-116

APPROVED PROJECT COR: DATE, APPROVED SERVICE LINE DIRECTOR: DATE, APPROVED INFLECTION CONTROL: DATE, APPROVED GEAR PROJECT MANAGER: DATE, APPROVED PATIENT SAFETY: DATE, APPROVED PROJECTS SECTION MANAGER: DATE, APPROVED CHIEF OF POLICE: DATE, APPROVED DIRECTOR: DATE, APPROVED SAFETY MANAGER: DATE

DRAWING TITLE: ELECTRICAL - SCHEDULES. PROJECT TITLE: CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR. DATE: 10/28/2022. PROFILES: 656-400. DRAWING NO.: E500. LOCATION: ST. CLOUD VAHCS, ST. CLOUD, MN 56303. DWG. OF:





### CONTRACTOR ABBREVIATION KEY

ABBR:	DESCRIPTION:
A.C.	ASBESTOS ABATEMENT CONTRACTOR
A.T.C.	AUTOMATIC TEMPERATURE CONTROL CONTRACTOR
A.V.C.	AUDIOVISUAL CONTRACTOR
C.C.	CIVIL CONTRACTOR
C.M.	CONSTRUCTION MANAGER
E.C.	ELECTRICAL CONTRACTOR
F.P.C.	FIRE PROTECTION CONTRACTOR
F.S.C.	FOOD SERVICE CONTRACTOR
G.C.	GENERAL CONTRACTOR
H.C.	HEATING CONTRACTOR
M.C.	MECHANICAL CONTRACTOR
N.C.C.	NURSE CALL CONTRACTOR
P.C.	PLUMBING CONTRACTOR
S.C.	SECURITY CONTRACTOR
T.C.	TECHNOLOGY CONTRACTOR
T.C.C.	TEMPERATURE CONTROLS CONTRACTOR
V.C.	VENTILATION CONTRACTOR

### TECHNOLOGY SYMBOL LIST

SYMBOL:	EQUIPMENT LIST ABBREVIATION:	DESCRIPTION:	NOTE:
[CSS]	N/A	CONTROLLED SECURITY SCHEME SCHEDULE IDENTIFIER	
[M]	AC-CR1	CARD ACCESS READER, LETTER INDICATES AS FOLLOWS: M = MOUNT C = CEILING D = DESK F = FLUSH H = HIDDEN M = MULLION P = PEDESTAL R = RACK S = SURFACE W = WALL	
[WAP]	SC-IO-C	CEILING INFORMATION OUTLET, DATA COMMUNICATION ONLY, WIRELESS ACCESS POINT	1.
[HV #D]	SC-IO-W	WALL INFORMATION OUTLET, COMBINATION TELEPHONE/DATA COMMUNICATION	1, 2.
[W]	SC-IO-W	WALL INFORMATION OUTLET, WALL TELEPHONE COMMUNICATION	2.
[TV]	SC-IO-W	WALL INFORMATION OUTLET, TELEVISION, MOUNTED AT +84" UNLESS OTHERWISE NOTED	2.
[N]	NC-D-C NC-D-L	NURSE CALL STATION D = CORRIDOR DOME LIGHT, MOUNTED AT FINISHED CEILING L = AUXILIARY INTERSECTIONAL DOME LIGHT, MOUNTED AT FINISHED CEILING	3.
[N]	NC-DTY-W NC-N-W NC-N-W NC-N-W NC-N-W NC-N-W	NURSE CALL STATION D = DUTY STATION, MOUNTED +60" E = EMERGENCY STATION, MOUNTED +36" FOR TOILETS A = STAFF ASSIST STATION, MOUNTED AT +48" C = CODE BLUE STATION, MOUNTED AT +48" V = TELEVISION AUDIO AND CONTROL INTERFACE JACK, MOUNTED AT +84" R = AUXILIARY INPUT JACK, MOUNTED AT +18"	3.
[NCS]	NC-NCS	NURSE CALL - MASTER STATION	
[PA-S]	PA-S-C	FACILITY PAGING SPEAKER (CEILING)	
[SM]	PA-SM-C	SOUND MASKING SPEAKER (CEILING)	4.
[WID X HGT]		CABLE TRAY, CHANNEL TRAY, BASKET TRAY	
[WID X HGT]		LADDER RACK	
[DIAMETER]		CONDUIT	
[>]		CONDUIT DOWN	
[O]		CONDUIT UP OR UP/DOWN	
[E]		CONDUIT SLEEVE	
[ ]		CONTINUATION	

**GENERAL NOTES:**

- ALL SYMBOLS AND ABBREVIATIONS LISTED MAY NOT BE APPLICABLE TO THIS PROJECT. REFER TO THE GENERAL TECHNOLOGY EQUIPMENT SCHEDULE FOR MORE COMPLETE DESCRIPTION AND ITEMS.
- ALL SYMBOLS AND ABBREVIATIONS REFER TO TECHNOLOGY SHEETS ONLY AS DEFINED ON THE SHEET INDEX. REFER TO THE GENERAL TECHNOLOGY NOTES FOR ADDITIONAL INFORMATION.
- ALL SYMBOLS LISTED ABOVE ARE FOR REFERENCE ONLY. REFER TO PLANS AND LINE TYPE KEY FOR NEW, EXISTING TO REMAIN AND TO BE REMOVED ITEMS FOR ADDITIONAL INFORMATION.

**TECHNOLOGY SYMBOL NOTES:**

- "HV #D" INDICATES COMBINATION TELEPHONE/DATA INFORMATION OUTLET FACEPLATE CONFIGURATION. REFER TO INFORMATION OUTLET SCHEDULE ON T500 FOR ADDITIONAL INFORMATION.
- REFER TO INFORMATION OUTLET SCHEDULE ON T500 FOR ADDITIONAL INFORMATION.
- SYMBOL SUBSCRIPT INDICATES DEVICE TYPE. REFER TO GENERAL TECHNOLOGY EQUIPMENT SCHEDULE ON T500 FOR ADDITIONAL INFORMATION.
- # SUBSCRIPT INDICATES SOUND MASKING ZONE. REFER TO GENERAL TECHNOLOGY EQUIPMENT SCHEDULE ON T500 FOR ADDITIONAL INFORMATION.

### TECHNOLOGY ABBREVIATION KEY

ABBR:	DESCRIPTION:
AFF	ABOVE FINISHED FLOOR
BFC	BELOW FINISHED CEILING
C	CONDUIT
J-BOX	JUNCTION BOX
SIM	SIMILAR
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
+#	MOUNTING HEIGHT ABOVE FINISHED FLOOR
EF-#	ENTRANCE FACILITY
MC-#	MAIN CROSS-CONNECT
TR-#	TELECOMMUNICATIONS ROOM

### SUGGESTED MATRIX OF RESPONSIBILITY

ITEM:	SHOWN ON:	FURNISHED BY:	INSTALLED BY:	NOTES:
TECHNOLOGY ROUGH-IN, REFER TO GENERAL TECHNOLOGY EQUIPMENT SCHEDULE AND SPECIFICATIONS FOR DEFINITION	T-SERIES	E.C.	E.C.	3, 4.
INFORMATION OUTLET FACEPLATES, JACKS, AND TERMINATIONS	T-SERIES	T.C.	T.C.	
CONDUIT SLEEVES (WHEN SHOWN ON DRAWINGS)	N/A	T.C.	T.C.	2, 4.
CONDUIT SLEEVES (NOT SHOWN BUT REQUIRED FOR PROPER INSTALLATION OF SYSTEM)	T-SERIES	E.C.	E.C.	1.
TELECOMMUNICATION EQUIPMENT, CABLES, AND TERMINATIONS	T-SERIES	T.C.	T.C.	
NURSE CALL/PATIENT WANDER ROUGH-IN	T-SERIES	E.C.	E.C.	
NURSE CALL/PATIENT WANDER EQUIPMENT, CABLES, AND TERMINATIONS	T-SERIES	T.C.	T.C.	
GROUNDING LUGS ON TECHNOLOGY EQUIPMENT	T-SERIES	T.C.	E.C.	6.
LINE VOLTAGE POWER (+120V OR GREATER)	E-SERIES	E.C.	E.C.	
LINE VOLTAGE POWER (NOT SHOWN BUT REQUIRED FOR PROPER INSTALLATION OF SYSTEM)	N/A	T.C.	E.C.	2, 4.
LINE VOLTAGE POWER FOR DOOR HARDWARE POWER SUPPLIES	ARCH SPEC	E.C.	E.C.	
LOW VOLTAGE CABLES FOR TECHNOLOGY SYSTEMS	T-SERIES	T.C.	T.C.	
CABLE HANGERS AND SUPPORTS OR OTHER CABLE ROUTING METHODS (OTHER THAN CONDUIT)	T-SERIES	T.C.	T.C.	5.
FLOOR BOX (ROUGH-IN)	T & E SERIES	E.C.	E.C.	

**SUGGESTED MATRIX OF RESPONSIBILITY NOTES**

- LOCATIONS OF TELECOMMUNICATIONS ROUGH-INS SHALL BE INDICATED BY THE INFORMATION OUTLET SYMBOLS ON THE DRAWINGS. REFER TO THE TECHNOLOGY SYMBOL LIST FOR ADDITIONAL INFORMATION.
- BASED ON THE INHERENT DIFFERENCES IN PRODUCTS FROM VARIOUS MANUFACTURERS, ALL REQUIRED EQUIPMENT MAY NOT BE SHOWN ON THE DRAWINGS FOR ALL ACCEPTABLE MANUFACTURERS.
- INCLUDES BACKBOXES AND CONDUIT REQUIRED FOR THE TECHNOLOGY SYSTEMS INSTALLATION. THE E.C. SHALL BASE THE BID ON THE BASIS OF DESIGN SHOWN ON THE CONTRACT DOCUMENTS.
- ALL CHANGES TO THE SLEEVES, BACKBOXES, CONDUITS, AND POWER REQUIRED BECAUSE OF THE T.C.'S SELECTION OF AN ALTERNATE ACCEPTABLE MANUFACTURER OR FROM SYSTEM CONFIGURATIONS THAT ARE LEFT TO THE CHOICE OF THE CONTRACTOR SHALL BE INCLUDED IN THE T.C.'S BID. THIS BID SHALL INCLUDE INSTALLATION BY A LICENSED ELECTRICIAN.
- UNLESS TRADE RULES DICTATE OTHERWISE.
- FURNISHED AS PART OF THE EQUIPMENT WHEN POSSIBLE, OR FURNISHED TO THE E.C. FOR INSTALLATION IN THE FIELD.
- INCLUDES ALL CONDUCTORS, GROUND BARS, AND TERMINATIONS FOR THE COMPLETE BONDING SYSTEM REQUIRED BY THE SPECIFICATIONS.
- REFER TO ELECTRICAL DRAWINGS FOR LOCATIONS OF PANELS AND SWITCHBOARDS SHOWN IN THE TECHNOLOGY BONDING RISER DIAGRAM AND TYPICAL TELECOM ROOM BONDING FLOW DIAGRAM.

### TELECOM ROOM REFERENCES

TELECOM ROOM	DETAIL / SHEET REFERENCE	FLOOR PLAN REFERENCE	ARCH ROOM NUMBER
TR (EXISTING)	-	T1.1	123C

### TECHNOLOGY GENERAL NOTES:

- ### INDICATES GENERAL TECHNOLOGY GENERAL SCHEDULE ITEM LABELED AS "EQUIPMENT LIST ABBREVIATION"
- REFER TO GENERAL TECHNOLOGY EQUIPMENT SCHEDULE AND SPECIFICATIONS FOR FULL DESCRIPTIONS AND MANUFACTURERS OF ALL DEVICES.

**TECHNOLOGY MOUNTING SUBSCRIPT KEY:**

A MOUNT AT +48" TO CENTERLINE ABOVE COUNTER OR BACKSPLASH

H MOUNT ORIENTED HORIZONTALLY

L MOUNT IN CASEWORK

M MOUNT IN MODULAR FURNITURE

S MOUNT IN SURFACE RACEWAY

A SLASH IS USED BETWEEN TWO SUBSCRIPTS, E.G., AH.

### TECHNOLOGY INSTALLATION NOTES:

- THE COMPLETE INSTALLATION SHALL BE IN ACCORDANCE WITH THE ADA STANDARDS FOR ACCESSIBLE DESIGN.
- CONCEAL ALL CONDUIT IN WALLS, PARTITIONS, ABOVE CEILING, IN FLOOR SLAB, ETC. UNLESS OTHERWISE INDICATED ON THE PLANS OR IN THE SPECIFICATIONS. CONDUIT IN MECHANICAL ROOMS AND STORAGE ROOMS WITHOUT CEILINGS MAY BE EXPOSED ON BUILDING STRUCTURE.
- BOXES LOCATED ON OPPOSITE SIDES OF NON-RATED WALLS SHALL BE OFFSET A MINIMUM OF 6" HORIZONTALLY. BOXES ON OPPOSITE SIDES OF FIRE RATED WALLS SHALL BE OFFSET A MINIMUM OF 24" HORIZONTALLY. THRU-THE-WALL BOXES SHALL NOT BE ALLOWED WITHOUT PRIOR WRITTEN APPROVAL OF THE ARCHITECT/ENGINEER.
- VERIFY ALL FURNITURE, MODULAR FURNITURE, AND EQUIPMENT LOCATIONS WITH ARCHITECTURAL PLANS, ELEVATIONS, AND REVIEWED SHOP DRAWINGS. PRIOR TO MAKING THE ACTUAL TELECOMMUNICATIONS INSTALLATION, ADJUST OUTLETS OR CONNECTION LOCATIONS TO ACCOMMODATE FURNITURE AND/OR EQUIPMENT.
- TELECOMMUNICATIONS EQUIPMENT SHALL BE MOUNTED TO ALLOW ACCESS TO ELECTRICAL AND MECHANICAL EQUIPMENT. ALL MOUNTING OF TELECOMMUNICATION DEVICES ON EQUIPMENT SUPPLIED BY ANOTHER CONTRACTOR SHALL BE APPROVED IN ADVANCE BY THE OTHER CONTRACTOR.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL OPENINGS REQUIRED IN WALLS. ALL OPENINGS SHALL BE REPAIRED TO MATCH EXISTING BY A QUALIFIED CONTRACTOR AT THE EXPENSE OF THIS CONTRACTOR. ALL CONDUITS THROUGH WALLS SHALL BE GROUDED OR SEALED INTO OPENINGS.
- ALL MATERIALS USED TO SEAL PENETRATIONS OF FIRE RATED WALLS AND FLOORS SHALL BE TESTED AND CERTIFIED AS A SYSTEM PER ASTM E814 STANDARDS FOR FIRE TESTS OF THROUGH-PENETRATION FIRESTOPS. REFER TO DIVISION 7 FOR ADDITIONAL INFORMATION AND REQUIREMENTS SPECIFIC TO FIRESTOPPING.

### TECHNOLOGY SEQUENCING NOTES

- THE EXISTING SYSTEMS TO REMAIN OPERATIONAL DURING THE INSTALLATION OF THE NEW SYSTEMS. THE SYSTEM SHALL NOT BE DISRUPTED UNLESS COORDINATED IN ADVANCE WITH THE COR AND ENGINEER AND AT THEIR DISCRETION ON DATE AND TIME.
- REFER TO THE DRAWINGS FOR THE LOCATIONS OF THE NEW HEADEND EQUIPMENT AND THE EXISTING EQUIPMENT LOCATIONS.
- REFER TO CONCURRENT EHRM PROJECT DOCUMENTATION FOR ADDITIONAL INFORMATION ABOUT NEW TR 123B AND NEW PATHWAYS THROUGHOUT THE RENOVATED AREA.

### ENGINEERING DISCIPLINE REFERENCE NOTES

**GENERAL NOTES FOR CONTRACTORS:** SEE ALL PROJECT GENERAL NOTES AND OTHER REQUIREMENTS INCLUDING THE LIFE SAFETY AND INFECTION CONTROL WORK LOCATED WITHIN THE GENERAL DRAWINGS SECTION. COMPLY WITH ALL REQUIREMENTS AS THEY ARE A DIRECT PART OF THIS SECTION AS IF THEY WERE DIRECTLY INCLUDED AND PROVIDED HEREIN.

**EQUIVALENCY SUBSTITUTIONS:** THE "BASIS OF DESIGN (BOD) COMPLIANCE PROTOCOLS" ARE TO BE FOLLOWED FOR ALL MATERIALS, EQUIPMENT, ASSEMBLIES AND SYSTEMS SPECIFIED AND DETAILED THROUGHOUT ALL DRAWINGS AND SPECIFICATION SECTIONS. WHETHER THE BOD DESIGNATE IS SPECIFICALLY REFERENCED THEREIN OR NOT. SEE THE GENERAL DRAWINGS SECTION FOR THE SPECIFIC BOD COMPLIANCE REQUIREMENTS AND PROTOCOLS TO BE FOLLOWED.

### TECHNOLOGY SHEET INDEX

T000	TECHNOLOGY - COVERSHEET
T0101	TECHNOLOGY - DEMOLITION PLAN - FIRST FLOOR
T100	TECHNOLOGY - PLAN - BASEMENT
T101	TECHNOLOGY - PLAN - FIRST FLOOR
T200	TECHNOLOGY - ENLARGED PLANS
T300	TECHNOLOGY - DETAILS
T400	TECHNOLOGY - RISER DIAGRAMS
T500	TECHNOLOGY - SCHEDULES
GRAND TOTAL:	8

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STREET NE, SUITE 601  
MINNEAPOLIS, MN 55413

PH: 612.540.5000  
www.imegcorp.com

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No REVISION DATE

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Signature: *Alexander S. Quast*

Typed or Printed Name: Alexander S. Quast  
Date: 10/28/2022 License Number: 53095

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www.bancroft-ae.com  
BAE PROJECT NO. 19-116

APPROVED PROJECT COR	DATE	APPROVED SERVICE LINE DIRECTOR	DATE	APPROVED INFECTION CONTROL MANAGER	DATE

DRAWING TITLE	DATE	PROJECT TITLE	DATE	DWG. NO.
TECHNOLOGY - COVERSHEET	10/28/2022	CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR	10/28/2022	656-400
APPROVED ASSOCIATE HEALTHCARE SYSTEM DIRECTOR				
APPROVED CHIEF OF STAFF				
APPROVED HEALTHCARE SYSTEM DIRECTOR				

**U.S. Department of Veterans Affairs**  
Veterans Health Administration  
St. Cloud VA Health Care System



**GENERAL NOTES:**

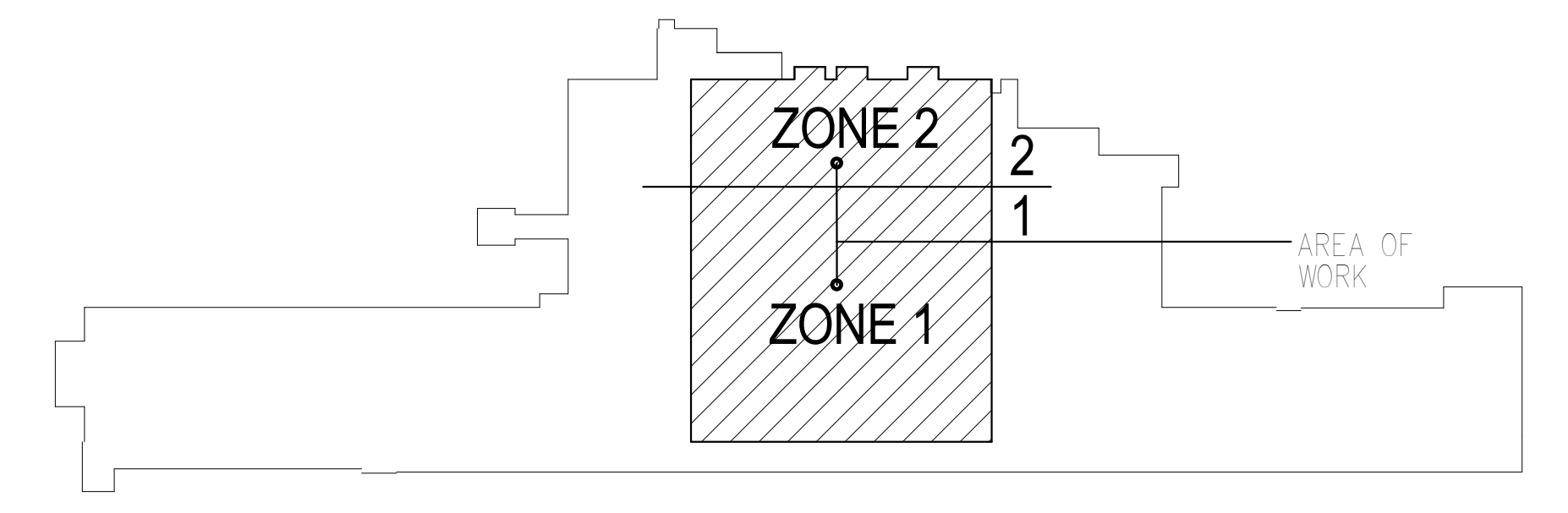
1. DEMO STRUCTURED CABLING BACK TO TR 123C EXISTING EQUIPMENT RACK.

**KEYNOTES:** ( # )

1. RETURN ACCESS POINTS AND OTHER CONNECTED ELECTRONIC EQUIPMENT BACK TO VA CORE/ENGINEER.



**1 TECHNOLOGY - DEMOLITION PLAN - FIRST FLOOR**  
 1/8" = 1'-0"

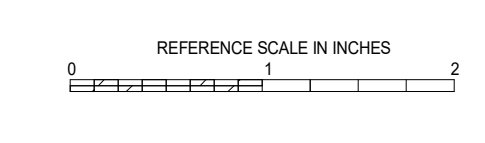


**KEY PLAN BUILDING 4**  
 NTS

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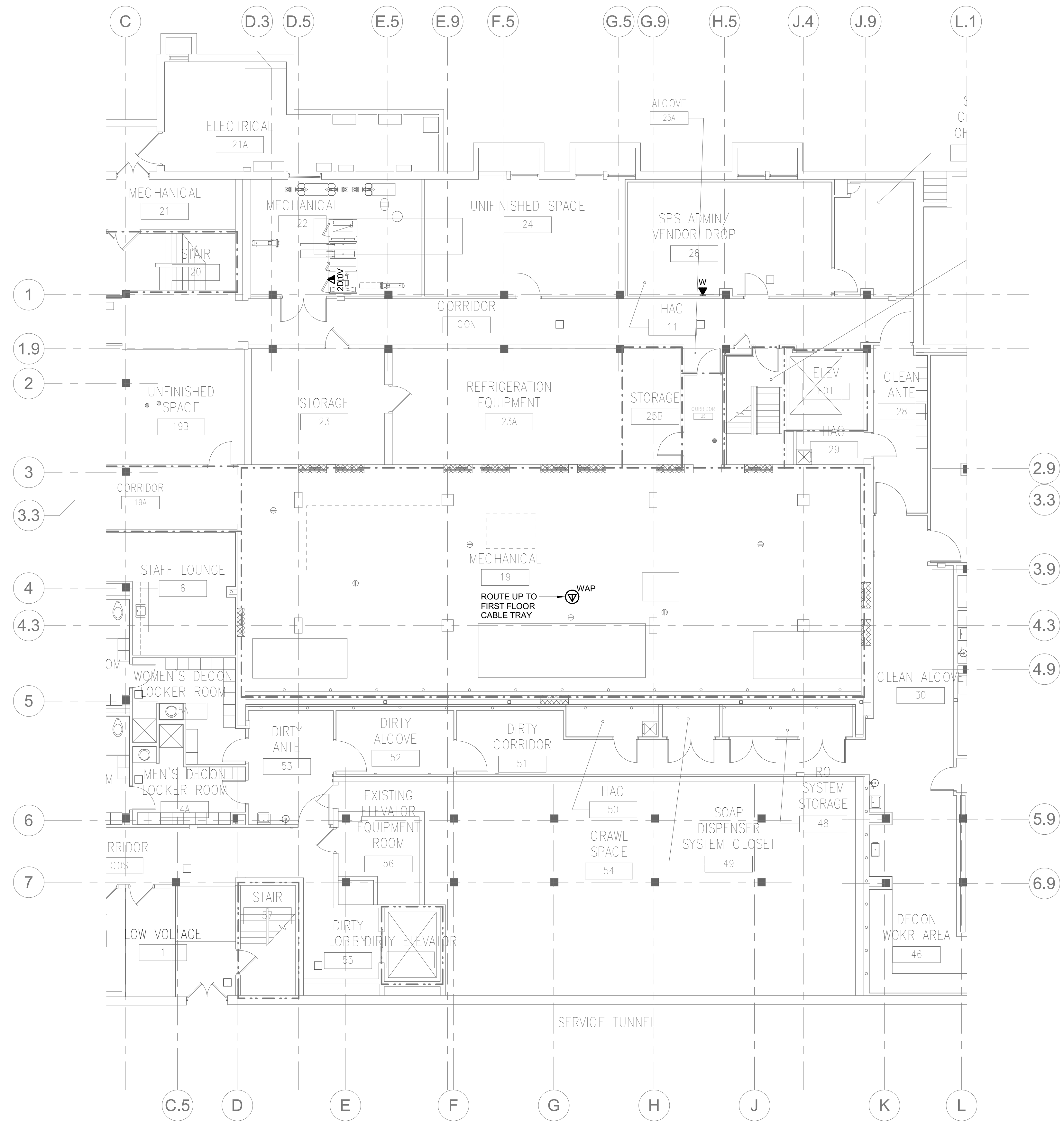
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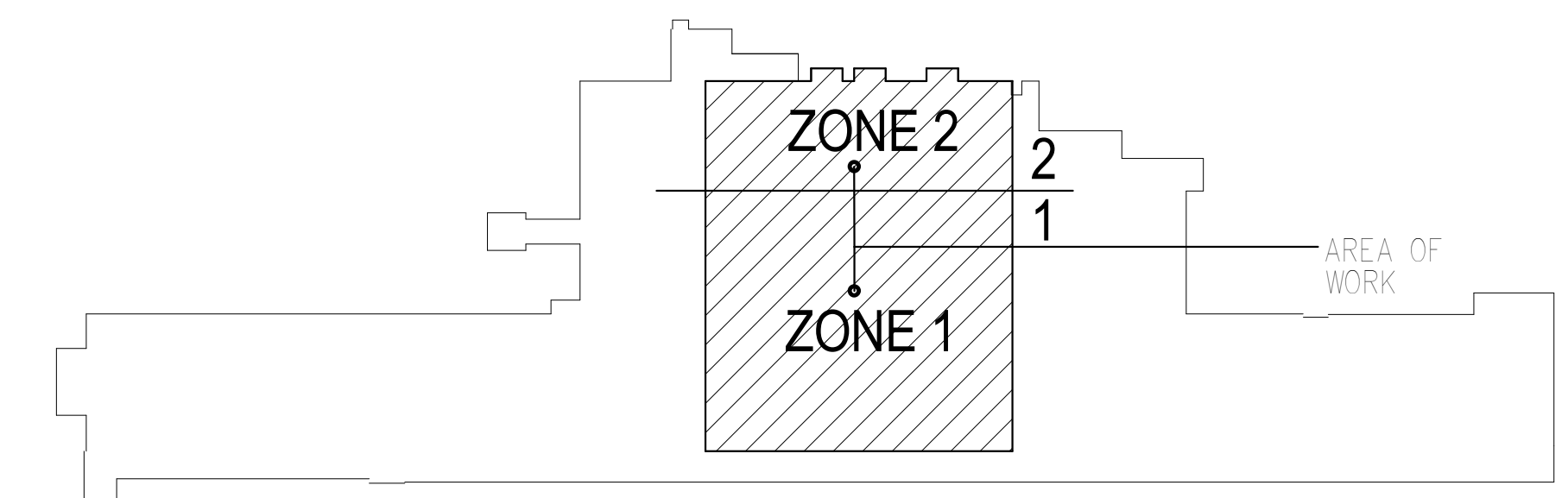
APPROVED ASSOCIATE HEALTHCARE SYSTEM DIRECTOR	DATE	APPROVED CHIEF OF STAFF	DATE	APPROVED HEALTHCARE SYSTEM DIRECTOR	DATE

DRAWING TITLE <b>TECHNOLOGY - DEMOLITION PLAN - FIRST FLOOR</b>	PROJECT TITLE <b>CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR</b>	DATE <b>10/28/2022</b>
PROJECT NO. <b>656-400</b>	DRAWING NO. <b>TD101</b>	BLDG NO. <b>4</b>
DESIGNER <b>DLL</b>	DRAWN <b>DMD</b>	LOCATION <b>ST. CLOUD VAHCS ST. CLOUD, MN 56303</b>
CHECKED <b>DMD</b>	DATE <b>10/28/2022</b>	DWS. OF <b> </b>

**VA**  
 U.S. Department of Veterans Affairs  
 Veterans Health Administration  
 St. Cloud VA Health Care System



**1 TECHNOLOGY - PLAN - BASEMENT**  
1/8" = 1'-0"

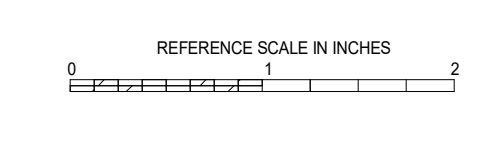


**KEY PLAN BUILDING 4**  
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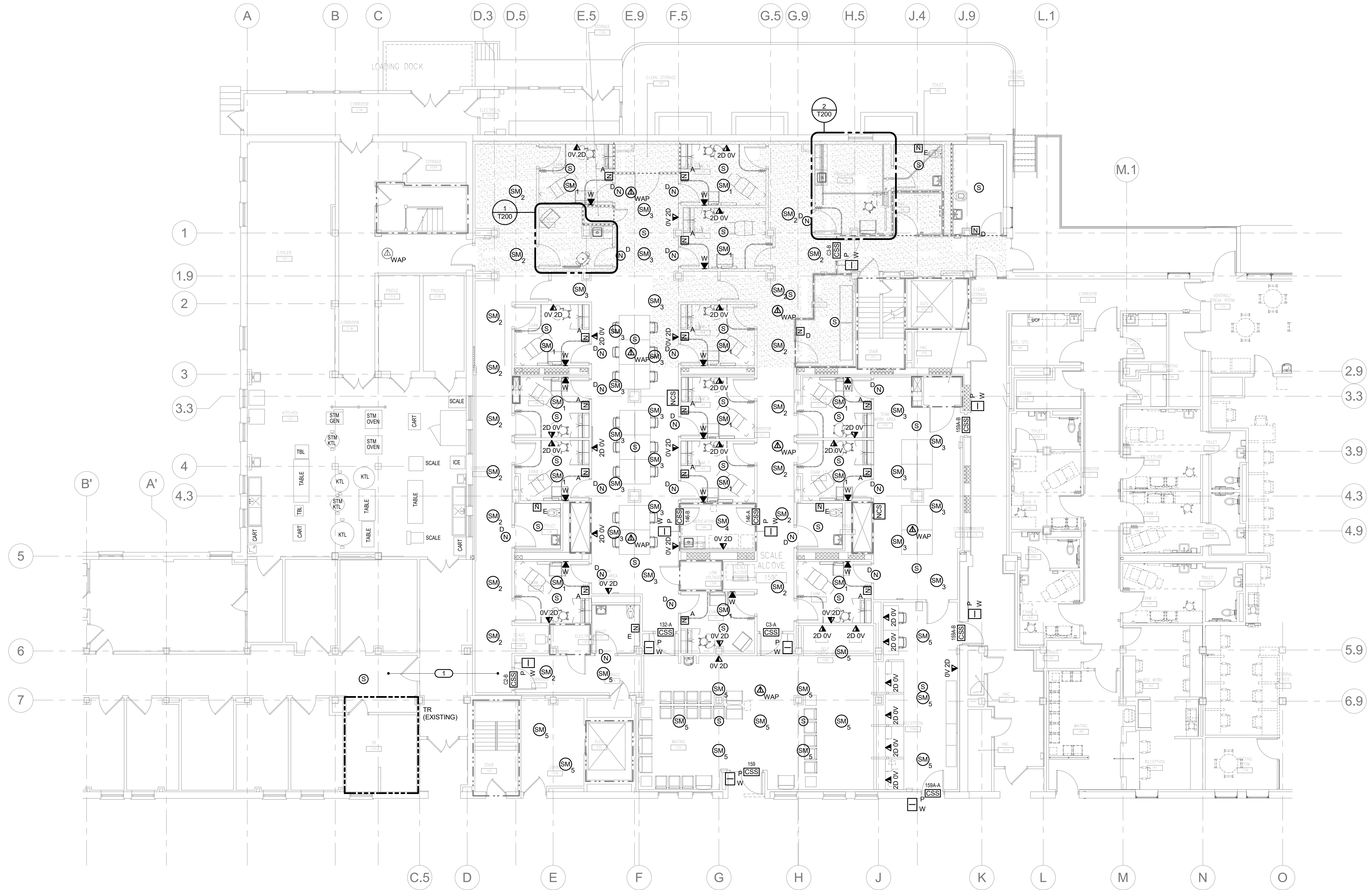
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BAE PROJECT NO. 15-116

APPROVED PROJECT COP	DATE	APPROVED SERVICE LINE DIRECTOR	DATE	APPROVED INFECTION CONTROL NURSE	DATE
APPROVED GEN. PROJECT MANAGER	DATE	APPROVED PATIENT SAFETY	DATE	APPROVED CHIEF OF POLICE	DATE
APPROVED PROJECTS SECTION MANAGER	DATE	APPROVED CHIEF OF POLICE	DATE	APPROVED SAFETY MANAGER	DATE
APPROVED DIRECTOR FIN	DATE	APPROVED SAFETY MANAGER	DATE		

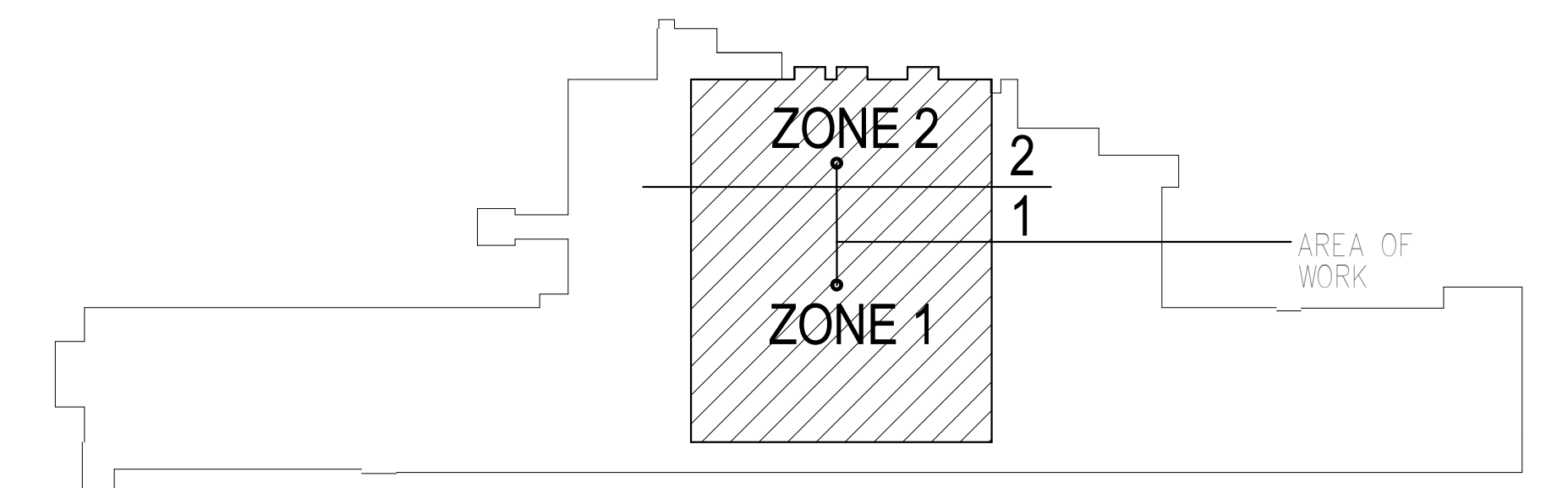
DRAWING TITLE <b>TECHNOLOGY - PLAN - BASEMENT</b>	DATE 10/28/2022
PROJECT TITLE <b>CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR</b>	PROJECT NO. 656-400
BUILDING NO. 4	DRAWING NO. T100
LOCATION ST. CLOUD VAHCS ST. CLOUD, MN 56303	DWG. OF

**VA**  
U.S. Department of Veterans Affairs  
Veterans Health Administration  
St. Cloud VA Health Care System

- GENERAL NOTES:**
- ALL CABLING ROUTES TO EXISTING TR 123C FITTED DURING SEPARATE EHRM PROJECT.
  - REFER TO ARCHITECTURAL FOR EXACT DEVICE PLACEMENTS AND ELEVATIONS.
- KEYNOTES: ( # )**
- REFER TO SEPARATE EHRM PROJECT DOCUMENTATION FOR PROPOSED CABLE TRAY ROUTES THROUGHOUT RENOVATED AREA.



**1 TECHNOLOGY - PLAN - FIRST FLOOR**  
1/8" = 1'-0"

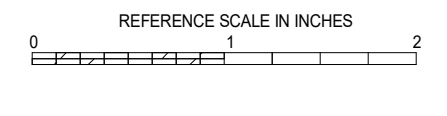


**KEY PLAN BUILDING 4**  
NTS

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Typed or Printed Name: Alexander S. Quast  
Date: 10/28/2022 License Number: 53095

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BAE PROJECT NO. 18-116

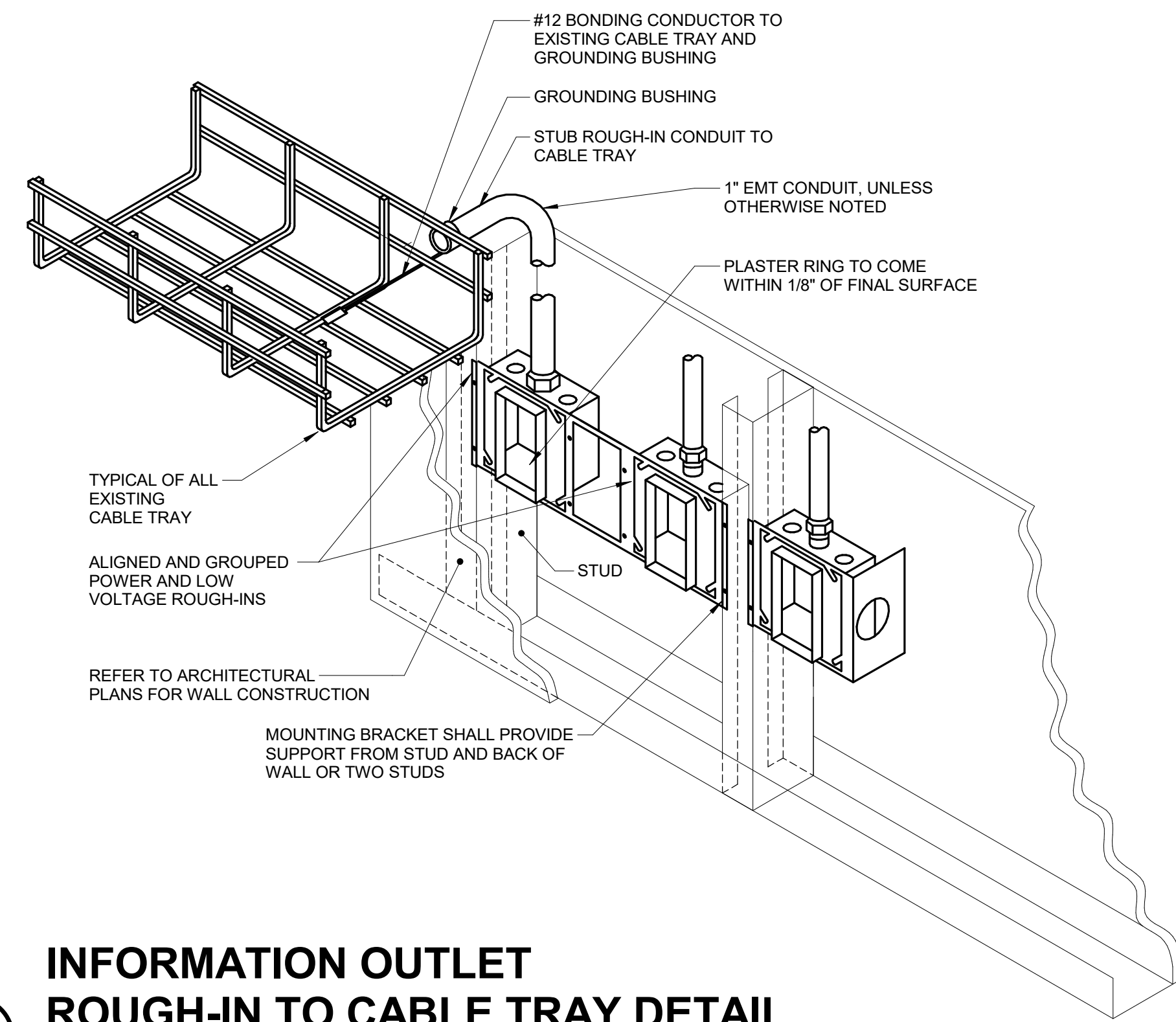
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DRAWING TITLE	PROJECT TITLE	DATE
TECHNOLOGY - PLAN - FIRST FLOOR	CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR	10/28/2022

**VA**  
U.S. Department of Veterans Affairs  
Veterans Health Administration  
St. Cloud VA Health Care System

BUILDING No: 4  
DESIGNER: DLL  
DRAWN: DMD  
DATE: 10/28/2022  
PROJECT NO: 656-400  
DRAWING NO: T101  
LOCATION: ST. CLOUD VAHCS  
ST. CLOUD, MN 56303



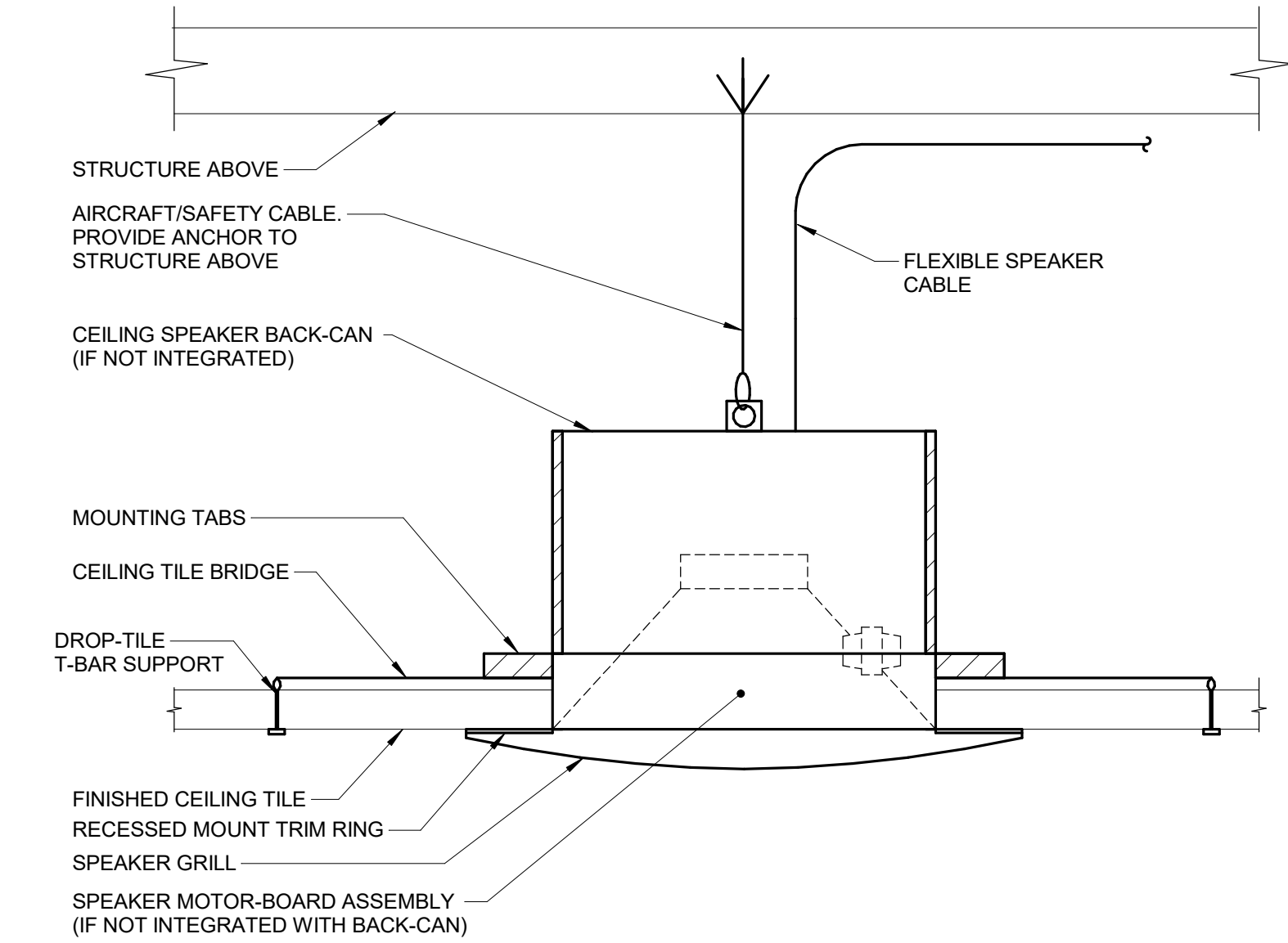


**1 INFORMATION OUTLET ROUGH-IN TO CABLE TRAY DETAIL**

NO SCALE

**NOTES:**

1. THE INTENT OF THE DETAIL IS TO ALIGN AND GROUP DEVICE ROUGH-INS FOR POWER AND LOW VOLTAGE TECHNOLOGY SYSTEMS SOLIDLY MOUNTED AND THE SURFACE OF THE TRIM IS EITHER FLUSH WITH THE WALL SURFACE OR WITHIN 1/8" OF THE WALL SURFACE. JUNCTION BOXES LARGER THAN 4" SQUARE SHALL BE MOUNTED IN A MANNER THAT IS SIMILAR TO THE SYSTEM NOTED ABOVE OR ACHIEVES THE SAME RESULTS.
2. PLASTER RINGS DEPTH SHALL BE 1/8" DEEPER THAN THE GYP BOARD APPLIED TO THE WALL. PLASTER RING SHALL BE 3/4" FOR USE WITH 5/8" GYP BOARD.
3. METAL STUD-TO-STUD MOUNTING BRACKETS FOR MULTIPLE BOXES BETWEEN STUD. ERICO CADDY RBS# SERIES, EATON B-LINE BB SERIES, OR EQUAL.
4. MOUNTING SUPPORT BRACKETS SIZES FOR SINGLE BOXES IN A STUD CAVITY SHALL MATCH THE STUD DEPTH. ERICO CADDY H# SERIES, EATON B-LINE BB# SERIES, OR EQUAL.
5. WHERE RECEPTACLE AND TECHNOLOGY DEVICES ARE SHOWN SERVING A COMMON COMPUTER OR EQUIPMENT, OR SHOWN IN SIMILAR LOCATIONS ON THE DRAWINGS THE DEVICES SHALL BE INSTALLED IN THE SAME STUD CAVITY WITH MOUNTING BRACKETS OR ALIGNED ON OPPOSITE SIDES OF A COMMON STUD WITH SEPARATE SUPPORT.
6. TERMINATE CONDUIT STUB ORIENTED HORIZONTALLY AT THE HEIGHT OF THE ASSOCIATED CABLE TRAY. CONDUIT RUN SHALL NOT CONTAIN MORE THAN 180 DEGREES OF BEND BETWEEN ACCESSIBLE JUNCTION BOXES OR BETWEEN JUNCTION BOX AND END OF CONDUIT.
7. WHERE CONDUIT STUB IS LOCATED IN A ROOM WITH AN ACCESSIBLE CEILING AND IS NOT REQUIRED TO RUN TO CABLE ROUTE LOCATED OUTSIDE THE ROOM, STUB MUST TERMINATE ABOVE THE ACCESSIBLE CEILING WITH A 90-DEGREE BEND AT THE TOP ORIENTED IN TO THE ROOM AT THE HEIGHT OF THE ASSOCIATED CABLE TRAY IN THE ROOM.
8. ALL STUBS MUST BE FITTED WITH A NYLON BUSHING ON EACH END OF THE CONDUIT.
9. FURNISH AND INSTALL FIRESTOP MATERIALS FOR TECHNOLOGY ROUGH-INS PER PROJECT REQUIREMENTS. REFER TO SPECIFICATIONS FOR FIRESTOP REQUIREMENTS.

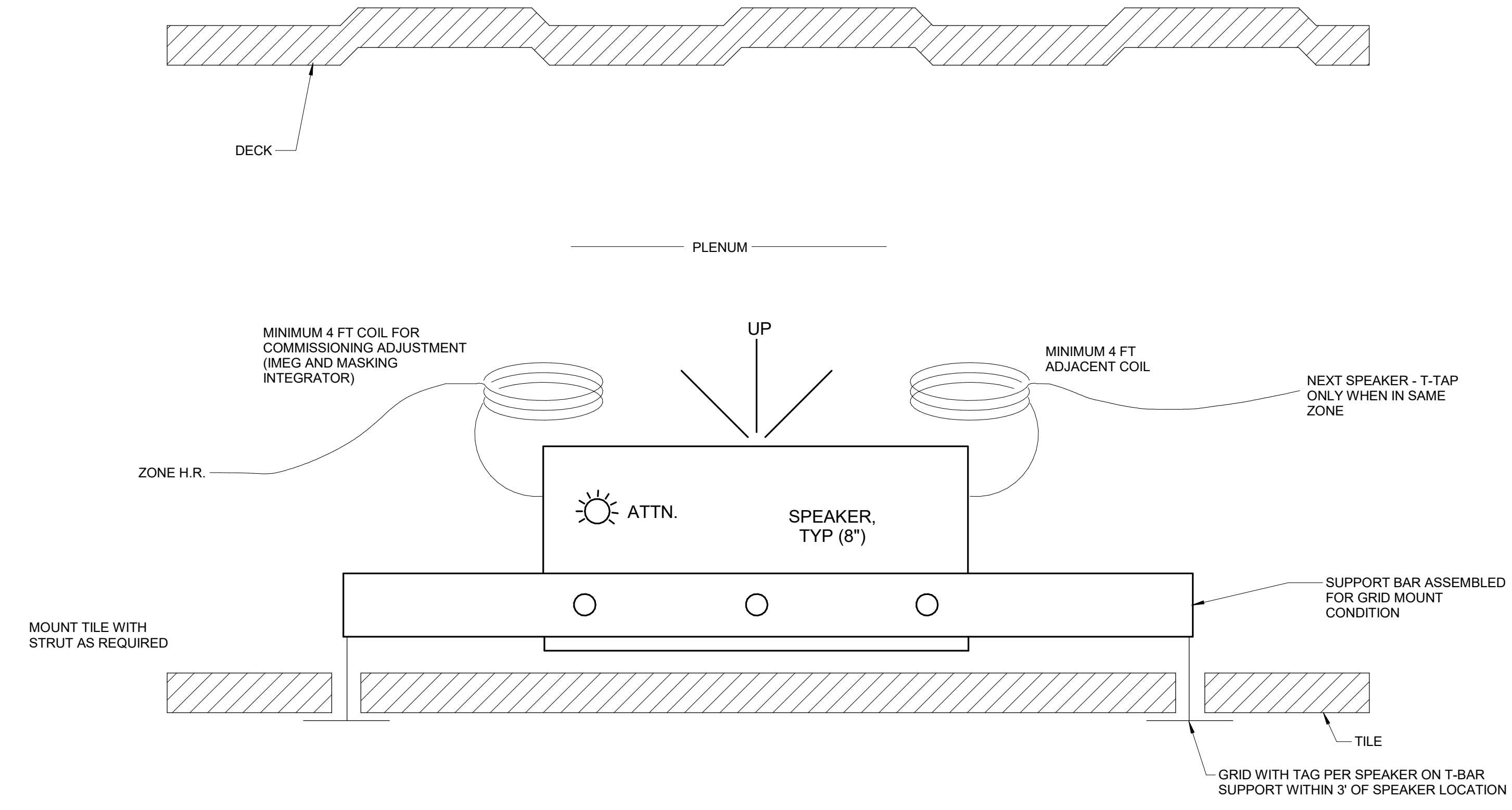


**2 CEILING PAGING SPEAKER MOUNTING DETAIL**

NO SCALE

**NOTES:**

1. WHERE SUPPORTS ATTACH TO METAL ROOF DECKING, EXCLUDING CONCRETE ON METAL DECKING, DO NOT EXCEED 25 LBS. PER HANGAR AND A MINIMUM SPACING OF 2'-0" ON CENTER. THIS 25 LB. LOAD AND 2'-0" SPACING INCLUDE ELECTRICAL AND MECHANICAL ITEMS HANGING FROM DECK. IF THE HANGER RESTRICTIONS CANNOT BE ACHIEVED, THE ADDITION OF SUPPLEMENTAL FRAMING OFF STEEL FRAMING WILL BE REQUIRED.



**3 CEILING SOUND MASKING SPEAKER MOUNTING DETAIL**

NO SCALE

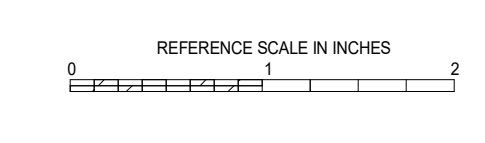
**NOTES:**

1. WHERE SUPPORTS ATTACH TO METAL ROOF DECKING, EXCLUDING CONCRETE ON METAL DECKING, DO NOT EXCEED 25 LBS. PER HANGAR AND A MINIMUM SPACING OF 2'-0" ON CENTER. THIS 25 LB. LOAD AND 2'-0" SPACING INCLUDE ELECTRICAL AND MECHANICAL ITEMS HANGING FROM DECK. IF THE HANGER RESTRICTIONS CANNOT BE ACHIEVED, THE ADDITION OF SUPPLEMENTAL FRAMING OFF STEEL FRAMING WILL BE REQUIRED.

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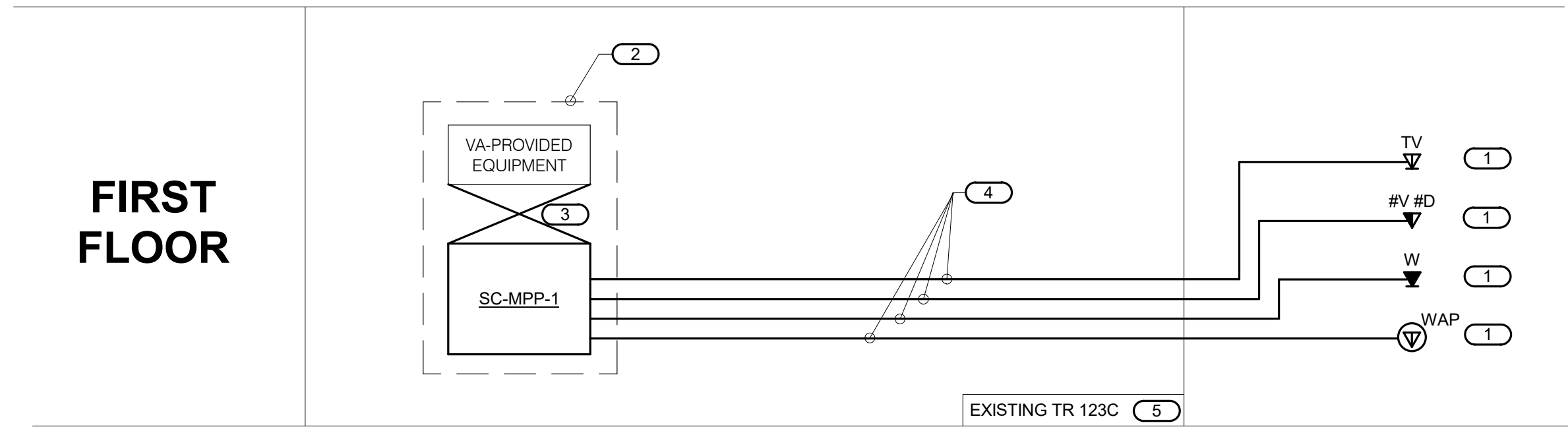
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APPROVED PROJECT COP	DATE	APPROVED SERVICE LINE DIRECTOR	DATE	APPROVED INFECTION CONTROL NURSE	DATE
APPROVED GERM PROJECT MANAGER	DATE	APPROVED PATIENT SAFETY	DATE	APPROVED ASSOCIATE HEALTH CARE SYSTEM DIRECTOR	DATE
APPROVED PROJECTS SECTION MANAGER	DATE	APPROVED CHIEF OF POLICE	DATE	APPROVED CHIEF OF STAFF	DATE
APPROVED DIRECTOR FIN	DATE	APPROVED SAFETY MANAGER	DATE	APPROVED HEALTH CARE SYSTEM DIRECTOR	DATE

DRAWING TITLE	TECHNOLOGY - DETAILS
PROJECT TITLE	CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR
DATE	10/28/2022
PROJ SCALE	
PRECEDENCE NO.	656-400
BUILDING NO.	4
DESIGNER	DLL
DRIVER	DMD
DRAWING NO.	T300
LOCATION	ST. CLOUD VAHCS ST. CLOUD, MN 56303
DWG. OF	

**VA**  
 U.S. Department of Veterans Affairs  
 Veterans Health Administration  
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### 1 FIBER AND COPPER RISER DIAGRAM

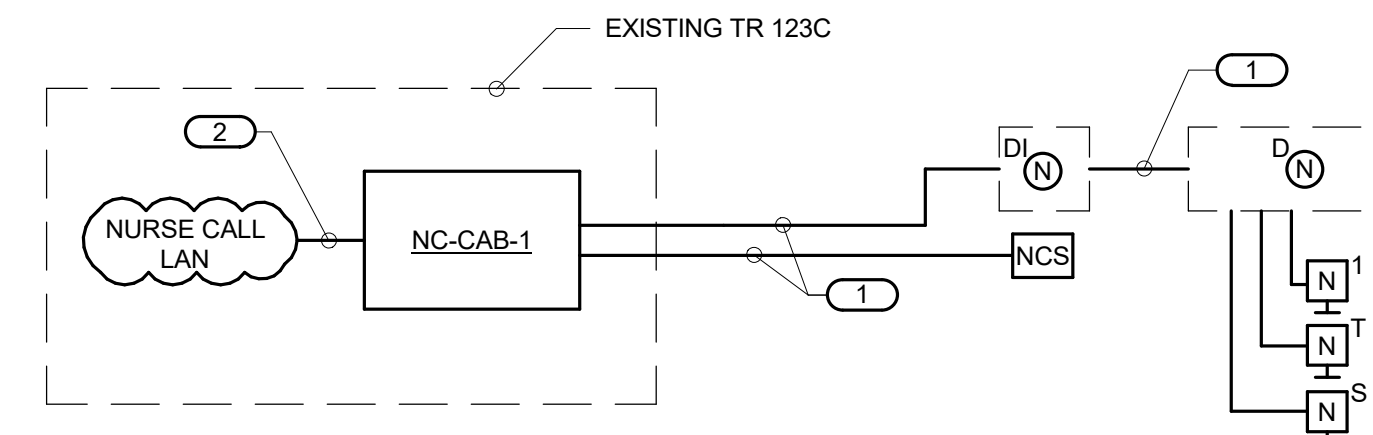
NO SCALE

**NOTES:**

1. THIS RISER IS DIAGRAMMATIC AND MAY NOT SHOW ACTUAL ROUTING OR QUANTITIES OF MATERIALS SHOWN. THIS RISER IS SHOWN FOR CLARIFICATION OF CONNECTION(S), LOCATIONS AND CABLE TYPE. ALL INFORMATION OUTLETS ARE TYPICAL OF THE OUTLETS IN THE AREA SHOWN. REFER TO FLOOR PLANS FOR MORE SPECIFIC ROUTING INFORMATION. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. REFER TO FLOOR PLANS FOR QUANTITY OF CABLES AND JACKS TO BE INSTALLED AT EACH INFORMATION OUTLET.
3. REFER TO SPECIFICATIONS FOR CABLE COLOR CODES AND LABELING.
4. ALL CABLES TO BE TERMINATED AT EACH END AND LABELED AT EACH TERMINATION, WITHIN 3' OF ENTERING CONDUIT, AND AT 2' INCREMENTS WITHIN TRAYS OR RACEWAYS.

**KEYNOTES:** ( # )

1. INDICATES VOICE/DATA FACEPLATE CONFIGURATION. REFER TO THE INFORMATION OUTLET SCHEDULE ON T500 FOR ADDITIONAL INFORMATION. REFER TO ELECTRICAL FLOOR PLANS AND ELECTRICAL EQUIPMENT SCHEDULE FOR ADDITIONAL INFORMATION.
2. EXISTING EQUIPMENT RACK AS DEFINED ON THE TELECOM ROOM LAYOUT. REFER TO THE TELECOM ROOM REFERENCES MATRIX ON THE COVERPAGE FOR LOCATION.
3. RJ45 TO RJ45 CATEGORY 6A UTP PATCH CORDS, REFER TO SPECIFICATIONS.
4. 23 GAUGE 4-PAIR, CATEGORY 6A, UNSHIELDED TWISTED PAIR CABLE, REFER TO SPECIFICATIONS.
5. REFER TO COVERPAGE AND FLOOR PLANS FOR TELECOMMUNICATIONS ROOM LOCATIONS.



### 2 NURSE CALL RISER DIAGRAM

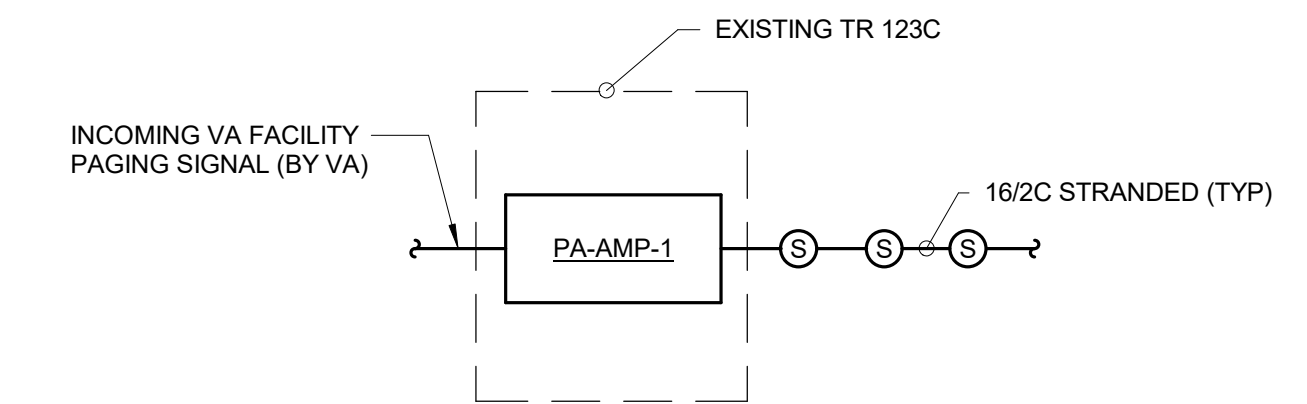
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2. REFER TO SPECIFICATIONS AND STATION STANDARD FOR CABLE COLOR CODES AND LABELING.

**KEYNOTES:** ( # )

1. REFER TO SPECIFICATIONS FOR CABLE TYPE.
2. CATEGORY 6A RJ-45 TO RJ-45 PATCH CABLE.



### 3 PAGING SYSTEM RISER DIAGRAM

NO SCALE

**NOTES:**

1. REFER TO T500 FOR GENERAL TECHNOLOGY EQUIPMENT SCHEDULE.
2. REFER TO SPECIFICATIONS AND STATION STANDARD FOR CABLE COLOR CODES AND LABELING.

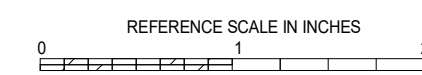
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APPROVED PROJECTS SECTION MANAGER	DATE	APPROVED CHIEF OF POLICE	DATE	APPROVED CHIEF OF STAFF	DATE
APPROVED DIRECTOR FIN	DATE	APPROVED SAFETY MANAGER	DATE	APPROVED HEALTHCARE SYSTEM DIRECTOR	DATE

DRAWING TITLE	DATE	PROJECT TITLE	DATE
TECHNOLOGY - RISER DIAGRAMS	10/28/2022	CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR	10/28/2022
PROJ SCALE		PROJ NO	656-400
DATE		DRAWING NO	T400
BUILDING No	4	DESIGNER	DLL
PROJECT	DMD	DRAWN	DMD
LOCATION	ST. CLOUD VAHCS ST. CLOUD, MN 56303	DWG. OF	

**VA**

U.S. Department of Veterans Affairs  
Veterans Health Administration  
St. Cloud VA Health Care System

GENERAL TECHNOLOGY EQUIPMENT SCHEDULE		
EQUIPMENT LIST ABBREVIATION	EQUIPMENT LIST DESCRIPTION	HID ICLASS
AC-CR1	CARD READER. SUBSCRIPT INDICATES TYPE. REFER TO TECHNOLOGY SYMBOL LIST ON COVER SHEET FOR ADDITIONAL INFORMATION. CARD READERS SHOWN ON PLANS TO IDENTIFY INTENDED MOUNTING LOCATION.	
NC-D-C	NURSE CALL DOME LIGHT CEILING MOUNTED. DETECTION LIGHT INDICATING CALLS FROM PATIENT STATIONS, TOILETS, SHOWERS, DUTY STATIONS, ETC. LEDS TO PROVIDE HIGH-VISIBILITY ANNUNCIATION OF PATIENT CALLS, COLOR PATTERNS AND FLASH RATES OF THE LEDS ARE PROGRAMMABLE. REFER TO FLOOR PLANS FOR DEVICE LOCATIONS. INSTALL IN 3-GANG (NON-GANGABLE) 3 1/2" DEEP BACKBOX WITH 3/4" EMT CONDUIT TO EXISTING TR 123C.	RAULAND RESPONDER V
NC-DTY-W	NURSE CALL DUTY STATION. PROVIDES FULL DUPLEX COMMUNICATIONS VIA CALL-IN PUSHBUTTON. LED INDICATORS PROVIDE VISUAL INDICATION OF CALLS. DUTY STATION IS CONNECTED TO AN ASSOCIATED DOME LIGHT LOCATED IN THE CORRIDOR. REFER TO FLOOR PLANS FOR DEVICE MOUNTING HEIGHT AND LOCATIONS. INSTALL IN 3-GANG (NON-GANGABLE) 3 1/2" DEEP BACKBOX WITH 3/4" EMT CONDUIT TO EXISTING TR 123C.	RAULAND RESPONDER V
NC-N1-W	NURSE CALL SINGLE PATIENT STATION. PROVIDES FULL-DUPLEX COMMUNICATIONS WITH MULTIPLE CALL-IN PRIORITIES. INPUTS FOR PILLOW SPEAKER, HANDSET INTERCOM OR AUXILIARY DEVICES. LEDS TO INDICATE CONNECTION TO DEVICES. BIO-SEAL OPTION FOR CLEANING OF DEVICE. REFER TO FLOOR PLANS FOR DEVICE MOUNTING HEIGHT. INSTALL IN 3-GANG (NON-GANGABLE) 3 1/2" DEEP BACKBOX WITH 3/4" EMT CONDUIT TO EXISTING TR 123C.	RAULAND RESPONDER V
NC-NC-W	NURSE CALL CODE BLUE STATION. WALL MOUNT.	RAULAND RESPONDER V
NC-MCS-W	NURSE CALL MASTER STATION.	RAULAND RESPONDER V
NC-NT-W	NURSE CALL EMERGENCY STATION. MOUNTED AT 48" FOR TOILETS.	RAULAND RESPONDER V
PA-AMP-1	COMMERCIAL TELEPHONE PAGING AMPLIFIER. 60 WATTS @ 70 VOLT AMPLIFIER OUTPUT WITH 600 OHM BALANCED TRANSFORMER ISOLATED TELEPHONE INPUT. 5 RU HEIGHT WITH RPK82 RACK MOUNT KIT. REFER TO PAGING SYSTEM RISER DIAGRAM ON 4/T4.0 FOR ADDITIONAL INFORMATION.	BOGEN TPU60B
PA-S-C	RECESSED CEILING MOUNT PAGING SPEAKER WITH 4" DRIVER, 70 VOLT @ 4, 2, AND 1 WATT TRANSFORMER TAPS. 70 HZ TO 20 KHZ FREQUENCY RESPONSE, 110 DEGREE COVERAGE PATTERN, STEEL FRAME.	BOGEN SECAT
PA-SM-C	SOUND MASKING SPEAKER. PART OF COMPLETE 6-ZONE SOUND MASKING SYSTEM. POWER RATING: 10W (RMS). POWERED BY NOISE GENERATOR, ALUMINUM HOUSING, CEILING MOUNTED.	CAMBRIDGE QT LENCORE
PA-UPS-1	RACK MOUNT LINE INTERACTIVE SINE WAVE UPS FOR PA-AMP-1 INCLUDING 12 NEMA 5-20R REAR OUTLETS. 3000VA BACKUP WITH AUTOMATIC VOLTAGE REGULATION, EMI/RFI LINE NOISE FILTERING, INTERACTIVE LCD SCREEN AND OPTIONAL NETWORK CARD, 6 FOOT CORD WITH NEMA L6-20P PLUG, 4RU HEIGHT, 20" DEPTH.	APC SRT3000 SERIES TRIPPLITE
SC-IO-C	INFORMATION OUTLET. CEILING MOUNT FOR VA-PROVIDED WIRELESS ACCESS POINT. 2-PORT COVERPLATE AS INDICATED ON DRAWINGS AND INFORMATION OUTLET SCHEDULE. REFER TO INFORMATION OUTLET SCHEDULE ON T5.0 FOR PIN CONFIGURATION INFORMATION. "N" INDICATES INFORMATION OUTLET FACEPLATE CONFIGURATION AS INDICATED ON THE DRAWINGS. REFER TO INFORMATION OUTLET SCHEDULE ON T5.0 FOR ADDITIONAL INFORMATION. COORDINATE WITH VA CORENGINEER TO INSTALL INFORMATION OUTLET IN A 4" SQUARE BACKBOX WITH A SINGLE GANG PLASTER RING. PROVIDE 20' COIL OF UTP CABLE AT WIRELESS OUTLET LOCATION. INSTALL A 1" EMT CONDUIT 6" BEYOND BOX AND TERMINATE WITH NYLON BUSHING. REFER TO SPECIFICATION SECTION 27 15 00 FOR ADDITIONAL INFORMATION.	COVERPLATE: PANDUIT NK SERIES JACK: PANDUIT CAT6: NK688M SERIES SYSTEMAX SIEMON
SC-IO-W	INFORMATION OUTLET. WALL MOUNT. 2 OR 4-PORT COVERPLATE AS INDICATED ON DRAWINGS AND INFORMATION OUTLET SCHEDULE. REFER TO INFORMATION OUTLET SCHEDULE ON T5.0 FOR PIN CONFIGURATION INFORMATION. "N" INDICATES INFORMATION OUTLET FACEPLATE CONFIGURATION AS INDICATED ON THE DRAWINGS. REFER TO INFORMATION OUTLET SCHEDULE ON T5.0 FOR ADDITIONAL INFORMATION. INSTALL INFORMATION OUTLET IN A 4" SQUARE BACKBOX WITH A SINGLE GANG PLASTER RING. INSTALL A 1" EMT CONDUIT TO CABLE TRAY. REFER TO SPECIFICATION SECTION 27 15 00 FOR ADDITIONAL INFORMATION.	COVERPLATE: PANDUIT NK SERIES JACK: PANDUIT CAT6: NK688M SERIES SYSTEMAX SIEMON
SC-MPP-1	MODULAR PATCH PANEL. 48 MODULAR RJ-45 TERMINATIONS, MOUNTS DIRECTLY TO EIA/TIA STANDARD 19" RELAY RACK. PORT IDENTIFICATION NUMBERS, PROVIDED WITH COLOR CODING AND LABEL HOLDER KITS. U.L. LISTED. REQUIRES (2) 1.75" MOUNTING SPACES.	PANDUIT NKPPA48FMY SYSTEMAX SIEMON

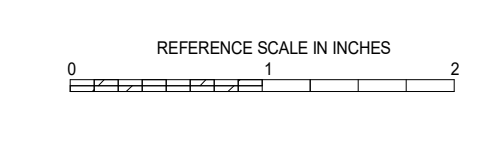
INFORMATION OUTLET SCHEDULE																																																
SINGLE GANG WALL PLATES																																																
<p>2-Port Faceplate</p> <p>4-Port Faceplate</p> <p>NUMBER INDICATES FACEPLATE POSITION (TYP.)</p> <p>REFER TO SPECIFICATIONS FOR IDENTIFICATION REQUIREMENTS (TYP.)</p>	<p>ANSI/TIA/EIA T568B PINPAIR ASSIGNMENT</p>	<p><b>LEGEND</b></p> <table border="1"> <tr> <td>DATA</td> <td>CAT 6A RJ-45</td> </tr> <tr> <td>BLANK</td> <td>BLANK FILLER MODULE</td> </tr> </table>	DATA	CAT 6A RJ-45	BLANK	BLANK FILLER MODULE																																										
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<p><b>NOTES:</b></p> <p>1. PROVIDE REMOVABLE BLANK INSERT(S) FOR ALL UNUSED PORTS.</p>																																																
<p><b>SCHEDULE NOTES:</b></p> <p>1. LOCATION OF FUTURE OR VA-PROVIDED WIRELESS ACCESS POINT. PROVIDE A 20' SLACK COIL AT THE NEAREST CABLE SUPPORT FOR POSSIBLE RELOCATION AFTER WIRELESS SURVEY.</p>																																																
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10/28/2022 - ISSUE FOR 100% CONSTRUCTION DOCUMENTS

No	REVISION	DATE

**IMEG**

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 MINNEAPOLIS, MN 55413



I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the state of Minnesota.

Signature: *[Signature]*

Typed or Printed Name: Alexander S. Quast  
 Date: 10/28/2022 License Number: 53095

ARCHITECT/ENGINEER OF RECORD

*[Signature]*

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 BAE PROJECT NO. 15-116

APPROVED PROJECT COORDINATOR	DATE	APPROVED SERVICE LINE DIRECTOR	DATE	APPROVED INFECTION CONTROL NURSE	DATE
APPROVED GENM PROJECT MANAGER	DATE	APPROVED PATIENT SAFETY	DATE	APPROVED ASSOCIATE HEALTHCARE SYSTEM DIRECTOR	DATE
APPROVED PROJECTS SECTION MANAGER	DATE	APPROVED CHIEF OF POLICE	DATE	APPROVED CHIEF OF STAFF	DATE
APPROVED DIRECTORIES	DATE	APPROVED SAFETY MANAGER	DATE	APPROVED HEALTHCARE SYSTEM DIRECTOR	DATE

DRAWING TITLE: TECHNOLOGY - SCHEDULES

PROJECT TITLE: CONSTRUCT PACT CLINIC BUILDING 4 FIRST FLOOR

DATE: 10/28/2022

PROF SCALE: 1/8"=1'-0"

PRECEDENCE NO: 656-400

BUILDING NO: 4

DESIGNER: DLL

DRAWN: DM

DRAWING NO: T500

LOCATION: ST. CLOUD VAHCS ST. CLOUD, MN 56303

DWG. OF

**VA**

U.S. Department of Veterans Affairs  
 Veterans Health Administration  
 St. Cloud VA Health Care System