

Tom Dankert

From: Sheri Dankert <ssdankert@thehormelfoundation.com>
Sent: Thursday, October 17, 2024 10:56 AM
To: Craig Clark
Cc: Tom Dankert
Subject: RE: Proposed Hormel Institute Lab Modifications - IAustin Port Authority - SPAP-12-0010-P-FY12
Attachments: 20240930 Hormel Arctis 100% DD Drawings_Addendum 2_GMP Set (1).pdf; 20241009 Hormel Institute - Arctis Installation.pdf

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Hi Craig,

Finally received updated information on the Hormel Institute project. It is a significantly larger dollar amount than the Port Authority originally saw and was submitted to Gerry. I hope it is not too late to get it on the October Port Authority agenda.

I am going to recommend that someone from the Institute attend the meeting so they can discuss the increase in the project cost.

Sheri

From: Craig Clark <craigc@ci.austin.mn.us>
Sent: Monday, July 22, 2024 2:08 PM
To: Sheri Dankert <ssdankert@thehormelfoundation.com>; Tom Dankert <Tdankert@ci.austin.mn.us>
Subject: RE: Proposed Hormel Institute Lab Modifications - IAustin Port Authority - SPAP-12-0010-P-FY12

Yes the 4th Wednesday is the plan at this point. We'll have a better picture when your plans come in so we'll look to hear from you at that point. Thanks for the update.

I hope you are enjoying the summer.

From: Sheri Dankert <ssdankert@thehormelfoundation.com>
Sent: Monday, July 22, 2024 1:17 PM
To: Craig Clark <craigc@ci.austin.mn.us>; Tom Dankert <Tdankert@ci.austin.mn.us>
Subject: RE: Proposed Hormel Institute Lab Modifications - IAustin Port Authority - SPAP-12-0010-P-FY12

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Will the Port Authority be having a meeting in October? It looks like the new timeline for the design is end of September.

From: Craig Clark <craigc@ci.austin.mn.us>
Sent: Wednesday, July 17, 2024 2:46 PM

Hormel Institute Building Modification Request

Building: 801 16th Avenue NE, Austin, MN

Project: Arctis Microscope Installation

Narrative:

The Hormel Institute seeks approval to perform minor renovations to three existing laboratories and adjacent support rooms located in the building at 801 16th Avenue NE in Austin, MN. The building is owned by the Austin Port Authority, leased to the Hormel Foundation, and subleased to the Regents of the University of Minnesota for the purpose of housing research performed and conducted by the Hormel Institute.

The Hormel Institute is a biomedical research facility within the University of Minnesota's Research and Innovation Office (RIO) located in rural Austin, Minnesota. With the goal of improving health and extending lives worldwide, their world-class scientists use cutting-edge technology to explore innovative questions that drive discovery forward.

MBiC, the proposed Minnesota Bioimaging Center, will be located within The Hormel Institute and will house some of the world's most advanced technologies to accelerate cancer and biomedical research discoveries.

In order to continue and expand their research activities, the Hormel Institute has need of three new state-of-the-art electron microscopes (Arctis, Glacios, and Krios) that must be installed in the building in order to be operational. The first of these, the Arctis microscope, has been procured and will be installed within the scope of this project. The other two microscopes will be procured in the future.

Purpose:

The purpose of this project is to leverage, dramatically expand, and complement existing bioimaging capabilities to support research activities across the state, and to attract researchers from neighboring states who lack access to these technologies and services.

Budget:	Construction Estimate	\$1,509,729
	University Services	\$49,500
	Professional Services	\$115,000
	Contingency	\$325,771
	Total Cost	\$ 2,000,000

Schedule:	Design/Build Procurement	February 2024 - March 2024
	Design	April 2024 - November 2024
	Construction	December 2024 - March 2025
	Equipment Installation	March 2025

Work Scope:

Design and renovate laboratory and support rooms required to house the new equipment.

- Architectural modifications to the building include:
 - Room 1223 will house the three microscopes. The room will be cleared out completely, including the prep spaces at the back of the room. The walls, ceiling, and floor will be modified to provide temperature and humidity control for the sensitive equipment. A new room entrance vestibule will be constructed to support the layout of the equipment and to maintain environmental control when entering and exiting the space.
 - Room 1222 will remain essentially the same, but the walls, ceiling, and flooring will be modified to provide temperature and humidity control for sample preparation.
 - Room 1224 is a shared resources lab and will remain intact. However, the small rooms at the back of the lab (rooms 1224A and 1224B) will be renovated to house the support equipment for the new system room. A new door will be installed between 1223 and 1224A for easy access to the support equipment.
 - Lab benches, shelving, and equipment that removed will be stored onsite for future use.
- Mechanical modifications include installation of dehumidifiers for the existing mechanical system to provide the right humidity for the equipment. We will also reconfigure and relocate the units and ductwork to allow for the optimal temperatures, distribution of air, and to minimize vibrations in our new equipment room.
- Electrical and technology modifications will support the equipment and controls. Communication cabling will be extended from the equipment to control areas in rooms 1231, 1233, and 1235. A card reader will be added to the equipment room.
- Plumbing will be capped where existing fixtures are removed. Plumbing will be added in support of new equipment and a safety eyewash/shower unit will be relocated in the equipment room.

Alternate Work Scope:

Additional alternate work has been identified and estimated and will be considered within the project if budget allows:

- Minor casework and sink modifications in Room 1222A to provide a larger sink and extended countertops.
- Removal of benches and patching in Vivarium to provide additional room for procedure space.
- Repairs at floor of air intake for mechanical equipment to reduce leaks to spaces below.
- Repair of slab cracks at boiler equipment to reduce leaks to spaces below.

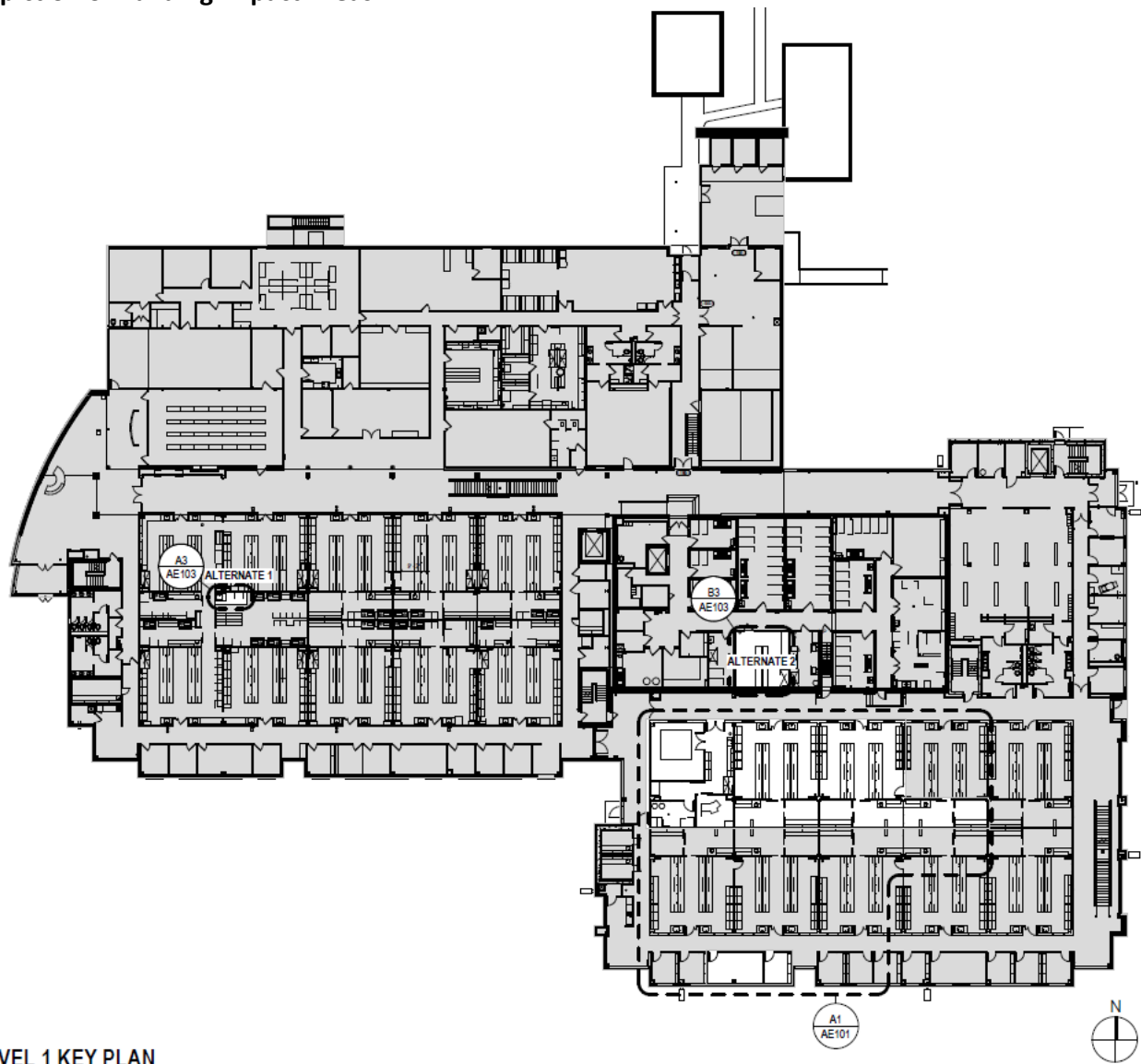
Architectural Firm:

Leo A Daly
730 2nd Avenue S, #1300
Minneapolis, MN 55402

Contractor:

PCL Construction Services, Inc.
7101 Metro Boulevard
Edina, MN 55439

Depiction of Building Impact Areas:



LEVEL 1 KEY PLAN

SHEET INDEX				
SHEET NUMBER	SHEET NAME	DD SUBMITTAL	GMP SUBMITTAL	GMP ADDENDUM 1
GENERAL				
G001	COVER SHEET	X	X	X
G002	GENERAL NOTES, SHEET INDEX, SYMBOLS AND ABBREVIATIONS	X	X	X
G004	MOUNTING HEIGHTS AND PARTITION TYPES	X	X	X
G100	LIFE SAFETY PLAN	X	X	X
G300	CONTROL PLANS	X	X	X
STRUCTURAL				
SF101	STRUCTURAL PLANS		X	X
ARCHITECTURAL				
AD101	DEMOLITION PLAN - LEVEL 1	X	X	X
AD102	DEMOLITION REFLECTED CEILING PLAN - LEVEL 1		X	X
AE101	FLOOR PLAN - LEVEL 1	X	X	X
AE102	REFLECTED CEILING PLAN - LEVEL 1	X	X	X
AE103	ALTERNATE 1 AND 2	X	X	X
AE104	ALTERNATE 3 AND 4	X	X	X
AE301	DETAILS	X	X	X
INTERIORS				
IG101	SIGNAGE PLAN LEVEL 1	X	X	X
IN101	FINISH PLAN LEVEL 1	X	X	X
IN301	SIGNAGE SCHEDULE & DETAILS	X	X	X
PLUMBING				
P-001	PLUMBING NOTES, SYMBOLS AND ABBREVIATIONS		X	X
PD100-3	PLUMBING DEMOLITION PLAN UNDERGROUND - ALTERNATE 2		X	X
PD100-A	BELOW GRADE WASTE AND STORM PIPING DEMOLITION PLAN LEVEL 1		X	X
PD101-3	PLUMBING DEMOLITION PLAN LEVEL 1 - ALTERNATE 2		X	X
PD101-A	WASTE AND STORM PIPING DEMOLITION PLAN LEVEL 1		X	X
PD201-A	PLUMBING WATER AND LAB GAS PIPING DEMOLITION PLAN LEVEL 1	X	X	X
PP101-A	PLUMBING PLAN LEVEL 1		X	X
PP102	PENTHOUSE LEVEL PLUMBING PLAN		X	X
PP103	PARTIAL PLUMBING PLAN ALTERNATE 1			X
PP201-A	PLUMBING WATER AND LAB GAS PIPING PLAN LEVEL 1	X	X	X
P404	PLUMBING WASTE AND VENT RISER DIAGRAM		X	X
MECHANICAL				
M-001	MECHANICAL NOTES, SYMBOLS AND ABBREVIATIONS		X	X
MD101-3	MECHANICAL DEMOLITION PLAN LEVEL 1 - ALTERNATE 2	X	X	X
MD101-A	MECHANICAL DEMOLITION PLAN LEVEL 1	X	X	X
MD103-3	DEMOLITION ROOF PLAN - AREA 3		X	X
MP101-A	HVAC PLAN LEVEL 1	X	X	X
MP201-A	MECHANICAL PIPING LEVEL 1		X	X
M102	PENTHOUSE LEVEL MECHANICAL PLAN		X	X
M400	MECHANICAL CONTROL DIAGRAMS		X	X
M401	MECHANICAL DETAILS & DIAGRAMS		X	X
M501	MECHANICAL SCHEDULES		X	X
ELECTRICAL				
E-001	ELECTRICAL SYMBOLS AND GENERAL NOTES	X	X	X
E101	DEMO & LIGHTING PLANS - LEVEL 1		X	X
E102	POWER & SYSTEMS PLAN - LEVEL 1	X	X	X

HORMEL INSTITUTE |
LAB RENOVATION

801 16th Ave NE
Austin, MN 55912

UNIVERSITY OF
MINNESOTA

100 Church Street SE
Minneapolis, MN 55455

PROJECT NO. 023-10663-000
09/20/2024
ADDENDUM 1



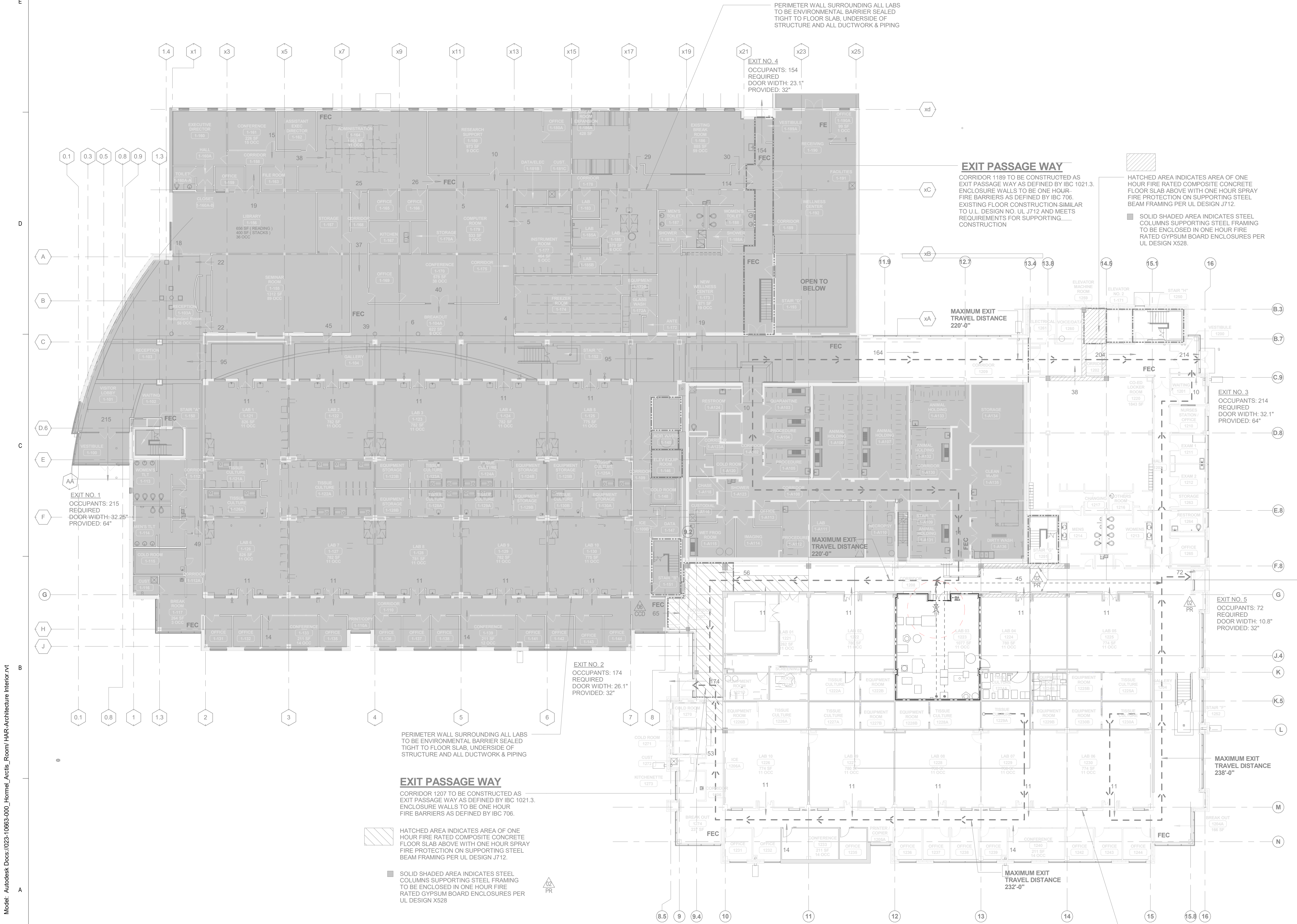
PLANNING
ARCHITECTURE
ENGINEERING
INTERIORS

COVER SHEET

GI001

A1 LIFE SAFETY PLAN LEVEL 1

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



LIFE SAFETY ANALYSIS

HORMEL INSTITUTE - LAB RENOVATION
CODE / LIFE SAFETY ANALYSIS / SUMMARY / NARRATIVE

LOCATION: 801 16th Ave NE
Austin, MN 55912

APPLICABLE CODES INCLUDE:
2020 Minnesota Conservation Code for Existing Buildings (MnCCB)
2020 Minnesota Building Code (MnBC)
2024 Minnesota Commercial Energy Code
2020 Minnesota Accessibility Code
2020 Minnesota Fire Code
2020 Minnesota Mechanical and Fuel Gas Code
2020 Minnesota Plumbing Code
2023 National Electric Code

USE & OCCUPANCY CLASSIFICATION (Chapter 3 MnBC)
Occupancy Group: B Business (Office, Laboratories)
Accessory: A-2 Assembly, S-2 Storage

ALLOWABLE BUILDING HEIGHTS AND AREAS (Tables 504.3, 504.4, & 506.2)
Allowable Height (Tables 504.3 & 504.4): N/A INTERIOR RENOVATION - BUILDING HEIGHT EXISTING TO REMAIN

Allowable Area (Table 506.2): N/A INTERIOR RENOVATION - BUILDING AREA EXISTING TO REMAIN
Existing Area: 142,696SF (Gross)
Renovation Area: 4,445 SF (Gross, 0.03% of Building Area)

CLASSIFICATION OF WORK (Chapter 6 - MnCCB)
Alteration Level 2: Level 2 alterations include the reconfiguration of space, the addition or elimination of any door or window, the reconfiguration or extension of any system, or the installation of any additional equipment.

TYPE OF CONSTRUCTION (Chapter 6 - MnBC)
Type of Construction - Type II-B (Fully Sprinkled)

FIRE RESISTANCE RATING (Table 601 & 602 MnBC)

Building Element	Required Rating
Primary Structural Frame	0
Bearing Walls - Exterior	1 hr when separated < 10'
Bearing Walls - Interior	0
Nonbearing Walls and Partitions - Exterior & Interior	0
Floor Construction and Associated Secondary Members	0
Roof Construction and Associated Secondary Members	0

DESIGN OCCUPANT LOAD (Table 1004.1.2 - MnBC) (Renovation Areas only)
Business (1/150 SF): 30 occupants

MEANS OF EGRESS SIZING (Section 1005 - MnBC)

- Other Egress Components (Section 1005.3.2 MnBC).** The capacity, in inches, of means of egress components other than stairways shall be calculated by multiplying the occupant load served by such component by a means of egress capacity factor of 0.2 inch (5.1 mm) per occupant.
- Distribution of minimum width and required capacity (Section 1005.5 - MnBC).** Where more than one exit, or access to more than one exit, is required, the means of egress shall be configured such that the loss of any one exit shall not reduce the available capacity or width to less than 50 percent of the required capacity or width.

EGRESS BASED ON OCCUPANT LOAD AND COMMON PATH OF EGRESS TRAVEL DISTANCE (Section 1006.2.1) Two exits or exist access doorways from any space shall be provided where the design occupant load or the common path of egress travel distance exceeds the values listed in Table 1006.2.1. The cumulative occupant load from adjacent rooms, areas or spaces shall be determined in accordance with Section 1004.2

ACCESSIBLE MEANS OF EGRESS REQUIRED (Section 1009.1 - MnBC)
Accessible means of egress shall comply with this section. Accessible spaces shall be provided with not less than one accessible means of egress. Where more than one means of egress is required by Section 1006.2 or 1006.3 from any accessible space, each accessible portion of the space shall be served by not less than two accessible means of egress.

EGRESS THROUGH INTERVENING SPACES (Section 1016.2 - MnBC)

Egress from a room or space shall not pass through adjoining or intervening rooms or areas, except where such adjoining rooms or areas and the area served are accessory to one or the other, are not a Group H occupancy and provide a discernable path of egress travel to an exit.

EXIT ACCESS TRAVEL DISTANCE (Table 1017.2 - MnBC)
Type B Occupancy (with sprinkler system) = 300 ft. - **COMPLIES.**

CORRIDOR FIRE-RESISTANCE RATING (Table 1020.1 MnBC)
Type B Occupancies where a corridor serves greater than 30 persons and is equipped throughout with an approved automatic sprinkler system shall have a 0 hour rated requirement for corridor walls. - **COMPLIES**

MINIMUM CORRIDOR WIDTH (Table 1020.2 MnBC)
Minimum required corridor width shall be 44 inches per table.

EXIT DISCHARGE (Section 1028.1 - MnBC)
Exits shall discharge directly to the exterior of the building. The exit discharge shall be at grade or shall provide a direct path of egress travel to grade. The exit discharge shall not reenter a building. - **COMPLIES.**

MINIMUM PLUMBING FIXTURE REQUIREMENTS (Section 809.1 - MnBCCEB)
X-829 Existing Occupant Load - 1st Floor
Y-829 New Occupant Load - 1st Floor
- **20% INCREASE IN OCCUPANT LOAD. NO CHANGE IN FIXTURE COUNT REQUIRED**

ALTERATIONS AFFECTING AN AREA CONTAINING A PRIMARY FUNCTION (Section 305.7 MnAC)
EXEMPT: This provision does not apply to alterations undertaken by a tenant where the accessible route, toilet facilities, parking facilities, telephones, and drinking fountains are outside the tenant space.

FIRE SPRINKLER SYSTEM MODIFICATION

IN SYSTEM ROOM 1223 WHERE THE FIRE SPRINKLER SYSTEM IS BEING REDUCED OR RE-ROUTED, THE EXISTING WET SYSTEM SHALL BE DEMOLISHED TO THE BOUNDARY OF THE SPACE AT THE NEW FIRE RATED FLOORING WALL. PIPING FROM THE EXISTING ADJACENT LABS TO BE EXTENDED IN AND THROUGH THE NEW SYSTEMS ROOM SPACE ACCORDING TO THE DRAWINGS TO PROVIDE PROTECTION TO THE LABORATORY EQUIPMENT IN ACCORDANCE WITH MINNESOTA FIRE CODE, NFPA 13, AND UNIVERSITY OF MINNESOTA BUILDING STANDARDS. THE FIRE SUPPRESSION CONTRACTOR SHALL OBTAIN PERMITS AS REQUIRED AND PROVIDE ALL EQUIPMENT AND MATERIAL AS REQUIRED TO MEET THE PROJECT REQUIREMENTS.

FIRE ALARM SYSTEM MODIFICATION

IN AREA OF SCOPE WHERE THE CEILING IS BEING REDONE, CEILING MOUNTED ALARM DEVICES ARE TO BE REMOVED AND RELOCATED IN THE NEW CEILING. DEVICES SHOULD BE LOCATED IN ACCORDANCE WITH THE MINNESOTA FIRE CODE AND NFPA 72. THE FIRE ALARM CONTRACTOR SHALL OBTAIN PERMITS AS REQUIRED AND PROVIDE ALL EQUIPMENT AND MATERIAL AS REQUIRED TO MEET THE PROJECT REQUIREMENTS.

CODE ANALYSIS LEGEND

- 1 HR FIRE SEPARATION PER NFPA 45
- EGRESS PATH WITH DIRECTION INDICATED
- FE FIRE EXTINGUISHER
- FEC FIRE EXTINGUISHER CABINET
- FHC FIRE HOSE CONNECTION
- F FIRE ALARM PULL
- SD SMOKE DETECTORS
- EXIT LIGHTS
- 15 OCCUPANCY LOAD WITH DIRECTION OF TRAVEL INDICATED
- HATCHED AREA INDICATED TEMPORARY 1 HR RATED CEILING

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RENOVATION
801 16th Ave NE
Austin, MN 55912

UNIVERSITY OF
MINNESOTA
100 Church Street SE
Minneapolis, MN 55455



730 Second Avenue South, Suite 1300
Minneapolis, MN 55402-2455
Tel 612.338.8741 Fax 612.338.4840

KEY PLAN

REVISIONS

NO.	DESCRIPTION	DATE

FILE LOG

ACTIVITY	BY
Manager	SMN
Design	SFA
Draw	GRS
Check	Checker

STAMP

ADDENDUM 1
NOT FOR CONSTRUCTION

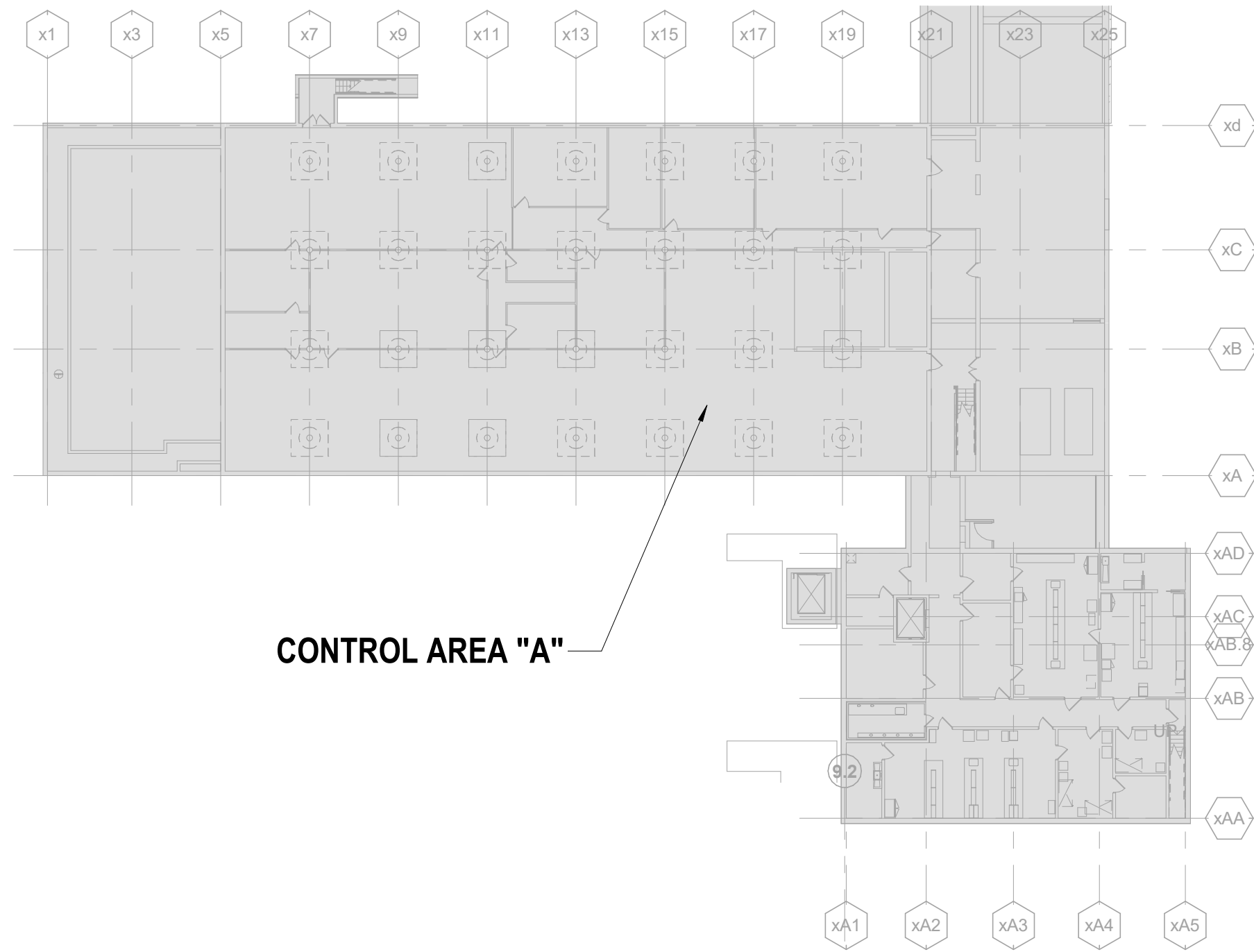
Project No. 023-10663-000
09/20/2024

LIFE SAFETY PLAN

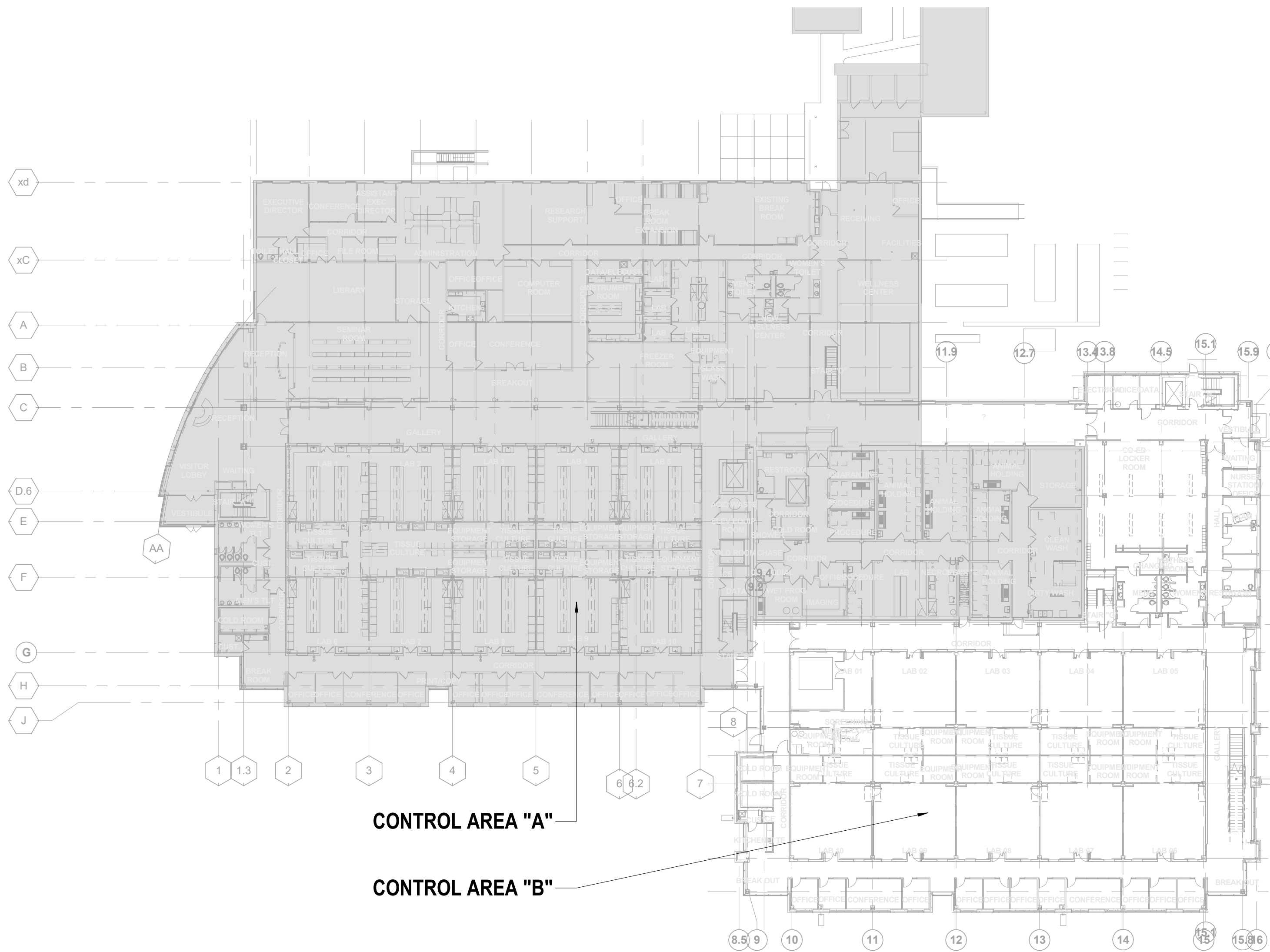
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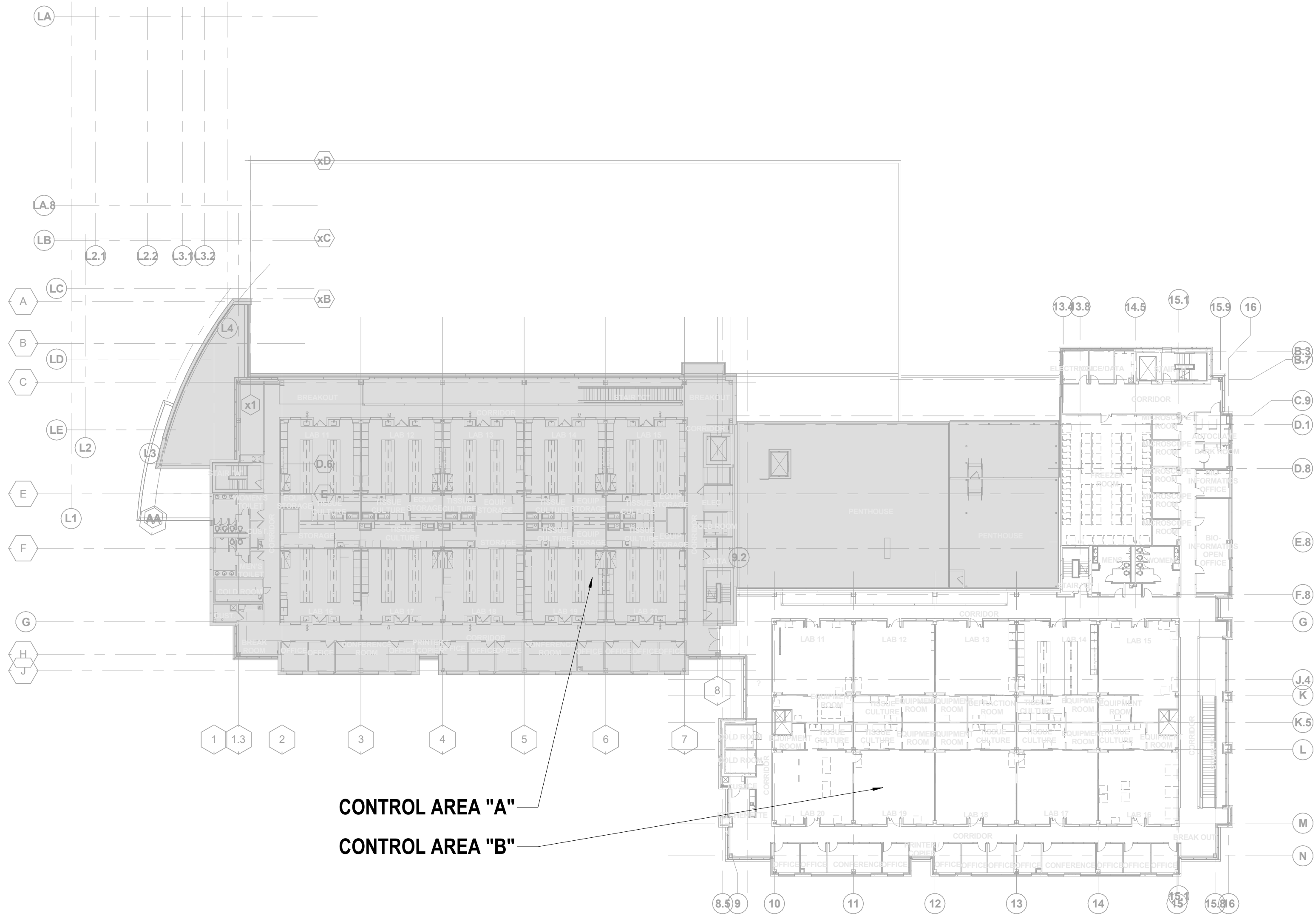
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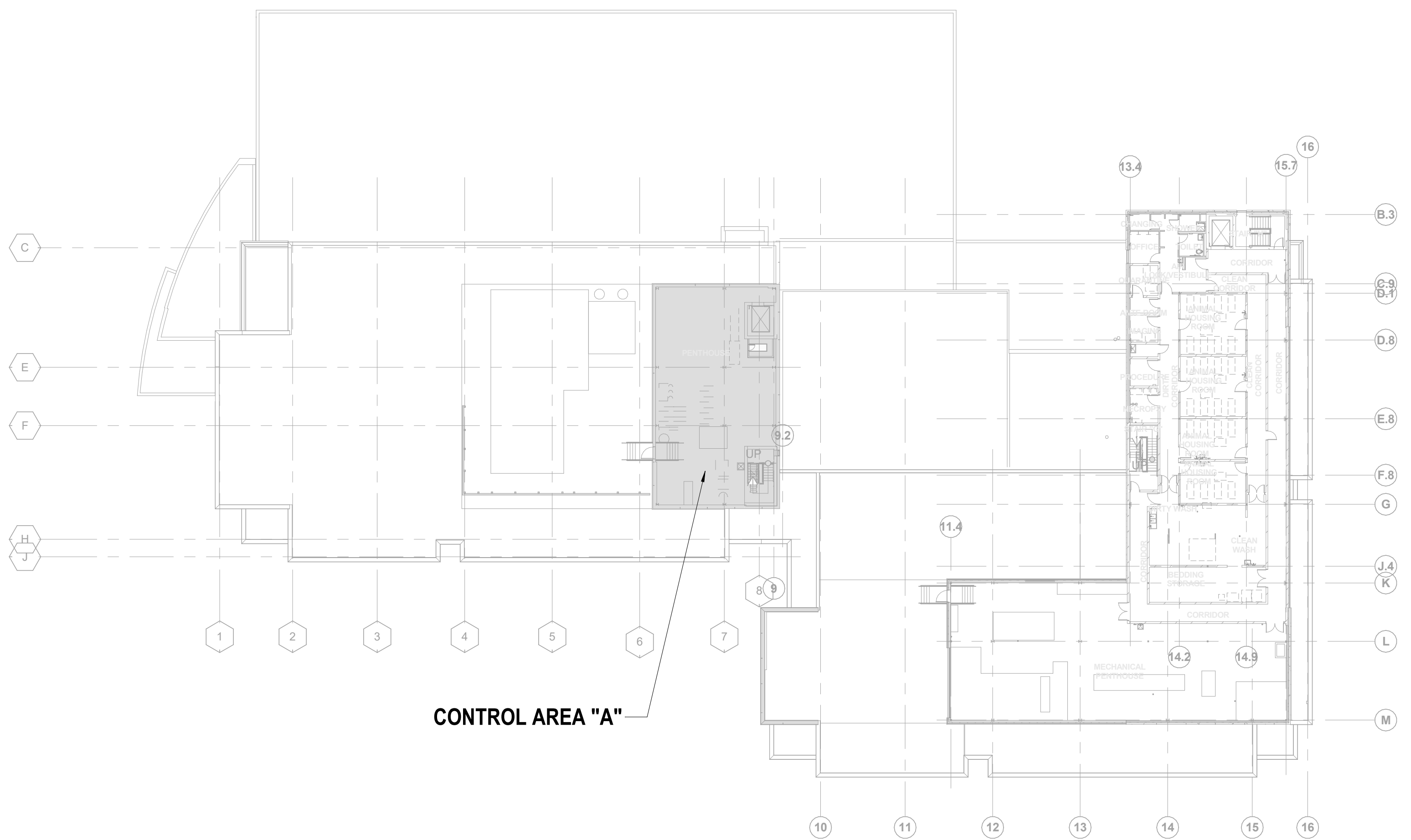
C1 OVERALL BASEMENT CONTROL AREA PLAN
SCALE: 1" = 30'-0"



A1 OVERALL LEVEL 1 CONTROL AREA PLAN
SCALE: 1" = 30'-0"



C4 OVERALL LEVEL 2 CONTROL AREA PLAN
SCALE: 1" = 30'-0"



A4 OVERALL PENTHOUSE CONTROL AREA PLAN
SCALE: 1" = 30'-0"

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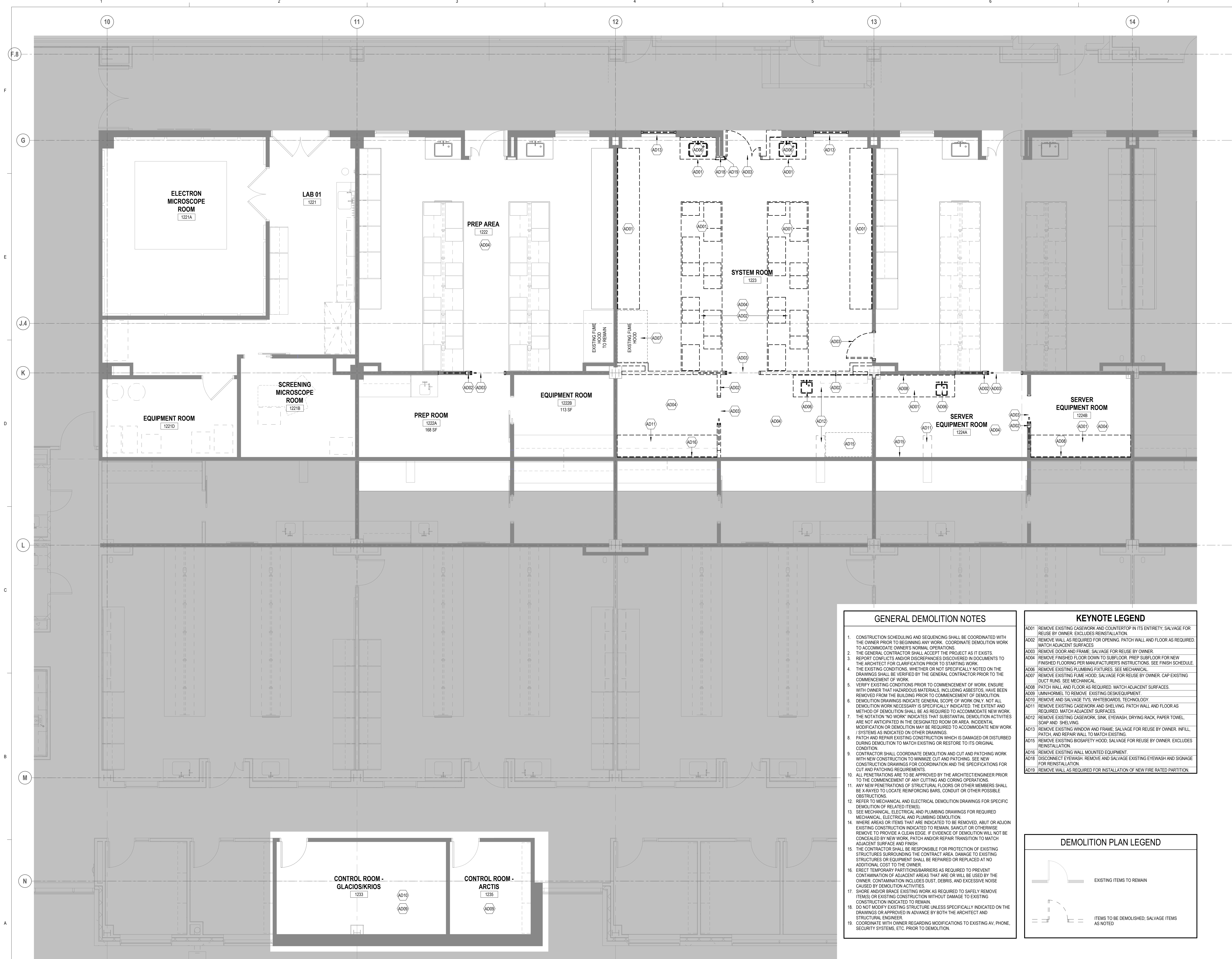
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09/20/2024

CONTROL PLANS

GI300

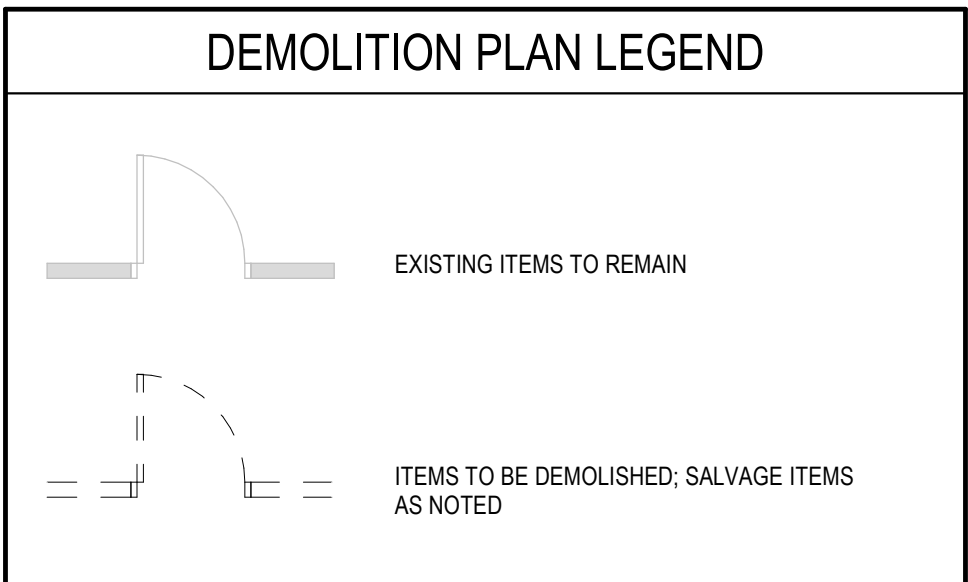
9/20/2024 1:13:35 PM Model: Autodesk Docs://023-10663-000_Hormel_Arcis_Room1_HAB-Architecture Interior.rvt



- ### GENERAL DEMOLITION NOTES
- CONSTRUCTION SCHEDULING AND SEQUENCING SHALL BE COORDINATED WITH THE OWNER PRIOR TO BEGINNING ANY WORK. COORDINATE DEMOLITION WORK TO ACCOMMODATE OWNER'S NORMAL OPERATIONS.
 - THE GENERAL CONTRACTOR SHALL ACCEPT THE PROJECT AS IT EXISTS.
 - REPORT CONFLICTS AND/OR DISCREPANCIES DISCOVERED IN DOCUMENTS TO THE ARCHITECT FOR CLARIFICATION PRIOR TO STARTING WORK.
 - THE EXISTING CONDITIONS, WHETHER OR NOT SPECIFICALLY NOTED ON THE DRAWINGS SHALL BE VERIFIED BY THE GENERAL CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.
 - VERIFY EXISTING CONDITIONS PRIOR TO COMMENCEMENT OF WORK. ENSURE WITH OWNER THAT HAZARDOUS MATERIALS, INCLUDING ASBESTOS, HAVE BEEN REMOVED FROM THE BUILDING PRIOR TO COMMENCEMENT OF DEMOLITION.
 - DEMOLITION DRAWINGS INDICATE GENERAL SCOPE OF WORK ONLY. NOT ALL DEMOLITION WORK NECESSARY IS SPECIFICALLY INDICATED. THE EXTENT AND METHOD OF DEMOLITION SHALL BE AS REQUIRED TO ACCOMMODATE NEW WORK. THE NOTATION "NO WORK" INDICATES THAT SUBSTANTIAL DEMOLITION ACTIVITIES ARE NOT ANTICIPATED IN THE DESIGNATED ROOM OR AREA. INCIDENTAL MODIFICATION OR DEMOLITION MAY BE REQUIRED TO ACCOMMODATE NEW WORK / SYSTEMS AS INDICATED ON OTHER DRAWINGS.
 - PATCH AND REPAIR EXISTING CONSTRUCTION WHICH IS DAMAGED OR DISTURBED DURING DEMOLITION TO MATCH EXISTING OR RESTORE TO ITS ORIGINAL CONDITION.
 - CONTRACTOR SHALL COORDINATE DEMOLITION AND CUT AND PATCHING WORK WITH NEW CONSTRUCTION TO MINIMIZE CUT AND PATCHING. SEE NEW CONSTRUCTION DRAWINGS FOR COORDINATION AND THE SPECIFICATIONS FOR CUT AND PATCHING REQUIREMENTS.
 - ALL PENETRATIONS ARE TO BE APPROVED BY THE ARCHITECT/ENGINEER PRIOR TO THE COMMENCEMENT OF ANY CUTTING AND CORING OPERATIONS.
 - ANY NEW PENETRATIONS OF STRUCTURAL FLOORS OR OTHER MEMBERS SHALL BE X-RAYED TO LOCATE REINFORCING BARS, CONDUIT OR OTHER POSSIBLE OBSTRUCTIONS.
 - REFER TO MECHANICAL AND ELECTRICAL DEMOLITION DRAWINGS FOR SPECIFIC DEMOLITION OF RELATED ITEMS.
 - SEE MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS FOR REQUIRED MECHANICAL, ELECTRICAL AND PLUMBING DEMOLITION.
 - WHERE AREAS OR ITEMS THAT ARE INDICATED TO BE REMOVED, ABUT OR ADJOIN EXISTING CONSTRUCTION INDICATED TO REMAIN, SINKOUT OR OTHERWISE REMOVE TO PROVIDE A CLEAN EDGE. IF EVIDENCE OF DEMOLITION WILL NOT BE CONCEALED BY NEW WORK, PATCH AND/OR REPAIR TRANSITION TO MATCH ADJACENT SURFACE AND FINISH.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF EXISTING STRUCTURES SURROUNDING THE CONTRACT AREA. DAMAGE TO EXISTING STRUCTURES OR EQUIPMENT SHALL BE REPAIRED OR REPLACED AT NO ADDITIONAL COST TO THE OWNER.
 - ERECT TEMPORARY PARTITIONS/BARRIERS AS REQUIRED TO PREVENT CONTAMINATION OF ADJACENT AREAS THAT ARE OR WILL BE USED BY THE OWNER. CONTAMINATION INCLUDES DUST, DEBRIS, AND EXCESSIVE NOISE CAUSED BY DEMOLITION ACTIVITIES.
 - SHORE AND/OR BRACE EXISTING WORK AS REQUIRED TO SAFELY REMOVE ITEM(S) OR EXISTING CONSTRUCTION WITHOUT DAMAGE TO EXISTING CONSTRUCTION INDICATED TO REMAIN.
 - DO NOT MODIFY EXISTING STRUCTURE UNLESS SPECIFICALLY INDICATED ON THE DRAWINGS OR APPROVED IN ADVANCE BY BOTH THE ARCHITECT AND STRUCTURAL ENGINEER.
 - COORDINATE WITH OWNER REGARDING MODIFICATIONS TO EXISTING AV, PHONE, SECURITY SYSTEMS, ETC. PRIOR TO DEMOLITION.

KEYNOTE LEGEND

AD001	REMOVE EXISTING CASEWORK AND COUNTERTOP IN ITS ENTIRETY; SALVAGE FOR REUSE BY OWNER. EXCLUDES REINSTALLATION.
AD002	REMOVE WALL AS REQUIRED FOR OPENING. PATCH WALL AND FLOOR AS REQUIRED. MATCH ADJACENT SURFACES.
AD003	REMOVE DOOR AND FRAME. SALVAGE FOR REUSE BY OWNER.
AD004	REMOVE FINISHED FLOOR DOWN TO SUBFLOOR. PREP SUBFLOOR FOR NEW FINISHED FLOORING PER MANUFACTURER'S INSTRUCTIONS. SEE FINISH SCHEDULE.
AD006	REMOVE EXISTING PLUMBING FIXTURES. SEE MECHANICAL.
AD007	REMOVE EXISTING FUME HOOD; SALVAGE FOR REUSE BY OWNER. CAP EXISTING DUCT RUNS. SEE MECHANICAL.
AD008	PATCH WALL AND FLOOR AS REQUIRED. MATCH ADJACENT SURFACES.
AD009	UNINHORMEL TO REMOVE EXISTING DESK/EQUIPMENT.
AD010	REMOVE AND SALVAGE TVS, WHITEBOARDS, TECHNOLOGY.
AD011	REMOVE EXISTING CASEWORK AND SHELVING. PATCH WALL AND FLOOR AS REQUIRED. MATCH ADJACENT SURFACES.
AD012	REMOVE EXISTING CASEWORK, SINK, EYEWASH, DRYING RACK, PAPER TOWEL, SOAP AND SHELVING.
AD013	REMOVE EXISTING WINDOW AND FRAME. SALVAGE FOR REUSE BY OWNER. INFILL, PATCH, AND REPAIR WALL TO MATCH EXISTING.
AD015	REMOVE EXISTING BIOSAFETY HOOD; SALVAGE FOR REUSE BY OWNER. EXCLUDES REINSTALLATION.
AD016	REMOVE EXISTING WALL MOUNTED EQUIPMENT.
AD018	DISCONNECT EYEWASH. REMOVE AND SALVAGE EXISTING EYEWASH AND SIGNAGE FOR REINSTALLATION.
AD019	REMOVE WALL AS REQUIRED FOR INSTALLATION OF NEW FIRE RATED PARTITION.



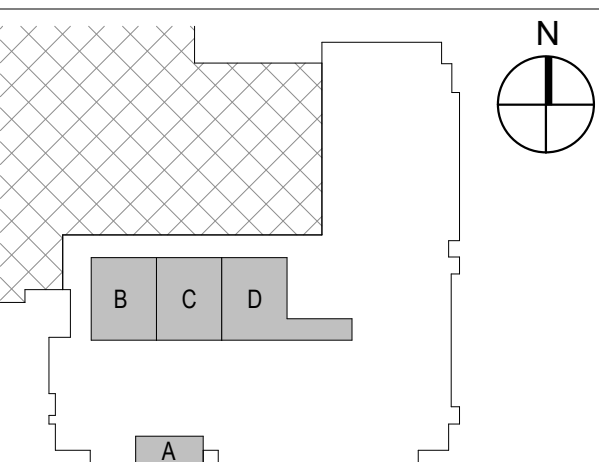
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KEY PLAN



REVISIONS

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FILE LOG

ACTIVITY	BY
Manager	SBS
Design	SPL
Draw	MBV
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ADDENDUM 1
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Project No. 023-10663-000
09/20/2024

DEMOLITION PLAN - LEVEL 1

AD101

[illegible]

ACTIVITY	BY
Manager	MRN
Design	SPA
Draw	MMV
Check	Checker

STAMP

ADDENDUM 1
NOT FOR CONSTRUCTION

DEMOLITION REFLECTED CEILING PLAN
- LEVEL 1

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ADDENDUM 1

A1 DEMOLITION REFLECTED CEILING PLAN LEVEL 1
SCALE: 1/4" = 1'-0"

1. CONSTRUCTION SCHEDULING AND SEQUENCING SHALL BE COORDINATED WITH THE OWNER PRIOR TO BEGINNING ANY WORK. COORDINATE DEMOLITION WORK TO ACCOMMODATE OWNER'S NORMAL OPERATIONS.
2. REVIEW ALL CONTRACT DOCUMENTS AND SPECIFICATIONS AS OBJECT AS IT RELATES TO DEMOLITION.
3. REPORT CONFLICTS AND/OR DISCREPANCIES DISCOVERED IN DOCUMENTS TO THE ARCHITECT FOR CLARIFICATION PRIOR TO STARTING WORK.
4. THE EXISTING CONDITIONS OF THE PROJECT SHALL BE CAREFULLY NOTED ON THE DRAWINGS SHALL BE VERIFIED BY THE GENERAL CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.
5. THE EXISTING CONDITIONS PRIOR TO COMMENCEMENT OF WORK ENSURE WITH OWNER THAT HAZARDOUS MATERIALS, INCLUDING ASBESTOS, HAVE BEEN REMOVED FROM THE BUILDING PRIOR TO COMMENCEMENT OF WORK.
6. DEMOLITION DRAWINGS SHALL BE PREPARED BY THE ARCHITECT. IF DEMOLITION WORK NECESSARY IS SPECIFICALLY INDICATED, THE EXTENT AND METHOD OF DEMOLITION SHALL BE AS REQUIRED TO ACCOMMODATE NEW WORK.
7. DEMOLITION OF NO WORK SHALL BE REQUIRED TO ACCOMMODATE NEW ACTIVITIES ARE NOT ANTICIPATED IN THE DESIGNATED ROOM OR AREA. INCIDENTAL REPAIR OR DEMOLITION MAY BE REQUIRED TO ACCOMMODATE NEW WORK.
8. DEMOLITION SHALL BE INDICATED BY THE ARCHITECT ON THE DRAWINGS.
9. PATCH AND REPAIR EXISTING CONSTRUCTION WHICH IS DAMAGED OR DISTURBED DURING DEMOLITION TO MATCH EXISTING OR RESTORE TO ITS ORIGINAL CONDITION.
10. CONTRACTOR SHALL COORDINATE DEMOLITION AND CUT AND PATCHING WORK WITH NEW CONSTRUCTION TO MINIMIZE CUT AND PATCHING. SEE NEW CONSTRUCTION DRAWINGS FOR COORDINATION AND THE SPECIFICATIONS FOR CUT AND PATCHING REQUIREMENTS.
11. ALL PENETRATIONS ARE TO BE APPROVED BY THE ARCHITECT/ENGINEER PRIOR TO CONSTRUCTION.
12. ALL NEW PENETRATIONS OF STRUCTURAL FLOORS OR OTHER MEMBERS SHALL BE X-RAYED TO LOCATE REINFORCING BARS, CONDUIT OR OTHER POSSIBLE OBSTRUCTIONS.
13. REFER TO MECHANICAL AND ELECTRICAL DEMOLITION DRAWINGS FOR SPECIFIC DEMOLITION OF RELATED ITEMS).
14. MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS FOR REQUIRED MECHANICAL, ELECTRICAL AND PLUMBING DEMOLITION.
15. WHERE AREAS OR ITEMS THAT ARE INDICATED TO BE REMOVED, ABUT OR ADJOIN ARE TO BE REMOVED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE REQUIRED TO REMOVE TO PROVIDE A CLEAN EDGE. IF EVIDENCE OF DEMOLITION WILL NOT BE CONCEALED BY NEW WORK, PATCH AND REPAIR TRANSITION TO MATCH ADJOINING SURFACE AND FINISHES.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF EXISTING STRUCTURES SURROUNDING THE CONTRACT AREA. DAMAGE TO EXISTING STRUCTURES OR EQUIPMENT SHALL BE REPAIRED OR REPLACED AT NO ADDITIONAL COST TO THE OWNER.
17. ERECT TEMPORARY PARTITIONS/BARRIERS AS REQUIRED TO PREVENT CONFLICTS OF ADJACENT ACTIVITIES.
18. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE OWNER, CONTAINMENT INCLUDES DUST, DEBRIS, AND EXCESSIVE NOISE CAUSED BY DEMOLITION ACTIVITIES.
19. SHOW THE BRACE AND SHORING WORK AS REQUIRED TO SAFELY REMOVE ITEMS) OR EXISTING CONSTRUCTION WITH DAMAGE TO EXISTING CONSTRUCTION INDICATED TO REMAIN.
20. DEMOLITION OF EXISTING ROOF SYSTEMS, UNLESS SPECIFICALLY NOTICATED ON THE DRAWINGS OR APPROVED IN ADVANCE BY BOTH THE ARCHITECT AND STRUCTURAL ENGINEER.
21. COORDINATE WITH OWNER REGARDING MODIFICATIONS TO EXISTING AV, PHONE, AND DATA SYSTEMS PRIOR TO DEMOLITION.

AC01	EXISTING CEILING TO REMAIN
AD05	REMOVE EXISTING CEILING GRID AND TILES, INCLUDING ALL HANGERS AND/OR SUPPORTING ELEMENTS, MECHANICAL AND ELECTRICAL FIXTURES.
AD14	REMOVE AND REINSTALL EXISTING CEILING TO RE-ROUTE CABLE TRAY, GAS PIPING, DUCTS, AND OTHER PIPING AS NEEDED.
AD20	REMOVE AND SALVAGE EXISTING CABLE TRAY AND RELOCATE TO ABOVE NEW HIGHER CEILING OR RE-ROUTE CABLE AROUND ROOM IN EXISTING CABLE TRAY. DATA CABLEING MUST BE IN CABLE TRAY OR CONDUIT PER UNIVERSITY OF MINNESOTA STANDARDS. JHOOKS ARE NOT ALLOWABLE.

EXISTING WALL TO BE DEMOLISHED

WALL TO REMAIN

CEILING TO BE DEMOLISHED

EXISTING CEILING TO REMAIN

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



GENERAL FLOOR PLAN NOTES

- PENETRATIONS THROUGH NON-RATED FLOORS, WALLS AND OTHER ASSEMBLIES SHALL BE SEALED AT BOTH SIDES WITH MATERIALS APPROPRIATE TO THE ASSEMBLY CONSTRUCTION TO REDUCE SOUND TRANSMISSION.
- PENETRATIONS THROUGH FIRE-RATED FLOORS, WALLS AND OTHER ASSEMBLIES SHALL BE PROTECTED BY MATERIALS AND INSTALLATION DETAILS THAT CONFORM TO UL OR OTHER APPROVED LISTINGS AND MATCH THE RATING OF THE CONSTRUCTION BEING PENETRATED.
- PROVIDE BLOCKING AS REQUIRED TO SUPPORT WALL MOUNTED ITEMS.
- VERIFY CLEARANCES REQUIRED FOR INSTALLATION OF RECESSED OR SEMI-RECESSED EQUIPMENT AND FIXTURES (E.G. CABINETS, DISPENSERS, PANELS). NOTIFY ARCHITECT IMMEDIATELY IF SPECIFIED WALL TYPES DO NOT PROVIDE ADEQUATE SPACE FOR PROPER INSTALLATION.
- REFER TO ENLARGED FLOOR PLANS AND DETAILS FOR ADDITIONAL DIMENSIONS.
- INTERIOR PARTITION TYPE INFORMATION IS LOCATED ON SHEET AE101.
- REFER TO SHEET AE501 FOR FRAME TYPES.
- LOCATE DOOR FRAMES IN GYP BOARD PARTITIONS 4" CLEAR FROM ADJACENT PERPENDICULAR WALLS UNLESS NOTED OTHERWISE.
- FLOOR PLAN DIMENSIONS ARE LOCATED FROM THE FINISHED FACE OF PARTITIONS, UNLESS NOTED OTHERWISE.
- DO NOT SCALE DRAWINGS. DIMENSIONS SHALL GOVERN.
- PROVIDE VERTICAL AND HORIZONTAL CONTROL JOINTS PER SPECIFICATIONS AND AS INDICATED IN DRAWINGS, WHERE APPLICABLE. COORDINATE LOCATIONS WITH ARCHITECT PRIOR TO INSTALLATION WHERE JOINTS WILL BE VISIBLE.
- REFER TO LIFE SAFETY PLANS FOR COORDINATION OF RATED FLOORS, WALLS, AND OTHER ASSEMBLIES. COMPLIANCE WITH LIFE SAFETY INFORMATION IS REQUIRED WHETHER EXPLICITLY SHOWN IN DRAWINGS OR NOT.

FLOOR PLAN LEGEND

- EXISTING WALLS AND DOORS TO REMAIN
- NEW WALLS AND DOORS
- DASHED EQUIPMENT PROVIDED BY OWNER; OWNER INSTALLED
- AREA NOT IN SCOPE
- AIR TIGHT WALL

KEYNOTE LEGEND

- AF01 FURNITURE LAYOUT BY THERMO FISHER SCIENTIFIC.
- AF02 EQUIPMENT SHOWN FOR REFERENCE ONLY. EQUIPMENT LAYOUT BY THERMO FISHER SCIENTIFIC. SEE SCHEDULE ON ELECTRICAL SHEET E102.
- AF03 EXISTING EYE WASH TO REMAIN.
- AF04 PROVIDE AIR TIGHT SEAL AT TOP OF EXISTING WALLS AND ALL PENETRATIONS TO DECK. ALL NEW AND EXISTING PENETRATIONS TO BE RATED FOR 1 HOUR. ADD ACOUSTIC BATT INSULATION AS NEEDED FOR SEALANT BACKER.
- AF05 PATCH DRYWALL ABOVE CEILING AS NEEDED FOR PIPE RELOCATION.
- AF09 EXTEND PIPING TO NEW PARTITION. REINSTALL EXISTING EYEWASH AND SIGNAGE.
- AF10 PROVIDE 1'-0" DEEP MEP SHELVEING AT 8'-0" AFF.
- AF11 PROVIDE WALL PAINT UP TO DECK FOR CONTINUOUS VAPOR BARRIER.
- AF12 PROVIDE CYLINDER RESTRAINTS WITH SOLID SURFACE BACKING BEHIND.

AIR TIGHT WALL CRITERIA

- CONTRACTOR IS RESPONSIBLE FOR AIR TIGHT CONSTRUCTION AND FOR MEETING PERFORMANCE OF AIR TIGHT WALL.
- SEALANT COLOR FOR AIR TIGHT WALLS TO BE BLUE.
- AIR TIGHT WALLS TO EXTEND FROM FLOOR TO DECK. SEE WALL TYPES FOR STUD TYPES AND WALL CONSTRUCTION.
- SEAL ALL PENETRATIONS WITH SEALANT ON BOTH SIDES OF WALL.
- SEAL BASE OF WALL TO FLOOR WITH SEALANT (BOTH SIDES).
- SEAL TOP OF WALL WITH SEALANT (BOTH SIDES).
- SEAL AROUND ALL DOORS AND WINDOWS WITH SEALANT (BOTH SIDES).
- SEAL ELECTRICAL BOXES WITH PUTTY AND SEAL BOX TO GYPSUM BOARD WITH SEALANT.
- WALLS TO BE VISUALLY INSPECTED TO ENSURE ALL PENETRATIONS ARE SEALED.
- NO BACK TO BACK PENETRATIONS IN AIR TIGHT WALLS.
- PRESSURIZE ROOMS PRIOR TO CEILING INSTALL TO VERIFY ROOMS HOLD PRESSURE.
- IF ROOMS DO NOT HOLD PRESSURE, THEN A SMOKE TEST IS TO BE PERFORMED AT CONTRACTOR'S EXPENSE TO FIND AIR LEAKS. PRESSURIZE ROOM AND REPEAT PROCESS UNTIL ROOM HOLDS PRESSURE AS DESIGNED BY MECHANICAL ENGINEER.
- LABEL AIR TIGHT WALLS ABOVE CEILING: "AIR TIGHT WALL. SEAL ALL PENETRATIONS TO HOLD PRESSURE". STENCIL TO BE 10" HIGH LETTERS IN PHOTOLUMINESCENT RED. STENCIL EACH WALL ON BOTH SIDES. CENTER ON WALL.
- AIR TIGHT WALLS TO HAVE LIMITED DEFLECTION OF 1/2-INCH. DESIGN STUD GA TO MEET 1/2-INCH MAXIMUM STUD DEFLECTION.
- AIR TIGHT WALL CONSTRUCTION TO BE LESS THAN BUT NOT EQUAL TO < 03 CFMSQFT/MIN.
- AIR TIGHT WALL CONSTRUCTION REQUIRES BLOWER DOOR TESTING IN EACH ROOM TO VERIFY LESS THAN BUT NOT EQUAL TO < 03 CFMSQFT/MIN IS BEING ACHIEVED.

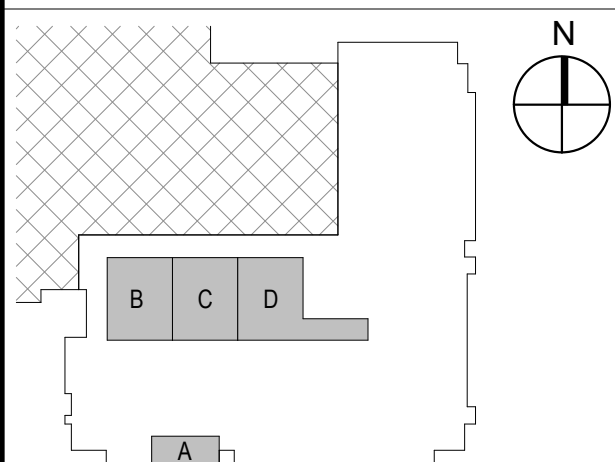
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801 16th Ave NE
Austin, MN 55912

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100 Church Street SE
Minneapolis, MN 55455



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Minneapolis, MN 55402-2455
Tel 612.338.8741 Fax 612.338.4840

KEY PLAN



REVISIONS

NO.	DESCRIPTION	DATE

FILE LOG

ACTIVITY	BY
Manager	SPN
Design	SPN
Draw	MBV
Check	Checker

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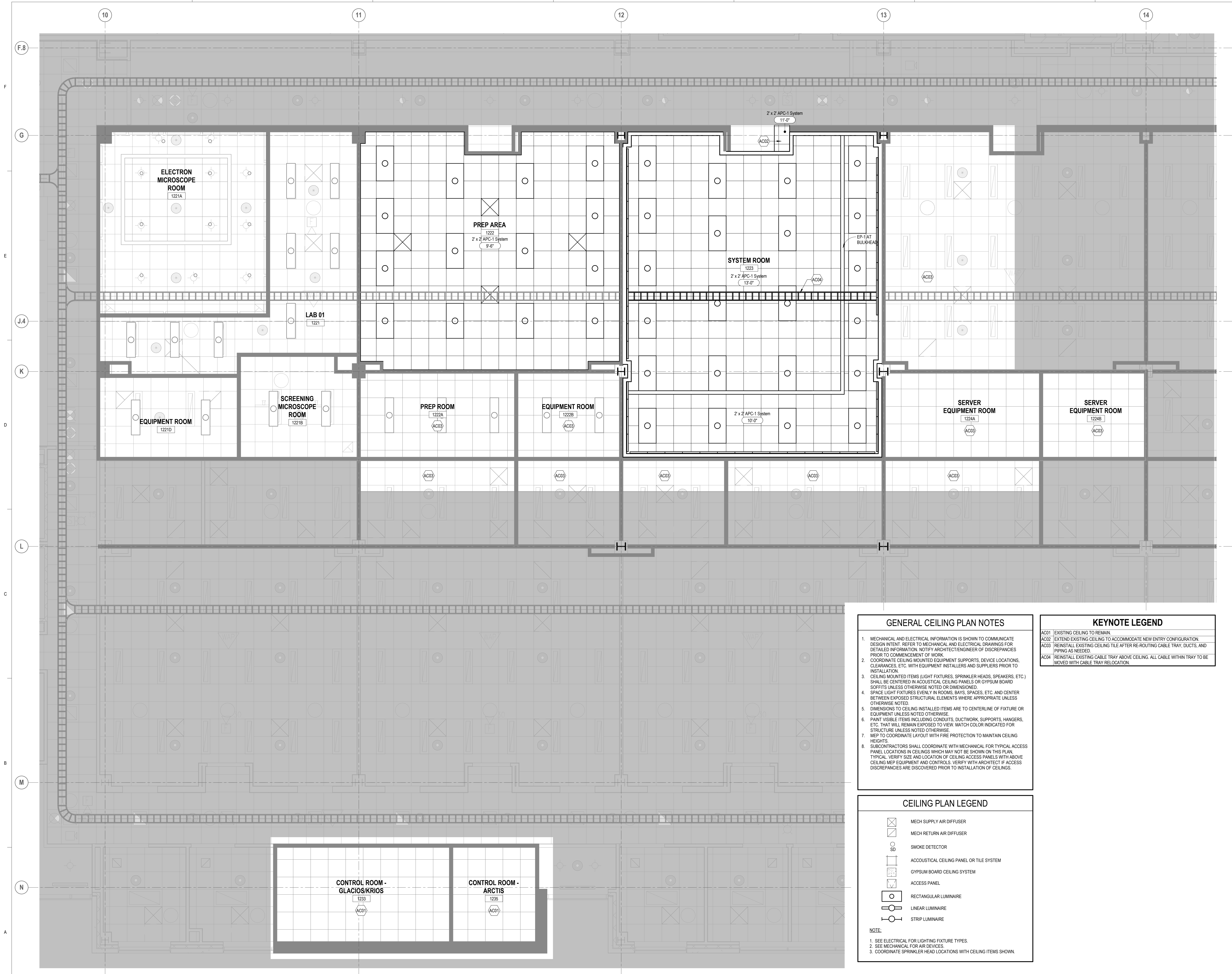
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FLOOR PLAN - LEVEL 1

AE101

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A1 REFLECTED CEILING PLAN LEVEL 1
SCALE: 1/4" = 1'-0"

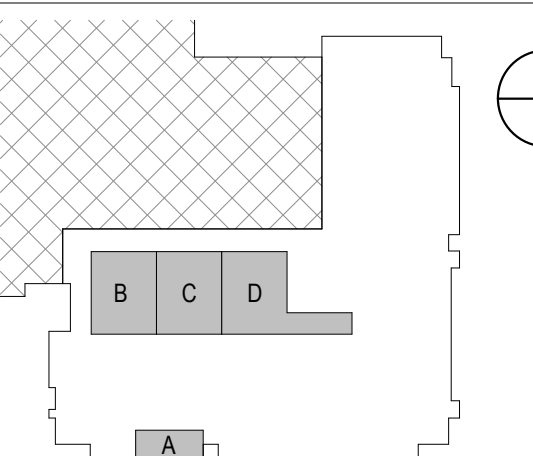
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Minneapolis, MN 55402.2455
Tel 612.338.8741 Fax 612.338.4840

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Check	Checker

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Project No. 023-10663-000
09/20/2024

REFLECTED CEILING PLAN - LEVEL 1

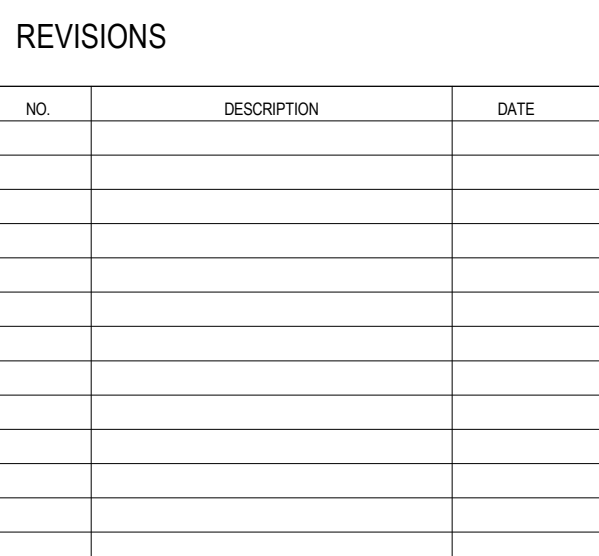
AE102

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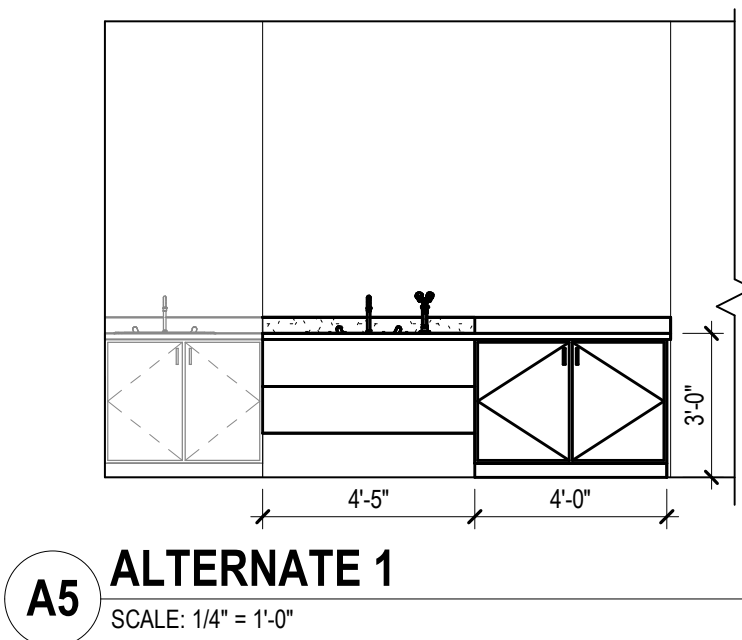
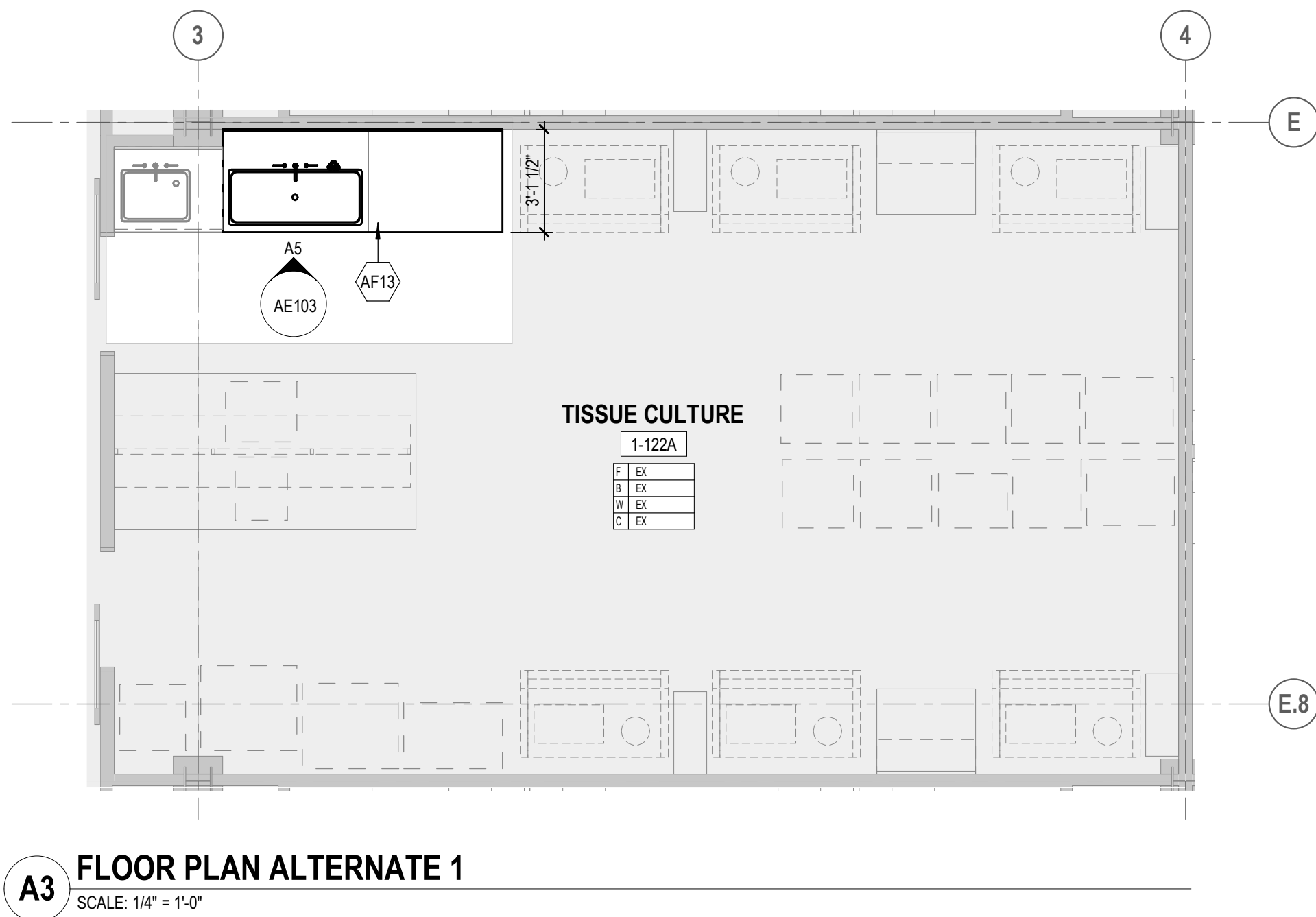
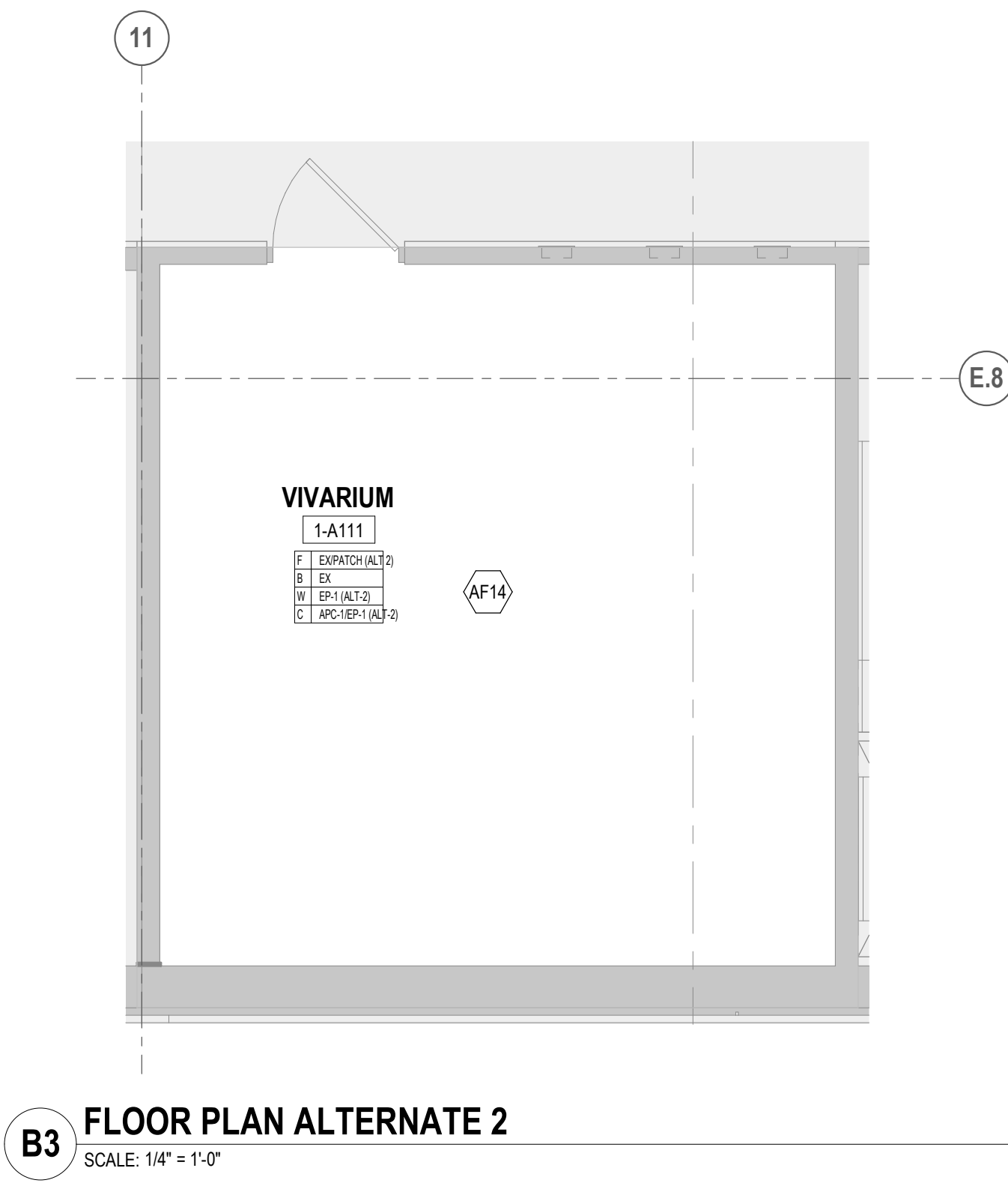
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ADDENDUM 1
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ALTERNATE 1 AND 2

AE103



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A

B

C

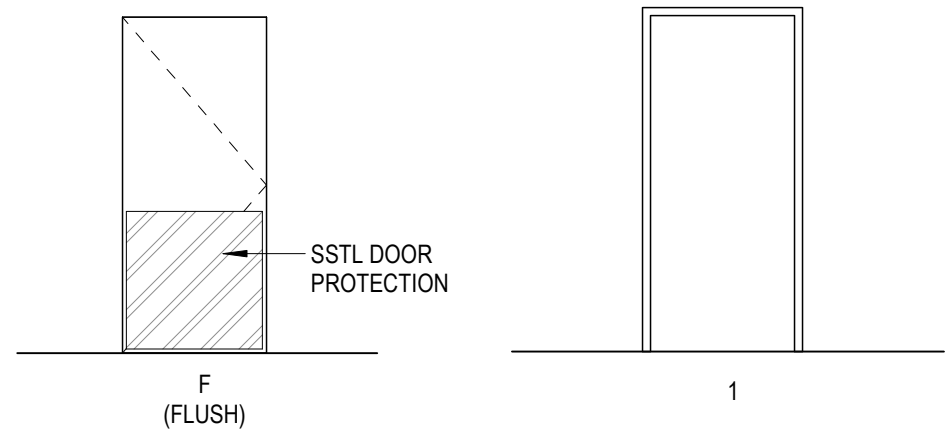
D

E

F

DOOR SCHEDULE

DOOR NO.	DOOR				HDWE SET	TYPE	DOOR			TYPE	FRAME			LABEL HOUR	REMARKS
	PANEL 1 WIDTH	WIDTH	HEIGHT	NA			MATL	FIN			MATL	FIN			
1222	PR 3'-0"	4'-0"	7'-0"	NA	F/F		EXISTING	EXISTING	1	HM	EXISTING	-	-	-	
1222A	3'-6"	3'-6"	7'-0"	03	F		WD (MATCH EX)	STN (MATCH EX)	1	HM	MATCH EX	-	-	-	
1223	PR 3'-0"	5'-0"	7'-0"	01	F/F		WD (MATCH EX)	STN (MATCH EX)	1	HM	MATCH EX	45		REUSE EXISTING CARD READER & PWR SUPPLY - REMAINDER NEW HARDWARE	
1223-1	3'-0"	3'-0"	7'-0"	02	F		WD (MATCH EX)	STN (MATCH EX)	1	HM	MATCH EX	45		CARD READER	
1224A	3'-6"	3'-6"	7'-0"	02	F		WD (MATCH EX)	STN (MATCH EX)	1	HM	MATCH EX	-		CARD READER	
1224B	3'-0"	3'-0"	7'-0"	03	F		WD (MATCH EX)	STN (MATCH EX)	1	HM	MATCH EX	-			
1233	3'-0"	3'-0"	7'-0"	02	F		EXISTING	EXISTING	1	HM	EXISTING	-		CARD READER	
1235	3'-0"	3'-0"	7'-0"	02	F		EXISTING	EXISTING	1	HM	EXISTING	-		CARD READER	

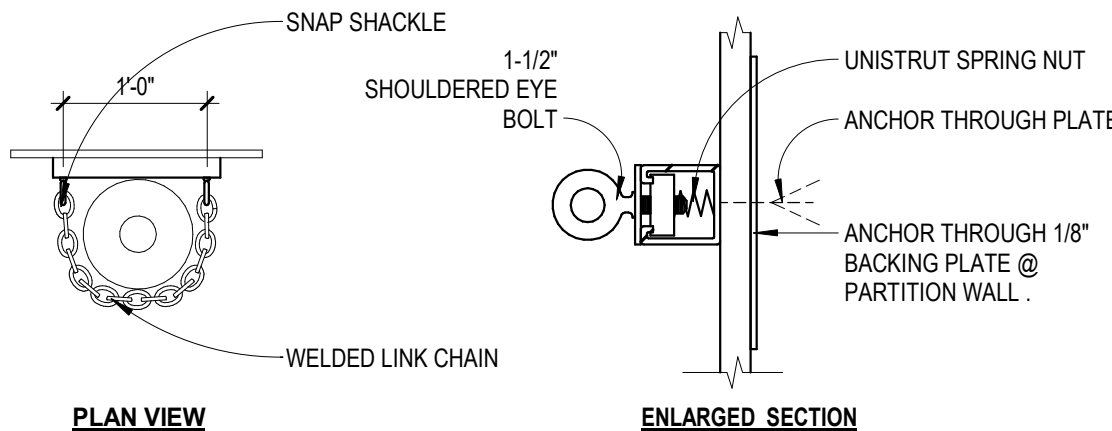


DOOR TYPES

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

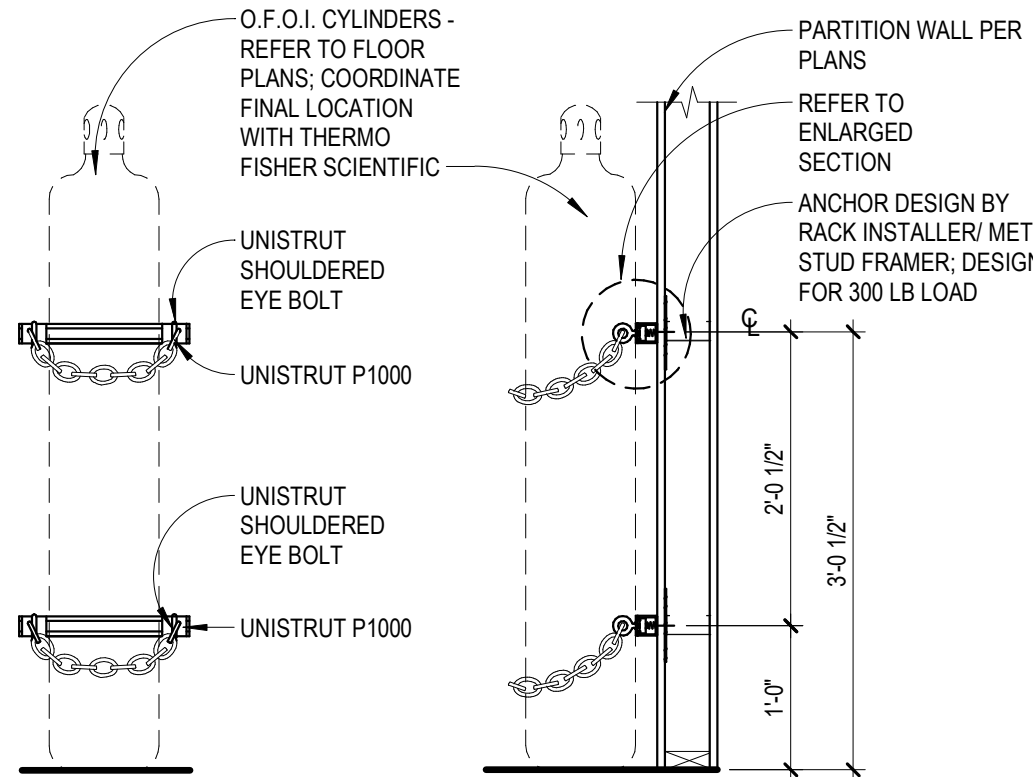
FRAME TYPES

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



PLAN VIEW

ENLARGED SECTION



ELEVATION VIEW

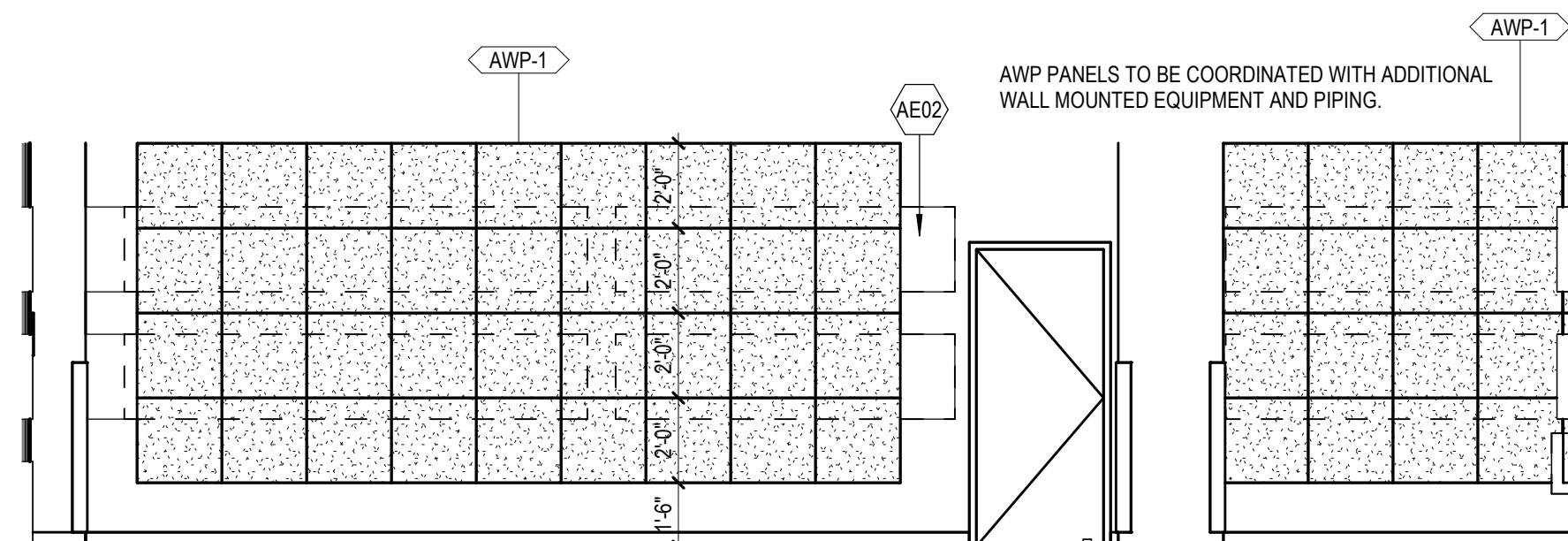
SECTION VIEW

C1 CYLINDER RESTRAINT

SCALE: 3/4" = 1'-0"

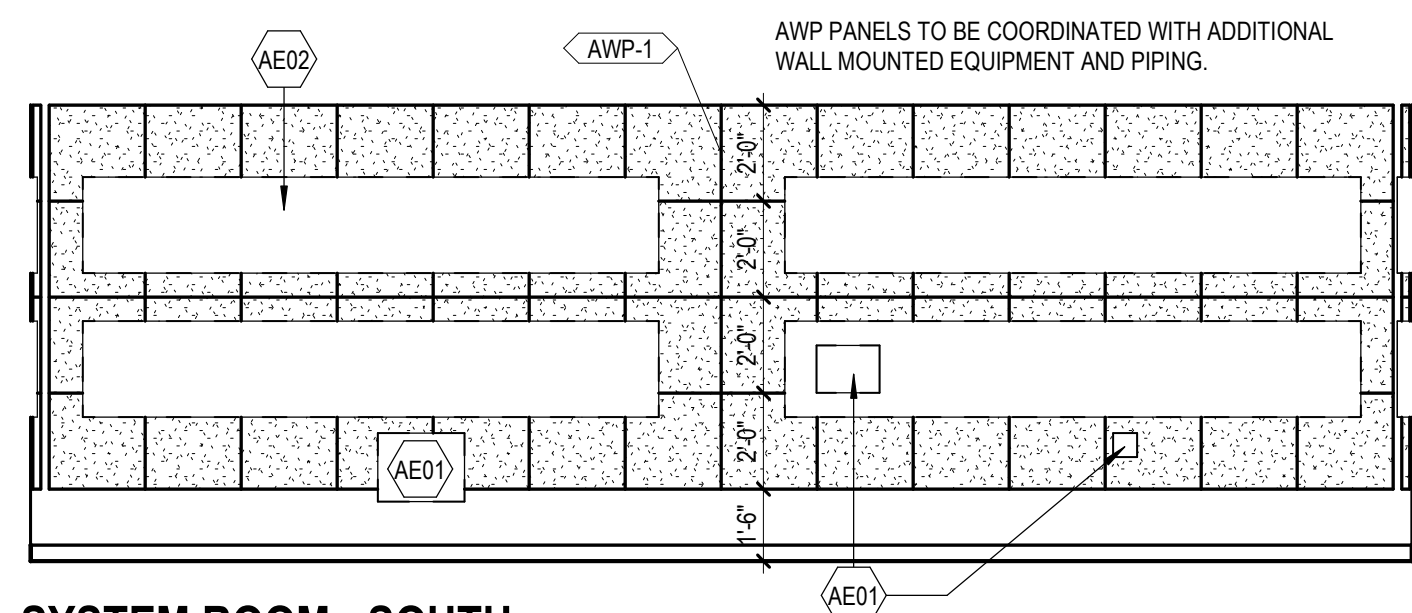
A1 SYSTEM ROOM - EAST

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



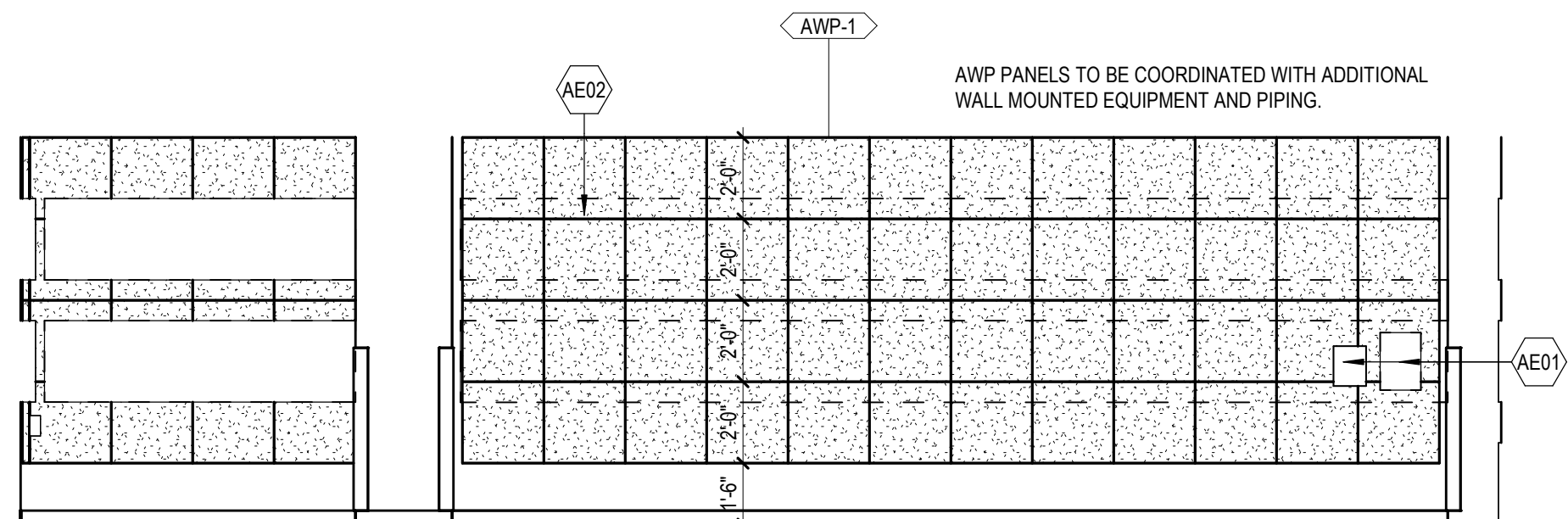
A3 SYSTEM ROOM - SOUTH

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



A5 SYSTEM ROOM - WEST

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



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100 Church Street SE
Minneapolis, MN 55455



730 Second Avenue South, Suite 1300
Minneapolis, MN 55402-2455
Tel 612.338.8741 Fax 612.338.4840

KEY PLAN



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ACTIVITY	BY
Manager	MBN
Design	SFA
Draw	MBN
Check	Checker

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ADDENDUM 1
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Project No. 023-10663-000
09/20/2024

DETAILS

AE501

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A1 SIGNAGE PLAN LEVEL 1
SCALE: 1/4" = 1'-0"

GENERAL SIGNAGE NOTES

1. INSTALLATION SHALL MEET ALL REQUIREMENTS OF THE ARCHITECTURAL BARRIERS ACT (ABA) AND THE AMERICANS WITH DISABILITIES ACT (ADA). REQUIREMENTS WILL OVERRIDE DETAILS SHOWN IN CONFLICT.
2. INSTALLATION SHALL MEET ALL LOCAL, STATE, AND FEDERAL BUILDING AND SAFETY CODES.
3. HANGING AND FLAG SIGNS SHALL NOT OBSTRUCT "EXIT" SIGNS NOR SPRINKLER HEADS AND SHALL BE MODIFIED TO OPPOSITE SIDE OF DOOR OR HELD FURTHER OFF WALL SURFACE.
4. HANGING AND FLAG SIGNS SHALL REMAIN 24 INCHES FROM SPRINKLER HEADS.
5. SIGNS SHALL NOT VISUALLY BLOCK ILLUMINATED "EXIT" SIGNS. EXIT SIGNS MUST BE VISUALLY UNOBSTRUCTED FROM A DISTANCE OF 100 FEET.
6. TACTILE EXIT SIGNAGE SHALL BE PROVIDED AT ALL EXIT DOORS WITH OVERHEAD LIT EXIT SIGNS. REFER TO ELECTRICAL LIGHTING PLANS FOR MOUNTING LOCATIONS OF OVERHEAD LIT EXIT SIGNS.
7. LOCATIONS MAY VARY UP TO 1 INCH LEFT OR RIGHT OF DESIGNATION UNLESS FIELD CONDITIONS REQUIRE FURTHER MODIFICATION. REVIEW ON SITE WITH ARCHITECT.
8. COORDINATE MOUNTING WITH UNIVERSAL DESIGN CRITERIA ON SHEET IN601.
9. COORDINATE MOUNTING LOCATIONS WITH SIGNAGE PLANS. WALL MOUNTED OVERHEAD SIGNS INDICATED AS CENTERED ON BULKHEADS CAN BE MODIFIED LEFT OR RIGHT AS REQUIRED BY "EXIT" SIGNS OR OTHER OBSTRUCTIONS.
10. SIGNS UNABLE TO MEET ADA/ABA STANDARD LATCH POSITION CAN BE PLACED AT HINGE LOCATION OR POSITIONED UP TO 2 INCHES FROM FRAME. CORNER LOCATIONS CAN BE MODIFIED TO NEAREST INSIDE WALL AT LATCH SIDE OF FRAME. TACTILE SIGNS SHOULD NOT BE PLACED ON A DOOR AS AN ALTERNATIVE LOCATION UNLESS DESIGNATED ON PLAN OR ON SCHEDULE.
11. CLEAR SILICONE ADHESIVE SHALL BE ADDED INSIDE TAPE AREA AT A MINIMUM OF TWO LOCATIONS. NO SILICONE TO BE VISIBLE AROUND EDGES OF SIGN.
12. SIGNAGE ROOM NUMBER MAY DIFFER FROM PLAN ROOM NUMBER. REFER TO DETAIL DRAWINGS AND "ROOM NO. FOR SIGNAGE" COLUMN.
13. "-" IN MESSAGE LINE COLUMN INDICATES MESSAGE LINE IS NOT APPLICABLE TO THAT SIGN TYPE.
14. TYPEFACE SHALL MATCH BUILDING STANDARD.
15. TYPEFACE COLOR SHALL MATCH BUILDING STANDARD, U.N.O.
16. BACKGROUND COLOR SHALL MATCH BUILDING STANDARD, U.N.O.
17. PAINT REFERENCES FOR SIGNAGE COLORS INTEND FOR MANUFACTURER'S COLOR TO MATCH INDICATED PAINT COLOR. THIS DOES NOT INDICATE THE SIGN SHOULD BE PAINTED.
18. ALL SIGNAGE TYPES AND MESSAGES SHALL BE REVIEWED AND APPROVED BY OWNER OR DESIGNATED REPRESENTATIVE. ALL SIGNAGE NAMES AND NUMBERS SHALL BE VERIFIED PRIOR TO FABRICATION.
19. SIGNAGE PURCHASED AND INSTALLED BY CONTRACTOR.
20. OWNER TO VERIFY HAZARDS FOR SIGN TYPE H1.

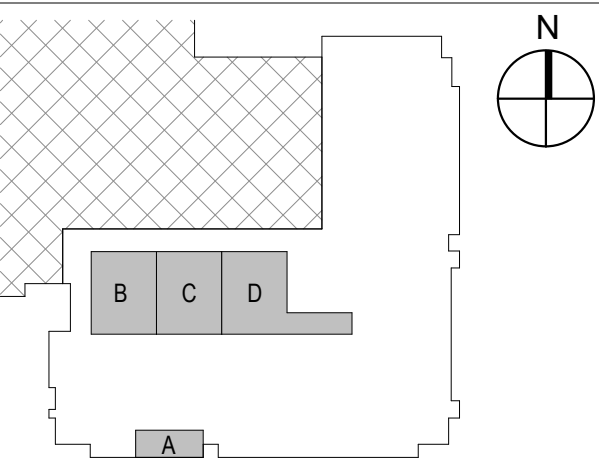
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Tel 612.338.8741 Fax 612.338.4840

KEY PLAN



REVISIONS

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Manager	SPB
Drafter	SPB
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Checker	SPB

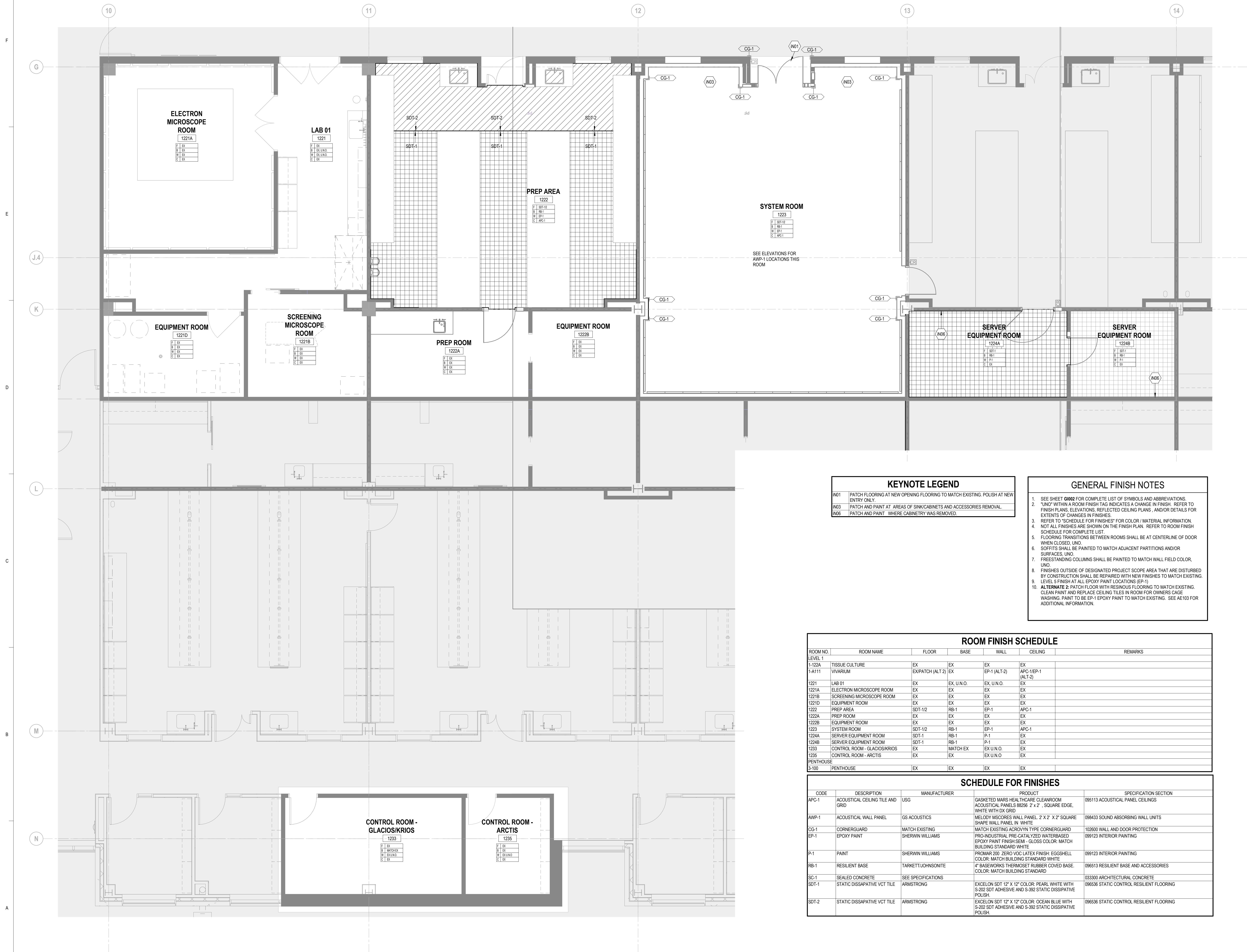
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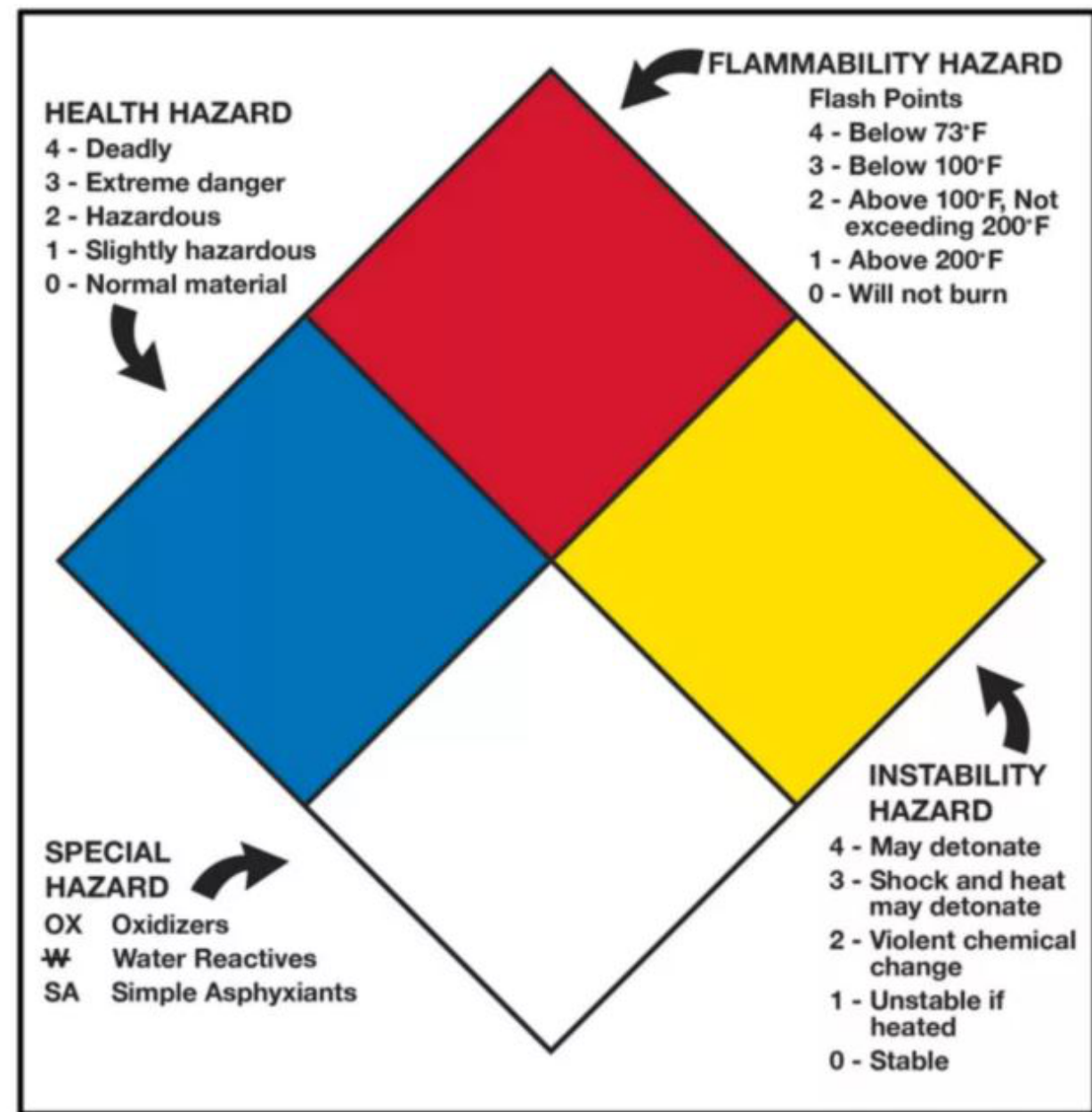
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09/20/2024

SIGNAGE PLAN LEVEL 1

IG101



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



8 1/2" APPROX.

1" ROOM NUMBER (AS SEEN IN FLOOR PLAN) OR NAME

BRaille

BRaille

ACRYLIC

FLANGE

7 3/4" APPROX.

LINE 1

LINE 2

LINE 3

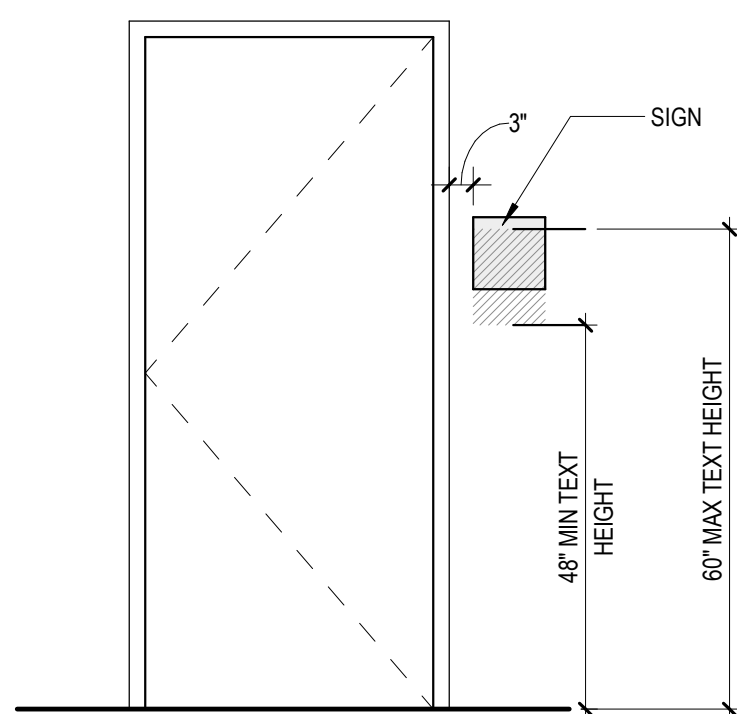
ACRYLIC

REMOVABLE INSERT

5/8" MESSAGE

DRAWING INDICATES DESIGN INTENT.
MATCH BUILDING STANDARD SIGNAGE FOR
TYPE, SIZE, CONSTRUCTION AND
COLOR MATERIALS.

B2 SIGN TYPE A1- ROOM IDENTIFICATION SIGN



SIGNAGE SCHEDULE					
ROOM NO. / DOOR TAG	ROOM NAME	SIGN TYPE	MESSAGE		REMARKS
			LINE 1	LINE 2	
A1					
1223	SYSTEM ROOM	A1	EQUIPMENT	ROOM	
1233	CONTROL ROOM - GLACIOS/KRICOS	A1	CONTROL	ROOM	
1235	CONTROL ROOM - ARCTIS	A1	CONTROL	ROOM	
A1: 3					
B1					
1223	SYSTEM ROOM	B1			
B1: 1					
H1					
		H1	*NFPA HAZARD	ROOM	
1222	PREP AREA	H1	*NFPA HAZARD		
H1: 2					

ACTIVITY	BY
Manager	MRN
Design	JSG
Drow	JSG
Check	SPA

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Project No. 023-10663-000
09/20/2024

SIGNAGE SCHEDULE & DETAILS

IN601

F

E

D

C

B

A

PIPING LINES	
SYMBOL	DESCRIPTION
	SANITARY SEWER (BELOW FLOOR)
	STORM DRAIN (BELOW FLOOR)
	STORM DRAIN OVERFLOW (BELOW FLOOR)
	SUBSOIL DRAIN (BELOW FLOOR)
	SANITARY SEWER (ABOVE FLOOR)
	STORM DRAIN (ABOVE FLOOR)
	STORM DRAIN OVERFLOW (ABOVE FLOOR)
	SUBSOIL DRAIN (ABOVE FLOOR)
	SANITARY VENT
	ACID WASTE (BELOW FLOOR)
	ACID WASTE (ABOVE FLOOR)
	ACID VENT
	DOMESTIC COLD WATER
	DOMESTIC HOT WATER
	DOMESTIC HOT WATER RECIRCULATING
	TEMPERED WATER
	TEMPERED WATER RECIRCULATING
	DRINKING WATER SUPPLY
	DRINKING WATER RECIRCULATING
	IRRIGATION WATER MAIN
	NATURAL GAS
	FIRE LINE
	SPRINKLER MAIN
	FUEL OIL SUPPLY
	FUEL OIL RETURN
	FUEL OIL VENT
	FUEL OIL FILL
	FUEL OIL GAGE
	NON POTABLE COLD WATER
	NON POTABLE HOT WATER
	SOFT COLD WATER
	SOFT HOT WATER
	REVERSE OSMOSIS RETURN
	REVERSE OSMOSIS SUPPLY
	PURE WATER SUPPLY
	PURE WATER RETURN

MEDICAL GAS PIPING	
	COMPRESSED AIR
	VACUUM
	MEDICAL COMPRESSED AIR
	MEDICAL VACUUM
	OXYGEN
	NITROUS OXIDE
	NITROGEN
	CARBON DIOXIDE
	WASTE ANESTHETIC GAS DISPOSAL
	DENTAL AIR
	DENTAL SURGICAL VACUUM
	DENTAL VACUUM
	INSTRUMENT AIR
	ORAL EVACUATION

PIPE VALVES, FITTINGS, SENSORS AND GAGES	
SYMBOL	DESCRIPTION
	GATE VALVE
	GLOBE VALVE
	CHECK VALVE
	BUTTERFLY VALVE
	ECCENTRIC PLUG VALVE
	BALL VALVE
	STRAINER
	UNION
	FLANGE
	CAP
	BLIND FLANGE
	BALANCING VALVE
	GAS COCK
	PRESSURE REGULATING VALVE
	SOLENOID VALVE
	CONTROL VALVE (2-WAY)
	CONTROL VALVE (3-WAY)
	THERMOMETER
	PRESSURE GAGE
	SAFETY RELIEF VALVE
	COCK (GAGE, AIRVENT, DRAIN)
	PIPE ANCHOR
	PIPE GUIDE
	PIPE EXPANSION COMPENSATOR
	VACUUM BREAKER
	SUPERVISED O S & Y VALVE
	FLOW MEASURING ELEMENT
	TEST PLUG
	SIGHT GLASS (FLOW TYPE)
	AIR ELIMINATOR
	TEMPERATURE & PRESSURE RELIEF VALVE
	STEAM TRAP
	PIPE ELBOW UP
	PIPE ELBOW DOWN
	PIPE TEE UP
	PIPE TEE DOWN
	CLEANOUT
	FLOOR CLEANOUT
	GRADE CLEANOUT
	WALL CLEANOUT
	FLEXIBLE PIPE CONNECTION
	DRAINS - FLOOR - FD, TRENCH - TD, AREA - AD
	ROOF DRAIN OR OVERFLOW ROOF DRAIN
	HOSE BIBB
	WALL HYDRANT
	FIRE DEPARTMENT CONNECTION
	FLOW SWITCH
	WATER METER
	BACKFLOW PREVENTER
	FIRE HOSE CABINET
	FIRE VALVE CABINET

GENERIC ANNOTATIONS	
SYMBOL	DESCRIPTION
	CONTINUATION - PIPE NOT SHOWN
	CONNECT TO EXISTING
	KEYNOTE
EQUIP ID	MECHANICAL EQUIPMENT TAG

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RENOVATION
801 16th Ave NE
Austin, MN 55912

UNIVERSITY OF
MINNESOTA
100 Church Street SE
Minneapolis, MN 55455



730 Second Avenue South, Suite 1300
Minneapolis, MN 55402-2455
Tel 612.338.8741 Fax 612.338.4840

KEY PLAN

REVISIONS

NO.	DESCRIPTION	DATE

FILE LOG

ACTIVITY	BY
Manager	SMN
Design	SLW
Draw	MLG
Check	Checker

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08/29/2024

PLUMBING NOTES, SYMBOLS AND
ABBREVIATIONS

P-001

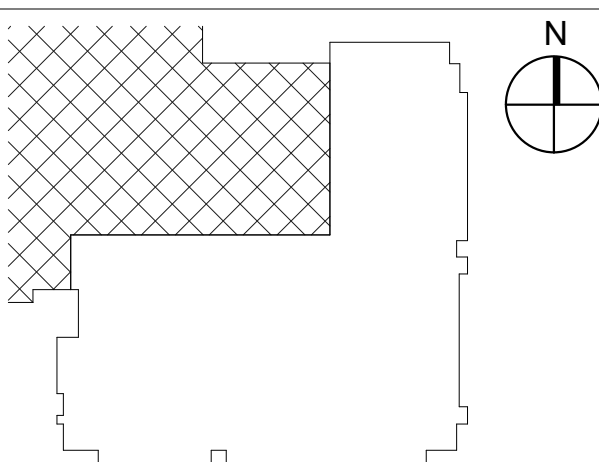
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Austin, MN 55912

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Minneapolis, MN 55402-2455
Tel 612.338.8741 Fax 612.338.4840

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Manager	MRN
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PLUMBING DEMOLITION PLAN
UNDERGROUND - ALTERNATE 2

PD100-3

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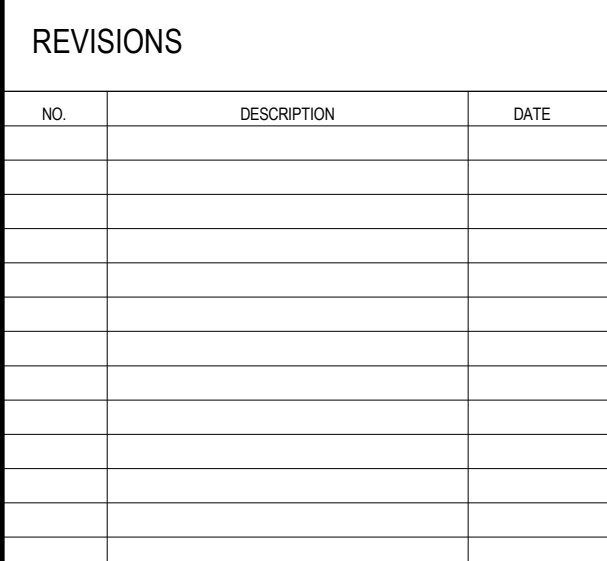
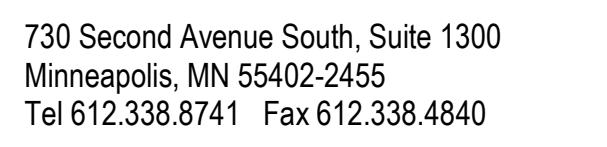
Project Status

Model: Autodesk Docs://023-10663-000_Hornel_Artis_Room/ HAR-MEP-FP.rvt

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A1 PLUMBING DEMOLITION PLAN UNDERGROUND - ALTERNATE 2
SCALE: 1/4" = 1'-0"

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

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Project No. 023-10663-000
08/29/2024

PD100-A

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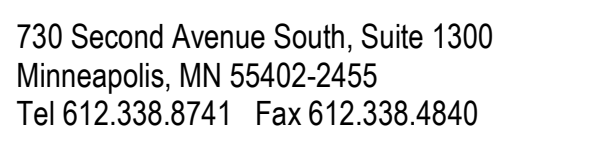
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Manager	MRN
Design	KLW
One	MLG
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PLUMBING DEMOLITION PLAN LEVEL 1 -
ALTERNATE 2

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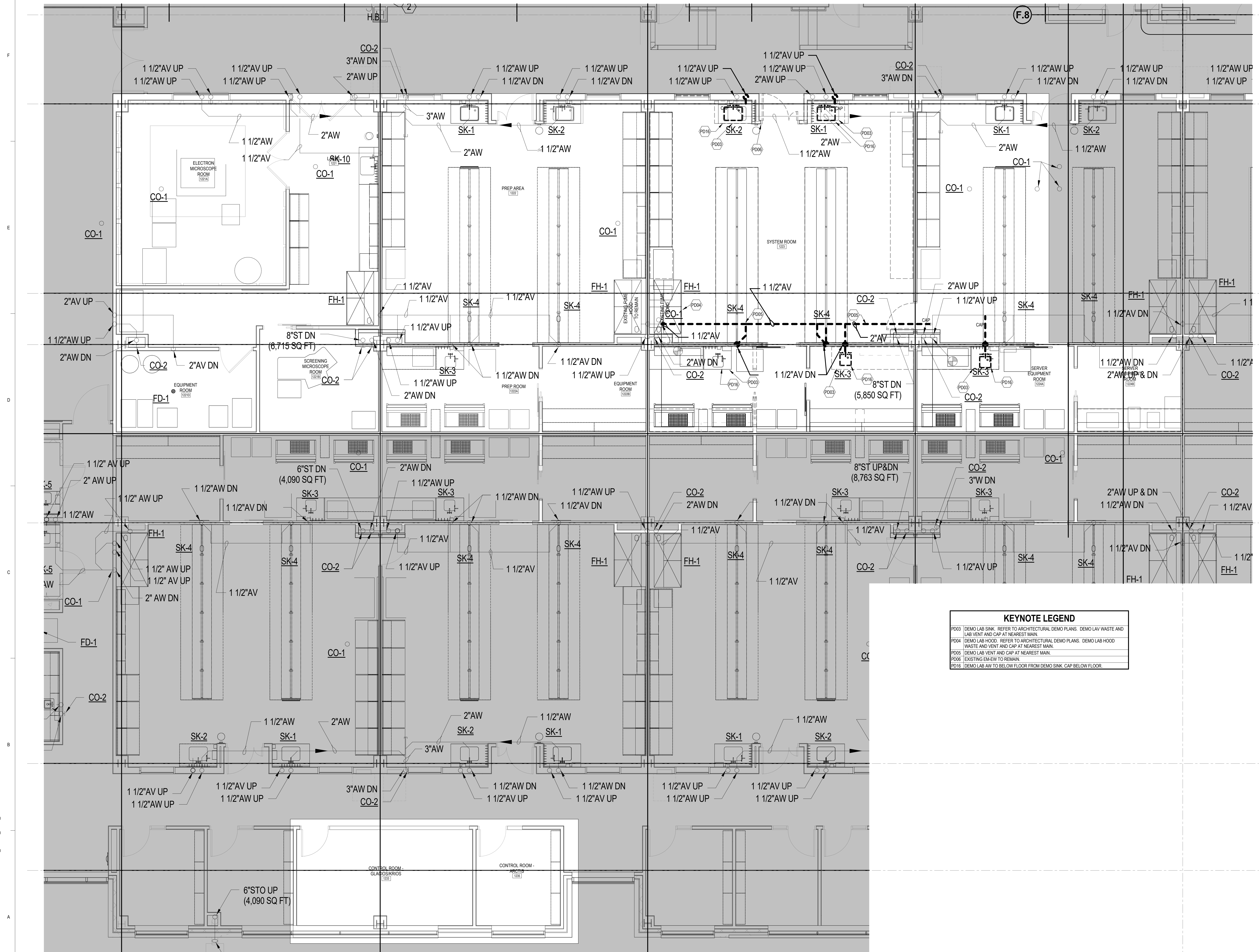
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Design	KLW
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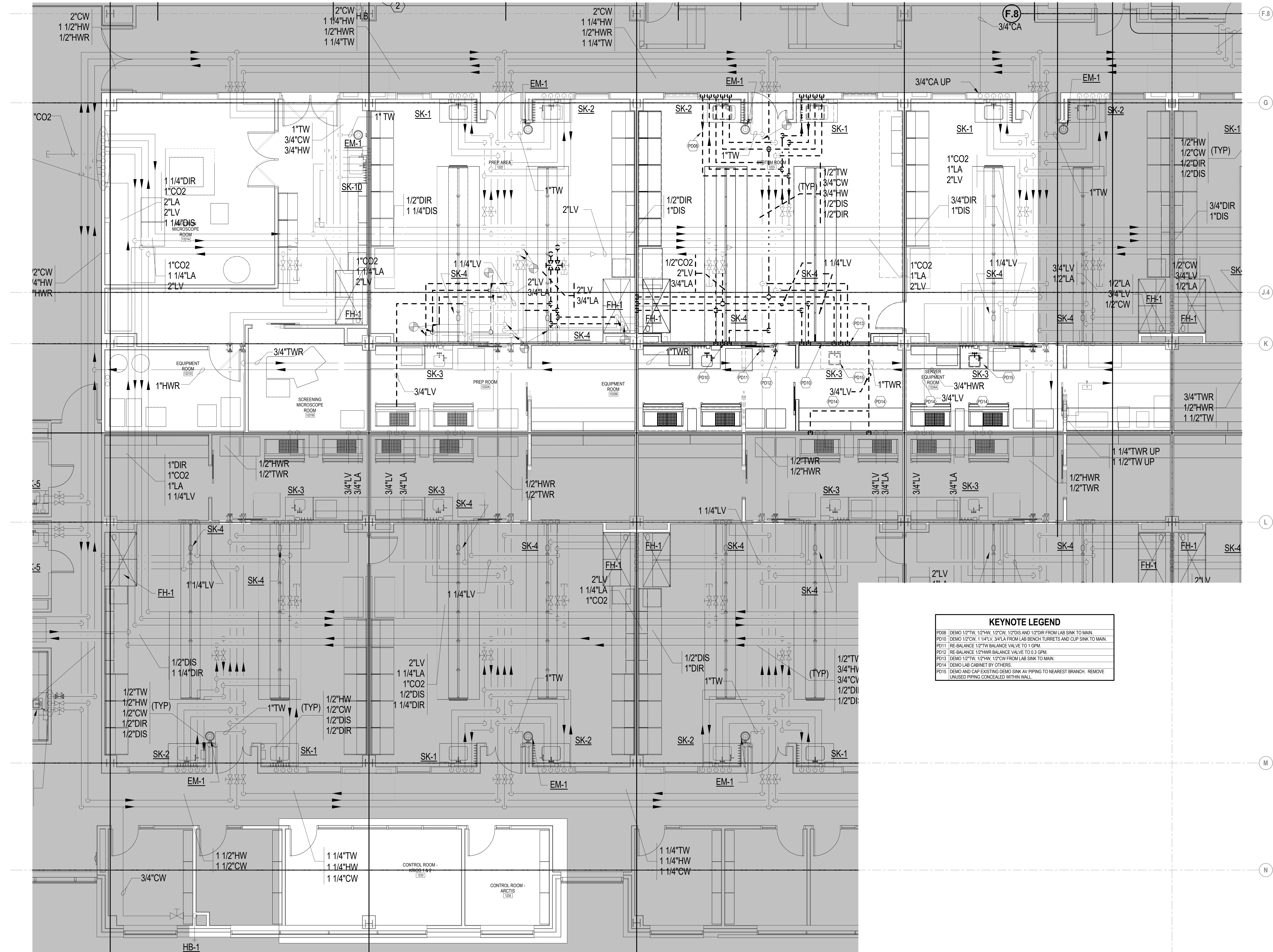
WASTE AND STORM PIPING
DEMOLITION PLAN LEVEL 1

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A1 WASTE AND STORM PIPING DEMOLITION PLAN LEVEL 1
SCALE: 1/4" = 1'-0"

Model: Autodesk Docs/1023-10663-000_Hormel_Arctis_Room_HAR-MEP-PP.rvt
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KEYNOTE LEGEND	
PD08	DEMO 1/2\"TW, 1/2\"HW, 1/2\"CW, 1/2\"DIS AND 1/2\"DIR FROM LAB SINK TO MAIN.
PD10	DEMO 1/2\"CW, 1 1/4\"LV, 3/4\"LA FROM LAB BENCH TURRETS AND CUP SINK TO MAIN.
PD11	RE-BALANCE 1/2\"TW BALANCE VALVE TO 0.3 GPM.
PD12	RE-BALANCE 1/2\"HW BALANCE VALVE TO 0.3 GPM.
PD13	DEMO 1/2\"TW, 1/2\"HW, 1/2\"CW FROM LAB SINK TO MAIN.
PD14	DEMO LAB CABINET BY OTHERS.
PD15	DEMO AND CAP EXISTING DEMO SINK AV PIPING TO NEAREST BRANCH. REMOVE UNUSED PIPING CONCEALED WITHIN WALL.

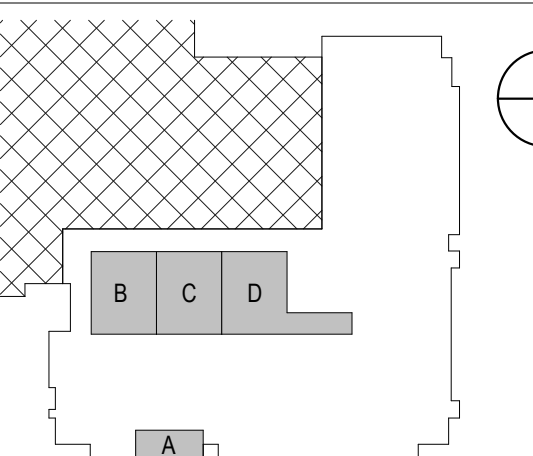
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Austin, MN 55912

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Minneapolis, MN 55455



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Minneapolis, MN 55402-2455
Tel 612.338.8741 Fax 612.338.4840

KEY PLAN



REVISIONS

NO.	DESCRIPTION	DATE

FILE LOG

ACTIVITY	BY
Manager	SRN
Design	SLR
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Check	Checker

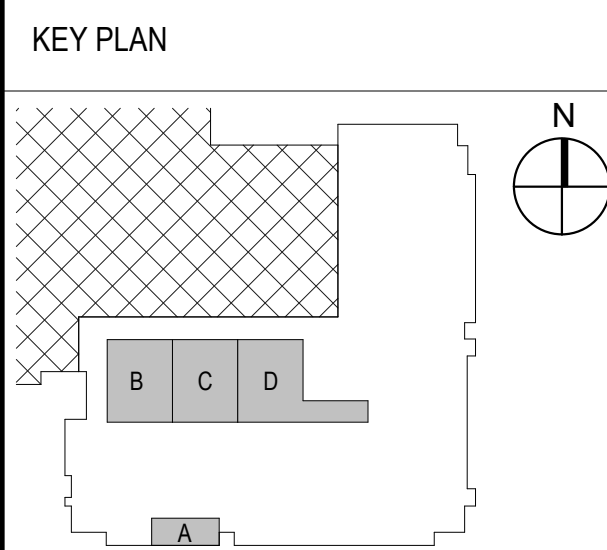
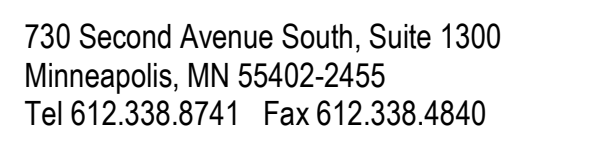
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08/29/2024

PLUMBING WATER AND LAB GAS
PIPING DEMOLITION PLAN LEVEL 1

PD201-A

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FILE LOG	
ACTIVITY	BY
Manager	MRN
Design	KLW
Drove	MLG
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PLUMBING PLAN LEVEL 1

PP101-A

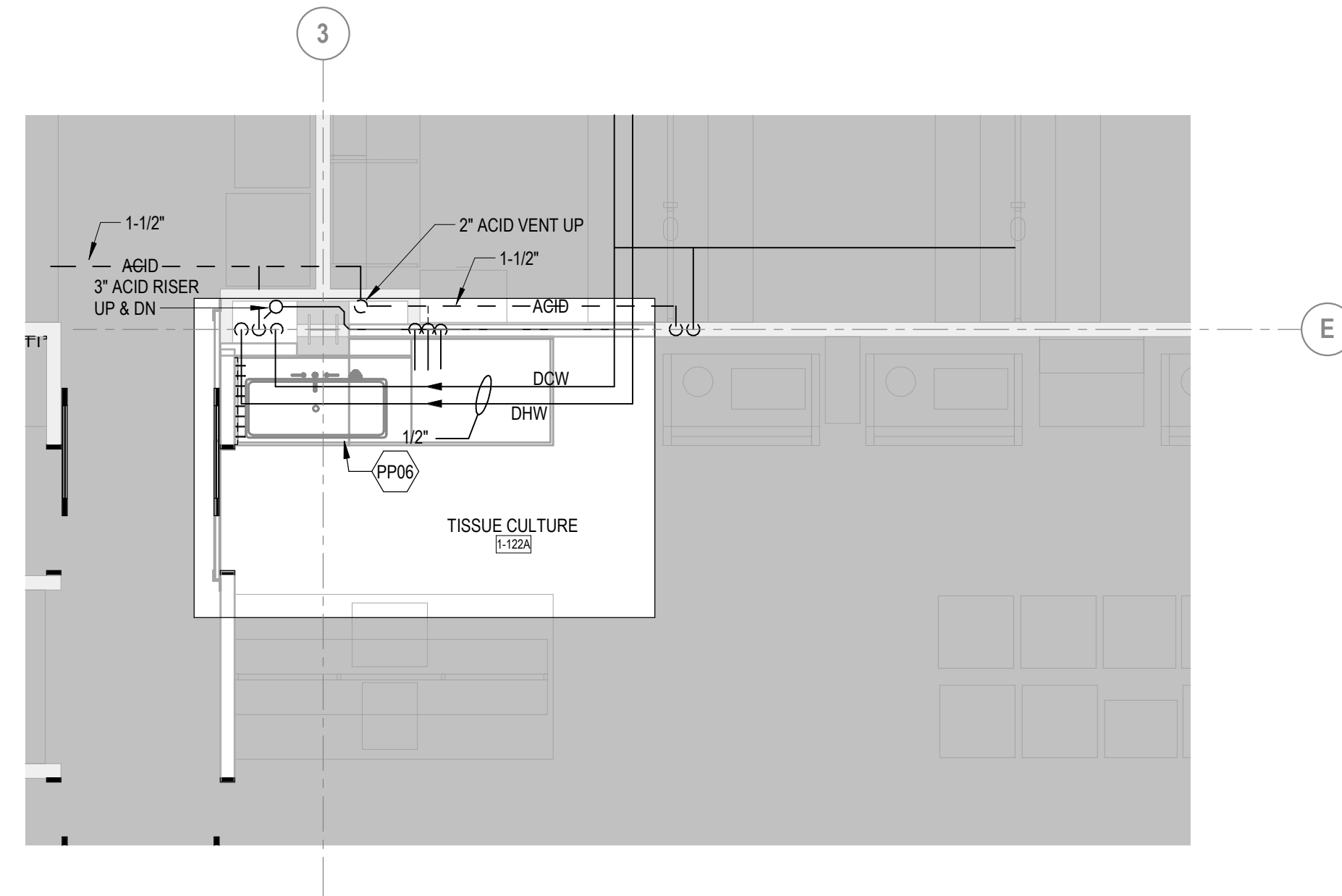


② DISCONNECT AND RECONNECT BOILER PIPING AS NECESSARY TO ACCOMMODATE RAISING AND RESETTING BOILER APPROXIMATELY 1 FT HIGHER.

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Minneapolis, MN 55402-2455
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PP102



KEYNOTE LEGEND

PP06	DEMO EXISTING SINK. PROVIDE CW, HW, ACID WASTE AND ACID VENT PIPING TO OWNER PROVIDED NEW SINK AND FAUCET. INCLUDE APPROVED THERMOSTATIC MIXING VALVE FOR COUNTER TOP MOUNTED EYE-FACE WASH.
------	--

A1 PLUMBING PLAN ALTERNATE 1
SCALE: 1/4" = 1'-0"

KEY PLAN

REVISIONS

[illegible]

FILE LOG

ACTIVITY	BY
Manager	MRN
Design	Designer
Drove	Author
Check	Checker

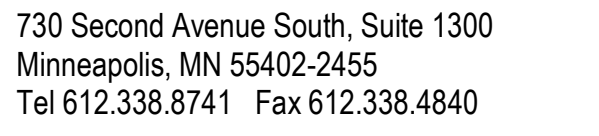
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PARTIAL PLUMBING PLAN ALTERNATE 1

PP103



REVISIONS

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ACTIVITY	BY
Manager	MRN
Design	KLW
Draw	MLG
Check	Checker

STAMP

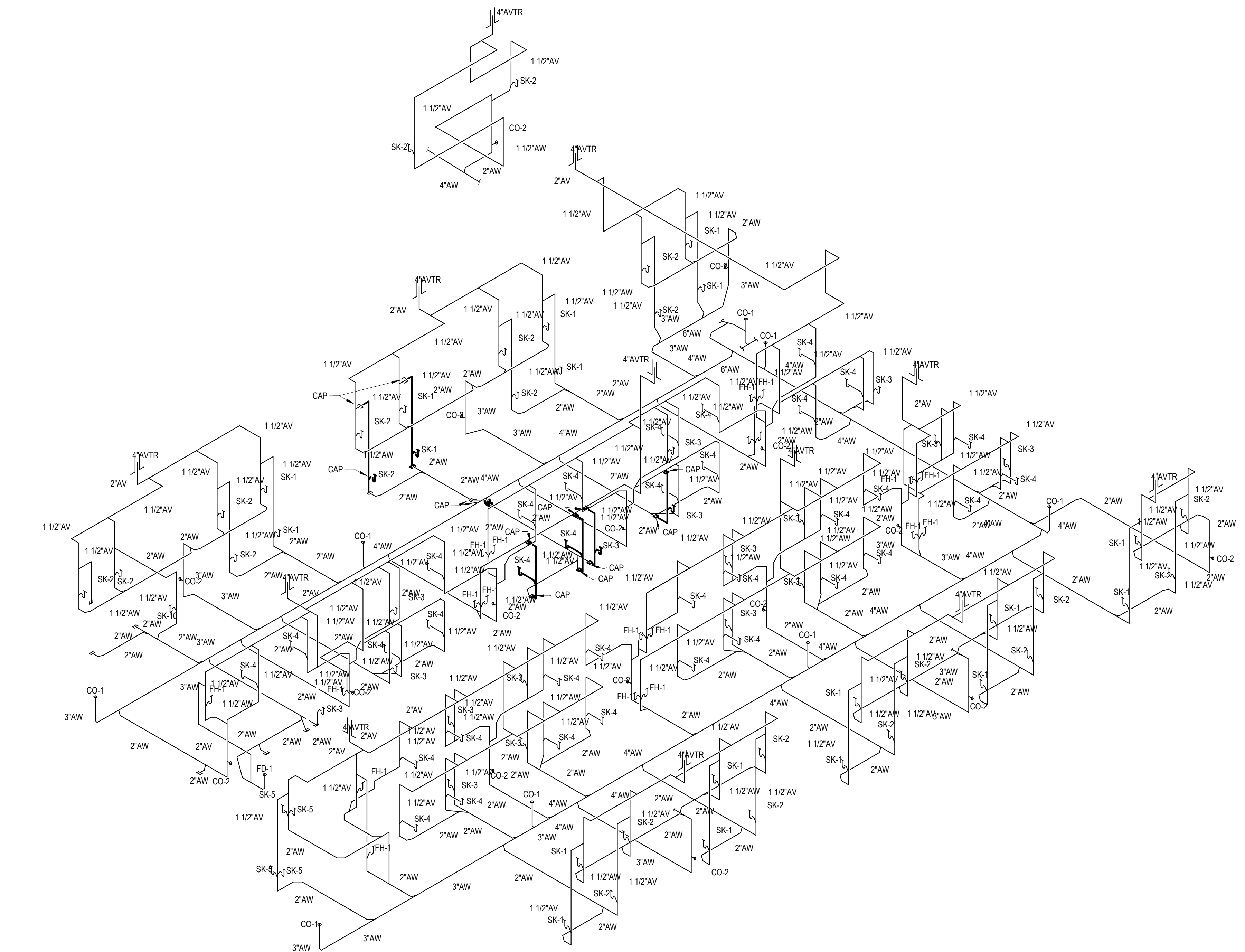
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PLUMBING WASTE AND VENT RISER DIAGRAM

P404

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A1 PLUMBING WASTE AND VENT PIPING ISOMETRIC DIAGRAM
SCALE: 12" = 1'-0"

HVAC PIPING	
SYMBOL	DESCRIPTION
—CHWS—	CHILLED WATER SUPPLY (COOLING)
—CHWR—	CHILLED WATER RETURN (COOLING)
—HWS—	HEATING WATER SUPPLY
—HWR—	HEATING WATER RETURN
—CWS—	CONDENSER WATER SUPPLY
—CWR—	CONDENSER WATER RETURN
—CD—	CONDENSATE DRAIN
—LPS—	LOW PRESSURE STEAM (0-5 PSIG)
—MPS—	MEDIUM PRESSURE STEAM (15-50 PSIG)
—HPS—	HIGH PRESSURE STEAM (50-200 PSIG)
—LPC—	LOW PRESSURE CONDENSATE
—MPC—	MEDIUM PRESSURE CONDENSATE
—HPC—	HIGH PRESSURE CONDENSATE
—PC—	PUMP CONDENSATE
—RS—	REFRIGERANT SUCTION
—RL—	REFRIGERANT LIQUID
—RD—	REFRIGERANT HOT GAS DISCHARGE
—CF—	CHEMICAL FEED
—GHS—	GLYCOL HEATING SUPPLY
—GHR—	GLYCOL HEATING RETURN
—HPWS—	HEAT PUMP WATER SUPPLY
—HPWR—	HEAT PUMP WATER RETURN
—HTWS—	HIGH TEMP WATER SUPPLY (HEATING)
—HTWR—	HIGH TEMP WATER RETURN (HEATING)
—HCS—	HOT OR CHILLED WATER SUPPLY
—HCR—	HOT OR CHILLED WATER RETURN

HVAC SYMBOLS	
SYMBOL	DESCRIPTION
	ROUND FACE SUPPLY DIFFUSER
	SQUARE FACE SUPPLY DIFFUSER
	SQUARE FACE RETURN GRILLE
	SQUARE FACE EXHAUST GRILLE
	LINEAR SLOT DIFFUSER
	ROUND OR SPIRAL DUCTWORK
	FLAT OVAL DUCT - FIRST NUMBER IS SIDE SHOWN
	RECTANGULAR DUCTWORK
	SUPPLY DUCT UP OR DOWN
	RETURN / OUTSIDE AIR DUCT UP OR DOWN
	EXHAUST DUCT UP OR DOWN
	MANUAL VOLUME DAMPER
	MOTORIZED DAMPER
	ROUND DUCT TAP WITH MANUAL VOLUME DAMPER
	CONICAL TAKE-OFF
	RECTANGULAR TAKE-OFF
	MITERED ELBOW WITH TURNING VANES
	RADIUSED ELBOW
	FLEXIBLE DUCT
	FIRE DAMPER
	SMOKE DAMPER
	COMBINATION FIRE & SMOKE DAMPER
	AIRFLOW MEASURING STATION

PIPE VALVES, FITTINGS, SENSORS AND GAGES	
SYMBOL	DESCRIPTION
	GATE VALVE
	GLOBE VALVE
	CHECK VALVE
	BUTTERFLY VALVE
	ECCENTRIC PLUG VALVE
	BALL VALVE
	STRAINER
	UNION
	FLANGE
	CAP
	BLIND FLANGE
	BALANCING VALVE
	GAS COCK
	PRESSURE REGULATING VALVE
	SOLENOID VALVE
	CONTROL VALVE (2-WAY)
	CONTROL VALVE (3-WAY)
	THERMOMETER
	PRESSURE GAGE
	SAFETY RELIEF VALVE
	COCK (GAGE, AIRVENT, DRAIN)
	PIPE ANCHOR
	PIPE GUIDE
	PIPE EXPANSION COMPENSATOR
	VACUUM BREAKER
	SUPERVISED O/S & Y VALVE
	THERMOSTAT
	HUMIDISTAT
	TEMPERATURE, HUMIDITY, OR CO2 SENSOR
	PRESSURE SENSOR
	EMERGENCY BOILER SHUTDOWN SWITCH
	FLOW MEASURING ELEMENT
	TEST PLUG
	SIGHT GLASS (FLOW TYPE)
	AIR ELIMINATOR
	TEMPERATURE & PRESSURE RELIEF VALVE
	STEAM TRAP
	PIPE ELBOW UP
	PIPE ELBOW DOWN
	PIPE TEE UP
	PIPE TEE DOWN
	FLOOR CLEANOUT
	GRADE CLEANOUT
	WALL CLEANOUT
	CLEANOUT
	FLEXIBLE PIPE CONNECTION
	DRAINS - FLOOR - FD, TRENCH - TD, AREA - AD
	ROOF DRAIN OR OVERFLOW ROOF DRAIN
	HOSE BIBB
	WALL HYDRANT
	FIRE DEPARTMENT CONNECTION
	FLOW SWITCH
	WATER METER
	BACKFLOW PREVENTER
	FIRE HOSE CABINET
	FIRE VALVE CABINET

GENERIC ANNOTATIONS	
SYMBOL	DESCRIPTION
→ ←	CONTINUATION - PIPE NOT SHOWN
⊕	CONNECT TO EXISTING
#	KEYNOTE
EQUIP ID	MECHANICAL EQUIPMENT TAG
#DD1 ###	ROUND NECK DIFFUSER/GRILLE TAG NECK DIAMETER, ID AIRFLOW (CFM)
#x#G1 ###	SQUARE NECK DIFFUSER/GRILLE TAG NECK SIZE, ID AIRFLOW (CFM)

MECHANICAL DEMOLITION NOTES

1. ALL LINEWORK SHOWN BLOCK, DASHED, OR HATCHED ON DEMOLITION DRAWINGS ARE TO BE REMOVED UNLESS NOTED OTHERWISE.
2. ALL EXISTING MECHANICAL EQUIPMENT, DUCTWORK, PIPING, AND ACCESSORIES SHOWN HALF-TONE ARE EXISTING AND TO REMAIN.
3. NOT ALL EXISTING MECHANICAL EQUIPMENT, DUCTWORK, PIPING, AND ACCESSORIES ARE SHOWN FOR DEMOLITION. LOCATION AND LOCATIONS OF EXISTING EQUIPMENT, PIPING, AND DUCTWORK ARE SHOWN FOR INFORMATION. CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING EQUIPMENT AND ACCESSORIES ACCORDING TO RECORD INFORMATION. CONTRACTOR SHALL MAKE APPROPRIATE PRE-BID SITE INSPECTIONS IN ORDER TO ASCERTAIN EXISTING CONDITIONS AND SHALL INCLUDE IN BID THE COST OF ALL WORK RESULTING FROM EXISTING CONDITIONS. REFER ALL QUESTIONS TO THE AE PRIOR TO BID FOR CLARIFICATION.
4. ALL UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. CONTRACTOR SHALL DETERMINE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO START OF WORK.
5. CONTRACTOR SHALL HAVE SAVE RIGHTS TO ANY ITEMS THAT ARE TO BE DEMOLISHED. EXISTING AHU's, FAN COILS, CHILLERS, PUMPS, EXHAUST FANS, AND VAV BOXES SHALL REMAIN PROPERTY OF THE OWNER, SHALL NOT BE DISPOSED OF DESIRED BY THE OWNER. ALL SHEET METAL AND PIPING WILL BE DISPOSED BY THE CONTRACTOR.
6. DEMOLITION WORK THAT WILL INTERRUPT HVAC OR PLUMBING CONNECTION TO OTHER AREAS OF THE FACILITY THAT ARE TO REMAIN IN OPERATION, SHALL BE COORDINATED WITH THE OWNER TO ACCOMMODATE THE OWNER'S NEEDS AS REQUIRED.
7. IF HAZARDOUS MATERIALS (E.G. ASBESTOS, PCB's, ETC.) ARE ENCOUNTERED AT ANY TIME DURING CONSTRUCTION IN THE WORK AREA, STOP WORK IMMEDIATELY AND CONTACT THE ARCHITECT OR THE OWNER.
8. ANY BRANCH DUCTWORK OR PIPING SHOWN TO BE DEMOLISHED SHALL BE REMOVED BACK TO THE MAIN AND CAPPED UNLESS OTHERWISE NOTED.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR THE ELECTRICAL CONTRACTOR'S EQUIPMENT TO BE REMOVED. REPORT ANY DISCREPANCIES BETWEEN PLANS AND ACTUAL FIELD CONDITIONS TO ARCHITECT PRIOR TO THE REMOVAL OF DEMOLITION WORK.
10. DEMOLISHED MATERIALS MUST BE PROPERLY CLEANED AND PLACED IN AN IRTIGHT CONTAINER BEFORE REMOVED FROM THE AREA THROUGH ALL OUTSIDE SPACES.
11. OPENINGS IN WALLS, FLOORS, AND CEILINGS REMAINING FROM DUCT AND PIPE REMOVAL SHALL BE FILLED WITH CONCRETE TO MATCH EXISTING WALL CONSTRUCTION AND MAINTAIN EXISTING WALL SMOKE AND FIRE RATINGS.
12. DEMOLITION SHALL BE PERFORMED IN SUCH A MANNER THAT WILL NOT DAMAGE ADJACENT SURFACES OR RESULT IN DAMAGE TO THE BUILDING OR EQUIPMENT.
13. CONTRACTOR SHALL GIVE THE OWNER NOTICE PRIOR TO ANY INTERRUPTION OF HVAC & PLUMBING SERVICES AS SPECIFIED.
14. IF ANY INTERRUPTION BY DEMOLITION THAT DOES NOT HAVE NEW WORK TO BE REPAIRED/REPLACED TO MATCH EXISTING CONDITIONS AND FINISHES.
15. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING MATERIALS, EQUIPMENT, APPLIANCES AND DEVICES THAT ARE TO BE DEMOLISHED SHALL BE RECORDED, TESTED AND PLACED IN GOOD-OR-PROPER WORKING CONDITION AND APPROVED. ANY DISCREPANCIES MUST BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO BID.
16. RELOCATE EXISTING SYSTEMS (E.G. DUCT, PIPING, CONDUIT, CABLE TRAYS) OBSTRUCTING THE NEW CONSTRUCTION.

MECHANICAL GENERAL NOTES

- THE CONTRACTOR SHALL FURNISH AND INSTALL COMPLETE AND SATISFACTORILY OPERATING SYSTEMS AS INDICATED ON THE CONTRACT DOCUMENTS. IT IS NOTED THAT THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENTS OF SYSTEMS AND NOT THE EXACT LOCATION OF EACH EQUIPMENT. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION, MEASUREMENTS, LEVELS, ETC. AT THE SITE AND SHALL ADAPT THE WORK TO THE ACTUAL CONDITIONS OF THE FIELD.
- THE CONTRACTOR SHALL COORDINATE THE MECHANICAL WORK WITH THE WORK OF ALL OTHER TRADES INCLUDING, BUT NOT LIMITED TO, ELECTRICAL, PLUMBING, PNEUMATIC, AND OTHERS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF ALL NEW WORK SO AS TO AVOID CONFLICTS. RESOLVE ALL CONFLICTS THROUGH THE A/E PRIOR TO INSTALL. FAILURE TO PROVIDE SUCH COORDINATION PRIOR TO WORK BEING INSTALLED SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION TO THE CONTRACTOR, AND MAY RESULT IN REJECTION OF THE WORK. IT IS THE CONTRACTORS' RESPONSIBILITY TO COORDINATE SUBSTITUTIONS WITH OTHER TRADES.
- THE SIZE AND LOCATION OF EQUIPMENT INSTALLED UNDER DIVISION 23 MECHANICAL SHALL BE COORDINATED WITH OTHER TRADES. THE CONTRACTOR SHALL SUBMIT TO THE ARCHITECT FOR REVIEW AND APPROVAL ALL EQUIPMENT SPECIFICATIONS. TRANSITIONS TO ALL EQUIPMENT SHALL BE VERIFIED AND PROVIDED FOR EQUIPMENT FURNISHING.
- ALL PIPING AND DUCT IS TO BE CONCEALED ABOVE CEILING OR IN NEW WALLS UNLESS SPECIFICALLY NOTED AS EXPOSED OR SURFACE MOUNTED. CONTRACTOR TO COORDINATE WITH THE GENERAL CONTRACTOR TO PAINT ALL EXPOSED PIPING TO MATCH COORDINATING EXTERIOR COLOR.
- ALL EQUIPMENT SHALL BE SECURELY FASTENED BY MEANS OF ANCHORS, RODS, HANGERS, SUPPORTS, GUIDES, SWAY BRACES, ETC., TO MAINTAIN ALIGNMENT AND PREVENT EQUIPMENT MOVEMENT.
- ALL EQUIPMENT SHALL BE SUPPORTED BY A STRUCTURE SUPPORTED FROM THE BUILDING STRUCTURE. NO EQUIPMENT SHALL BE SUPPORTED FROM OTHER PIPING, DUCTWORK, METAL ROOF DECK, LATERAL BRACK, OR CONDUIT.
- ALL PENETRATIONS OF FIRE OR SMOKE RATED CONSTRUCTION SHALL BE SEALED WITH FIRESTOPPING MATERIALS APPROVED AND INSTALLED IN ACCORDANCE WITH THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) REQUIREMENTS. PROVIDE DOCUMENTATION ON ALL SUCH PENETRATION SEALING SYSTEMS FOR VERIFICATION OF PROPER INSTALLATION.
- ALL PENETRATIONS OF ROOFS, EXTERIOR WALLS, FOUNDATIONS, OR OTHER WATER OR WEATHER PROOF CONSTRUCTION SHALL BE COATED WITH AN APPROPRIATE SEALANT FITTINGS OR SEALS. CONTRACTOR SHALL PROTECT THE INTERIORS FROM MOISTURE UNTIL THE BUILDING IS DRY.
- ALL CONCRETE HOUSINGKEEPING PADS FOR MECHANICAL AND PLUMBING EQUIPMENT SHALL BE SIZED AND LOCATED BY THE MECHANICAL CONTRACTOR. CONTRACTOR SHALL PROVIDE ALL PIPING AND DUCTS TO BE INSTALLED TO EXTEND A MINIMUM OF 4" BEYOND THE MECHANICAL OR PLUMBING EQUIPMENT. MECHANICAL CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR FOR THE SIZE AND LOCATION OF HOUSINGKEEPING PADS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE FOLLOWING: ALL TRANSITIONS, ELBOWS, FITTINGS, ETC., TO ALLOW SMOOTH FLOWS. ALL SPLIT DUCT FITTINGS SHALL TRANSITION TO FULL SIZE OF THE SUM OF BOTH BRANCHES UPSTREAM OF SPLIT.
- MAINTAIN CLEARANCE OF A MINIMUM OF 6" BETWEEN DUCTWORK, PIPING, EQUIPMENT, ETC., AND ALL FIRE RATED AND FIRE/SMOKE RATED PARTITIONS.
- ALL DASHED LINEWORK ABOVE MECHANICAL AND PLUMBING EQUIPMENT INDICATES REQUIRED SERVICE CLEARANCES. ALL EQUIPMENT SHALL BE INSTALLED IN A MANNER TO MAINTAIN THE CEILING OR DOOR MANUFACTURERS' REQUIRED CLEARANCES. FOLLOW MANUFACTURERS' INSTALLATION INSTRUCTIONS.
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR COORDINATING WORK WITH THE TEST AND BALANCE FIRM. PRIOR TO TESTING AND BALANCING, THE CONTRACTOR SHALL START-UP, PRE-BALANCE, AND REPLACE ALL AIR FILTERS FOR EVERY AHU BEFORE TESTING. ALL LOCATIONS WITHIN THE BUILDING SHALL BE TESTED AND BALANCED. TESTING AND BALANCING SHALL BE COMPLETED PRIOR TO ANY SCHEDULING OF WORK TO BE COMPLETED WITHIN SPECIFIED NUMBER OF CALENDAR DAYS AT NO ADDITIONAL COST. TESTING AND BALANCING SHALL BE COMPLETED PRIOR TO SUBSTANTIAL COMPLETION.
- TESTING AND BALANCING SHALL INCLUDE: DAMPERS, ACTUATORS, CONTROL COMPONENTS; ANY EQUIPMENT WITH MOVING PARTS; OR ANY EQUIPMENT NEEDING ACCESS OR REGULAR MAINTENANCE ABOVE INACCESSIBLE CEILINGS, WHERE LOCATIONS OF VALVES CONTROLS OR EQUIPMENT IS UNAVAILABLE. PROVIDE MIN. 24"X24" ACCESS PANELS.
- TESTING AND BALANCING SHALL INCLUDE: ELECTRICAL, SUPPLY/RETURN AIRWAYS AND EQUIPMENT ARE NOT LOCATED OVER ANY ELECTRICAL PANELS IS NOT INSTALL EXTERNAL PIPING AND DUCTWORK THROUGH ELEVATOR EQUIPMENT ROOMS.
- THERMOSTATS AND TEMPERATURE/HUMIDITY/CO2 SENSORS SHALL BE MOUNTED 48" ABOVE FINISHED FLOOR. COORDINATE THEIR LOCATION WITH THE ARCHITECT FOR THE BEST LAYOUTS, WINDOWS, ELECTRICAL SWITCHES, AND DOOR SWING AREAS.
- APPLICABLE HVAC CODES AND STANDARDS:
- INTERNATIONAL MECHANICAL CODE, 2018 EDITION
 - INTERNATIONAL PLUMBING CODE, 2018 EDITION
 - INTERNATIONAL BUILDING CODE, 2018 EDITION
 - ASHRAE HANDBOOKS AND STANDARDS, LATEST EDITIONS
 - SMACNA DUCT CONSTRUCTION STANDARDS- METAL AND FLEXIBLE - LATEST EDITION
 - ARI STANDARD 340.90, LATEST EDITION

DUCTWORK:

- OFFSETS IN DUCTS AND PIPING INCLUDING DIVIDING DUCTS) AND TRANSITIONS AROUND OBSTRUCTIONS SHALL BE PROVIDED AT NO ADDITIONAL COST.
1. PROVIDE MINIMUM DUCTWORK TO VAN BOXES SHALL BE (1) SIZE GREATER AND AN EVEN DIAMETER THAN VAN BOX NILE SIZE UNLESS OTHERWISE NOTED.
2. ALL SUPPLY, RETURN, AND EXHAUST BRANCH DUCTWORK TO DIFFUSERS, REGISTERS, AND GRILLES SHALL BE THE SAME SIZE AS THE NECK SIZE UNLESS OTHERWISE NOTED.
3. FLEXIBLE DUCTWORK SHALL BE FULLY EXTENDED NOT TO EXCEED 5'-0" IN LENGTH.
4. DO NOT PROVIDE MANUAL VOLUME DAMPERS IN MEDIUM PRESSURE DUCT (UPSTREAM OF ATTJ) EXCEPT WHERE SPECIFICALLY SHOWN.
5. PROVIDE ACCESS TO ALL DAMPERS AND REGISTER DAMPERS. ACCESS TO ALL DAMPERS SHALL BE PROVIDED THROUGH ACCESS DOOR. THE DAMPER LOCATION TO BE ACCURATELY LOCATED AND LABELED ON THE AS-BUILT DRAWINGS AT THE COMPLETION OF THE PROJECT.
6. PROVIDE ALL DUCTWORK TO BE SUPPORTED AS DETAILED AND/OR SPECIFIED. PROVIDE ADDITIONAL SUPPORTS AS REQUIRED TO PROVIDE A VIBRATION-FREE, RIGID INSTALLATION. SUPPORT ALL OBJECTS FROM STRUCTURES.
7. ALL DUCTWORK SHALL BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH NFPA 96A AND SIB. DUCT SIZES ARE MINIMUM SIZE DIMENSIONS. DUCTWORK SHALL BE CONSTRUCTED TO MEET ALL DIMENSIONS IN FIELD. DUCT SIZES AND ALL OPENINGS THROUGH BUILDING CONSTRUCTION SHALL SUIT EQUIPMENT FURNISHED.
8. ACCESS PANELS IN DUCTWORK AND CEILINGS SHALL BE PROVIDED WHERE REQUIRED FOR OPERATION, BALANCING, AND MAINTENANCE.
9. PROVIDE FLEXIBLE DUCT CONNECTIONS ON ALL DUCTS CONNECTING TO EACH FAN AND FAN COIL UNIT.
10. DIFFUSER NECKS SHALL MATCH SIZES OF FLEX DUCTS TO BE CONNECTED.
11. ALL MECHANICAL REGISTER AND REGISTER EQUIPMENT, REFLECTED CEILING PLANS AND EQUIPMENT OF ALL TRADES.
12. VISIBLE SURFACES BEHIND THE GRILLES, REGISTERS AND DIFFUSERS SHALL BE PAINTED FLAT BLACK.
13. PROVIDE FIRE DAMPERS AT EACH FIRE RATED WALL, FLOOR, AND CEILING PENETRATION OF ALL AIR SUPPLY, RETURN, EXHAUST AND VENTILATION DUCTS. IF NOT SHOWN ON THE DOCUMENTS THIS MUST BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO BID.
14. PROVIDE ACCESS TO ALL DAMPERS AND REGISTER DAMPERS. ACCESS TO ALL DAMPERS SHALL BE PROVIDED THROUGH ACCESS DOOR.
15. ALL TRANSFER DUCTS ARE ACOUSTICALLY LINED TURNED-UP ELBOWS ABOVE THE CEILING. SEE DETAILS FOR FURTHER CLARIFICATION.

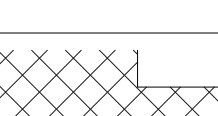
PIPING:

1. ALL BRANCH HVAC PIPING SERVING REHEAT COIL AND UNIT HEATERS SHALL BE 3/4" Ø UNLESS OTHERWISE NOTED.
2. ALL REFRIGERANT PIPING QUANTITY AND SIZES SHALL BE PROVIDED PER MANUFACTURER'S RECOMMENDATIONS.
3. CONDENSATE DRAINS FROM ALL MECHANICAL EQUIPMENT SHALL BE COORDINATED FOR PROPER DRAINAGE TO SUIT EQUIPMENT FURNISHED. FOLLOW MANUFACTURER'S RECOMMENDATIONS. ALL CONDENSATE DRAIN LINES SHALL BE INSULATED AND INSTALLED WITH A "P" TRAP AT THE UNIT WITH A MINIMUM DEPTH OF 2" OR PER MANUFACTURER'S INSTRUCTIONS, WHICHEVER IS GREATER. ALL 90° ELBOWS SHALL BE INSTALLED WITH A CLEANOUT.
4. UNLESS OTHERWISE NOTED, ALL EQUIPMENT AND VALVE DRAINS SHALL BE INDEPENDENTLY PIPED FULL SIZE TO THE NEAREST INDIRECT CONNECTION.

CONTROLS:

1. INSTALLATION OF SMOKE DETECTORS IN SUPPLY DUCT AND RETURN DUCT PRIOR TO MIXING WITH FRESH AIR SHALL BE INSTALLED BY THE MECHANICAL CONTRACTOR AND PROVIDED BY ELECTRICAL CONTRACTOR.
2. CONTROL DEVICE MOTORS (DAMPERS, ETC.) WITH THE EXCEPTION OF SMOKE AND SMOKE/FIRE DAMPERS, SHALL BE 24VAC TYPE WITH ALL ELECTRICAL POWER REQUIREMENTS CLEARLY NOTED ON THE CONSTRUCTION DRAWINGS.
3. PROVIDE SMOKE DETECTORS, AND COORDINATE WITH ELECTRICAL, IN THE RETURN AIR DUCTS UPSTREAM OF ANY FILTERS, RELIEF AIR CONNECTIONS, AND OUTDOOR AIR CONNECTIONS FOR ALL AHUS WITH A DESIGN CAPACITY OF 2000 CFM OR GREATER IN ACCORDANCE WITH NFPA 72. DUCT MOUNTED SMOKE DETECTORS SHALL HAVE AIR VELOCITY RATING FROM 100 TO 4,000 FPM WITH A TRANSPARENT COVER FOR VISUAL INSPECTION.

KEY PLAN



The key plan shows a large rectangular area with a cross-hatch pattern in the upper left corner, indicating the location of the proposed development. A north arrow is positioned to the right of the plan, pointing upwards.

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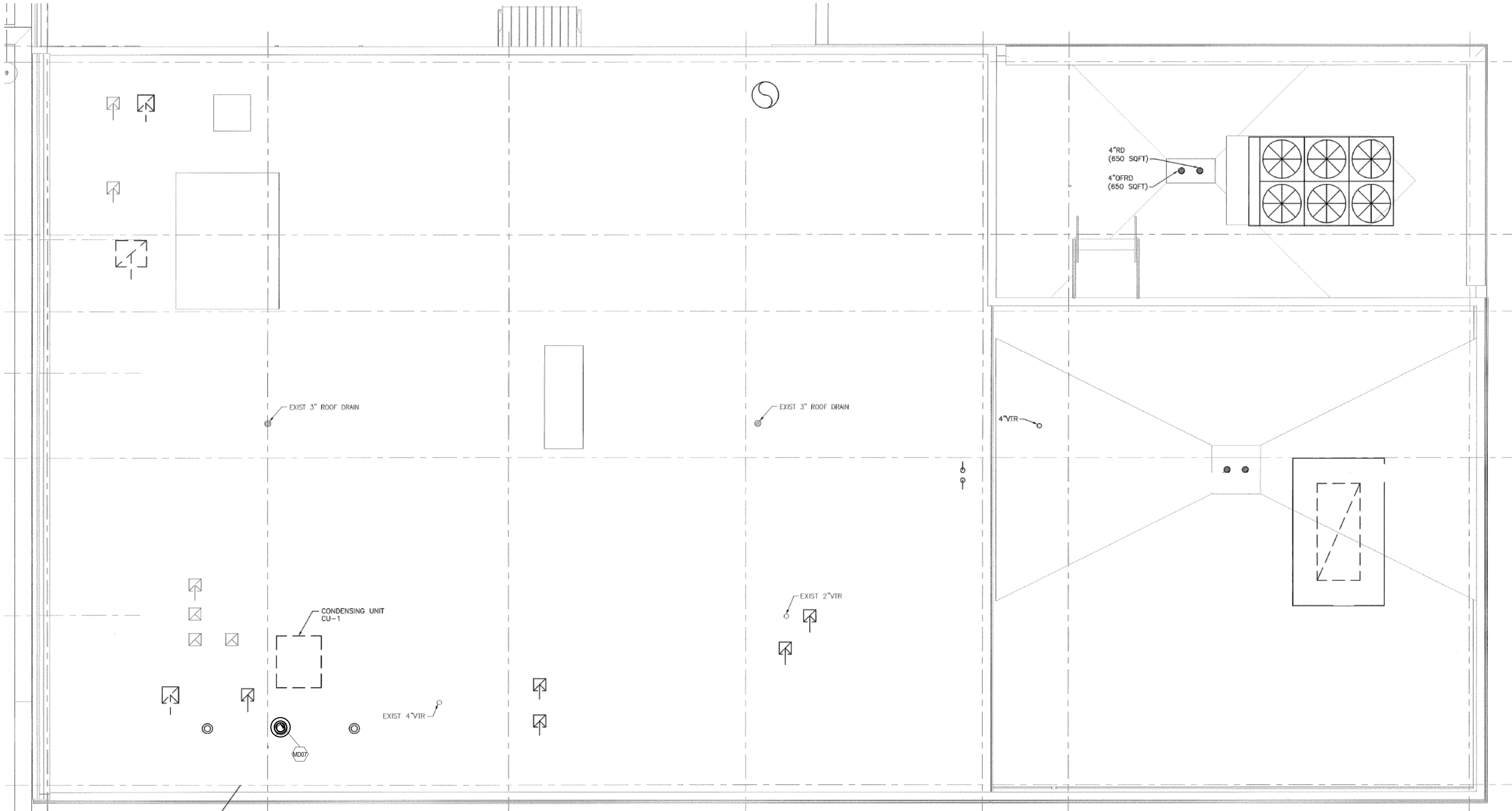
MECHANICAL DEMOLITION PLAN LEVEL
1 - ALTERNATE 2

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F
E
D
C
B
A



KEYNOTE LEGEND
MD07 DECOMMISSION AND DEMO EXISTING LAB EXHAUST DUCT AND ASSOCIATED EXHAUST FAN BELOW.

HORMEL INSTITUTE | LAB
RENOVATION
801 16th Ave NE
Austin, MN 55912

UNIVERSITY OF
MINNESOTA
100 Church Street SE
Minneapolis, MN 55455



730 Second Avenue South, Suite 1300
Minneapolis, MN 55402.2455
Tel 612.338.8741 Fax 612.338.4840

KEY PLAN

REVISIONS

NO.	DESCRIPTION	DATE

FILE LOG

ACTIVITY	BY
Manager	SRN
Design	Designer
Draw	Author
Check	Checker

STAMP

ADDENDUM 1
NOT FOR CONSTRUCTION

Project No. 023-10663-000
08/29/2024

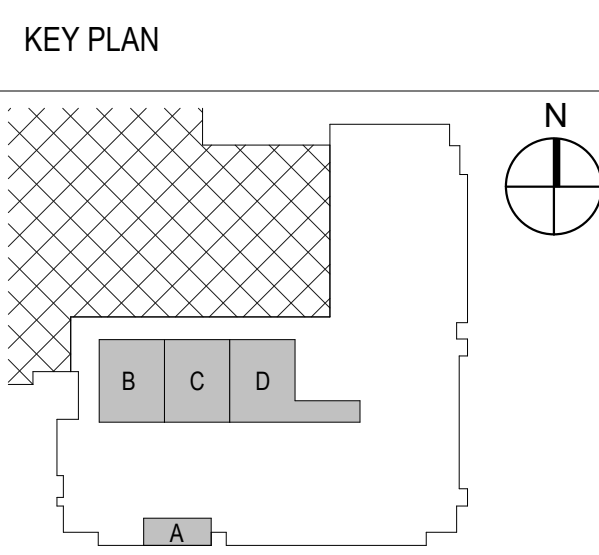
DEMOLITION ROOF PLAN - AREA 3

MD110-3

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Project Status

A1 HVAC DEMOLITION PLAN - AREA 3 ROOF
SCALE: 1/4" = 1'-0"

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FILE LOG	
ACTIVITY	BY
Manager	MRN
Design	KLW
Draw	MLG
Check	Chackar

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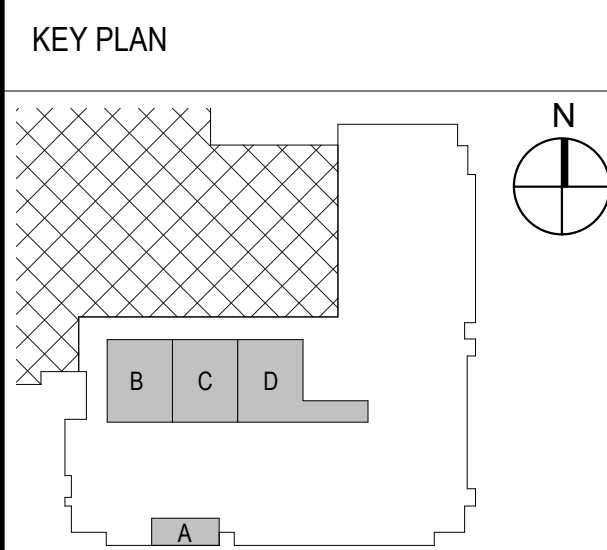
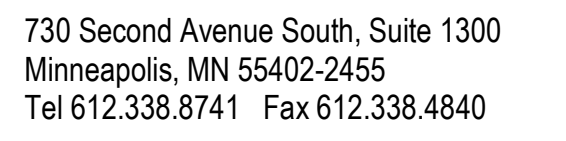
PRELIMINARY
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08/29/2024

HVAC PLAN LEVEL 1

MP101-A

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Draw	MLG
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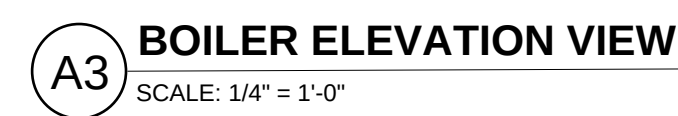
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08/29/2024

MECHANICAL PIPING LEVEL 1

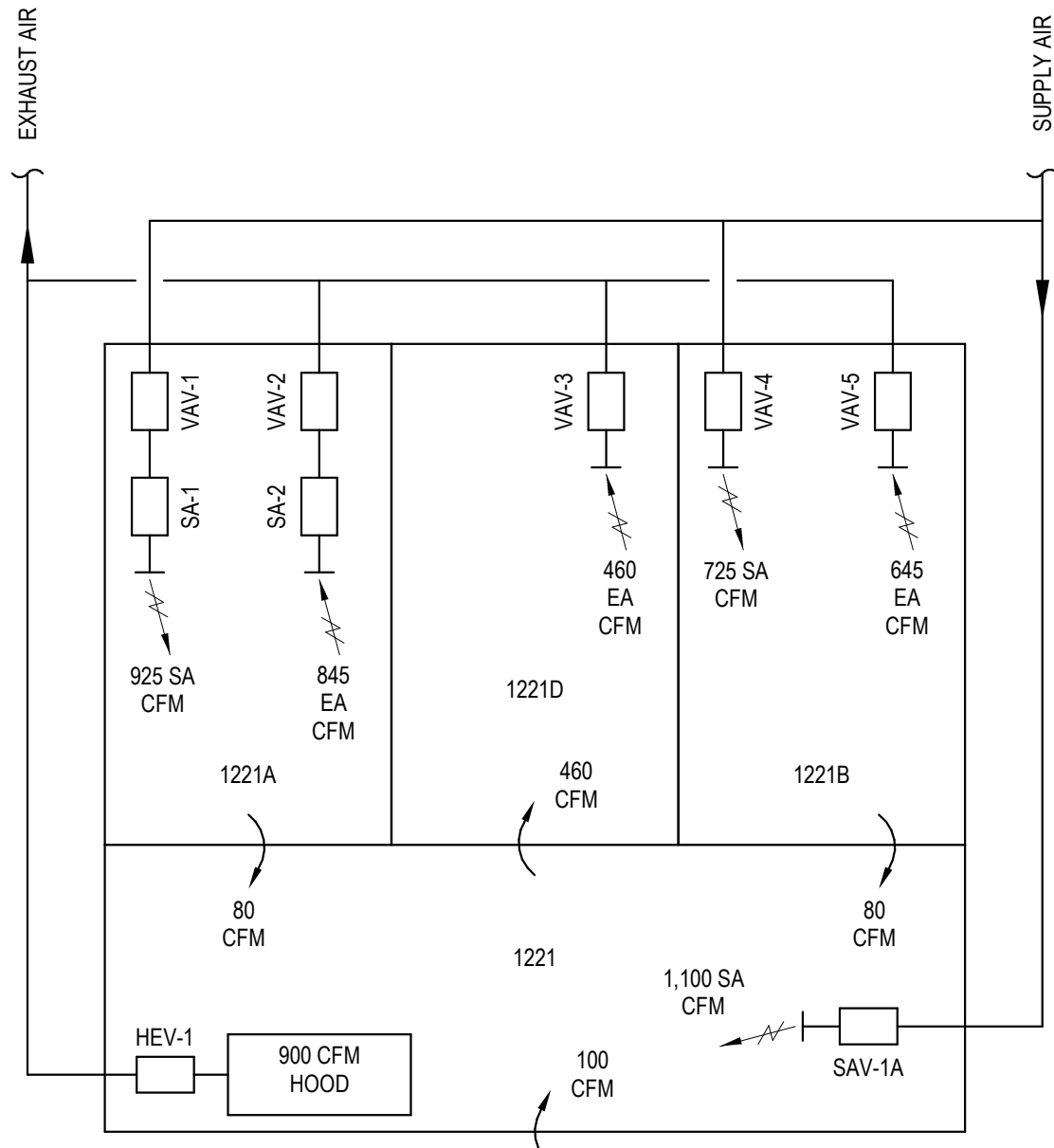
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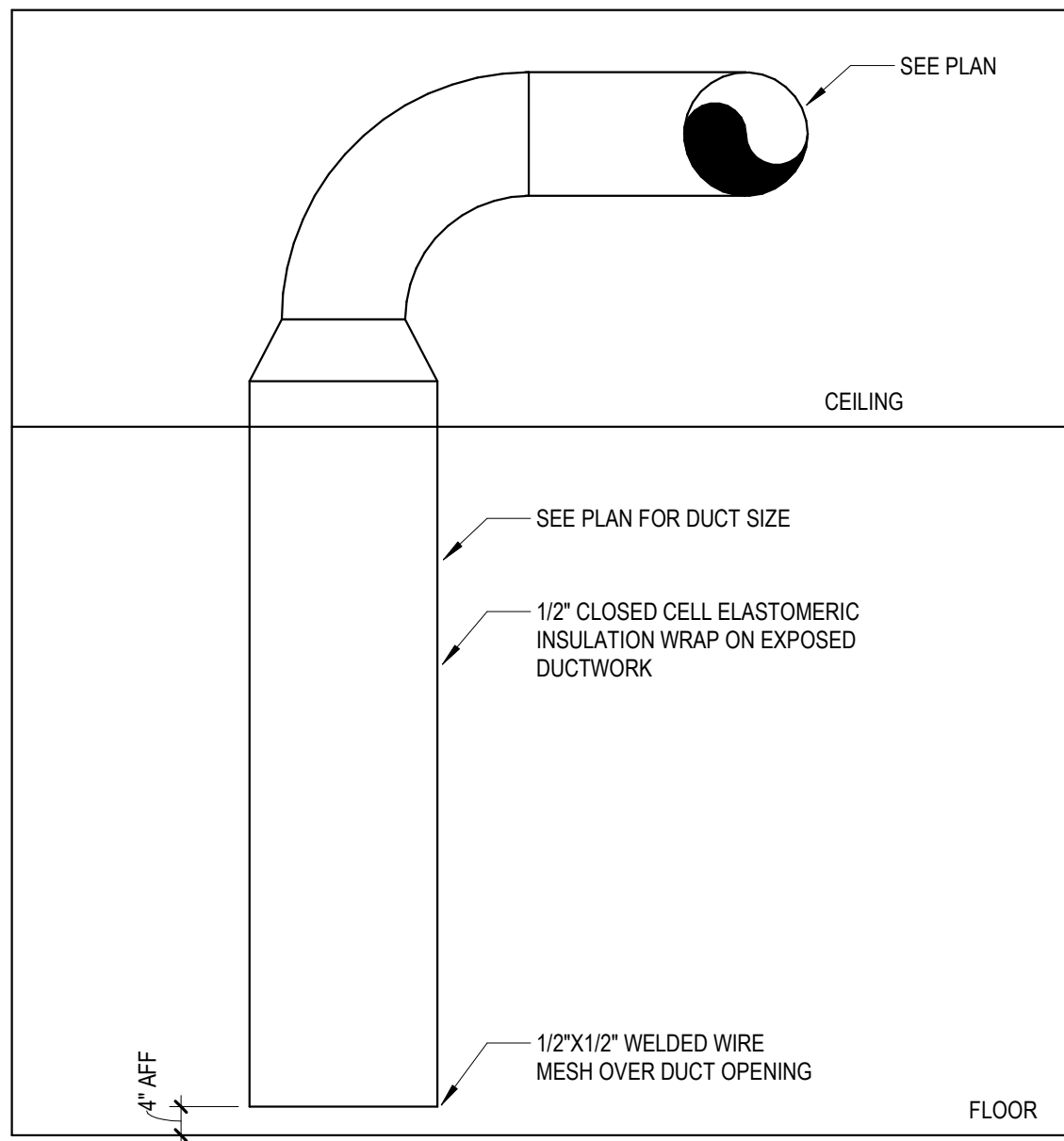
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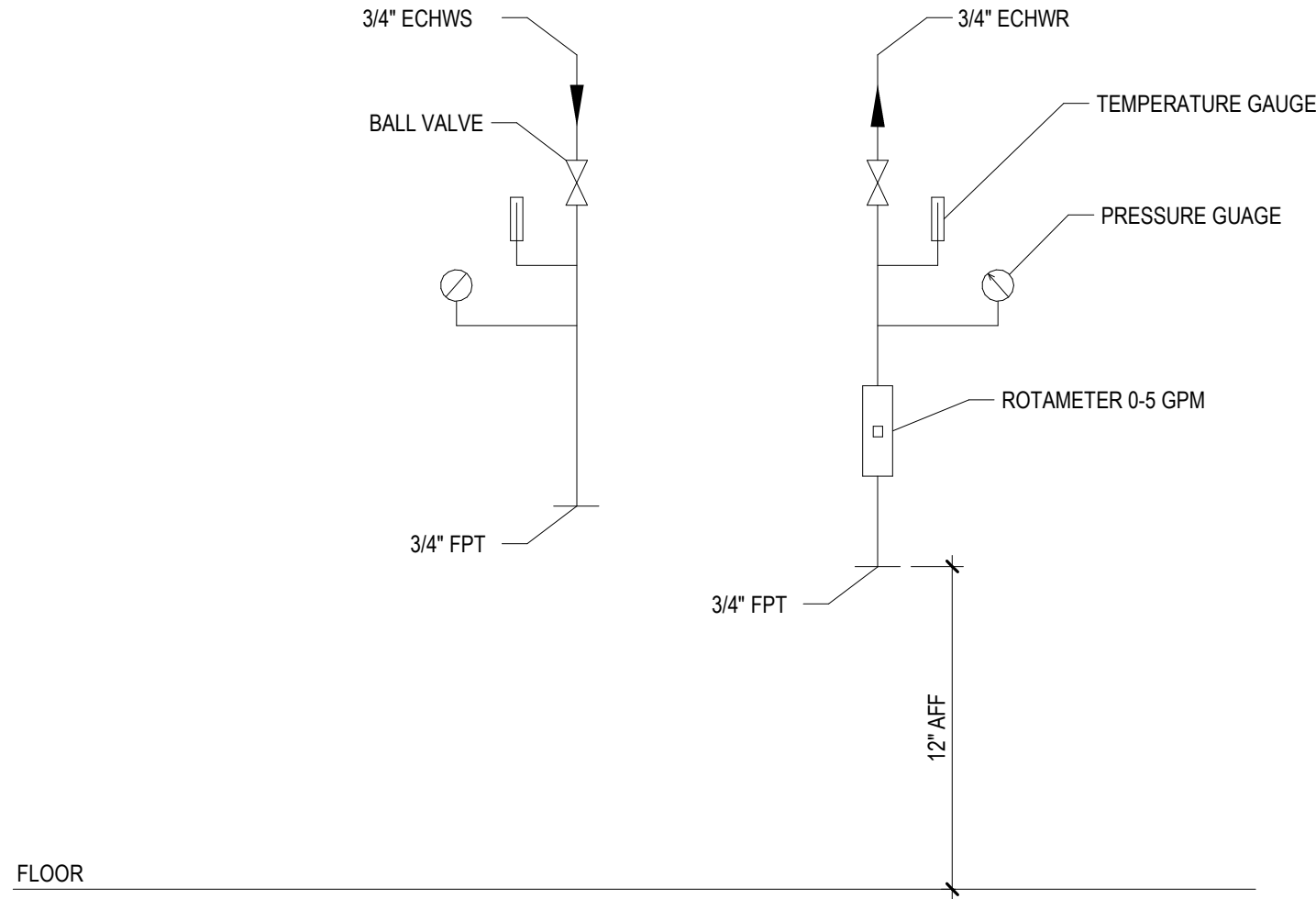
D1 AIR FLOW DIAGRAM
SCALE: 12" = 1'-0"



D2 EXHAUST DUCT ELEVATIONS (TYP. 3)
SCALE: 12" = 1'-0"



E3 LAB EQUIPMENT CHILLED WATER PIPING DIAGRAM
SCALE: 12" = 1'-0"



HORMEL INSTITUTE | LAB
RENOVATION
801 16th Ave NE
Austin, MN 55912

UNIVERSITY OF
MINNESOTA
100 Church Street SE
Minneapolis, MN 55455



730 Second Avenue South, Suite 1300
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KEY PLAN

REVISIONS

NO.	DESCRIPTION	DATE

FILE LOG

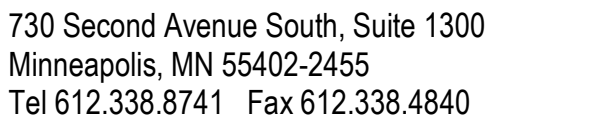
ACTIVITY	BY
Manager	SRN
Design	SLW
Draw	MLG
Check	Checker

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Project No. 023-10663-000
08/29/2024

MECHANICAL DETAILS & DIAGRAMS

M401



SOUND ATTENUATOR SCHEDULE																					
EQUIP ID	LOCATION	SERVES	AIRFLOW (CFM)	MAX FACE VELOCITY (FPM)	FORWARD (+) REVERSE (-)	PRESSURE DROP (IN WG)	DIMENSIONS				MINIMUM DYNAMIC INSERTION LOSS (dB)								MANUFACTURER	MODEL	NOTES
							DIAMETER	WIDTH	HEIGHT	LENGTH	63Hz	125Hz	250Hz	500Hz	1000Hz	2000Hz	4000Hz	8000Hz			
SA-3	1222	SUPPLY	550		+	.05	12"	12"	12"	4	6	8	11	12	12	10	6	PRICE	RMT 36 / UD	1	
SA-4	1222	SUPPLY	550		+	.05	12"	12"	12"	4	6	8	11	12	12	10	6	PRICE	RMT 36 / UD	1	
SA-5	1224	EXHAUST	1720		-	.06	24"	24"	36"	11	8	15	29	18	13	12	11	PRICE	PCL 36 / 14	1	
NOTES: 1. LENGTH SHOWN IS CENTER LENGTH.																					

[illegible]

ADDENDUM 1
NOT FOR CONSTRUCTION

MECHANICAL SCHEDULES

M501

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A

ONE-LINE DIAGRAM	
SYMBOL	DESCRIPTION
	CAPACITOR
	CIRCUIT BREAKER
	MOTOR STARTER, # INDICATES NEMA STARTER SIZE
	CURRENT TRANSFORMER
	POTENTIAL TRANSFORMER
	DRAWOUT CIRCUIT BREAKER
	FUSE
	GROUND CONNECTION
	GENERATOR
	GROUND FAULT PROTECTOR
	KIRK KEY INTERLOCK
	LIGHTNING ARRESTER
	MAGNETIC MOTOR STARTER
	METER (AS SPECIFIED)
	SWITCH
	TRANSFER SWITCH, AUTOMATIC UON
	ATS BYPASS
	TRANSFORMER
	SOLID-STATE MULTI-FUNCTION METER
	AMMETER AND PHASE SELECTOR SWITCH
	VOLTMETER AND PHASE SELECTOR SWITCH
	DISCONNECT SWITCH
	3 WIRE FEEDER TAG
	4 WIRE FEEDER TAG
	EMERGENCY POWER FEEDER

CONTROL DIAGRAM	
SYMBOL	DESCRIPTION
	LAMP
	N.C. CONTACT
	N.O. CONTACT
	OVERLOAD RELAY

SYMBOL	DESCRIPTION
	AUTO-OPERATOR
	BIOMETRIC READER
	BALANCED MAGNETIC SWITCH
	CARD READER
	DURESS ALARM
	DOOR CONTACT
	ELECTROMAGNETIC DOOR HOLDER
	ELECTRIC DOOR LOCK
	ELECTRIC DOOR STRIKE
	SENSOR - GLASS BREAK
	HAND WAVE ACTIVATOR
	INTERCOM MASTER
	INTERCOM SUBSTATION
	JUNCTION BOX
	KEYPAD
	LIGHT -LED MARQUEE DISPLAY
	LIGHT - STROBE
	MAGNETIC LOCK
	SENSOR - MOTION DETECTOR
	SENSOR - EMERGENCY SHOWER MONITOR
	SENSOR - TEMPERATURE
	PUSHBUTTON - EMERGENCY ASSISTANCE
	PUSHBUTTON - GENERIC
	PUSHBUTTON - OVERRIDE
	PUSHBUTTON - REMOTE RELEASE
	REQUEST TO EXIT
	CARD READER AND KEYPAD COMBINATION
	SECURITY SPEAKER
	CONTROL UNIT WITH KEYPAD
	VIDEO MONITOR
	SURVEILLANCE CAMERA, BOX, # INDICATES TYPE
	SURVEILLANCE CAMERA, DOME, # INDICATES TYPE
	SECURITY CONTROL PANEL
	TEMPERATURE MONITORING CONTROL PANEL

SYMBOL	DESCRIPTION
	SINGLE POLE, TOGGLE
	TWO SINGLE POLE, TOGGLE, INDICATES B-LEVEL SWITCHING
	LOW VOLTAGE LIGHTING CONTROL SWITCH
	S# = "S# INDICATES SWITCH, C, SEE LIGHTING CONTROL SWITCH SCHEDULES FOR ADDITIONAL INFORMATION
	#1 = "1" INDICATES CONTROL AREA ID, SEE LIGHTING CONTROL AREA PLANS FOR ADDITIONAL INFORMATION
	DAYLIGHT SENSOR, ON CEILING
	DURESS ALARM
	PHOTOCELL SENSOR
	LIGHTING CONTROL RELAY CONSOLIDATION LOCATION
	PARTITION SENSOR, ON CEILING
	DAYLIGHT SENSOR, ON WALL
	OCCUPANT SENSOR, ON WALL
	PHOTOCELL SENSOR, ON WALL
	LIGHTING CONTROL TAG - SEE LIGHTING CONTROL SCHEDULE OF OPERATION SCHEDULE
	#1 = "1" INDICATES CONTROL AREA ID, SEE LIGHTING PLANS FOR ADDITIONAL INFORMATION
	KEYPAD
	LIGHT -LED MARQUEE DISPLAY
	LIGHT - STROBE
	MAGNETIC LOCK
	SENSOR - MOTION DETECTOR
	SENSOR - EMERGENCY SHOWER MONITOR
	SENSOR - TEMPERATURE
	PUSHBUTTON - EMERGENCY ASSISTANCE
	PUSHBUTTON - GENERIC
	PUSHBUTTON - OVERRIDE
	PUSHBUTTON - REMOTE RELEASE
	REQUEST TO EXIT
	CARD READER AND KEYPAD COMBINATION
	SECURITY SPEAKER
	CONTROL UNIT WITH KEYPAD
	VIDEO MONITOR
	SURVEILLANCE CAMERA, BOX, # INDICATES TYPE
	SURVEILLANCE CAMERA, DOME, # INDICATES TYPE
	SECURITY CONTROL PANEL
	TEMPERATURE MONITORING CONTROL PANEL

SYMBOL	DESCRIPTION
	VOICE OUTLET
	DATA OUTLET, # DENOTES NUMBER OF CABLES
	VOICE DATA OUTLET
	CHIME
	CABLE TRAY - TYPE/SIZE AS INDICATED ON PLANS
	WIRELESS ACCESS POINT
	DISTRIBUTED ANTENNA SYSTEM ANTENNA
	TELECOMMUNICATIONS CABINET
	TELECOMMUNICATIONS RACK
	TELECOMMUNICATIONS GROUND BAR
	TELECOMMUNICATIONS MAIN GROUND BAR
	SPEAKER ZONE IDENTIFICATION FOR THE ROOM OR AREA
	TELEVISION OUTLET, ON CEILING
	SOUND MASKING, ON CEILING
	TELEVISION OUTLET, WALL MOUNTED 80" A.F.F. UON
	SPEAKER, ON CEILING
	SPEAKER, WALL MOUNTED 90" A.F.F. UON
	VOLUME CONTROL, WALL MOUNTED 48" A.F.F. UON
	INTERCOM STATION, WALL MOUNTED 48" A.F.F. UON
	MICROPHONE, WALL MOUNTED 48" A.F.F. UON
	3/4" PLYWOOD, PAINTED W/ 2 COATS FIRE PROOF GREY PAINT

SYMBOL	DESCRIPTION
	STANDARD SYMBOL INDICATES LUMINAIRE CONNECTED TO NORMAL POWER BRANCH
	FULL HATCHED SYMBOL INDICATES LUMINAIRE CONNECTED TO CODE REQUIRED EMERGENCY / LIFE SAFETY BRANCH. WHEN LUMINAIRE SYMBOL PREVENTS HATCH FROM SHOWING, "LS" SHALL IDENTIFY LIFE SAFETY SECTION.
	HALF-SHADED SYMBOL INDICATES LUMINAIRE CONNECTED TO OPTIONAL STANDBY / CRITICAL / EQUIPMENT BRANCH. WHEN LUMINAIRE SYMBOL PREVENTS HATCH FROM SHOWING, "CR" SHALL IDENTIFY CRITICAL SECTION.
	LUMINAIRE LABELING

SYMBOL	DESCRIPTION
	RECTANGULAR LUMINAIRE
	ROUND LUMINAIRE
	RECTANGULAR LUMINAIRE
	WALL MOUNTED LUMINAIRE
	LINEAR LUMINAIRE
	WALL MOUNTED LINEAR LUMINAIRE
	STRIP LUMINAIRE
	WALL MOUNTED LUMINAIRE
	UNDER CABINET LUMINAIRE
	SUSPENDED LINEAR LUMINAIRE
	COVE OR SPECIALTY LUMINAIRE - NORMAL, SEE EQUIPMENT SCHEDULE FOR TYPE
	COVE OR SPECIALTY LUMINAIRE - SEE HATCHING LEGEND ABOVE, SEE EQUIPMENT SCHEDULE FOR TYPE
	COVE OR SPECIALTY LUMINAIRE - SEE HATCHING LEGEND ABOVE, SEE EQUIPMENT SCHEDULE FOR TYPE
	TRACK LIGHTING, QUANTITY AND ORIENTATION AS SHOWN
	SPECIALTY LUMINAIRE, SUSPENDED
	EXIT SIGN, CEILING OR WALL MOUNT
	EMERGENCY LIGHTING UNIT
	REMOTE DRIVER ENCLOSURE
	POLE MOUNTED LIGHTING (HEADS AS INDICATED)
	POLE MOUNTED LIGHTING MULTI-HEAD
	POLE MOUNTED LIGHTING POST TOP HEAD
	BOLLARD LUMINAIRE
	FLOOD LIGHTING
	IN-GRADE LIGHTING

SYMBOL	DESCRIPTION
	SINGLE POLE, TOGGLE
	TWO SINGLE POLE, TOGGLE, INDICATES B-LEVEL SWITCHING
	LOW VOLTAGE LIGHTING CONTROL SWITCH
	S# = "S# INDICATES SWITCH, C, SEE LIGHTING CONTROL SWITCH SCHEDULES FOR ADDITIONAL INFORMATION
	#1 = "1" INDICATES CONTROL AREA ID, SEE LIGHTING CONTROL AREA PLANS FOR ADDITIONAL INFORMATION
	DAYLIGHT SENSOR, ON CEILING
	DURESS ALARM
	PHOTOCELL SENSOR
	LIGHTING CONTROL RELAY CONSOLIDATION LOCATION
	PARTITION SENSOR, ON CEILING
	DAYLIGHT SENSOR, ON WALL
	OCCUPANT SENSOR, ON WALL
	PHOTOCELL SENSOR, ON WALL
	LIGHTING CONTROL TAG - SEE LIGHTING CONTROL SCHEDULE OF OPERATION SCHEDULE
	#1 = "1" INDICATES CONTROL AREA ID, SEE LIGHTING PLANS FOR ADDITIONAL INFORMATION
	KEYPAD
	LIGHT -LED MARQUEE DISPLAY
	LIGHT - STROBE
	MAGNETIC LOCK
	SENSOR - MOTION DETECTOR
	SENSOR - EMERGENCY SHOWER MONITOR
	SENSOR - TEMPERATURE
	PUSHBUTTON - EMERGENCY ASSISTANCE
	PUSHBUTTON - GENERIC
	PUSHBUTTON - OVERRIDE
	PUSHBUTTON - REMOTE RELEASE
	REQUEST TO EXIT
	CARD READER AND KEYPAD COMBINATION
	SECURITY SPEAKER
	CONTROL UNIT WITH KEYPAD
	VIDEO MONITOR
	SURVEILLANCE CAMERA, BOX, # INDICATES TYPE
	SURVEILLANCE CAMERA, DOME, # INDICATES TYPE
	SECURITY CONTROL PANEL
	TEMPERATURE MONITORING CONTROL PANEL

SYMBOL	DESCRIPTION
	SINGLE POLE, TOGGLE
	TWO SINGLE POLE, TOGGLE, INDICATES B-LEVEL SWITCHING
	LOW VOLTAGE LIGHTING CONTROL SWITCH
	S# = "S# INDICATES SWITCH, C, SEE LIGHTING CONTROL SWITCH SCHEDULES FOR ADDITIONAL INFORMATION
	#1 = "1" INDICATES CONTROL AREA ID, SEE LIGHTING CONTROL AREA PLANS FOR ADDITIONAL INFORMATION
	DAYLIGHT SENSOR, ON CEILING
	DURESS ALARM
	PHOTOCELL SENSOR
	LIGHTING CONTROL RELAY CONSOLIDATION LOCATION
	PARTITION SENSOR, ON CEILING
	DAYLIGHT SENSOR, ON WALL
	OCCUPANT SENSOR, ON WALL
	PHOTOCELL SENSOR, ON WALL
	LIGHTING CONTROL TAG - SEE LIGHTING CONTROL SCHEDULE OF OPERATION SCHEDULE
	#1 = "1" INDICATES CONTROL AREA ID, SEE LIGHTING PLANS FOR ADDITIONAL INFORMATION
	KEYPAD
	LIGHT -LED MARQUEE DISPLAY
	LIGHT - STROBE
	MAGNETIC LOCK
	SENSOR - MOTION DETECTOR
	SENSOR - EMERGENCY SHOWER MONITOR
	SENSOR - TEMPERATURE
	PUSHBUTTON - EMERGENCY ASSISTANCE
	PUSHBUTTON - GENERIC
	PUSHBUTTON - OVERRIDE
	PUSHBUTTON - REMOTE RELEASE
	REQUEST TO EXIT
	CARD READER AND KEYPAD COMBINATION
	SECURITY SPEAKER
	CONTROL UNIT WITH KEYPAD
	VIDEO MONITOR
	SURVEILLANCE CAMERA, BOX, # INDICATES TYPE
	SURVEILLANCE CAMERA, DOME, # INDICATES TYPE
	SECURITY CONTROL PANEL
	TEMPERATURE MONITORING CONTROL PANEL

SYMBOL	DESCRIPTION
	VOICE OUTLET
	DATA OUTLET, # DENOTES NUMBER OF CABLES
	VOICE DATA OUTLET
	CHIME
	CABLE TRAY - TYPE/SIZE AS INDICATED ON PLANS
	WIRELESS ACCESS POINT
	DISTRIBUTED ANTENNA SYSTEM ANTENNA
	TELECOMMUNICATIONS CABINET
	TELECOMMUNICATIONS RACK
	TELECOMMUNICATIONS GROUND BAR
	TELECOMMUNICATIONS MAIN GROUND BAR
	SPEAKER ZONE IDENTIFICATION FOR THE ROOM OR AREA
	TELEVISION OUTLET, ON CEILING
	SOUND MASKING, ON CEILING
	TELEVISION OUTLET, WALL MOUNTED 80" A.F.F. UON
	SPEAKER, ON CEILING
	SPEAKER, WALL MOUNTED 90" A.F.F. UON
	VOLUME CONTROL, WALL MOUNTED 48" A.F.F. UON
	INTERCOM STATION, WALL MOUNTED 48" A.F.F. UON
	MICROPHONE, WALL MOUNTED 48" A.F.F. UON
	3/4" PLYWOOD, PAINTED W/ 2 COATS FIRE PROOF GREY PAINT

SYMBOL	DESCRIPTION
	VOICE OUTLET
	DATA OUTLET, # DENOTES NUMBER OF CABLES
	VOICE DATA OUTLET
	CHIME
	CABLE TRAY - TYPE/SIZE AS INDICATED ON PLANS
	WIRELESS ACCESS POINT
	DISTRIBUTED ANTENNA SYSTEM ANTENNA
	TELECOMMUNICATIONS CABINET
	TELECOMMUNICATIONS RACK
	TELECOMMUNICATIONS GROUND BAR
	TELECOMMUNICATIONS MAIN GROUND BAR
	SPEAKER ZONE IDENTIFICATION FOR THE ROOM OR AREA
	TELEVISION OUTLET, ON CEILING
	SOUND MASKING, ON CEILING
	TELEVISION OUTLET, WALL MOUNTED 80" A.F.F. UON
	SPEAKER, ON CEILING
	SPEAKER, WALL MOUNTED 90" A.F.F. UON
	VOLUME CONTROL, WALL MOUNTED 48" A.F.F. UON
	INTERCOM STATION, WALL MOUNTED 48" A.F.F. UON
	MICROPHONE, WALL MOUNTED 48" A.F.F. UON
	3/4" PLYWOOD, PAINTED W/ 2 COATS FIRE PROOF GREY PAINT

SYMBOL	DESCRIPTION
	DUPLEX RECEPTACLE
	DUPLEX RECEPTACLE, EMERGENCY POWER
	DUPLEX RECEPTACLE, GFCI DEVICE
	DUPLEX RECEPTACLE, FLUSH MOUNTED ON CEILING
	DUPLEX RECEPTACLE, FLUSH MOUNTED IN FLOOR
	DOUBLE DUPLEX RECEPTACLE
	DOUBLE DUPLEX RECEPTACLE, EMERGENCY POWER
	DOUBLE DUPLEX RECEPTACLE, GFCI DEVICE
	DOUBLE DUPLEX RECEPTACLE, FLUSH MOUNTED ON CEILING
	DOUBLE DUPLEX RECEPTACLE, FLUSH MOUNTED IN FLOOR
	DUPLEX RECEPTACLE, HORIZONTAL MOUNT
	SINGLE RECEPTACLE
	SINGLE RECEPTACLE, EMERGENCY POWER
	SPECIAL RECEPTACLE, AS NOTED, EMERGENCY POWER
	DEAD-FRONT GFCI DEVICE - SEE ELECTRICAL SYMBOL LEGEND NOTES FOR DEVICE LABELING INSTRUCTIONS, 48" A.F.F. UON
	DEAD-FRONT GFCI DEVICE, EMERGENCY POWER, SEE ELECTRICAL SYMBOL LEGEND NOTE FOR DEVICE LABELING INSTRUCTIONS, 48" A.F.F. UON
	AV WALL BOX, SEE SCHEDULE FOR CONFIGURATION
	FLOOR BOX, SEE SCHEDULE FOR CONFIGURATION
	PUSHBUTTON, NUMBER OF BUTTONS AS SHOWN
	MULTI-OUTLET ASSEMBLY, AS NOTED

SYMBOL	DESCRIPTION
	WIRING IDENTIFICATION
	LETTER INDICATORS PANEL, NUMBERS INDICATE CIRCUITS
	CONDUIT CONCEALED IN CEILING OR WALL
	CIRCUIT ZONE BOUNDARY
	NORMAL CIRCUIT
	CRITICAL CIRCUIT
	LIFE SAFETY CIRCUIT
	CONDUIT EXPOSED
	CONDUIT CONCEALED IN FLOOR OR BELOW GRADE
	CONDUIT SEAL
	CONDUIT DOWNWARD
	CONDUIT UPWARD
	CONDUIT CONTINUATION
	CONDUIT END CAP
	CONDUIT IN DUCT/BANK
	SURFACE MOUNTED BRANCH PANELBOARD
	FLUSH MOUNTED BRANCH PANELBOARD
	DISTRIBUTION PANEL
	SWITCHBOARD
	MOTOR CONTROL CENTER
	ELECTRICAL CABINET OR SPECIAL PURPOSE ENCLOSURE
	PULL BOX
	MANHOLE
	HANDHOLE
	AUTOMATIC TRANSFER SWITCH
	SURGE PROTECTION DEVICE
	VARIABLE FREQUENCY DEVICE
	MOTOR
	NON-FUSED DISCONNECT SWITCH
	FUSED DISCONNECT SWITCH
	INDIVIDUAL, MOLDED CASE CIRCUIT BREAKER IN ENCLOSURE
	MAGNETIC MOTOR STARTER
	COMBINATION MOTOR STARTER AND DISCONNECT SWITCH
	JUNCTION BOX, WALL MOUNTED
	JUNCTION BOX, FLUSH MOUNTED ON CEILING
	JUNCTION BOX, FLUSH MOUNTED IN FLOOR
	RELAY
	RECESSED FLOOR DUCT, TYPE/SIZE AS INDICATED ON PLANS
	POLE MOUNTED TRANSFORMER
	3 PHASE POLE MOUNTED TRANSFORMERS

SYMBOL	DESCRIPTION
	37-PIN PATIENT BED RECEPTACLE
	ENHANCED SINGLE PATIENT STATION, 48" A.F.F. UON
	STAFF ASSIST / CODE STATION, 48" A.F.F. UON
	DUTY STATION, 48" A.F.F. UON
	PULL CORD STATION WITH AUDIO, 48" A.F.F. UON
	2-JACK STATION, 48" A.F.F. UON
	NURSE CONSOLE MASTER STATION
	PATIENT MONITORING OUTLET, 48" A.F.F. UON
	STAFF TERMINAL TOUCHSCREEN, 48" A.F.F. UON
	NURSE CALL CONTROL PANEL
	CORRIDOR DOME STATUS LIGHT, ON CEILING
	CORRIDOR ZONE STATUS LIGHT, ON CEILING
	CORRIDOR DOME STATUS LIGHT, 90" A.F.F. UON
	CORRIDOR ZONE STATUS LIGHT, 90" A.F.F. UON

SYMBOL	DESCRIPTION
	37-PIN PATIENT BED RECEPTACLE
	ENHANCED SINGLE PATIENT STATION, 48" A.F.F. UON
	STAFF ASSIST / CODE STATION, 48" A.F.F. UON
	DUTY STATION, 48" A.F.F. UON
	PULL CORD STATION WITH AUDIO, 48" A.F.F. UON
	2-JACK STATION, 48" A.F.F. UON
	NURSE CONSOLE MASTER STATION
	PATIENT MONITORING OUTLET, 48" A.F.F. UON
	STAFF TERMINAL TOUCHSCREEN, 48" A.F.F. UON
	NURSE CALL CONTROL PANEL
	CORRIDOR DOME STATUS LIGHT, ON CEILING
	CORRIDOR ZONE STATUS LIGHT, ON CEILING
	CORRIDOR DOME STATUS LIGHT, 90" A.F.F. UON
	CORRIDOR ZONE STATUS LIGHT, 90" A.F.F. UON

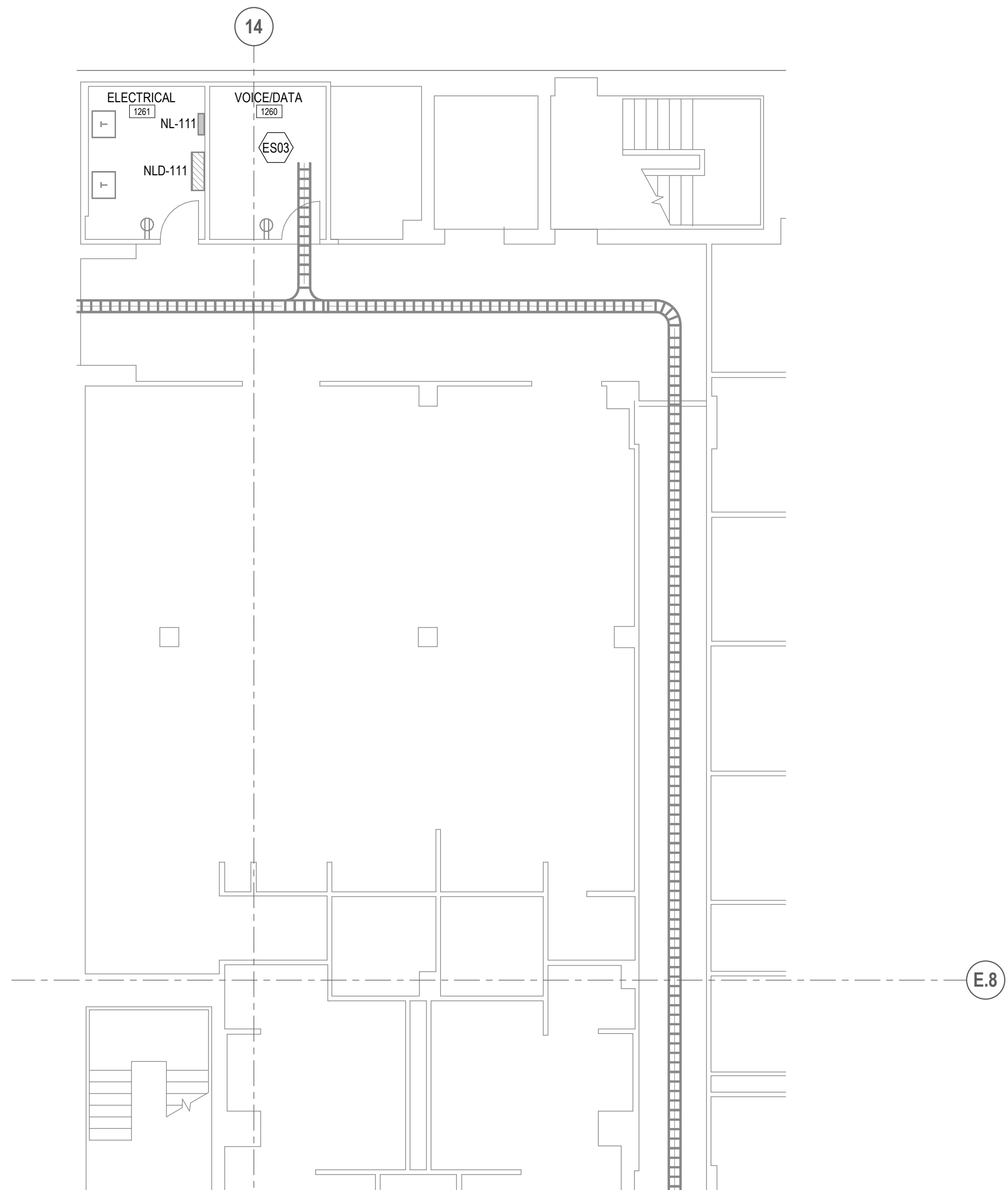
SYMBOL	DESCRIPTION
	37-PIN PATIENT BED RECEPTACLE
	ENHANCED SINGLE PATIENT STATION, 48" A.F.F. UON
	STAFF ASSIST / CODE STATION, 48" A.F.F. UON
	DUTY STATION, 48" A.F.F. UON
	PULL CORD STATION WITH AUDIO, 48" A.F.F. UON
	2-JACK STATION, 48" A.F.F. UON
	NURSE CONSOLE MASTER STATION
	PATIENT MONITORING OUTLET, 48" A.F.F. UON
	STAFF TERMINAL TOUCHSCREEN, 48" A.F.F. UON
	NURSE CALL CONTROL PANEL
	CORRIDOR DOME STATUS LIGHT, ON CEILING
	CORRIDOR ZONE STATUS LIGHT, ON CEILING
	CORRIDOR DOME STATUS LIGHT, 90" A.F.F. UON
	CORRIDOR ZONE STATUS LIGHT, 90" A.F.F. UON

FIRE ALARM	
SYMBOL	DESCRIPTION
	FIRE ALARM MANUAL STATION
	FIRE ALARM EXTERIOR BELL (WP)
	FIRE ALARM HORN
	FIRE ALARM HORN STROBE, # INDICATES CANDELA RATING
	FIRE ALARM SPEAKER STROBE, # INDICATES CANDELA RATING
	FIRE ALARM STROBE, # INDICATES CANDELA RATING
	FIRE ALARM SPEAKER ONLY
	FIRE ALARM STROBE AND CHIME COMBINATION
	FIRE ALARM CHIME
	FIRE ALARM DOOR HOLDER
	FIRE ALARM STROBE, ON CEILING, # INDICATES CANDELA RATING
	FIRE ALARM HORN, ON CEILING
	FIRE ALARM HORN STROBE, ON CEILING, # INDICATES CANDELA RATING
	FIRE ALARM SPEAKER, ON CEILING
	FIRE ALARM SPEAKER STROBE, ON CEILING, # INDICATES CANDELA RATING
	MASS NOTIFICATION SPEAKER/STROBE, # INDICATES CANDELA RATING
	MASS NOTIFICATION STROBE, # INDICATES CANDELA RATING
	MASS NOTIFICATION SPEAKER, # INDICATES DECIBEL RATING
	MASS NOTIFICATION STROBE, ON CEILING, # INDICATES CANDELA RATING

EQUIPMENT COORDINATION SCHEDULE																
ABBREVIATIONS																
EC - ELECTRICAL CONTRACTOR			FLA - FULL LOAD AMPS			N1 - NEMA 1			SH - HP RATED SWITCH							
MC - MECHANICAL CONTRACTOR			HP - HORSEPOWER			3R - NEMA 3R			TE - THERMAL ELEMENT SWITCH							
TF - THERMO FISHER SCIENTIFIC			KW - KILOWATTS			4X - NEMA 4X			V - VOLTAGE							
I - INTEGRAL WITH EQUIPMENT			MR - PER MANUFACTURER'S RECOMMENDATIONS			PH - PHASE			VA - VOLT-AMPS (APPARENT POWER)							
C - COMBINATION STARTER AND SAFETY SWITCH			NR - NON-FUSED			RV - REDUCED VOLTAGE			VFD - VARIABLE FREQUENCY DRIVE							
CB - CIRCUIT BREAKER			NR - NON-REVERSING			SS - SAFETY SWITCH			W - WATTS							
DISCONNECT																
EQPM ID	DESCRIPTION	FURNISHED BY	POWER INSTALLED BY	FED FROM	LOAD	FLA	MOCB	VOL	PH	FEEDER	FURNISHED / INSTALLED	TYPE	RATING	DATA CONNECTION	KEYED NOTES	
DH-1	DEHUMIDIFIER	MC	EC	PANEL NL-111	21000 VA	38 A	50 A	480 V	3	40A FEEDER	EC / EC	SS	60 A	-		
DH-2	DEHUMIDIFIER	MC	EC	PANEL NL-111	3400 VA	24 A	35 A	480 V	3	(4)#10 IN 34°C	EC / EC	SS	60 A	-		
E01	GLACIOS	TF	TF	ARCTIS TRANSFORMER	3450 VA	15 A	-	230 V	1	(3)#6 IN 34°C	-	-	-	-	1.3.4	
E02	GLACIOS	TF	TF	GLACIOS TRANSFORMER	4100 VA	18 A	-	230 V	1	(3)#10 IN 34°C	-	-	-	-	2.3.5	
E03	KRIOS	TF	TF	KRIOS TRANSFORMER	13000 VA	33 A	-	230 V	3	(5)#10 IN 34°C	-	-	-	-	2.3	
E04	ARCTIS UPS	TF	EC	PANEL NR-112B	0 VA	0 A	20 A	208 V	1	(3)#6 IN 34°C	EC / EC	SS	30 A	-		
E05	GLACIOS UPS	TF	EC	PANEL NR-112C	0 VA	0 A	22 A	208 V	1	(3)#10 IN 34°C	EC / EC	SS	30 A	-		
E06	KRIOS UPS	TF	EC	PANEL NRD-112	0 VA	0 A	30 A	208 V	3	(5)#10 IN 34°C	EC / EC	SS	30 A	-		
E07	ARCTIS TRANSFORMER	TF	EC	ARCTIS UPS	0 VA	0 A	-	208 V	1	(3)#6 CABLE BY TF	-	-	-	-		
E08	GLACIOS TRANSFORMER	TF	EC	GLACIOS UPS	0 VA	0 A	-	208 V	1	(3)#10 IN 34°C	-	-	-	-		
E09	KRIOS TRANSFORMER	TF	EC	GLACIOS UPS	0 VA	0 A	-	208 V	3	(3)#10 IN 34°C	-	-	-	-		
E10	ARCTIS CHILLER	TF	EC	ARCTIS CHILLER UPS	2980 VA	12 A	-	208 V	1	(3)#12 IN 34°C	EC / EC	SS	30 A	-		
E11	GLACIOS CHILLER	TF	EC	GLACIOS CHILLER UPS	3295 VA	16 A	-	208 V	1	(3)#10 IN 34°C	TF / EC	D3252SA RECEPTACLE	-	-		
E12	KRIOS CHILLER	TF	EC	KRIOS CHILLER UPS	3295 VA	16 A	-	208 V	1	(3)#10 IN 34°C	TF / EC	D3252SA RECEPTACLE	-	-		
E13	ARCTIS CHILLER UPS	TF	EC	PANEL NR-112B	0 VA	0 A	20 A	208 V	1	(3)#12 IN 34°C	EC / EC	SS	30 A	-		
E14	GLACIOS CHILLER UPS	TF	EC	PANEL NR-112C	0 VA	0 A	30 A	208 V	1	(3)#10 IN 34°C	EC / EC	SS	30 A	-		
E15	ARCTIS CHILLER UPS	TF	EC	PANEL NR-112A	0 VA	0 A	30 A	208 V	3	(3)#10 IN 34°C	EC / EC	SS	30 A	-		
E16	ARCTIS COMPRESSOR	TF	EC	PANEL NR-112B	575 VA	3 A	15 A	230 V	1	(3)#12 IN 34°C	EC / EC	CEE 777 EURO PLUG	-	-		
E17	GLACIOS COMPRESSOR	TF	EC	PANEL NR-112C	575 VA	3 A	15 A	230 V	1	(3)#12 IN 34°C	EC / EC	CEE 777 EURO PLUG	-	-		
E18	GLACIOS DMP SERVER	TF	EC	PANEL NR-112C	1600 VA	8 A	20 A	208 V	1	(3)#12 IN 34°C	EC / EC	C13 RECEPTACLE	-	-	5	
E19	KRIOS DMP SERVER	TF	EC	PANEL NR-112A	1600 VA	8 A	20 A	208 V	1	(3)#12 IN 34°C	EC / EC	C14 RECEPTACLE	-	-	5	
E20	ARCTIS PVP ACOUSTIC ENCLOSURE 1	TF	EC	PANEL NR-112B	1664 VA	8 A	30 A	208 V	1	(2)#10 & (1)#12S IN 34°C	EC / EC	30A RECEPTACLE	-	-		
E21	ARCTIS PVP ACOUSTIC ENCLOSURE 2	TF	EC	PANEL NR-112B	1664 VA	8 A	30 A	208 V	1	(2)#10 & (1)#12G IN 34°C	EC / EC	30A RECEPTACLE	-	-		
E22	GLACIOS ACOUSTIC SERVER CABINET	TF	EC	PANEL NR-112C	1664 VA	8 A	30 A	208 V	1	(2)#10 & (1)#12G IN 34°C	EC / EC	30A RECEPTACLE	-	-		
E23	KRIOS ACOUSTIC SERVER CABINET	TF	EC	PANEL NR-112A	1664 VA	8 A	30 A	208 V	1	(2)#10 & (1)#12S IN 34°C	EC / EC	30A RECEPTACLE	-	-		
EF-					0 VA	0 A	-	0 V	0							
P-16					0 VA	0 A	-	120 V	1							

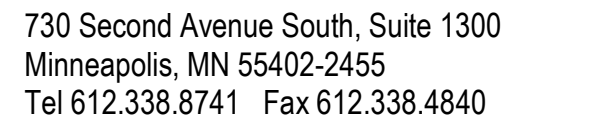
KEYED NOTES:

1. PROVIDE SUPPLEMENTAL #6 PE CONDUCTOR BONDED TO BUS BAR.
2. PROVIDE SUPPLEMENTAL #10 PE CONDUCTOR BONDED TO BUS BAR.
3. EC SHALL TERMINATE POWER AT CONNECTION BOX PROVIDED BY THERMO FISHER. INSTALLATION PAST THAT POINT IS PROVIDED BY THERMO FISHER, EXCEPT FOR SUPPLEMENTAL PE CONDUCTORS.
4. MINIMUM CATA, MINIMUM DATA TRANSFER RATE OF 1 GB/s, MAX DISTANCE 100M. WALL SOCKETS REQUIRED IN OPERATION AND MICROSCOPE ROOM.
5. OM3 OR OM4 50/125 FIBER CABLE, MAXIMUM 100 M. (3) CONNECTIONS BETWEEN MICROSCOPE ROOM AND SERVER ROOM. (1) CONNECTION FROM SERVER ROOM TO CUSTOMER NETWORK.



EP01	IS SHALL RELOCATE AND EXTEND POWER AND DATA TO ACCOMMODATE RAISED CEILING. COORDINATE ABOVE-CEILING CONFLICTS WITH OTHER DISCIPLINES.
EP02	PROVIDE 120V GROUNDING, CONDUIT, AND CABLE TRAY AND LASER EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. PROPOSED LOCATION, COORDINATE FINAL LOCATION WITH THERMO FISHER EQUIPMENT LAYOUT. FEED FROM GROUND BAR IN ELECTRICAL RACK 120V.
EP03	PROPOSED EQUIPMENT LAYOUT. COORDINATE FINAL LOCATION WITH THERMO FISHER. PROVIDE ELECTRICAL CONNECTIONS AND DISCONNECTS AS INDICATED IN EQUIPMENT CONNECTION SCHEDULE.
EP04	PROVIDE 120V CONNECTION TO CARD READER.
EP05	PROVIDE END SUTTING.
ES01	CABLE TRAY TO BE RELOCATED TO ABOVE-HIGHER CEILING OR CABLES TO BE RE-ROUTED ABOVE RACK IN EXISTING CABLE TRAY. DATA CABLES MUST BE IN CABLE TRAY OR CONDUIT PER UNIVERSITY OF MINNESOTA STANDARDS. JOCKS ARE NOT ALLOWABLE.
ES02	RELOCATE EXISTING HORN STROBE TO NEW CEILING.
ES03	RUN DATA CABLES TO EXISTING DATA TRAY VIA EXISTING CABLE TRAY.
ES04	DISCONNECT AND REINSTALL EXISTING CARD READER.

UNIVERSITY OF
MINNESOTA
100 Church Street SE
Minneapolis, MN 55455



REVISIONS

FILE LOG	
ACTIVITY	BY
Manager	NRN
Design	MSW
Draw	MSW
Check	Checker

ADDENDUM 1
NOT FOR CONSTRUCTION

POWER & SYSTEMS PLAN - LEVEL 1

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