

# RIDGEVIEW ELEMENTARY RENO

## Liberty Public Schools

701 Thornton Street  
Liberty, MO 64068

### 100% CONSTRUCTION DOCUMENTS

#### INDEX OF DRAWINGS

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G102	CODE FLOOR PLAN - LEVEL 2
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DA102	DEMOLITION FLOOR PLAN - OVERALL - LEVEL 2
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DA121	DEMOLITION REFLECTED CEILING PLAN - OVERALL - LEVEL 2
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MD-101C	HVAC LEVEL 1 DEMO PLAN - AREA C
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MD-200B	PIPING TUNNEL DEMO PLAN - AREA B
MD-200C	PIPING TUNNEL DEMO PLAN - AREA C
MD-201A	PIPING LEVEL 1 DEMO PLAN - AREA A
MD-201B	PIPING LEVEL 1 DEMO PLAN - AREA B
MD-201C	PIPING LEVEL 1 DEMO PLAN - AREA C
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MD-900B	PIPING LEVEL 0 TUNNEL DEMO PLAN - AREA B - ALT #3
MD-900C	PIPING LEVEL 0 TUNNEL DEMO PLAN - AREA C - ALT #3
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MD-901B	PIPING LEVEL 1 DEMO PLAN - AREA B - ALT #3
MD-901C	PIPING LEVEL 1 DEMO PLAN - AREA C - ALT #3
MD-902A	PIPING LEVEL 2 DEMO PLAN - AREA A - ALT #3
MD-902B	PIPING LEVEL 2 DEMO PLAN - AREA B - ALT #3
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PD-101B	PLUMBING LEVEL 1 DEMO PLAN - AREA B
PD-101C	PLUMBING LEVEL 1 DEMO PLAN - AREA C
PD-102A	PLUMBING LEVEL 2 DEMO PLAN - AREA A
PD-102B	PLUMBING LEVEL 2 DEMO PLAN - AREA B
PD-102C	PLUMBING LEVEL 2 DEMO PLAN - AREA C
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ED-102A	LIGHTING LEVEL 2 DEMO PLAN - AREA A
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ED-301A	EQUIPMENT CONNECTION LEVEL 1 DEMO PLAN - AREA A
ED-301B	EQUIPMENT CONNECTION LEVEL 1 DEMO PLAN - AREA B
ED-301C	EQUIPMENT CONNECTION LEVEL 1 DEMO PLAN - AREA C
ED-302A	EQUIPMENT CONNECTION LEVEL 2 DEMO PLAN - AREA A
ED-302B	EQUIPMENT CONNECTION LEVEL 2 DEMO PLAN - AREA B
ED-302C	EQUIPMENT CONNECTION LEVEL 2 DEMO PLAN - AREA C

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A102	FLOOR PLAN - LEVEL 2 - OVERALL
A120	REFLECTED CEILING PLAN - OVERALL - LEVEL 1
A121	REFLECTED CEILING PLAN - OVERALL - LEVEL 2
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A121B	REFLECTED CEILING PLAN - AREA B
A121C	REFLECTED CEILING PLAN - AREA C
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A401B	ENLARGED TOILET PLANS & DETAILS
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A403	ENLARGED PLANS & DETAILS
A404	ENLARGED PLANS & DETAILS
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A681	MATERIAL FINISH LEGEND AND ROOM SCHEDULE
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M-101B	HVAC LEVEL 1 PLAN - AREA B
M-101C	HVAC LEVEL 1 PLAN - AREA C
M-102A	HVAC LEVEL 2 PLAN - AREA A
M-102B	HVAC LEVEL 2 PLAN - AREA B
M-102C	HVAC LEVEL 2 PLAN - AREA C
M-103A	HVAC ROOF PLAN - AREA A
M-103B	HVAC ROOF PLAN - AREA B
M-103C	HVAC ROOF PLAN - AREA C
M-200A	PIPING LEVEL 0 TUNNEL PLAN - AREA A
M-200B	PIPING LEVEL 0 TUNNEL PLAN - AREA B
M-200C	PIPING LEVEL 0 TUNNEL PLAN - AREA C
M-201A	PIPING LEVEL 1 PLAN - AREA A
M-201B	PIPING LEVEL 1 PLAN - AREA B
M-201C	PIPING LEVEL 1 PLAN - AREA C
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M-401	MECHANICAL SCHEDULES
M-500	MECHANICAL DETAILS
M-600	MECHANICAL CONTROLS
M-601	MECHANICAL CONTROLS
M-602	MECHANICAL CONTROLS
M-603	MECHANICAL CONTROLS
M-604	MECHANICAL CONTROLS
M-605	MECHANICAL CONTROLS
M-900A	PIPING LEVEL 0 TUNNEL PLAN - AREA A - ALT #3
M-900B	PIPING LEVEL 0 TUNNEL PLAN - AREA B - ALT #3
M-900C	PIPING LEVEL 0 TUNNEL PLAN - AREA C - ALT #3
M-901A	PIPING LEVEL 1 PLAN - AREA A - ALT #3
M-901B	PIPING LEVEL 1 PLAN - AREA B - ALT #3
M-901C	PIPING LEVEL 1 PLAN - AREA C - ALT #3
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M-902B	PIPING LEVEL 2 PLAN - AREA B - ALT #3
M-902C	PIPING LEVEL 2 PLAN - AREA C - ALT #3

MECHANICAL	
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P-103B	PLUMBING ROOF PLAN - AREA B
P-103C	PLUMBING ROOF PLAN - AREA C
PLUMBING	
P-000	PLUMBING GENERAL NOTES AND LEGEND
P-101A	PLUMBING LEVEL 1 PLAN - AREA A
P-101B	PLUMBING LEVEL 1 PLAN - AREA B
P-101C	PLUMBING LEVEL 1 PLAN - AREA C
P-102A	PLUMBING LEVEL 2 PLAN - AREA A
P-102B	PLUMBING LEVEL 2 PLAN - AREA B
P-102C	PLUMBING LEVEL 2 PLAN - AREA C
P-201	PLUMBING ENLARGED PLANS
P-301	PLUMBING SCHEDULES & DETAILS
P-400	PLUMBING RISER DIAGRAMS

ELECTRICAL	
E-000	ELECTRICAL GENERAL NOTES AND LEGEND
E-101A	LIGHTING LEVEL 1 PLAN - AREA A
E-101B	LIGHTING LEVEL 1 PLAN - AREA B
E-101C	LIGHTING LEVEL 1 PLAN - AREA C
E-102A	LIGHTING LEVEL 2 PLAN - AREA A
E-102B	LIGHTING LEVEL 2 PLAN - AREA B
E-102C	LIGHTING LEVEL 2 PLAN - AREA C
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E-302B	EQUIPMENT CONNECTION LEVEL 2 PLAN - AREA B
E-302C	EQUIPMENT CONNECTION LEVEL 2 PLAN - AREA C
E-303A	EQUIPMENT CONNECTION ROOF PLAN - AREA A
E-303B	EQUIPMENT CONNECTION ROOF PLAN - AREA B
E-303C	EQUIPMENT CONNECTION ROOF PLAN - AREA C
E-400	ELECTRICAL ONLINE
E-500	LIGHT FIXTURE SCHEDULE
E-600	ELECTRICAL SCHEDULES

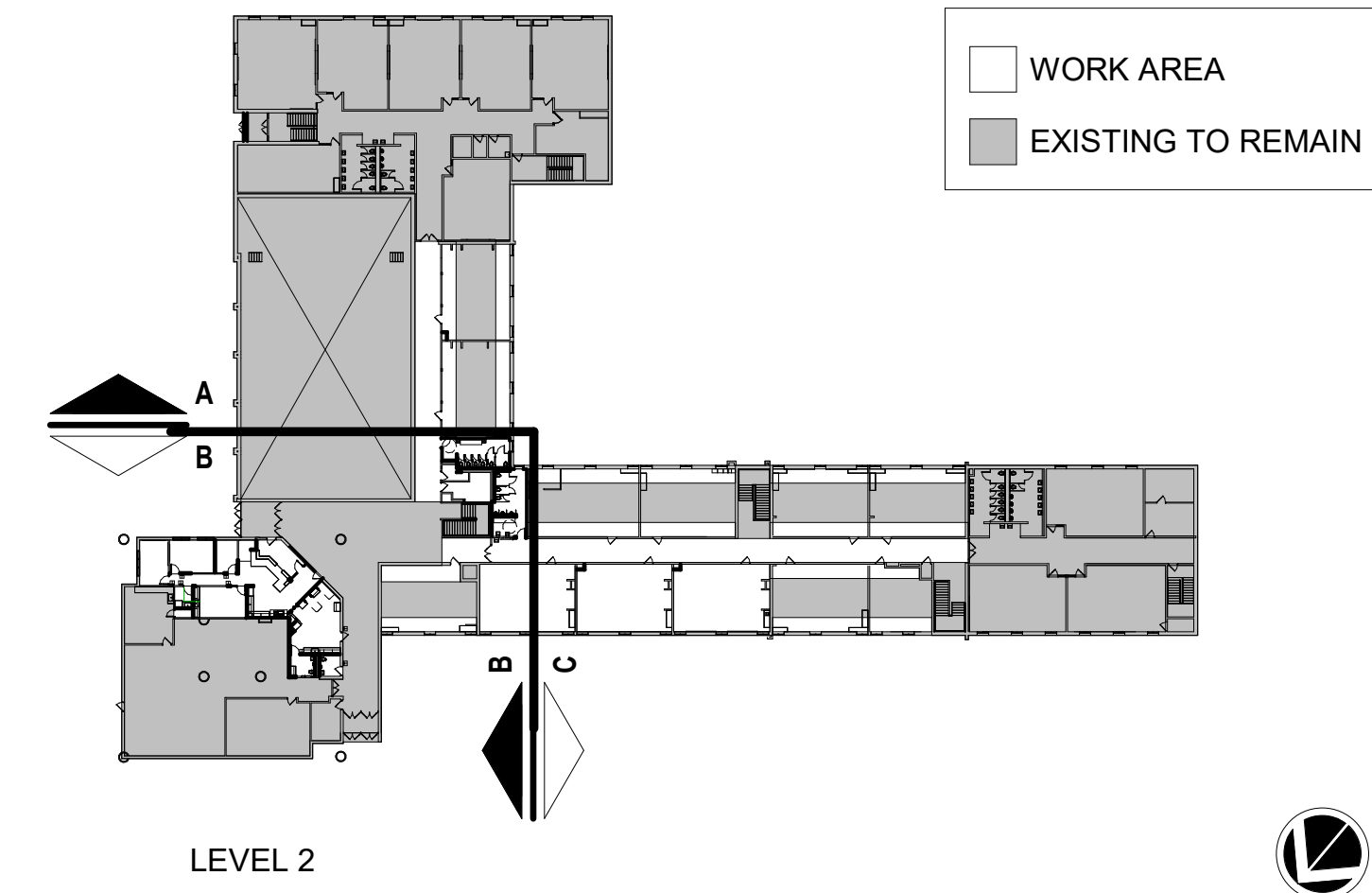
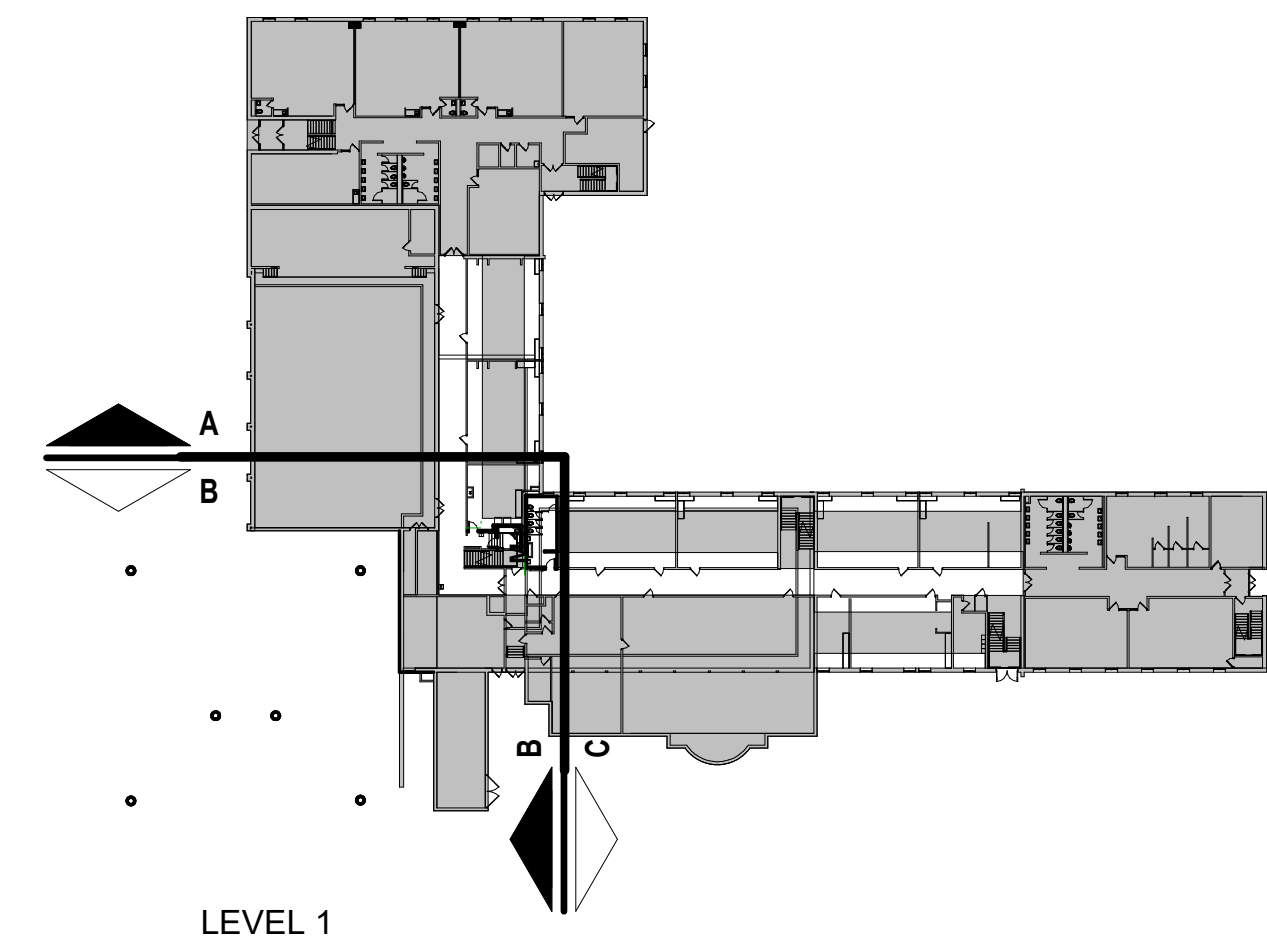
TA000	AUDIO-VIDEO GENERAL NOTES AND LEGEND
TA102B	AUDIO-VIDEO LEVEL 2 PLAN - AREA B

FIRE PROTECTION	
FA-000	FIRE PROTECTION GENERAL NOTES AND LEGEND
FA-101A	FIRE ALARM PLAN - LEVEL 1 - AREA A
FA-101B	FIRE ALARM PLAN - LEVEL 1 - AREA B
FA-101C	FIRE ALARM PLAN - LEVEL 1 - AREA C
FA-102A	FIRE ALARM PLAN - LEVEL 2 - AREA A
FA-102B	FIRE ALARM PLAN - LEVEL 2 - AREA B
FA-102C	FIRE ALARM PLAN - LEVEL 2 - AREA C

#### ALTERNATES

No.	Accepted	Description
AD1	<input type="checkbox"/>	BASE BID - AS DOCUMENTED ON RCP, ADD ALTERNATE REPLACE FULL SCHOOL ACT WITH CLG1 GRID TO REMAIN
AD2	<input checked="" type="checkbox"/>	BASE BID HYDRONIC PIPING TO REMAIN AS IS OR MODIFIED AS DOCUMENTED, ADD ALTERNATE ALL HYDRONIC PIPING TO BE REPLACED EXCEPT FOR THE PIPING SERVING THE EXTERIOR CHILLERS AND THE BOILERS INSIDE THE BOILER ROOM AS DOCUMENTED

#### SCOPE OF WORK



#### VICINITY MAP



#### DESIGN TEAM

##### ARCHITECT:

Hollis + Miller Architects  
1828 Walnut Street Suite 922  
Kansas City, MO 64108  
CONTACT: Nicole Rezai  
PHONE: 816.442.7700  
FAX: 816.599.2545

##### CONSTRUCTION MANAGER:

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11200 W 79th Street  
Lenexa, KS 66214  
CONTACT: Brandon Stanley  
PHONE: 913.312.9535

##### STRUCTURAL ENGINEER:

Bob D Campbell  
4338 Belleview Ave  
Kansas City, MO 64111  
CONTACT: Wayne Davis  
PHONE: 816.531.4122

##### MEP ENGINEER:

Henderson Engineers  
Mechanical/Electrical Engineers  
Missouri #e-556D  
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CONTACT: Allen Evans  
PHONE: 913.742.5000

= Phase 2 Scope of Work  
(Not included in this Bid Package)

Ridgeview Elementary School

Liberty Public Schools

701 Thornton Street

Liberty, MO 64068

#### REVISIONS:

#	Description	Date
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November 22, 2023  
Kevin E. Nelson  
A-2019015618

JOB NO: 23026  
DRAWN BY: LB  
CHECKED BY: JB  
DATE: 11.22.2023

# G000

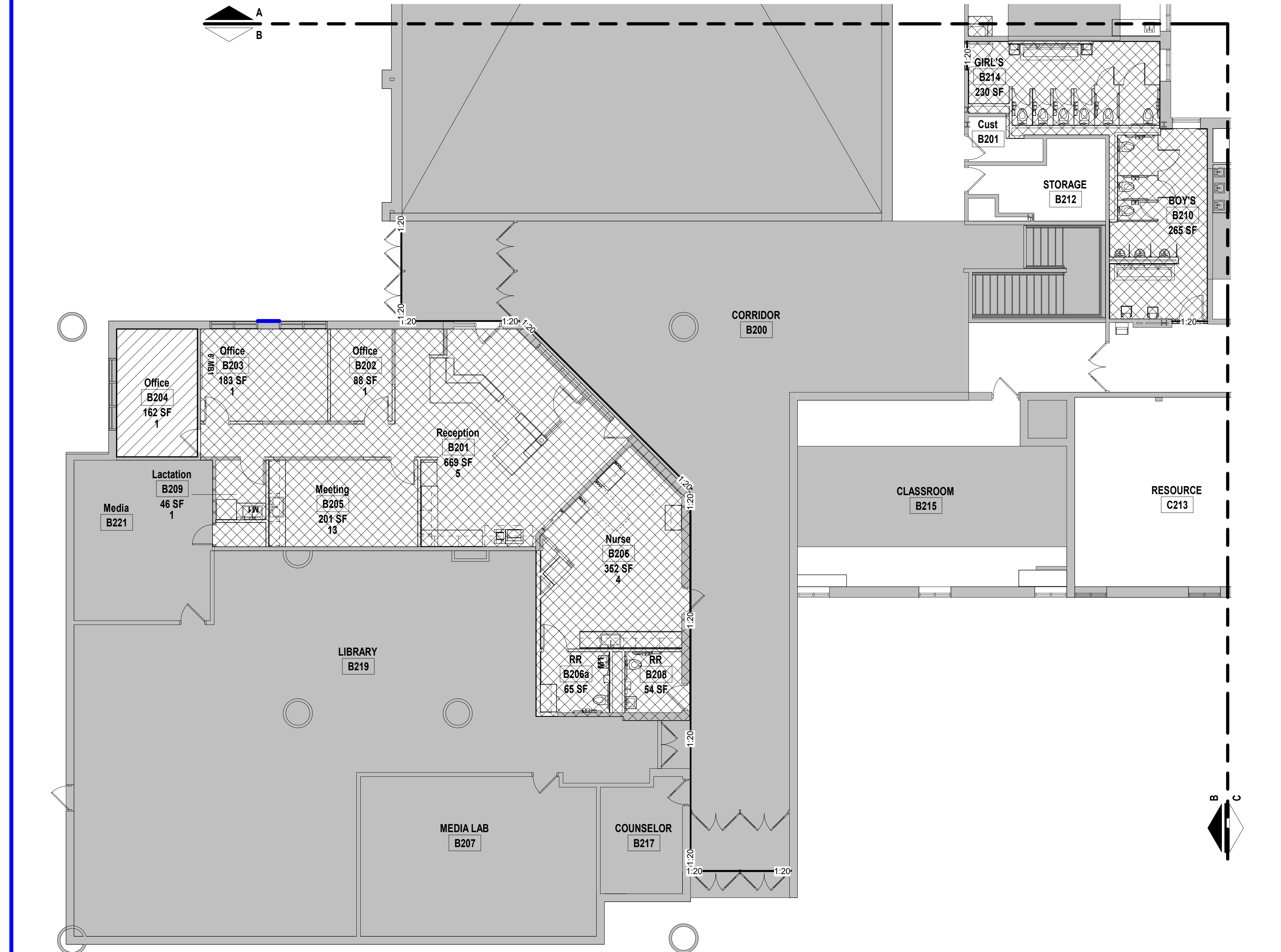
COVER SHEET







Level 2	24
Total Level 2 Work Area Occupant Load	24

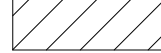

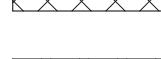


1:20 1:20 1:20 1:20 1:20  
1 HOUR FIRE PARTITION W/ 20 MIN DOORS

1:45 1:45 1:45 1:45 1:45  
1 HOUR FIRE BARRIER W/ 45 MIN. DOORS

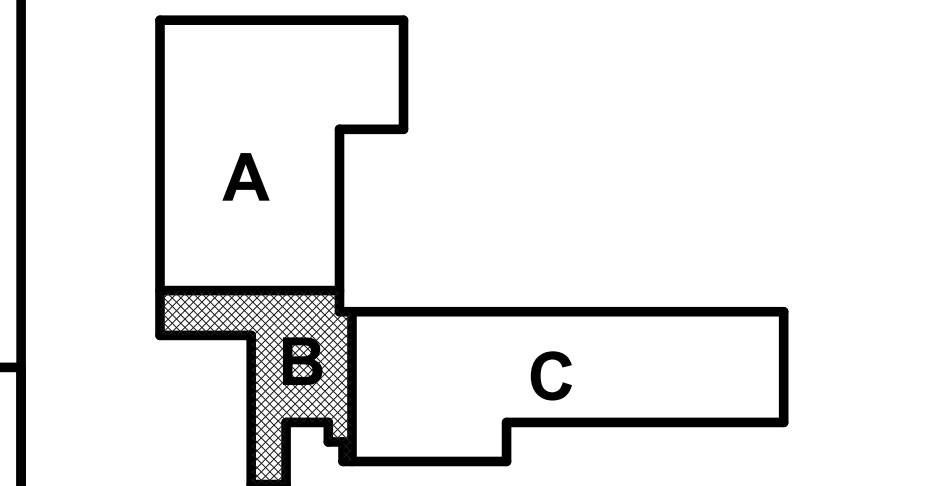
2:FB 2:FB 2:FB 2:FB 2:FB  
2 HOUR FIRE BARRIER W/ 90 MIN DOORS

2:FW 2:FW 2:FW 2:FW 2:FW  
2 HOUR FIRE WALL W/ 90 MIN DOORS

	EXISTING BUILDING - ALTERATION LEVEL 1 ALTERATIONS DO NOT INVOLVE SPACE RECONFIGURATION
	EXISTING BUILDING - ALTERATION LEVEL 2 SPACE RECONFIGURATION DOES NOT EXCEED 50% OF THE BUILDING AREA
	EXISTING BUILDING - ALTERATION LEVEL 3 SPACE RECONFIGURATION COVERS MORE THAN 50% OF THE BUILDING AREA

**NOTE: ALL EXISTING FIRE EXTINGUISHERS TO REMAIN UNO**

## KEY PLAN



## Ridgeview Elementary School

Liberty Public Schools

**701 Thornton Street  
Liberty, MO 64068**

**100% CONSTRUCTION DOCUMENTS**

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hollis+<sup>architects</sup>tmiller


JOB NO: 23026

DRAWN BY: MB

CHECKED BY: JE  
DATE: 11.22.2023

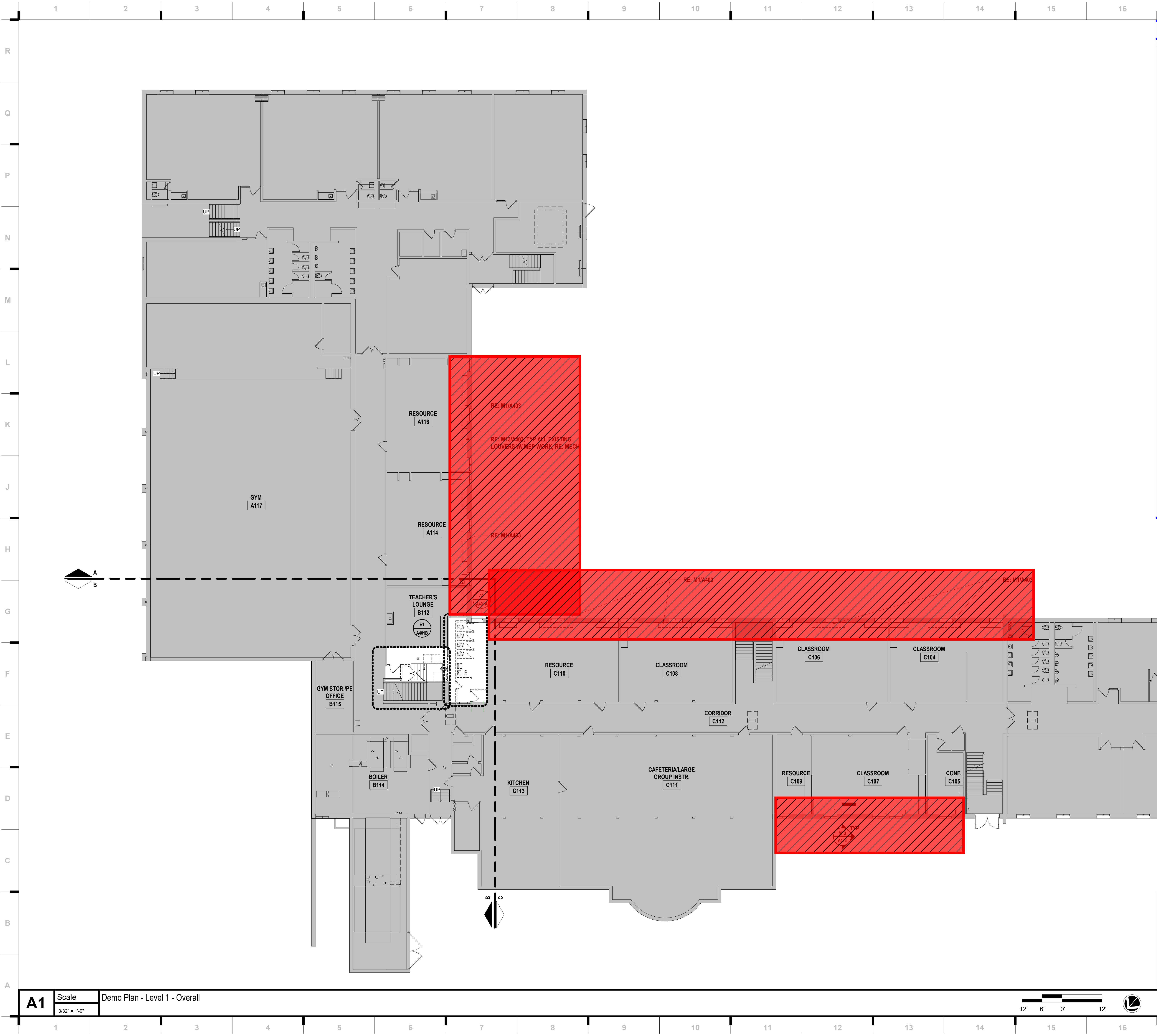
# G102

**CODE FLOOR PLAN - LEVEL 2**

 Please consider the environment before printing this.



11/21/2023 1:15:39 PM



### GENERAL DEMOLITION NOTES

- DEMOLITION INCLUDES THE REMOVAL OF EXISTING CONSTRUCTION WHICH CONFLICTS WITH WORK TO BE BUILT/INSTALLED IN NEW CONSTRUCTION. TRANSITIONS BETWEEN DEMOLITION AND EXISTING TO REMAIN TO BE CAREFULLY COORDINATED
- DASHED LINES INDICATE EXISTING CONSTRUCTION TO BE DEMOLISHED/REMOVED
- HALF-TONE SHADING INDICATES EXISTING CONSTRUCTION TO REMAIN
- EVERY DETAIL OF THE DEMOLITION WORK MAY NOT BE COVERED ON THESE DRAWINGS, BUT THE DEMOLITION CONTRACTOR SHALL COORDINATE WITH THE GC/CM TO ENSURE ALL REQUIRED ITEMS ARE REMOVED IN ORDER FOR NEW WORK TO BE COMPLETED
- IN AREAS SCHEDULED FOR DEMOLITION, ALL ACCESSORIES ATTACHED TO THE CEILINGS, FLOOR AND WALLS ARE TO BE REMOVED, INCLUDING BRACKETS, SCREWS, SIGNAGE, SURFACE MOUNTED ELECTRICAL AND TECHNOLOGY, REMOVE ALL WINDOW COVERINGS, MINI-BLINDS, ROLLER SHADES AND ALL BRACKETS
- THE OWNER WILL IDENTIFY ALL ITEMS TO BE SALVAGED PRIOR DEMOLITION STARTING. CONTRACTOR SHALL SALVAGE AND TURN OVER TO THE OWNER ALL EQUIPMENT IDENTIFIED. ALL REMAINING ITEMS SHALL BE REMOVED BY THE DEMOLITION CONTRACTOR
- DO NOT DISTURB SOIL UNDER EXISTING FOOTINGS AND/OR FLOOR SLABS NOTED TO REMAIN
- COORDINATE THE REMOVAL OF ALL/PORTIONS OF LOAD BEARING ELEMENTS WITH THE STRUCTURAL ENGINEER PRIOR TO REMOVAL. PROVIDE TEMPORARY SHORING AS REQUIRED
- REFER TO MEP DEMOLITION SHEETS FOR EXISTING MECHANICAL, ELECTRICAL AND PLUMBING TO BE REMOVED

= Phase 2 Scope of Work  
(Not included in this Bid Package)

### KEY PLAN

JOB NO: 23026  
DRAWN BY: LB/RO  
CHECKED BY: JB  
DATE: 11.22.2023

# DA101

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**100% CONSTRUCTION DOCUMENTS**

### Ridgeview Elementary School

Liberty Public Schools  
701 Thornton Street  
Liberty, MO 64068

REVISIONS:		
#	Description	Date

NOVEMBER 22, 2023  
Kevin E. Nelson  
A-2019015618

This Professional Address and Affirm to the above applies to the original and every copy of this work. All drawings, specifications and documents are submitted to the state and are prepared pursuant to the statute, and this address applies to every copy and all the work for each plan, drawing, or document on every drawing.

JOB NO: 23026  
DRAWN BY: LB/RO  
CHECKED BY: JB  
DATE: 11.22.2023

# DA101

### DEMOLITION FLOOR PLAN - OVERALL - LEVEL 1





### GENERAL DEMOLITION NOTES

- DEMOLITION INCLUDES THE REMOVAL OF EXISTING CONSTRUCTION WHICH CONFLICTS WITH WORK TO BE BUILT/INSTALLED IN NEW CONSTRUCTION. TRANSITIONS BETWEEN DEMOLITION AND EXISTING TO REMAIN TO BE CAREFULLY COORDINATED
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= Phase 2 Scope of Work  
(Not included in this Bid Package)

### KEY PLAN

JOB NO: 23026  
DRAWN BY: LB/RO  
CHECKED BY: JB  
DATE: 11.22.2023

# DA102

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Liberty Public Schools  
701 Thornton Street  
Liberty, MO 64068

REVISIONS:

#	Description	Date
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Kevin E. Nelson  
A-2019915618

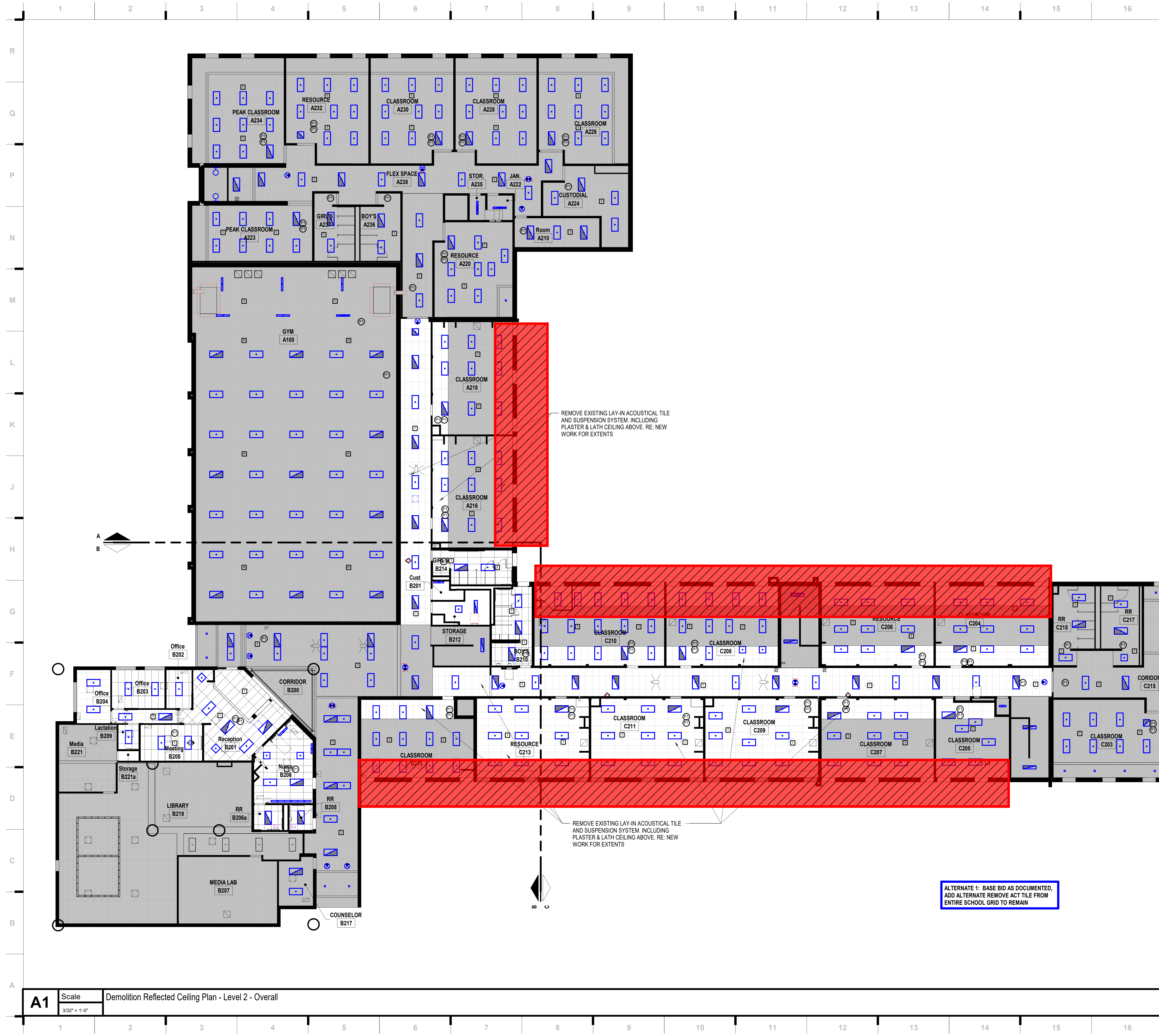
This Professional Address and Affiliation is the design approval to the project and is subject to the rules of the State of Missouri. All drawings, specifications and documents are prepared by the architect and are not to be used for any other project without the written consent of the architect. The architect assumes no responsibility for any errors or omissions in any drawings, specifications or documents not prepared by the architect.

DEMOLITION FLOOR PLAN - OVERALL - LEVEL 2









### GENERAL DEMOLITION NOTES

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- REFER TO MEP DEMOLITION SHEETS FOR EXISTING MECHANICAL, ELECTRICAL AND PLUMBING TO BE REMOVED

**[Red Hatched Box] = Phase 2 Scope of Work  
(Not included in this Bid Package)**

### SHEET NOTES

- REFER TO SHEET G000 FOR SHEET INDEX
- DO NOT SCALE THIS DRAWING
- INTERIOR DIMENSIONS ARE TO THE FOLLOWING, UNLESS NOTED OTHERWISE:
  - TO FACE OF STUD
  - TO FACE OF MASONRY UNIT
  - TO FACE OF DOOR AND WINDOW ROUGH OPENINGS
- COORDINATE LOCATIONS WHERE BACKING REQUIRED FOR TOILET ACCESSORIES
- HALF-TONE SHADING INDICATES EXISTING CONSTRUCTION TO REMAIN

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100% CONSTRUCTION DOCUMENTS

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REVISIONS:		
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NOVEMBER 22, 2023  
Kevin E. Nelson  
A-2019015618

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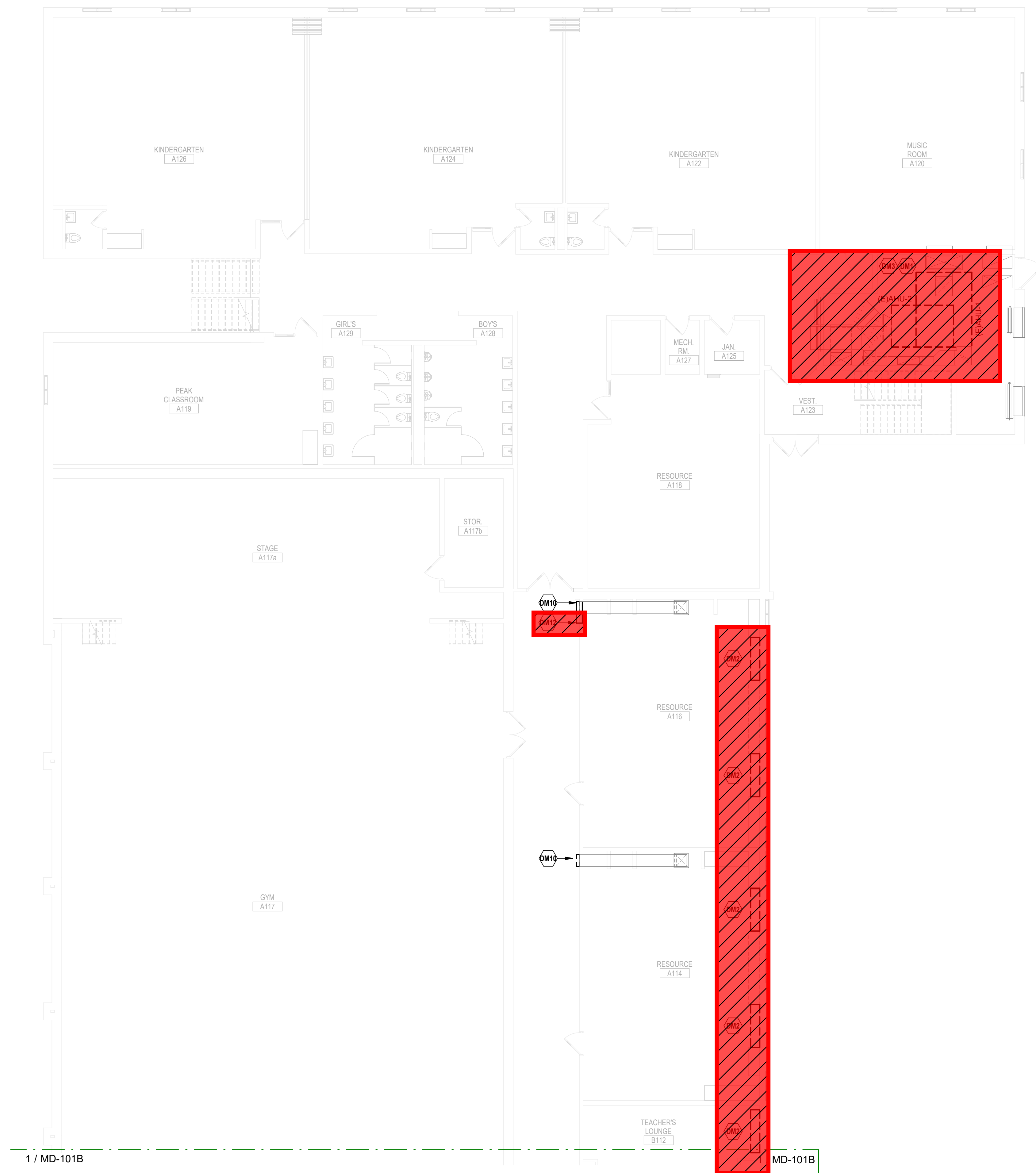
**DA121**

**KEY PLAN**

DEMOLITION REFLECTED CEILING PLAN - OVERALL - LEVEL 2

11/21/2023 1:15:46 PM





 **MECHANICAL DEMOLITION PLAN NOTES:**

REMOVE EXISTING AHU-2 AND AHU-2 AIR AND ASSOCIATED CONTROLS. EXISTING DUCT WORK SHALL REMAIN TO BE RECONNECTED TO NEW AHU-3. EXISTING AHU-3 SUPPORT SHALL REMAIN TO BE REUSED WITH NEW UNIT. EXISTING HYDRONIC PIPING AND VALVES SHALL BE REMOVED BACK TO ROOM ENTRY PENETRATION. PROVIDE SHUTOFF VALVES AND CAP FOR INSTALLATION OF NEW. REFER TO CONTROL DRAWINGS FOR ADDITIONAL INFORMATION PRIOR TO DEMOLITION.

DM2 REMOVE EXISTING UNIT VENTILATOR, SPACE TEMPERATURE SENSOR AND OTHER ASSOCIATED EQUIPMENT. OUTDOOR AIR LOUVER TO REMAIN. PROVIDE NEW SHUT OFF VALVES WHERE PIPING IS REMOVED.

DM3 PRIOR TO DEMOLITION OF EQUIPMENT, DOCUMENT SUPPLY AND RETURN AIR FLOWS FOR BALANCING OF NEW AIRFLOW. (2012.03)

DM10 REMOVE RELIEF AIR DUCT IN CORRIDOR BACK TO WALL AND CAP. TYPICAL OF ALL. VERIFY QUANTITY ONCE CEILING AND HARD LID IS REMOVED.

DM12: REMOVE EXISTING CABINET UNIT HEATER AND SPACE TEMPERATURE SENSOR. SEAL AND PATCH EXISTING WALL AND FLOOR NECESSARY FOR NEW SHOULDERED CABINET UNIT HEATER. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION. PROVIDE NEW SHUT OFF VALVE WHERE PIPING IS REMOVED.

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① HVAC LEVEL 1 DEMO PLAN - AREA A  
1/8" = 1'-0"

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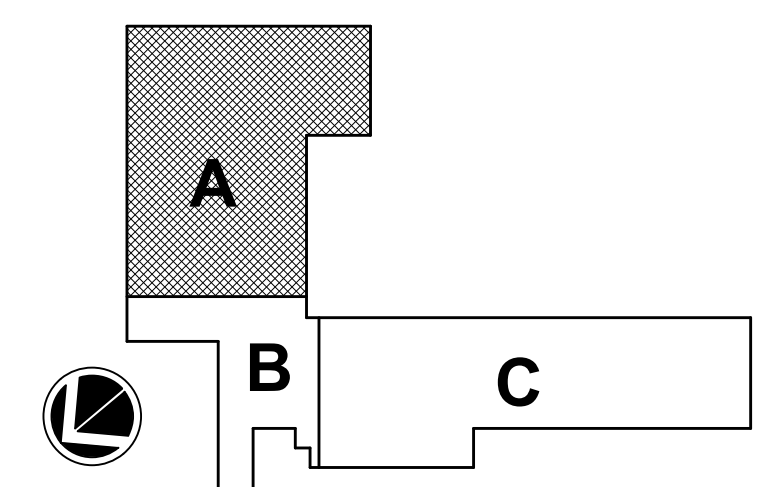
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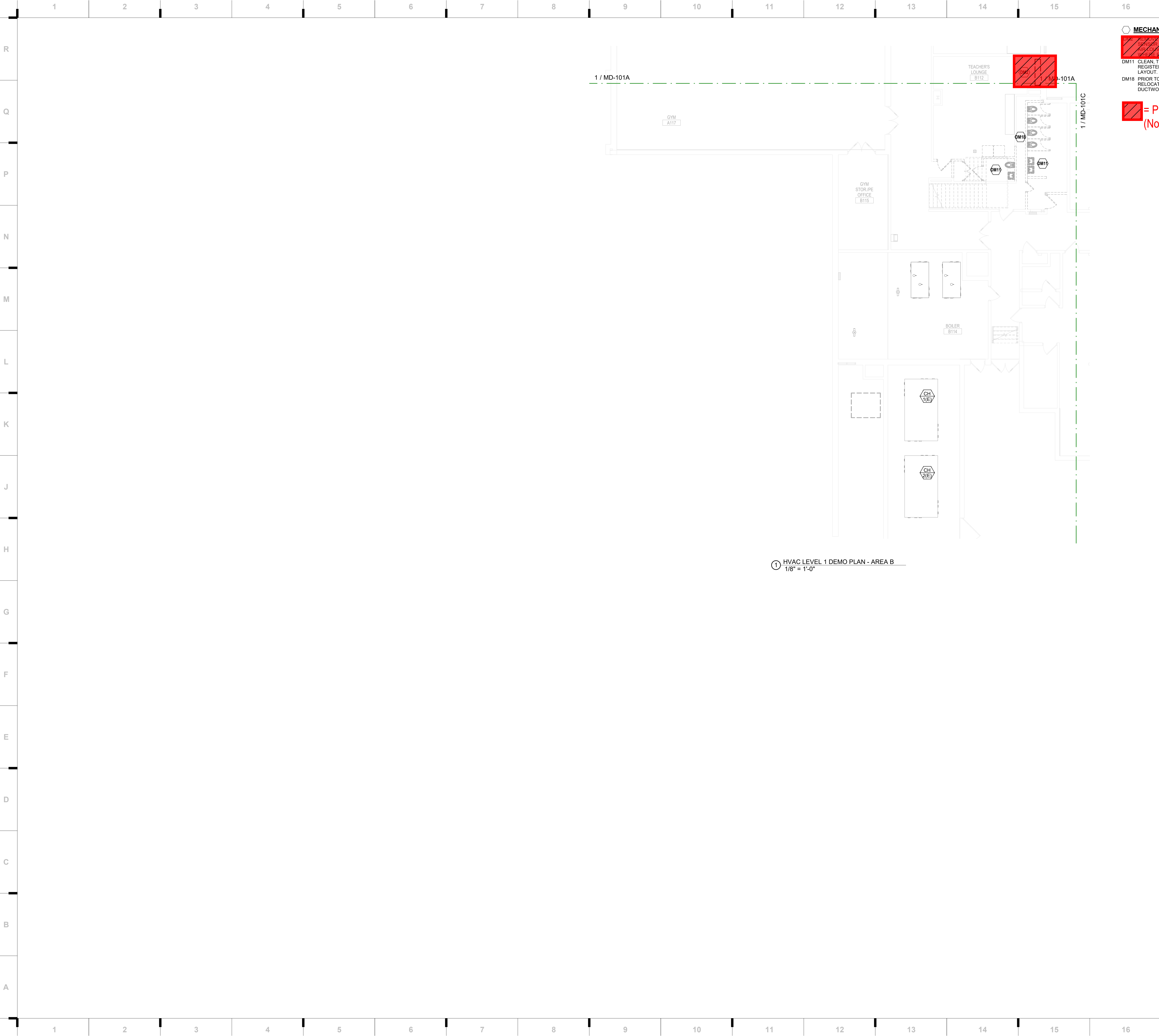
## KEY PLAN



### HVAC LEVEL 1 DEMO PLAN - AREA A



11/10/2023 8:40:16 AM  
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① HVAC LEVEL 1 DEMO PLAN - AREA B  
1/8" = 1'-0"

**MECHANICAL DEMOLITION PLAN NOTES:**  
SENSOR AND OTHER ASSOCIATED EQUIPMENT, OUTDOOR AIR FILTERS TO REMAIN. PROVIDE KEY SHOT DETAILS. **SEE DEMO PLAN 11/10/2023**  
DM11 CLEAN, TOUCHUP AND SALVAGE EXISTING GRILLES, REGISTERS AND DIFFUSERS FOR REINSTALL IN NEW LAYOUT.  
DM18 PRIOR TO SUBMITTING BID, VISIT SITE TO COORDINATE RELOCATION OF ANY EXISTING MECHANICAL PIPES, DUCTWORK, ETC. TO FIT WITHIN REVISED NEW CHASE.  
**[Red Hatched Box] = Phase 2 Scope of Work (Not included in this Bid Package)**

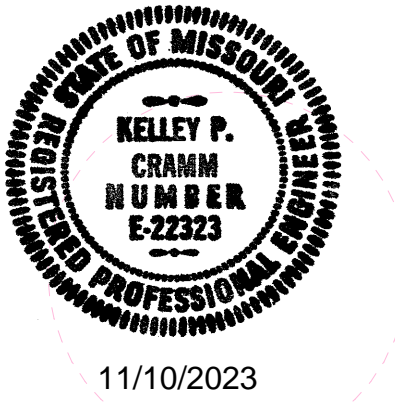
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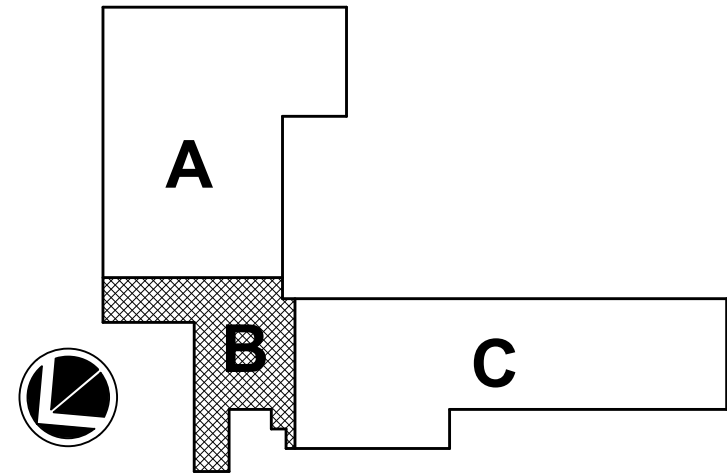


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**MD-101B**

KEY PLAN

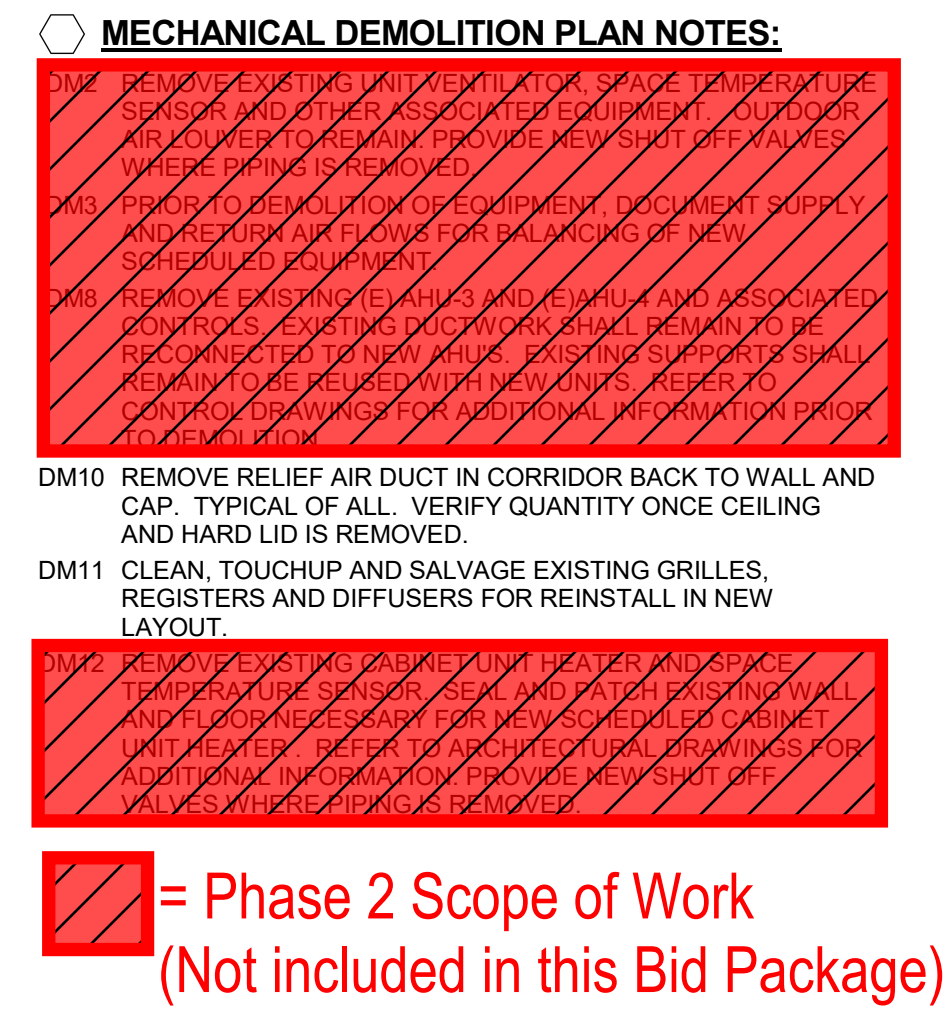


HVAC LEVEL 1 DEMO PLAN - AREA B









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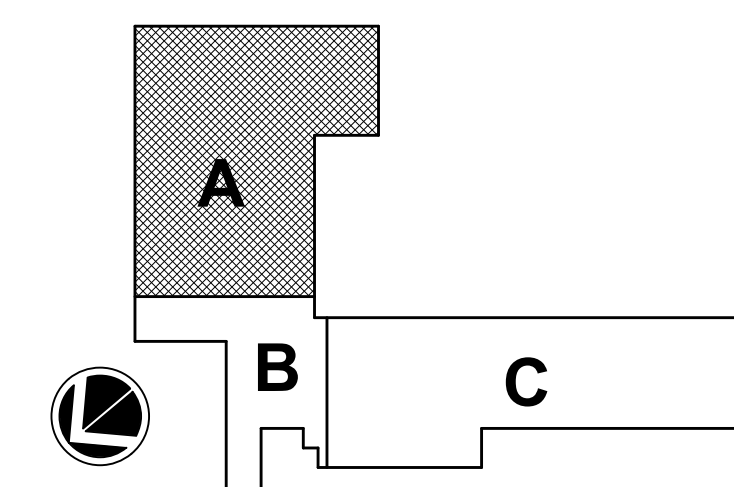
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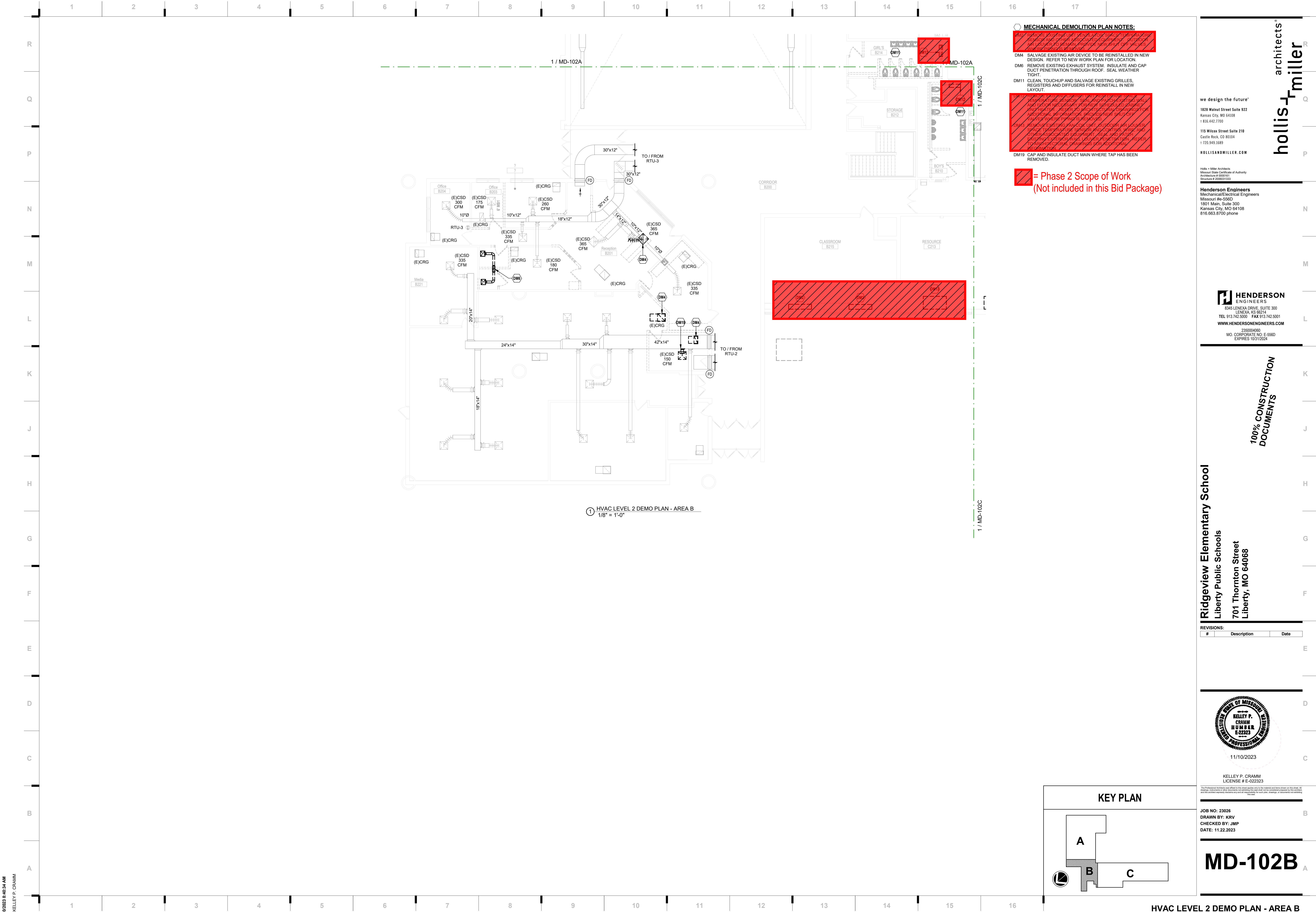
## KEY PLAN



## HVAC LEVEL 2 DEMO PLAN - AREA A



11/10/2023 8:40:34 AM  
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1 HVAC LEVEL 2 DEMO PLAN - AREA B  
1/8" = 1'-0"

- MECHANICAL DEMOLITION PLAN NOTES:**
- DM1 REMOVE EXISTING AIR DEVICE TO BE REINSTALLED IN NEW DESIGN. REFER TO NEW WORK PLAN FOR LOCATION.
  - DM6 REMOVE EXISTING EXHAUST SYSTEM. INSULATE AND CAP DUCT PENETRATION THROUGH ROOF. SEAL WEATHER TIGHT.
  - DM11 CLEAN, TOUCHUP AND SALVAGE EXISTING GRILLES, REGISTERS AND DIFFUSERS FOR REINSTALL IN NEW LAYOUT.
  - DM12 REMOVE EXISTING SPACE TEMPERATURE SENSOR AND CONTROL WIRE AND OVERHEAD AIR EQUIPMENT. REPAIR AND PATCH EXISTING EXTERIOR WALL LOUVER PENETRATION. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
  - DM13 REMOVE EXISTING ANCOX UNIT, OUTDOOR AIR LOUVER, SPACE TEMPERATURE SENSOR AND CONTROL WIRE AND OVERHEAD AIR EQUIPMENT. REPAIR AND PATCH EXISTING EXTERIOR WALL LOUVER PENETRATION. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
  - DM19 CAP AND INSULATE DUCT MAIN WHERE TAP HAS BEEN REMOVED.
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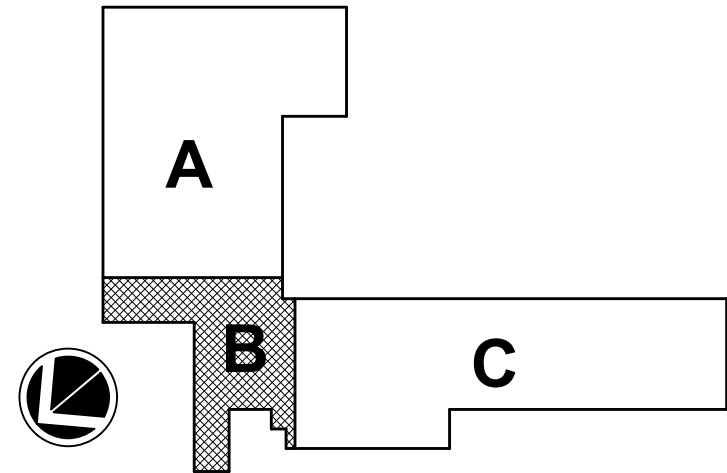
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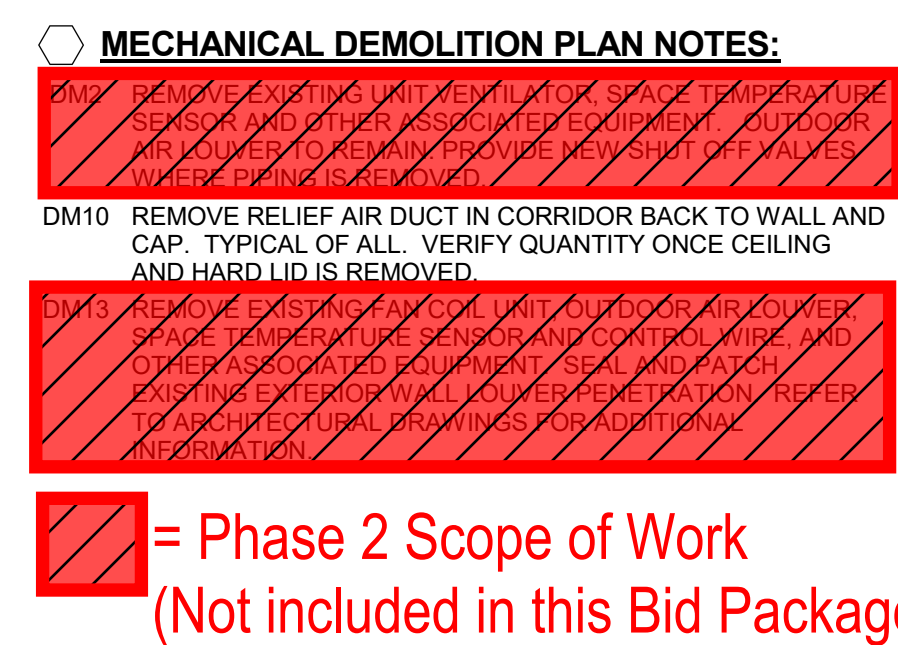
**KEY PLAN**



HVAC LEVEL 2 DEMO PLAN - AREA B

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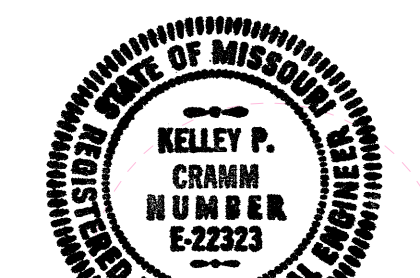
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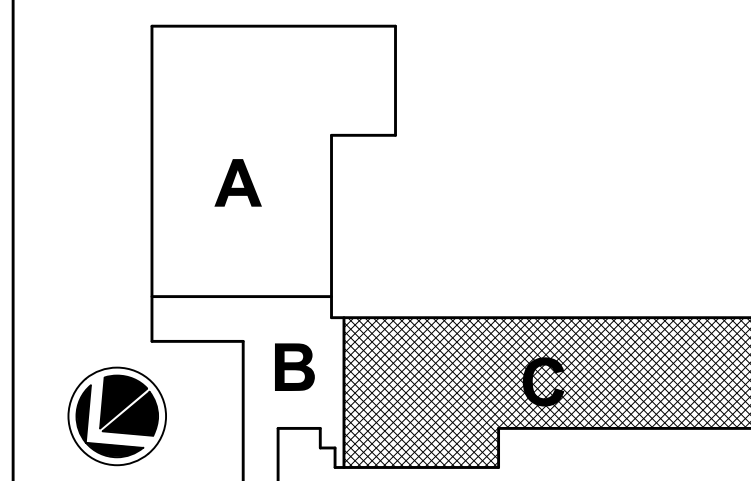
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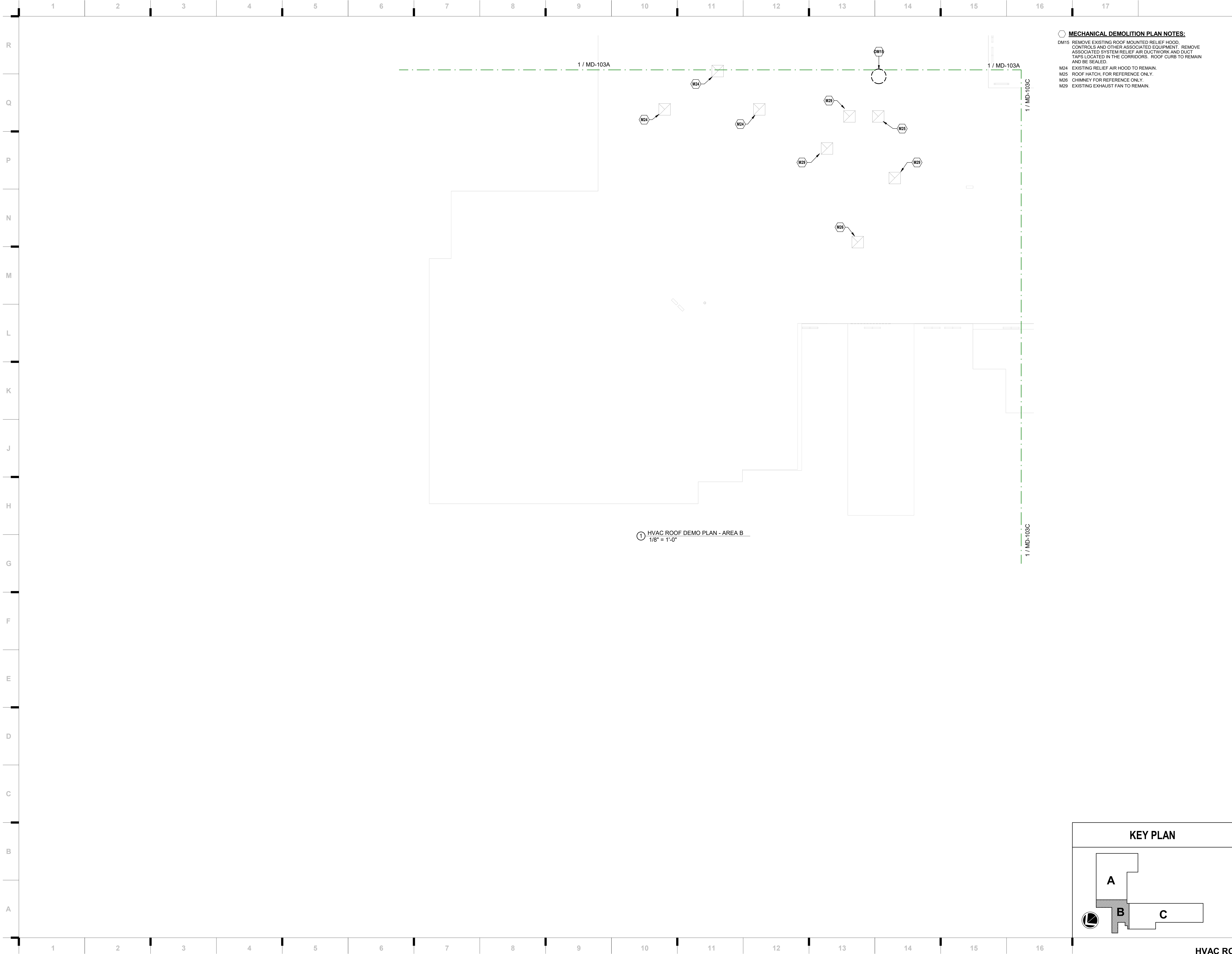
## KEY PLAN



HVAC LEVEL 2 DEMO PLAN - AREA C



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**MECHANICAL DEMOLITION PLAN NOTES:**  
DM15 REMOVE EXISTING ROOF MOUNTED RELIEF HOOD, CONTROLS AND OTHER ASSOCIATED EQUIPMENT. REMOVE ASSOCIATED SYSTEM RELIEF AIR DUCTWORK AND DUCT TAPS LOCATED IN THE CORRIDORS. ROOF CURB TO REMAIN AND BE SEALED.  
M24 EXISTING RELIEF AIR HOOD TO REMAIN.  
M25 ROOF HATCH, FOR REFERENCE ONLY.  
M28 CHIMNEY FOR REFERENCE ONLY.  
M29 EXISTING EXHAUST FAN TO REMAIN.

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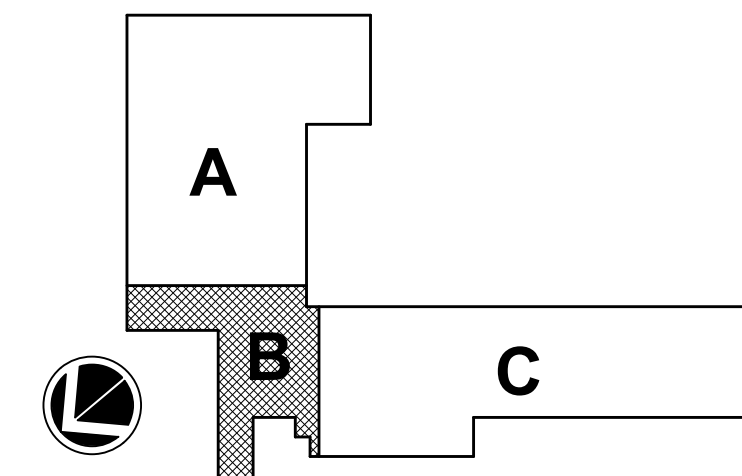
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**MD-103B**

**KEY PLAN**

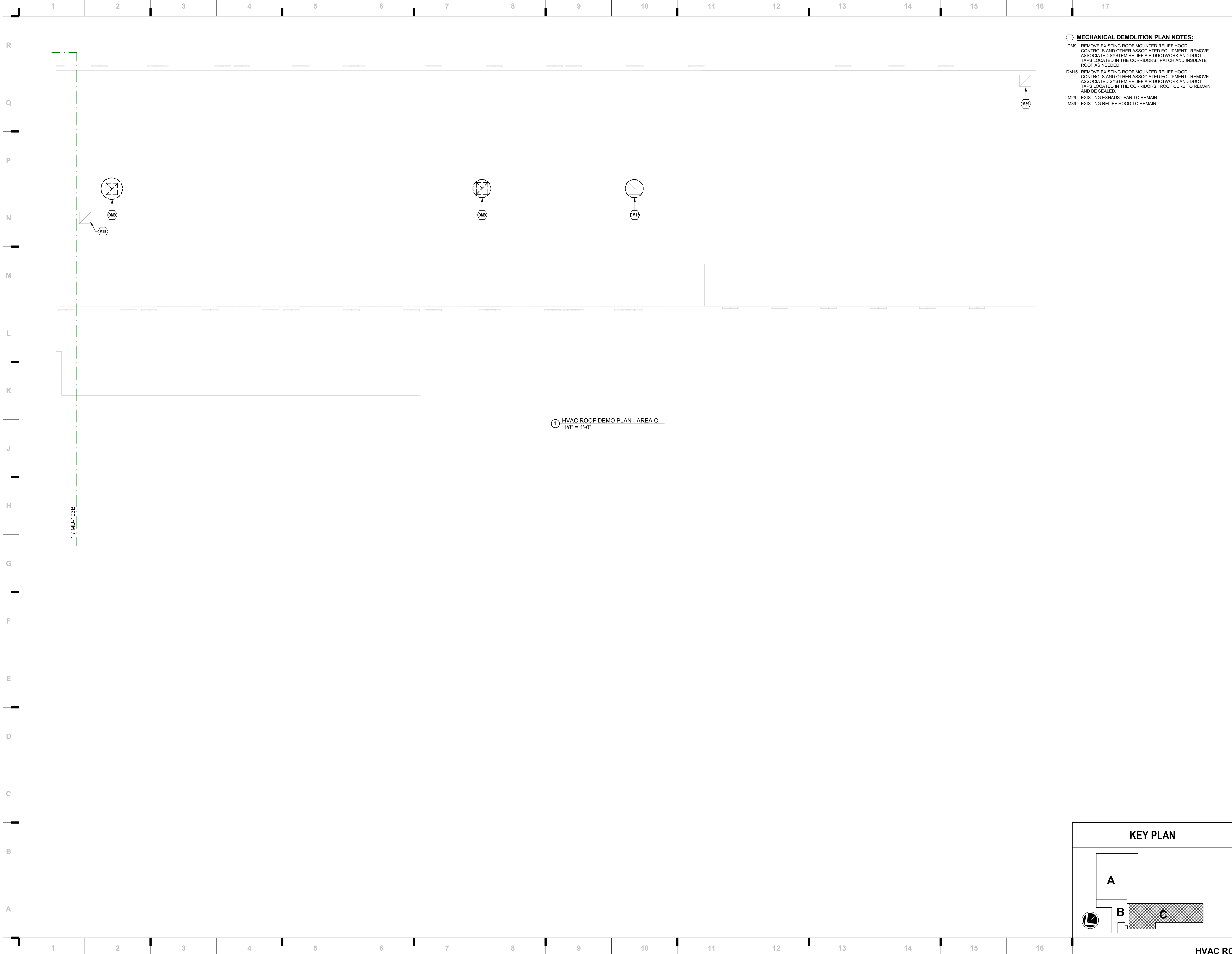


HVAC ROOF DEMO PLAN - AREA B

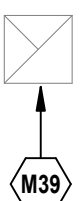
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**MECHANICAL DEMOLITION PLAN NOTES:**  
DM9 REMOVE EXISTING ROOF MOUNTED RELIEF HOOD, CONTROLS AND OTHER ASSOCIATED EQUIPMENT. REMOVE ASSOCIATED SYSTEM RELIEF AIR DUCTWORK AND DUCT TAPS LOCATED IN THE CORRIDORS. PATCH AND INSULATE ROOF AS NEEDED.  
DM15 REMOVE EXISTING ROOF MOUNTED RELIEF HOOD, CONTROLS AND OTHER ASSOCIATED EQUIPMENT. REMOVE ASSOCIATED SYSTEM RELIEF AIR DUCTWORK AND DUCT TAPS LOCATED IN THE CORRIDORS. ROOF CURB TO REMAIN AND BE SEALED.  
M29 EXISTING EXHAUST FAN TO REMAIN.  
M39 EXISTING RELIEF HOOD TO REMAIN.



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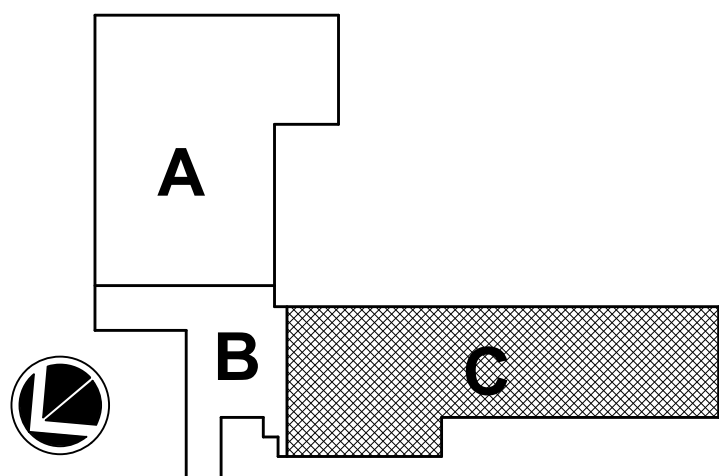
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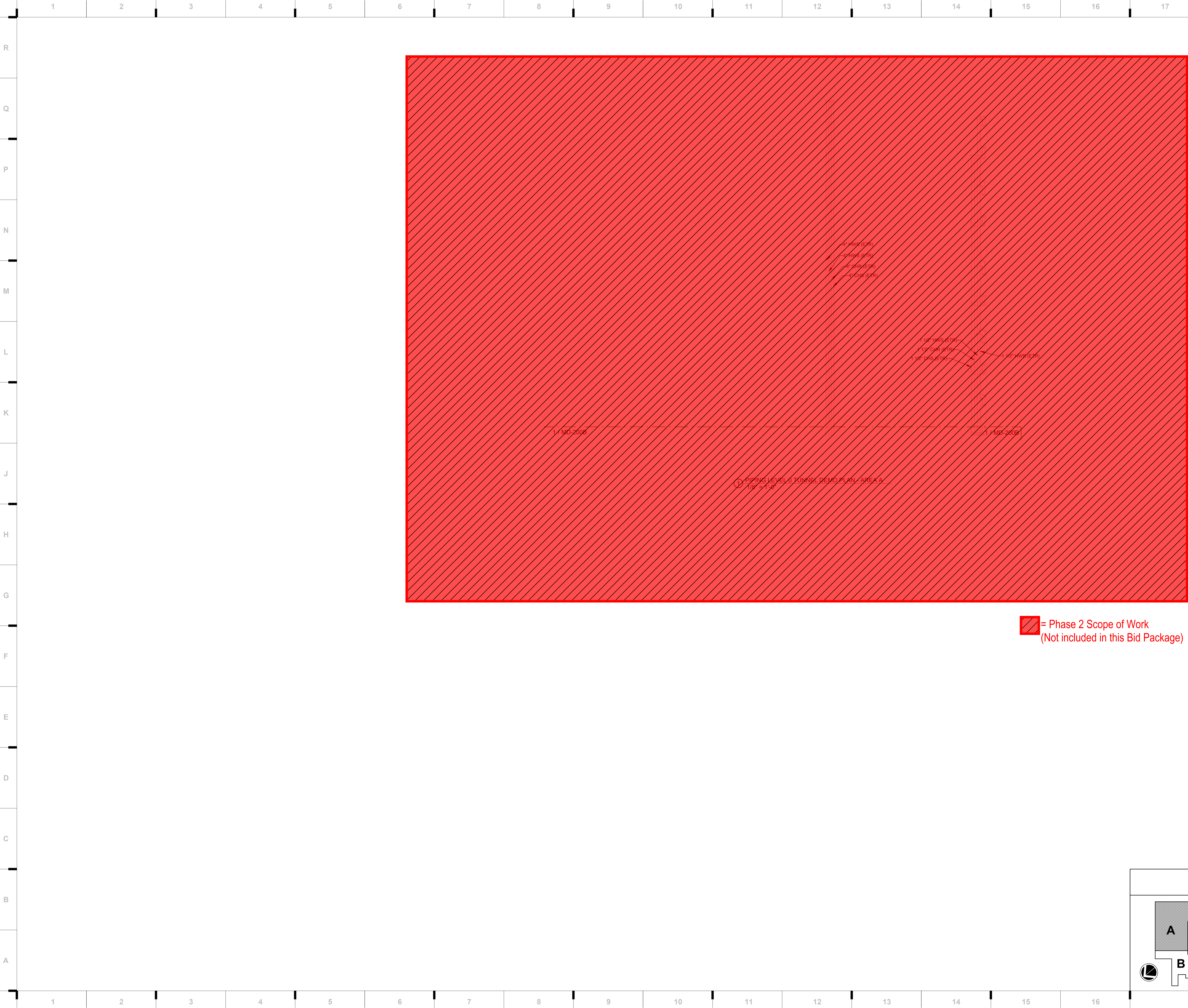


HVAC ROOF DEMO PLAN - AREA C

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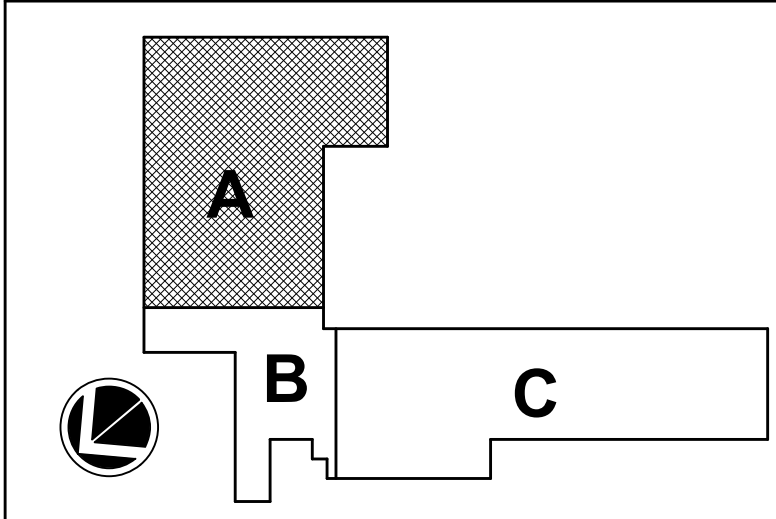


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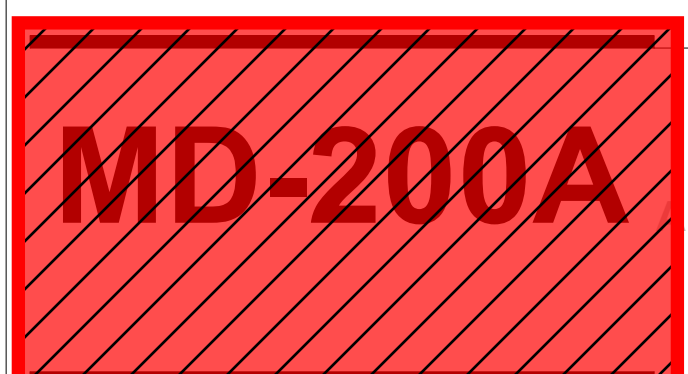


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**MD-200A**

PIPING TUNNEL DEMO PLAN - AREA A

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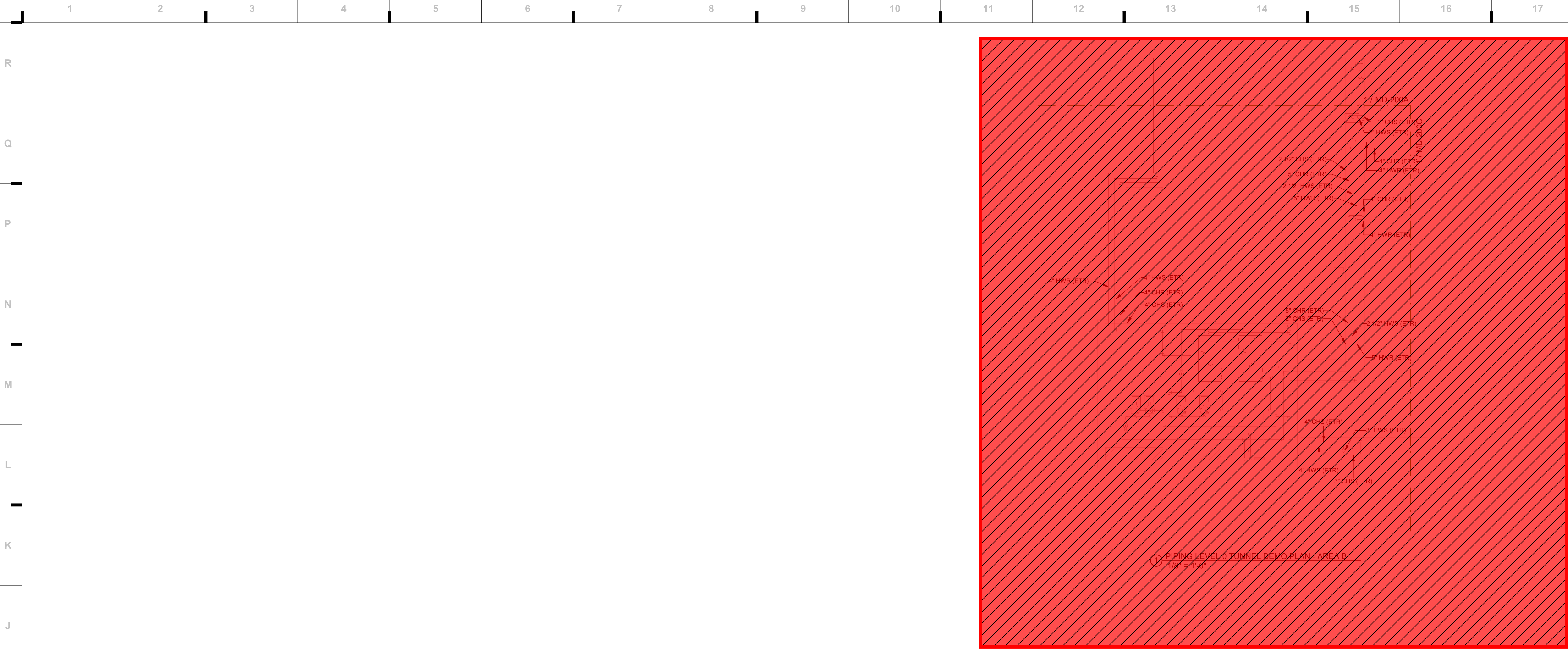
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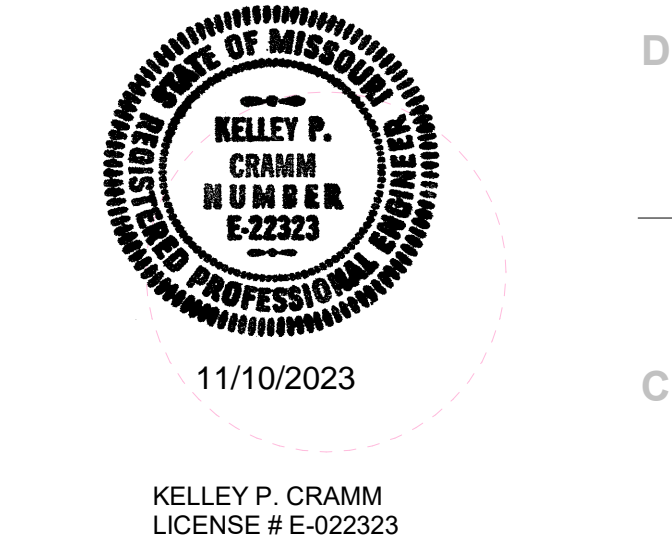
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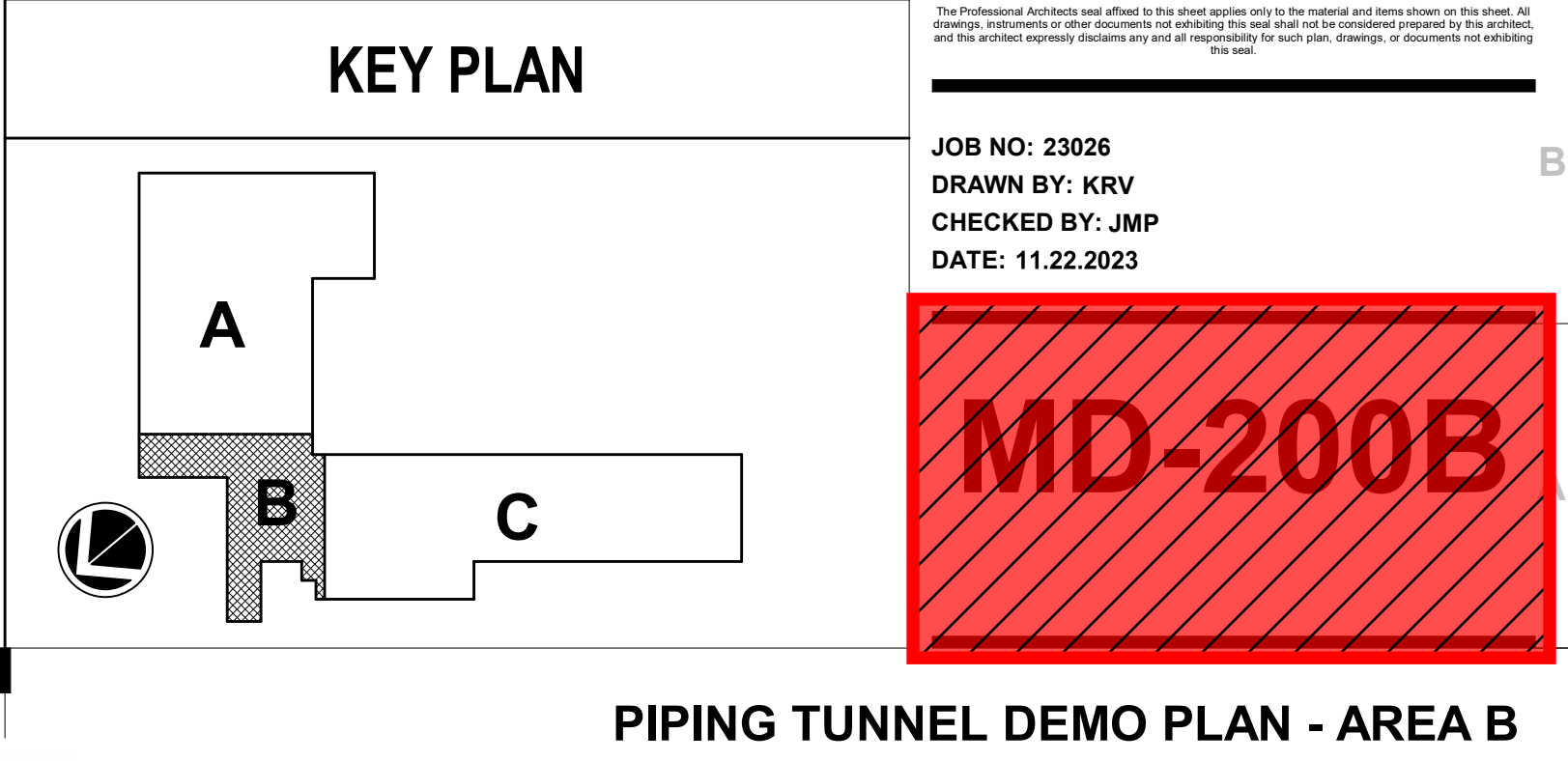
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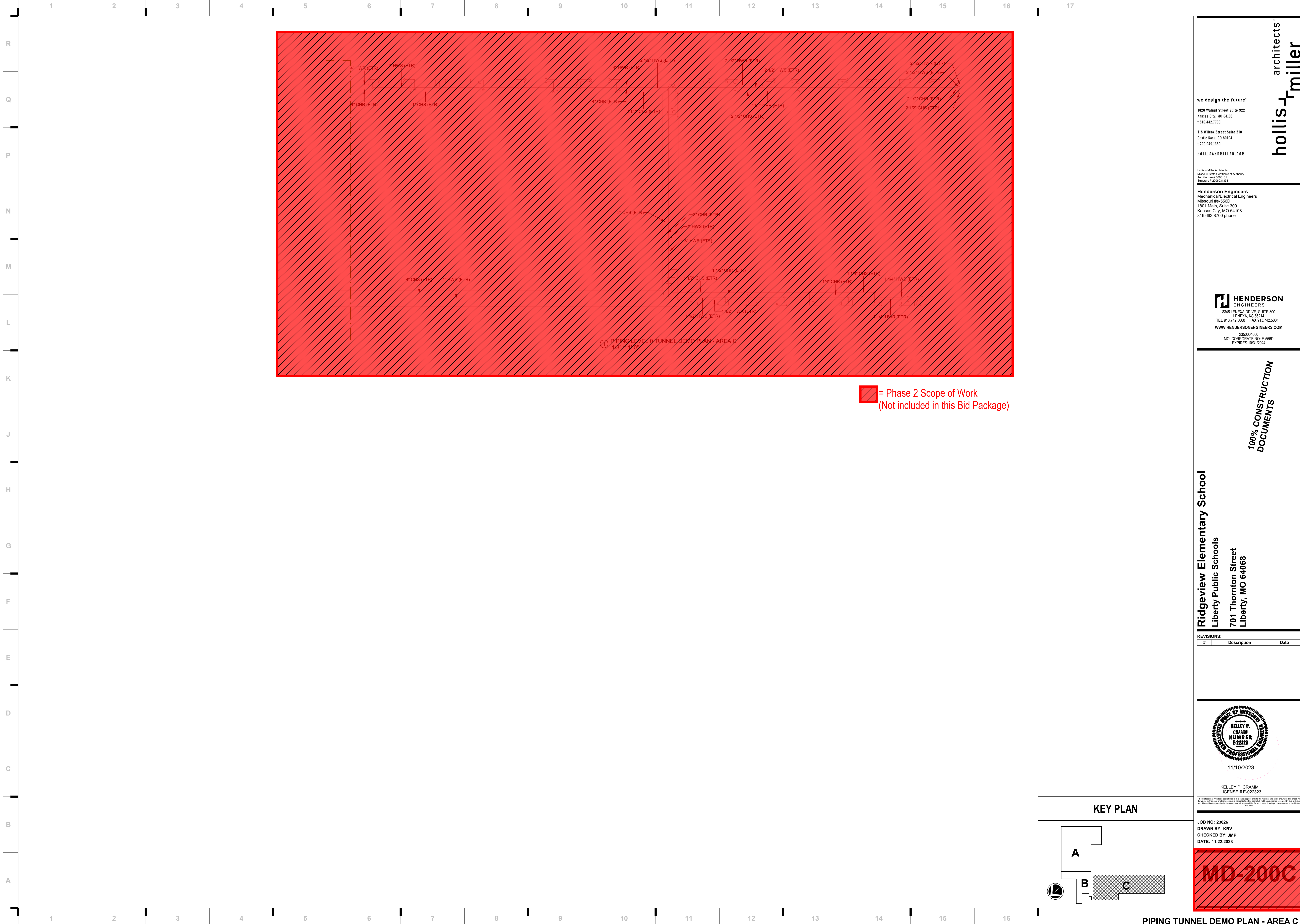
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**PIPING TUNNEL DEMO PLAN - AREA B**



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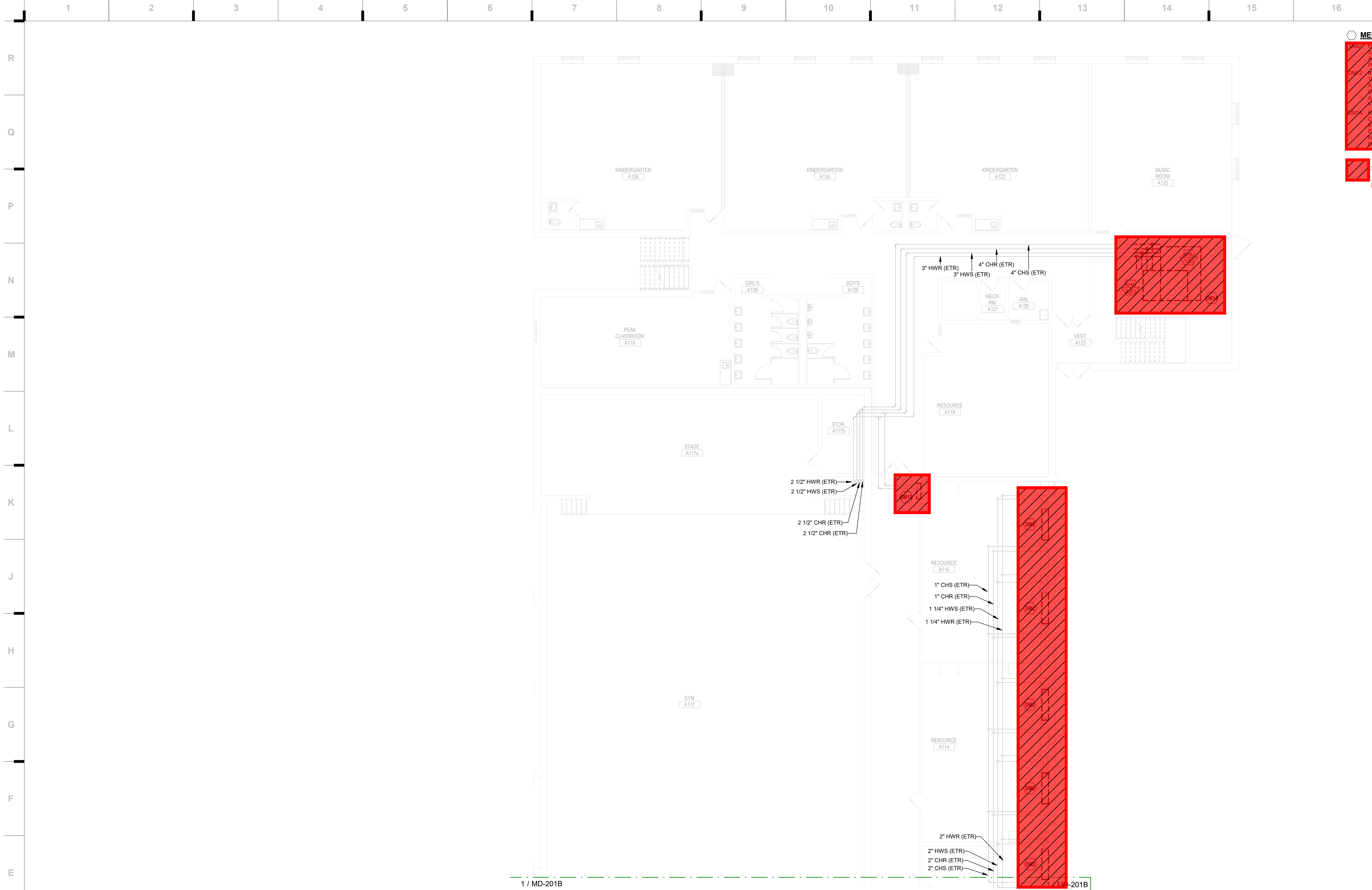
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① PIPING LEVEL 1 DEMO PLAN - AREA A  
1/8" = 1'-0"

○ MECHANICAL DEMOLITION PLAN NOTES:  
○1. REMOVE EXISTING MECHANICAL EQUIPMENT, OUTDOOR AIR FLOWERS TO REMAIN PROVIDE NEW SHUT OFF VALVES (VES) FOR FUTURE REUSE.  
○2. REMOVE EXISTING CABINET UNIT HEADER AND BRACE TEMPERATURE SENSOR SEAL AND PATCH EXISTING WALL AND FLOOR SURFACING FOR KEY SAFETY TO PROTECT UNIDENTIFIED. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION. PROVIDE NEW SHUT OFF VALVES FOR FUTURE REUSE.  
○3. REMOVE EXISTING VALVE AND VALVE AND ASSOCIATED CONTROLS. EXISTING HYDRONIC PIPING AND VALVES SHALL BE REMOVED BACK TO ROOM ENTRY PENETRATION. PROVIDE SHUT OFF VALVES AND CAP FOR FUTURE REUSE OF NEW. REFER TO CONTROL DRAWINGS FOR ADDITIONAL INFORMATION. REFER TO DEMOLITION.

■ = Phase 2 Scope of Work  
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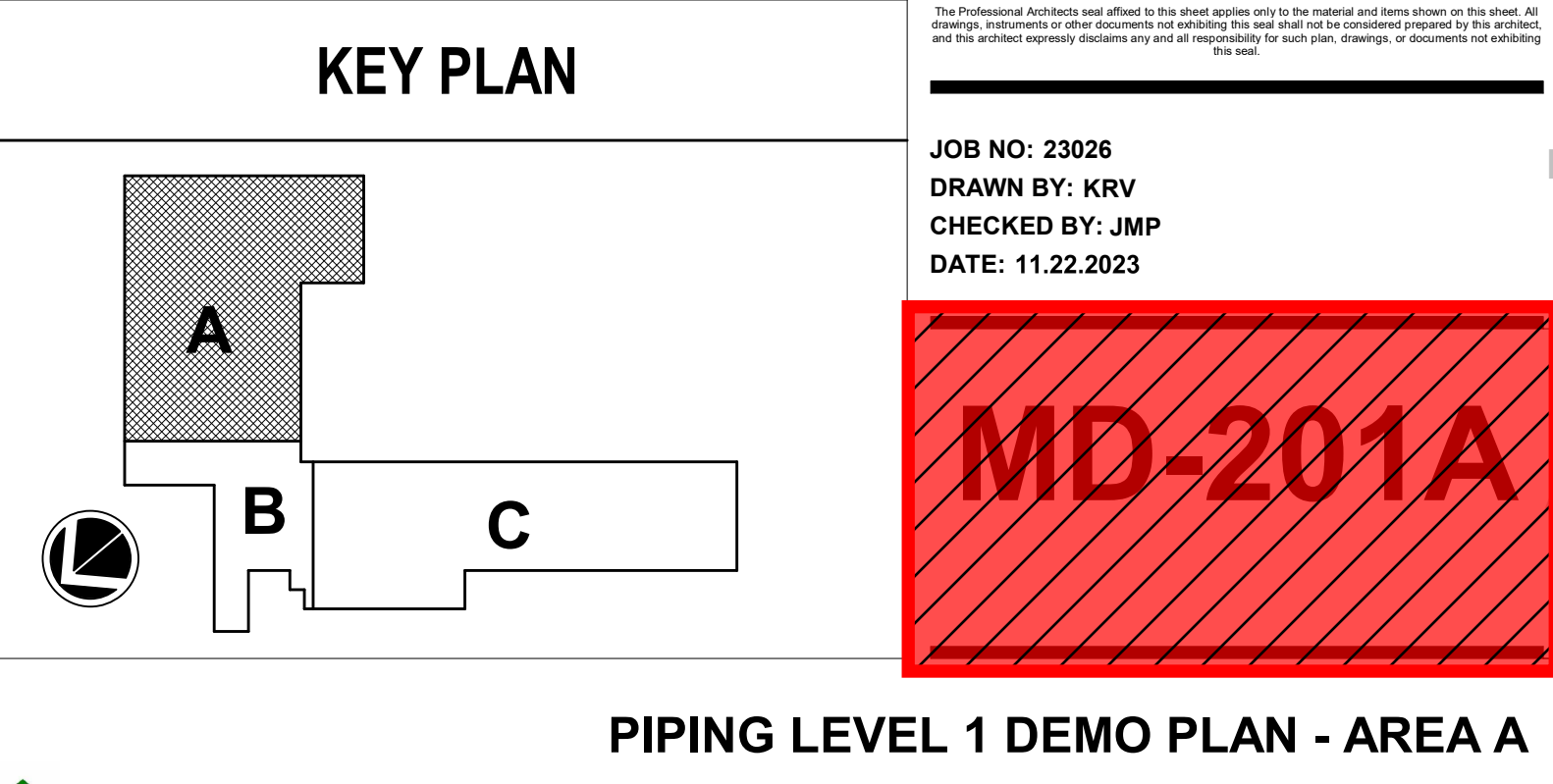
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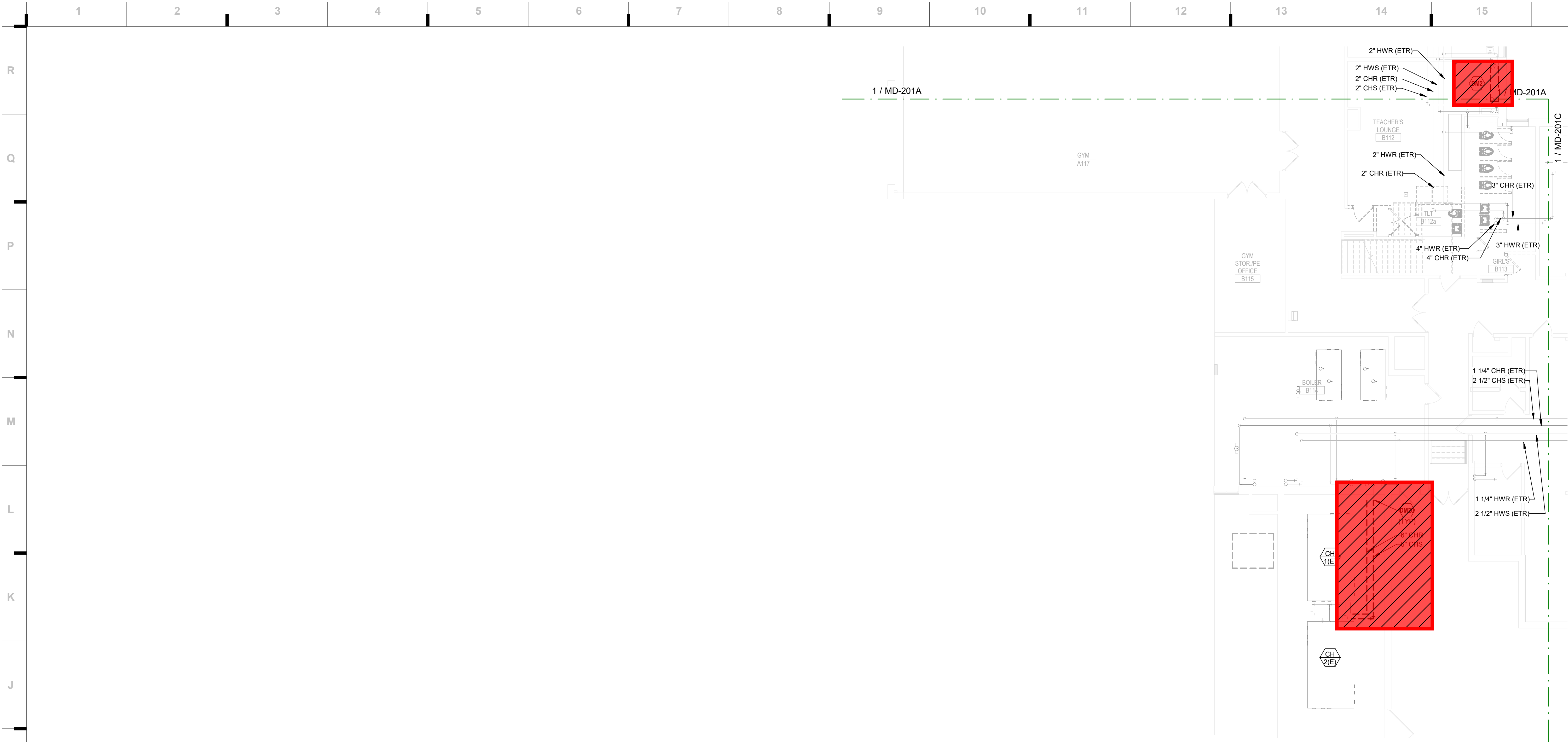


PIPING LEVEL 1 DEMO PLAN - AREA A

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① PIPING LEVEL 1 DEMO PLAN - AREA B  
1/8" = 1'-0"

○ MECHANICAL DEMOLITION PLAN NOTES:  
SENSOR AND OTHER ASSOCIATED EQUIPMENT, PIPING, OR AIR  
TO REMAIN. PROVIDE NEW SHUT OFF VALVES  
WHERE APPROPRIATE.  
PROVIDE NEW SHUT OFF VALVES WHERE EXISTING BEING  
REMOVED.

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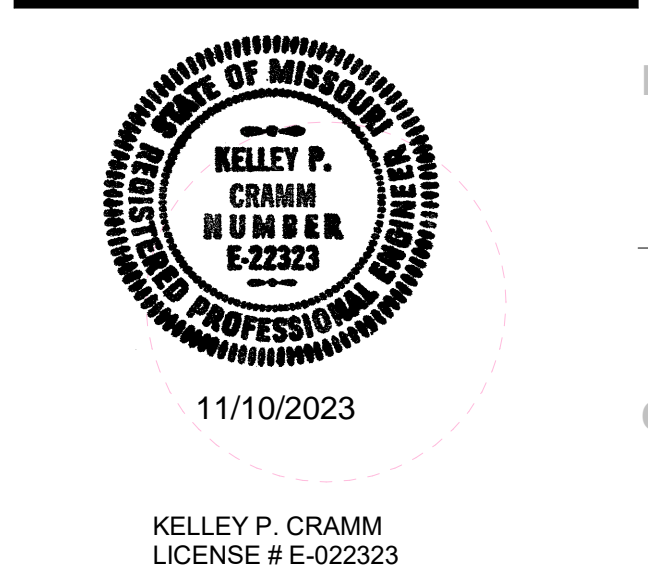
KEY PLAN

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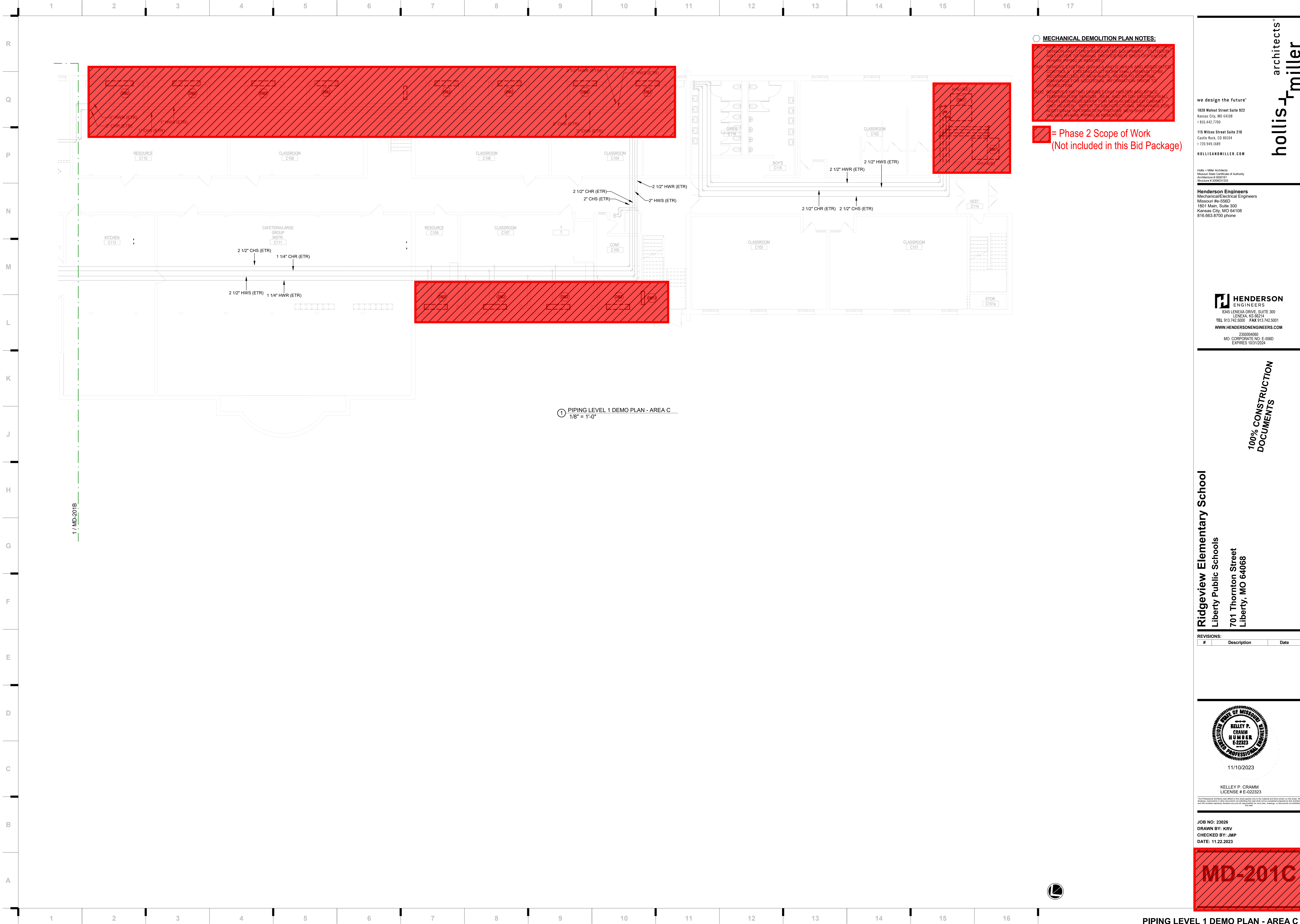
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**MECHANICAL DEMOLITION PLAN NOTES:**  
1. DEMOLITION OF EXISTING MECHANICAL EQUIPMENT, INCLUDING BUT NOT LIMITED TO: BOILER, CHILLER, CONDENSER, COILS, PIPING, AND DUCTWORK. ALL EQUIPMENT TO BE REMOVED AND DISPOSED OF OFF-SITE.  
2. DEMOLITION OF EXISTING PIPING AND TIE-IN'S AND ASSOCIATED CONTROLS. EXISTING PIPING SHALL BE REMOVED TO THE POINT OF DISCONNECT. REFER TO MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION PRIOR TO DEMOLITION.  
3. DEMOLITION OF EXISTING DUCTWORK, HEATER, AND SPACE TEMPERATURE SENSOR. SEAL AND PATCH EXISTING WALL AND FLOOR AREAS FOR NEW SCHEDULED CABINET UNIT. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION. PROVIDE NEW SIGHT LINE VALVES WHERE PIPING IS REMOVED.

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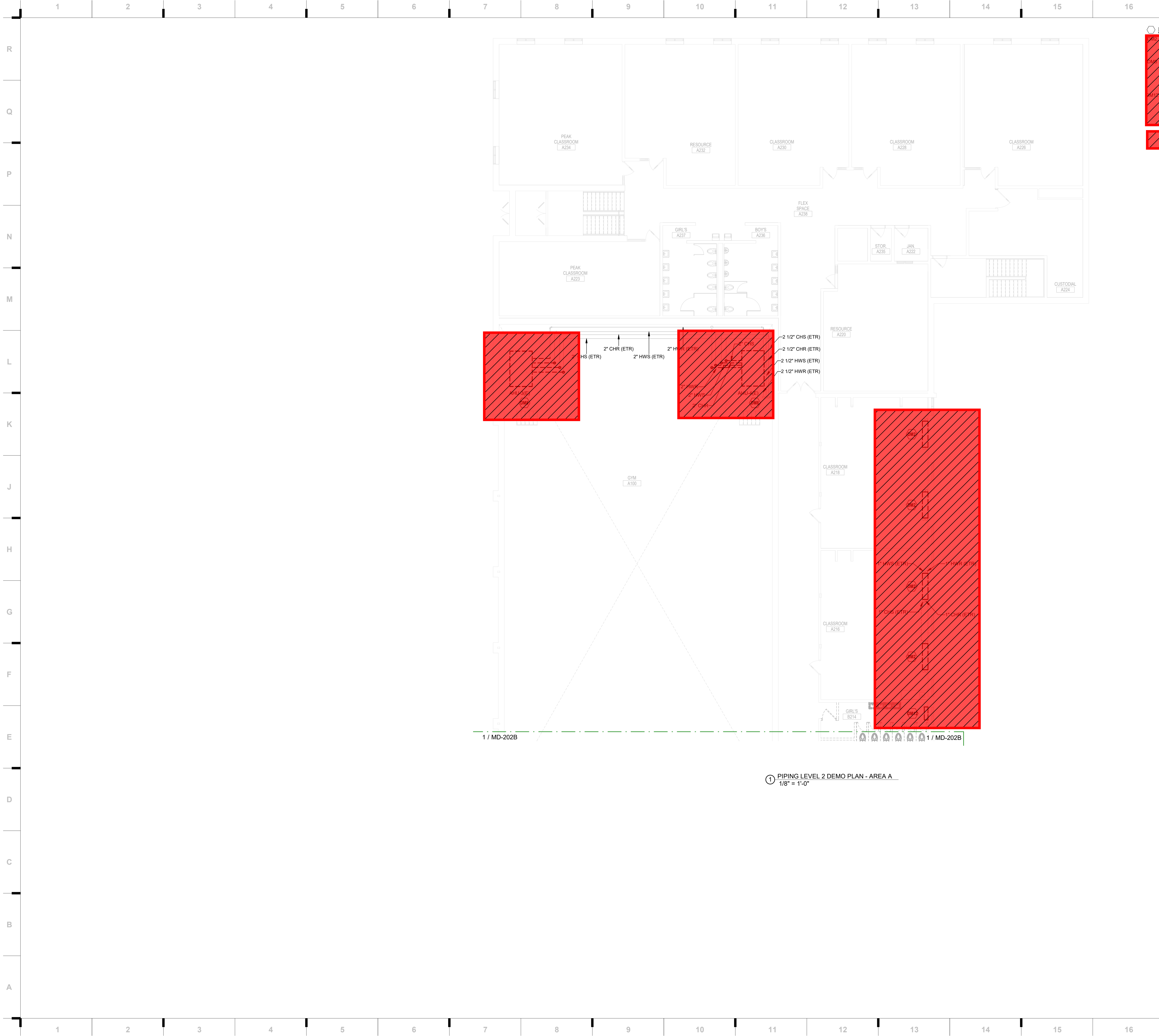
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PIPING LEVEL 1 DEMO PLAN - AREA C



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MECHANICAL DEMOLITION PLAN NOTES:

NO KEY PLAN DEMOLITION. REMOVE EXISTING MECHANICAL SENSORS AND OTHER ASSOCIATED EQUIPMENT. OUTDOOR AIRFLOW TO BE MAINTAINED. PROVIDE NEW SHUT OFF VALVES WHERE APPROPRIATE.  
REMOVE EXISTING DEMO AND DEMO AND ASSOCIATED CONTROLS. EXISTING DUCTWORK SHALL REMAIN TO BE RE-USED TO KEY PIPES. EXISTING DUCTWORK SHALL REMAIN TO BE RE-USED WITH NEW UNITS. REFER TO CONTROL DRAWINGS FOR ADDITIONAL INFORMATION PRIOR TO CONSTRUCTION.  
REMOVE EXISTING CABINET UNIT CENTER AND SPACE. TEMPERATURE SENSOR. SEAL AND PATCH EXISTING WALL AND FLOOR NECESSARY FOR NEW SCHEDULED CABINET UNIT CENTER. REFER TO ADDITIONAL CONTROL DRAWINGS FOR ADDITIONAL INFORMATION. PROVIDE NEW SHUT OFF VALVES WHERE APPROPRIATE.

= Phase 2 Scope of Work  
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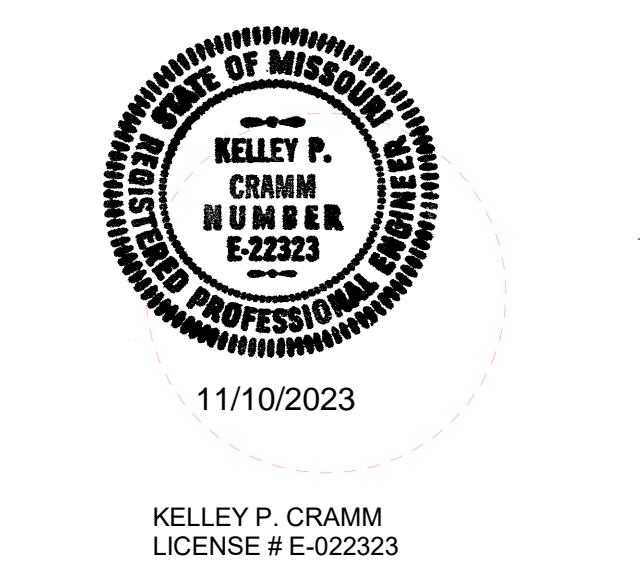
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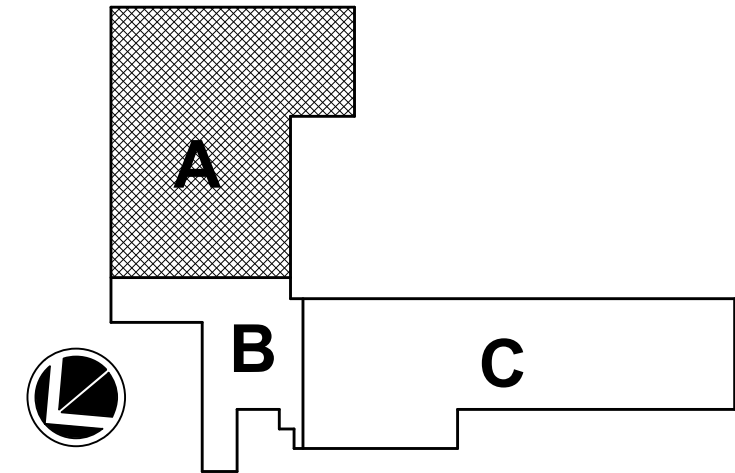
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KEY PLAN



PIPING LEVEL 2 DEMO PLAN - AREA A

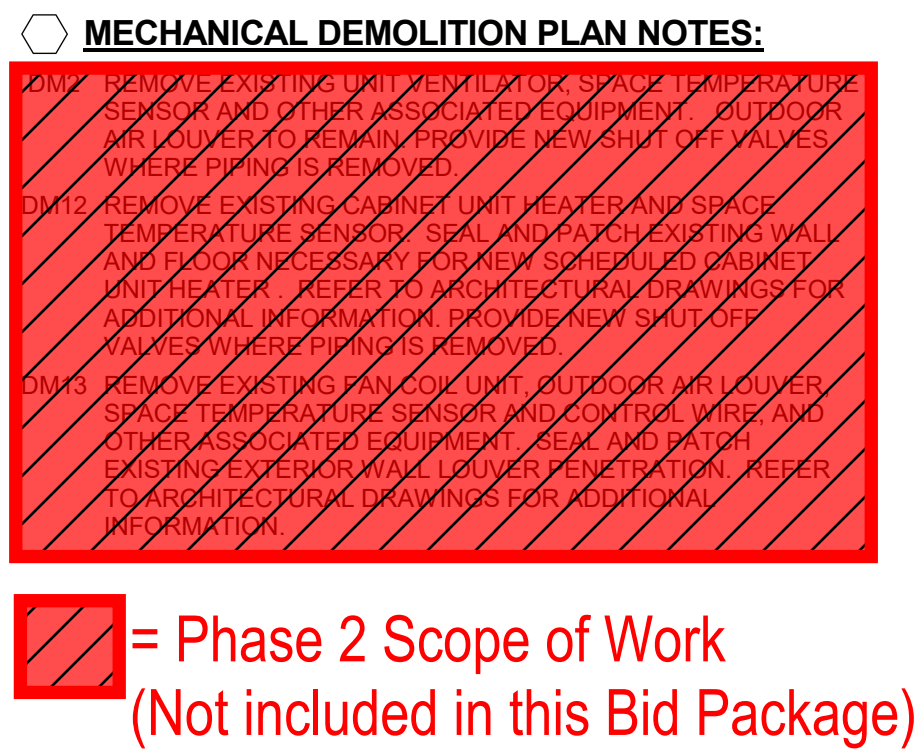
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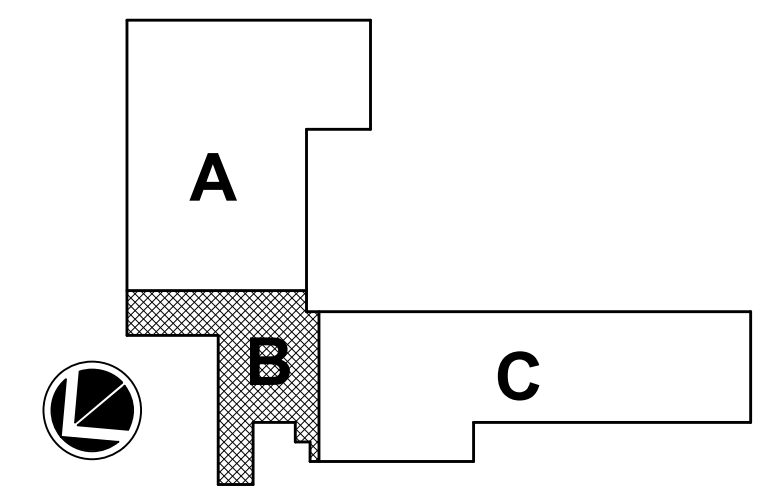
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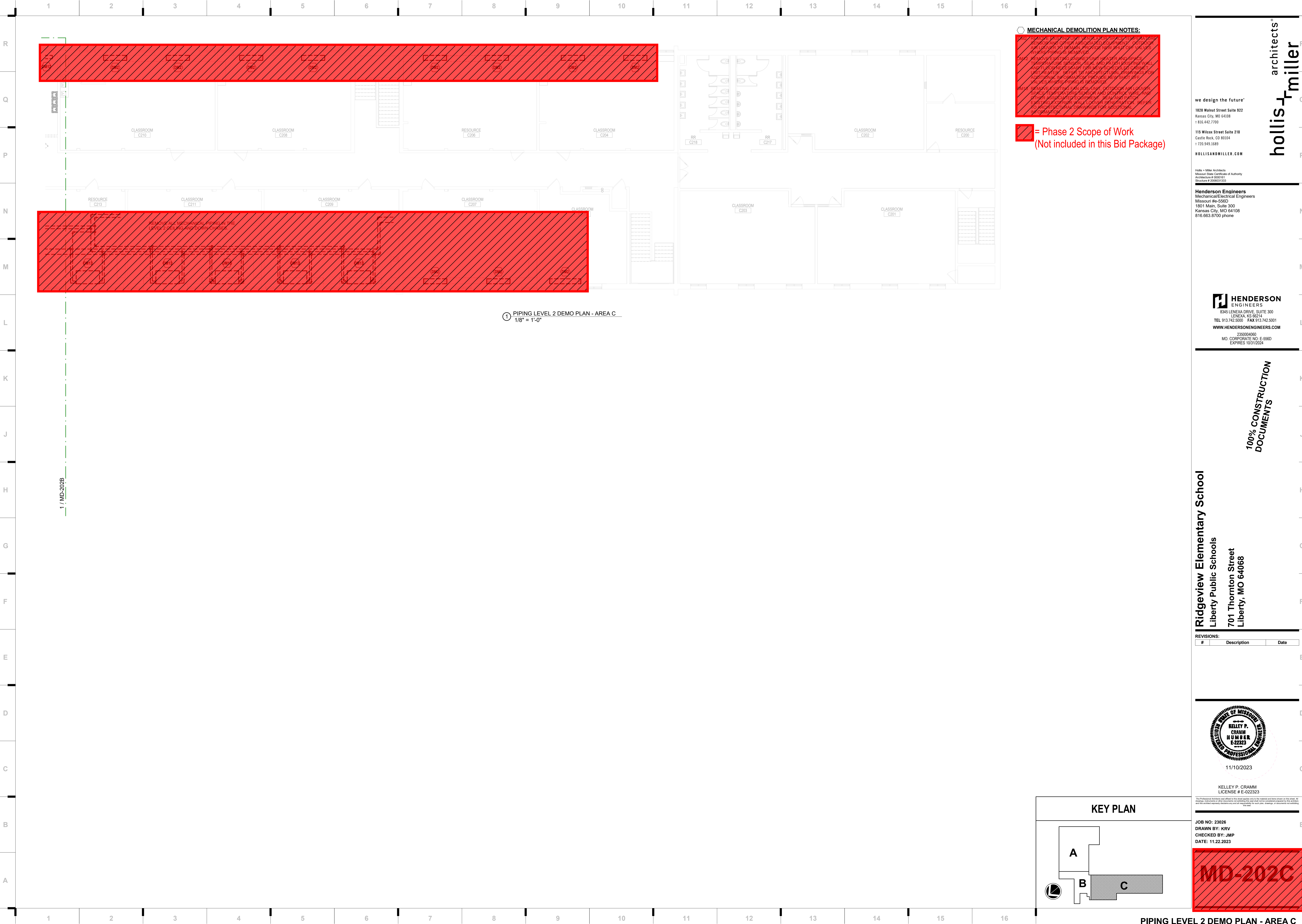
## KEY PLAN



## PIPING LEVEL 2 DEMO PLAN - AREA B



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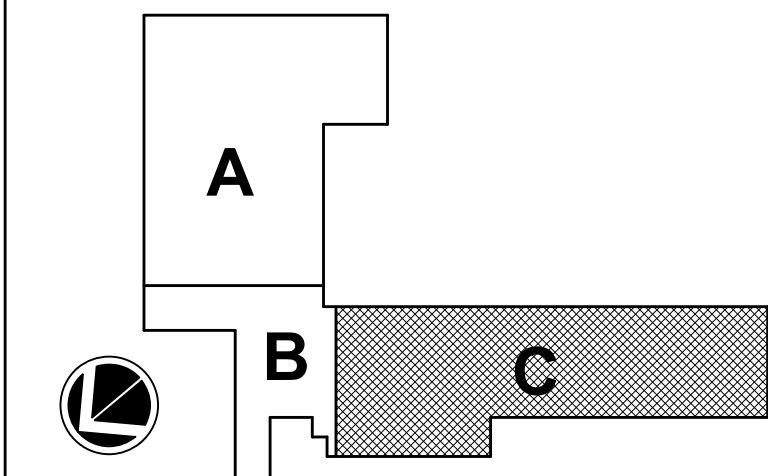
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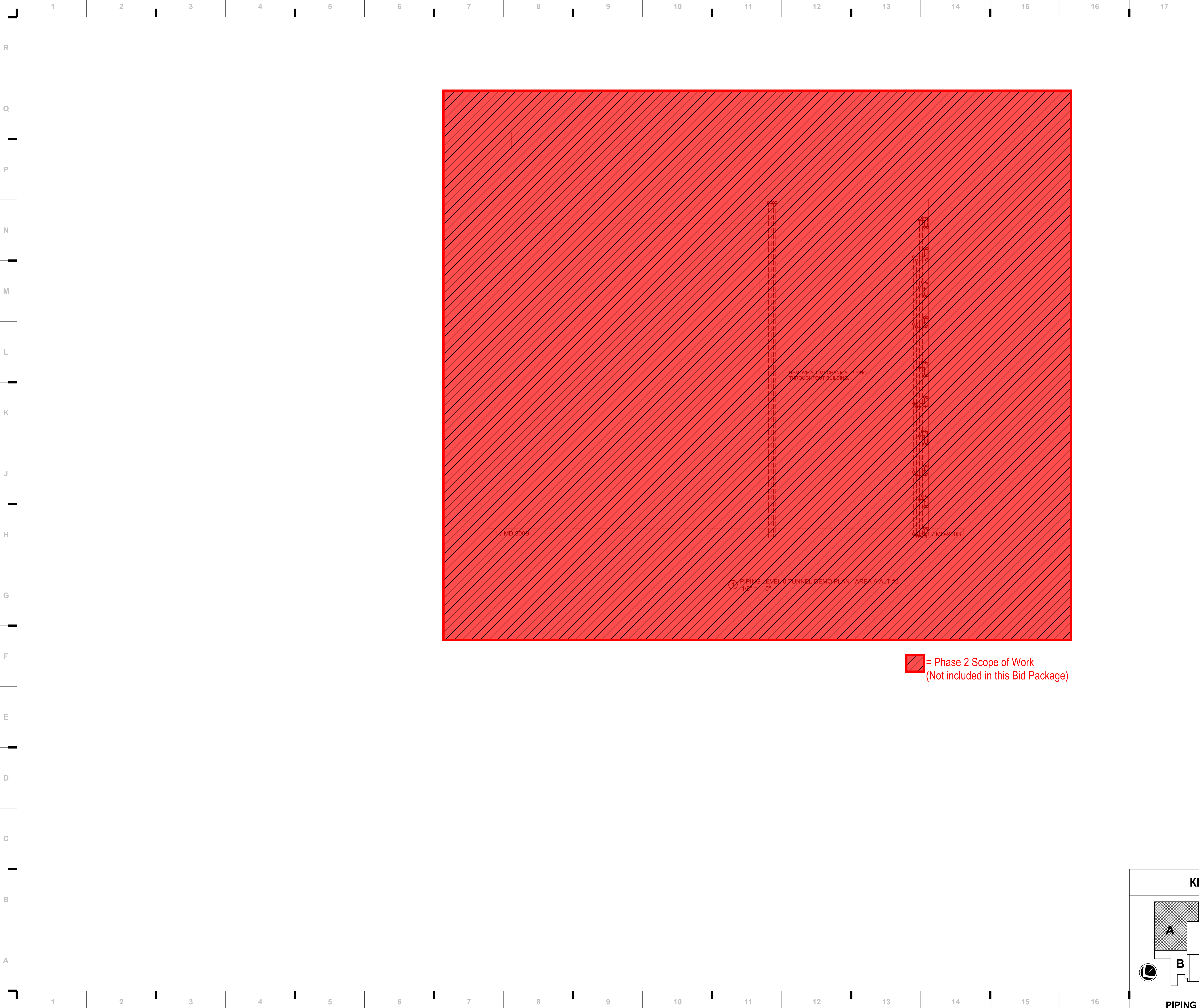
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KEY PLAN



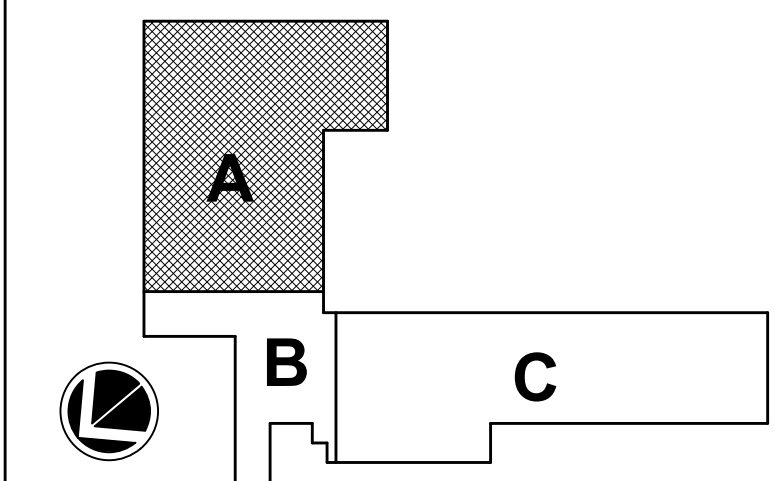
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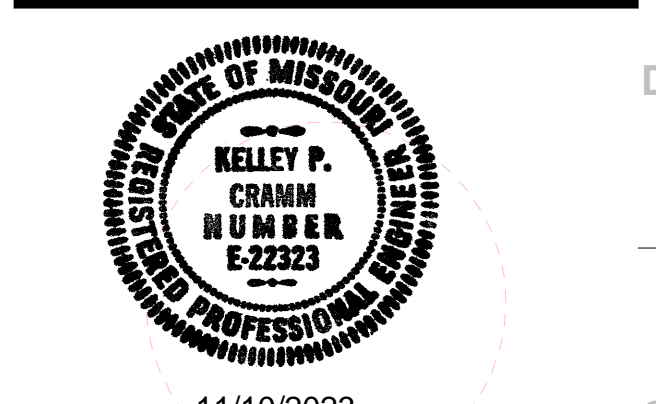
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**MD-900A**

PIPING LEVEL 0 TUNNEL DEMO PLAN - AREA A - ALT #3

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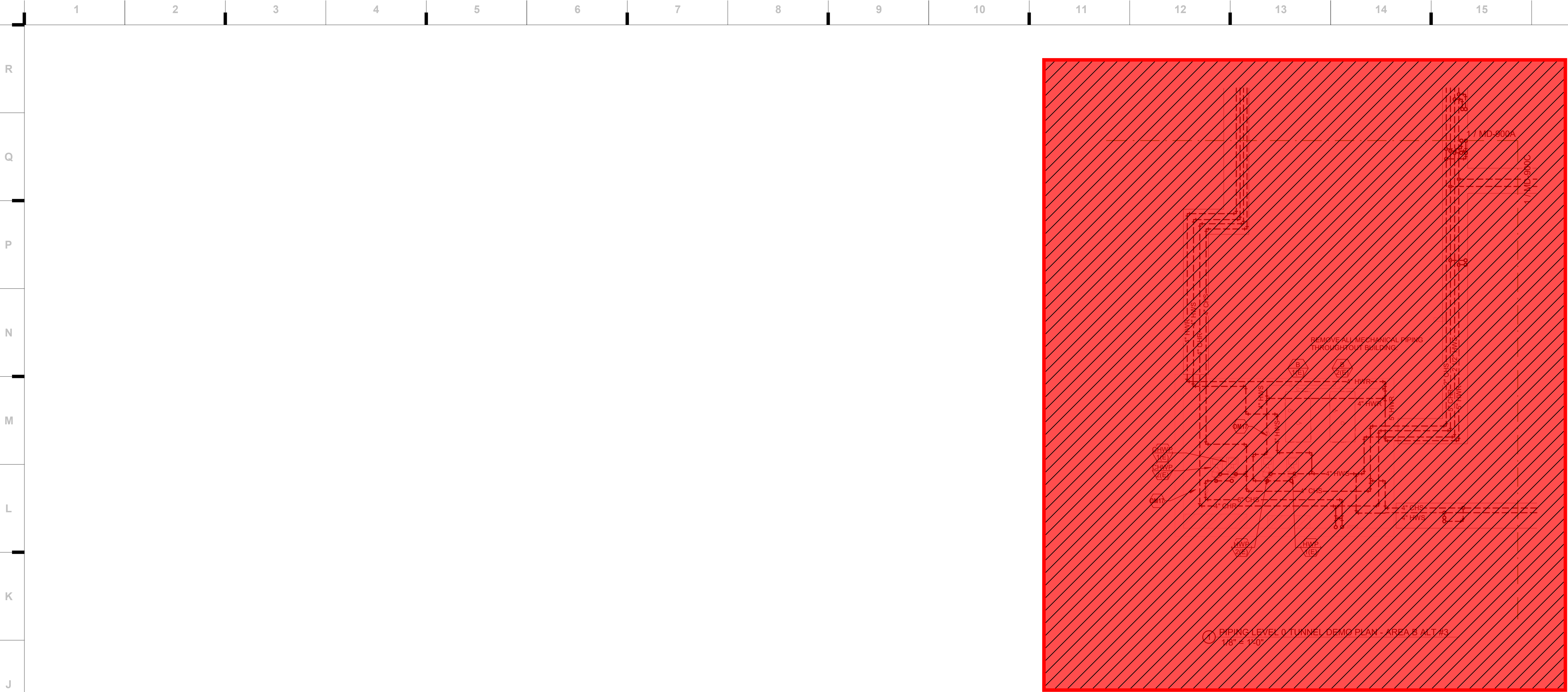
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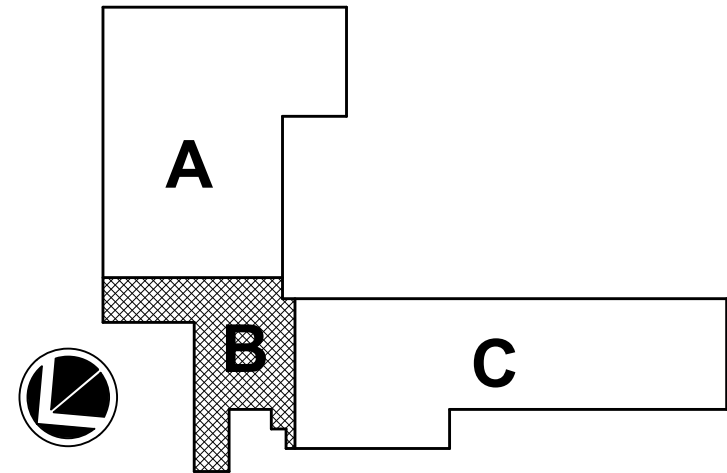
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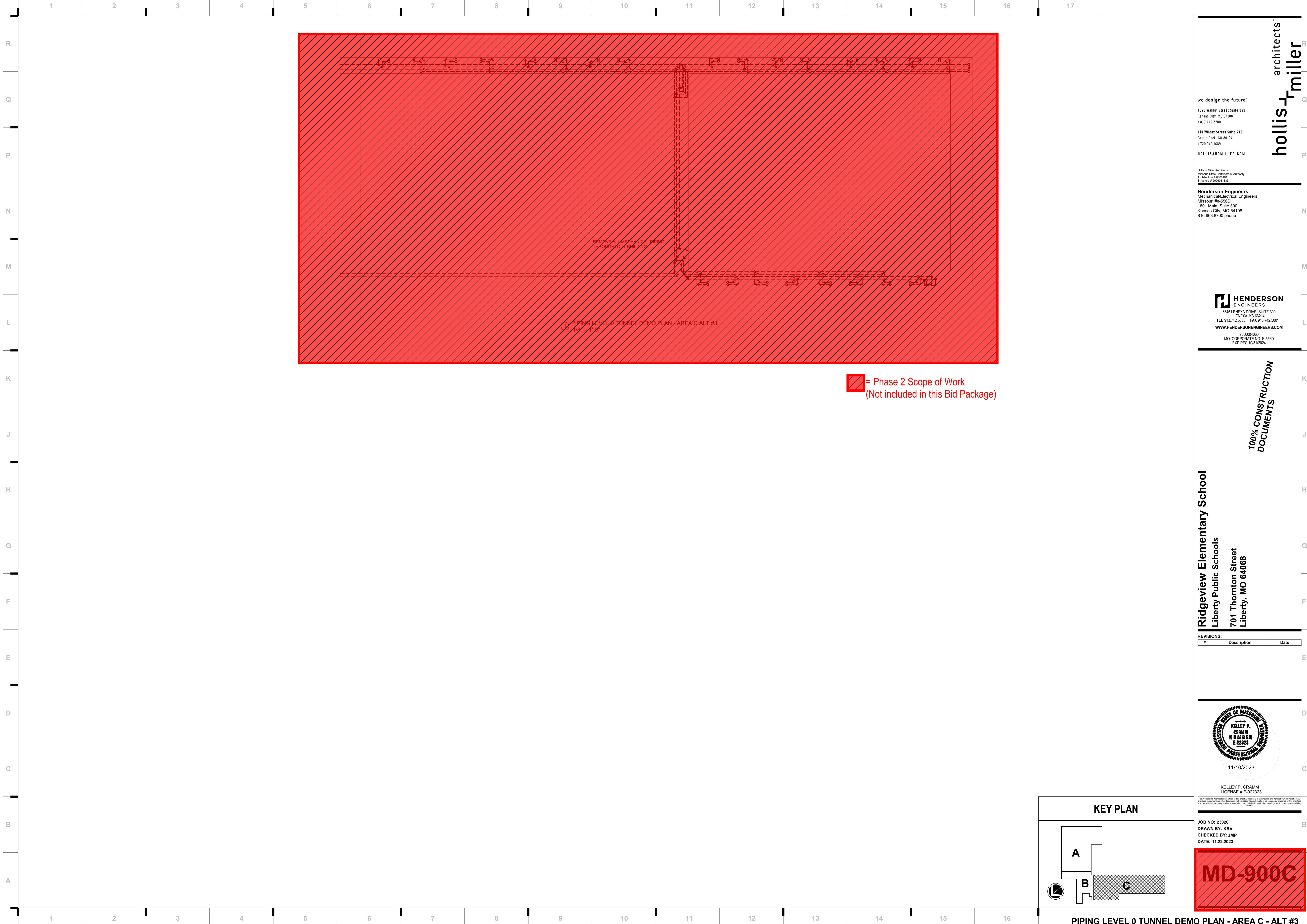
**KEY PLAN**



**PIPING LEVEL 0 TUNNEL DEMO PLAN - AREA B - ALT #3**

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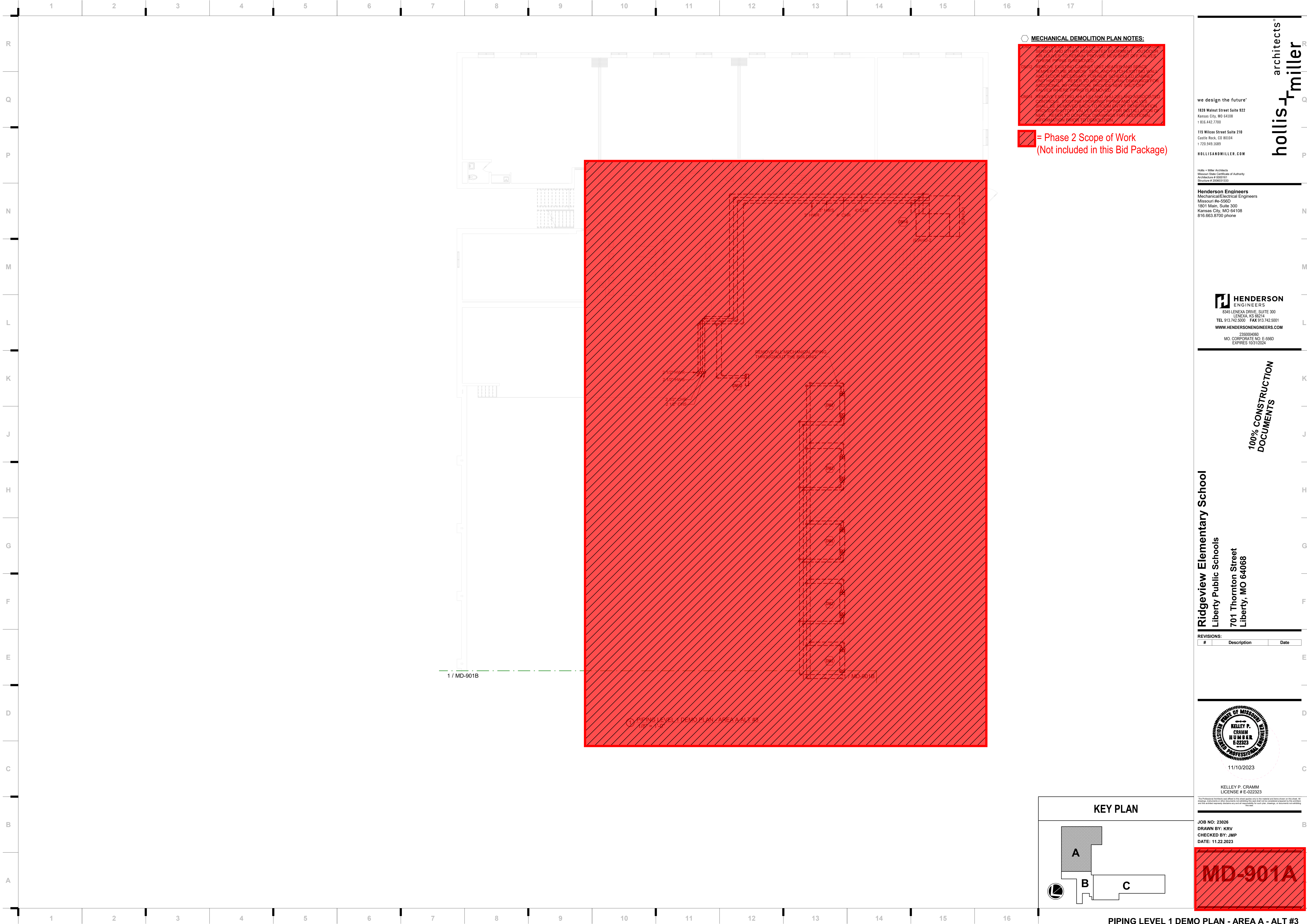
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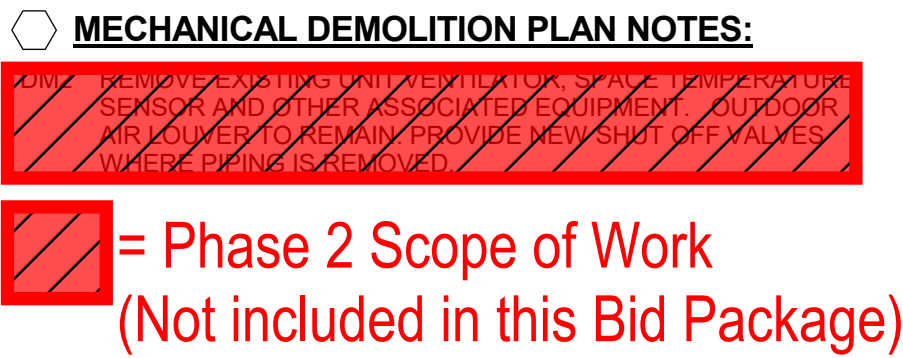
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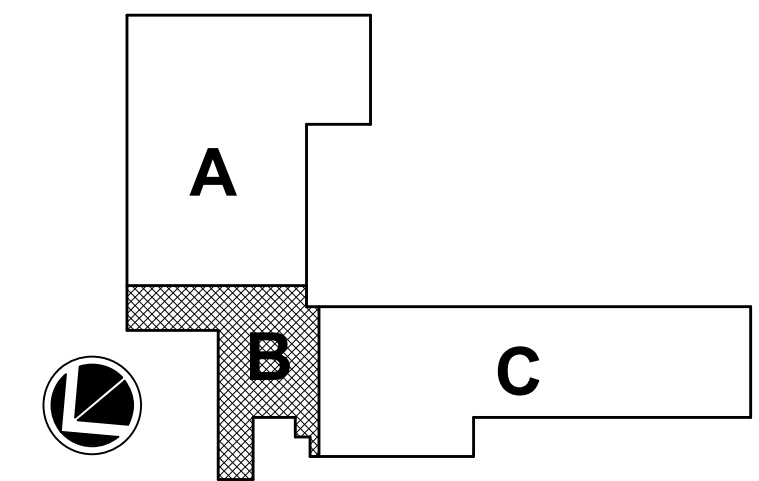
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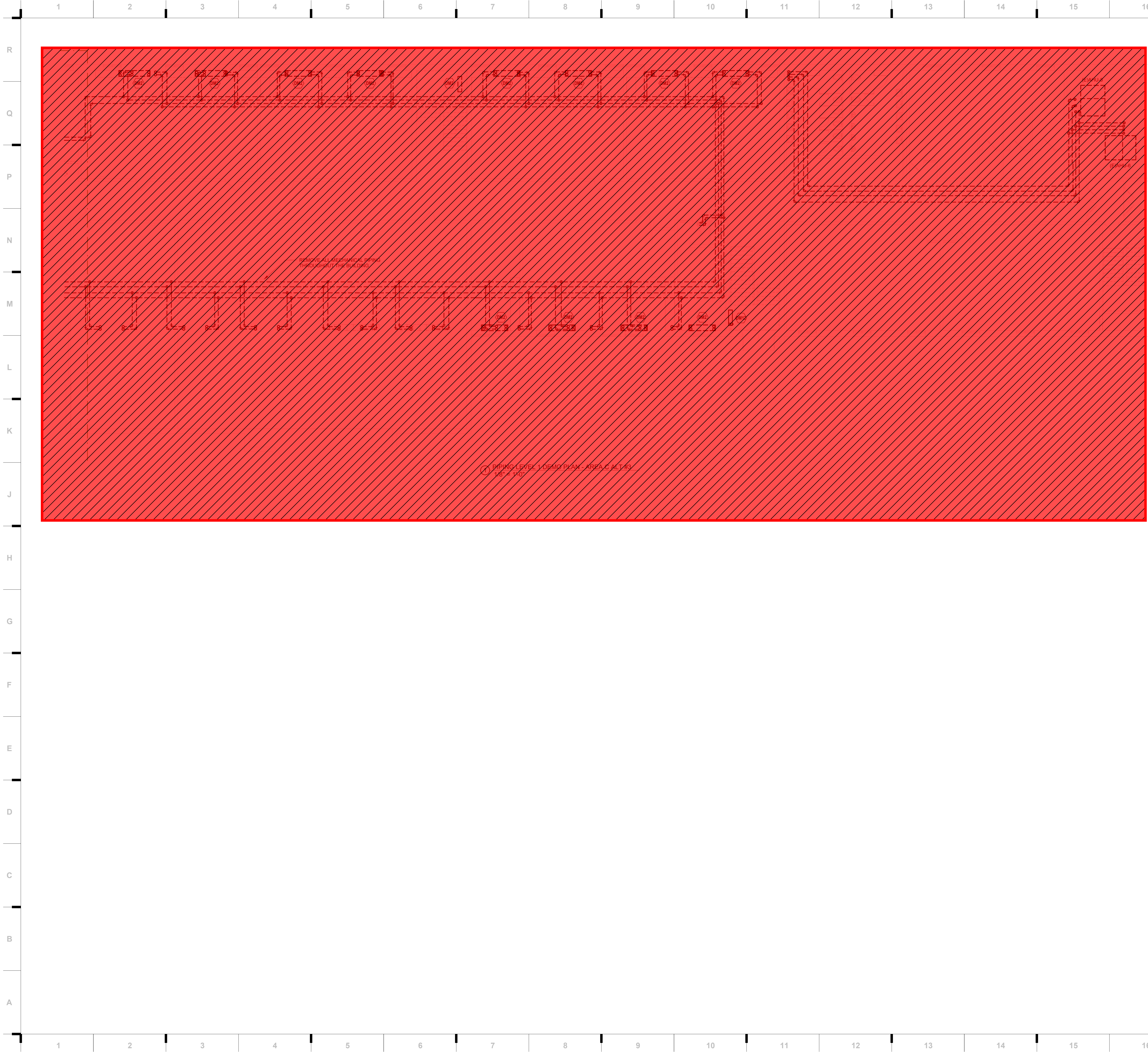
## KEY PLAN



# PIPING LEVEL 1 DEMO PLAN - AREA B - ALT #3



11/10/2023 8:42:17 AM  
KELLEY P. CRAMM



MECHANICAL DEMOLITION PLAN NOTES:

- D401 REMOVE EXISTING UNIT FROM LAYOUT, SPACE TEMPORARY UNIT, SENSOR AND OTHER ASSOCIATED EQUIPMENT. DO NOT REMOVE ANY EQUIPMENT TO BE DEMOLISHED FROM LAYOUT OR VALVES WHERE PIPING IS REMOVED.
- D402 REMOVE EXISTING CABINET UNIT HEATER AND SPACE TEMPORARY UNIT, SENSOR AND OTHER ASSOCIATED EQUIPMENT AND FLOOR NECESSARY FOR NEW SCHEDULED CABINET AND HEATER. REFER TO ARCHITECTURAL DRAWINGS FOR ANY OTHER INFORMATION PROVIDED FOR D402.

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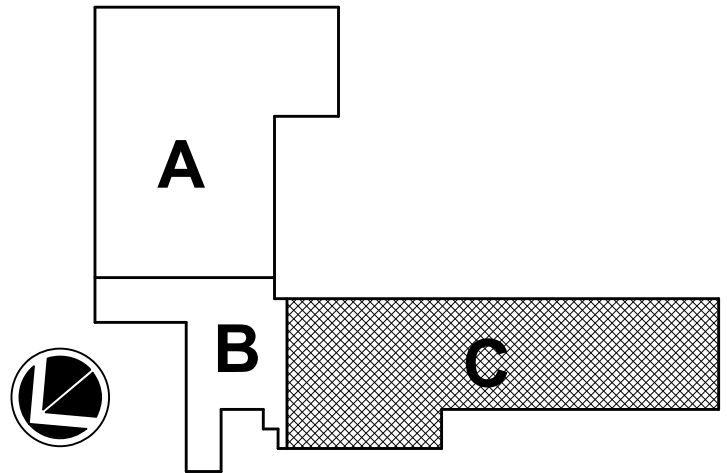
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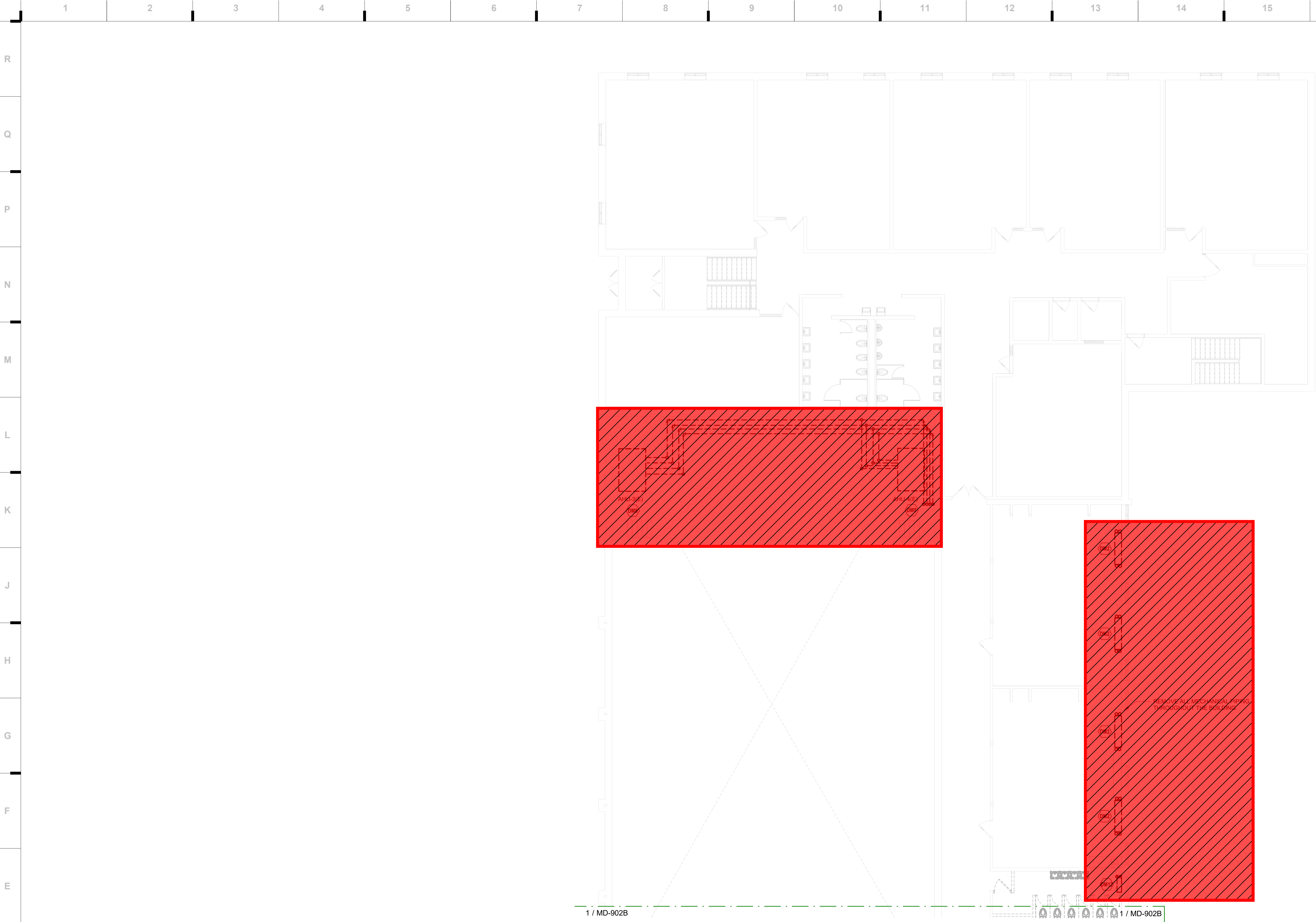
KEY PLAN



PIPING LEVEL 1 DEMO PLAN - AREA C - ALT #3

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MECHANICAL DEMOLITION PLAN NOTES:

1. REMOVE EXISTING MECHANICAL ROOMS AND EQUIPMENT, INCLUDING BUT NOT LIMITED TO: BOILERS, CHILLERS, CONDENSERS, COILS, PUMPS, VALVES, PIPING, AND OTHER ASSOCIATED EQUIPMENT. OUTDOOR AIR LOCKER TO REMAIN. PROVIDE NEW SHUT OFF VALVES WHERE APPROPRIATE.

2. REMOVE EXISTING PLUMBING AND LEAKS AND ASSOCIATED CONTROLS. EXISTING DUCTWORK SHALL REMAIN TO BE RECONNECTED TO NEW PIPES. EXISTING SUPPORTS SHALL REMAIN TO BE REUSED WITH NEW UNITS. REFER TO CONTROL DRAWINGS FOR ADDITIONAL INFORMATION PRIOR TO DEMOLITION.

3. REMOVE EXISTING CABINET AND HEATER AND SPACE TEMPERATURE SENSOR. SEAL AND PATCH EXISTING WALL AND FLOOR NECESSARY FOR NEW SCHEDULED CABINET. REFER TO CONTROL DRAWINGS FOR ADDITIONAL INFORMATION. PROVIDE NEW SHUT OFF VALVES WHERE DEMO IS REQUIRED.

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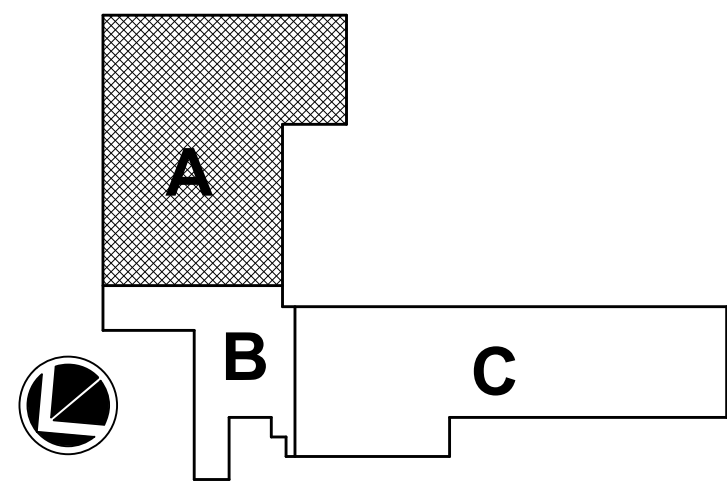
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KEY PLAN



PIPING LEVEL 2 DEMO PLAN - AREA A - ALT#3

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① PIPING LEVEL 2 DEMO PLAN - AREA B ALT #3  
1/8" = 1'-0"

○ MECHANICAL DEMOLITION PLAN NOTES:  
D101 REMOVE EXISTING GAS PIPING, GAS VALVES, GAS SENSORS AND OTHER ASSOCIATED EQUIPMENT. OUTDOOR AIR LOCKER TO BE DEMO. PROVIDE NEW SHUT OFF VALVES WHERE APPROPRIATE.  
D102 REMOVE EXISTING GAS FURNACE HEATER AND SPACE TEMPERATURE SENSOR. SEAL AND PATCH EXISTING WALL AND FLOOR NECESSARY. DO NOT DISCONNECT OF GAS FURNACE UNIT HEATER. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION. PROVIDE NEW SHUT OFF VALVES WHERE APPROPRIATE.  
D103 REMOVE EXISTING FAN COIL UNIT, OUTDOOR AIR LOCKER, SPACE TEMPERATURE SENSOR AND CONTROL WIRE AND OTHER ASSOCIATED EQUIPMENT. SEAL AND PATCH EXISTING MATERIAL WALL LOCKER PENETRATION. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.  
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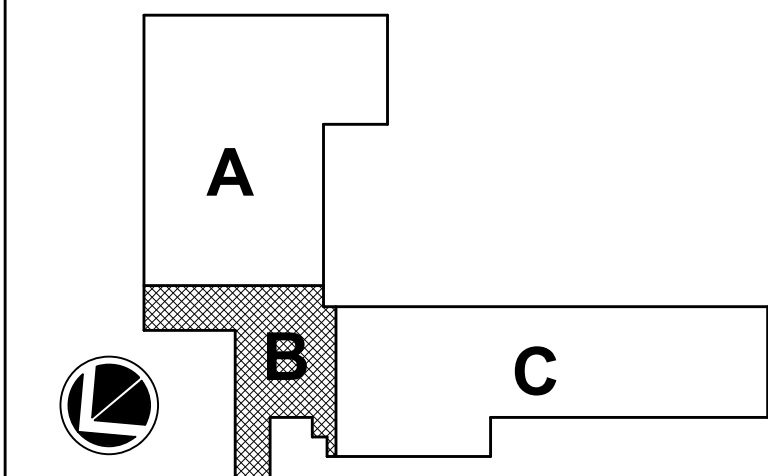
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KEY PLAN



PIPING LEVEL 2 DEMO PLAN - AREA B - ALT #3

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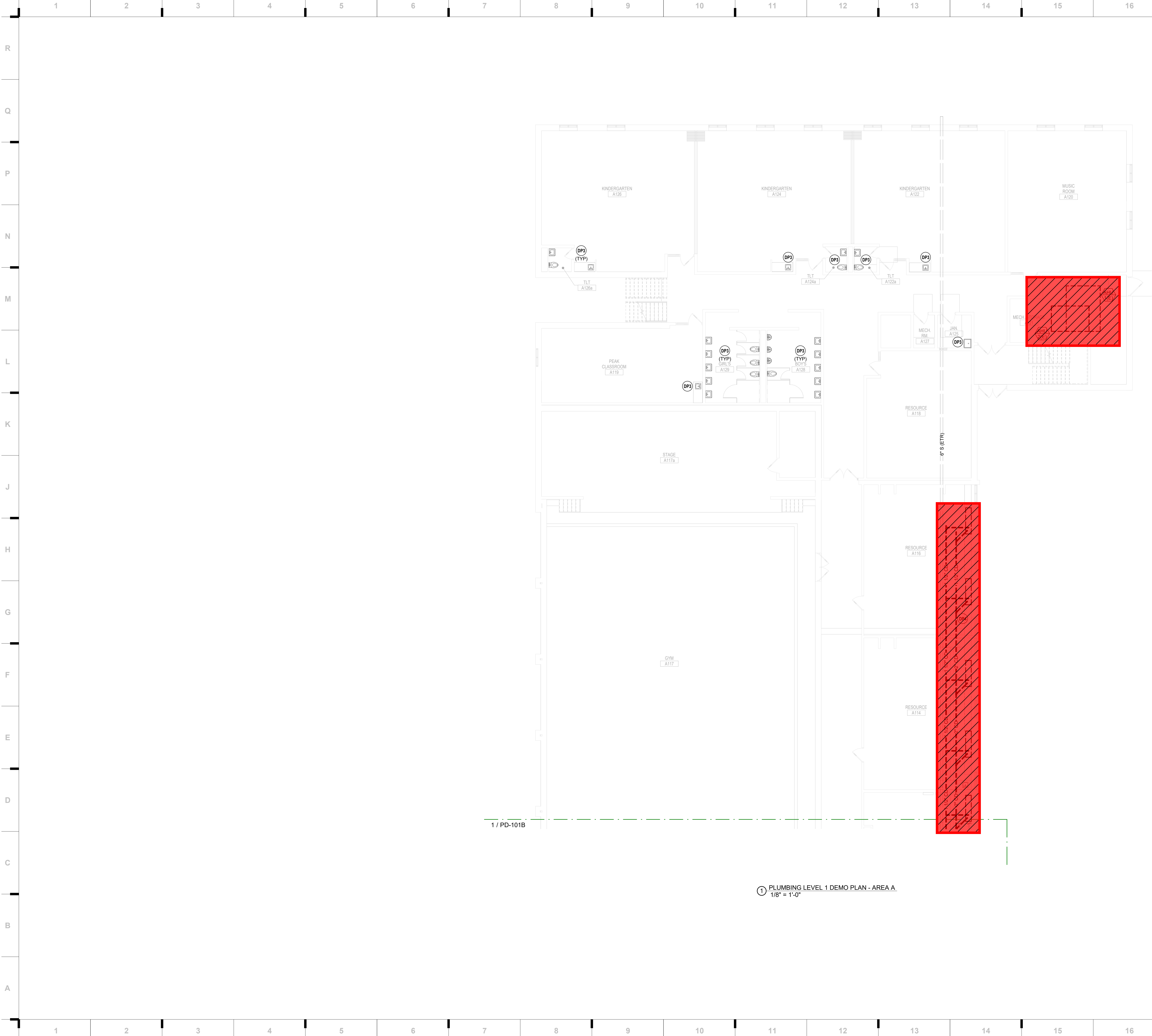
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**PLUMBING DEMOLITION PLAN NOTES:**  
DP3 EXISTING PLUMBING FIXTURE SHALL REMAIN, PROTECT FROM DAMAGE DURING DEMOLITION AND RENOVATION.  
ALL REMAINING EXISTING TOILETS AND THE EXISTING TUBS UNITS BEING REMOVED SHALL BE REMOVED AND REPAIRED BY THE CONTRACTOR.  
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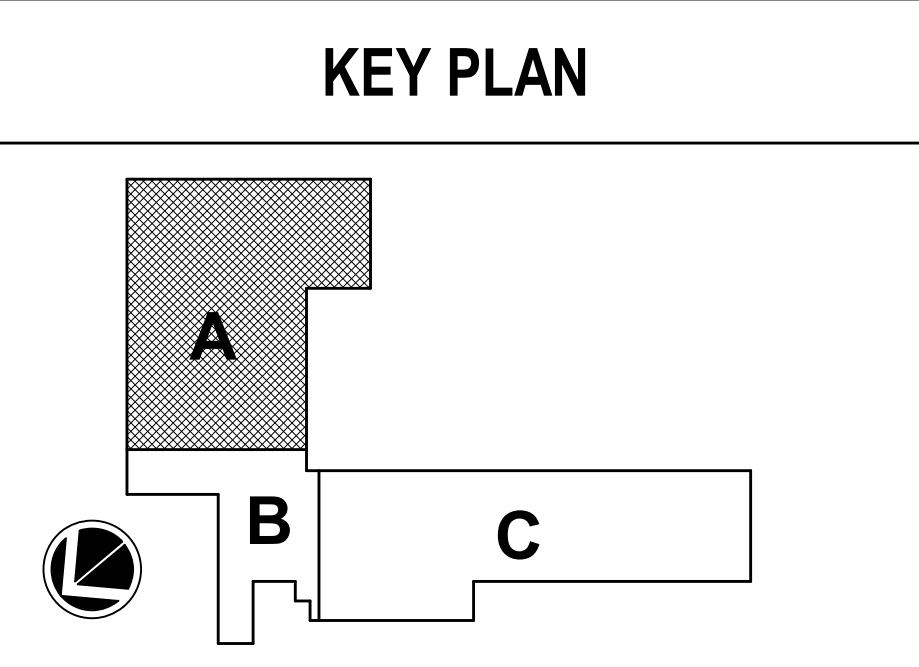
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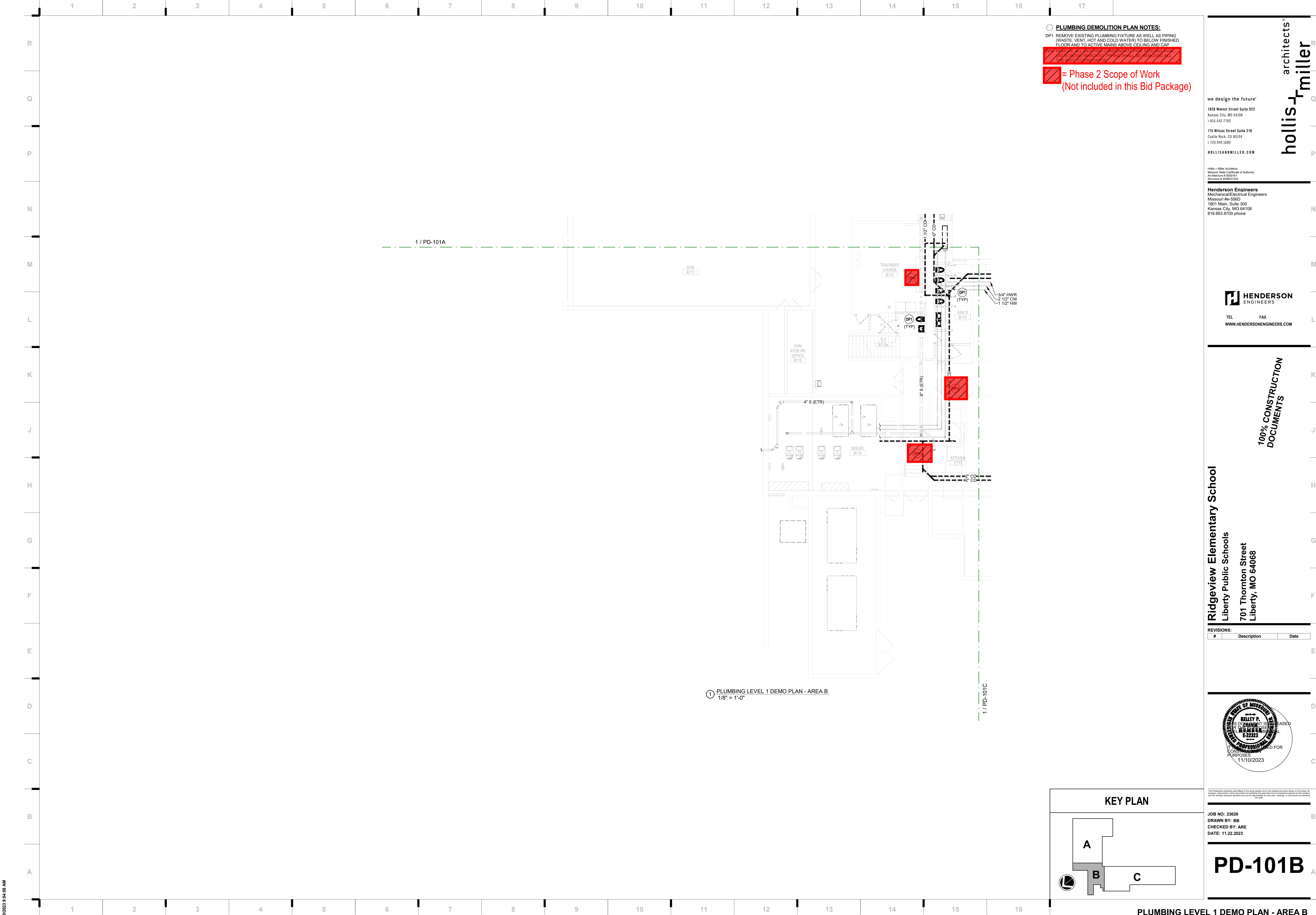
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**PD-101A**



PLUMBING LEVEL 1 DEMO PLAN - AREA A

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○ **PLUMBING DEMOLITION PLAN NOTES:**  
DP1 REMOVE EXISTING PLUMBING FIXTURE AS WELL AS PIPING (WASTE, VENT, HOT AND COLD WATER) TO BELOW FINISHED FLOOR AND TO ACTIVE MAINS ABOVE CEILING AND CAP  
○ **REPAIR ALL EXISTING CONDENSATE PIPE SERVICES WITH APPROVED TYPE OF CONDENSATE PIPING AND CAP THE WAY TO DISCHARGE**  
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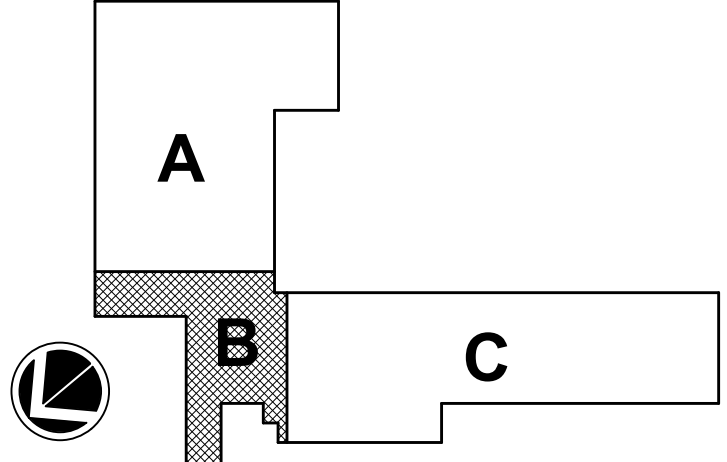
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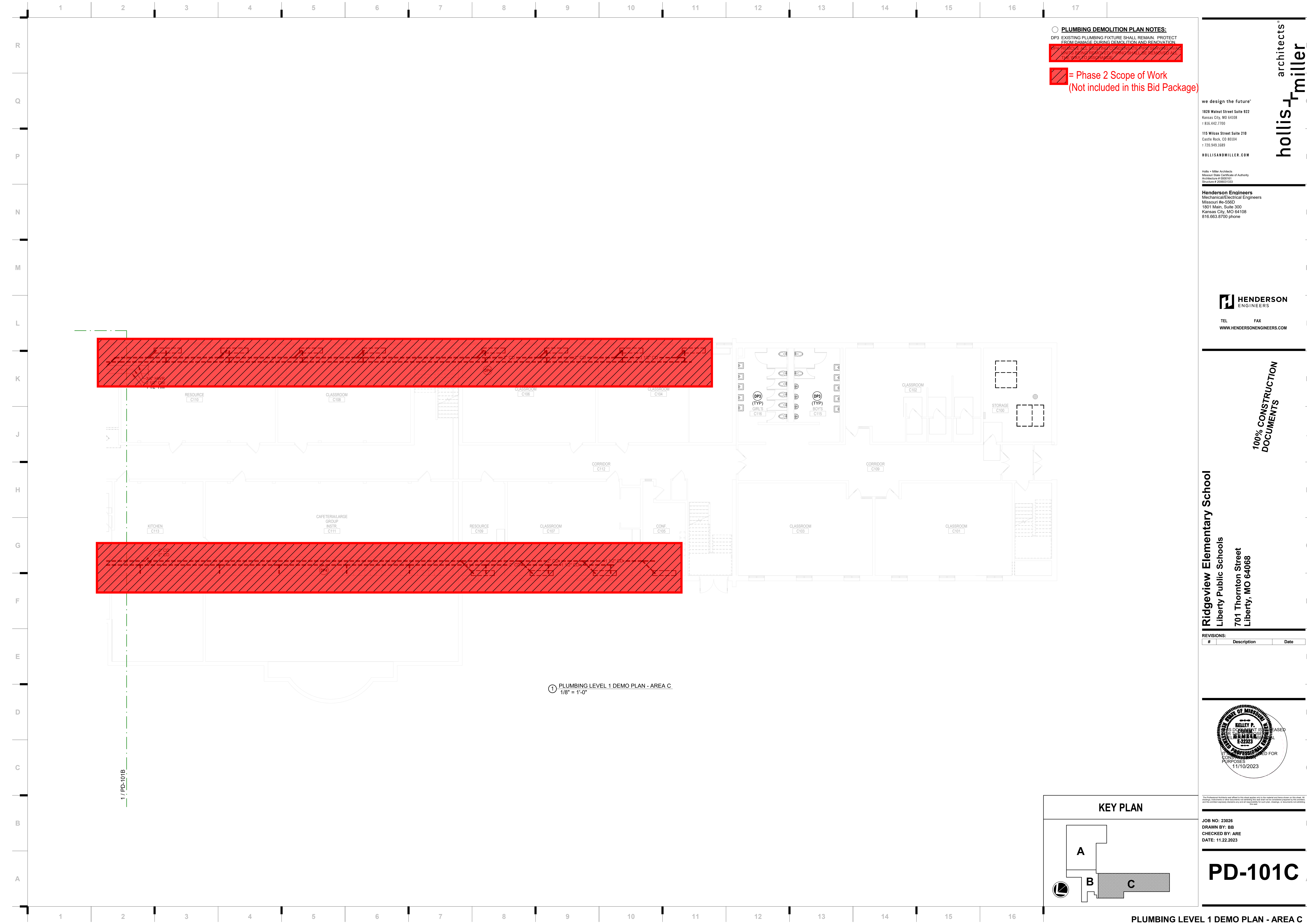
**PD-101B**

KEY PLAN



PLUMBING LEVEL 1 DEMO PLAN - AREA B





○ **PLUMBING DEMOLITION PLAN NOTES:**  
DP3 EXISTING PLUMBING FIXTURE SHALL REMAIN, PROTECT FROM DAMAGE DURING DEMOLITION AND RENOVATION.  
DO NOT REMOVE EXISTING CONDENSATE PIPE SERVING HVAC UNITS BEING DEMOLISHED. IT SHALL BE REMOVED AND REINSTALLED TO REMAIN.  
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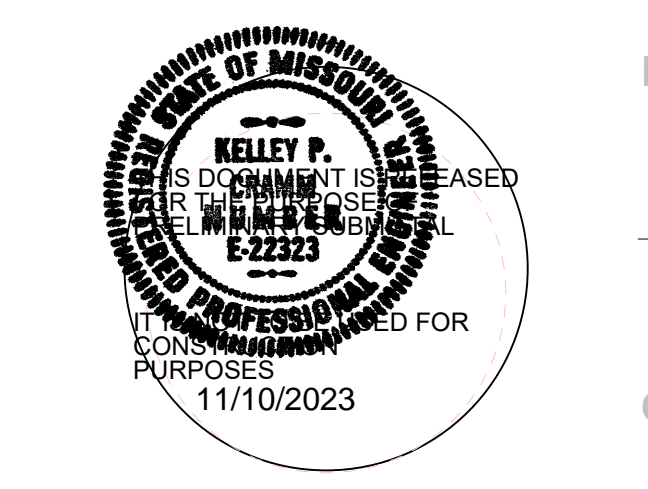
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**PD-101C**

**KEY PLAN**

**PLUMBING LEVEL 1 DEMO PLAN - AREA C**

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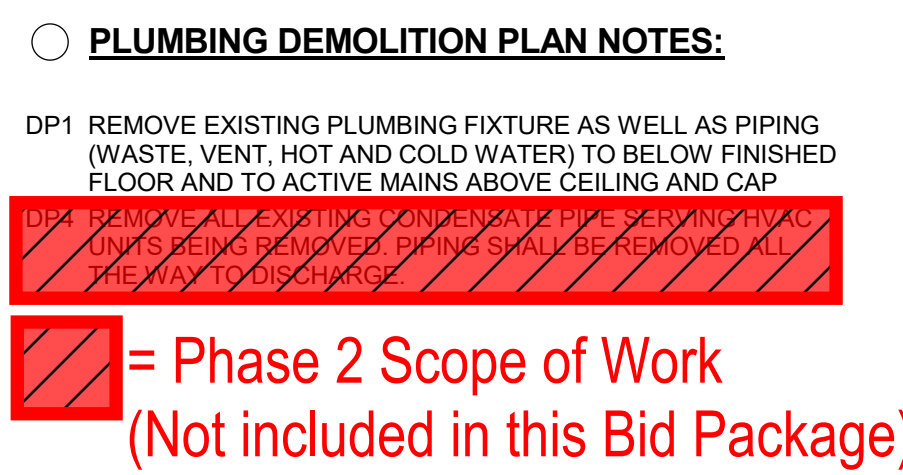
## PD-102A

The diagram shows a stepped profile with three regions: A (hatched), B (white), and C (white). A circular inset shows a magnified view of the interface between regions B and C, highlighting the surface roughness.

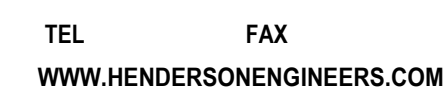
① PLUMBING LEVEL 2 DEMO PLAN - AREA A  
1/8" = 1'-0"

**PLUMBING LEVEL 2 DEMO PLAN - AREA A**

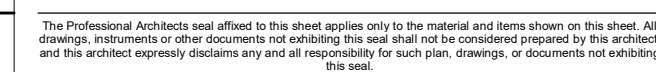




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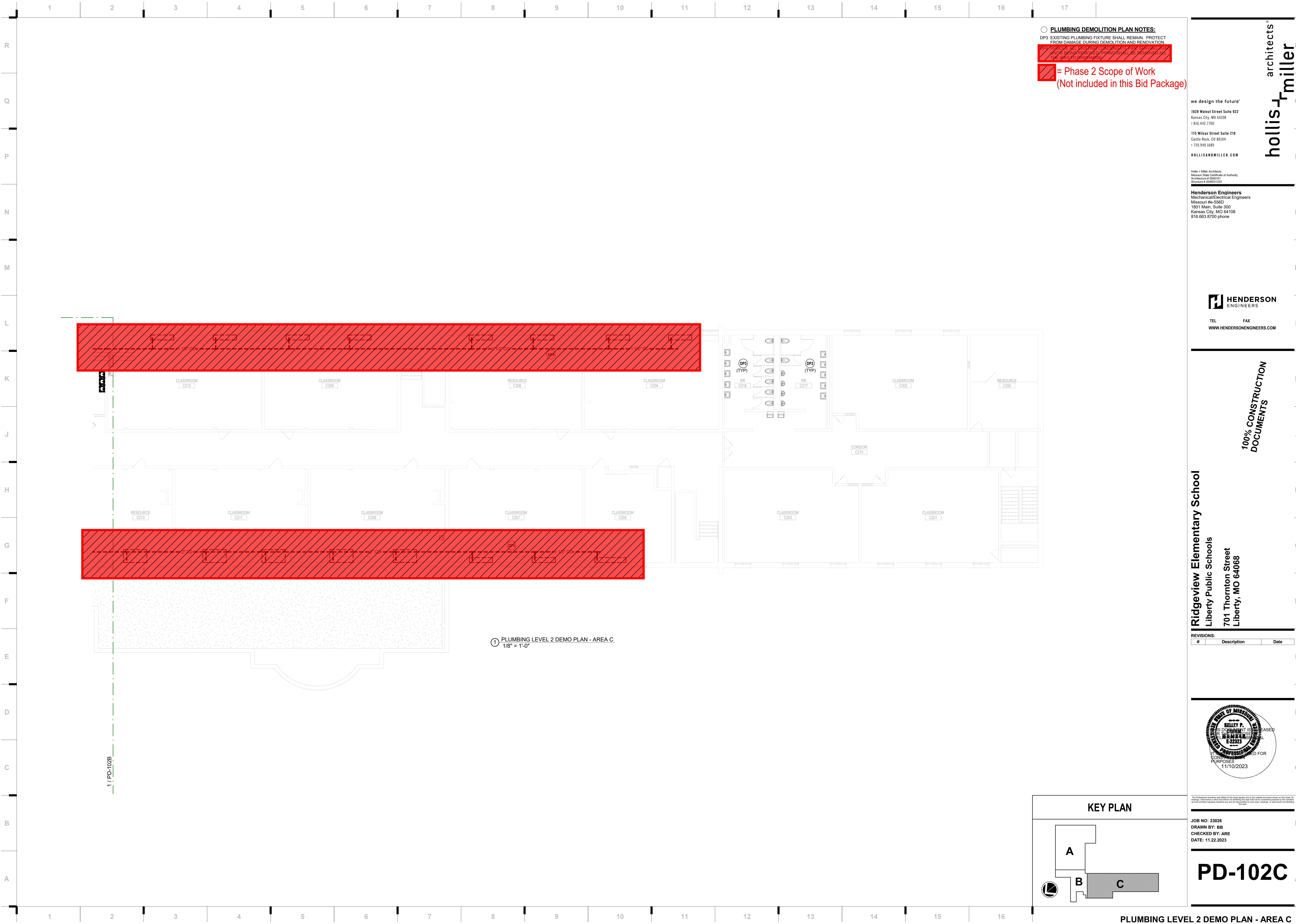
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# PD-102B

The diagram shows a stepped profile. Region A is the top white area, B is the bottom hatched area, and C is the white area to the right. A circular inset shows a magnified view of the corner between A and B.

## PLUMBING LEVEL 2 DEMO PLAN - AREA B

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**PD-102C**

PLUMBING LEVEL 2 DEMO PLAN - AREA C

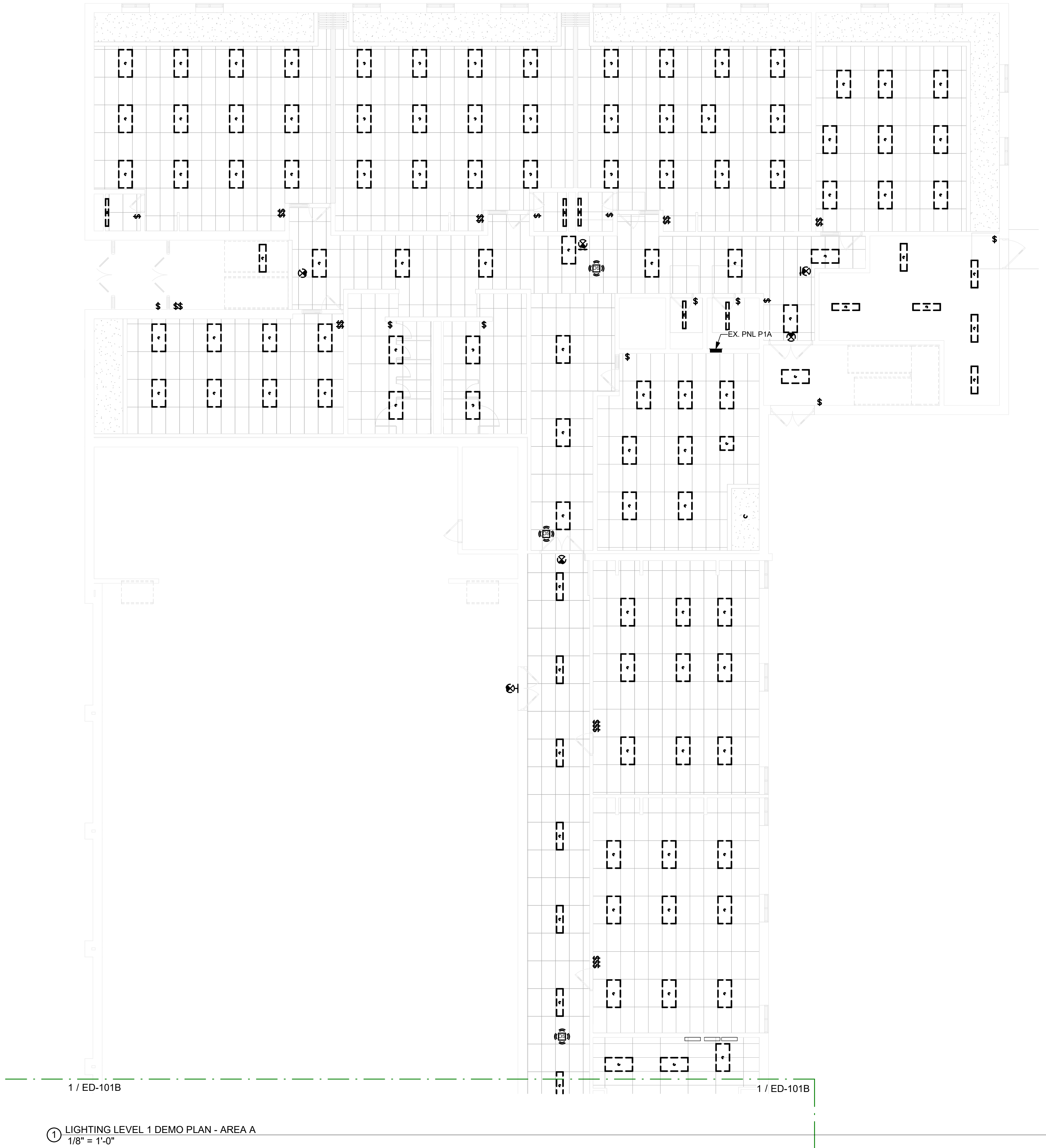
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① LIGHTING LEVEL 1 DEMO PLAN - AREA A  
1/8" = 1'-0"

LIGHTING DEMOLITION GENERAL NOTES:  
1. ALL EXISTING ROOM/CORRIDOR LIGHTING CIRCUITRY SHALL REMAIN FOR REUSE UNLESS NOTED OTHERWISE. REFER TO NEW WORK LIGHTING PLANS FOR ADDITIONAL REQUIREMENTS.

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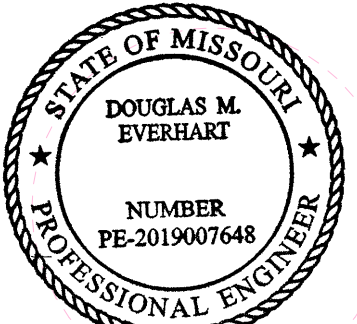
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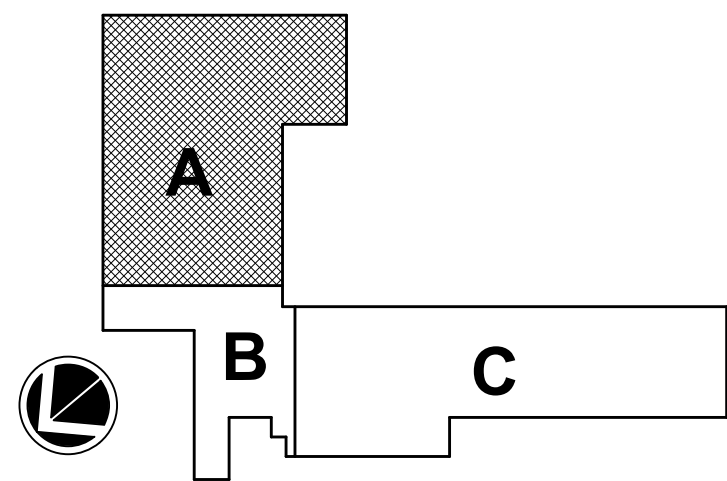
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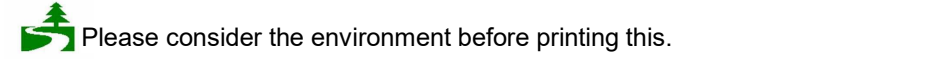


LIGHTING LEVEL 1 DEMO PLAN - AREA A

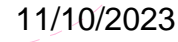
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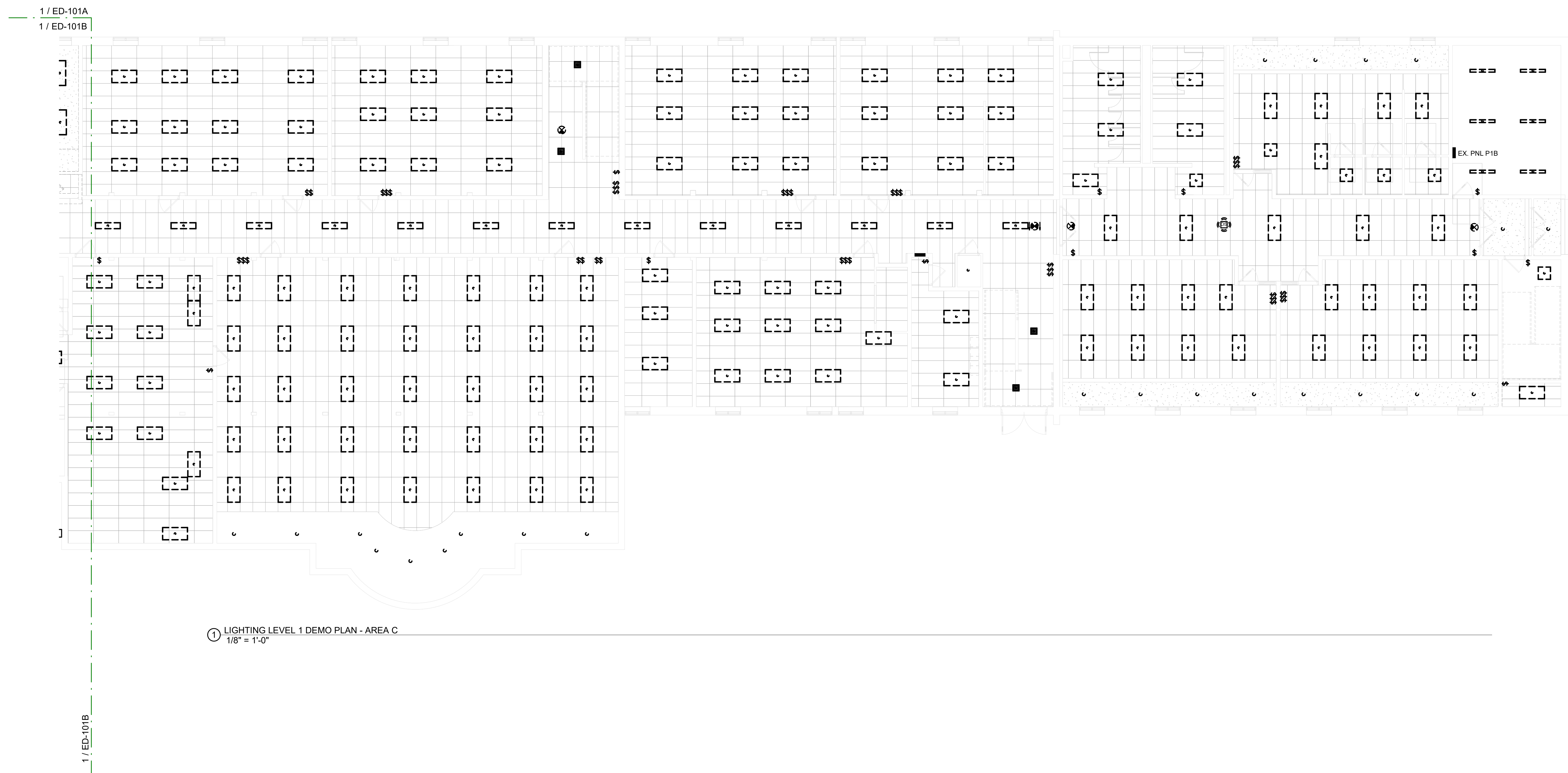
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A





⬆ LIGHTING LEVEL 1 DEMO PLAN - AREA C

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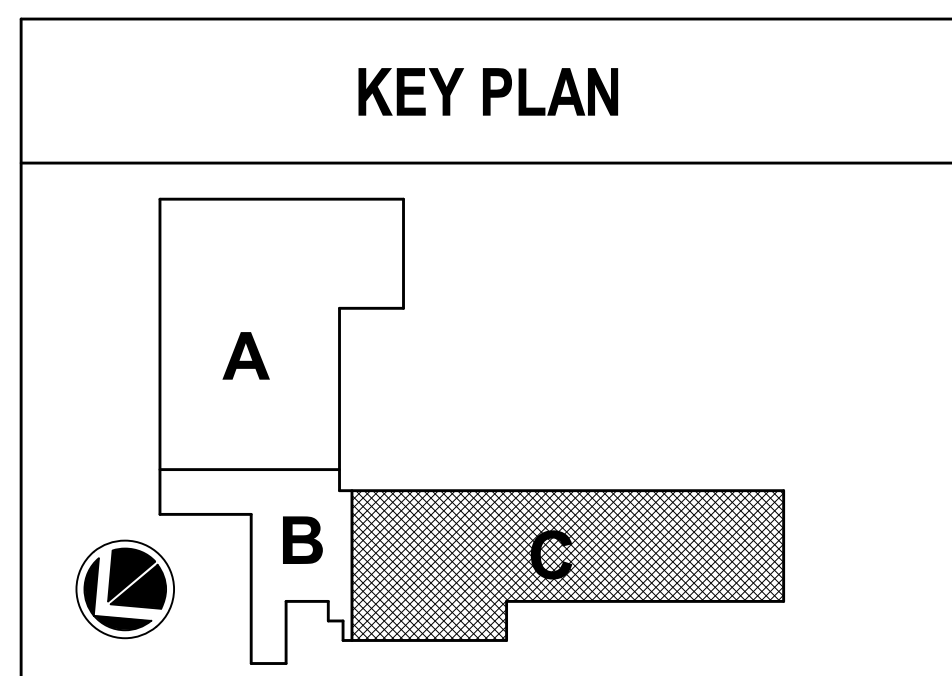
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## LIGHTING LEVEL 1 DEMO PLAN - AREA C

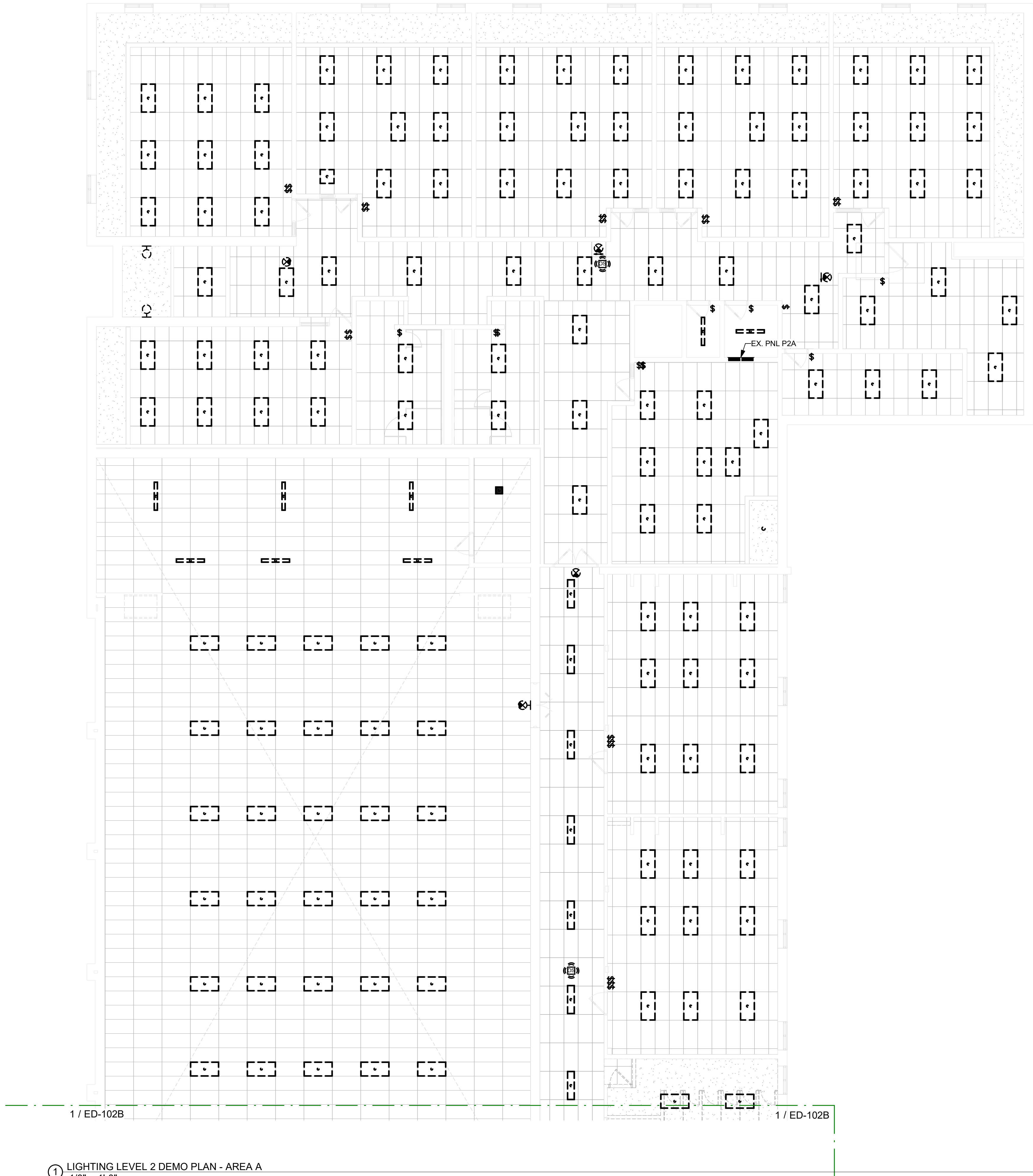
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① LIGHTING LEVEL 2 DEMO PLAN - AREA A  
1/8" = 1'-0"

LIGHTING DEMOLITION GENERAL NOTES:  
1. ALL EXISTING ROOM/CORRIDOR LIGHTING CIRCUITRY SHALL REMAIN FOR REUSE UNLESS NOTED OTHERWISE. REFER TO NEW WORK LIGHTING PLANS FOR ADDITIONAL REQUIREMENTS.

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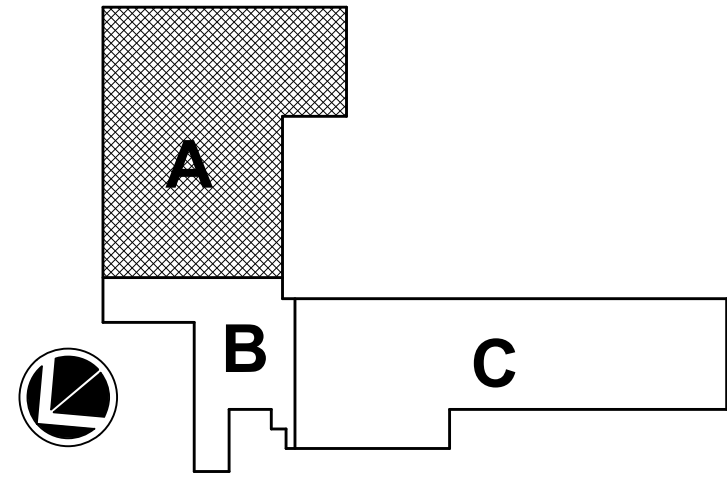
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LICENSE # PE-2019007648

JOB NO: 23026  
DRAWN BY: HMD  
CHECKED BY: ASM  
DATE: 11.22.2023

ED-102A

KEY PLAN



LIGHTING LEVEL 2 DEMO PLAN - AREA A

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1. ALL EXISTING ROOM/CORRIDOR LIGHTING CIRCUITRY SHALL REMAIN FOR REUSE UNLESS NOTED OTHERWISE. REFER TO NEW WORK LIGHTING PLANS FOR ADDITIONAL REQUIREMENTS.

ED-102B

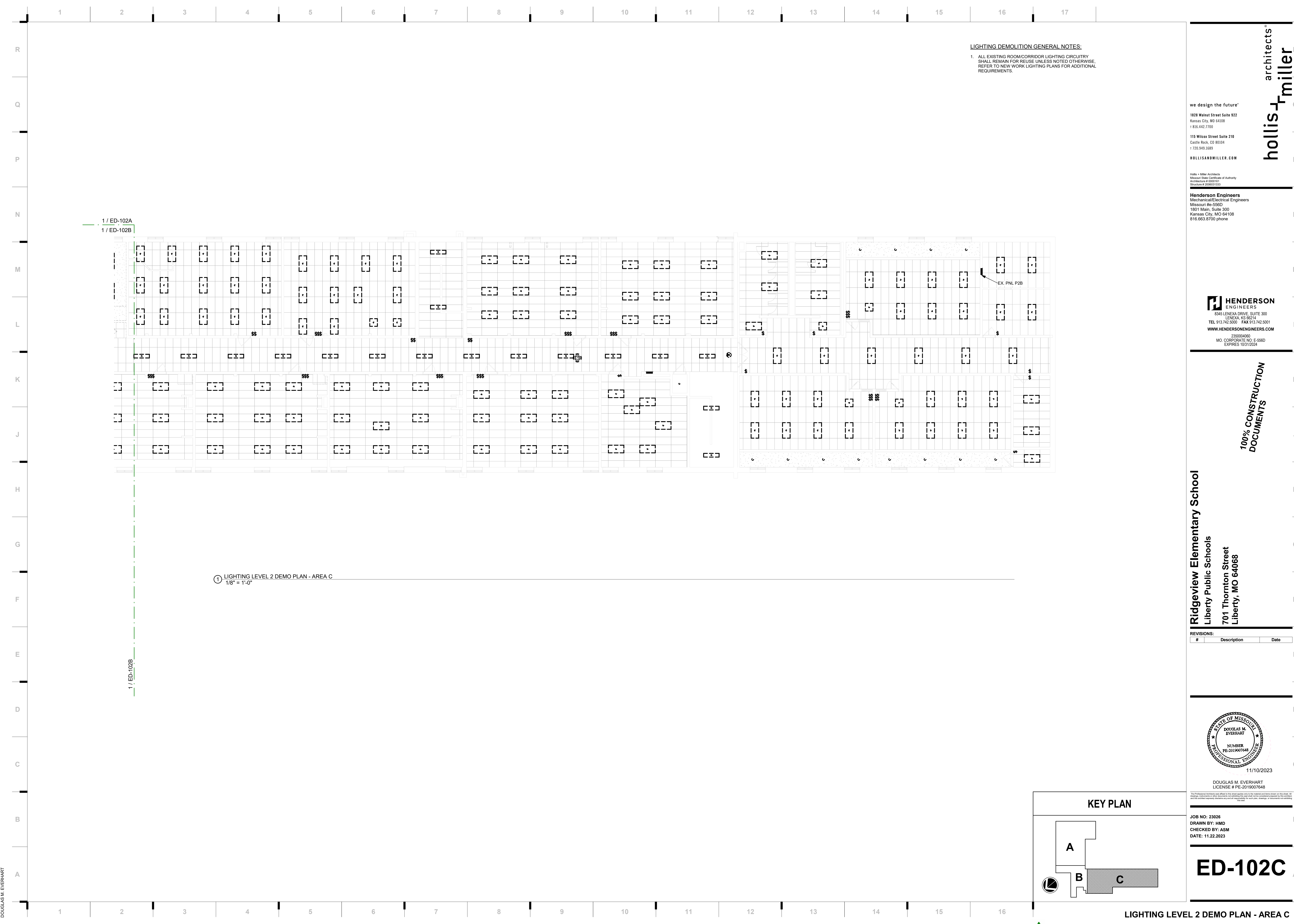
The diagram shows a stepped profile with three regions: A (white), B (hatched), and C (white). A circular inset provides a magnified view of the interface between regions A and B, showing a diagonal line representing the boundary.

ED-102B

## LIGHTING LEVEL 2 DEMO PLAN - AREA B

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**ED-102C**

KEY PLAN

A B C

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☐ **ELECTRICAL DEMOLITION PLAN NOTES.**

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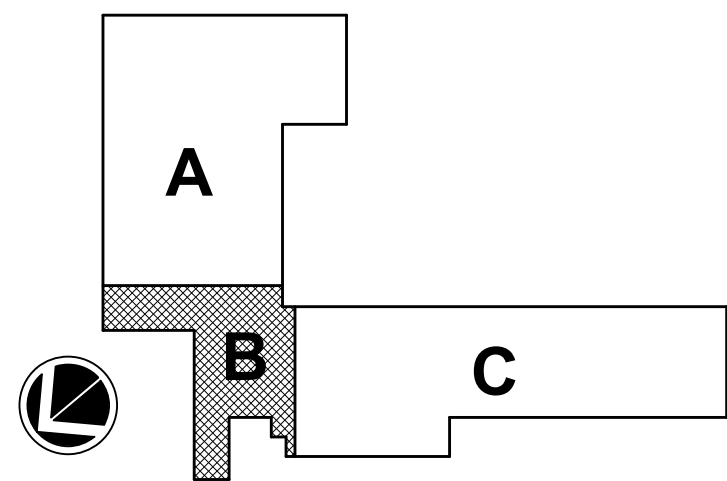


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# ED-201B

## KEY PLAN



## POWER LEVEL 1 DEMO PLAN - AREA B

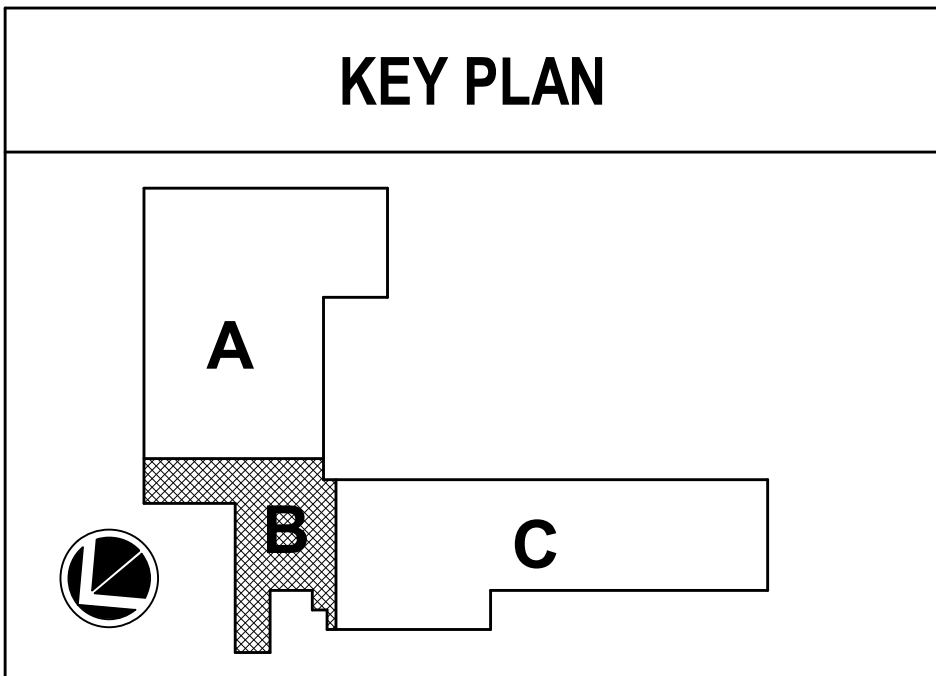
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① POWER LEVEL 2 DEMO PLAN - AREA B  
1/8" = 1'-0"



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ED-202B

POWER LEVEL 2 DEMO PLAN - AREA B

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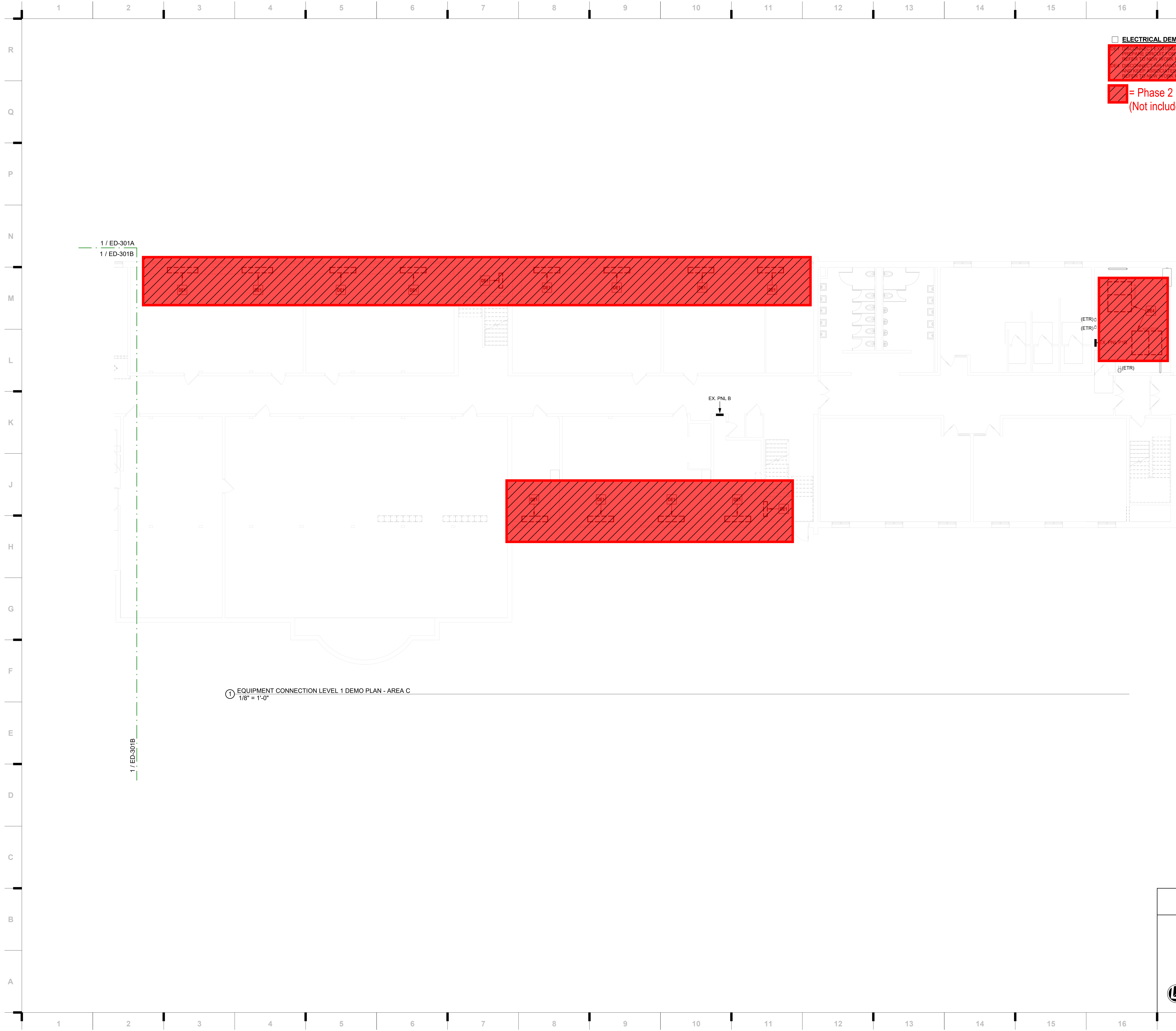
B

A





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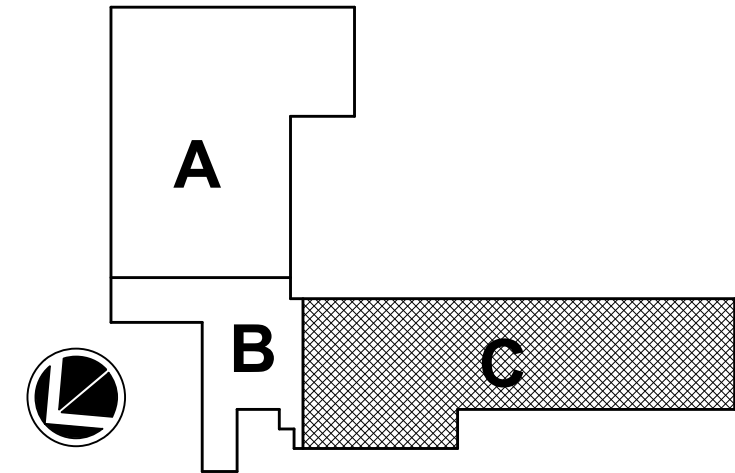


☐ ELECTRICAL DEMOLITION PLAN NOTES:  
DO NOT DEMOLISH ELECTRICAL EQUIPMENT UNTIL AFTER SPECS ARE FINAL  
PREPARE WIRING AND RECONNECTION TO NEW EQUIPMENT  
REFER TO NEW WORK DRAWING FOR MORE INFORMATION  
DO NOT DISCONNECT AIR HANDLING EQUIPMENT TO BE REUSED  
ADVISES ASSUMES LOCAL DISCONNECT TO BE USED  
REFER TO NEW WORK DRAWING FOR MORE INFORMATION

**= Phase 2 Scope of Work**  
(Not included in this Bid Package)

① EQUIPMENT CONNECTION LEVEL 1 DEMO PLAN - AREA C  
1/8" = 1'-0"

KEY PLAN



EQUIPMENT CONNECTION LEVEL 1 DEMO PLAN - AREA C

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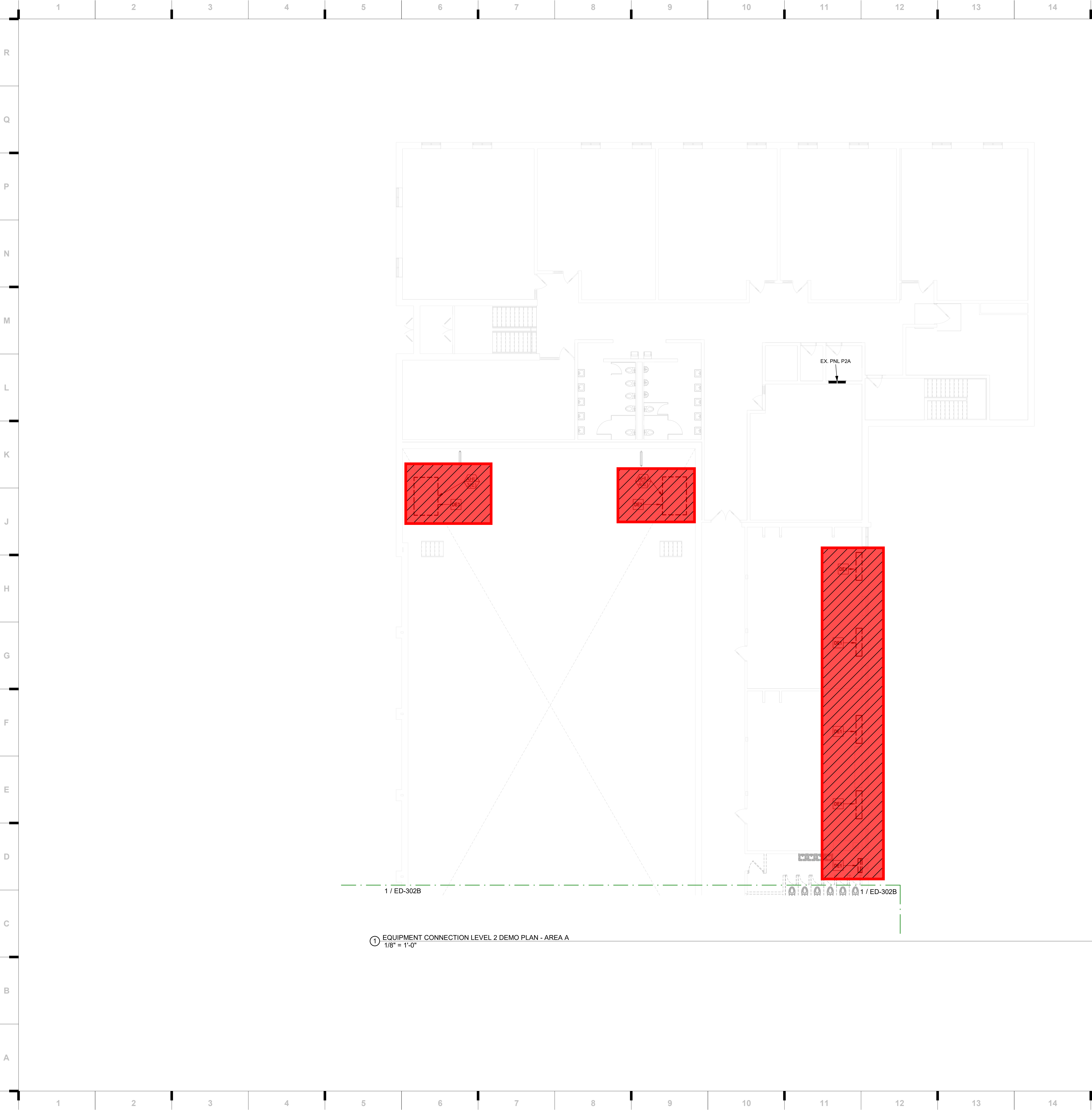
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① EQUIPMENT CONNECTION LEVEL 2 DEMO PLAN - AREA A  
1/8" = 1'-0"

☐ ELECTRICAL DEMOLITION PLAN NOTES:  
USE THIS PLAN TO IDENTIFY THE LOCATION OF THE DEMOLITION WORK.  
REFER TO NEW WORK PLANS FOR MORE INFORMATION.  
DO NOT DISCONNECT AIR AND GAS EQUIPMENT TO BE REPAIRED.  
FOR REMOVAL, ASSIGNED BY LOCAL DISPOSITION. REFER TO  
NEW WORK PLANS FOR MORE INFORMATION.

= Phase 2 Scope of Work  
(Not included in this Bid Package)

KEY PLAN

JOB NO: 23026  
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ED-302A

EQUIPMENT CONNECTION LEVEL 2 DEMO PLAN - AREA A

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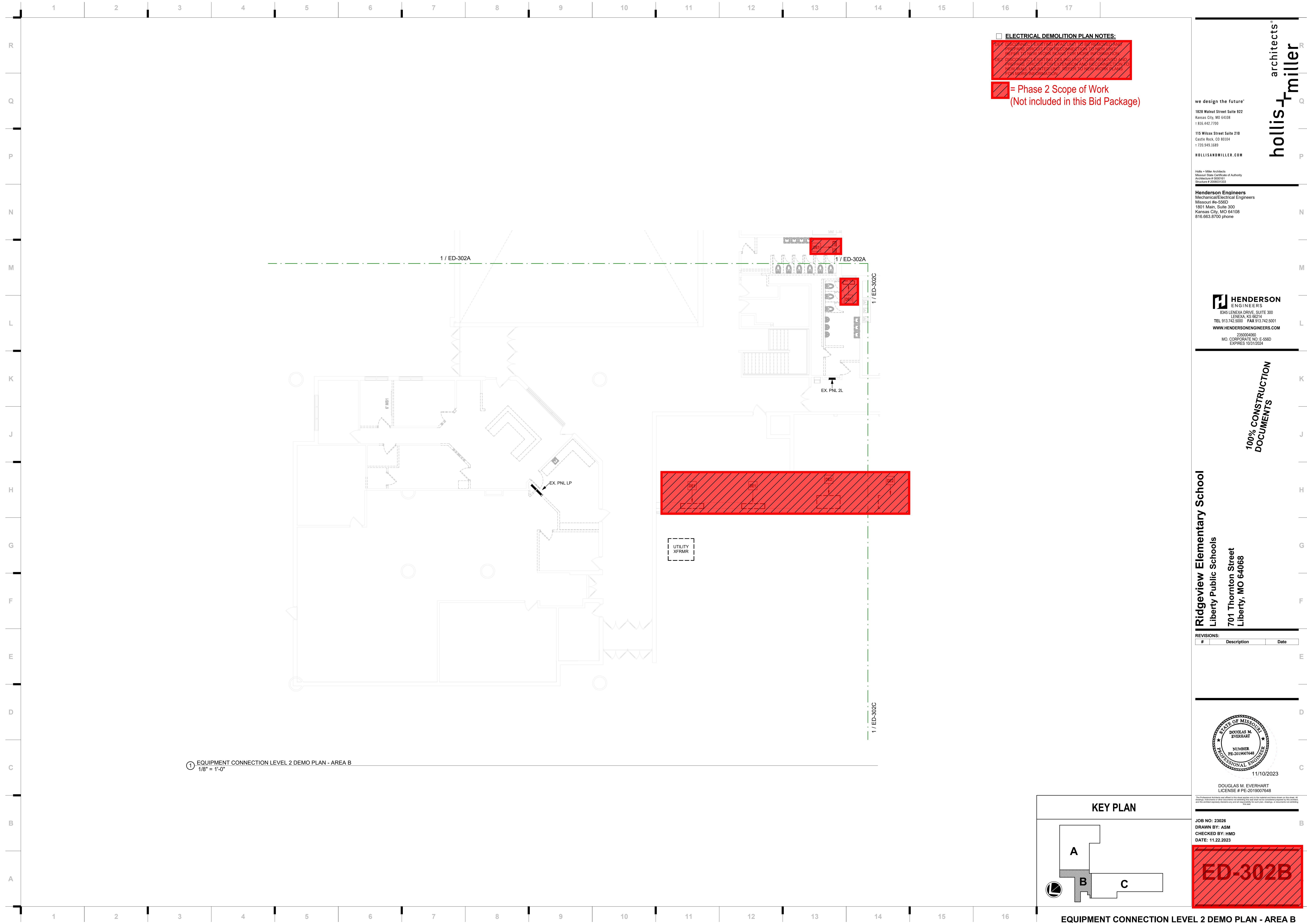
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① EQUIPMENT CONNECTION LEVEL 2 DEMO PLAN - AREA B  
1/8" = 1'-0"

☐ ELECTRICAL DEMOLITION PLAN NOTES:  
DEMOLITION OF EXISTING ELECTRICAL EQUIPMENT SHALL BE DONE IN ACCORDANCE WITH THE FOLLOWING:  
REFER TO NEW WORK PLANS FOR MORE INFORMATION  
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☒ = Phase 2 Scope of Work  
(Not included in this Bid Package)

KEY PLAN

EQUIPMENT CONNECTION LEVEL 2 DEMO PLAN - AREA B

ED-302B

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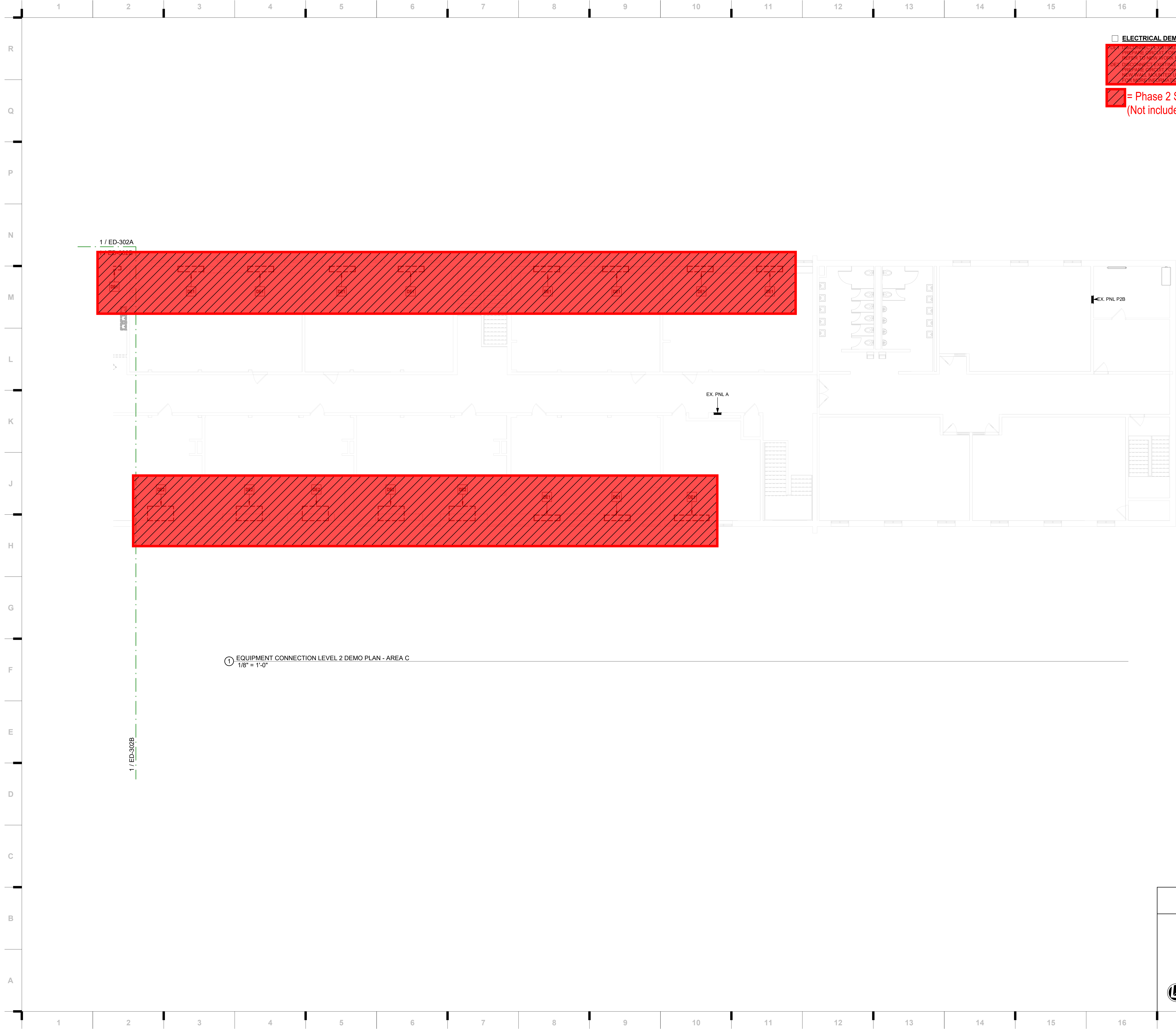
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USE THE PHASE 2 SCOPE OF WORK UNIT FOR DEMOLITION  
REFER TO NEW WORK PLANS FOR MORE INFORMATION  
DESIGN DISCONNECT EXISTING DEVICES NOT TO BE REMOVED (MDA)  
REFER TO PHASE 2 FOR EXISTING AND DEMOLITION AND  
NEW WALL MOUNTED UNIT. REFER TO NEW WORK PLANS  
FOR MORE INFORMATION.

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Structure # 200601333

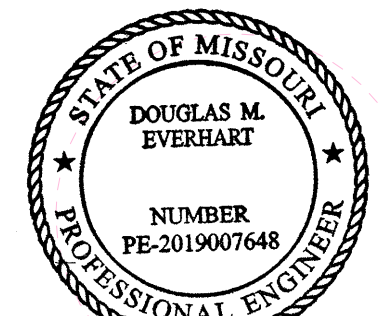
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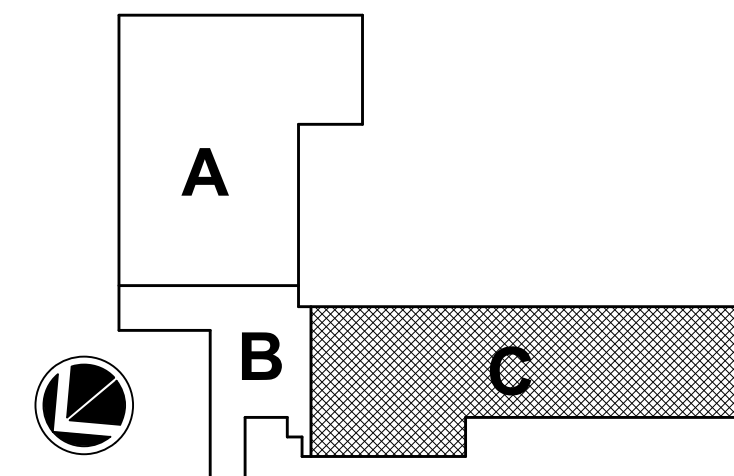
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DRAWN BY: ASM  
CHECKED BY: HMD  
DATE: 11.22.2023



#### KEY PLAN



EQUIPMENT CONNECTION LEVEL 2 DEMO PLAN - AREA C

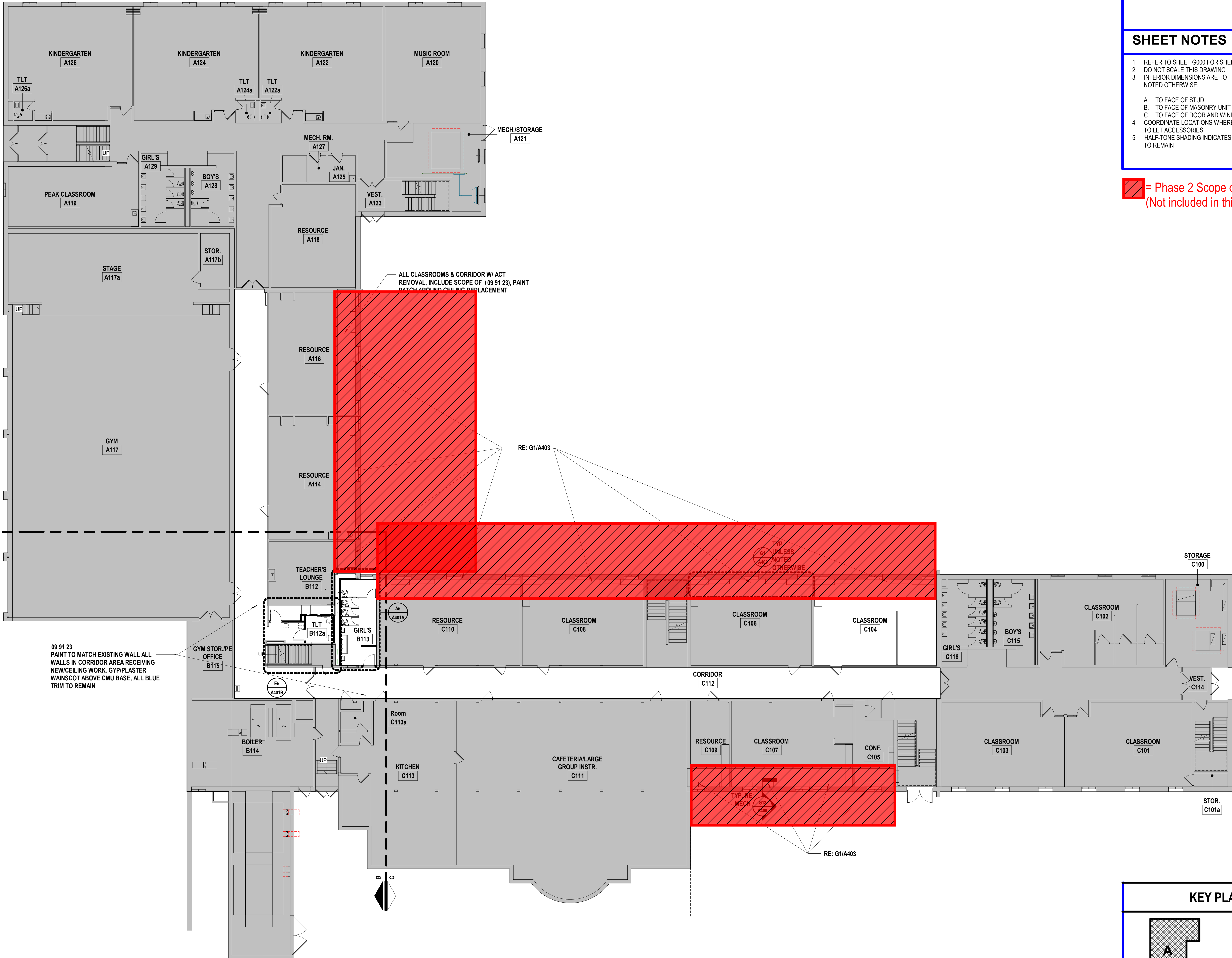
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09 91 23  
PAINT TO MATCH EXISTING WALL ALL  
WALLS IN CORRIDOR AREA RECEIVING  
NEW/CEILING WORK, GYP/PLASTER  
WAINSCOT ABOVE CMU BASE, ALL BLUE  
TRIM TO REMAIN

ALL CLASSROOMS & CORRIDOR W/ ACT  
REMOVAL, INCLUDE SCOPE OF (09 91 23), PAINT  
PATCH AROUND CEILING REPLACEMENT

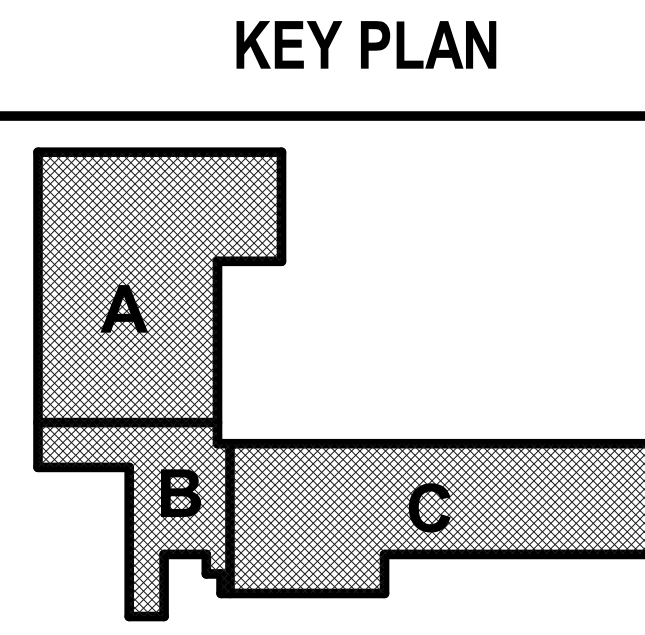
RE: G1/A403

TYP  
G1 UNLESS  
NOTED  
OTHERWISE

TYP RE  
MECH (09 91 23)

RE: G1/A403

A1 Scale Floor Plan - Level 1 - Overall  
3/32" = 1'-0"



SHEET KEYNOTE LEGEND

09 91 23 INTERIOR PAINTING

SHEET NOTES

1. REFER TO SHEET G000 FOR SHEET INDEX

2. DO NOT SCALE THIS DRAWING

3. INTERIOR DIMENSIONS ARE TO THE FOLLOWING, UNLESS NOTED OTHERWISE:

A. TO FACE OF STUD

B. TO FACE OF MASONRY UNIT

C. TO FACE OF DOOR AND WINDOW ROUGH OPENINGS

4. COORDINATE LOCATIONS WHERE BACKING REQUIRED FOR TOILET ACCESSORIES

5. HALF-TONE SHADING INDICATES EXISTING CONSTRUCTION TO REMAIN

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STATE OF MISSOURI

KEVIN E. NELSON

A-2019915618

NOVEMBER 22, 2023

Kevin E. Nelson

A-2019015618

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DRAWN BY: NR, LB, RO

CHECKED BY: JB

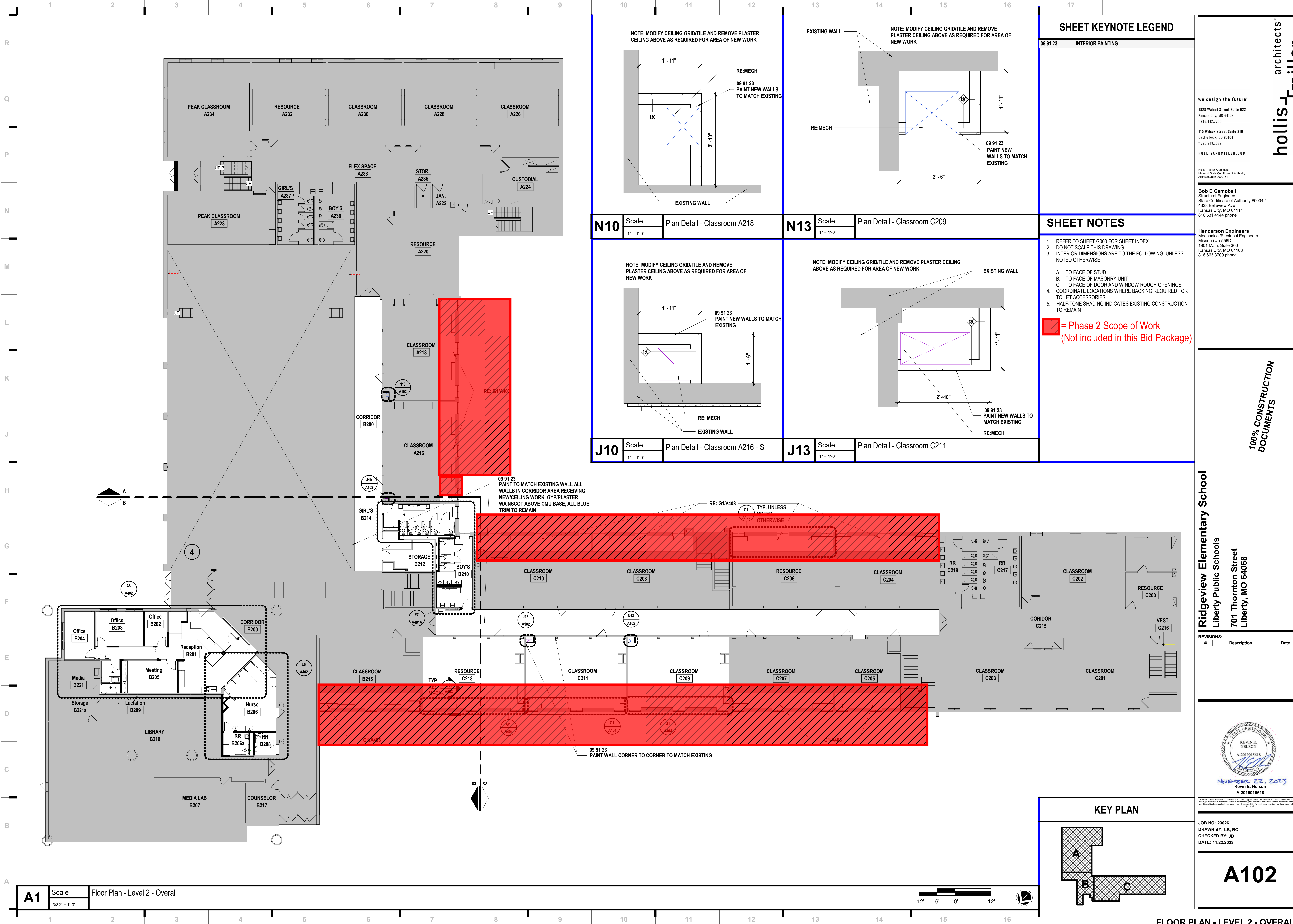
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A101

FLOOR PLAN - LEVEL 1 - OVERALL

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### SHEET KEYNOTE LEGEND

09 91 23	INTERIOR PAINTING
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### SHEET NOTES

- REFER TO SHEET G000 FOR SHEET INDEX
- DO NOT SCALE THIS DRAWING
- INTERIOR DIMENSIONS ARE TO THE FOLLOWING, UNLESS NOTED OTHERWISE:
  - TO FACE OF STUD
  - TO FACE OF MASONRY UNIT
  - TO FACE OF DOOR AND WINDOW ROUGH OPENINGS
- COORDINATE LOCATIONS WHERE BACKING REQUIRED FOR TOILET ACCESSORIES
- HALF-TONE SHADING INDICATES EXISTING CONSTRUCTION TO REMAIN

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Architecture # 000061

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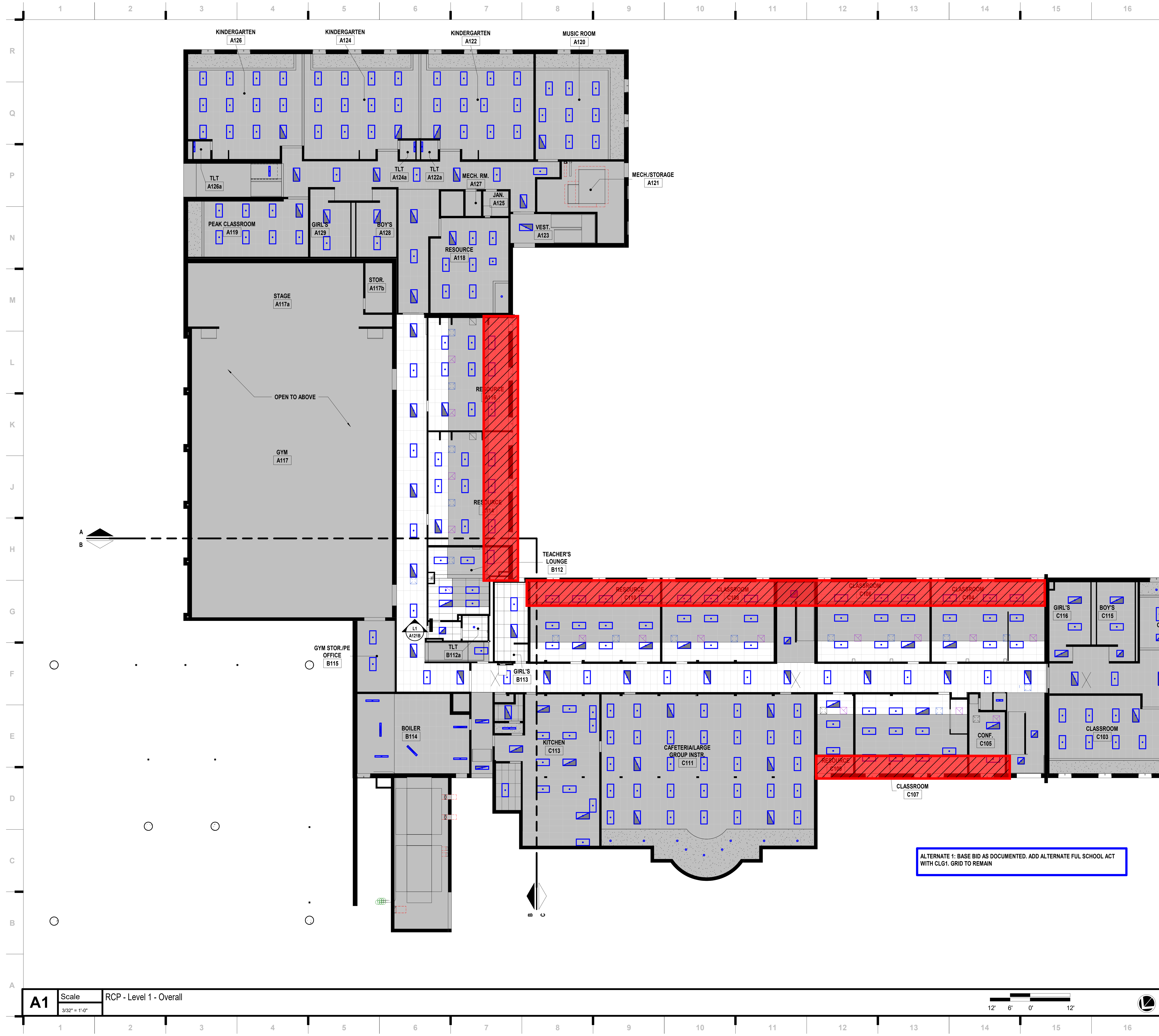
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# A102

11/20/2023 3:46:03 PM





### SHEET NOTES

- REFER TO SHEET G000 FOR SHEET INDEX
- REFER TO MEP AND TECHNOLOGY SHEETS FOR SPECIFIC CEILING MOUNTED DEVICES
- ALL ACT GRID TO BE CENTERED IN ROOM UNLESS NOTED OTHERWISE
- HALF-TONE SHADING INDICATES EXISTING CONSTRUCTION TO REMAIN

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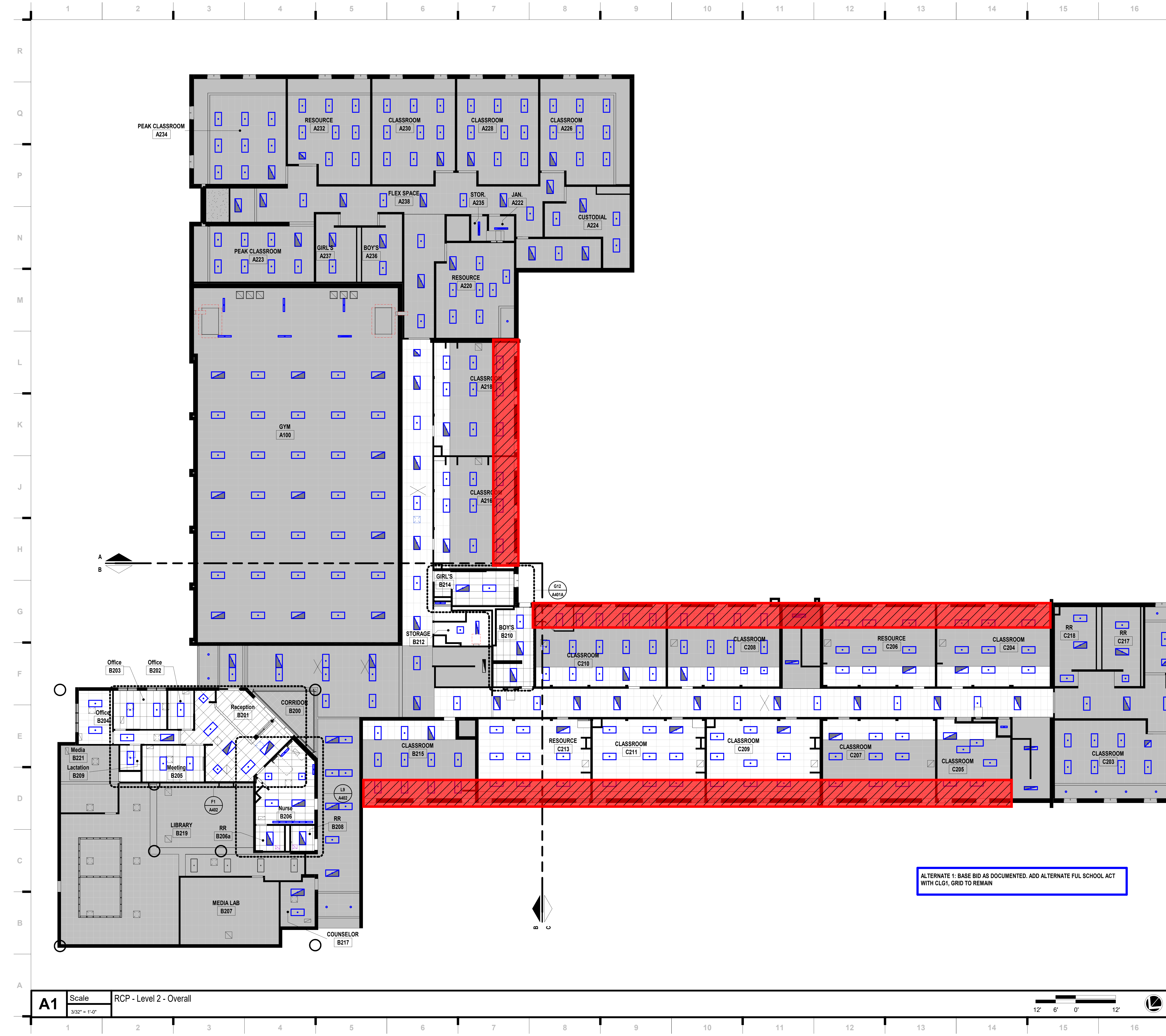
# A120

### KEY PLAN

REFLECTED CEILING PLAN - OVERALL - LEVEL 1

11/21/2023 1:15:59 PM





### SHEET NOTES

- REFER TO SHEET G000 FOR SHEET INDEX
- REFER TO MEP AND TECHNOLOGY SHEETS FOR SPECIFIC CEILING MOUNTED DEVICES
- ALL ACT GRID TO BE CENTERED IN ROOM UNLESS NOTED OTHERWISE
- HALF-TONE SHADING INDICATES EXISTING CONSTRUCTION TO REMAIN

= Phase 2 Scope of Work  
(Not included in this Bid Package)

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Architecture # 000061

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816.531.4144 phone

**Henderson Engineers**  
Mechanical/Electrical Engineers  
Missouri #e-556D  
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Kansas City, MO 64108  
816.663.8700 phone

100% CONSTRUCTION DOCUMENTS

**Ridgeview Elementary School**  
Liberty Public Schools  
701 Thornton Street  
Liberty, MO 64068

REVISIONS:

#	Description	Date
---	-------------	------

NOVEMBER 22, 2023  
Kevin E. Nelson  
A-2019015618

This Professional Seal is not valid unless the seal is used in accordance with the rules and regulations of the State of Missouri. It is the responsibility of the user to ensure that the seal is used in accordance with the rules and regulations of the State of Missouri. The seal is not valid for use on any other project or for any other purpose.


JOB NO: 23026  
DRAWN BY: LB  
CHECKED BY: JB  
DATE: 11.22.2023

**A121**

### KEY PLAN



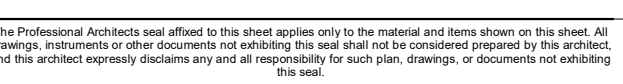
1. REFER TO SHEET G000 FOR SHEET INDEX
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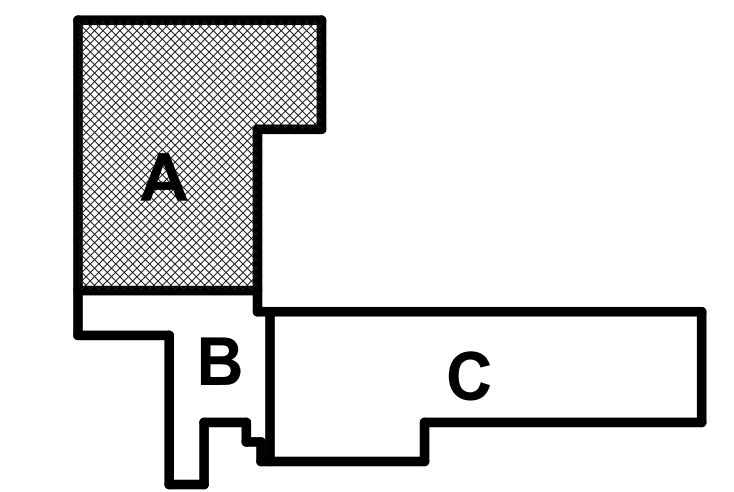
ID	MATERIAL	COLOR/FINISH
C1a	Carpet	Speak in Color Black 00500
C1b	Carpet	Precious Metal 4010
C1C	Carpet	MATCH EXISTING, OWNER'S STOCK
CLG1	Ceiling	WHITE (WH), 24X48
F1	Fabric	006 INHALE
FT2	Floor (Poured) Topping	MATCH EXISTING
HP1	High Performance Coating	SW 7636 ORIGAMI WHITE
P1	Paint	SW 7636 ORIGAMI WHITE
P1A	Paint	MATCH EXISTING COLOR
P2	Paint	SW 6246 NORTH STAR
RT1	VCT	MATCH EXISTING, OWNER'S STOCK
TR1	Trim	
TR2	Trim	3/4", MWCL75, ANODIZED ALUMINUM
WF1	Window Film	OPAQUE WHITE


**Henderson Engineers**  
Mechanical/Electrical Engineers  
Missouri #e-556D  
801 Main, Suite 300  
Kansas City, MO 64108  
16.663.8700 phone


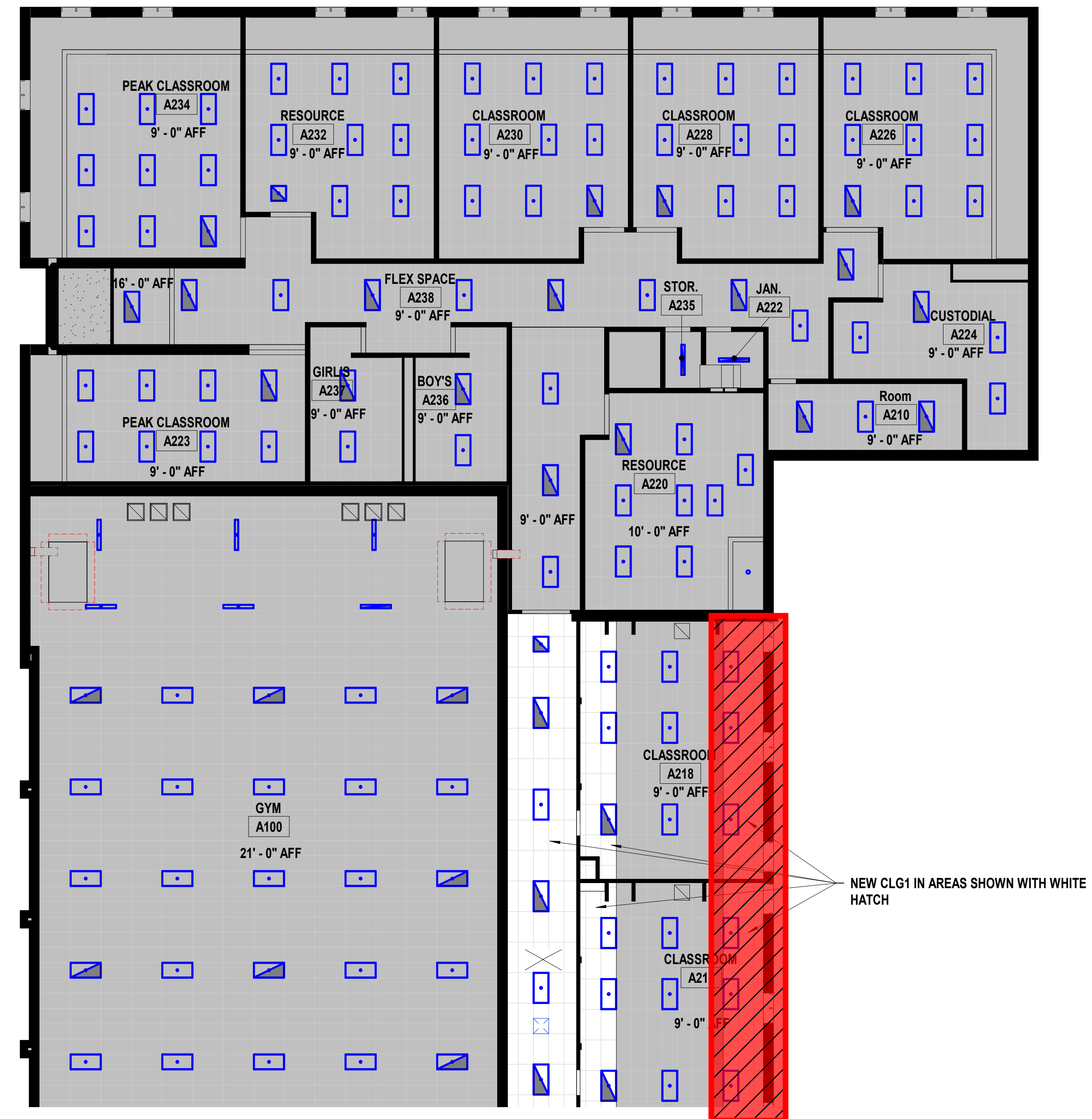
**Liberty, MO 64068**

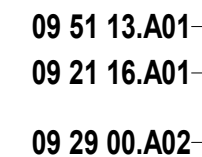


# A121A



 Please consider the environment before printing this.

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## L1

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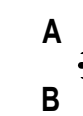
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Architecture # 0000161

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The diagram shows a stepped profile. Region A is the top-left rectangular area. Region B is a shaded rectangular area at the bottom-left. Region C is the area to the right of the profile, bounded by a horizontal line.

Liberty Public Schools

**701 Thornton Street  
Liberty, MO 64068**

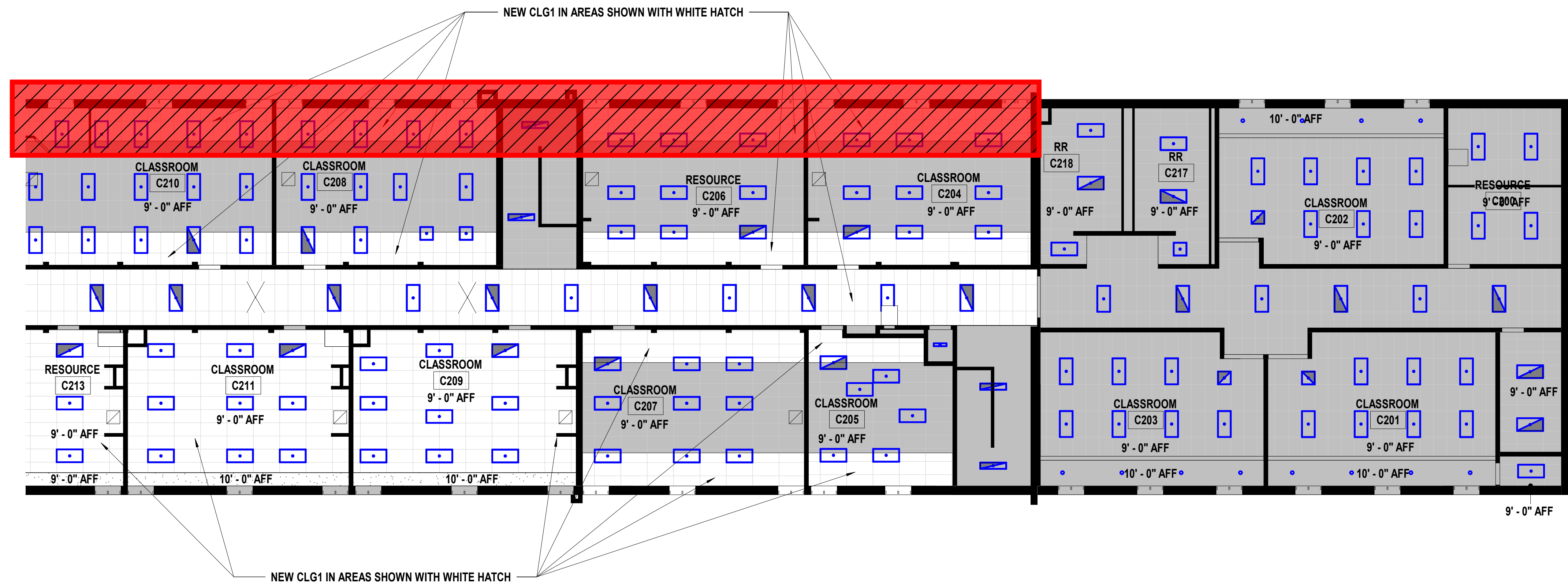
#	Description	Date
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JOB NO: 23026  
DRAWN BY: NR, RO  
CHECKED BY: JB  
DATE: 11.22.2023

# A121B





H1

Scale3/32" = 1'-0"

RCP - Level 2 - Area C



A1

Scale3/32" = 1'-0"

RCP - Level 1 - Area C

RCP MATERIAL LEGEND		
ID	MATERIAL	COLOR/FINISH
C1a	Carpet	Speak in Color Black 00500
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C1C	Carpet	MATCH EXISTING, OWNER'S STOCK
CLG1	Ceiling	WHITE (WH), 24X48
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KEY PLAN

A

B

C

A121C

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Ridgeview Elementary School  
Liberty Public Schools  
701 Thornton Street  
Liberty, MO 64068

REVISIONS:  
#DescriptionDate

STATE OF MISSOURI  
KEVIN E. NELSON  
A-2019015618  
ARCHITECT  
NOVEMBER 22, 2023  
Kevin E. Nelson  
A-2019015618

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JOB NO: 23026  
DRAWN BY: NR, RO  
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A121C

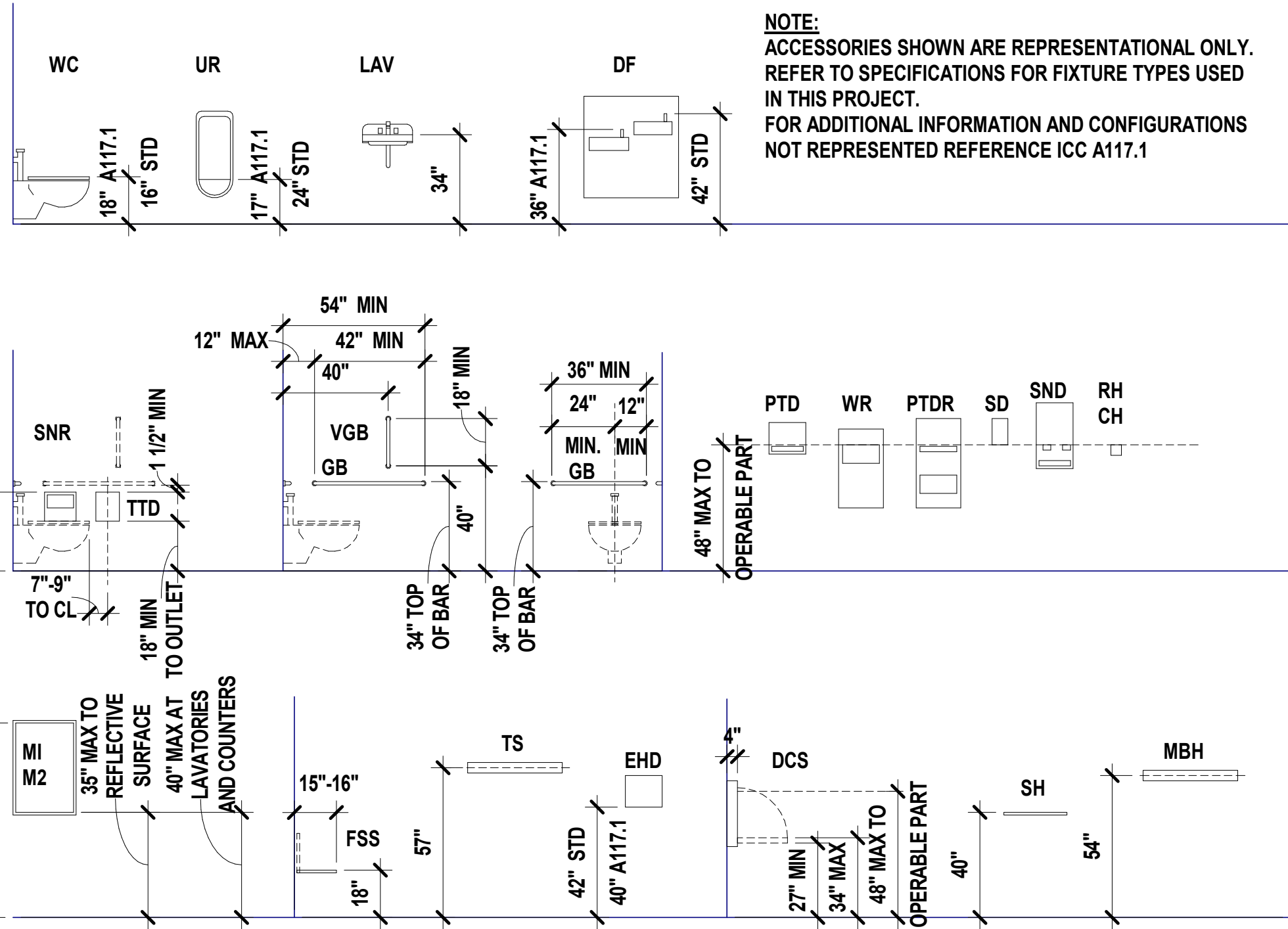
REFLECTED CEILING PLAN - AREA C

11/21/2023 1:25:10 PM



11/30/2023 3:46:19 PM

## FIXTURE AND ACCESSORY MOUNTING HEIGHTS



**N7**

Scale  
1/4" = 1'-0"

Tile Elevation - Restroom B214 - North

**N11**

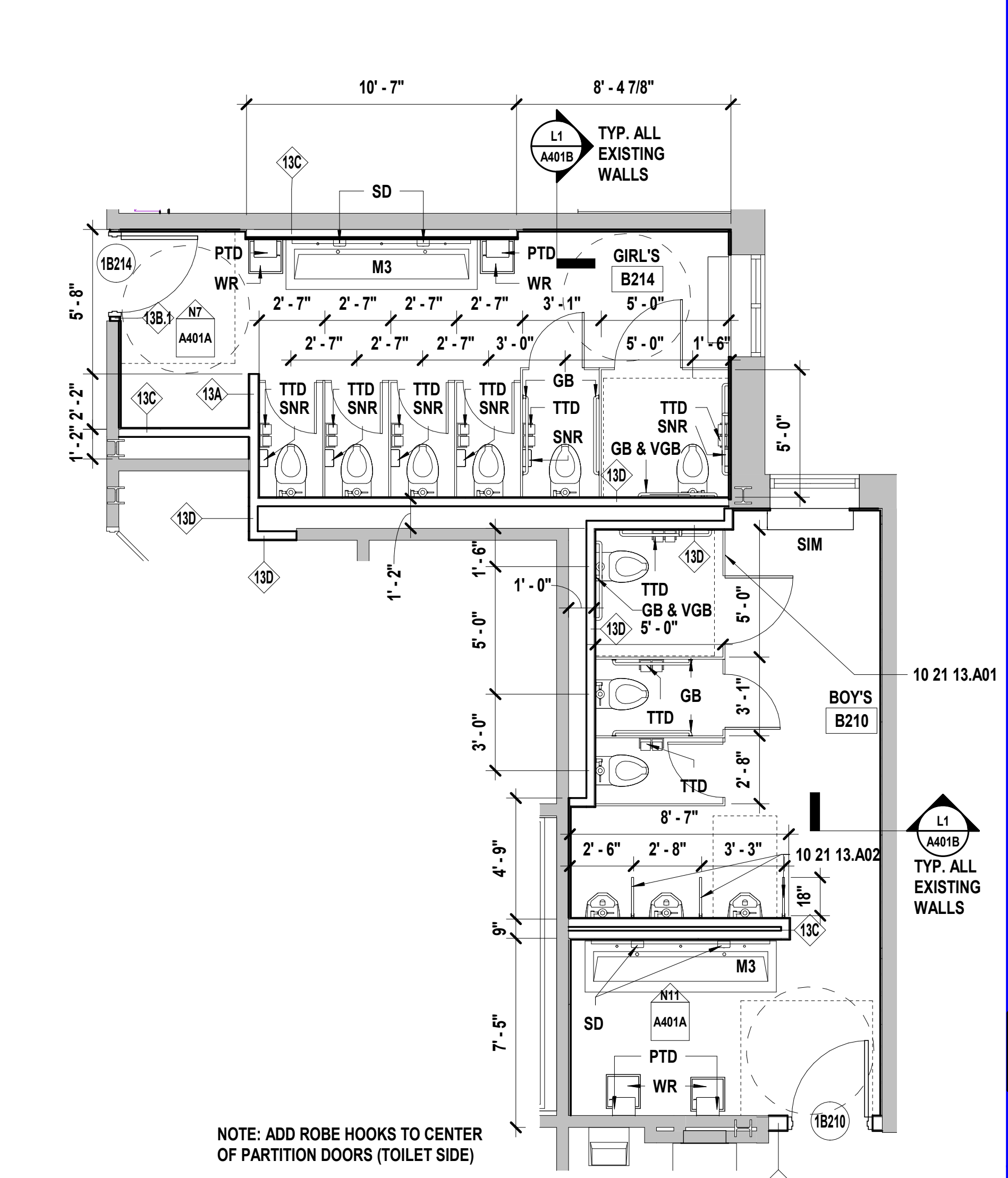
Scale  
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Tile Elevation - RR B210 - N

**N13**

Scale  
1/4" = 1'-0"

Tile Elevation - Restroom B113 - W



**F7**

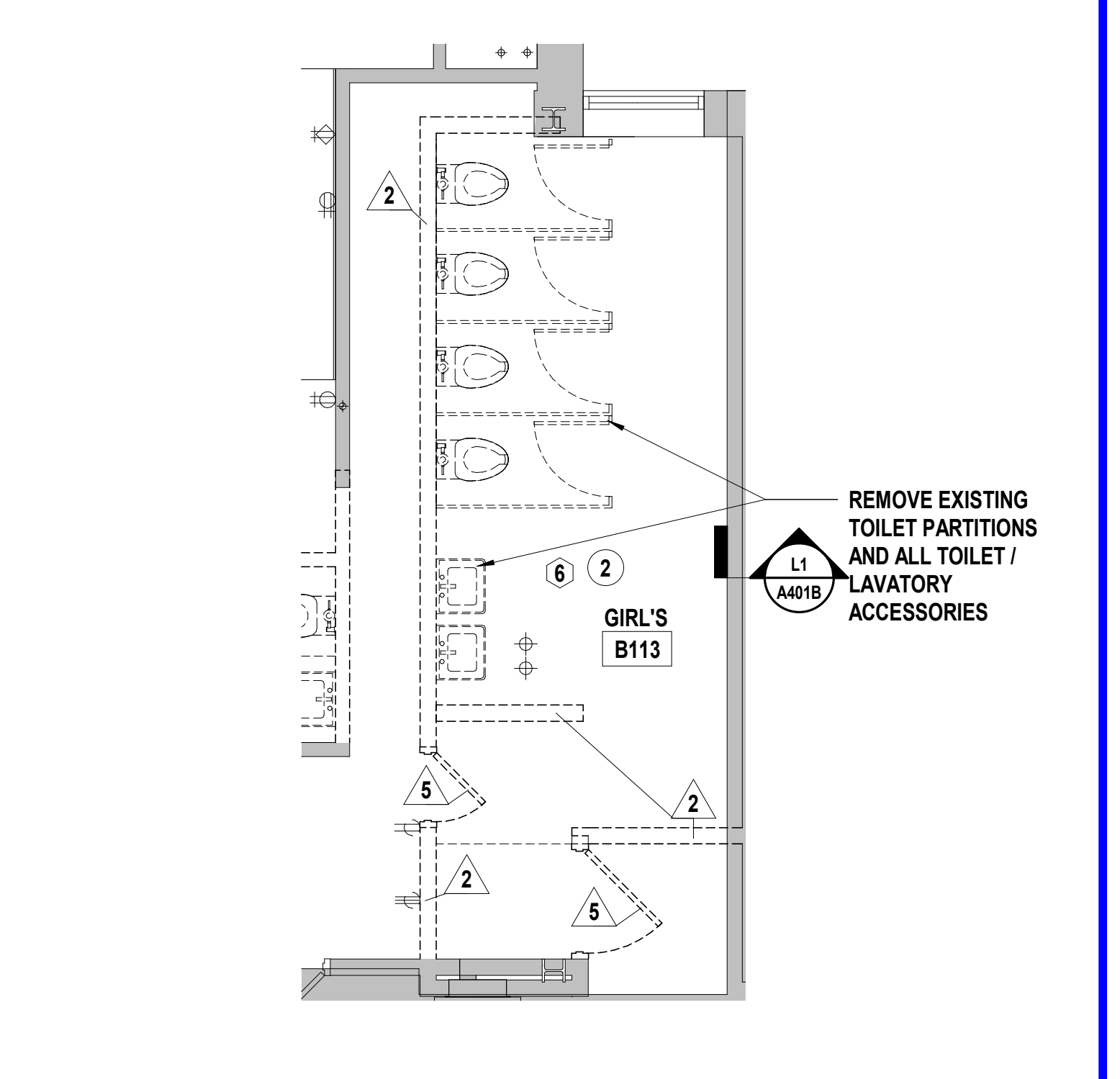
Scale  
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Enlarged Plan - Level 2 - Restrooms B210/B214

**F1**

Scale  
1/4" = 1'-0"

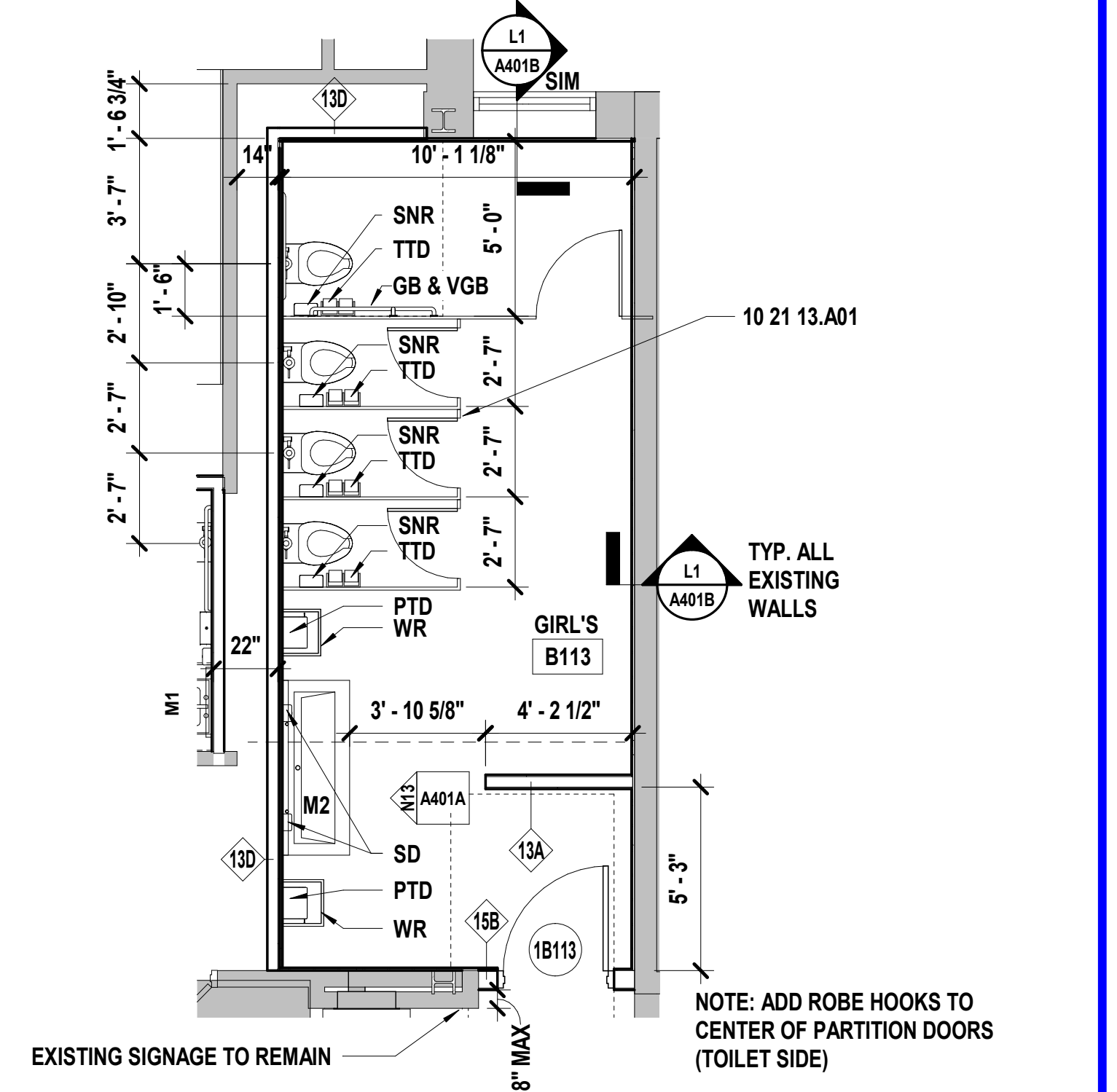
Enlarged Demo Plan - Level 2 - Restrooms B210/B214



**A1**

Scale  
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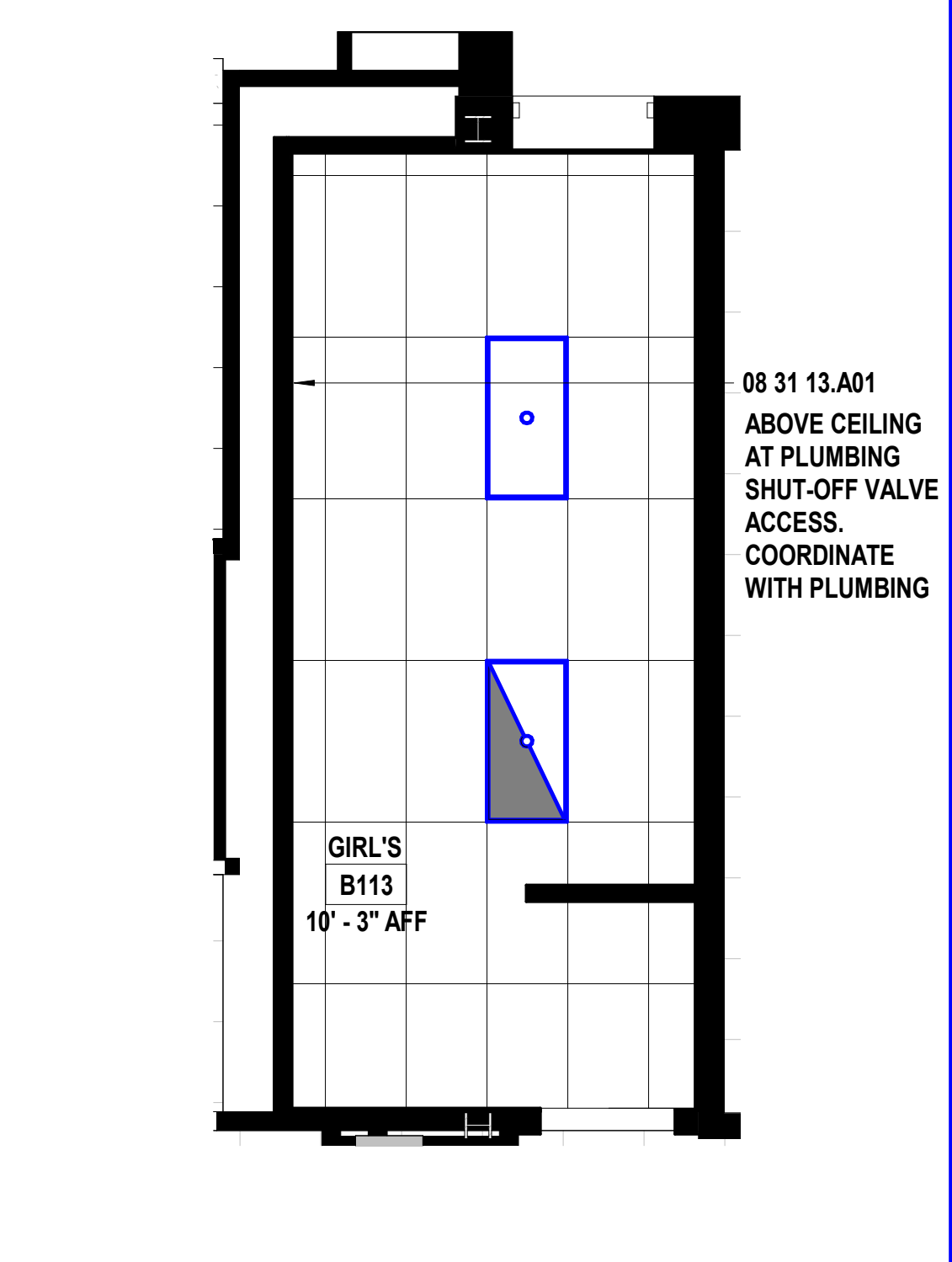
Enlarged Demo Plan - Level 1 - Girl's Restroom B113



**A5**

Scale  
1/4" = 1'-0"

Enlarged Plan - Level 1 - Girl's Restroom B113



**A9**

Scale  
1/4" = 1'-0"

Enlarged RCP - Level 1 - Girl's Restroom B113

## SHEET KEYNOTE LEGEND

08 31 13.A01	ACCESS DOOR ASSEMBLY
09 30 00.A01	TILE
10 21 13.A01	TOILET COMPARTMENTS
10 21 13.A02	URINAL SCREENS
10 28 00.A10	MIRROR UNIT

## GENERAL DEMOLITION NOTES

- DEMOLITION INCLUDES THE REMOVAL OF EXISTING CONSTRUCTION WHICH CONFLICTS WITH WORK TO BE BUILT/INSTALLED IN NEW CONSTRUCTION. TRANSITIONS BETWEEN DEMOLITION AND EXISTING TO REMAIN TO BE CAREFULLY COORDINATED
- DASHED LINES INDICATE EXISTING CONSTRUCTION TO BE DEMOLISHED/REMOVED
- HALF-TONE SHADING INDICATES EXISTING CONSTRUCTION TO REMAIN
- EVERY DETAIL OF THE DEMOLITION WORK MAY NOT BE COVERED ON THESE DRAWINGS, BUT THE DEMOLITION CONTRACTOR SHALL COORDINATE WITH THE GC/CM TO ENSURE ALL REQUIRED ITEMS ARE REMOVED IN ORDER FOR NEW WORK TO BE COMPLETED
- IN AREAS SCHEDULED FOR DEMOLITION, ALL ACCESSORIES ATTACHED TO THE CEILING, FLOOR AND WALLS ARE TO BE REMOVED, INCLUDING BRACKETS, SCREWS, SIGNAGE, SURFACE MOUNTED ELECTRICAL AND TECHNOLOGY; REMOVE ALL WINDOW COVERINGS; MINI-BLINDS, ROLLER SHADES AND ALL BRACKETS
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- DO NOT DISTURB SOIL UNDER EXISTING FOOTINGS AND/OR FLOOR SLABS NOTED TO REMAIN
- COORDINATE THE REMOVAL OF ALL PORTIONS OF LOAD BEARING ELEMENTS WITH THE STRUCTURAL ENGINEER PRIOR TO REMOVAL. PROVIDE TEMPORARY SHORING AS REQUIRED
- REFER TO MEP DEMOLITION SHEETS FOR EXISTING MECHANICAL, ELECTRICAL AND PLUMBING TO BE REMOVED

## DEMOLITION NOTES

- REMOVE EXISTING CARPET AND BASE INCLUDING ADHESIVE
- REMOVE EXISTING VINYL COMPOSITION TILE (VCT) AND BASE INCLUDING ADHESIVE
- REMOVE EXISTING SHEET VINYL AND BASE INCLUDING ADHESIVE
- REMOVE EXISTING CONCRETE SLAB AS REQUIRED FOR NEW CONSTRUCTION. SAW CUT CONCRETE PRIOR TO REMOVAL. DO NOT SAW CUT INTO EXISTING FOUNDATIONS OR OTHER STRUCTURAL MEMBERS.
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## WALLS

- REMOVE ALL PORTION OF EXISTING CMU/BRICK WALL. COORDINATE EXTENTS OF REMOVAL WITH NEW CONSTRUCTION AND REMOVAL/ROUTING OF CONDUIT, WIRING, SWITCHES AND DUCTWORK. SALVAGE BRICK FOR REUSE AS MAY BE REQUIRED.
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- REMOVE EXISTING ALUMINUM OR HOLLOW METAL FRAME, DOOR AND ALL RELATED HARDWARE.
- REMOVE EXISTING DOOR AND ALL RELATED HARDWARE - EXISTING FRAME TO REMAIN.
- REMOVE EXISTING OVERHEAD/COILING DOOR AND ALL RELATED APPARATUS.
- REMOVE WALL COVERING ON EXISTING STUD WALL. PATCH/REPAIR GYP FOR NEW PAINT FINISH

## CEILING

- REMOVE EXISTING LAY-IN ACOUSTICAL TILE AND SUSPENSION SYSTEM. EXISTING HANGER WIRE MAY BE REUSED FOR NEW SUSPENSION SYSTEM. RE: NEW WORK FOR EXTENTS
- REMOVE EXISTING SOFFITS AND ALL EXISTING FRAMING.

## SHEET NOTES

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- INTERIOR DIMENSIONS ARE TO THE FOLLOWING, UNLESS NOTED OTHERWISE:
  - A. TO FACE OF STUD
  - B. TO FACE OF MASONRY UNIT
  - C. TO FACE OF DOOR AND WINDOW ROUGH OPENINGS
- COORDINATE LOCATIONS WHERE BACKING REQUIRED FOR TOILET ACCESSORIES
- HALF-TONE SHADING INDICATES EXISTING CONSTRUCTION TO REMAIN

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## REVISIONS:

#	Description	Date
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JOB NO: 23026  
DRAWN BY: MB  
CHECKED BY: JB  
DATE: 11.22.2023

**A401A**

ENLARGED TOILET PLANS & DETAILS

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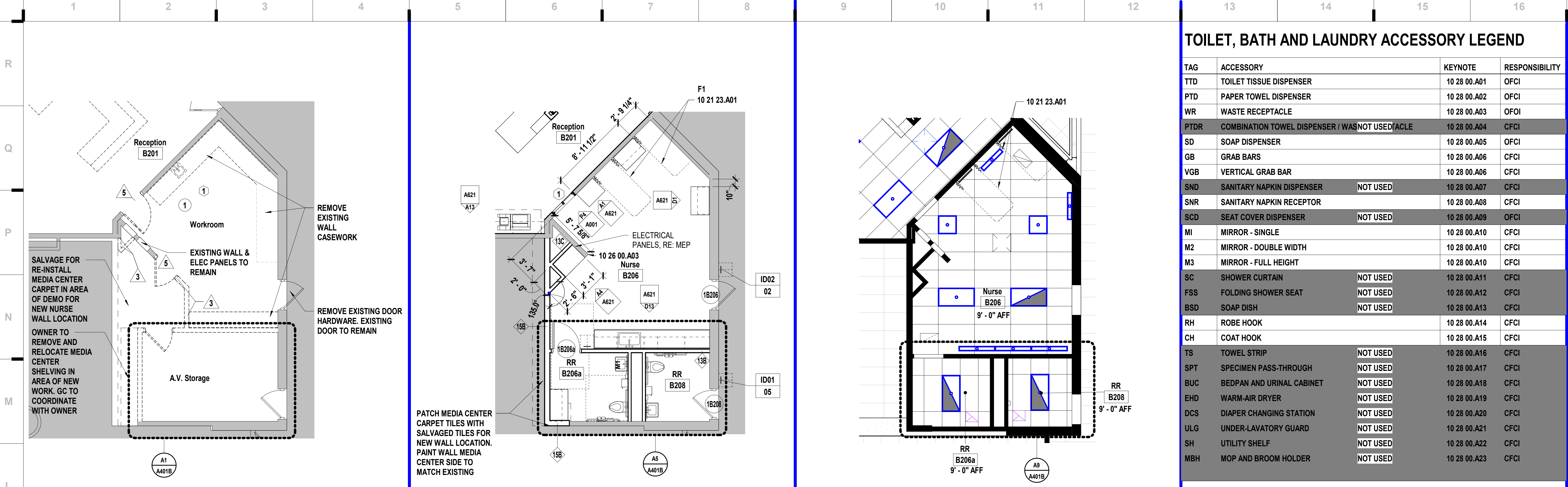
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### TOILET, BATH AND LAUNDRY ACCESSORY LEGEND

TAG	ACCESSORY	KEYNOTE	RESPONSIBILITY
TTD	TOILET TISSUE DISPENSER	10 28 00.A01	OFCI
PTD	PAPER TOWEL DISPENSER	10 28 00.A02	OFCI
WR	WASTE RECEPTACLE	10 28 00.A03	OFCI
PTDR	COMBINATION TOWEL DISPENSER / WAS NOT USED	10 28 00.A04	OFCI
SD	SOAP DISPENSER	10 28 00.A05	OFCI
GB	GRAB BARS	10 28 00.A06	OFCI
VGB	VERTICAL GRAB BAR	10 28 00.A06	OFCI
SND	SANITARY NAPKIN DISPENSER	NOT USED	OFCI
SNR	SANITARY NAPKIN RECEPTOR	10 28 00.A08	OFCI
SCD	SEAT COVER DISPENSER	NOT USED	OFCI
MI	MIRROR - SINGLE	10 28 00.A10	OFCI
M2	MIRROR - DOUBLE WIDTH	10 28 00.A10	OFCI
M3	MIRROR - FULL HEIGHT	10 28 00.A10	OFCI
SC	SHOWER CURTAIN	NOT USED	OFCI
FSS	FOLDING SHOWER SEAT	NOT USED	OFCI
BSD	SOAP DISH	NOT USED	OFCI
RH	ROBE HOOK	10 28 00.A14	OFCI
CH	COAT HOOK	10 28 00.A15	OFCI
TS	TOWEL STRIP	NOT USED	OFCI
SPT	SPECIMEN PASS-THROUGH	NOT USED	OFCI
BUC	BEDPAN AND URINAL CABINET	NOT USED	OFCI
EHD	WARM-AIR DRYER	NOT USED	OFCI
DCS	DIAPER CHANGING STATION	NOT USED	OFCI
ULG	UNDER-LAVATORY GUARD	NOT USED	OFCI
SH	UTILITY SHELF	NOT USED	OFCI
MBH	MOP AND BROOM HOLDER	NOT USED	OFCI

NOTES: TAGS ABOVE WITH A "C" PREFIX (IE CGB) DENOTE CHILD MOUNTING HEIGHTS  
CF = CONTRACTOR FURNISH OF = OWNER FURNISH  
CI = CONTRACTOR INSTALL OI = OWNER INSTALL

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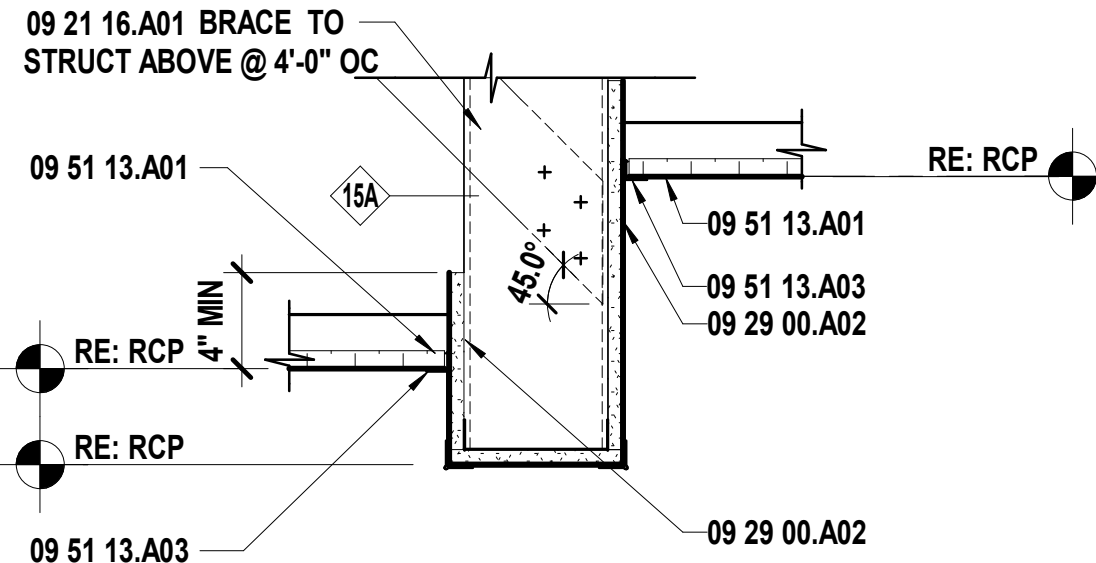
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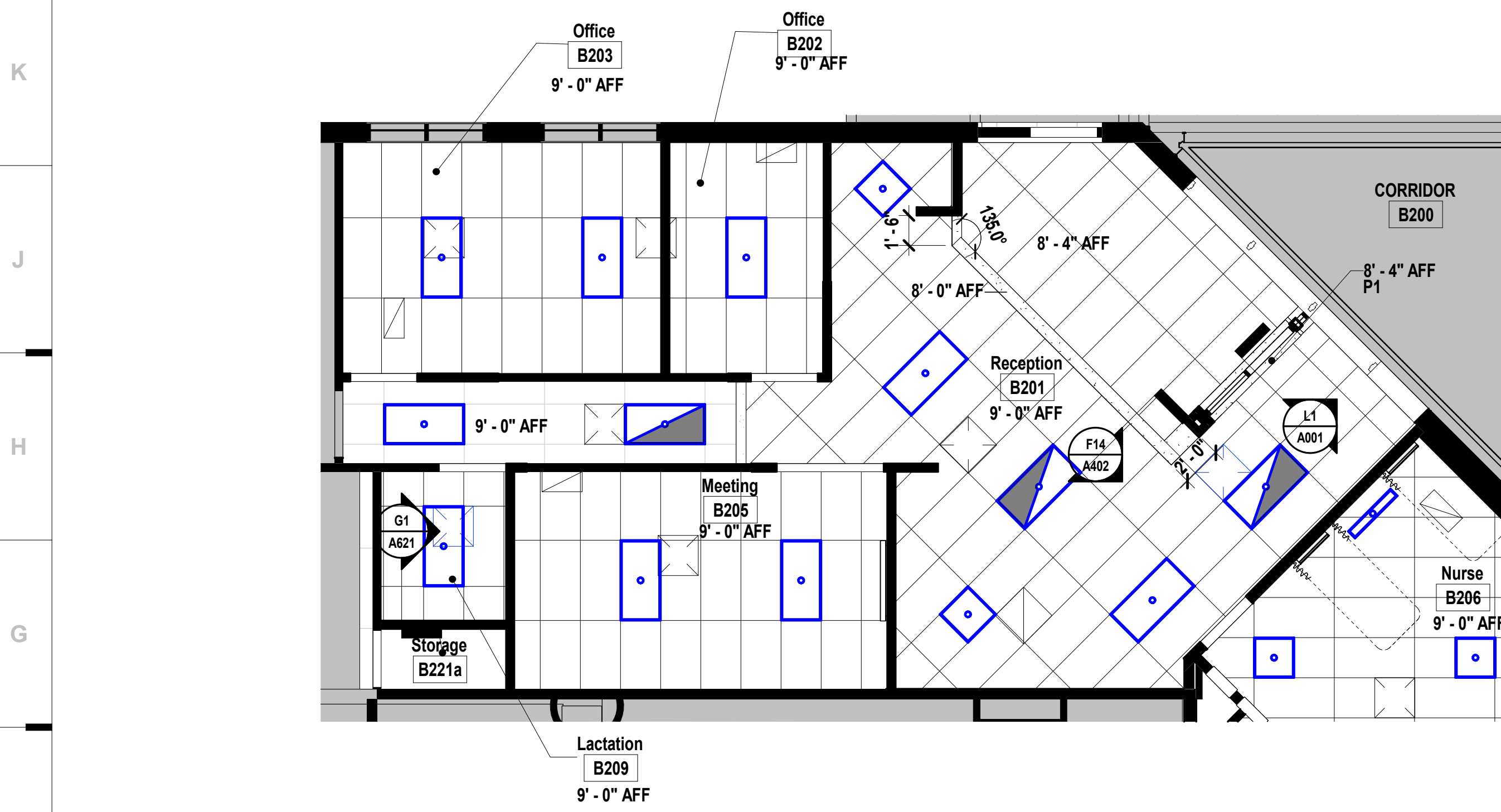
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09 21 16.A01	NON-STRUCTURAL FRAMING
09 29 00.A02	GYPSUM BOARD - TYPE X
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09 51 13.A01	ACOUSTICAL CEILING PANELS
09 51 13.A03	EDGE MOLDINGS AND TRIM
10 21 23.A01	CUBICLE CURTAIN
10 26 00.A03	CORNER GUARDS



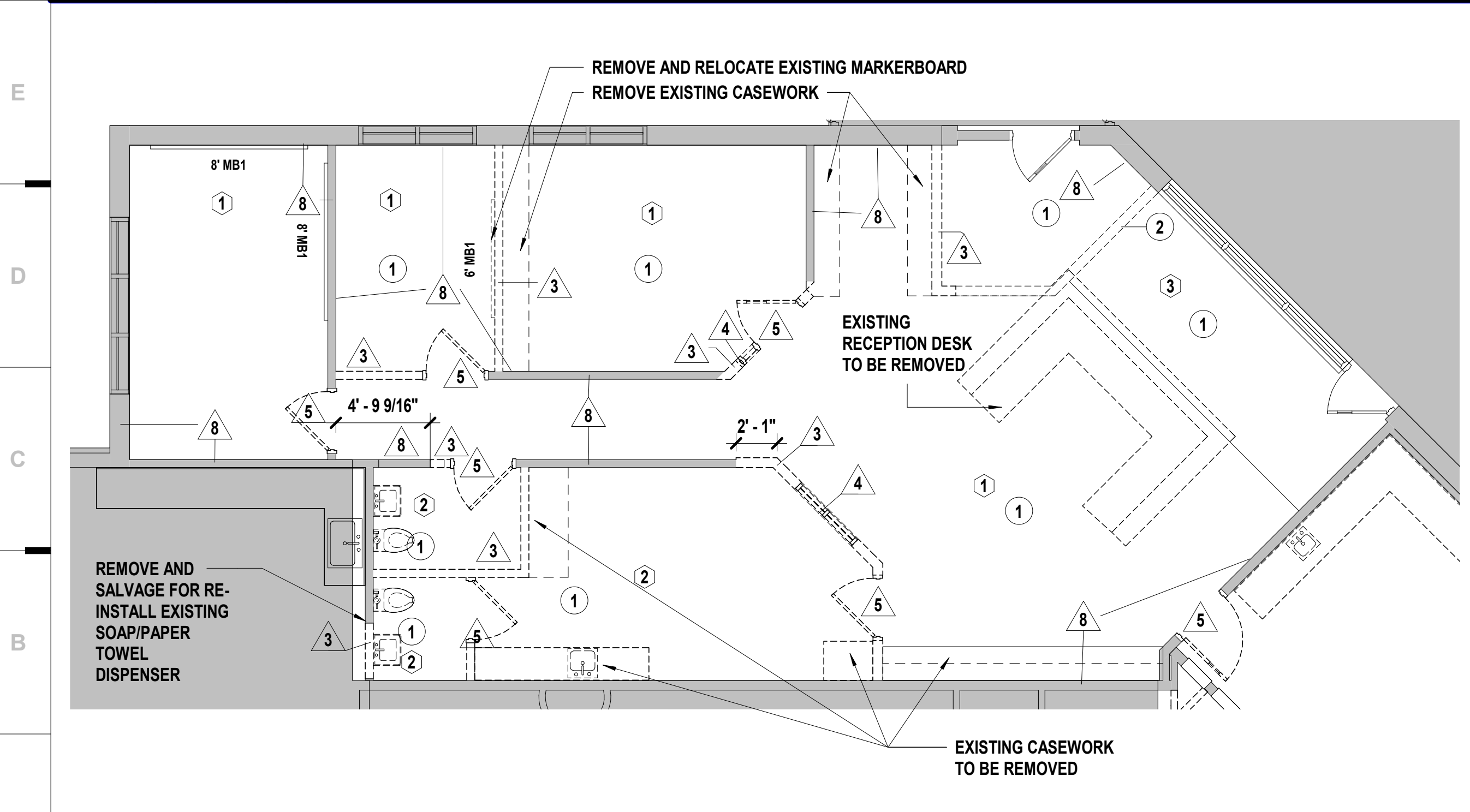
**L1** Scale 3/16" = 1'-0" Enlarged Demo Plan - Area B - Nurse B206

**L5** Scale 3/16" = 1'-0" Enlarged Plan - Area B - Nurse B206

**L9** Scale 3/16" = 1'-0" Enlarged RCP - Area B - Nurse B206

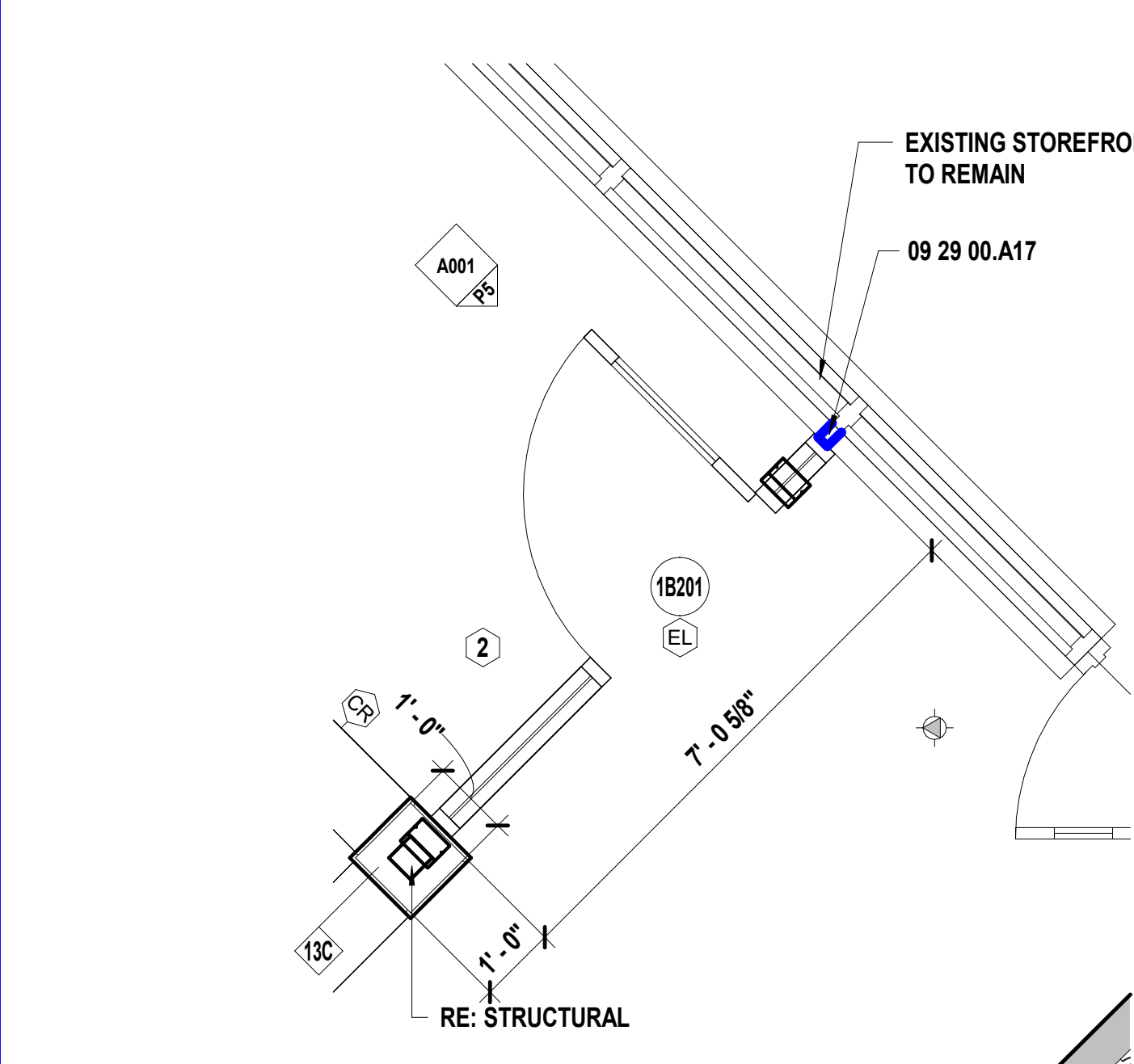


**F1** Scale 3/16" = 1'-0" Enlarged RCP - Area B - Admin

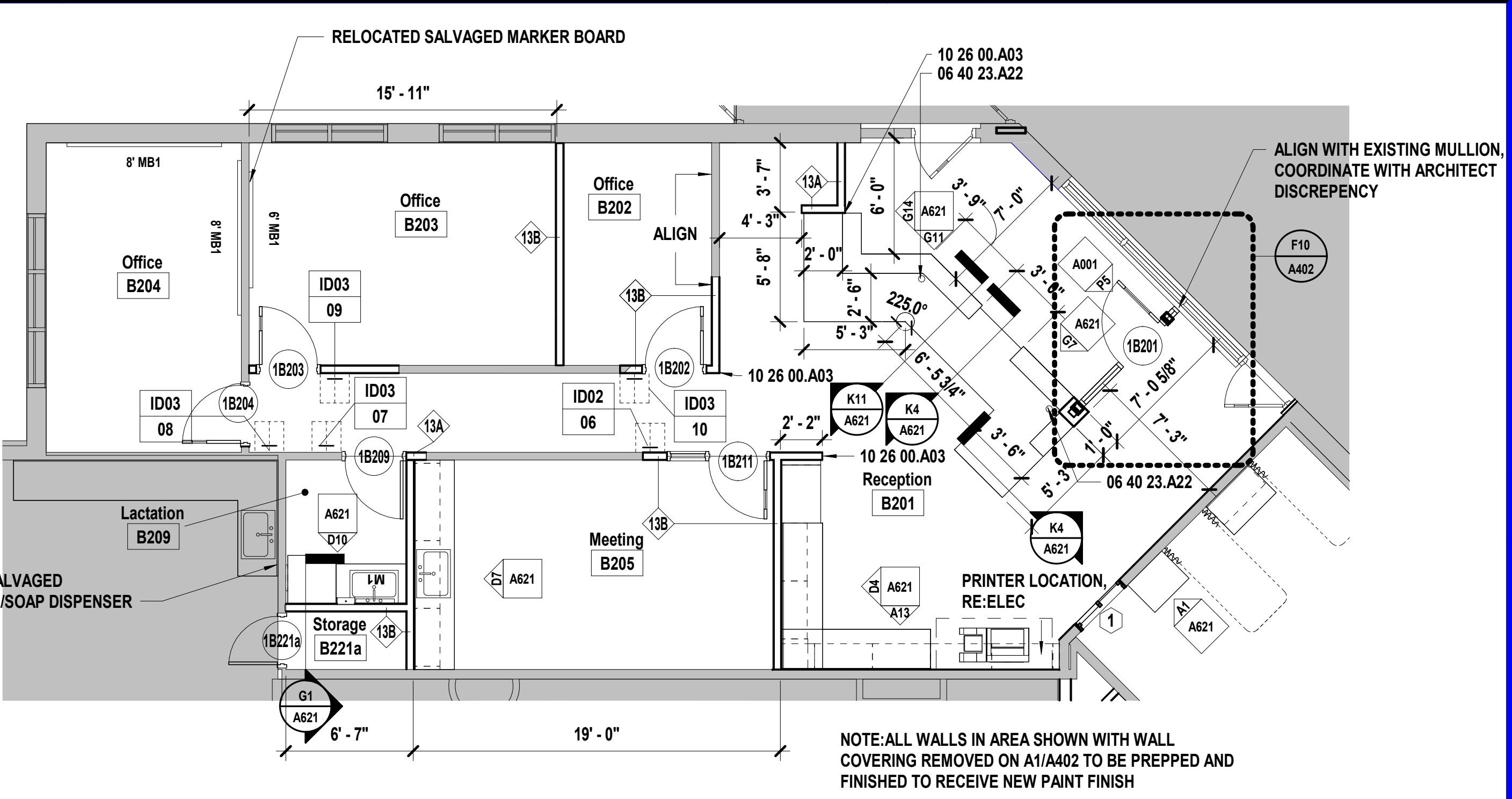


**A1** Scale 3/16" = 1'-0" Enlarged Demo Plan - Area B - Admin

**A8** Scale 3/16" = 1'-0" Enlarged Plan - Area B - Admin



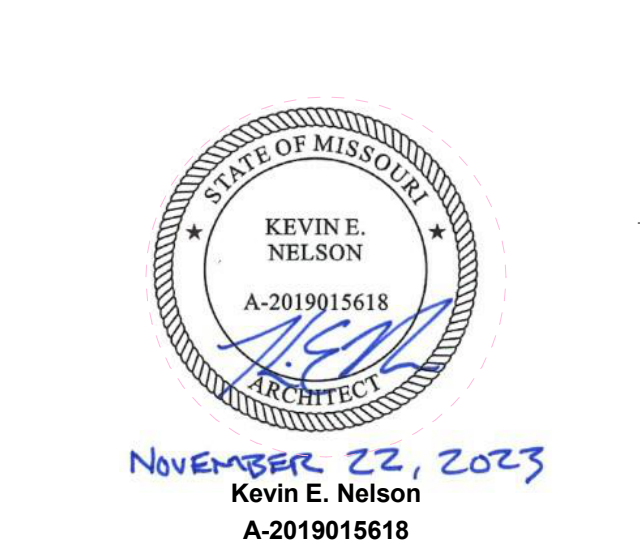
**F10** Scale 1/2" = 1'-0" Enlarged Plan - Admin Entry Door



NOTE: ALL WALLS IN AREA SHOWN WITH WALL COVERING REMOVED ON A1/A402 TO BE PREPPED AND FINISHED TO RECEIVE NEW PAINT FINISH

REVISIONS:		
#	Description	Date

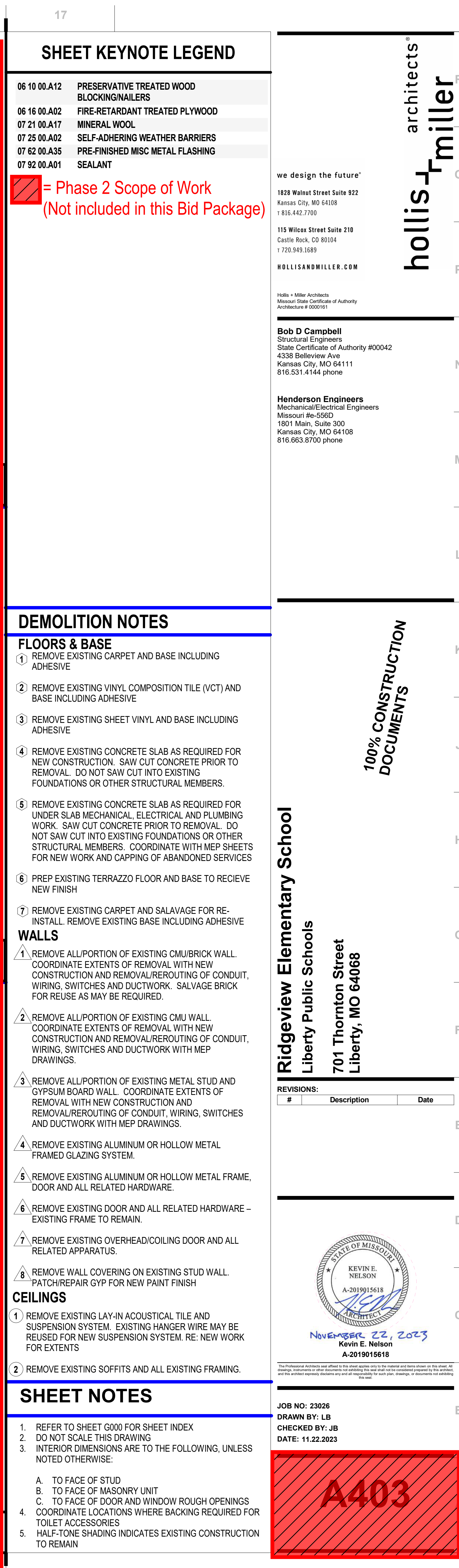
1	REMOVE EXISTING ALUMINUM OR HOLLOW METAL FRAMED GLAZING SYSTEM.	
2	REMOVE EXISTING ALUMINUM OR HOLLOW METAL FRAME, DOOR AND ALL RELATED HARDWARE.	
3	REMOVE EXISTING DOOR AND ALL RELATED HARDWARE - EXISTING FRAME TO REMAIN.	
4	REMOVE EXISTING OVERHEAD/COILING DOOR AND ALL RELATED APPARATUS.	
5	REMOVE WALL COVERING ON EXISTING STUD WALL. PATCH/REPAIR GYP FOR NEW PAINT FINISH	



JOB NO: 23026  
DRAWN BY: RO  
CHECKED BY: JB  
DATE: 11.22.2023

**A402**









GENERAL DEMOLITION NOTES

- DEMOLITION INCLUDES THE REMOVAL OF EXISTING CONSTRUCTION WHICH CONFLICTS WITH WORK TO BE BUILT/INSTALLED IN NEW CONSTRUCTION. TRANSITIONS BETWEEN DEMOLITION AND EXISTING TO REMAIN TO BE CAREFULLY COORDINATED.
- DASHED LINES INDICATE EXISTING CONSTRUCTION TO BE DEMOLISHED/REMOVED.
- HALF-TONE SHADING INDICATES EXISTING CONSTRUCTION TO REMAIN.
- EVERY DETAIL OF THE DEMOLITION WORK MAY NOT BE COVERED ON THESE DRAWINGS, BUT THE DEMOLITION CONTRACTOR SHALL COORDINATE WITH THE SOCM TO ENSURE ALL REQUIRED ITEMS ARE REMOVED IN ORDER FOR NEW WORK TO BE COMPLETED.
- IN AREAS SCHEDULED FOR DEMOLITION, ALL ACCESSORIES ATTACHED TO THE CEILING, FLOOR AND WALLS ARE TO BE REMOVED, INCLUDING BRACKETS, SCREWS, SIGNAGE, SURFACE MOUNTED ELECTRICAL AND TECHNOLOGY. REMOVE ALL WINDOW COVERINGS, MINIBLINDS, ROLLER SHADES AND ALL BRACKETS.
- THE OWNER WILL IDENTIFY ALL ITEMS TO BE SALVAGED PRIOR TO DEMOLITION STARTING. CONTRACTOR SHALL SALVAGE AND TURN OVER TO THE OWNER ALL EQUIPMENT IDENTIFIED. ALL REMAINING ITEMS SHALL BE REMOVED BY THE DEMOLITION CONTRACTOR.
- DO NOT DISTURB SOIL UNDER EXISTING FOOTINGS AND/OR FLOOR SLABS NOTED TO REMAIN.
- COORDINATE THE REMOVAL OF ALL PORTIONS OF LOAD BEARING ELEMENTS WITH THE STRUCTURAL ENGINEER PRIOR TO REMOVAL. PROVIDE TEMPORARY SHORING AS REQUIRED.
- REFER TO MEP DEMOLITION SHEETS FOR EXISTING MECHANICAL, ELECTRICAL AND PLUMBING TO BE REMOVED.

SHEET KEYNOTE LEGEND

= Phase 2 Scope of Work (Not included in this Bid Package)

06 10 00.A12	PRESERVATIVE TREATED WOOD BLOCKING/NAILERS
06 16 00.A02	FIRE-RETARDANT TREATED PLYWOOD
07 21 00.A17	MINERAL WOOL
07 25 00.A02	SELF-ADHERING WEATHER BARRIERS
07 62 00.A35	PRE-FINISHED MISC METAL FLASHING
07 92 00.A01	SEALANT
09 29 00.A11	GYP SUM BOARD TRIM

DEMOLITION NOTES

FLOORS & BASE

- REMOVE EXISTING CARPET AND BASE INCLUDING ADHESIVE.
- REMOVE EXISTING VINYL COMPOSITION TILE (VCT) AND BASE INCLUDING ADHESIVE.
- REMOVE EXISTING SHEET VINYL AND BASE INCLUDING ADHESIVE.
- REMOVE EXISTING CONCRETE SLAB AS REQUIRED FOR NEW CONSTRUCTION. SAW CUT CONCRETE PRIOR TO REMOVAL. DO NOT SAW CUT INTO EXISTING FOUNDATIONS OR OTHER STRUCTURAL MEMBERS.
- REMOVE EXISTING CONCRETE SLAB AS REQUIRED FOR UNDER SLAB MECHANICAL, ELECTRICAL AND PLUMBING WORK. SAW CUT CONCRETE PRIOR TO REMOVAL. DO NOT SAW CUT INTO EXISTING FOUNDATIONS OR OTHER STRUCTURAL MEMBERS. COORDINATE WITH MEP SHEETS FOR NEW WORK AND CAPPING OF ABANDONED SERVICES.
- PREP EXISTING TERRAZZO FLOOR AND BASE TO RECIEVE NEW FINISH.
- REMOVE EXISTING CARPET AND SALVAGE FOR RE-INSTALL. REMOVE EXISTING BASE INCLUDING ADHESIVE.

WALLS

- REMOVE ALL PORTION OF EXISTING CMU/BRICK WALL. COORDINATE EXTENTS OF REMOVAL WITH NEW CONSTRUCTION AND REMOVAL/REROUTING OF CONDUIT, WIRING, SWITCHES AND DUCTWORK. SALVAGE BRICK FOR REUSE AS MAY BE REQUIRED.
- REMOVE ALL PORTION OF EXISTING CMU WALL. COORDINATE EXTENTS OF REMOVAL WITH NEW CONSTRUCTION AND REMOVAL/REROUTING OF CONDUIT, WIRING, SWITCHES AND DUCTWORK WITH MEP DRAWINGS.
- REMOVE ALL PORTION OF EXISTING METAL STUD AND GYPSUM BOARD WALL. COORDINATE EXTENTS OF REMOVAL WITH NEW CONSTRUCTION AND REMOVAL/REROUTING OF CONDUIT, WIRING, SWITCHES AND DUCTWORK WITH MEP DRAWINGS.
- REMOVE EXISTING ALUMINUM OR HOLLOW METAL FRAMED GLAZING SYSTEM.
- REMOVE EXISTING ALUMINUM OR HOLLOW METAL FRAME, DOOR AND ALL RELATED HARDWARE.
- REMOVE EXISTING DOOR AND ALL RELATED HARDWARE - EXISTING FRAME TO REMAIN.
- REMOVE EXISTING OVERHEAD/COILING DOOR AND ALL RELATED APPARATUS.
- REMOVE WALL COVERING ON EXISTING STUD WALL. PATCH/REPAIR GYP FOR NEW PAINT FINISH.

CEILINGS

- REMOVE EXISTING LAY-IN ACOUSTICAL TILE AND SUSPENSION SYSTEM. EXISTING HANGER WIRE MAY BE REUSED FOR NEW SUSPENSION SYSTEM. RE: NEW WORK FOR EXTENTS.
- REMOVE EXISTING SOFFITS AND ALL EXISTING FRAMING.

SHEET NOTES

- REFER TO SHEET G000 FOR SHEET INDEX
- DO NOT SCALE THIS DRAWING
- INTERIOR DIMENSIONS ARE TO THE FOLLOWING, UNLESS NOTED OTHERWISE:
  - TO FACE OF STUD
  - TO FACE OF MASONRY UNIT
  - TO FACE OF DOOR AND WINDOW ROUGH OPENINGS
- COORDINATE LOCATIONS WHERE BACKING REQUIRED FOR TOILET ACCESSORIES
- HALF-TONE SHADING INDICATES EXISTING CONSTRUCTION TO REMAIN

Ridgeview Elementary School

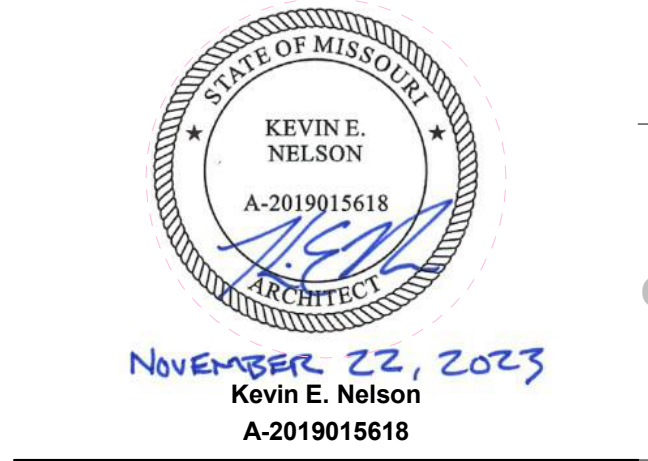
Liberty Public Schools

701 Thornton Street

Liberty, MO 64068

REVISIONS:

#	Description	Date
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JOB NO: 23026  
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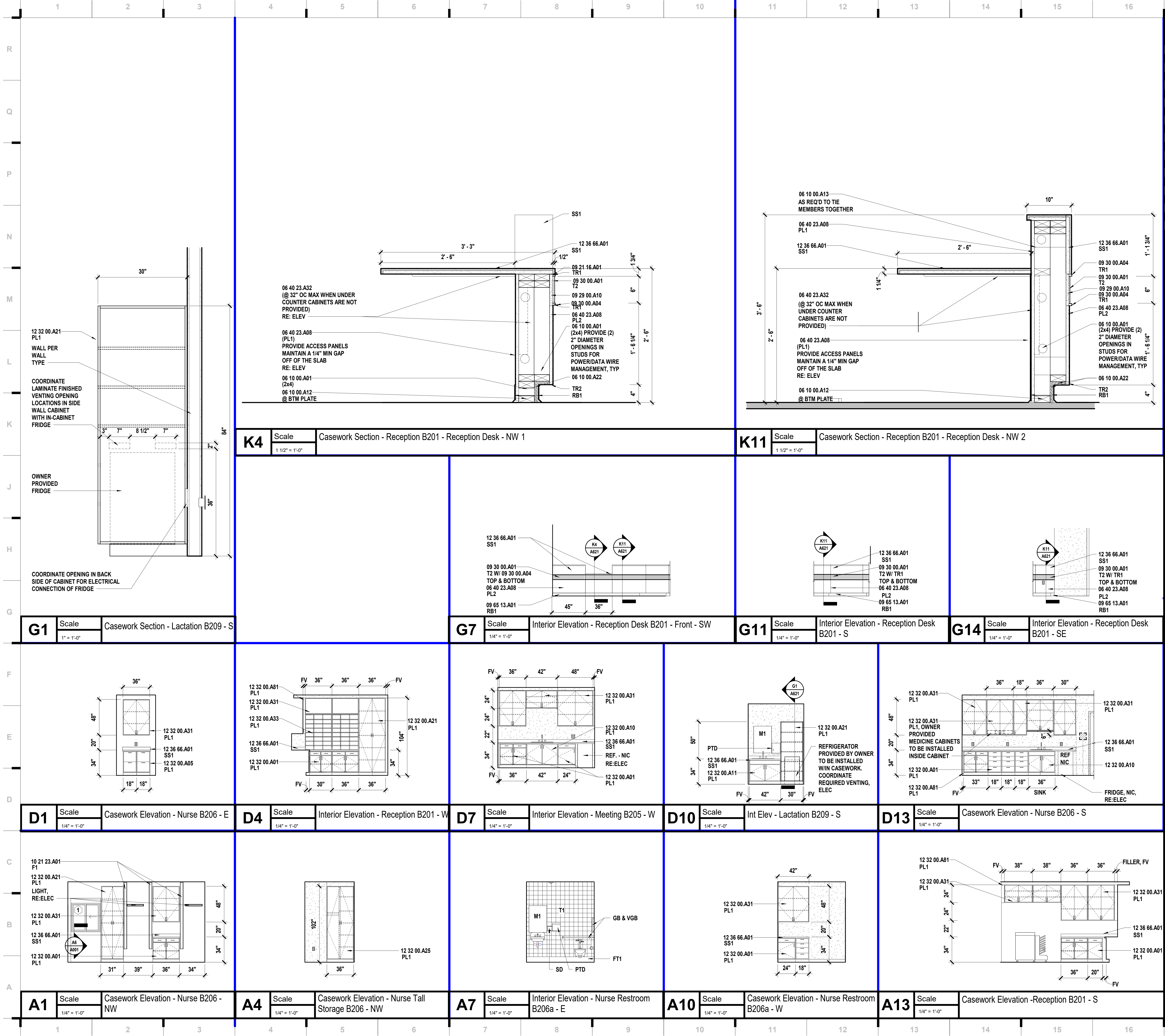
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## SHEET KEYNOTE LEGEND

06 10 00.A01	DIMENSION LUMBER FRAMING
06 10 00.A12	PRESERVATIVE TREATED WOOD BLOCKING/NAILERS
06 10 00.A13	WOOD BLOCKING/NAILERS
06 10 00.A22	PRESERVATIVE TREATED PLYWOOD BLOCKING
06 40 23.A08	PLASTIC LAMINATE-CLAD PANELS
06 40 23.A32	CONCEALED BRACKET
09 21 16.A01	NON-STRUCTURAL FRAMING
09 29 00.A10	CEMENTITIOUS BACKER UNITS
09 30 00.A01	TILE
09 30 00.A04	METAL EDGE STRIPS
09 65 13.A01	RESILIENT BASE
10 21 23.A01	CUBICLE CURTAIN
12 32 00.A01	BASE CABINET
12 32 00.A05	FILE DRAWER
12 32 00.A10	SINK BASE
12 32 00.A11	ADA SINK BASE
12 32 00.A21	TALL CABINET
12 32 00.A25	WARDROBE
12 32 00.A31	WALL CABINET
12 32 00.A33	MAIL CUBICLE WALL CABINET
12 32 00.A81	FILLER
12 36 66.A01	SOLID SURFACE COUNTERTOP

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## SHEET MATERIAL FINISH LEGEND

ID	MATERIAL	COLOR/FINISH
C1a	Carpet	Speak in Color Black 00500
C1b	Carpet	Precious Metal 40810
C1C	Carpet	
F1	Fabric	006 INHALE
FT2	Floor (Poured) Topping	MATCH EXISTING
HP1	High Performance Coating	SW 7636 ORIGAMI WHITE
P1	Paint	SW 7636 ORIGAMI WHITE
P1A	Paint	MATCH EXISTING COLOR
P2	Paint	SW 6246 NORTH STAR
PL2	Plastic Laminate	FRENCH LINEN
RB1	Resilient Base & Accessories	100 BLACK
RT1	VCT	51874, GRAYED BLUE
SS1	Simulated Stone	EVEREST
T1	Tile	ARCTIC WHITE 0790
T2	Tile	CURRENT HERRINGBONE SH17, 1X3
TR1	Trim	
TR2	Trim	3/4", MWCL75, ANODIZED ALUMINUM
WF1	Window Film	OPAQUE WHITE

## SHEET NOTES

- REFER TO SHEET G000 FOR SHEET INDEX
- COORDINATE LOCATIONS WHERE BACKING REQUIRED FOR WALL HUNG CASEWORK, MARKERBOARDS, AND TECHNOLOGY
- COLOR/MATERIAL TRANSITIONS ARE NOTED WHEN THEY DO NOT OCCUR AT INSIDE CORNERS
- REFER TO MEP SHEETS FOR LOCATION DIAGRAM OF SWITCHES, THERMOSTATS, FIRE ALARM STROBES TO BE MOUNTED ADJACENT TO ENTRY DOORS OR AT OUTSIDE CORNERS WITHIN ROOMS
- COORDINATE WITH ELECTRICAL SHEETS FOR HEIGHT OF OUTLETS A.F.F. AND/OR ABOVE COUNTERTOPS
- COORDINATE WITH MECHANICAL SHEETS FOR LOCATIONS OF WALL MOUNTED GRILLES AND REGISTERS
- ALL EXPOSED SURFACES TO RECEIVE PLASTIC LAMINATE
- ALL BACKSPASH MATERIAL TO MATCH COUNTERTOP MATERIAL, UNO
- PROVIDE 4" BACKSPASH, UNO
- PROVIDE 1" OVERHANG AT ALL COUNTERTOPS, UNO
- PROVIDE ONE 2" DIAMETER GROMMET PER 30 INCH OF KNEE-SPACE - RECEPTION COUNTERS AND OTHER LOCATIONS - COORDINATE EXACT LOCATION WITH OWNER
- REFER TO PLUMBING DRAWINGS FOR LOCATIONS OF SINKS AND OTHER PLUMBING FIXTURES LOCATED WITHIN CASEWORK
- ALL BASE CABINETS ARE TO BE 24" DEEP, UNO
- ALL UPPER CABINETS ARE TO BE 16" DEEP, UNO
- ALL TALL STORAGE AND WARDROBE CABINETS ARE TO BE 24" DEEP, UNO
- ALL SCIENCE AND NURSE CASEWORK TO HAVE LOCKS
- FILE DRAWERS TO HAVE LOCKS
- ALL WARDROBE CABINETS TO HAVE LOCKS
- COORDINATE DOOR CONTROL BUTTON LOCATION AT RECEPTION DESK WITH OWNER
- PROVIDE WOOD CLEAT AT BACK AND SIDE WALLS OF ALL COUNTERTOPS WITH NO BASE CABINET BELOW

Ridgeview Elementary School

Liberty Public Schools

701 Thornton Street

Liberty, MO 64068

REVISIONS:

#	Description	Date
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November 22, 2023  
Kevin E. Nelson  
A-2019015618

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DATE: 11.22.2023

A621

INTERIOR ELEVATIONS

Please consider the environment before printing this.

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GENERAL FINISH NOTES

1. REFER TO FINISH FLOOR PLANS, REFLECTED CEILING PLANS, ELEVATIONS, AND DETAILS FOR EXTENT OF MULTIPLE FINISHES.
2. DO NOT PAINT NATURAL OR MANUFACTURED STONE, BRICK, GLAZED BLOCK OR ANY OTHER PREFINISHED MATERIALS.
3. DO NOT PAINT ALUMINUM OR OTHER NON-FERROUS METALS THAT ARE PREFINISHED.
4. MATCH VERTICAL FINISH OF ALL INTERIOR GYPSUM BOARD SOFFITS TO HORIZONTAL FINISH AS NOTED ON RCP OR ROOM FINISH SCHEDULE, UNO.
5. PAINT ALL EXPOSED CEILINGS DESIGNATED AS 'OTS' AS INDICATED ON ROOM FINISH SCHEDULE. PAINTING INCLUDES, BUT IS NOT LIMITED TO: EXPOSED STRUCTURE, JOISTS, METAL DECKING, EXISTING TECTUM PANELS, DUCTWORK AND MECHANICAL EQUIPMENT.
6. PAINT ALL EXPOSED STEEL, UNO.
7. PAINT ALL INTERIOR HOLLOW METAL DOORS AND FRAMES TO MATCH ADJACENT WALL, UNO.
8. PAINT OR FINISH THE FOLLOWING ITEMS TO MATCH ADJACENT PAINT OR FINISH:

ELECTRICAL PANELS IN FINISHED ROOMS

GRILLES, LOUVERS ETC. PRIMED OR SPECIFIED TO BE PAINTED

UNFINISHED SPEAKER OUTLET GRILLES

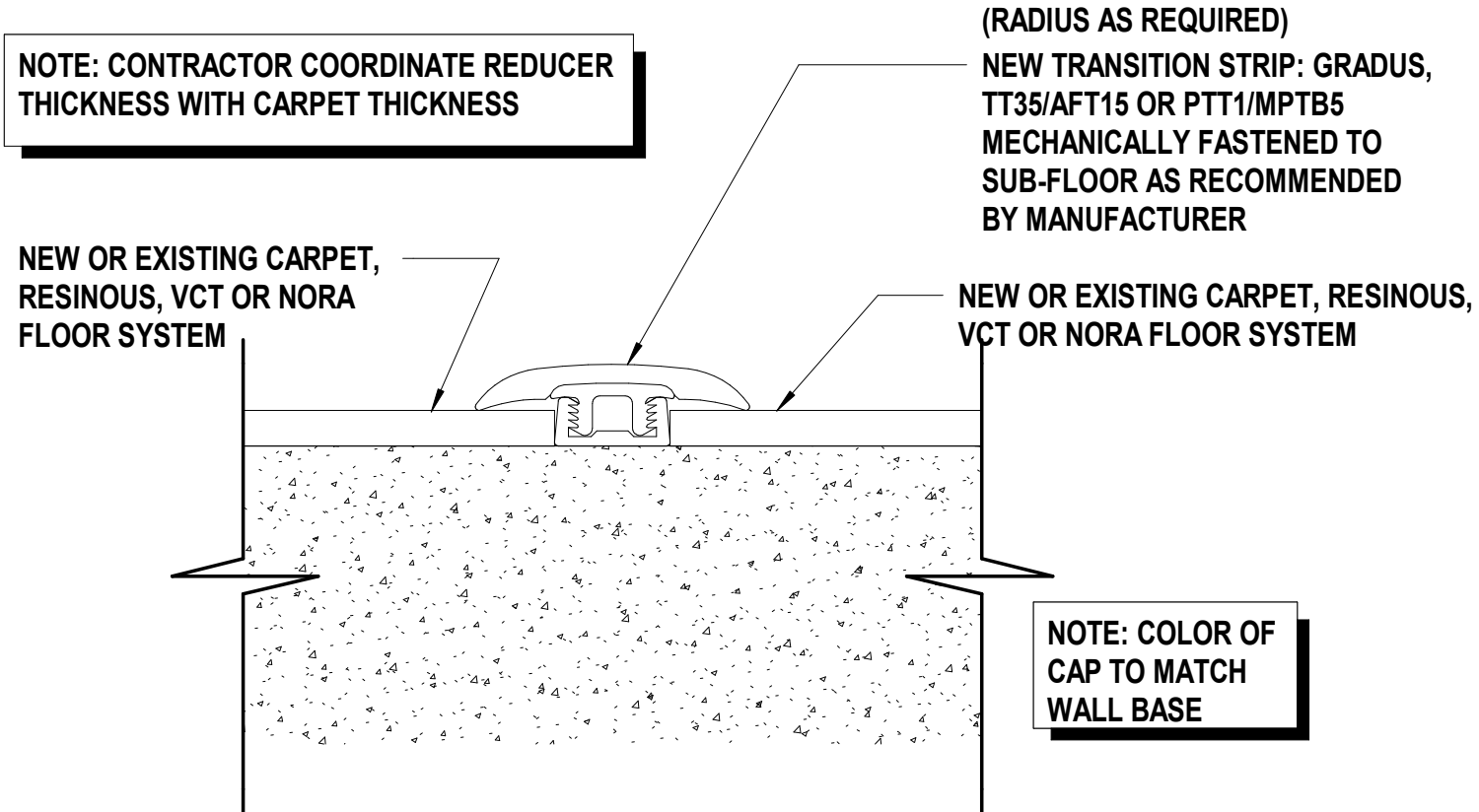
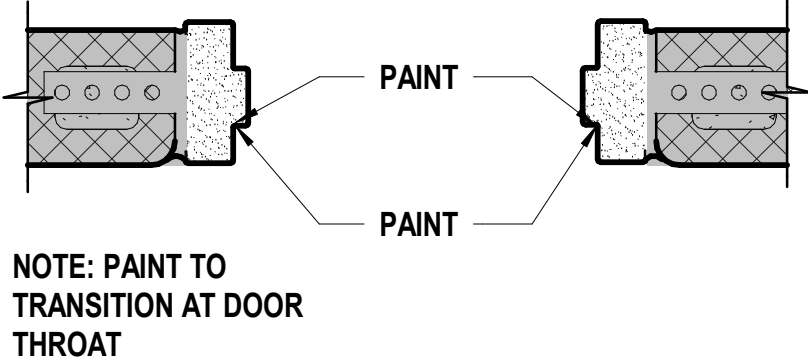
VISIBLE PORTIONS OF DUCTWORK AND MECH EQUIPMENT BEHIND VENTS, GRILLES AND DIFFUSERS

MATERIAL FINISH LEGEND

MATERIAL	ID	KEYNOTE	MANUFACTURER	STYLE/MODEL NO	COLOR/FINISH	COMMENTS
Carpet	C1	09 68 13.A01	Mohawk Group	Side Stripe GT419	963 Heritage	Install Ashlar
Carpet	C1a	09 68 13.A01	Patcraft	Speak Your Language Studio	Speak in Color Black 00500	Match Existing Install
Carpet	C1b	09 68 13.A01	Tarkett	Crayon 01957	Precious Metal 40810	Match Existing Install
Carpet	C1C	09 68 13.A01	Salvaged Demo Stock			Match Existing Install
Ceiling	CLG1	09 51 13.A01	ARMSTRONG	1755 FINE FISSURED	WHITE (WH), 24X48	
Concrete Finish	CON1	03 30 00.A21			CLEAR SEAL CONCRETE FINISH	
Fabric	F1	10 21 23.A01	MAHARAM	CARRY 2, 511518	006 INHALE	
Floor (Poured) Topping	FT1	09 67 23.A01	DESCO	CREMONA TG	33% SW7653, 32% SW7018, 35%SW7625	INTEGRAL BASE
Floor (Poured) Topping	FT2	09 67 23.A01	DESCO	CEREMONA TG	MATCH EXISTING	INTEGRAL BASE
High Performance Coating	HP1	09 96 00	SHERWIN WILLIAMS		SW 7636 ORIGAMI WHITE	
Paint	P1	09 91 23	SHERWIN WILLIAMS		SW 7636 ORIGAMI WHITE	
Paint	P1A	09 91 23	SHERWIN WILLIAMS		MATCH EXISTING COLOR	
Paint	P2	09 91 23	SHERWIN WILLIAMS		SW 6246 NORTH STAR	
Plastic Laminate	PL2	12 30 00	WILSONART	5016-38	FRENCH LINEN	
Resilient Base & Accessories	RB1	09 65 13.A01	ROPPE	700 SERIES 4" BASE	100 BLACK	
Resilient Flooring	RF1	09 65 19.A01	INTERFACE	BRUSHED LINES	A01604 GALENA	INSTALL ASHLAR
VCT	RT1	09 65 19.A01	ARMSTRONG	VCT, 12x12	51874, GRAYED BLUE	Match Existing Install, Install per manufacturer recommendations and standards
Simulated Stone	SS1	12 36 66	CORIAN	SOLID SURFACE	EVEREST	
Tile	T1	09 30 00.A01	DALTILE	COLORWHEEL 6X6	ARCTIC WHITE 0790	
Tile	T2	09 30 00.A01	DALTILE	COLORWHEEL MOSIACS	CURRANT HERRINGBONE SH17, 1X3	
Trim	TR1	09 30 00.A04	SCHLUTER	SCHIENE		
Trim	TR2	06 40 23.A24	Fry Reglet	MILLWORK TRIM - L CHANNEL	3/4", MWCL75, ANODIZED ALUMINUM	
Window Film	WF1	08 80 00.A93	3M	Matte SHZMAOW 1250, Opaque White	OPAQUE WHITE	

ROOM FINISH SCHEDULE

NO	ROOM Name	FLOOR		WALLS				CEILING Finish	Finish Remarks
		Finish	Base	North	East	South	West		
A114	RESOURCE	C1a	RB1	EXIST P1A @ GRID TOUCH-UP	P1A	EXIST P1A @ GRID TOUCH-UP	EXIST P1A @ GRID TOUCH-UP	RE RCP	RE: G1/A403 FOR EXTENTS OF FLOORING & BASE WORK
A116	RESOURCE	C1a	RB1	EXIST P1A @ GRID TOUCH-UP	P1A	EXIST P1A @ GRID TOUCH-UP	EXIST P1A @ GRID TOUCH-UP	RE RCP	RE: G1/A403 FOR EXTENTS OF FLOORING & BASE WORK
A216	CLASSROOM	C1b	RB1	EXIST P1A @ GRID TOUCH-UP	P1A	EXIST P1A @ GRID TOUCH-UP	EXIST P1A @ GRID TOUCH-UP	RE RCP	RE: G1/A403 FOR EXTENTS OF FLOORING & BASE WORK
A218	CLASSROOM	C1b	RB1	EXIST P1A @ GRID TOUCH-UP	P1A	EXIST P1A @ GRID TOUCH-UP	EXIST P1A @ GRID TOUCH-UP	RE RCP	RE: G1/A403 FOR EXTENTS OF FLOORING & BASE WORK
B112	TEACHER'S LOUNGE	RE E5/A401B	RB1	EXIST P1A @ GRID TOUCH-UP	P1A	P1A	EXIST P1A @ GRID TOUCH-UP	RE RCP	RE: G1/A403 FOR EXTENTS OF FLOORING & BASE WORK
B112a	TLT	FT1	FT1	HP1	T1/T2	HP1	HP1	CLG1	
B113	GIRL'S	FT1	FT1	T1 7'-0"/HP1 ABOVE	T1 7'-0"/HP1 ABOVE	T1 7'-0"/HP1 ABOVE	RE ELEV	CLG1	
B200	CORRIDOR	EXIST	EXIST	EXIST P1A @ GRID TOUCH-UP	EXIST P1A @ GRID TOUCH-UP	EXIST P1A @ GRID TOUCH-UP	EXIST P1A @ GRID TOUCH-UP	CLG1	PAINT SCOPE IS TOUCHUP ONLY AT CEILING GRID TRANSITION
B201	Reception	C1	RB1	P1	P1	P1	P1	CLG1	
B202	Office	C1	RB1	P1	P1	P1	P1	CLG1	
B203	Office	C1	RB1	P1	P1	P1	P1	CLG1	
B204	Office	C1	RB1	P1	P1	P1	P1		
B205	Meeting	RF1	RB1	P1	P1	P1	P1	CLG1	
B206	Nurse	FT1	FT1	P2	P2	P2	P2	CLG1	
B206a	RR	FT1	FT1	HP1	RE ELEV	HP1	HP1	CLG1	
B208	RR	FT1	FT1	HP1	HP1	HP1	RE ELEV	CLG1	
B209	Lactation	FT1	FT1	HP1	HP1	HP1	HP1	CLG1	
B210	BOY'S	FT1	FT1	T1 7'-0"/HP1 ABOVE	T1 7'-0"/HP1 ABOVE	T1 7'-0"/HP1 ABOVE	T1 7'-0"/HP1 ABOVE	CLG1	
B214	GIRL'S	FT1	FT1	RE ELEV	T1 7'-0"/HP1 ABOVE	T1 7'-0"/HP1 ABOVE	T1 7'-0"/HP1 ABOVE	CLG1	
B215	CLASSROOM	C1C	RB1	EXIST P1A @ GRID TOUCH-UP	EXIST P1A @ GRID TOUCH-UP	P1A	EXIST P1A @ GRID TOUCH-UP	RE RCP	RE: G1/A403 FOR EXTENTS OF FLOORING & BASE WORK
C104	CLASSROOM	C1a	RB1	P1A	P1A	P1A	P1A	RE RCP	ENTIRE ROOM TO RECIEVE NEW FLOOR, BASE AND PAINT
C105	CONF.	C1a	RB1	EXIST P1A @ GRID TOUCH-UP	EXIST P1A @ GRID TOUCH-UP	P1A	EXIST P1A @ GRID TOUCH-UP	RE RCP	RE: G1/A403 FOR EXTENTS OF FLOORING & BASE WORK
C106	CLASSROOM	C1C	RB1	P1A	EXIST P1A @ GRID TOUCH-UP	EXIST P1A @ GRID TOUCH-UP	EXIST P1A @ GRID TOUCH-UP	RE RCP	RE: G1/A403 FOR EXTENTS OF FLOORING & BASE WORK
C107	CLASSROOM	C1a	RB1	EXIST P1A @ GRID TOUCH-UP	EXIST P1A @ GRID TOUCH-UP	P1A	EXIST P1A @ GRID TOUCH-UP	RE RCP	RE: G1/A403 FOR EXTENTS OF FLOORING & BASE WORK
C108	CLASSROOM	C1a	RB1	P1A	EXIST P1A @ GRID TOUCH-UP	EXIST P1A @ GRID TOUCH-UP	EXIST P1A @ GRID TOUCH-UP	RE RCP	RE: G1/A403 FOR EXTENTS OF FLOORING & BASE WORK
C109	RESOURCE	C1a	RB1	EXIST P1A @ GRID TOUCH-UP	EXIST P1A @ GRID TOUCH-UP	P1A	EXIST P1A @ GRID TOUCH-UP	RE RCP	RE: G1/A403 FOR EXTENTS OF FLOORING & BASE WORK
C109a	RESOURCE	C1a	RB1	EXIST P1A @ GRID TOUCH-UP	EXIST P1A @ GRID TOUCH-UP	P1A	EXIST P1A @ GRID TOUCH-UP	RE RCP	RE: G1/A403 FOR EXTENTS OF FLOORING & BASE WORK
C110	RESOURCE	C1a	RB1	P1A	EXIST P1A @ GRID TOUCH-UP	EXIST P1A @ GRID TOUCH-UP	EXIST P1A @ GRID TOUCH-UP	RE RCP	RE: G1/A403 FOR EXTENTS OF FLOORING & BASE WORK
C112	CORRIDOR	EXIST	EXIST	EXIST P1A @ GRID TOUCH-UP	EXIST P1A @ GRID TOUCH-UP	EXIST P1A @ GRID TOUCH-UP	EXIST P1A @ GRID TOUCH-UP	RE RCP	RE: G1/A403 FOR EXTENTS OF FLOORING & BASE WORK
C204	CLASSROOM	C1a	RB1	P1A	EXIST P1A @ GRID TOUCH-UP	EXIST P1A @ GRID TOUCH-UP	EXIST P1A @ GRID TOUCH-UP	RE RCP	RE: G1/A403 FOR EXTENTS OF FLOORING & BASE WORK
C205	CLASSROOM	C1a	RB1	EXIST P1A @ GRID TOUCH-UP	EXIST P1A @ GRID TOUCH-UP	P1A	EXIST P1A @ GRID TOUCH-UP	RE RCP	RE: G1/A403 FOR EXTENTS OF FLOORING & BASE WORK
C206	RESOURCE	C1a	RB1	P1A	EXIST P1A @ GRID TOUCH-UP	EXIST P1A @ GRID TOUCH-UP	EXIST P1A @ GRID TOUCH-UP	RE RCP	RE: G1/A403 FOR EXTENTS OF FLOORING & BASE WORK
C207	CLASSROOM	C1a	RB1	EXIST P1A @ GRID TOUCH-UP	EXIST P1A @ GRID TOUCH-UP	P1A	EXIST P1A @ GRID TOUCH-UP	RE RCP	RE: G1/A403 FOR EXTENTS OF FLOORING & BASE WORK
C208	CLASSROOM	C1a	RB1	P1A	EXIST P1A @ GRID TOUCH-UP	EXIST P1A @ GRID TOUCH-UP	EXIST P1A @ GRID TOUCH-UP	RE RCP	RE: G1/A403 FOR EXTENTS OF FLOORING & BASE WORK
C209	CLASSROOM	C1a	RB1	EXIST P1A @ GRID TOUCH-UP	EXIST P1A @ GRID TOUCH-UP	P1A	EXIST P1A @ GRID TOUCH-UP	RE RCP	RE: G1/A403 FOR EXTENTS OF FLOORING & BASE WORK
C210	CLASSROOM	RT1	RB1	P1A	EXIST P1A @ GRID TOUCH-UP	EXIST P1A @ GRID TOUCH-UP	EXIST P1A @ GRID TOUCH-UP	RE RCP	RE: G1/A403 FOR EXTENTS OF FLOORING & BASE WORK
C211	CLASSROOM	C1C	RB1	EXIST P1A @ GRID TOUCH-UP	EXIST P1A @ GRID TOUCH-UP	P1A	EXIST P1A @ GRID TOUCH-UP	RE RCP	RE: G1/A403 FOR EXTENTS OF FLOORING & BASE WORK
C213	RESOURCE	C1a	RB1	EXIST P1A @ GRID TOUCH-UP	EXIST P1A @ GRID TOUCH-UP	P1A	EXIST P1A @ GRID TOUCH-UP	RE RCP	RE: G1/A403 FOR EXTENTS OF FLOORING & BASE WORK



A1 Scale HM Jamb Frame Finish Where Noted  
1 1/2" = 1'-0"

A4 Scale Flooring Reducer Strip Detail  
12" = 1'-0"

Ridgeview Elementary School

Liberty Public Schools

701 Thornton Street  
Liberty, MO 64068

REVISIONS:		
#	Description	Date



November 22, 2023  
Kevin E. Nelson  
A-2019015618

JOB NO: 23026  
DRAWN BY: NR  
CHECKED BY: JB  
DATE: 11.22.2023

A681





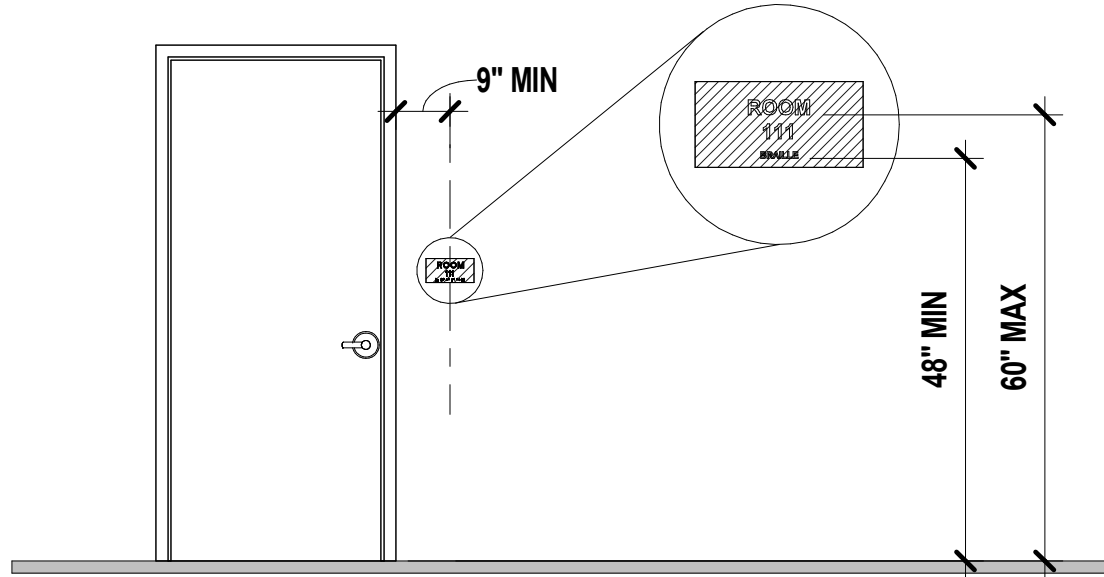
BACKGROUND  
COLOR MATCH -  
SW6811  
HONORABLE  
BLUE

HELVETICA

PICTOGRAMS

REF  
PROJECT  
PICTOGRAMS  
FOR GIRLS'  
RR

BRaille



MOUNT ON LATCH SIDE OF DOOR

DIMENSIONS GO TO THE BOTTOM OF TACTILE COMMUNICATION ELEMENTS

**N1**

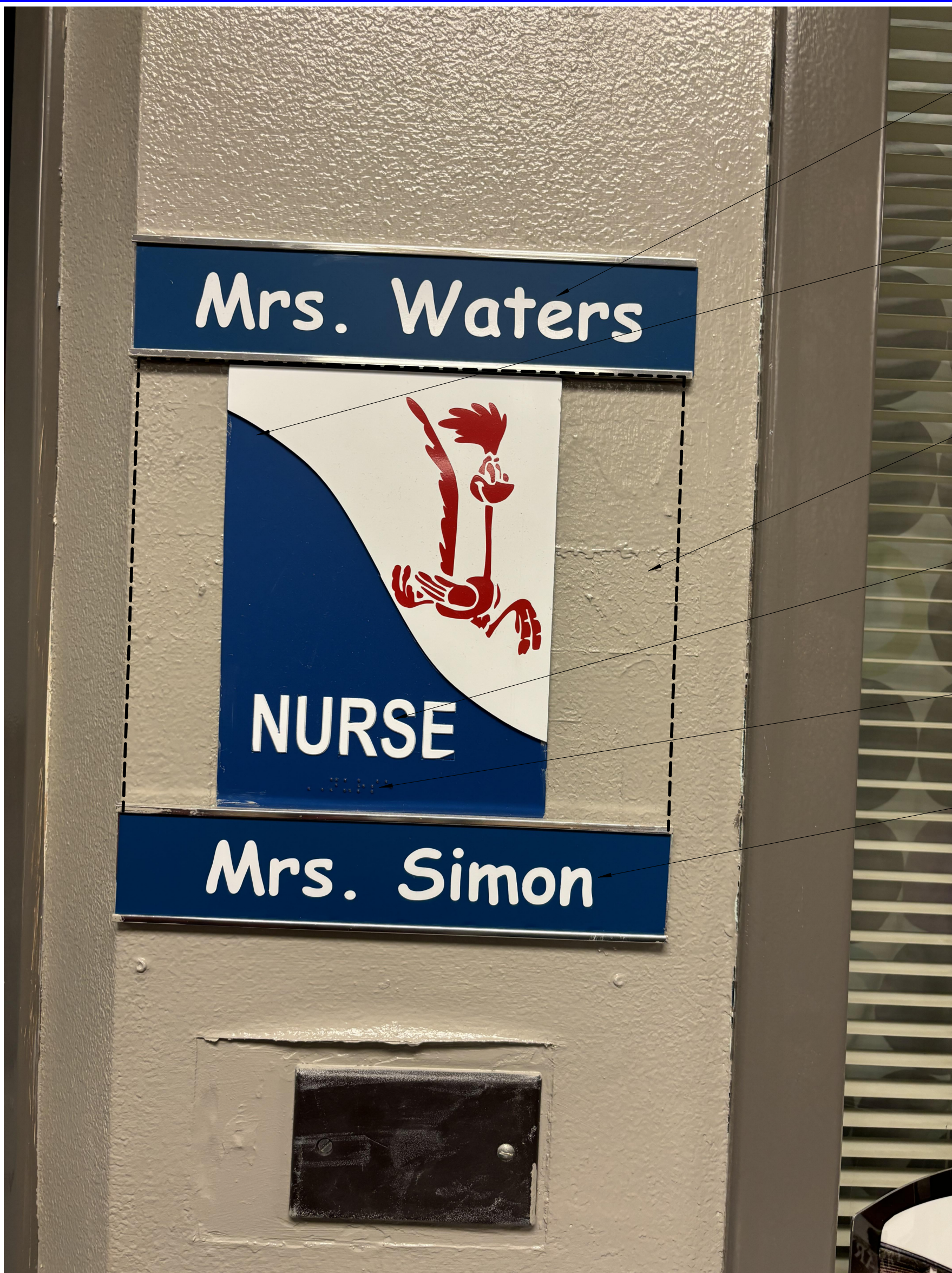
Scale

6" = 1'-0"

ID01 - Restroom ID

### ADA & Code Signage Schedule1

Sign #	Sign Type	# On Sign	Message On Sign	# on Drawing	Name on Drawing	Mounting Surface/ Method	Comments
01	ID01	TBD	RESTROOM	B206a	RR		
02	ID02	TBD	NURSE	B206	Nurse		
03	ID03	TBD	STAFF LOUNGE	B112	TEACHER'S LOUNGE		No Holder
04	ID01	TBD	RESTROOM	B112a	TLT		
05	ID01	TBD	RESTROOM	B208	RR		
06	ID02	TBD	MEETING	B205	Meeting		
07	ID03	TBD	LACTATION	B209	Lactation		
08	ID03	TBD	PRINCIPAL	B204	Principal		
09	ID03	TBD	ASSISTANT PRINCIPAL	B203	Office		
10	ID03	TBD	OFFICE	B202	Office		



2-1/4"x" SATIN  
ALUMINUM  
HOLDER INSERT  
SIZE 2"x12",  
MATCH EXIST.  
COLOR

BACKGROUND  
COLOR MATCH -  
SW6811  
HONORABLE  
BLUE

SIGN TO EXTEND  
FULL WIDTH OF  
HOLDER

MATCH  
EXISTING  
FONT

BRaille

2-1/4"x" SATIN  
ALUMINUM  
HOLDER INSERT  
SIZE 2"x12",  
MATCH EXIST.  
COLOR



MATCH  
EXISTING  
FONT

SIGN TO EXTEND  
FULL WIDTH OF  
HOLDER

BRaille

BACKGROUND  
COLOR MATCHH-  
SW6811  
HONORABLE  
BLUE

**A1**

Scale

6" = 1'-0"

Existing Signage ID02

**A9**

Scale

6" = 1'-0"

Existing Signage ID03

### SHEET KEYNOTE LEGEND

- 10 14 23 - ADA & CODE SIGNAGE**
1. PAINT FACE, RETURNS, & BRAILLE TO MATCH AS INDICATED
  2. PAINT FACE OF TACTILE CHARACTERS WHITE
  3. FONT STYLE: HELVETICA
  4. FIELD VERIFY DIMENSIONS
  5. COORDINATE WITH ARCHITECT / OWNER ON FINAL SIGNAGE DESIGN AND MESSAGING
- ARTWORK TO BE SUPPLIED BY ARCHITECT
- ALL DIMENSIONS AND MOUNTING CONDITIONS MUST BE VERIFIED IN THE FIELD PRIOR TO FINAL ARTWORK RELEASE
- ALL ATTACHMENTS TO BE CONCEALED UNO. PROVIDE BLOCKING AS REQUIRED FOR SECURE ANCHORAGE. SEE ARCHITECTURAL WALL FOR CONSTRUCTION

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Architecture # 000051

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Mechanical/Electrical Engineers  
Missouri #e-556D  
1801 Main, Suite 300  
Kansas City, MO 64108  
816.663.8700 phone

### GENERAL SIGNAGE NOTES

- 10 14 23 CODE SIGNAGE
1. PAINT FACE, RETURNS & BRAILLE TO MATCH AS INDICATED OR EXISTING.
  2. PAINT FACE OF TACTILE CHARACTERS WHITE.
  3. FONT STYLE: HELVETICA.
  4. FIELD VERIFY DIMENSIONS.
  5. COORDINATE WITH ARCHITECT/OWNER ON FINAL SIGNAGE DESIGN AND MESSAGING.

### PROJECT PICTOGRAMS



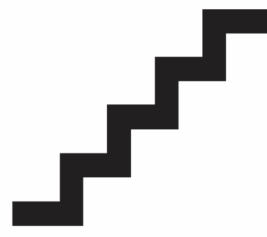
WOMEN/MEN



GIRLS



BOYS



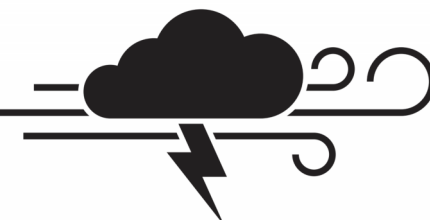
STAIRS



ACCESSIBLE



IN CASE OF  
EMERGENCY

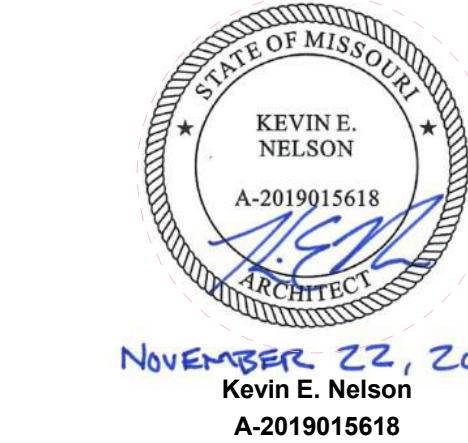


HIGH WIND AREA

**Ridgeview Elementary School**  
Liberty Public Schools  
701 Thornton Street  
Liberty, MO 64068

#### REVISIONS:

#	Description	Date
---	-------------	------



JOB NO: 23026  
DRAWN BY: NR  
CHECKED BY: JB  
DATE: 11.22.2023

**A701**



GENERAL NOTES - STRUCTURAL

1. General Information

- A. The contractor shall verify dimensions and conditions before construction and notify the engineer of any discrepancies, inconsistencies, or difficulties affecting the work before proceeding.
- B. The contractor shall coordinate all disciplines, verifying size and location of all openings, whether shown on structural drawings or not, as called for on architectural, mechanical, or electrical drawings. In the case of work in an existing building the contractor shall scan existing structure to locate all rebar in the area of the new work/opening using ground penetrating radar and notify the engineer of record for review prior to coring/cutting. Conflicts, inconsistencies, or other difficulties affecting structural work shall be called to the architect or engineer's attention for direction before proceeding.
- C. All design and construction work for this project shall conform to the requirements of the following governing design codes:
1. International Building Code (IBC 2018) as amended by the city of Liberty, MO.
  2. Minimum Design Loads for Buildings and Other Structures (ASCE7-16)
  3. Specification for Structural Steel Buildings (AISC 360-16)
  4. Member Design Basis is Allowable Stress Design (ASD)
  5. Building Code Requirements for Structural Concrete (ACI 318-14)
  6. Building Code Requirements for Masonry Structures (TMS 402-16)
  7. North American Specification for the Design of Cold-Formed Steel Structural Members (ANSI S100-15)
  8. National Design Specification (NDS) for Wood Construction with 2018 Supplements (ANSI/AWC NDS-2018)
  9. Special Design Provisions for Wind and Seismic (AWC SDPWS-2015)
- D. These drawings are for this specific project and no other use is authorized.

2. Structural Load Design Criteria

- A. Floor Live = 50psf (An allowance of 15psf has been made for partitions as a uniformly distributed live load where the live load stated above is 50psf or less
- Floor Collateral Dead = 10psf
- B. Roof Live = 20 psf. Roof Collateral Dead = 10psf
- C. Snow: Pg = 20psf Pf = 14psf Is = 1.0 Ce = 1.0, Cg = 1.0, Drift per ASCE/SEI 7
- D. This project is designed to resist the most critical effects resulting from the load combinations of section 1605.3 of the International Building Code.

3. Structural Steel

- A. All structural steel beams and columns shall be ASTM A992, grade 50 steel and all miscellaneous steel shall be ASTM A36 grade steel (except at moment connections where plates shall be ASTM A572, grade 50). Hollow Structural Sections (HSS) shall be ASTM A500, grade C. Fabrication and erection shall be in accordance with AISC 303-05 "Code of Standard Practice for Steel Buildings and Bridges" in the 13th Edition of the AISC Steel Construction Manual.
- B. All welding shall conform to the recommendations of the AWS.
- C. All exterior steel and connections, and brack relief angles shall be hot-dip galvanized.
- D. All bolts not otherwise specified shall be 3/4" diameter high strength (ASTM A325-N). All bolts shall be fully pretensioned. All beam connections shall be designed per the AISC Manual of Steel Construction "Framed Beam Connections" for the indicated reactions or at least 0.4 x beam total shear capacity, Vn/Omega, shown in the maximum total uniform load tables, whichever is greater; and, shall account for eccentricity when the bolt line is more than 2" from the center of the support. All connections must be two bolt minimum. Additional connection elements may not be specifically shown in the conceptual details in this set but may be required by the final connection design, such as stiffener plates, doubler plates, supplement/reinforcing plates or other connection material. Connection design and shop drawing preparation shall be completed under the direct supervision of a professional engineer licensed in the state the project is located and shop drawings and connection calculations shall bear his/her seal.
- E. All openings in existing steel joist roof to have 3x3x1/4 angle frame set between joists. Support mechanical equipment with 4x4x1/8 angles laid between joists framed to 4x4x5/16 angles (length equals mechanical unit dimension plus distance each end to next panel point) laid parallel to and welded to top and/or bottom cord of joists to distribute load to joist panel points.
- F. Design and installation of steel decking shall comply with the recommendations of the Steel Deck Institute (SDI). All decking shall be galvanized unless noted otherwise.

4. Post-installed Anchors

- A. Post-installed anchors shall be used only where specified on the drawings unless approved in writing by the engineer of record. See drawings for anchor diameter, spacing and embedment. Performance values of the anchors shall be obtained for specified products using appropriate design procedures and/or standards as required by the governing building code. Anchors installed in concrete shall have an ICC-ES Evaluation Service Report. Special inspection is required for all post installed anchors. The contractor shall coordinate an on-site meeting with the post installed anchor manufacturer field representative to educate the construction team on the anchor installation guidelines and requirements.
- B. Mechanical anchors used in cracked and uncracked concrete shall have been tested and qualified for use in accordance with ACI 308.2 and ICC-ES AC108.3. All anchors shall be installed per the anchor manufacturer's written instructions.
- C. Adhesive anchors used in cracked and uncracked concrete shall have been tested and qualified for use in accordance with ICC-ES AC308. All anchors shall be installed per the anchor manufacturer's written instructions.
- D. Mechanical anchors used in solid grouted masonry shall have been tested and qualified for use in accordance with ICC-ES AC301. All anchors shall be installed per the anchor manufacturer's written instructions.
- E. Adhesive anchors used in solid grouted masonry shall have been tested and qualified for use in accordance with ICC-ES AC508. All anchors shall be installed per the anchor manufacturer's written instructions.
- F. Anchors used in hollow concrete masonry shall have been tested and qualified in accordance with ICC-ES AC108 or ICC-ES AC208 or ICC-ES AC208 as appropriate. All anchors shall be installed per the anchor manufacturer's written instructions with appropriate screen tubes used for adhesives.

5. Concrete Masonry Units

- A. Concrete block used in exterior walls or load bearing walls shall meet the requirements of ASTM C90 and have a minimum net compressive strength of 2850 psi and laid up using type N mortar such that fm equals 2000 psi. Mortar shall be volume proportion based cement lime mortar. Proportioning shall be controlled by box measure. Any block in contact with earth shall be normal weight units, laid using type "S" mortar and grouted solid.
- B. The contractor shall provide adequate temporary bracing for all masonry walls during construction.
- C. All concrete block shall have 9 gage (or larger) horizontal joint reinforcing (ladder or truss) per architectural drawings and specifications (16" maximum vertical spacing).
- D. Cavity wall construction shall be reinforced as designed for specific concrete block used. The horizontal joint reinforcing shall be of the ladder or truss style per specification and continuous between brick and block, as prescribed by the architectural drawings.
- E. Concrete block shall be reinforced per schedule and/or details on the drawings. Where not otherwise noted, non-load-bearing interior partition walls shall be reinforced as follows in 6", 8", 10", and 12" walls:
1. Vertical reinforcing shall be a minimum of 1 - #4 bar in 6" and 8" walls and 2 - #4 bars in 10" and 12" walls at 4'-0" on center, at each corner, at each door and window jamb, each side of control joints and in the end void of each length of wall. Lap splices for masonry vertical reinforcing shall be 48 bar diameters, 24" minimum.
  2. Horizontal reinforcing:
    - A. Horizontal joint reinforcing as noted above.
    - B. Continuous horizontal bars shall be included per section or detail in bond beam or optional running bond beam where noted. Where bond beams are continuous at corners of walls, supply corner bars matching size of horizontal bars (minimum 2'-0" or 40 bar diameters in each direction).
- F. Grout, where noted above, shall have a minimum design ultimate compressive strength of 2500 psi at 28 day test and 3/8" maximum aggregate size.
- G. Non-load bearing concrete block walls shall be isolated from adjacent structural elements with vertical 3/8" control joints and at the top of the wall with 1" air space or compressible material and support per architectural detail.
- H. Unless otherwise covered on architectural plans or specifications, vertical control joints in masonry construction shall be 3/8" wide, full height of wall. Joints shall be spaced at a maximum of 24'-0" on center and coordinated with the architect. All horizontal joint reinforcing shall be discontinuous at control joints in masonry. All bond beam horizontal reinforcing shall be continuous through control joints.
- I. Lintels over all openings up to 8'-0" wide in new and existing masonry walls not otherwise noted shall be one 1-6x3 1/2x5/16 (LLV) for each 4" width of masonry. All exterior lintels shall be galvanized.
- J. Walls shall be anchored top and bottom by dowels matching wall vertical reinforcing(unless noted otherwise) from floor slab bottom and bracing angles at the top, per details on the drawings.

6. Cold-Formed Metal Framing

- A. All cold-formed structural studs, track, and bridging shall be of the type, size, gage, and spacing as shown on the drawings, minimum.
- B. All materials shall be 33,000 psi minimum yield, except studs of 16 gage or heavier shall have a minimum yield of 50,000 psi.
- C. All properties, fabrication, and erection shall be in accordance with latest editions of the AISI "Specifications for the Design of Cold-Formed Structural Members."
- D. All framing components shall be cut squarely or at an angle to fit squarely against abutting members. Splicing of axially loaded members is not permitted. Members shall be held firmly in place until properly fastened. Attachments of similar components shall be by welding, screw attachment, or bolting. Wire tying of components is not permitted.
- E. Tracks shall be securely anchored to floor and overhead members. Special anchorage requirements required for wind bracing shall be as shown on the plans.
- F. Prior to fabrication and/or erection, the contractor shall submit shop drawings complete with detail of erection, fabrication, attachments, anchorages, lintels, etc., for review by the architect/engineer.

7. Shop Drawings and Deferred Submittals

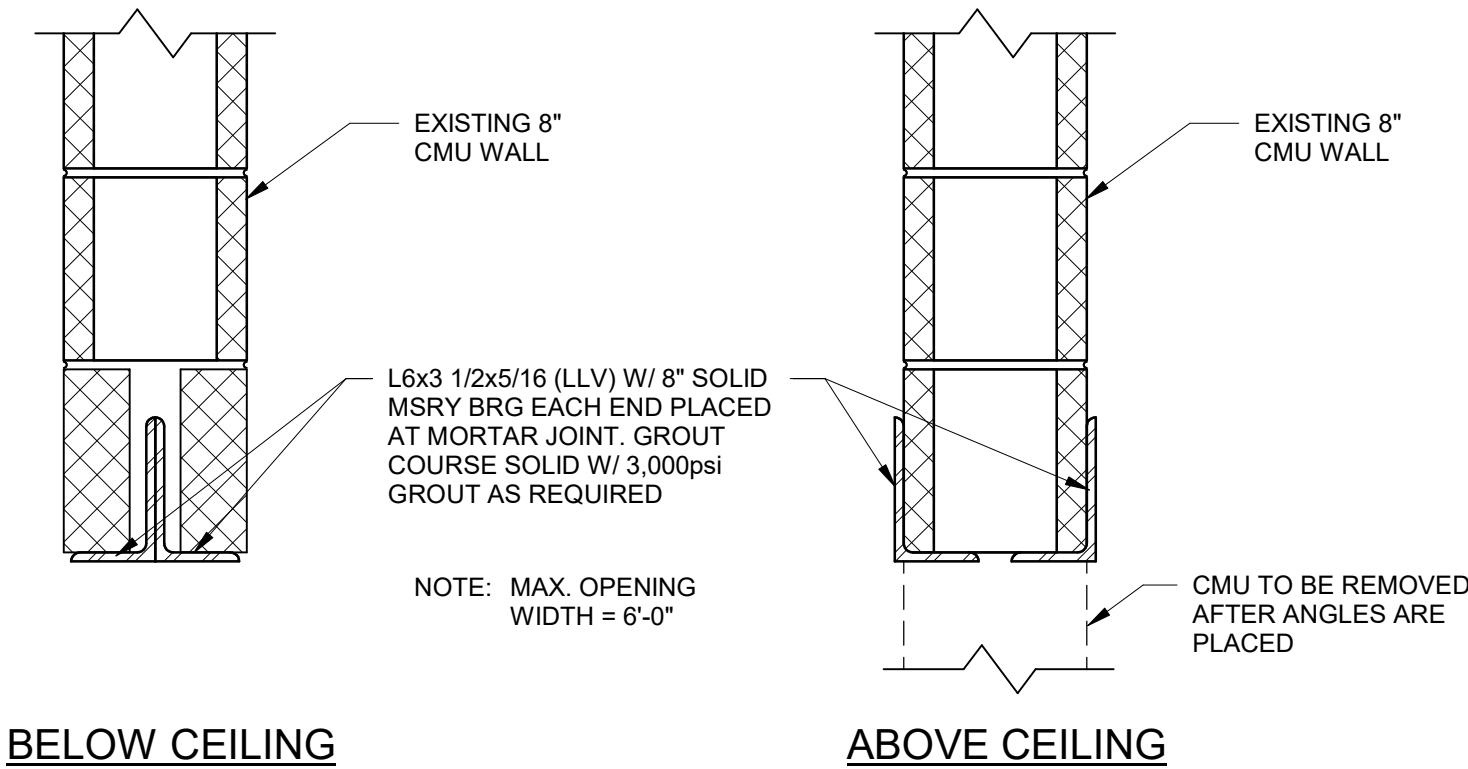
- A. Bob D. Campbell and Company, Inc. will review the General Contractor's (GC) shop drawings and related submittals (as indicated below) with respect to the ability of the detailed work, when complete, to be a properly functioning integral element of the overall structural system designed by Bob D. Campbell and Company, Inc.
- B. Deferred submittals shall be submitted to the architect of record for review who shall forward to the building official for review and approval. Design calculations for deferred submittals shall be submitted at the same time as the shop drawings for review. Design calculations shall be prepared and sealed by a Professional Engineer licensed in the state of the project. The deferred submittal items shall not be installed until the deferred submittal documents have been approved by the building official.
- C. Prior to submittal of a shop drawing or any related material to Bob D. Campbell and Company, Inc., the GC shall:
1. Review each submission for conformance with the means, methods, techniques, sequences and operations of construction and safety precautions and programs incidental thereto, all of which are the sole responsibility of the GC.
  2. Review and approve each submission.
  3. Stamp each submission as approved.
- D. Bob D. Campbell and Company, Inc. shall assume that no submission comprises a variation unless the GC advises Bob D. Campbell and Company, Inc. with written documentation.
- E. Bob D. Campbell and Company, Inc. shall review shop drawings and related materials with comments provided that each submission has met the above requirements. Bob D. Campbell and Company, Inc. shall return without comment unrequired material or submissions without GC approval stamp.
- F. Required shop drawings and related material (if any) are indicated below.
1. Required Bob D. Campbell and Company, Inc. require more than ten (10) working days to perform the review, Bob D. Campbell and Company, Inc. shall so notify the GC.
  2. Structural steel shop drawings including erection drawings and piece details. Include joist, decking and connector submittals. Include miscellaneous framing specified on the structural drawings, but do not submit framing specified on non-structural drawings for Bob D. Campbell and Company, Inc. review.
  3. Miscellaneous anchors shown on the structural drawings.

8. Statement of Structural Special Inspections

- A. The structural design for this project is based on completion of special inspections during construction in accordance with section 1704 of the International Building Code. The owner shall employ one or more qualified special inspectors to provide the required special inspections.
- B. The special inspector shall furnish inspection reports to the building official, owner, architect and structural engineer, and any other designated person.
- C. All discrepancies shall be brought to the immediate attention of the contractor for correction, then, if uncorrected, to the proper design authority, building official and structural engineer.
- D. The special inspector shall submit a final signed report stating that the work requiring special inspection was, to the best of the inspector's knowledge, in conformance with the approved plans and specifications and the applicable workmanship provisions of the building code.
- E. The following inspections and tests are required with the frequency (continuous or periodic) as defined within the referenced section or standard listed below. The General Contractor shall provide notification to the inspector when items requiring inspection are ready to be inspected and provide access for those inspections.
1. Shop Fabrication - structural steel and steel bar joist per Section 1704.2.5 unless AISC certified shop.
  2. Cold-Formed Steel Deck per Section 1705.2.2 and the quality assurance requirements of SDI QA/C.
  3. Masonry Construction per Section 1705.4 and the quality assurance requirements of TMS 402/ACI630/ASCE5 and TMS602/AS30.1/ASCE6 [Level A] [Level B] [Level C]

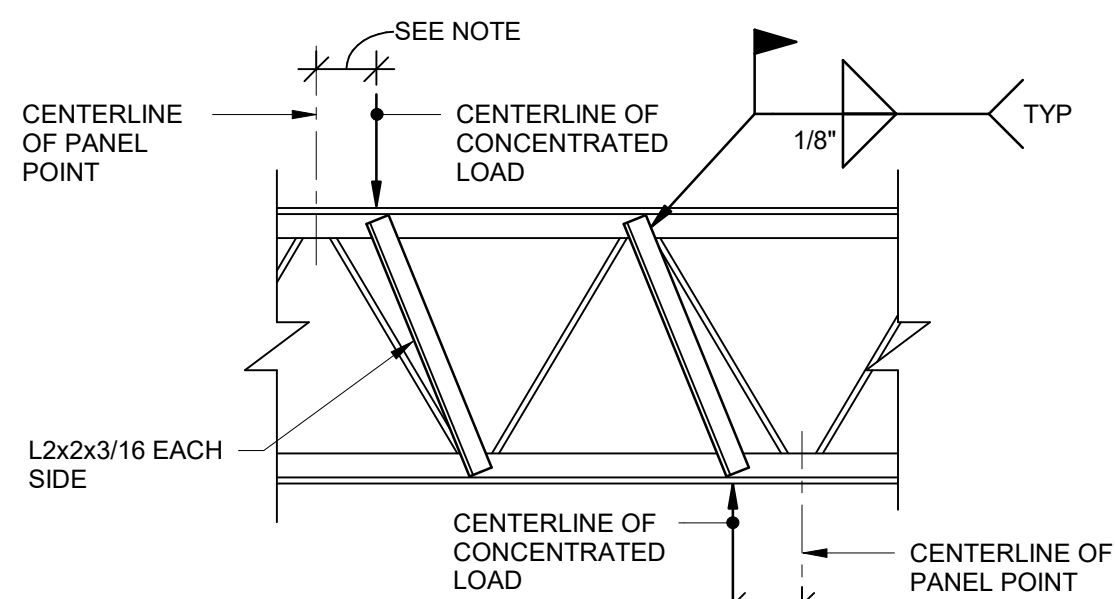
9. Copyright and Disclaimer

- A. All drawings in the structural set (S-series drawings) are the copyrighted work of Bob D. Campbell and Company, Inc. These drawings may not be photographed, traced, or copies in any manner without the written permission of Bob D. Campbell and Company, Inc. Exception: Original drawings may be printed for distribution to the owner, architect, and general contractor for coordination, bidding, and construction. Subcontractors may not reproduce these drawings for any purpose or in any manner.
- B. I, Wayne E. Davis, P.E., registered engineer and a representative of Bob D. Campbell and Company, Inc., do hereby accept professional responsibility as required by the professional registration laws of this state for the structural design drawings consisting of S-series drawings. I hereby disclaim responsibility for all other drawings in the construction document package, they being the responsibility of other design professionals whose seals and signed statements may appear elsewhere in the construction document package.



1 TYPICAL CMU WALL OPENING INTEL DETAIL

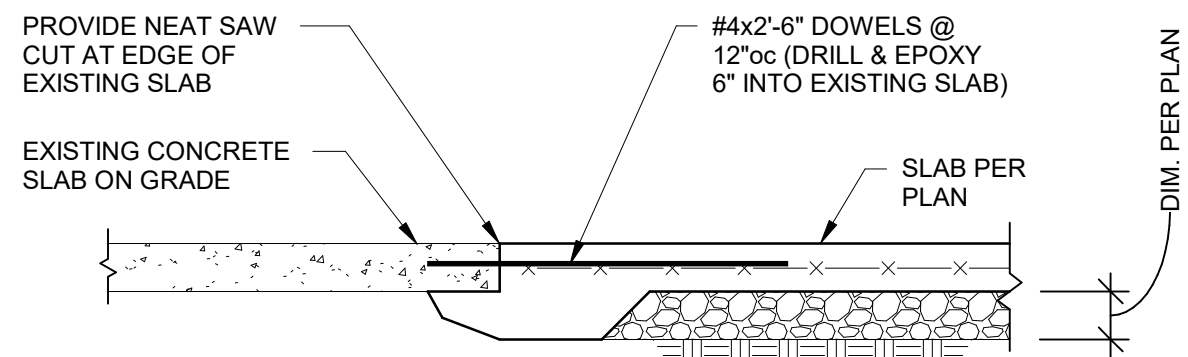
1 1/2" = 1'-0"



TYPICAL JOIST REINFORCING DETAIL

2 SECTION

3/4\" = 1'-0"



TYPICAL AT NEW-TO-EXISTING SLAB ON GRADE

3 SECTION

3/4\" = 1'-0"

STRUCTURAL ABBREVIATIONS

@	AT	GAL	GAGE	RAD	RADIUS
&	AND	GALV	GALVANIZE(D)	RD-#	ROOF DECK TYPE
Ø	ROUND, DIAMETER	GEN	GENERAL	REF	REFERENCE
ADTL	ADDITIONAL	GR	GRADE	REINF	REINFORCEMENT
AFF	ABOVE FINISHED FLOOR	HORIZ	HORIZONTAL	REQD	REQUIRED
ALT	ALTERNATE	HSS	HOLLOW STRUCTURAL SECTION	REV	REVISION
ARCH	ARCHITECTURAL	IF	INSIDE FACE	RL	ROOF LIVE LOAD
BLDG	BUILDING	INT	INTERIOR	RTU	ROOF TOP UNIT
BT	BOTTOM OF	INT	INTERIOR	SC	SLIP CRITICAL
BM	BEAM	JST	JOIST	SCHED	SCHEDULE(D)
BOIT	BOTTOM	JT	JOINT	SECT	SECTION
BRG	BEARING	K	KIPS (1000 LBS)	SHT	SHEET
C	CAMBER	KSF	KIPS PER SQUARE FOOT	SL	SNOW LOAD
CD-#	CONCRETE DECK TYPE	LS	LBS #	SOG	SLAB-ON-GRADE
CJ	CONSTRUCTION/CONTROL JOINT	Ld	DEVELOPMENT LENGTH	SOI	SLAB-ON-GRADE TYPE
C/L	CENTERLINE	LLH	LONG LEG HORIZONTAL	SQ	SPECIFIC
CMU	CONCRETE MASONRY UNIT	LLV	LONG LEG VERTICAL	SOG	SLAB-ON-GRADE TYPE
COL	COLUMN	LSLT	LONGITUDINAL	SPEC	SPECIFICATION
CON	CONCRETE	LTWT	LONGITUDINAL	SPT	SUPPORT
CONN	CONNECTION	LSLT	LONG-SLOTTED HOLE TRANSVERSE	SQ	SQUARE
COOR	COORDINATE	LTWT	LONGITUDINAL	SS	STAINLESS STEEL
COV	COVER	M	MOMENT FORCE	SSLT	SHORT-SLOTTED HOLE TRANSVERSE
COV, CVR	COVER	MAX	MAXIMUM	STD	STANDARD
DBL	DOUBLE	MECH	MECHANICAL	STIFF	STIFFENER
DET	DETAIL	MISC	MISCELLANEOUS	STR	STRUT
DIA	DIAMETER	MIN	MINIMUM	STL	STEEL
DM	DIMENSION	MISC	MISCELLANEOUS	STRUCT	STRUCTURE, STRUCTURAL
DL	DEAD LOAD	MSRY	MASONRY	T/	THROUGH
DWG	DRAWING	MTL	METAL	THRU	THROUGH
EA	EACH	NEF	NEAR FACE	TOS	TOP OF STEEL, TOP OF SLAB
EF	EACH FACE	NS	NEAR SIDE	TRANS	TRANSVERSE
EJ	EXPANSION JOINT	NTS	NOT TO SCALE	TYP	TYPICAL
EL ELEV	ELEVATION	NW	NORMAL WEIGHT	UNO	UNLESS NOTED OTHERWISE
EMBED	EMBEDMENT	ON CENTER	ON CENTER	UNO	UNLESS NOTED OTHERWISE
ENGR	ENGINEER	OF	OUTSIDE FACE	VERT	VERTICAL
EOD	EDGE OF DECK	OPNG	OPENING	W/	WITH
EOR	ENGINEER OF RECORD	OPP	OPPOSITE	W/O	WITHOUT
EOS	EDGE OF SLAB	OVS	OVERSIZED HOLE	WF	WIDE FLANGE
EQ	EQUAL	P	AXIAL FORCE	WL	WIND LOAD
EQUIP	EQUIPMENT	PAF	POWDER ACTUATED FASTENER	WP	WORK POINT
EXP	EXPANSION	PC	PRECAST	WWF	WELDED WIRE FABRIC
EXT	EXTERIOR	PCF	POUNDS PER CUBIC FOOT		
EXTG, EXIST	EXISTING	PER	PRE-ENGINEERED METAL BUILDING		
FDN	FLOOR DECK TYPE	PERP	PERPENDICULAR		
FF	FOUNDATION	PL	PLATE		
FFN	FAR FACE	PLF	POUNDS PER LINEAR FOOT		
FIN	FINISH	FJP	PARTIAL JOINT PENETRATION		
FLR	FLOOR	PSF	POUNDS PER SQUARE FOOT		
FS	FAR SIDE	PSI	POUNDS PER SQUARE INCH		
FTG	FOOTING	QTY	QUANTITY		
FV	FIELD VERIFY				

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Architecture # 0000161

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REVISIONS:

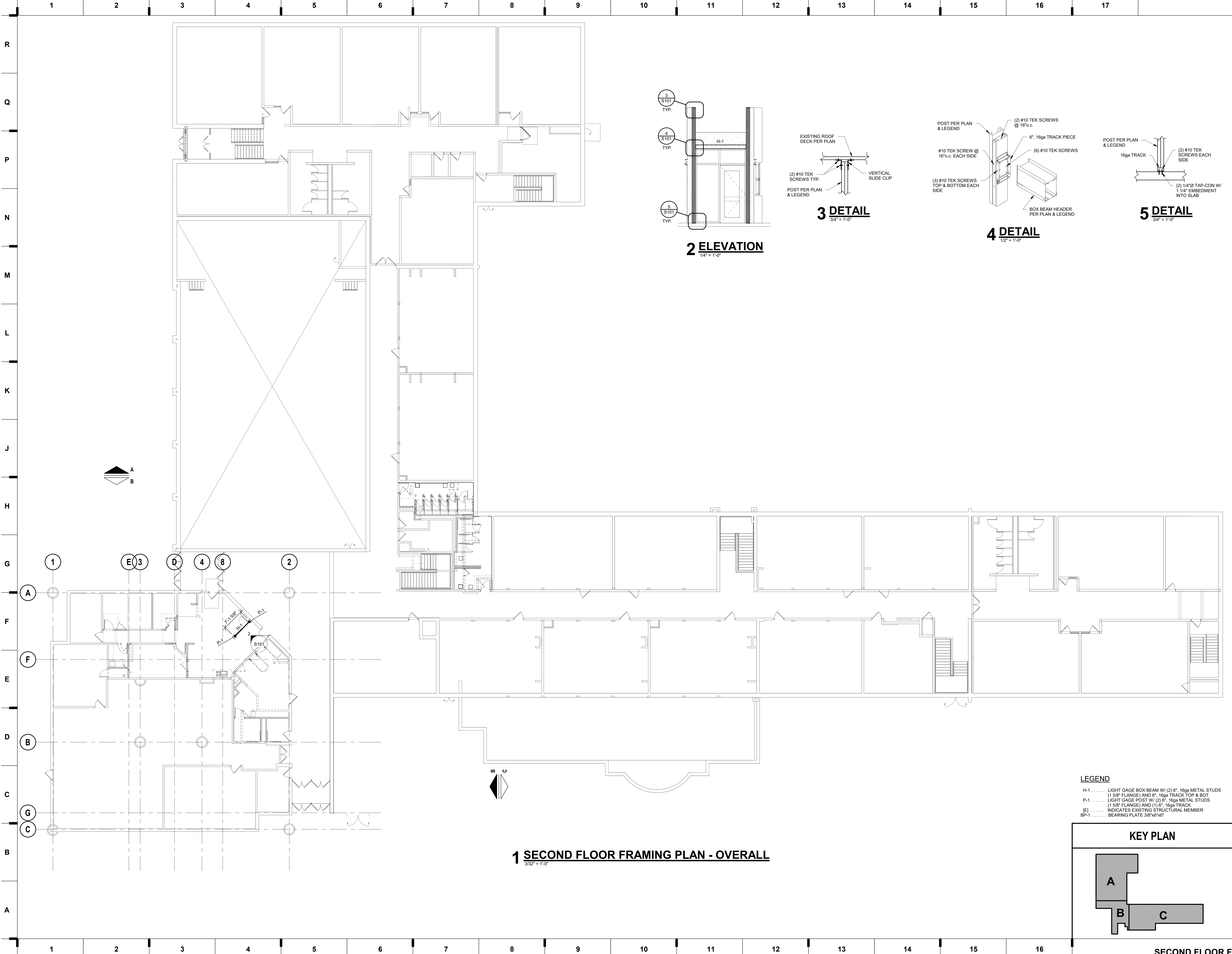
#	Description	Date
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JOB NO: 23026  
DRAWN BY: KEJ  
CHECKED BY: WED  
DATE: 11.22.2023

S001





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816.663.8700 phone

100% CONSTRUCTION DOCUMENTS

**Ridgeview Elementary School**  
Liberty Public Schools  
701 Thornton Street  
Liberty, MO 64068

REVISIONS:

#	Description	Date
1		

JOB NO: 23026  
DRAWN BY: KEJ  
CHECKED BY: WED  
DATE: 11.22.2023



**KEY PLAN**

**A** **B** **C**

**S101**

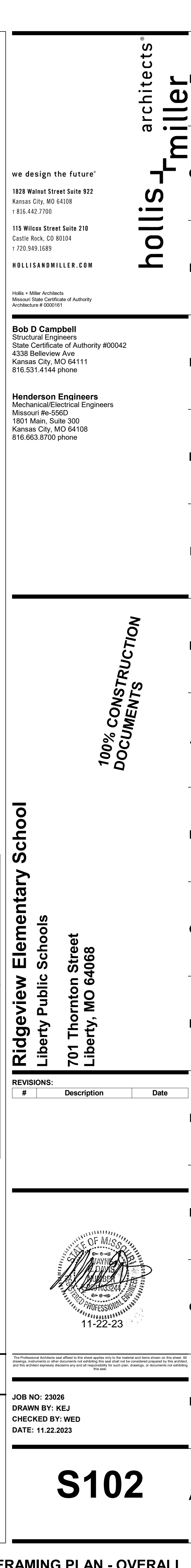
**LEGEND**

H-1 ..... LIGHT GAGE BOX BEAM W/ (2) 6", 16ga METAL STUDS (1 5/8" FLANGE) AND 6", 16ga TRACK TOP & BOT.

P-1 ..... LIGHT GAGE POST W/ (2) 6", 16ga METAL STUDS (1 5/8" FLANGE) AND (1) 6", 16ga TRACK

[E] ..... INDICATES EXISTING STRUCTURAL MEMBER

BP-1 ..... BEARING PLATE 3/8"x6"x6"





GENERAL DEMOLITION NOTES:

- COORDINATE ALL DEMOLITION WITH WHAT IS SHOWN ON ARCHITECTURAL PLANS. NOTIFY ARCHITECT OF ANY DISCREPANCIES.
- PRIOR TO SUBMITTING BID, VISIT THE JOB SITE AND BECOME FULLY ACQUAINTED WITH THE EXISTING CONDITIONS OF THE PROJECT. REVIEW GENERAL NOTES, SPECIFICATIONS AND OTHER DRAWINGS FOR ADDITIONAL REQUIREMENTS THAT MAY NOT BE SPECIFICALLY CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY ARCHITECT, ENGINEER OR OWNER, AS DEFINED IN BID DOCUMENTS, OF CONFLICTS OR DISCREPANCIES PRIOR TO SUBMISSION OF BID.
- OWNER RETAINS RIGHTS OF SALVAGE FOR EQUIPMENT AND FIXTURES TO BE REMOVED. COORDINATE WITH OWNER THE EQUIPMENT AND FIXTURES TO BE SALVAGED AND THE LOCATION FOR STORAGE. AVOID DAMAGE TO SALVAGED EQUIPMENT, FIXTURES AND DEVICES DURING DEMOLITION WORK AND DURING TRANSPORT TO OWNER'S DESIGNATED STORAGE LOCATION.
- REMOVE ITEMS SHOWN HEAVY-LINED DASHED, AND/OR NOTED TO BE REMOVED.
- AVOID DAMAGING EXISTING SURFACES AND EQUIPMENT TO REMAIN FOR NEW INSTALLATION. REPAIR DAMAGE CAUSED DURING WORK AT NO EXTRA COST TO THE OWNER.
- SEAL PENETRATIONS THROUGH FLOORS, WALLS, CEILINGS AND ROOFS WHERE MECHANICAL COMPONENTS ARE REMOVED AND WHERE THE EXISTING PENETRATION IS NOT USED FOR THE NEW INSTALLATION. REPAIR DAMAGED SURFACES TO MATCH ADJACENT AREAS OR AS INDICATED ON THE ARCHITECTURAL DRAWINGS.
- REMOVE HANGERS AND SUPPORTS WHERE DUCTWORK, PIPING AND/OR EQUIPMENT ARE REMOVED AND THE EXISTING HANGERS AND SUPPORTS ARE NOT USED FOR THE NEW INSTALLATION.
- INSTALL PERMANENT CAPS WHERE DUCTWORK AND PIPING IS REMOVED AND THE EXISTING TAPS ARE NOT USED FOR THE NEW INSTALLATION. WHERE DUCTWORK AND PIPING ARE REMOVED AND THE EXISTING TAPS WILL BE USED FOR THE NEW INSTALLATION, INSTALL TEMPORARY CAPS TO PROTECT THE INTERIOR SURFACES UNTIL NEW DUCTWORK AND PIPING ARE INSTALLED.
- INSPECT EXISTING EQUIPMENT TO REMAIN TO VERIFY THAT EQUIPMENT IS OPERATING PROPERLY. NOTIFY OWNER OF DAMAGED AND/OR MALFUNCTIONING COMPONENTS.
- WHERE SHUTDOWN OF EXISTING SYSTEMS IS REQUIRED DURING DEMOLITION, COORDINATE SHUTDOWN TIME AND DURATION WITH OWNER TO MINIMIZE DOWNTIME. NOTIFY OWNER SEVEN (7) DAYS PRIOR TO INTERRUPTION OF SERVICE.
- CEASE WORK AND IMMEDIATELY NOTIFY THE OWNER SHOULD ANY HAZARDOUS MATERIALS BE ENCOUNTERED DURING THE PERFORMANCE OF THE WORK.
- CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO BID. CONTRACTOR MUST NOTIFY OWNER, ARCHITECT, AND ENGINEER OF ANY UNDOCUMENTED, REQUIRED CHANGES THAT REQUIRE WORK DUE TO THE EXISTING CONDITIONS OF THE BUILDING.

GENERAL NEW NOTES:

- PRIOR TO SUBMITTING BID, VISIT THE JOB SITE AND BECOME FULLY ACQUAINTED WITH THE EXISTING CONDITIONS OF THE PROJECT. REVIEW THE GENERAL NOTES, SPECIFICATIONS AND OTHER DRAWINGS FOR ADDITIONAL REQUIREMENTS WHICH MAY NOT BE SPECIFICALLY CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY ARCHITECT, ENGINEER AND/OR OWNER OF CONFLICTS OR DISCREPANCIES PRIOR TO SUBMISSION OF BID.
- EXISTING CONDITIONS WERE TAKEN FROM ORIGINAL DRAWINGS AND SITE VISITS AND MAY NOT REFLECT EXACT "AS-BUILT" CONDITIONS. FIELD VERIFY EXISTING CONDITIONS PRIOR TO SUBMITTING FINAL BIDS. COORDINATE NEW WORK AND DEMOLITION WITH OTHER DISCIPLINES AND EXISTING CONDITIONS PRIOR TO CONSTRUCTION.
- COORDINATE THE INSTALLATION OF THE MECHANICAL SYSTEMS WITH OTHER TRADES TO ENSURE A NEAT AND ORDERLY INSTALLATION. INSTALL DUCTWORK AND PIPING AS TIGHT TO STRUCTURE AS POSSIBLE. COORDINATE WITH OTHER TRADES TO AVOID CONFLICTS. COORDINATE INSTALLATION OF DUCTWORK AND PIPING TO AVOID CONFLICTS WITH ELECTRICAL PANELS, LIGHTING FIXTURES, ETC. ANY MODIFICATIONS REQUIRED DUE TO LACK OF COORDINATION WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AT NO EXTRA COST TO THE OWNER.
- WHERE SHUTDOWN OF EXISTING SYSTEMS IS REQUIRED DURING NEW WORK, COORDINATE SHUTDOWN TIME AND DURATION WITH THE OWNER TO MINIMIZE DOWNTIME. NOTIFY OWNER SEVEN (7) DAYS PRIOR TO INTERRUPTION OF SERVICE.
- DURING INSTALLATION OF NEW WORK, AVOID DAMAGING EXISTING SURFACES AND EQUIPMENT TO REMAIN. REPAIR DAMAGE CAUSED DURING CONSTRUCTION AT NO EXTRA COST TO THE OWNER.
- PROVIDE TEMPORARY BARRIERS TO CONTAIN DUST AND DEBRIS RESULTING FROM THE PERFORMANCE OF THE WORK TO THE AREA WHERE WORK IS BEING PERFORMED.
- ALL MECHANICAL EQUIPMENT SHOWN ON THE MECHANICAL PLANS SHALL BE PROVIDED BY DIVISION 23 UNLESS OTHERWISE NOTED.
- NEW MECHANICAL EQUIPMENT, DUCTWORK AND PIPING ARE SHOWN AT APPROXIMATE LOCATIONS. FIELD MEASURE FINAL DUCTWORK AND PIPING LOCATIONS PRIOR TO FABRICATION AND MAKE ADJUSTMENTS AS REQUIRED TO FIT THE DUCTWORK AND PIPING WITHIN THE AVAILABLE SPACE. VERIFY THAT FINAL EQUIPMENT LOCATIONS MEET MANUFACTURER'S RECOMMENDATIONS REGARDING SERVICE CLEARANCE AND PROPER AIRFLOW CLEARANCE AROUND EQUIPMENT.
- REFER TO ARCHITECTURAL DRAWINGS FOR RELATED CONSTRUCTION DETAILS AS APPLICABLE TO THE HVAC SYSTEM. VERIFY CHASES AND PENETRATIONS SHOWN ON ARCHITECTURAL DRAWINGS THAT ARE INTENDED FOR DUCTWORK AND PIPING MEET REQUIREMENTS.
- COORDINATE LOCATION OF ROOF MOUNTED HVAC EQUIPMENT AND ROOF PENETRATIONS WITH THE ARCHITECTURAL AND STRUCTURAL DRAWINGS.
- INDOOR AIR QUALITY MEASURES: PROTECT INSIDE OF (INSTALLED AND DELIVERED) DUCTWORK AND HVAC UNITS FROM EXPOSURE TO DUST, DIRT, PAINT AND MOISTURE. REPLACE INSULATION THAT HAS BECOME WET AT ANY TIME DURING CONSTRUCTION. DRYING THE INSULATION IS NOT ACCEPTABLE. SEAL ANY TEARS OR JOINTS OF INTERNAL FIBERGLASS INSULATION. REMOVE DEBRIS FROM CEILING/RETURN AIR PLENUM INCLUDING DUST. AN INDEPENDENT, PROFESSIONAL DUCT CLEANING COMPANY SHALL VACUUM CLEAN ANY DUCTWORK CONNECTED TO HVAC UNITS THAT WERE OPERATED DURING THE CONSTRUCTION PERIOD AFTER NEW FILTERS ARE INSTALLED AND PRIOR TO TURNING SYSTEM OVER TO THE OWNER. THE INTERNAL SURFACES AND ASSOCIATED COILS OF ANY HVAC UNITS THAT WERE OPERATED SHALL ALSO BE CLEANED.
- INSTALL DUCTWORK AND PIPING PARALLEL TO BUILDING COLUMN LINES UNLESS OTHERWISE SHOWN OR NOTED.
- OVERHEAD HANGERS AND SUPPORTS FOR EQUIPMENT. DUCTWORK AND PIPING SHALL BE FASTENED TO BUILDING JOISTS OR BEAMS. DO NOT ATTACH HANGERS AND SUPPORTS TO THE ABOVE FLOOR SLAB OR ROOF EXCEPT WHERE CONCRETE INSERTS IN CONCRETE SLABS ARE ALLOWED BY THE SPECIFICATIONS.
- COORDINATE LOCATION OF EQUIPMENT SUPPORTS WITH LOCATION OF EQUIPMENT ACCESS SPECIFICATIONS. FIREPROOF PENETRATIONS THROUGH FIRE RATED COMPONENTS IN ACCORDANCE WITH U.L. REQUIREMENTS.
- SEAL PENETRATIONS THROUGH THE BUILDING COMPONENTS IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS. FIREPROOF PENETRATIONS THROUGH FIRE RATED COMPONENTS IN ACCORDANCE WITH U.L. REQUIREMENTS.
- FOR HYDRONIC, STEAM AND STEAM CONDENSATE PIPING TO EQUIPMENT, MINIMUM ACCEPTABLE SIZE FOR STEEL AND COPPER PIPE IS 3/4 INCH. USE THIS CRITERIA WHERE PIPE SIZES ARE NOT SHOWN ON PLAN.
- DRAIN, FLUSH, AND REFILL ALL PIPING SYSTEMS NECESSARY TO PERFORM THE WORK. REFERENCE SPECIFICATIONS FOR FLUSHING PERFORMANCE REQUIREMENTS AND SUBMIT FLUSHING PLAN TO ENGINEER FOR REVIEW. PROVIDE CHEMICAL TREATMENT FOR ALL PIPING SYSTEMS AFTER FLUSHING AND REFILLING THE SYSTEM.
- COORDINATE THE EXACT MOUNTING SIZE AND FRAME TYPE OF DIFFUSERS, REGISTERS AND GRILLES WITH THE SUPPLIER TO MEET THE CEILING, WALL AND DUCT INSTALLATION REQUIREMENTS.
- ADJUST LOCATION OF CEILING DIFFUSERS, REGISTERS AND GRILLES AS REQUIRED TO ACCOMMODATE FINAL CEILING GRID AND LIGHTING LOCATIONS.
- PAINT PORTIONS OF DUCTWORK AND INSULATION THAT ARE EXPOSED TO VIEW BY THE INSTALLATION OF DIFFUSERS, REGISTERS, AND GRILLES IN CEILINGS OR WALLS FLAT BLACK. PORTIONS INCLUDE BOTH THE INTERIOR OF UNLINED DUCTWORK AND THE EXTERIOR OF DUCTWORK AND INSULATION.
- DUCTWORK CROSSING FIRE RATED WALLS OR OTHER FIRE RATED ASSEMBLIES SHALL BE MINIMUM 26 GAUGE SHEET METAL.
- PROVIDE FIRE OR FIRE/SMOKE DAMPERS, AS APPLICABLE, IN DUCTWORK AT CEILINGS AND WALLS AT LOCATIONS SHOWN ON THE PLANS. FIRE AND FIRE/SMOKE DAMPERS SHALL CONFORM TO NFPA AS APPLICABLE. COORDINATE SLEEVE LENGTH WITH REQUIREMENTS OF INSTALLED LOCATION.
- PROVIDE WALL OR DUCT ACCESS PANELS OR DOORS FOR ACCESS TO FIRE AND FIRE/SMOKE DAMPERS. ACCESS PANEL OR DOOR SHALL BE MINIMUM SIZE OF 10" BY 10" AND SHALL BE INSTALLED WITHIN 12" OF DAMPER. PROVIDE A REMOVABLE DUCT SECTION WHERE DUCT SIZE IS TOO SMALL FOR A 10" BY 10" ACCESS DOOR.
- LOCATE AND SET THERMOSTATS AND HUMIDISTATS AT LOCATIONS SHOWN ON PLANS. VERIFY EXACT LOCATIONS WITH ARCHITECT PRIOR TO INSTALLATION. DEVICE MOUNTING HEIGHT SHALL MEET ADA REQUIREMENTS UNLESS OTHERWISE NOTED ON PLANS. PROVIDE INSULATED BACKING FOR THERMOSTATS MOUNTED ON EXTERIOR BUILDING WALLS. INSTALL WIRING IN CONDUIT PROVIDED BY DIVISION 26. AT A MINIMUM, PROVIDE CONDUIT IN THE WALL FROM THE JUNCTION BOX TO 6" ABOVE THE CEILING.
- COORDINATE THE LOCATION AND ELEVATION OF WALL-MOUNTED DEVICES WITH PRESENTATION BOARDS, DISPLAY CABINETS, SHELVES OR OTHER COMPONENTS SHOWN ON THE ARCHITECTURAL DRAWINGS THAT ARE TO BE INSTALLED UNDER OTHER DIVISIONS. CONTRACTOR WILL NOT BE REIMBURSED FOR RELOCATION OF WALL-MOUNTED DEVICES CAUSED BY A LACK OF COORDINATION.
- PROVIDE A MANUAL BALANCING DAMPER IN EACH DUCT TAKEOFF FROM SUPPLY, RETURN, OUTDOOR AND EXHAUST AIR DUCTS.
- PROVIDE A PREFABRICATED AS DEGREE, HIGH EFFICIENCY, RECTANGULAR/ROUND BRANCH DUCT TAKEOFF FITTING FOR BRANCH DUCT CONNECTIONS AND TAKE-OFFS TO INDIVIDUAL DIFFUSERS, REGISTERS AND GRILLES. PROVIDE WITH INTEGRAL MANUAL BALANCING DAMPER AND LOCKING QUADRANT WHERE INDICATED ON PLANS.
- BRANCH DUCTWORK TO AIR OUTLETS SHALL BE SAME SIZE AS OUTLET NECK SIZE UNLESS OTHERWISE NOTED.
- REFER TO SPECIFICATIONS FOR DUCTWORK AND PIPING INSULATION REQUIREMENTS. DUCT SIZES ON MECHANICAL PLANS INDICATE CLEAR INSIDE AIRFLOW DIMENSIONS, INCREASE SHEET METAL SIZES ACCORDINGLY TO ACCOUNT FOR THICKNESS OF DUCT LINER.
- FLEXIBLE DUCTWORK SHALL NOT EXCEED 5'-0" IN LENGTH AND SHALL BE INSTALLED AND SUPPORTED TO AVOID SHARP BENDS AND SAGGING. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- PROVIDE A NEW SET OF AIR FILTERS IN UNITS PRIOR TO TESTING, ADJUSTING AND BALANCING AND BEFORE TURNING SYSTEM(S) OVER TO OWNER.
- CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO BID. CONTRACTOR MUST NOTIFY OWNER, ARCHITECT, AND ENGINEER OF ANY UNDOCUMENTED, REQUIRED CHANGES THAT REQUIRE WORK DUE TO THE EXISTING CONDITIONS OF THE BUILDING.
- REPLACE ANY DAMAGED INSULATION BETWEEN NEW FAN COIL UNITS AND PIPING MAINS.

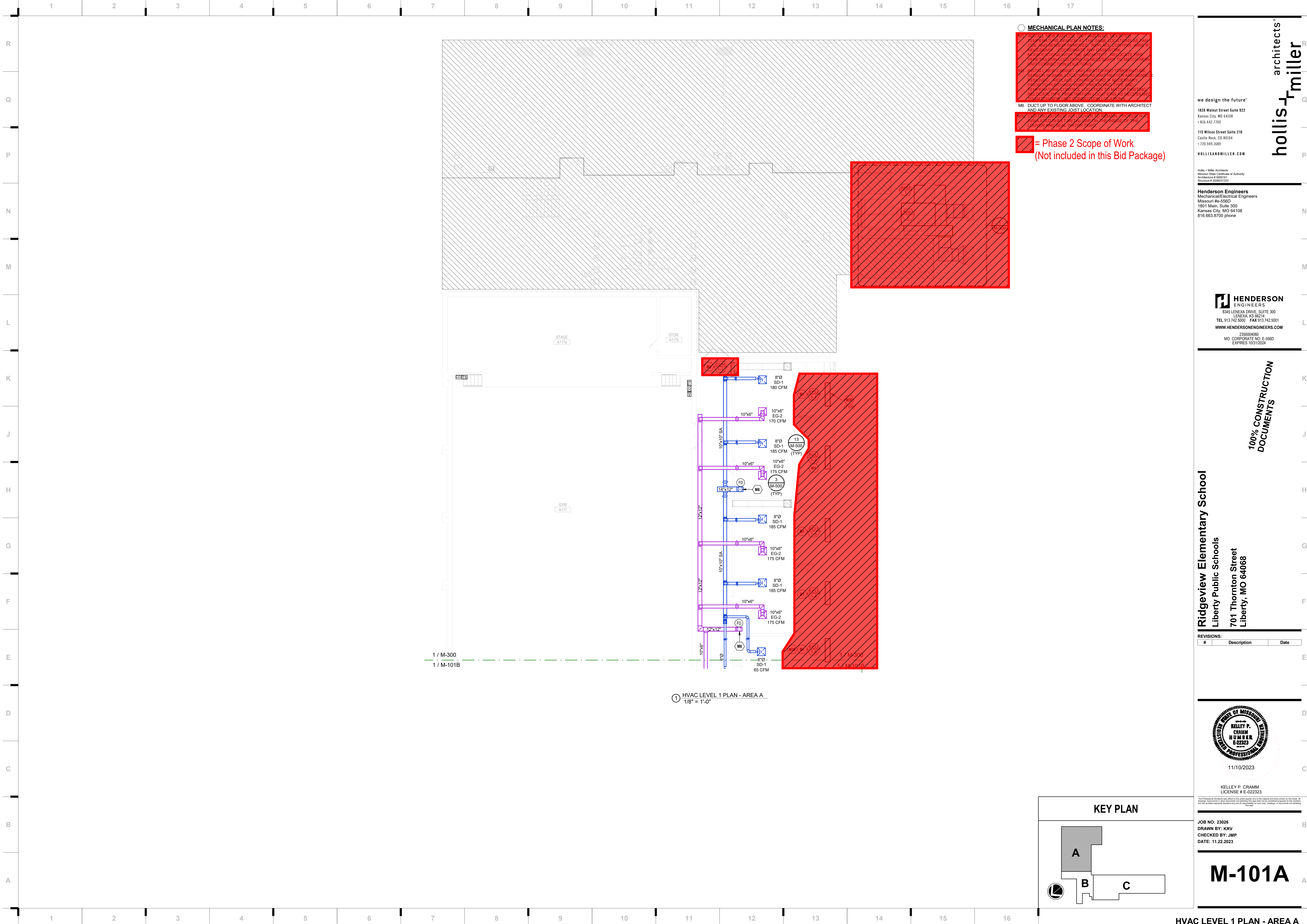
MECHANICAL SYMBOLS

THIS IS A MASTER LEGEND AND NOT ALL SYMBOLS OR ABBREVIATIONS ARE USED.

STANDARD MOUNTING HEIGHT		HVAC DUCTWORK AND ACCESSORIES		PIPING SYMBOLS		PIPING LINETYPES	
THERMOSTATS (USER ADJUSTABLE) CONTROLS		46" 46"					
INSTALL DEVICES AT THE MOUNTING HEIGHTS SHOWN ABOVE UNO IN THE CONSTRUCTION DOCUMENTS. MOUNTING HEIGHTS LISTED ABOVE OR ELSEWHERE IN THE CONSTRUCTION DOCUMENTS ARE AFF OR AFG TO TOP OF THE DEVICE UNO. ALL DEVICES SHALL BE INSTALLED IN COMPLIANCE WITH CURRENT ADA AND LOCAL REQUIREMENTS.							
ANNOTATION							
MECHANICAL PLAN NOTE CALLOUT							
MECHANICAL EQUIPMENT DESIGNATION (CONTRACTOR FURNISHED AND INSTALLED UNLESS NOTED OTHERWISE)							
CONNECTION POINT OF NEW WORK TO EXISTING							
DETAIL REFERENCE. UPPER NUMBER INDICATES DETAIL NUMBER LOWER NUMBER INDICATES SHEET NUMBER							
SECTION CUT DESIGNATION							
DEDICATED EQUIPMENT ACCESS TILE							
ACCESS PANEL							
ABBREVIATIONS							
A/C AIR CONDITIONING							
ACCU AIR COOLED CONDENSING UNIT							
AFC ABOVE FINISHED CEILING							
AFF ABOVE FINISHED FLOOR							
AFH ABOVE FINISHED GRADE							
AJH AUTHORITY HAVING JURISDICTION							
AHU AIR HANDLING UNIT							
AI ANALOG INPUT							
AO ANALOG OUTPUT							
AP ACCESS PANEL							
APD AIR PRESSURE DROP							
AWG AMERICAN WIRE GAUGE							
B BOILER							
BAS BUILDING AUTOMATION SYSTEM							
BD BACKBONE							
BD BACKDRAFT DAMPER							
BFC BELOW FINISHED CEILING							
BFF BELOW FINISHED FLOOR							
BFG BELOW FINISHED GRADE							
BFP BOILER FEED PUMP							
BHP BRAKE HORSEPOWER							
BI BINARY INPUT							
BO BINARY OUTPUT							
BOD BOTTOM OF DUCT							
BOS BOTTOM OF STRUCTURE							
BTU BRITISH THERMAL UNIT							
CFM CUBIC FEET PER MINUTE							
CH CHILLER							
CLG COOLING							
CPT CONDENSATE PUMP							
CRAC REFRIGERANT							
CRU COMPUTER ROOM UNIT							
CT COOLING TOWER							
CV CONTROL VALVE							
CWP CONDENSER WATER PUMP							
CU CONDENSING UNIT							
CHWP CHILLED WATER PUMP							
DB DECIBELS							
DBA DECIBEL AVERAGE							
DDC DIRECT DIGITAL CONTROL							
DI DIGITAL INPUT							
DISC DISCONNECT							
DN DOWN							
DS DUCT SILENCER							
DX DIRECT EXPANSION							
EA EXHAUST AIR							
EAT ENTERING							
TH AIR TEMPERATURE							
ED EXHAUST DUCT							
EDB ENTERING DRY BULB							
EF EXHAUST FAN							
EFF EFFICIENCY							
EMS ENERGY MANAGEMENT SYSTEM							
ESP EXTERNAL STATIC PRESSURE							
ETR EXISTING TO REMAIN							
EWB ENTERING WET BULB							
EWT ENTERING WATER							
VEL VELOCITY							
VARIABLE FREQUENCY DRIVE							
FAN COIL UNIT							
FFA FROM FLOOR ABOVE							
FFB FROM FLOOR BELOW							
FF FINISHED FLOOR							
FPI FINS PER INCH							
FPM FEET PER MINUTE							
G GENERAL CONTRACTOR							
GPM GALLONS PER MINUTE							
HCA HAND-OPERATED AUTOMATIC							
HP HORSEPOWER							
HTG HEATING							



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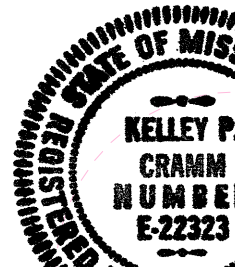


**MECHANICAL PLAN NOTES:**  
TEMPERATURE SENSORS IN THE SAME LOCATION AS ANY  
COIL AND SENSORS REMOVED. REPLACE CONTROL WIRE IF  
NECESSARY. COORDINATE WITH ARCHITECT. RELOCATE  
PENETRATION LOCATION AS NECESSARY TO MATCH NEW  
ANY OTHER WORKS.  
M6 DUCT UP TO FLOOR ABOVE. COORDINATE WITH ARCHITECT  
AND ANY EXISTING JOIST LOCATION.  
DO NOT EXISTING DUCTS IN LOCATION TO BE REMOVED. PROVIDE IN  
FLOOR AND SEAL WATER TIGHT.  
= Phase 2 Scope of Work  
(Not included in this Bid Package)

Ridgeview Elementary School

Liberty Public Schools  
701 Thornton Street  
Liberty, MO 64068

REVISIONS:		
#	Description	Date



11/10/2023

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LICENSE # E-22323

JOB NO: 23026  
DRAWN BY: KRV  
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DATE: 11.22.2023

M-101A

HVAC LEVEL 1 PLAN - AREA A

100% CONSTRUCTION  
DOCUMENTS

**HENDERSON**  
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8345 LENEKA DRIVE, SUITE 300  
LENEKA, KS 66214  
TEL 913.742.5000 FAX 913.742.5001  
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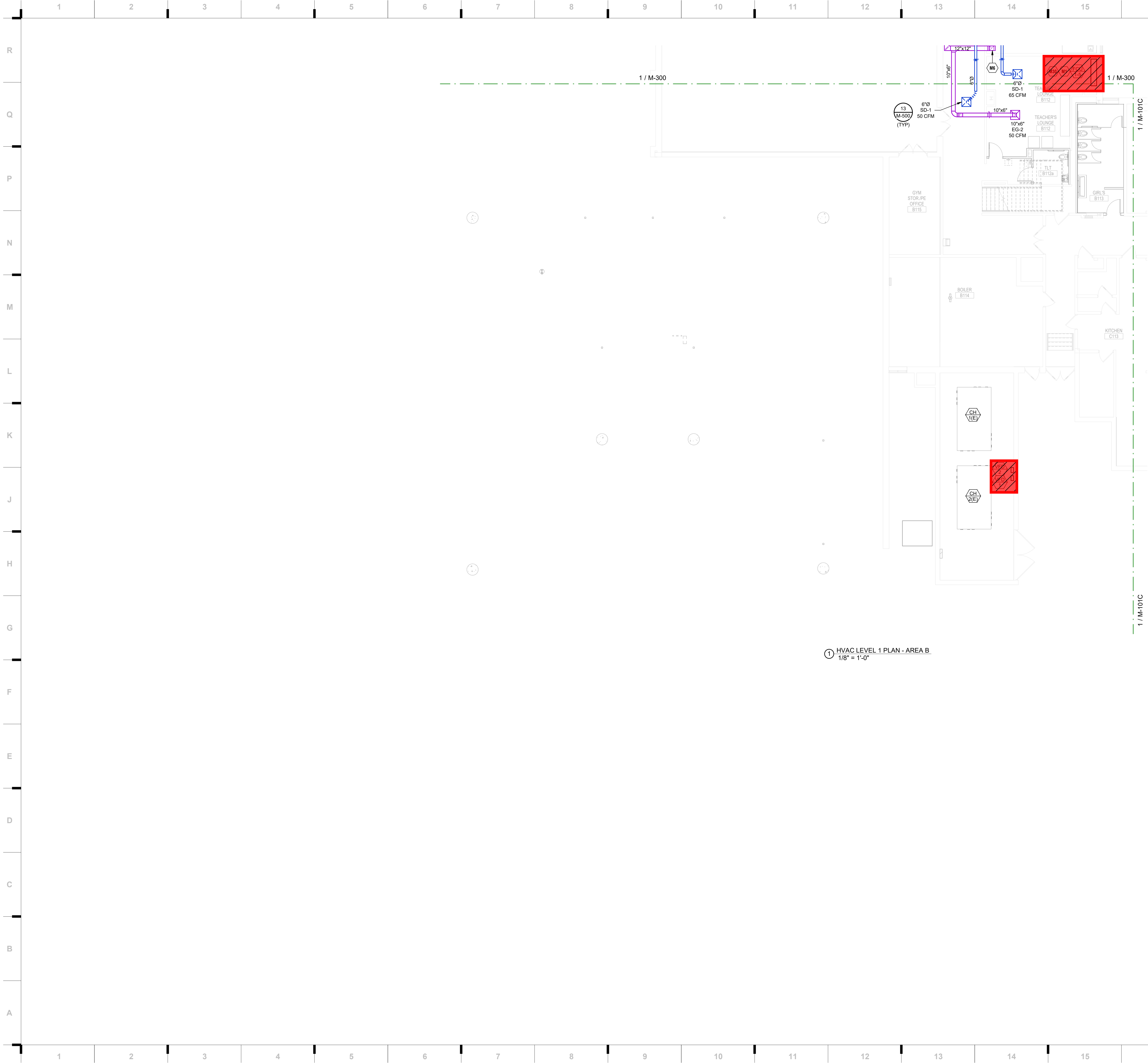
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① HVAC LEVEL 1 PLAN - AREA B  
1/8" = 1'-0"

MECHANICAL PLAN NOTES:

- REPLACE EXISTING 12" DIA. AND 12" DIA. CONDENSER COIL AND SENSER REMOVED. REPLACE CONTROL WIRE IF NECESSARY. COORDINATE WITH ARCHITECT FOR ANY EXISTING EQUIPMENT LOCATIONS AS NECESSARY TO MATCH NEW DUCT AND COIL LOCATIONS.
- M6 DUCT UP TO FLOOR ABOVE. COORDINATE WITH ARCHITECT AND ANY EXISTING JOIST LOCATION.
- EXISTING CONDENSER COILS TO REMAIN. PROVIDE R-10 INSULATION AND SEAL WATER TIGHT.

X = Phase 2 Scope of Work  
(Not included in this Bid Package)

Ridgeview Elementary School  
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M-101B

HVAC LEVEL 1 PLAN - AREA B

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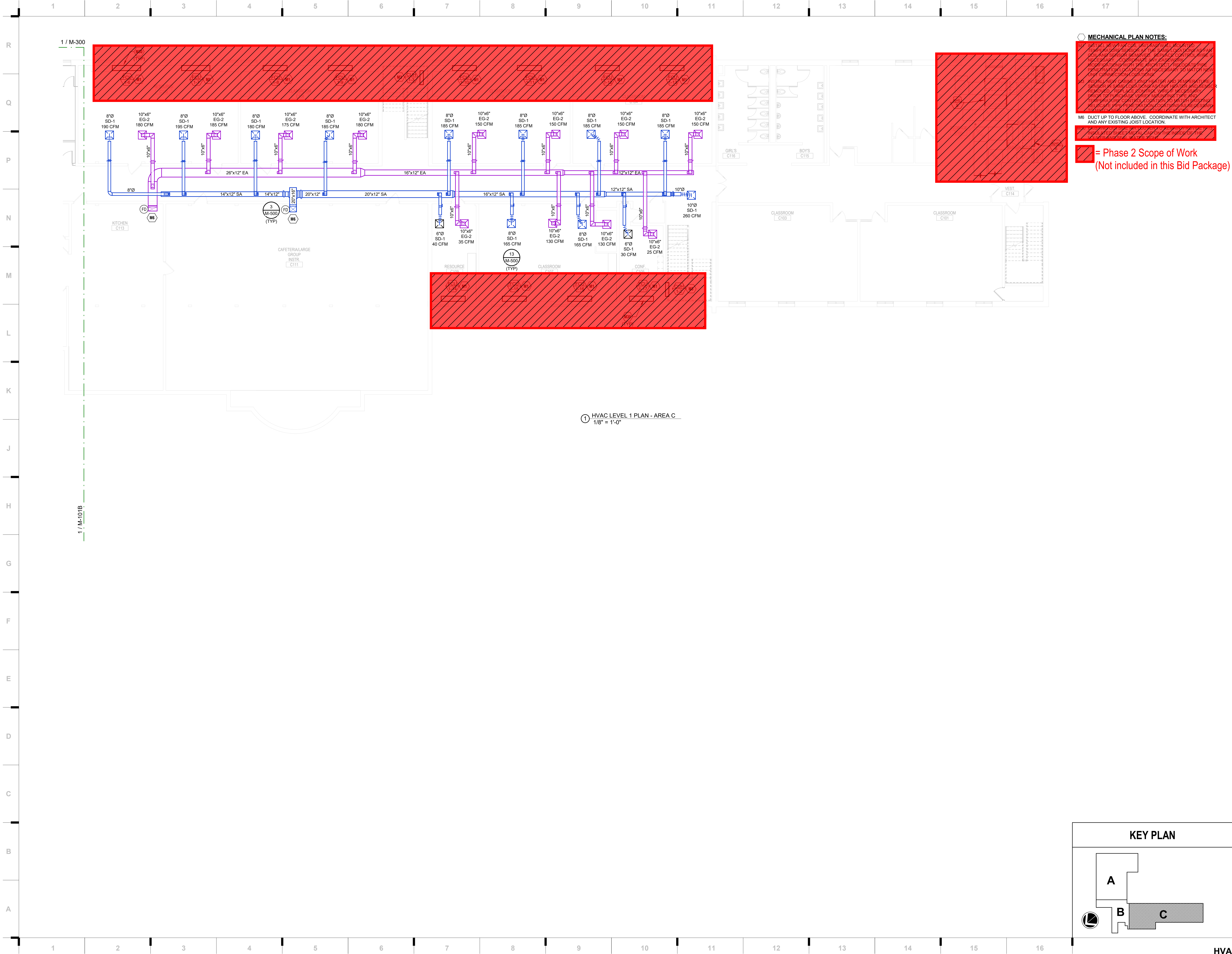
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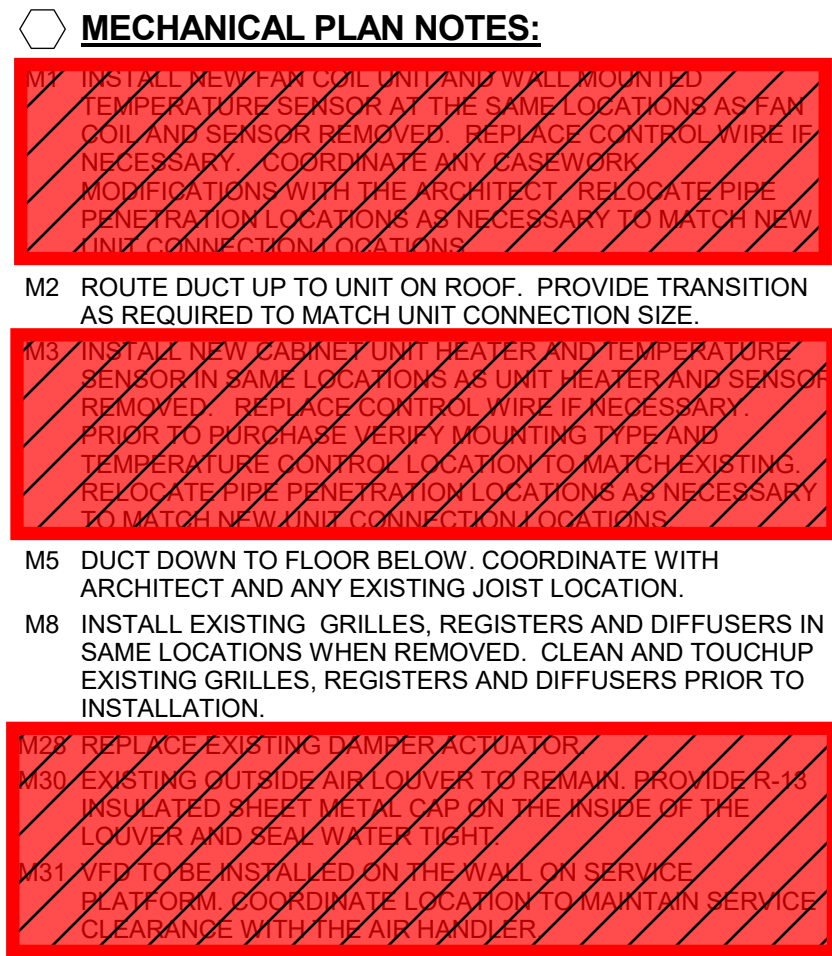
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**100% CONSTRUCTION DOCUMENTS**

# Ridgeview Elementary School

## Liberty Public Schools

**701 Thornton Street  
Liberty, MO 64068**

**REVISIONS:**

#	Description	Date
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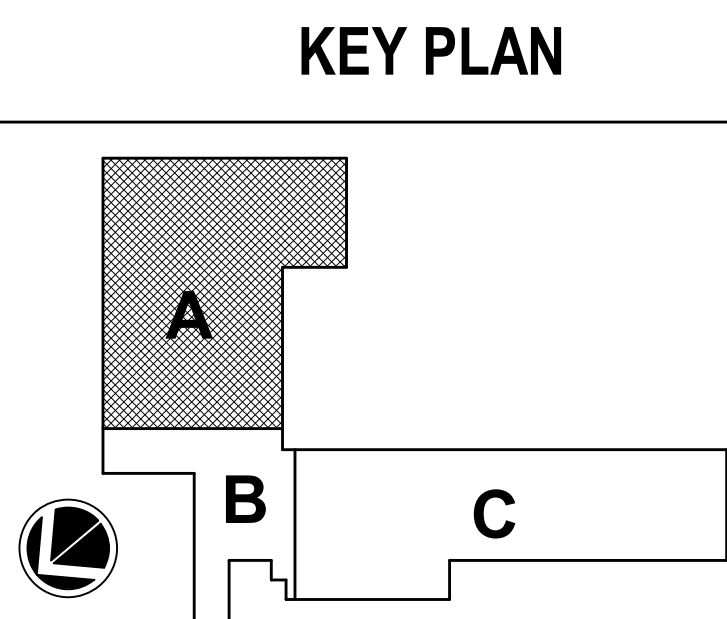
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LICENSE # E-022323

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JOB NO: 23026  
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CHECKED BY: JMF  
DATE: 11.22.2023

# M-102A



### C LEVEL 2 PLAN - AREA A



11/10/2023 8:37:03 AM  
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#### MECHANICAL PLAN NOTES:

- M2 ROUTE DUCT UP TO UNIT ON ROOF. PROVIDE TRANSITION AS REQUIRED TO MATCH UNIT CONNECTION SIZE.
- M4 EXISTING ABANDONED WALL HEATER SHALL REMAIN.
- M5 DUCT DOWN TO FLOOR BELOW. COORDINATE WITH ARCHITECT AND ANY EXISTING JOIST LOCATION.
- M8 INSTALL EXISTING GRILLES, REGISTERS AND DIFFUSERS IN SAME LOCATIONS WHEN REMOVED. CLEAN AND TOUCHUP EXISTING GRILLES, REGISTERS AND DIFFUSERS PRIOR TO INSTALLATION.
- M11 ROUTE 8" EXHAUST DUCT UP THROUGH ROOF AND TERMINATE WITH GOOSENECK. COORDINATE PENETRATION WITH STRUCTURAL AND OTHER DISCIPLINES. MAINTAIN A MINIMUM 10'-0" FROM ANY FRESH AIR INTAKES.
- M17 RELOCATED SUPPLY DIFFUSER. BALANCE TO NEW AIRFLOW LISTED.
- M18 RELOCATED RETURN GRILLE.
- M20 BALANCE DIFFUSER TO NEW LISTED AIR FLOW.

**[Red Hatched Area]** = Phase 2 Scope of Work  
(Not included in this Bid Package)

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**100% CONSTRUCTION DOCUMENTS**

**Ridgeview Elementary School**  
Liberty Public Schools  
701 Thornton Street  
Liberty, MO 64068

REVISIONS:

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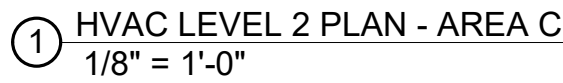
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**KEY PLAN**

JOB NO: 23026  
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**M-102B**





 = Phase 2 Scope of Work  
(Not included in this Bid Package)

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MO. CORPORATE NO: E-556D  
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**100% CONSTRUCTION DOCUMENTS**

**Ridgeview Elementary School**  
Liberty Public Schools  
701 Thornton Street  
Liberty, MO 64068

**REVISIONS:**

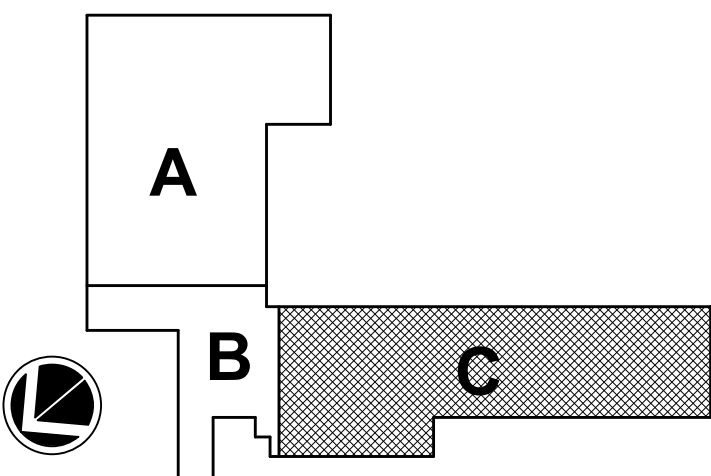
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JOB NO: 23026  
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# M-102C

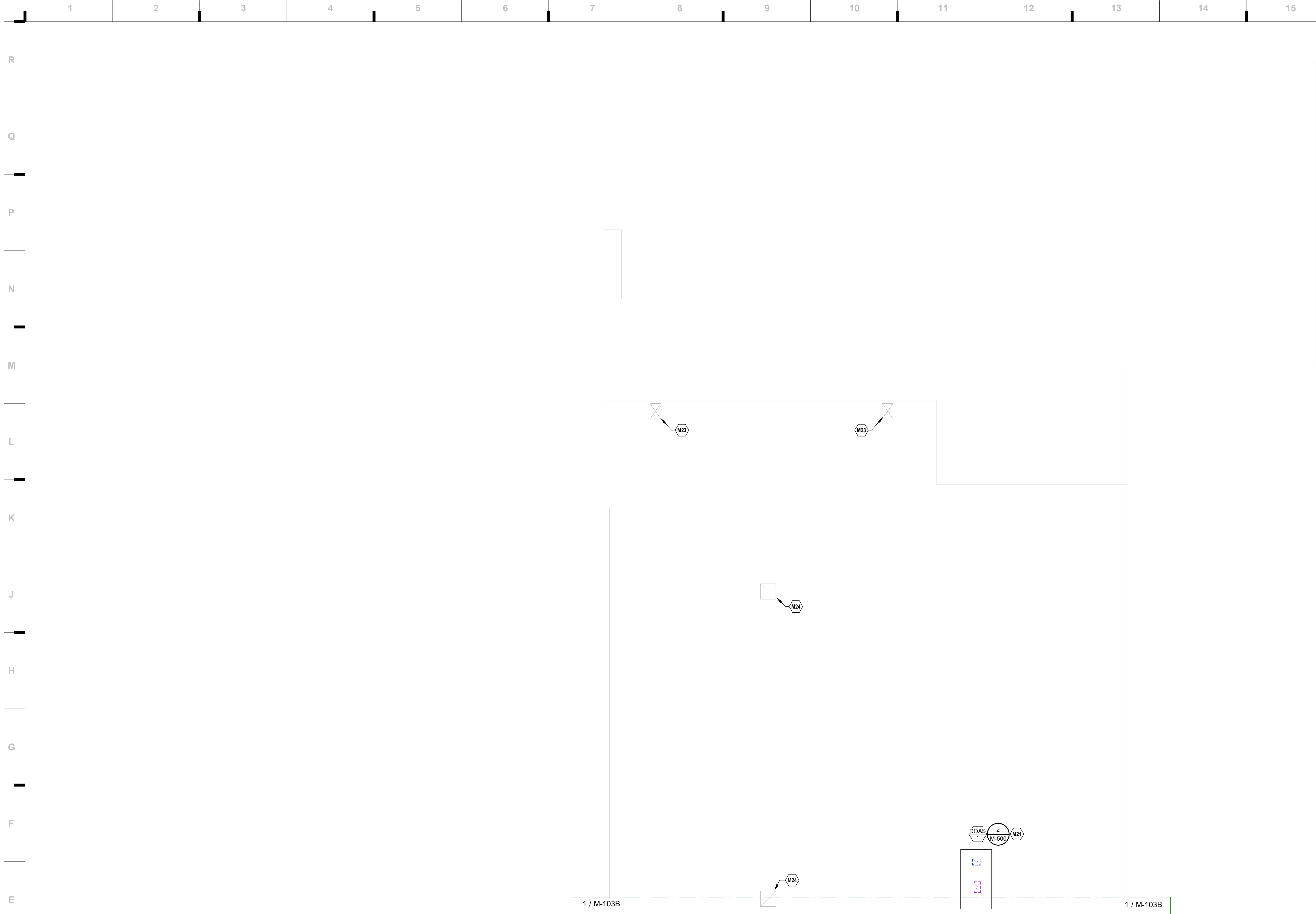
## KEY PLAN



## HVAC LEVEL 2 PLAN - AREA C



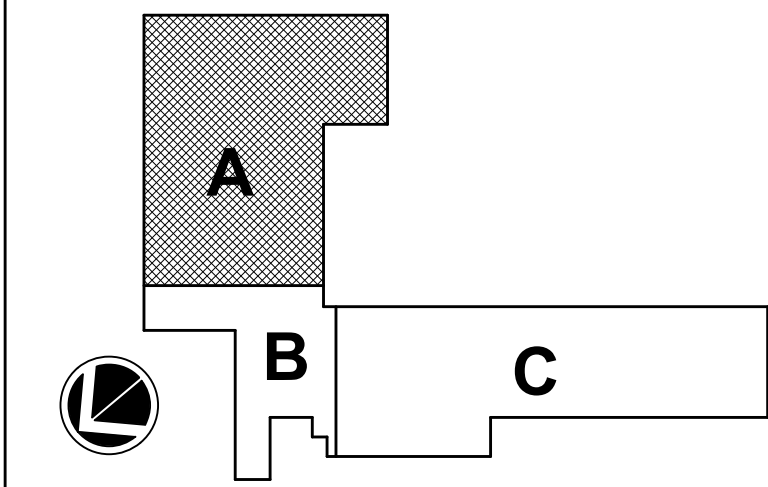
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KELLEY P. CRAMM



① HVAC ROOF PLAN - AREA A  
1/8" = 1'-0"

**MECHANICAL PLAN NOTES:**  
M21 INSTALL DOAS UNIT AT LOCATION SHOWN. COORDINATE WITH STRUCTURAL. MAINTAIN A MINIMUM 10'-0" CLEAR FROM ALL EXHAUST VENTS, FANS AND PLUMBING VTR'S.  
M23 EXISTING OUTSIDE AIR INTAKE TO REMAIN.  
M24 EXISTING RELIEF AIR HOOD TO REMAIN.

### KEY PLAN



**Ridgeview Elementary School**  
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# M-103A

HVAC ROOF PLAN - AREA A

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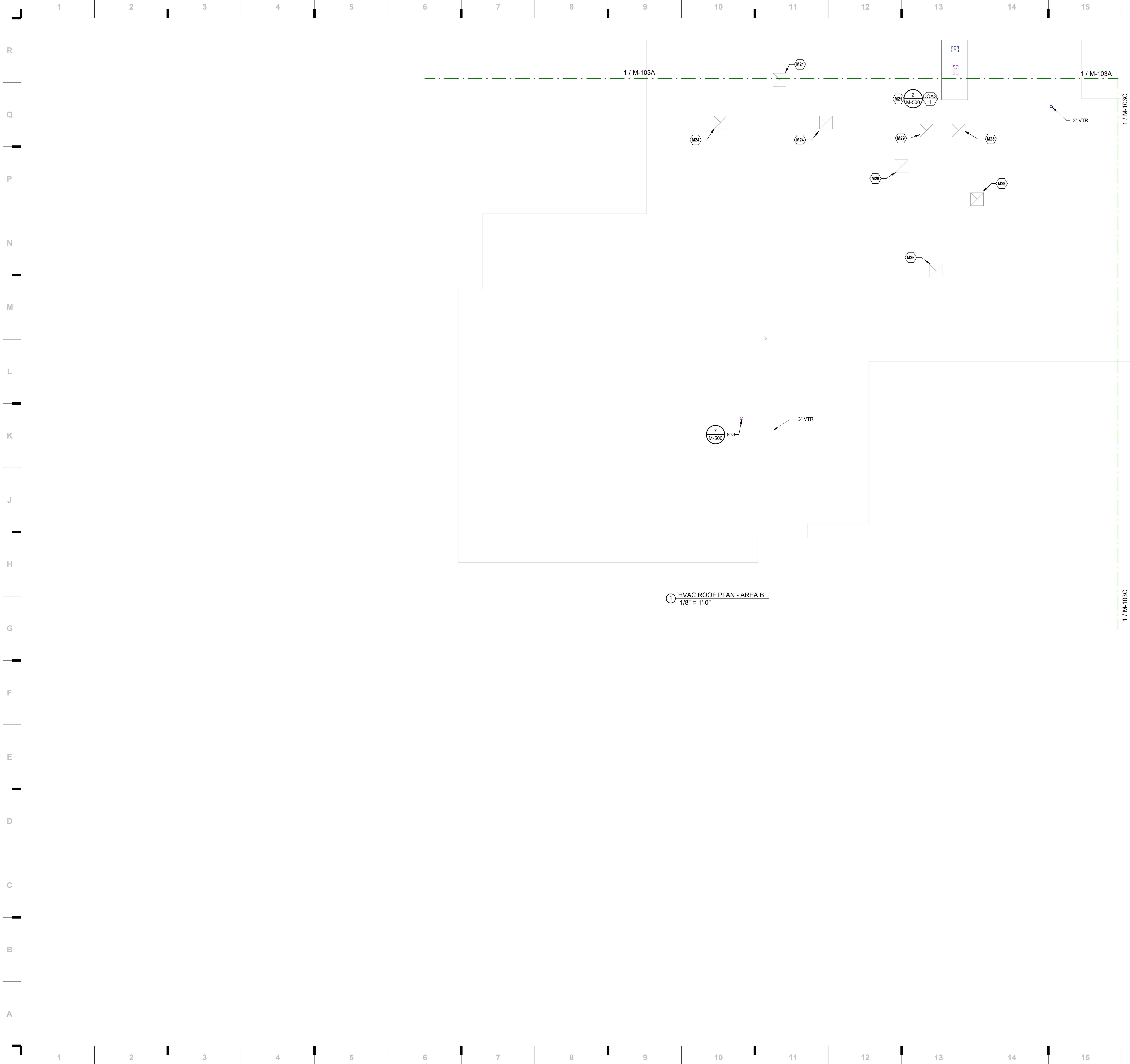
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**MECHANICAL PLAN NOTES:**  
M21 INSTALL DOAS UNIT AT LOCATION SHOWN. COORDINATE WITH STRUCTURAL. MAINTAIN A MINIMUM 10'0\"/>

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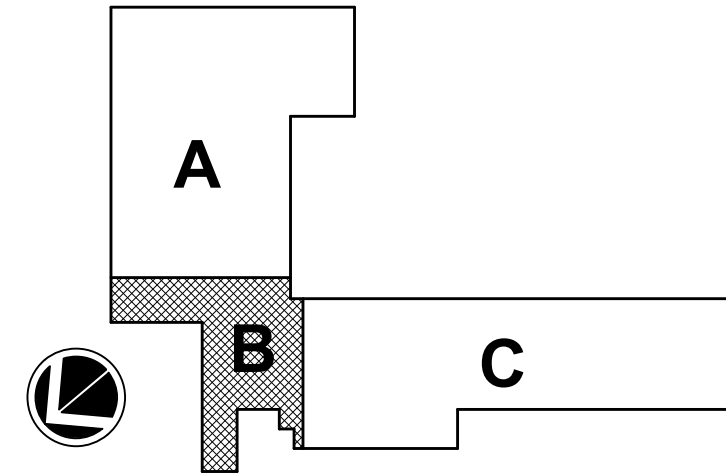
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**M-103B**

## KEY PLAN

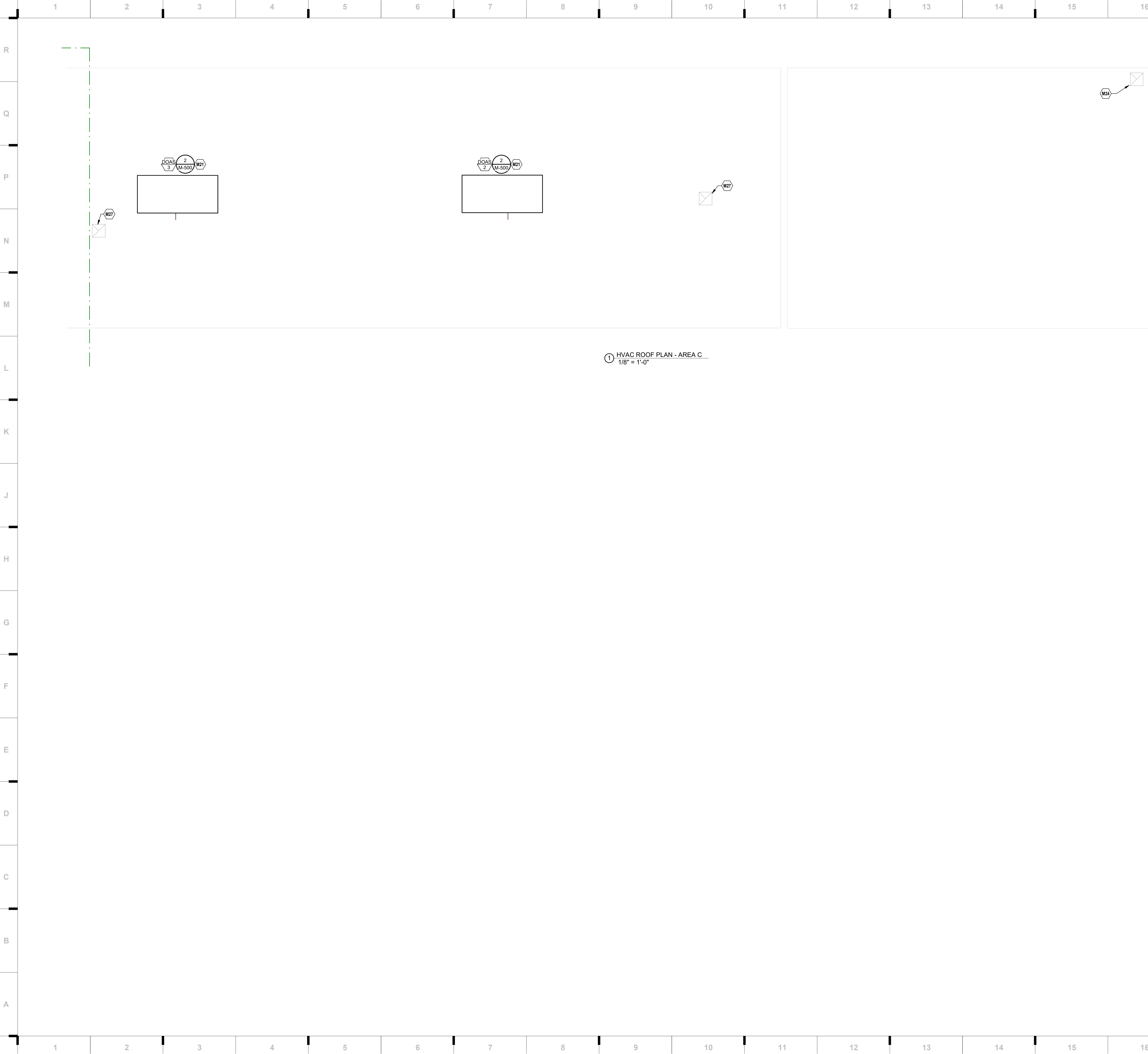


HVAC ROOF PLAN - AREA B

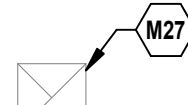
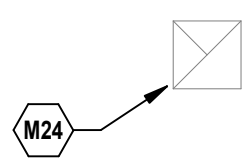
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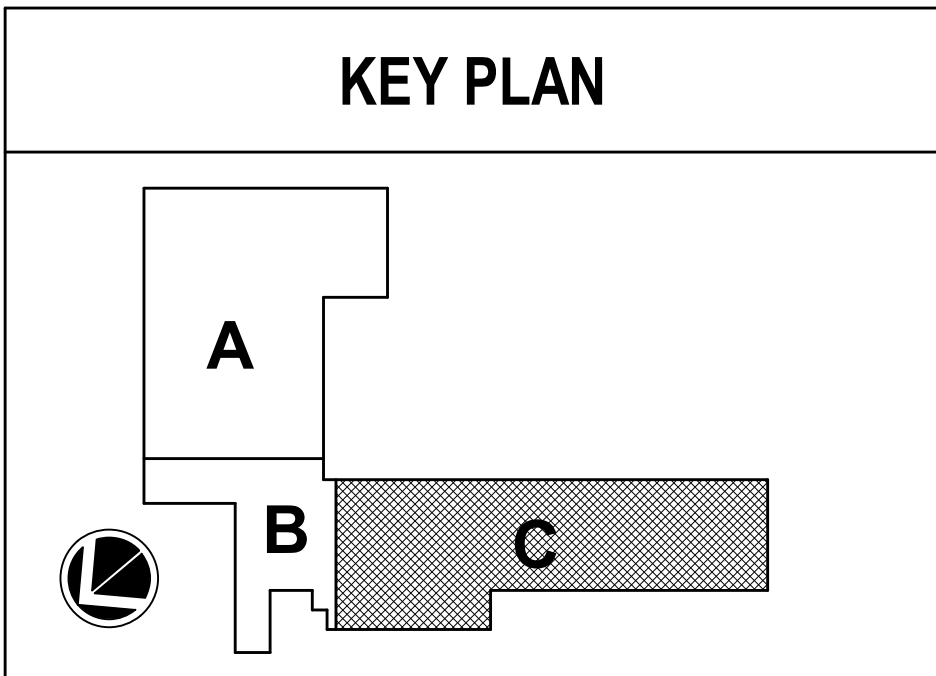
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**MECHANICAL PLAN NOTES:**  
M21 INSTALL DOAS UNIT AT LOCATION SHOWN. COORDINATE WITH STRUCTURAL. MAINTAIN A MINIMUM 10'-0" CLEAR FROM ALL EXHAUST VENTS, FANS AND PLUMBING VTR'S.  
M24 EXISTING RELIEF AIR HOOD TO REMAIN.  
M27 EXISTING RELIEF AIR HOOD TO BE REMOVED. PROVIDE R-13 INSULATED CROSS BROKEN SHEET METAL CAP ON EXISTING ROOF CURB. SEAL WATER TIGHT.



1 HVAC ROOF PLAN - AREA C  
1/8" = 1'-0"



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**M-103C**

HVAC ROOF PLAN - AREA C

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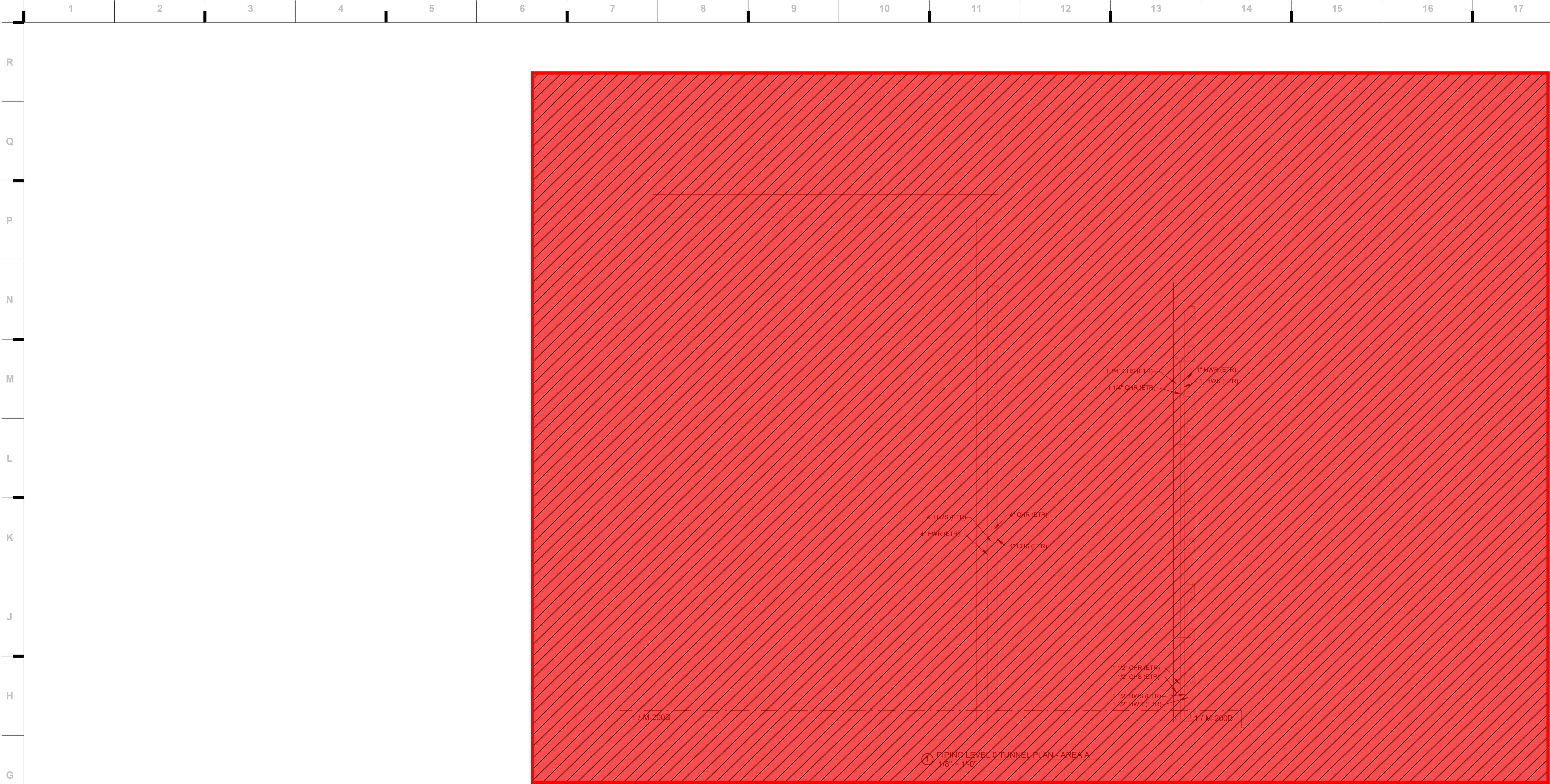
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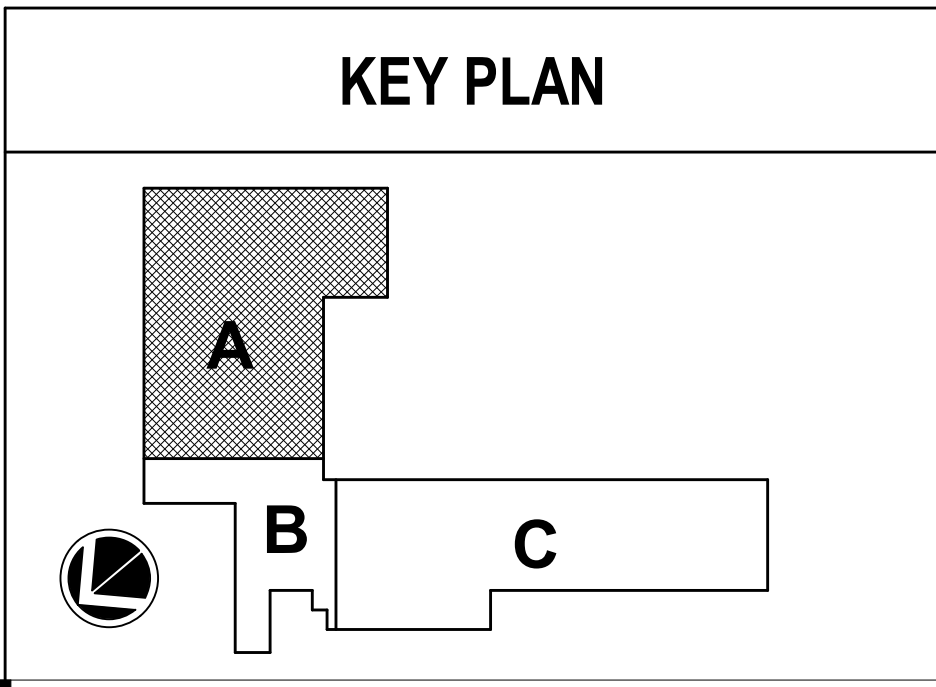
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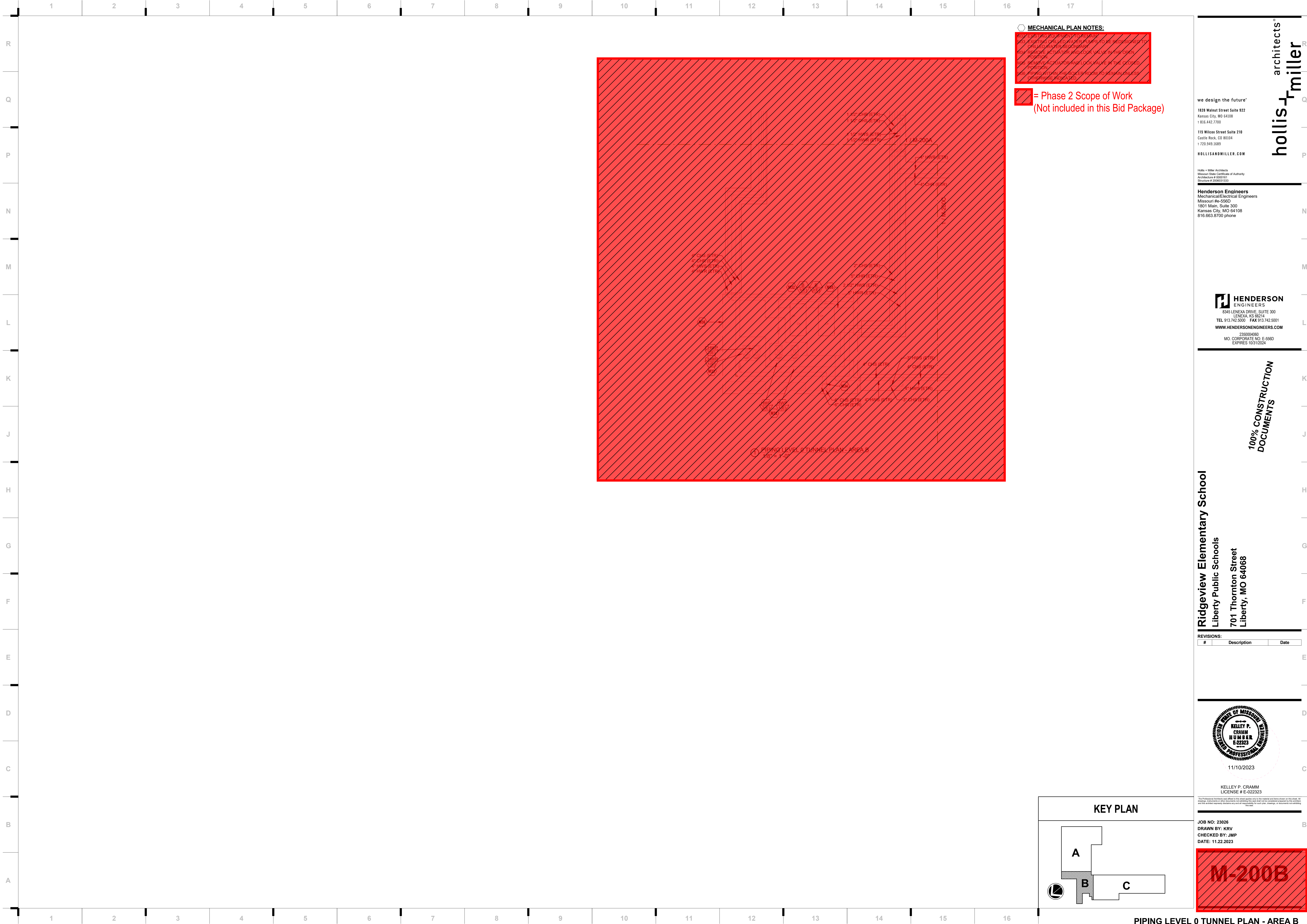
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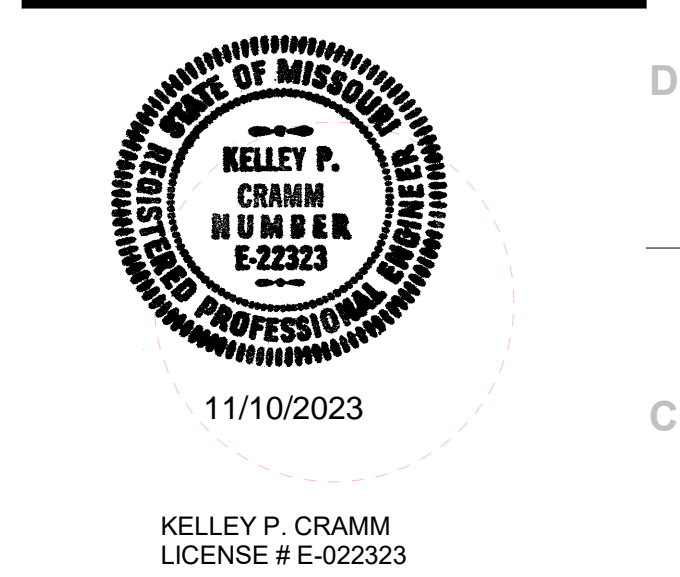


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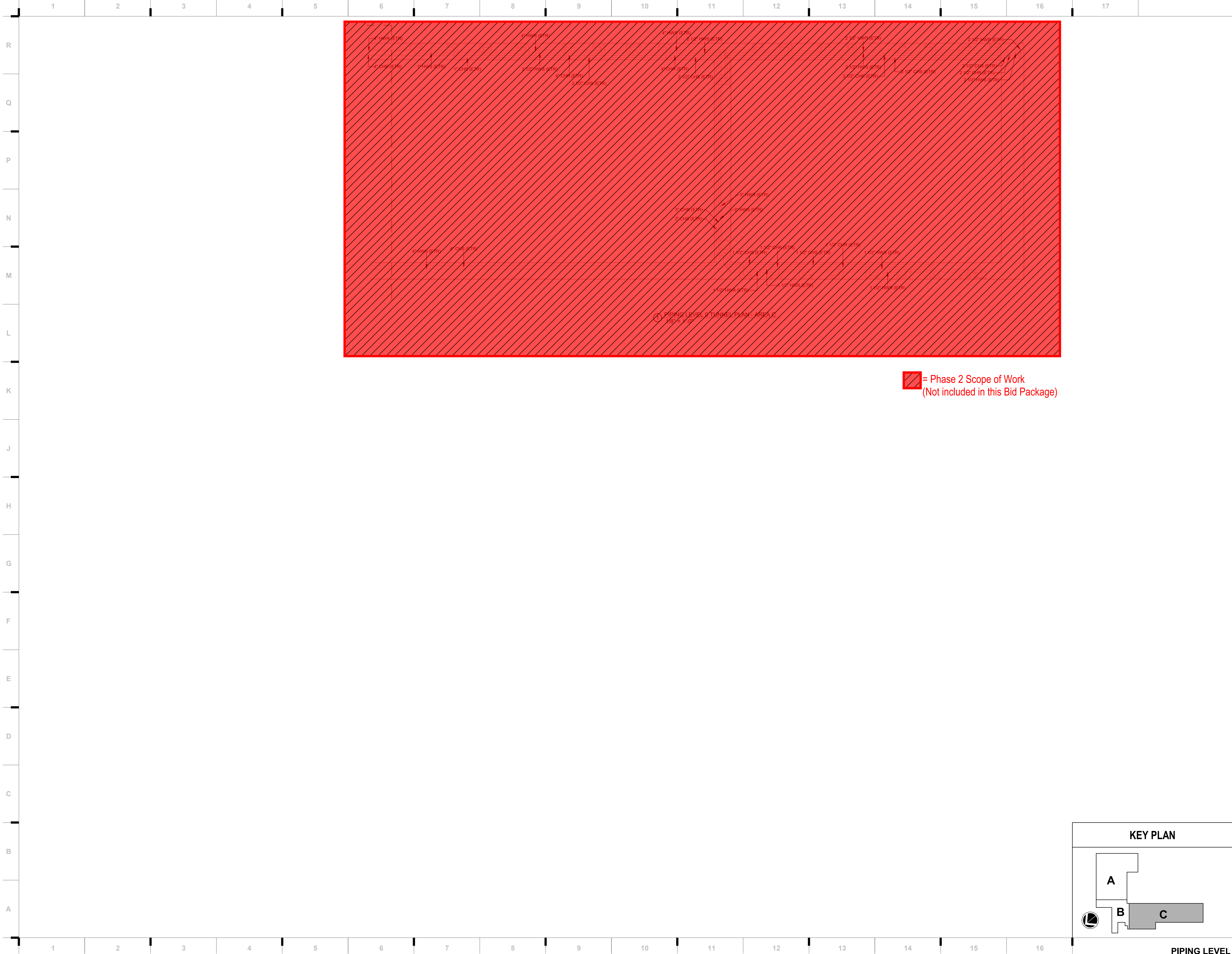
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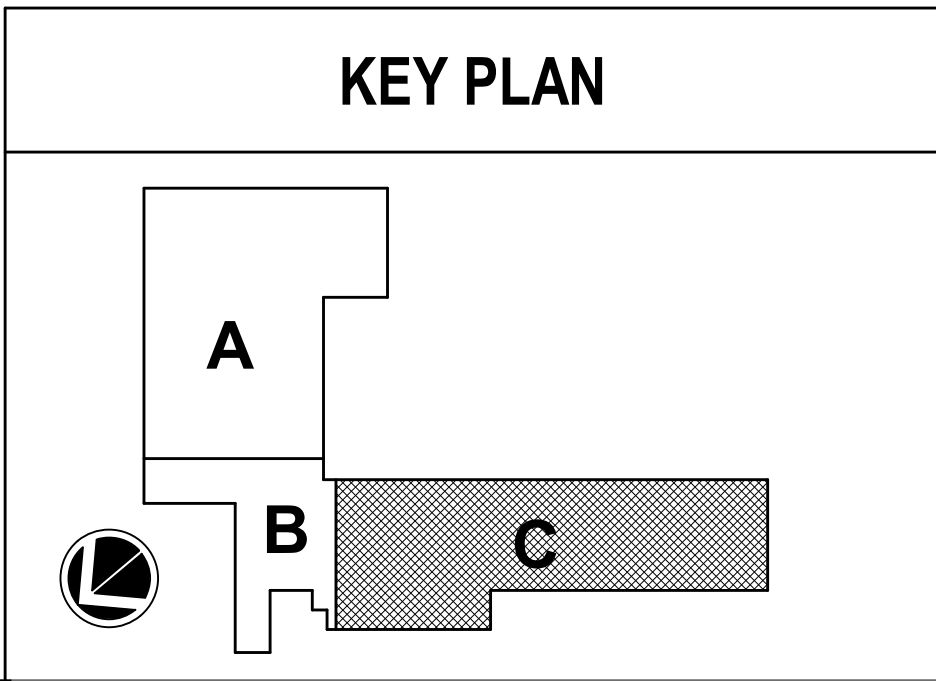
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PIPING LEVEL 0 TUNNEL PLAN - AREA C

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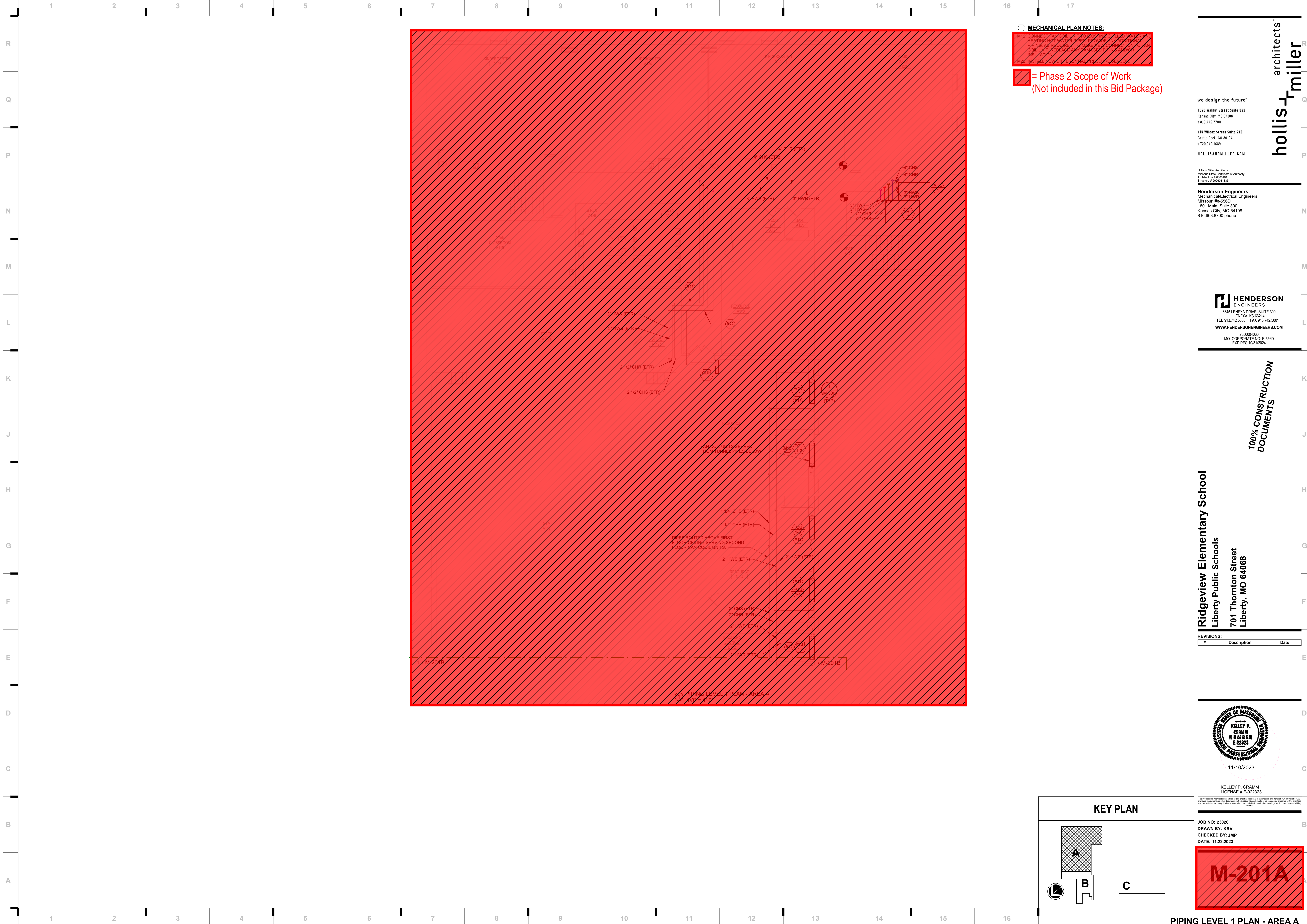
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**MECHANICAL PLAN NOTES:**  
1. ALL EXISTING PIPING TO REMAIN SHALL BE SHOWN IN RED. ALL NEW PIPING SHALL BE SHOWN IN BLACK.  
2. PIPING AS REQUIRED TO MAKE NEW CONNECTION TO PAN COIL UNIT. RESHADE ANY DAMAGED PIPING AND/OR INSULATION.  
3. M22 INSTALL NEW DIFFERENTIAL PRESSURE SENSOR.  
  
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REGISTERED PROFESSIONAL ENGINEER  
STATE OF MISSOURI  
E-22223  
11/10/2023

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LICENSE # E-02223

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**M-201A**

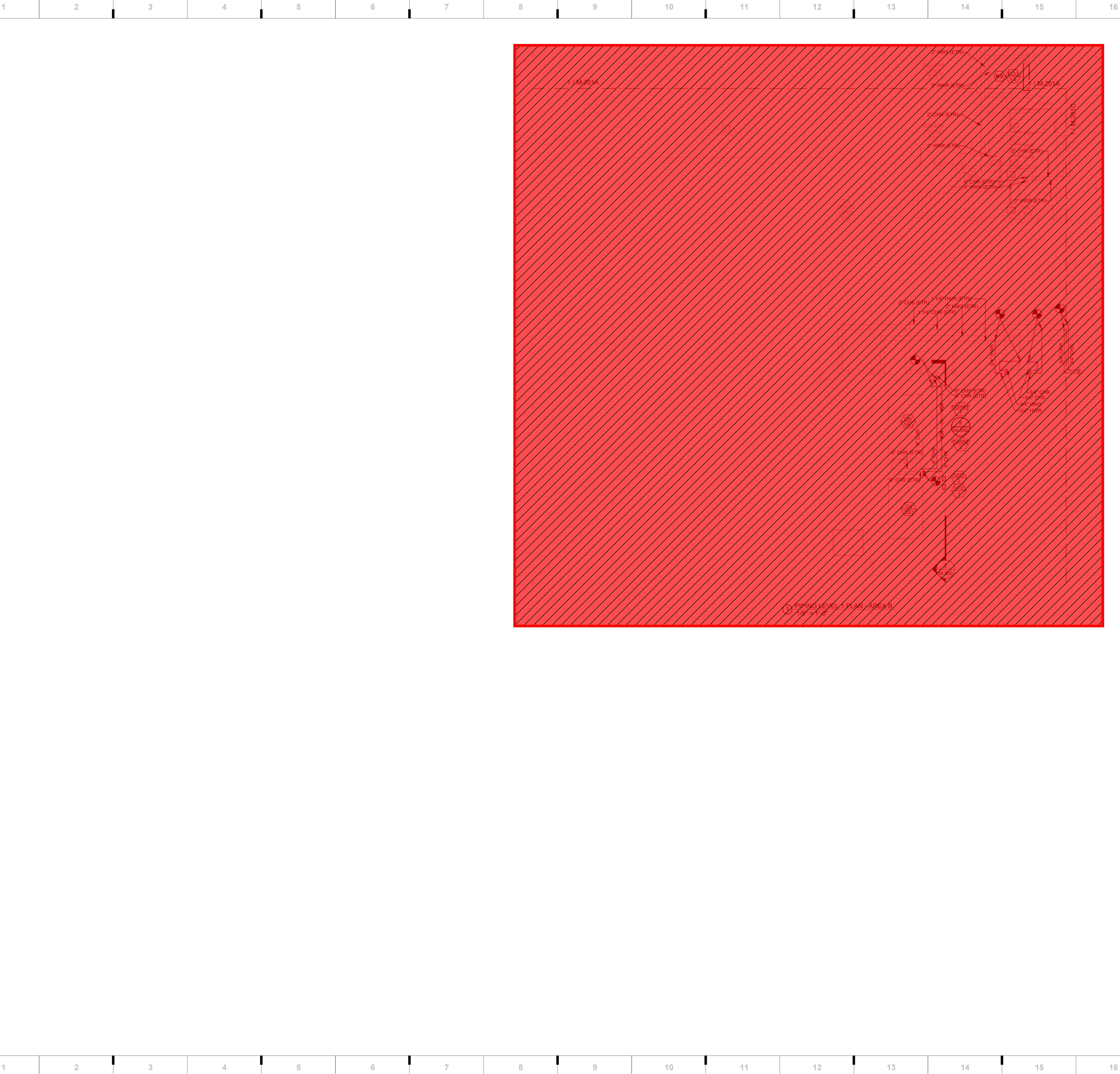
**KEY PLAN**

**PIPING LEVEL 1 PLAN - AREA A**

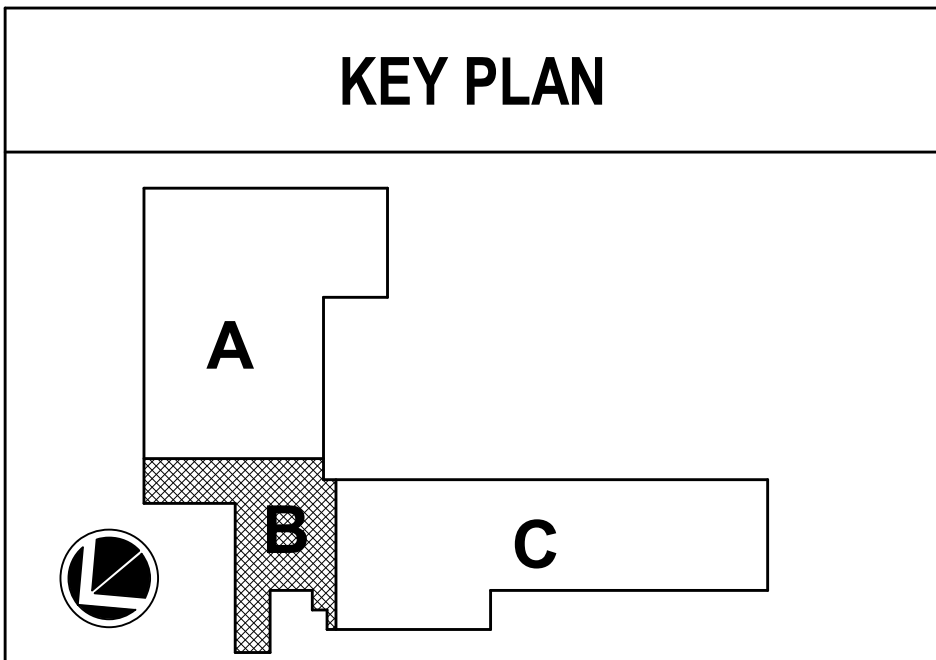


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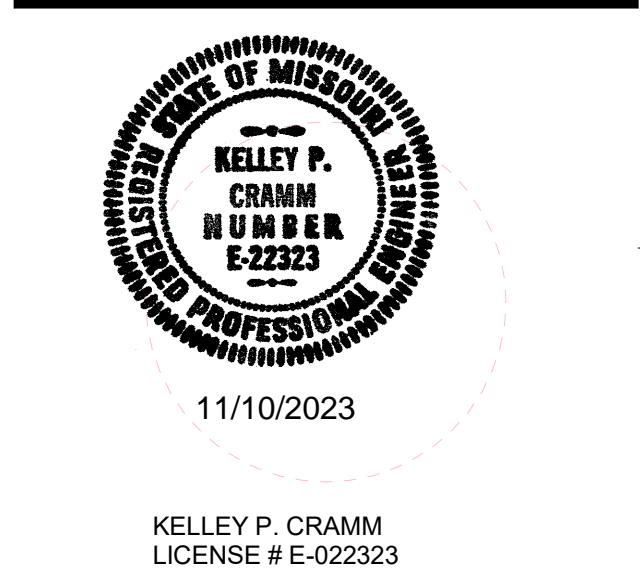


**MECHANICAL PLAN NOTES:**  
ALL PIPING TO BE INSTALLED TO EXISTING SANITARY WATER AND  
HEATING HOT WATER BOILER. PROVIDE AN ADDITIONAL  
PIPING AS REQUIRED TO MAKE NEW CONNECTION TO PAN  
COIL UNIT. RESERVE ANY DAMAGED PIPING AND/OR  
EQUIPMENT.  
  
= Phase 2 Scope of Work  
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**M-201B**

PIPING LEVEL 1 PLAN - AREA B

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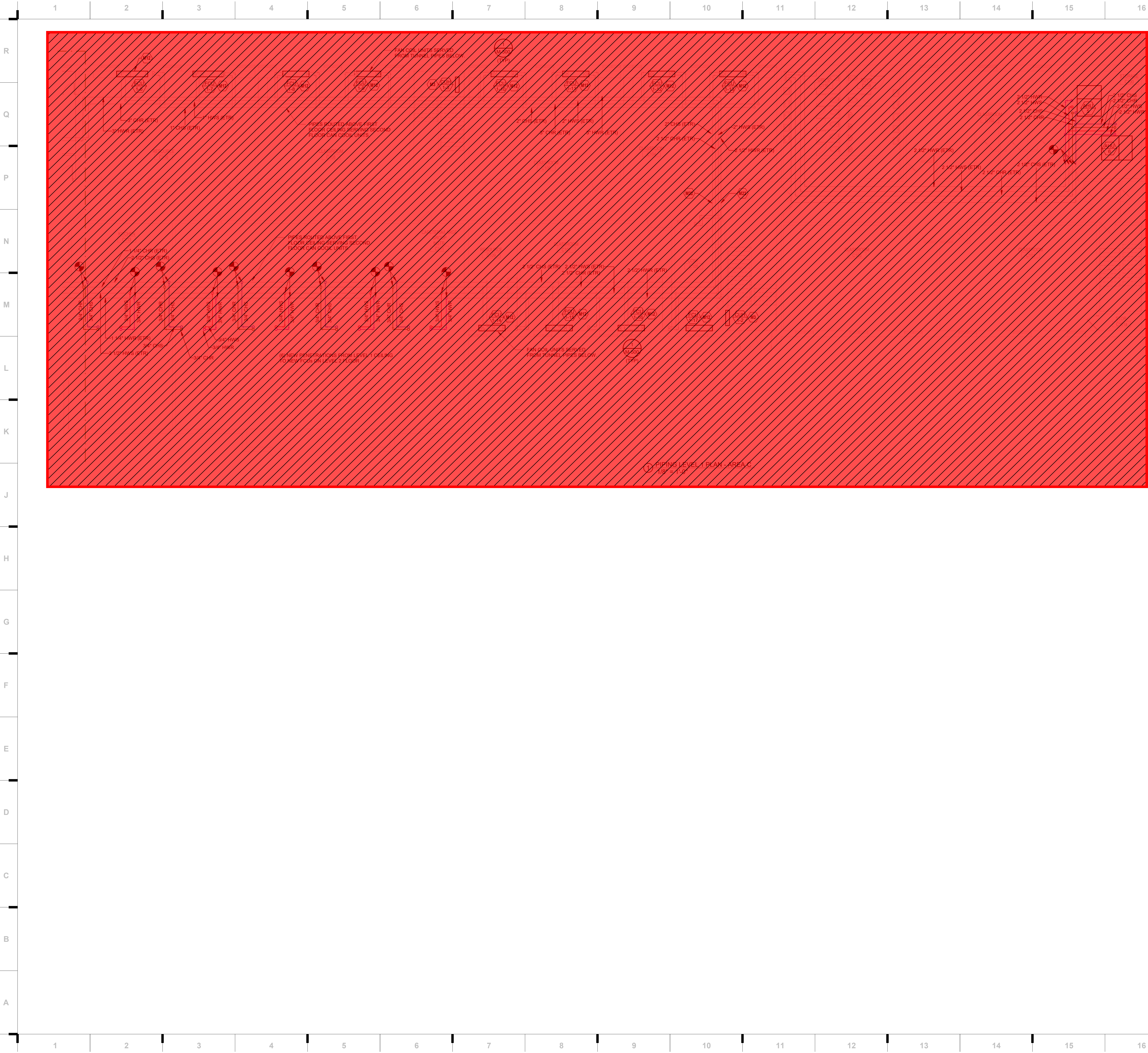
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KELLEY P. CRAMM



**MECHANICAL PLAN NOTES:**

- 1. REMOVE NEW COIL UNIT BEARING ANY UNDERMINING REMOVED. REPAIRS TO UNIT HEATING/COOLING SERVICED. REMOVE. REPLACE CONTROL WIRE IF NECESSARY. PROVIDE TO PIPING SERVICE WORKING IN THE AND TEMPERATURE CONTROL LOCATION TO ANY HEATING/COOLING. RELOCATE PIPE PENETRATION LOCATIONS AS NECESSARY TO MATCH NEW ANY SERVICE PENETRATION.
- 2. CONNECT FAN COIL UNIT TO EXISTING 2 1/2" WATER AND HEATING HOT WATER PIPES. PROVIDE ANY ADDITIONAL PIPING AS REQUIRED TO MAINTAIN CONNECTION TO FAN COIL. MUST REPLACE ANY DAMAGED PIPES AND/OR INSULATION.
- 3. INSTALL NEW DIFFERENTIAL PRESSURE SENSOR.

**[Red Hatched Box] = Phase 2 Scope of Work (Not included in this Bid Package)**

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**KELLEY P. CRAMM**  
REGISTERED PROFESSIONAL ENGINEER  
E-22233  
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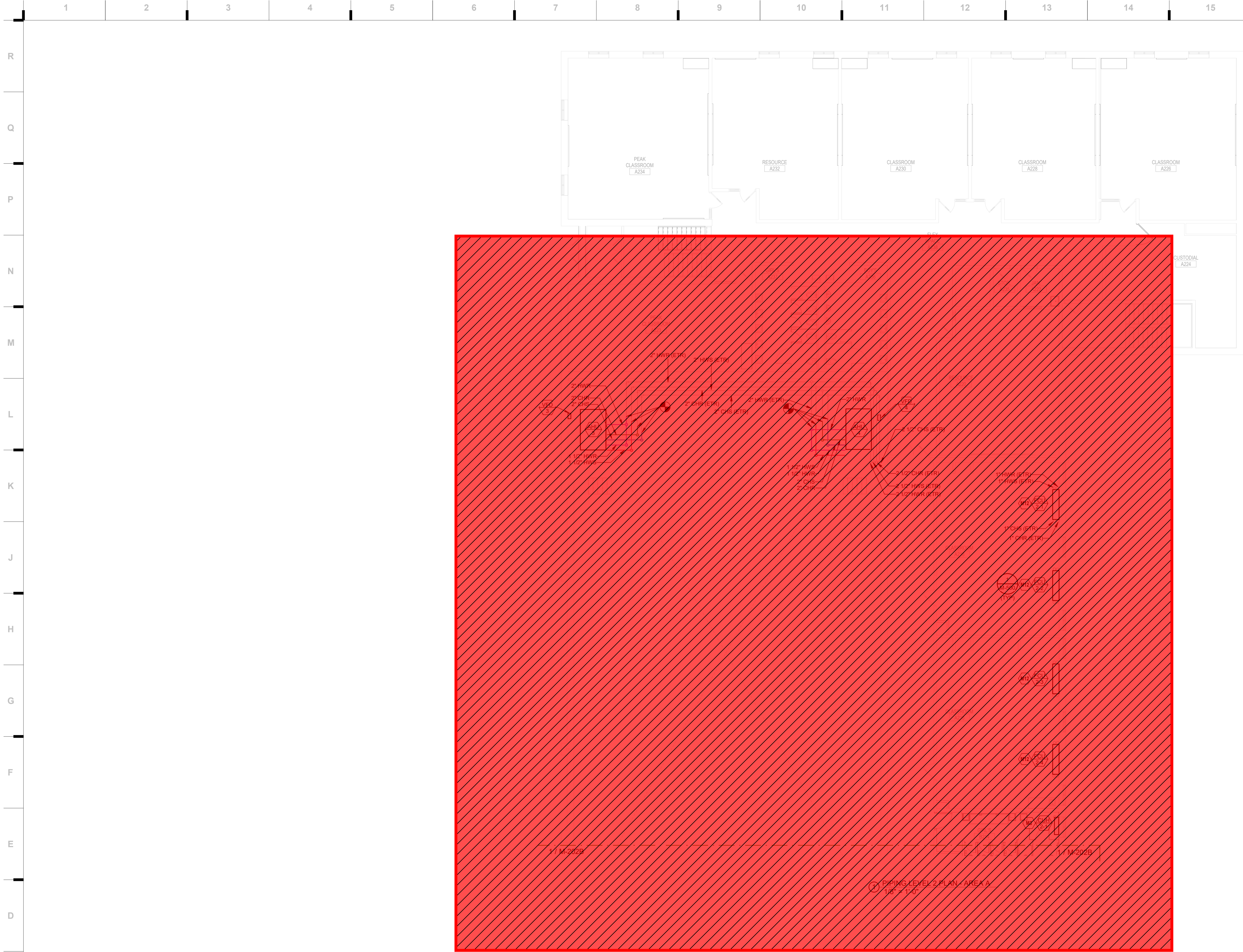
**KEY PLAN**

**M-201C**

PIPING LEVEL 1 PLAN - AREA C



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KELLEY P. CRAMM



MECHANICAL PLAN NOTES:

ALL PIPING IS TO BE INSTALLED IN THE UNIT BEFORE ANY UNIT HEATING AND COOLING DEVICES ARE REMOVED. REPLACE CONTROL WIRE IF NECESSARY. PROVIDE A MINIMUM OF 1\"/>

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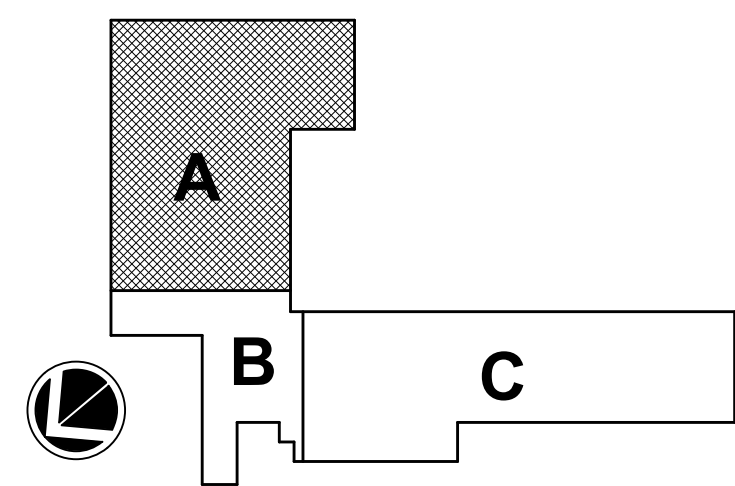
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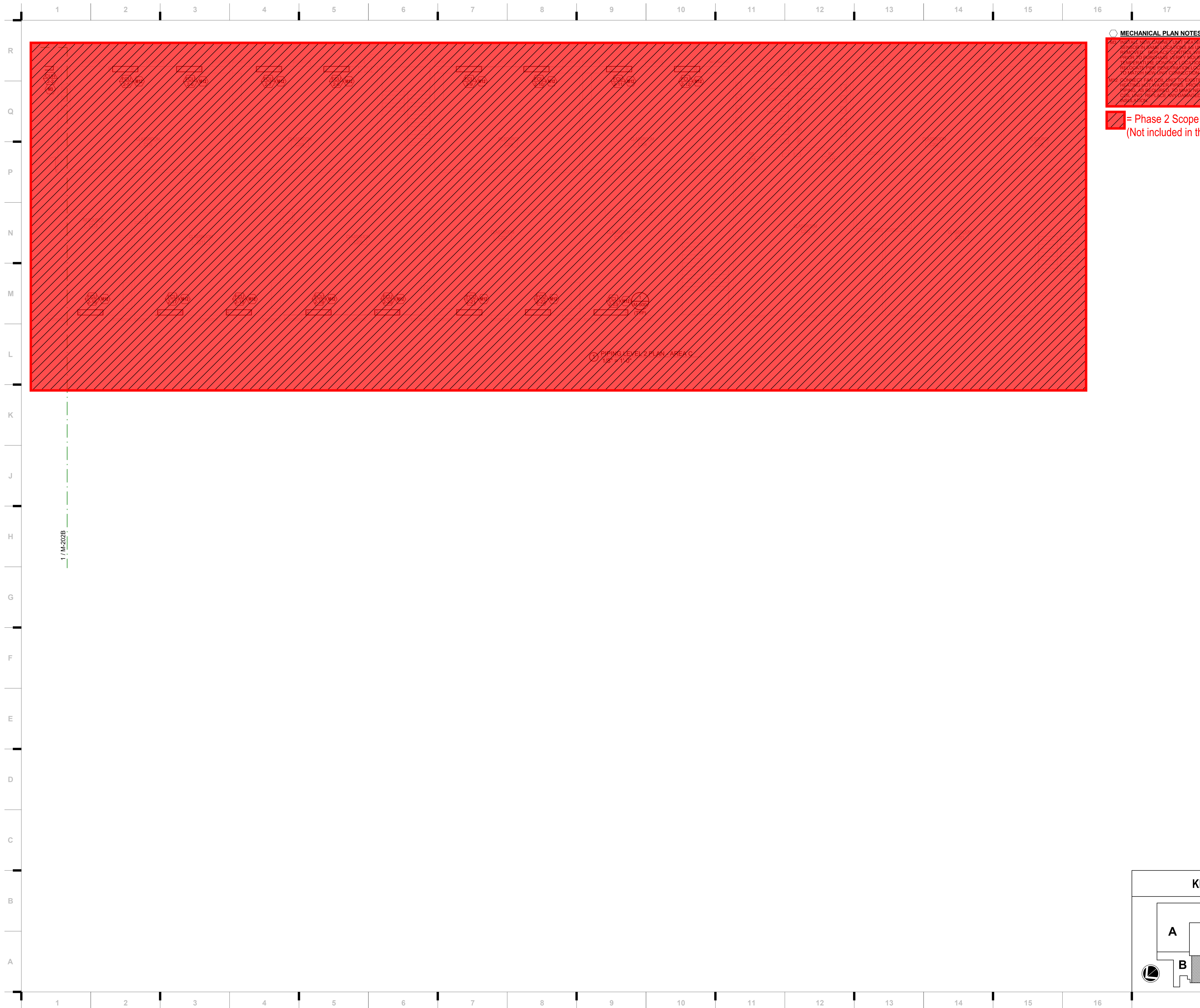
PIPING LEVEL 2 PLAN - AREA A

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 **MECHANICAL PLAN NOTES:**

M3. INSTALL NEW CABINET UNIT HEATER AND TEMPERATURE SENSOR IN SAME LOCATIONS AS UNIT HEATER AND SENSOR REMOVED. REPLACE CONTROL WIRE IF NECESSARY. PRIOR TO PURCHASE VERIFY MOUNTING TYPE AND TEMPERATURE CONTROL LOCATION TO MATCH EXISTING. RELOCATE PIPE PENETRATION LOCATIONS AS NECESSARY TO MATCH NEW UNIT CONNECTION LOCATIONS.

M2. CONNECT FAN COIL UNIT TO EXISTING CHILLED WATER AND HEATING HOT WATER PIPES. PROVIDE ANY ADDITIONAL PIPING AS REQUIRED. TO MAKE NEW CONNECTION TO FAN COIL UNIT REPLACE ANY DAMAGED PIPING AND/OR INSULATION.

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EXPIRES 10/31/2024

**Ridgeview Elementary School**  
Liberty Public Schools

## Industry: Automotive

**701 Thornton Street  
Liberty, MO 64068**

**100% CONSTRUCTION DOCUMENTS**

**REVISIONS:**

#	Description	Date
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1/10/2023

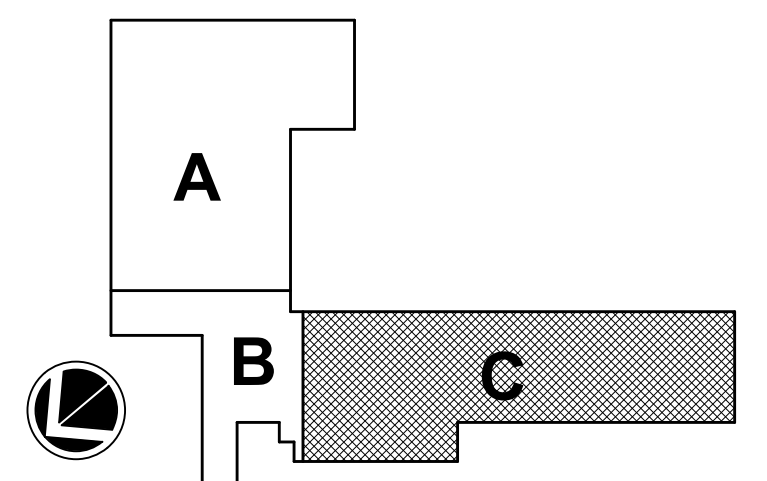
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JOB NO: 23026  
DRAWN BY: KRV  
CHECKED BY: JMP  
DATE: 11.22.2023

**M-202C**

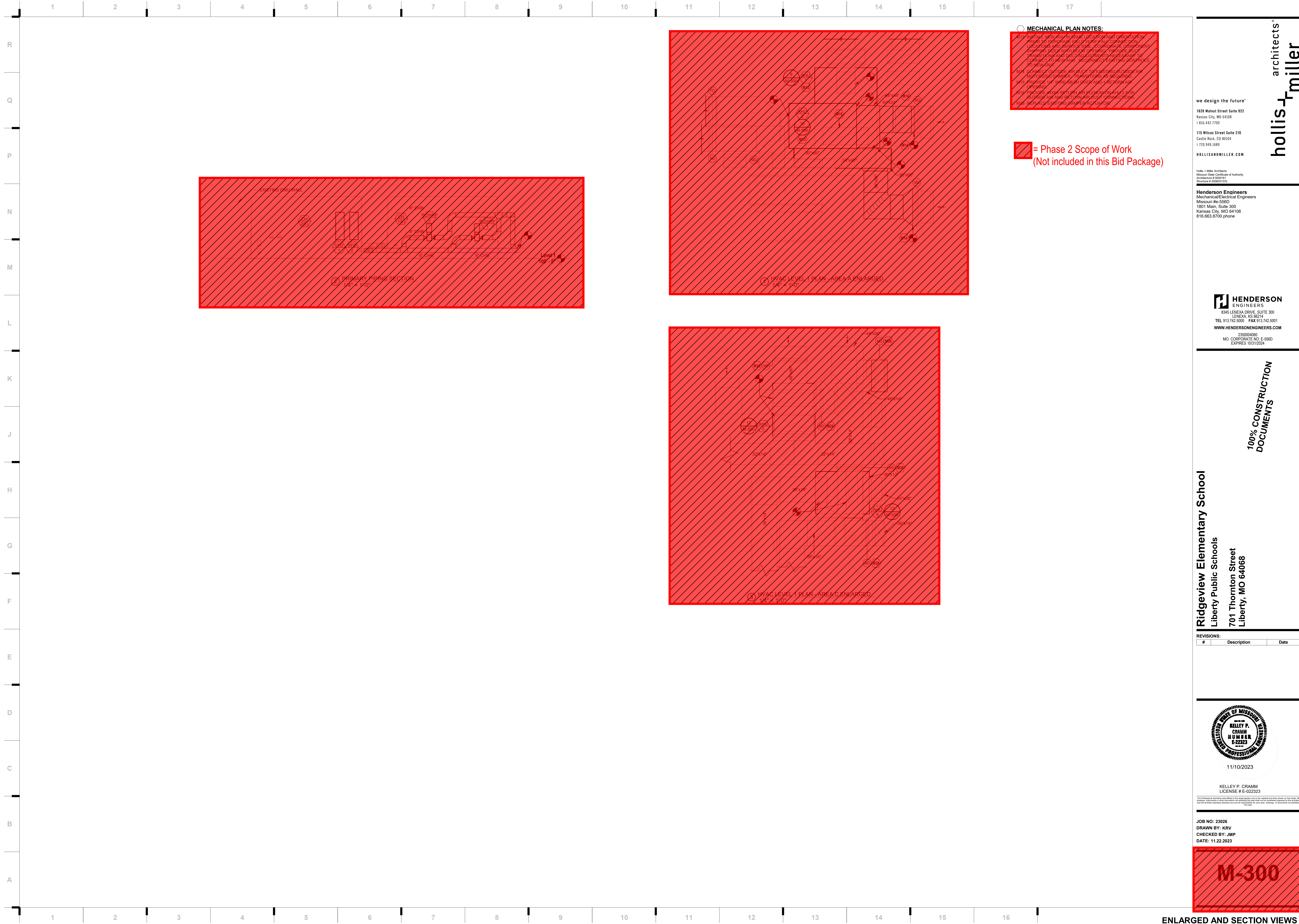
## KEY PLAN



### PIPING LEVEL 2 PLAN - AREA C



11/10/2023 8:35:39 AM  
KELLEY P. CRAMM



**MECHANICAL PLAN NOTES:**  
1. INSTALL NEW AHU IN SAME LOCATION AND ORIENT MON. BEFORE 10/15/2023. 2. COORDINATE COMPONENT LOCATIONS AND DESIGN SIZE. 3. COORDINATE COMPONENT SHUTTERS WITH EXISTING FRAME. 4. PROVIDE AIR DUCTS AND DUCT ADJUSTMENT SIZES AS SHOWN TO CONNECT TO NEW AHU. 5. RECONNECT EXISTING CONTROLS TO NEW AHU.  
6. CONNECT OUTSIDE AIR PLUMB TO EXISTING OUTSIDE AIR MOTORIZED DAMPER. TRANSITIONS AS REQUIRED.  
7. PROVIDE 1/4" THICKNESS OVER AHU-1 RETURN AIR PLUMB.  
8. PROVIDE 1/4" THICKNESS OVER AHU-2 RETURN AIR PLUMB.  
9. PROVIDE 1/4" THICKNESS OVER AHU-3 RETURN AIR PLUMB.  
10. REPLACE EXISTING DAMPER ACTUATOR.

**[Red Hatching] = Phase 2 Scope of Work  
(Not included in this Bid Package)**

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**100% CONSTRUCTION  
DOCUMENTS**

**Ridgeview Elementary School**  
Liberty Public Schools  
701 Thornton Street  
Liberty, MO 64068

REVISIONS:		
#	Description	Date



11/10/2023  
KELLEY P. CRAMM  
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**M-300**

**ENLARGED AND SECTION VIEWS**



DEDICATED OUTDOOR AIR SYSTEM - ROOFTOP UNIT W/ ENERGY RECOVERY (DX COOLING, NATURAL GAS HEATING)																																																																									
				SUPPLY FAN										EXHAUST FAN										SUMMER HEAT RECOVERY										COOLING COIL										WINTER HEAT EXCHANGER										GAS FIRED HEAT EXCHANGER										ELECTRICAL									
MARK	MANUFACTURER	MODEL	UNIT TYPE	FAN TYPE	DESIGN CFM	ESP (IN)	TSP (IN)	BHP	NOM HP	VFD (Y/N)	FAN TYPE	DESIGN CFM	ESP (IN)	TSP (IN)	BHP	NOM HP	VFD (Y/N)	MAX ENERGY RECOVERY PRESS DROP (IN)	MIN ENTHALPHY RECOVERY RATIO (%)	OAT		EXHAUST EAT		SUPPLY LAT		TH (MBH)	SH (MBH)	EAT		LAT		MAX VEL (FPM)	OAT		EXHAUST EAT		SUPPLY LAT		MIN OUT (MBH)	NOM INPUT (MBH)	MIN EFF (%)	EAT		LAT	MIN NO STAGES	V/PH	MCA	MOCP	DISC TYPE	WEIGHT (LBS)	NOTES																						
																				(°F DB)	(°F WB)	(°F DB)	(°F WB)	(°F DB)	(°F WB)			(°F DB)	(°F WB)	(°F DB)	(°F WB)		(°F DB)	(°F WB)	(°F DB)	(°F WB)	(°F DB)	(°F WB)				(°F DB)	(°F WB)									(°F DB)	(°F WB)	(°F DB)	(°F WB)																		
DOAS1	TRANE	HORIZON 8006	100% OA CV	PLENUM	1635	0.50	1.93	0.76	1.00	Yes	PLENUM	1310	0.50	1.27	0.47	1.0	Yes	0.70	0.77	95.6	76.7	75.0	63.0	82.2	69.1	83.3	51.7	82.2	69.1	52.7	52.2	400	0.0	70.0	45.7	40.5	80.0	100.0	80	45.7	90.8	5.1	208 V / 3PH	43.7	60	NF	4000	A-W																									
DOAS2	TRANE	HORIZON D017	100% OA CV	PLENUM	3745	0.50	2.70	2.24	3.00	Yes	PLENUM	3000	0.50	1.58	1.22	1.5	Yes	1.09	0.76	95.6	76.7	75.0	63.0	82.4	71.2	196.5	110.7	82.4	71.2	54.9	54.6	400	0.0	70.0	44.6	37.8	202.5	250.0	80	44.6	94.5	10.1	208 V / 3PH	86.4	110	NF	6000	A-W																									
DOAS3	TRANE	HORIZON D010	100% OA CV	PLENUM	2050	0.60	2.03	0.95	1.50	Yes	PLENUM	1640	0.50	1.19	0.47	1.0	Yes	0.81	0.77	95.6	76.7	75.0	63.0	82.0	69.7	113.3	67.6	82.0	69.7	51.2	51.2	400	0.0	70.0	45.7	40.9	120.0	150.0	80	45.7	99.7	10.1	208 V / 3PH	60.1	70	NF	6000	A-W																									

MODEL NUMBERS AND NOMINAL TONS LISTED SHALL NOT BE CONSIDERED COMPLETE AND MATERIAL SHALL NOT BE ORDERED BY MANUFACTURER, MODEL NUMBERS, OR NOMINAL TONS ONLY. REVIEW THE COMPLETE DESCRIPTION, NOTES AND SPECIFICATIONS TO DETERMINE THE EXACT MATERIAL AND ACCESSORIES TO BE ORDERED. THE MANUFACTURERS LISTED ARE THE BASIS FOR THE DESIGN.

NOTES:

- REFER TO ROOFTOP UNIT CONTROL MATRIX ON M-600 FOR ADDITIONAL UNIT FEATURES, COMPONENTS, MODULES, ACCESSORIES, AND CONTROLS THAT SHALL BE PROVIDED WITH THE EQUIPMENT.
- EQUIPMENT SIZED FOR 100°F AMBIENT TEMPERATURE.
- PROVIDE 2" MERV 13, EFFICIENT PLEATED THROWAWAY AIR FILTERS.
- PROVIDE FACTORY MOUNTED DISCONNECT INSTALLED ON SERVICE SIDE OF UNIT.
- STARTERS FOR ALL MOTORS SHALL BE FURNISHED INTEGRAL WITH UNIT.
- PROVIDE FACTORY MOUNTED VARIABLE FREQUENCY DRIVE TO FACILITATE MODULATING FAN SPEED CONTROL.
- PROVIDE SHUNT GROUNDING SYSTEM ON FAN MOTOR. REFER TO MOTOR SPECIFICATION FOR ADDITIONAL INFORMATION.
- PROVIDE SINGLE POINT POWER CONNECTION.
- COORDINATE SIZE OF CONDUCTOR TERMINATION LUGS WITH CONDUCTOR SIZES SHOWN ON ELECTRICAL DRAWINGS.
- PROVIDE 125 VAC, 20 AMP DUPLEX CONVENIENCE RECEPTACLE MOUNTED TO UNIT READY FOR FIELD WIRING WITH A COVER UL LISTED FOR WET AND DAMPER LOCATIONS WHEN IN USE.
- SPECIFIED FAN ESP ACCOUNTS FOR DUCT LOSSES EXTERNAL TO UNIT.
- SPECIFIED FAN TSP INCLUDES EXTERNAL DUCT AND INTERNAL FILTER, COIL, AND CASING LOSSES. FILTER LOSS IS AT A MAXIMUM OF 400 FPM FACE VELOCITY.
- PROVIDE MOTOR HORSEPOWER TO OVERCOME INTERNAL UNIT STATIC PRESSURE DROP PLUS SPECIFIED EXTERNAL STATIC PRESSURE DROP. NOMINAL MOTOR HP SHALL BE NO LARGER THAN THE FIRST AVAILABLE NOMINAL MOTOR SIZE GREATER THAN THE REQUIRED BHP.
- PROVIDE INSULATED ROOF CURB WITH MINIMUM HEIGHT REQUIRED TO MAINTAIN BOTTOM OF EQUIPMENT A MINIMUM OF 16 INCHES ABOVE FINISHED ROOF SURFACE. PROVIDE SLOPED CURB IF NEEDED TO MATCH ROOF SLOPE. COORDINATE WITH ROOF INSULATION THICKNESS AND ROOF TAPER AT INSTALLED LOCATION. COORDINATE CURB TYPE WITH DRAWINGS.
- SCHEDULED WEIGHT IS THE MAXIMUM ALLOWABLE OPERATING WEIGHT OF THE EQUIPMENT, CURB, AND FILL.
- COOLING COIL LAT IS LEAVING AIR TEMPERATURE OF COIL.
- COOLING COIL SHALL BE CAPABLE OF MODULATING CAPACITY WITHOUT THE USE OF HOT GAS BYPASS. PROVIDE VARIABLE SPEED OR DIGITAL SCROLL LEAD COMPRESSOR FOR CAPACITY CONTROL.
- PROVIDE HEATER TO MEET OR EXCEED SCHEDULED MINIMUM MBH OUTPUT. NOMINAL INPUT IS BASED ON LISTED MANUFACTURER'S STANDARD PRODUCT. COORDINATE EQUIPMENT GAS LOAD WITH PLUMBING CONTRACTOR IF DIFFERENT FROM THAT SCHEDULED. MEET MINIMUM EFFICIENCY SCHEDULED.
- SELECT EQUIPMENT FOR ELEVATION OF 1000 FEET ABOVE SEA LEVEL.
- PROVIDE GUARDS TO PROTECT CONDENSER COIL FROM HAIL OR OTHER DAMAGE.
- PROVIDE BYPASS DAMPERS AROUND THE ENERGY RECOVERY DEVICE. SIZE ENERGY RECOVERY DEVICE FOR DESIGN SUPPLY CFM.
- PROVIDE WITH RETURN AIR PATH AND RETURN AIR DAMPER SO DOAS CAN BE UTILIZED FOR BUILDING WARMUP.
- PROVIDE MODULATING HOT GAS REHEAT COIL CAPABLE OF PROVIDING LEAVING AIR TEMPERATURE OF 75 °F AT DESIGN AIRFLOW.

## CABINET UNIT HEATER SCHEDULE (HYDRONIC)

MARK	MANUFACTURER	MODEL	MIN CUR	EAT (°F)	LAT (°F)	FLOW (GPM)	CV	EWI (BTU)	WWT (°F)	MAX WTD (°F)	CFM	HP	VPH	RSE TYPE	NOTES
CUH-1	TRANE	FORCEFIELD	10.2	70.0	90.0	0.70	0.46	193	170	4.54	285	2.04	115 V / 1PH	NF	A-E
CUH-1E	TRANE	FORCEFIELD	17.1	70.0	90.0	1.24	0.84	324	170	4.19	285	2.04	115 V / 1PH	NF	A-E
CUH-1S	TRANE	FORCEFIELD	13.1	70.0	90.0	1.32	0.84	359	170	4.10	285	2.04	115 V / 1PH	NF	A-E
CUH-2	TRANE	FORCEFIELD	10.2	70.0	90.0	0.97	0.44	185	170	4.50	285	2.04	115 V / 1PH	NF	A-E
CUH-2S	TRANE	FORCEFIELD	10.2	70.0	90.0	0.91	0.44	183	170	4.52	285	2.04	115 V / 1PH	NF	A-E

MODEL NUMBERS SHALL NOT BE CONSIDERED COMPLETE AND MATERIAL SHALL NOT BE ORDERED BY MANUFACTURER AND MODEL NUMBERS ONLY. REVIEW THE COMPLETE DESCRIPTION, NOTES AND SPECIFICATIONS TO DETERMINE THE EXACT MATERIAL AND ACCESSORIES TO BE ORDERED. THE MANUFACTURERS LISTED ARE THE BASIS FOR THE DESIGN.

NOTES:

- VERTICAL FLOOR MOUNTED UNIT.
- NEW TEMPERATURE SENSOR FOR UNIT SHALL BE PROVIDED BY THE CONTROLS CONTRACTOR.
- PROVIDE RUBBER IN SHEAR ISOLATION AND ALL-THREAD HANGING RODS.
- PROVIDE FACTORY MOUNTED DISCONNECT SWITCH INSTALLED ON SERVICE SIDE OF UNIT.
- PROVIDE A TWO-WAY CONTROL VALVE.

## FAN SCHEDULE

MARK	SERVICE DESCRIPTION	MANUFACTURER	MOUNTING	MODEL	CFM	ESP (IN)	FAN RPM	DRIVE (BELT/DIRECT)	ELECTRICAL		MCA	MOCP	ELECTRICAL		WEIGHT (LBS)	NOTES
									V/PH				DISC TYPE	STARTER TYPE		
EF 1	EA	GREENHECK	CEILING	SP-A90	80	0.16	900	DIRECT	115 V / 1PH	0.2	15	NF	FV	15	A-C	
EF 2	EA	GREENHECK	CEILING	SP-A90	80	0.16	900	DIRECT	115 V / 1PH	0.2	15	NF	FV	15	A-C	

MODEL NUMBERS SHALL NOT BE CONSIDERED COMPLETE AND MATERIAL SHALL NOT BE ORDERED BY MANUFACTURER AND MODEL NUMBERS ONLY. REVIEW THE COMPLETE DESCRIPTION, NOTES AND SPECIFICATIONS TO DETERMINE THE EXACT MATERIAL AND ACCESSORIES TO BE ORDERED. THE MANUFACTURERS LISTED ARE THE BASIS FOR THE DESIGN.

NOTES:

- PROVIDE RUBBER IN SHEAR ISOLATION AND ALL-THREAD HANGING RODS.
- PROVIDE FACTORY MOUNTED DISCONNECT SWITCH.
- PROVIDE WITH MANUFACTURER'S FAN SPEED CONTROLLER FOR BALANCING PURPOSES.

## GRILLE, REGISTER AND DIFFUSER SCHEDULE

MARK	MANUFACTURER	EXHAUST	MODEL	CONSTRUCTION TYPE	FACE TYPE	MOUNTING LOCATION	BORDER TYPE	FACE SIZE (IN)	MAX NC	MAX PRESS DROP (IN W.C.)	NOTES
EG-1	TITUS	EXHAUST	358RL	STEEL	LOUVERED	WALL	FLANGE	REFER TO PLANS	20	0.08	B,C,D,F,G
EG-2	TITUS	EXHAUST	45F	STEEL	EGGGRATE	CEILING	LAY-IN	24"x24"	20	0.08	B,C,F,G
RG-1	TITUS	RETURN	45F	ALUMINUM	EGGGRATE	CEILING	LAY-IN	24"x24"	20	0.05	B,C,F,G
RG-2	TITUS	RETURN	45F	ALUMINUM	EGGGRATE	CEILING	LAY-IN	24"x12"	20	0.05	B,C,F,G
SD-1	TITUS	SUPPLY	OMNI	STEEL	PLAQUE	CEILING	LAY-IN	24"x24"	20	0.08	A,B,C,F,G
SG-1	TITUS	SUPPLY	300RLHD	STEEL	LOUVERED	WALL	FLANGE	REFER TO PLANS	20	0.08	B,C,D,E,F,G

MODEL NUMBERS SHALL NOT BE CONSIDERED COMPLETE AND MATERIAL SHALL NOT BE ORDERED BY MANUFACTURER AND MODEL NUMBERS ONLY. REVIEW THE COMPLETE DESCRIPTION, NOTES AND SPECIFICATIONS TO DETERMINE THE EXACT MATERIAL AND ACCESSORIES TO BE ORDERED. THE MANUFACTURERS LISTED ARE THE BASIS FOR THE DESIGN.

NOTES:

- 4-WAY THROW PATTERN UNLESS OTHERWISE INDICATED BY FLOW ARROWS ON DRAWINGS.
- NECK SIZE SHOWN ON DRAWINGS. PROVIDE BRANCH DUCT TO MATCH NECK SIZE UNLESS OTHERWISE SHOWN ON DRAWINGS.
- PAVED ENAMEL FINISH, WHITE TO MATCH CEILING COLOR.
- FRONT BLADES PARALLEL TO LONG DIMENSION.
- DOUBLE DEFLECTION BARS SHALL BE ADJUSTABLE.
- FRAME TYPE TO MATCH CEILING/WALL CONSTRUCTION. COORDINATE WITH ARCHITECTURAL REFLECTED CEILING/WALL PLAN.
- PAINT ALL INTERIOR SURFACES SLOTS, GRILLES AND PLENUMS FLAT BLACK.

## PUMP SCHEDULE

MARK	SERVICE	TADO MODEL	SIZE	MOUNTING	DESIGN				NPSH		VPH	DISC TYPE	STARTER TYPE	WEIGHT (LBS)	NOTES		
					IN (GPM)	OUT (GPM)	FT (H)	PSIG (PSIG)	FT (H)	MAX (GPM)							
PCWP-1	CHILLED WATER	KV-0000D	2X3X0.5	IN-LINE	275	275	60	123.00	6.00	5.7	1.75	1755	YES	1208 V / 3PH	VFD	75.00	A-A
PCWP-2	CHILLED WATER	KV-0000D	2X3X0.5	IN-LINE	275	275	60	123.00	6.00	5.7	1.75	1755	YES	1208 V / 3PH	VFD	75.00	A-A

MODEL NUMBERS SHALL NOT BE CONSIDERED COMPLETE AND MATERIAL SHALL NOT BE ORDERED BY MANUFACTURER AND MODEL NUMBERS ONLY. REVIEW THE COMPLETE DESCRIPTION, NOTES AND SPECIFICATIONS TO DETERMINE THE EXACT MATERIAL AND ACCESSORIES TO BE ORDERED. THE MANUFACTURERS LISTED ARE THE BASIS FOR THE DESIGN.

NOTES:

- PROVIDE CONCRETE NON-SKEWING PIPER DER SPECIFICATIONS.
- 8" SUPPORT DUCT FROM CONCRETE SLAB WITH METAL SUPPORTS INDEPENDENT FROM PIPING SUPPORTS TO ALLOW PIPE TO BASS BENEATH.
- DISCONNECT SWITCH PROVIDED BY DIVISION 21 CONTRACTOR.
- VFD FURNISHED BY DIVISION 21 CONTRACTOR.
- PIPE MATERIAL SHALL BE BLACK STEEL UNLESS OTHERWISE INDICATED. THE FULL RANGE OF THE PUMP CURVE.
- INDICATES THE NET POSITIVE SUCTION HEAD AVAILABLE TO THE PUMP. PUMP AT DESIGN CONDITIONS SHALL HAVE NPSH LESS THAN SPECIFIED VALUE.
- PROVIDE OUTDOOR RATED PUMP WITH TFC MOTOR.
- PROVIDE WITH SECTION OF PIPER WITHOUT STRAINER.

## FAN COIL UNIT SCHEDULE (HYDRONIC COILS)

MARK	MANUFACTURER	MODEL	SUPP	COOLING COIL										HEATING COIL										NOTES					
				CFM	ESP (IN)	TSP (IN)	BHP	NOM HP	VFD (Y/N)	FAN TYPE	DESIGN CFM	ESP (IN)	TSP (IN)	BHP	NOM HP	VFD (Y/N)	MAX ENERGY RECOVERY PRESS DROP (IN)	MIN ENTHALPHY RECOVERY RATIO (%)											
FCU-1	TRANE	UNITRANE FC10-MODEL-J	690	0.15	1.40	1.4	1.4	1.20	0.50	1.71	4.2	32	7.0	1.7	2.12	15.2	70.0	90.0	1.24	193	170	5.2	0.58	212	115 V / 1PH	NF	230	A-C	
FCU-1S	TRANE	UNITRANE FC10-MODEL-J	690	0.12	1.40	1.14	1.14	1.20	0.50	1.71	4.2	32	7.0	1.7	1.98	2.02	14.1	70.0	90.0	1.32	193	170	5.2	0.58	212	115 V / 1PH	NF	230	A-C
FCU-1S2	TRANE	UNITRANE FC10-MODEL-J	695	0.12	1.32	1.11	1.11	1.20	0.50	1.63	4.2	32	7.0	1.7	1.63	2.02	13.5	70.0	90.0	2.30	193	170	5.2	0.58	212	115 V / 1PH	NF	230	A-C
FCU-1S3	TRANE	UNITRANE FC10-MODEL-J	695	0.12	1.32	1.11	1.11	1.20	0.50	1.63	4.2	32	7.0	1.7	1.63	2.02	13.5	70.0	90.0	1.24	193	170	5.2	0.58	212	115 V / 1PH	NF	230	A-C
FCU-1S4	TRANE	UNITRANE FC10-MODEL-J	695	0.12	1.32	1.11	1.11	1.20	0.50	1.63	4.2	32	7.0	1.7	1.63	2.02	13.5	70.0	90.0	2.30	193	170	5.2	0.58	212	115 V / 1PH	NF	230	A-C
FCU-1S5	TRANE	UNITRANE FC10-MODEL-J	695	0.12	1.32	1.11	1.11	1.20	0.50	1.63	4.2	32	7.0	1.7	1.63	2.02	13.5	70.0	90.0	2.30	193	170	5.2	0.58	212	115 V / 1PH	NF	230	A-C
FCU-1S6	TRANE	UNITRANE FC10-MODEL-J	690	0.12	1.41	1.1	1.1	1.20	0.50	1.71	4.2	32	7.0	1.7	1.98	2.02	14.1	70.0	90.0	2.30	193	170	5.2	0.58	212	115 V / 1PH	NF	230	A-C
FCU-1S7	TRANE	UNITRANE FC10-MODEL-J	690	0.10	1.41	1.0	1.0	1.20	0.50	1.71	4.2	32	7.0	1.7	1.68	2.02	14.1	70.0	90.0	1.24	193	170	5.2	0.58	212	115 V / 1PH	NF	230	A-C
FCU-1S8	TRANE	UNITRANE FC10-MODEL-J	690	0.12	1.37	1.1	1.1	1.20	0.50	1.63	4.2	32	7.0	1.7	1.63	2.02	13.9	70.0	90.0	1.24	193	170	5.2	0.58	212	115 V / 1PH	NF	230	A-C
FCU-1S9	TRANE	UNITRANE FC10-MODEL-J	690	0.12	1.37	1.1	1.1	1.20	0.50	1.63	4.2	32	7.0	1.7	1.63	2.02	13.9	70.0	90.0	2.30	193	170	5.2	0.58	212	115 V / 1PH	NF	230	A-C
FCU-1S10	TRANE	UNITRANE FC10-MODEL-J	690	0.12	1.33	1.1	1.1	1.20	0.50	1.63	4.2	32	7.0	1.7	1.63	2.02	13.5	70.0	90.0	2.30	193	170	5.2	0.58	212	115 V / 1PH	NF	230	A-C
FCU-1S11	TRANE	UNITRANE FC10-MODEL-J	690	0.15	1.35	1.1	1.1	1.20	0.50	1.63	4.2	32	7.0	1.7	1.63	2.02	13.5	70.0	90.0	1.24	193	170	5.2	0.58	212	115 V / 1PH	NF	230	A-C
FCU-1S	TRANE	UNITRANE FC10-MODEL-J	690	0.12	1.40	1.14	1.14	1.20	0.50	1.71	4.2	32	7.0	1.7	1.98	2.02	14.1	70.0	90.0	1.32	193	170	5.2	0.58	212	115 V / 1PH	NF	230	A-C
FCU-1S2	TRANE	UNITRANE FC10-MODEL-J	695	0.12	1.32	1.11	1.11	1.20	0.50	1.63	4.2	32	7.0	1.7	1.63	2.02	13.5	70.0	90.0	2.30	193	170	5.2	0.58	212	115 V / 1PH	NF	230	A-C
FCU-1S3	TRANE	UNITRANE FC10-MODEL-J	695	0.12	1.32	1.11	1.11	1.20	0.50	1.63	4.2	32	7.0	1.7	1.63	2.02	13.5	70.0	90.0	1.24	193	170	5.2	0.58	212	115 V / 1PH	NF	230	A-C
FCU-1S4	TRANE	UNITRANE FC10-MODEL-J	695	0.12	1.32	1.11	1.11	1.20	0.50	1.63	4.2	32	7.0	1.7	1.63	2.02	13.5	70.0	90.0	2.30	193	170	5.2	0.58	212	115 V / 1PH	NF	230	A-C
FCU-1S5	TRANE	UNITRANE FC10-MODEL-J	695	0.12	1.32	1.11	1.11	1.20	0.50	1.63	4.2	32	7.0	1.7	1.63	2.02	13.5	70.0	90.0	2.30	193	170	5.2	0.58	212	115 V / 1PH	NF	230	A-C
FCU-1S6	TRANE	UNITRANE FC10-MODEL-J	690	0.12	1.41	1.1	1.1	1.20	0.50	1.71	4.2	32	7.0	1.7	1.98	2.02	14.1	70.0	90.0	2.30	193	170	5.2	0.58	212	115 V / 1PH	NF	230	A-C
FCU-1S7	TRANE	UNITRANE FC10-MODEL-J	690	0.10	1.41	1.0	1.0	1.20	0.50	1.71	4.2	32	7.0	1.7	1.68	2.02	14.1	70.0	90.0	1.24	193	170	5.2	0.58	212	115 V / 1PH	NF	230	A-C
FCU-1S8	TRANE	UNITRANE FC10-MODEL-J	690	0.12	1.37	1.1	1.1	1.20	0.50	1.63	4.2	32	7.0	1.7	1.63	2.02	13.9	70.0	90.0	1.24	193	170	5.2	0.58	212	115 V / 1PH	NF	230	A-C
FCU-1S9	TRANE	UNITRANE FC10-MODEL-J	690	0.12	1.37	1.1	1.1	1.20	0.50	1.63	4.2	32	7.0	1.7	1.63	2.02	13.9	70.0	90.0	2.30	193	170	5.2	0.58	212	115 V / 1PH	NF	230	A-C
FCU-1S10	TRANE	UNITRANE FC10-MODEL-J	690	0.12	1.33	1.1	1.1	1.20	0.50	1.63	4.2	32	7.0	1.7	1.63	2.02	13.5	70.0	90.0	2.30	193	170	5.2	0.58	212	115 V / 1PH	NF	230	A-C
FCU-1S11	TRANE	UNITRANE FC10-MODEL-J	690	0.15	1.35	1.1	1.1	1.20	0.50	1.63	4.2	32	7.0	1.7	1.63	2.02	13.5	70.0	90.0	1.24	193	170	5.2	0.58	212	115 V / 1PH	NF	230	A-C
FCU-1S	TRANE	UNITRANE FC10-MODEL-J	690	0.12	1.40	1.14	1.14	1.20	0.50	1.71	4.2	32	7.0	1.7	1.98	2.02	14.1	70.0	90.0	1.32	193	170	5.2	0.58	212	115 V / 1PH	NF	230	A-C
FCU-1S2	TRANE	UNITRANE FC10-MODEL-J	695	0.12	1.32	1.11	1.11	1.20	0.50	1.63	4.2	32	7.0	1.7	1.63	2.02	13.5	70.0	90.0	2.30	193	170	5.2	0.58	212	115 V / 1PH	NF	230	A-C
FCU-1S3	TRANE	UNITRANE FC10-MODEL-J	695	0.12	1.32	1.11	1.11	1.20	0.50	1.63	4.2	32	7.0	1.7	1.63	2.02	13.5	70.0	90.0	1.24	193	170	5.2	0.58	212	115 V / 1PH	NF	230	A-C
FCU-1S4	TRANE	UNITRANE FC10-MODEL-J	695	0.12	1.32	1.11	1.11	1.20	0.50	1.63	4.2	32	7.0	1.7	1.63	2.02	13.5	70.0	90.0	2.30	193	170	5.2	0.58	212	115 V / 1PH	NF	230	A-C
FCU-1S5	TRANE	UNITRANE FC10-MODEL-J	695	0.12	1.32	1.11	1.11	1.20	0.50	1.63	4.2	32	7.0	1.7	1.63	2.02	13.5	70.0	90.0	2.30	193	170	5.2	0.58	212	115 V / 1PH	NF	230	A-C
FCU-1S6	TRANE	UNITRANE FC10-MODEL-J	690	0.12	1.41	1.1	1.1	1.20	0.50	1.71	4.2	32	7.0	1.7	1.98	2.02	14.1	70.0	90.0	2.30	193	170	5.2	0.58	212	115 V / 1PH	NF	230	A-C
FCU-1S7	TRANE	UNITRANE FC10-MODEL-J	690	0.10	1.41	1.0	1.0	1.20	0.50	1.71	4.2	32	7.0	1.7	1.68	2.02	14.1	70.0	90.0	1.24	193	170	5.2	0.58	212	115 V / 1PH	NF	230	A-C
FCU-1S8	TRANE	UNITRANE FC10-MODEL-J	690	0.12	1.37	1.1	1.1	1.20	0.50	1.63	4.2	32	7.0	1.7	1.63	2.02	13.9	70.0	90.0	1.24	193	170	5.2	0.58	212	115 V / 1PH	NF	230	A-C
FCU-1S9	TRANE	UNITRANE FC10-MODEL-J	690	0.12	1.37	1.1	1.1	1.20	0.50	1.63	4.2	32	7.0	1.7	1.63	2.02	13.9	70.0	90.0	2.30	193	170	5.2	0.58	212	115 V / 1PH	NF	230	A-C
FCU-1S10	TRANE	UNITRANE FC10-MODEL-J	690	0.12	1.33	1.1	1.1	1.20	0.50	1.63	4.2	32	7.0	1.7	1.63	2.02	13.5	70.0	90.0	2.30	193	170	5.2	0.58	212	115 V / 1PH	NF	230	A-C
FCU-1S11	TRANE	UNITRANE FC10-MODEL-J	690	0.15	1.35	1.1	1.1	1.20	0.50	1.63	4.2	32	7.0	1.7	1.63	2.02	13.5	70.0	90.0	1.24	193	170	5.2	0.58	212	115 V / 1PH	NF	230	A-C
FCU-1S	TRANE	UNITRANE FC10-MODEL-J	690	0.12	1.40	1.14	1.14	1.20	0.50	1.71	4.2	32	7.0	1.7	1.98	2.02	14.1	70.0	90.0	1.32	193	170	5.2	0.58	212	115 V / 1PH	NF	230	A-C
FCU-1S2	TRANE	UNITRANE FC10-MODEL-J	695	0.12	1.32	1.11	1.11	1.20	0.50	1.63	4.2	32	7.0	1.7	1.63	2.02	13.5	70.0	90.0	2.30	193	170	5.2	0.58	212	115 V / 1PH	NF	230	A-C
FCU-1S3	TRANE	UNITRANE FC10-MODEL-J	695	0.12	1.32	1.11	1.11	1.20	0.50	1.63	4.2	32	7.0	1.7	1.63	2.02	13.5	70.0	90.0	1.24	193	170	5.2	0.58	212	115 V / 1PH	NF	230	A-C
FCU-1S4	TRANE	UNITRANE FC10-MODEL-J	695	0.12	1.32	1.11	1.11	1.20	0.50	1.63	4.2	32	7.0	1.7	1.63	2.02	13.5	70.0	90.0	2.30	193	170	5.2	0.58	212	115 V / 1PH	NF	230	A-C
FCU-1S5	TRANE	UNITRANE FC10-MODEL-J	695	0.12	1.32	1.11	1.11	1.20	0.50	1.63	4.2	32	7.0	1.7	1.63	2.02	13.5	70.0	90.0	2.30	193	170	5.2	0.58	212	115 V / 1PH	NF	230	A-C
FCU-1S6	TRANE	UNITRANE FC10-MODEL-J	690	0.12	1.41	1.1	1.1	1.20	0.50	1.71	4.2	32	7.0	1.7	1.98	2.02	14.1	70.0	90.0	2.30	193	170	5.2	0.58	212	115 V / 1PH	NF	230	A-C
FCU-1S7	TRANE	UNITRANE FC10-MODEL-J	690	0.10	1.41	1.0	1.0	1.20	0.50	1.71	4.2	32	7.0	1.7	1.68	2.02	14.1	70.0	90.0	1.24	193	170	5.2	0.58	212	115 V / 1PH	NF	230	A-C
FCU-1S8	TRANE	UNITRANE FC10-MODEL-J	690	0.12	1.37	1.1	1.1	1.20	0.50	1.63	4.2	32	7.0	1.7	1.63	2.02	13.9	70.0	90.0	1.24	193	170	5.2	0.58	212	115 V / 1PH	NF	230	A-C
FCU-1S9	TRANE	UNITRANE FC10-MODEL-J	690	0.12	1.37	1.1	1.1	1.20	0.50	1.63	4.2	32	7.0	1.7	1.63	2.02	13.9	70.0	90.0	2.30	193	170	5.2	0.58	212	115 V / 1PH	NF	230	A-C
FCU-1S10	TRANE	UNITRANE FC10-MODEL-J	690	0.12	1.33	1.1	1.1	1.20	0.50	1.63	4.2	32	7.0	1.7	1.63	2.02	13.5	70.0	90.0	2.30	193	170	5.2	0.58	212	115 V / 1PH	NF	230	A-C
FCU-1S11	TRANE	UNITRANE FC10-MODEL-J	690	0.15	1.35	1.1	1.1	1.20	0.50	1.63	4.2	32	7.0	1.7	1.63	2.02	13.5	70.0	90.0	1.24	193	170	5.2	0.58	212	115 V / 1PH	NF	230	A-C
FCU-1S	TRANE	UNITRANE FC10-MODEL-J	690	0.12	1.40	1.14	1.14	1.20	0.50	1.71	4.2	32	7.0	1.7	1.98	2.02	14.1	70.0	90.0	1.32	193	170	5.2</						



SUPPLY FAN														CHILLED WATER COOLING UNIT										HEATING HOT WATER HEATING COIL										FACTORS						
MARK		TRANS MODEL		TYPE		FAN TYPE		CFM	EOG	IN	BHP	ACOM HP	VFD	WPM	TR (WBDB)	SH (MBH)	ΔT DB	TR (WBDB)	SH (WBDB)	MAX WPM	MAX SH	MAX TR	ROW	NO OF COILS	MAX WPM	MAX SH	MAX TR	ROW	NO OF COILS	WV	MIN WPM	VALUE TYPE	WEIGHT	NOTES						
MARK	MODEL	TYPE	FAN TYPE	CFM	EOG	IN	BHP	ACOM HP	VFD	WPM	TR (WBDB)	SH (MBH)	ΔT DB	TR (WBDB)	SH (WBDB)	MAX WPM	MAX SH	MAX TR	ROW	NO OF COILS	MAX WPM	MAX SH	MAX TR	ROW	NO OF COILS	WV	MIN WPM	VALUE TYPE	WEIGHT	NOTES										
AHU1	UCACAA10	MC2AV	FC	1238	1.0	5	10.0	Yes	208 V 3 PH	470.9	370.2	82	672	55.2	85.0	108	44	85	16.19	0.7	480	612	1	44	408.5	590.1	300	180	150	14.3	2250	5	2WAY	2550	LAL					
AHU1	UCACAA10	MC2AV	FC	7855	2.0	5	7.50	Yes	208 V 3 PH	333.5	245.9	84	68.8	59.0	59.0	11	44	52	33.70	0.8	552	648	1	40	507.4	561.0	300	28	180	150	2.80	649	119	124	1365	5	2WAY	1950	LAL	
AHU1	UCACAA10	MC2AV	FC	7855	0.5	5	7.50	Yes	208 V 3 PH	116.3	144.7	84	68.8	59.0	59.0	75	44	52	33.70	0.4	416	468	1	40	416	468	300	28	180	150	0.70	616	119	124	1365	5	2WAY	2850	LAL	
AHU1	UCACAA10	MC2AV	FC	7855	0.5	5	7.50	Yes	208 V 3 PH	116.3	144.7	84	68.8	59.0	59.0	75	44	52	33.70	0.4	416	468	1	40	416	468	300	28	180	150	0.70	616	119	124	1365	5	2WAY	2850	LAL	
AHU1	UCACAA10	MC2AV	FC	8540	1.0	5	7.50	Yes	208 V 3 PH	326.1	241.1	81	68.8	55.0	55.0	93	44	52	38.10	0.7	540	642	1	37	519.3	653.0	300	18	180	150	1.60	0.2	540	18	9.5	960	5	2WAY	1950	LAL
AHU1	UCACAA12GU	MC2AV	FC	6075	2.0	5	5.00	Yes	208 V 3 PH	259.4	192.3	81	68.8	50.0	55.0	85	44	52	40.00	0.7	540	642	1	28	280	280	300	12	180	150	0.2	540	18	9.5	960	5	3WAY	1950	LAL	

 = Phase 2 Scope of Work  
(Not included in this Bid Package)

**HENDERSON**  
ENGINEERS  
8345 LENEXA DRIVE, SUITE 300  
LENEXA, KS 66214  
TEL 913.742.5000 FAX 913.742.5001  
[WWW.HENDERSONENGINEERS.COM](http://WWW.HENDERSONENGINEERS.COM)  
2350004060  
MO. CORPORATE NO: E-556D  
EXPIRES 10/31/2024

**Ridgeview Elementary School**  
Liberty Public Schools  
701 Thornton Street  
Liberty, MO 64068

**REVISIONS:**

#	Description	Date
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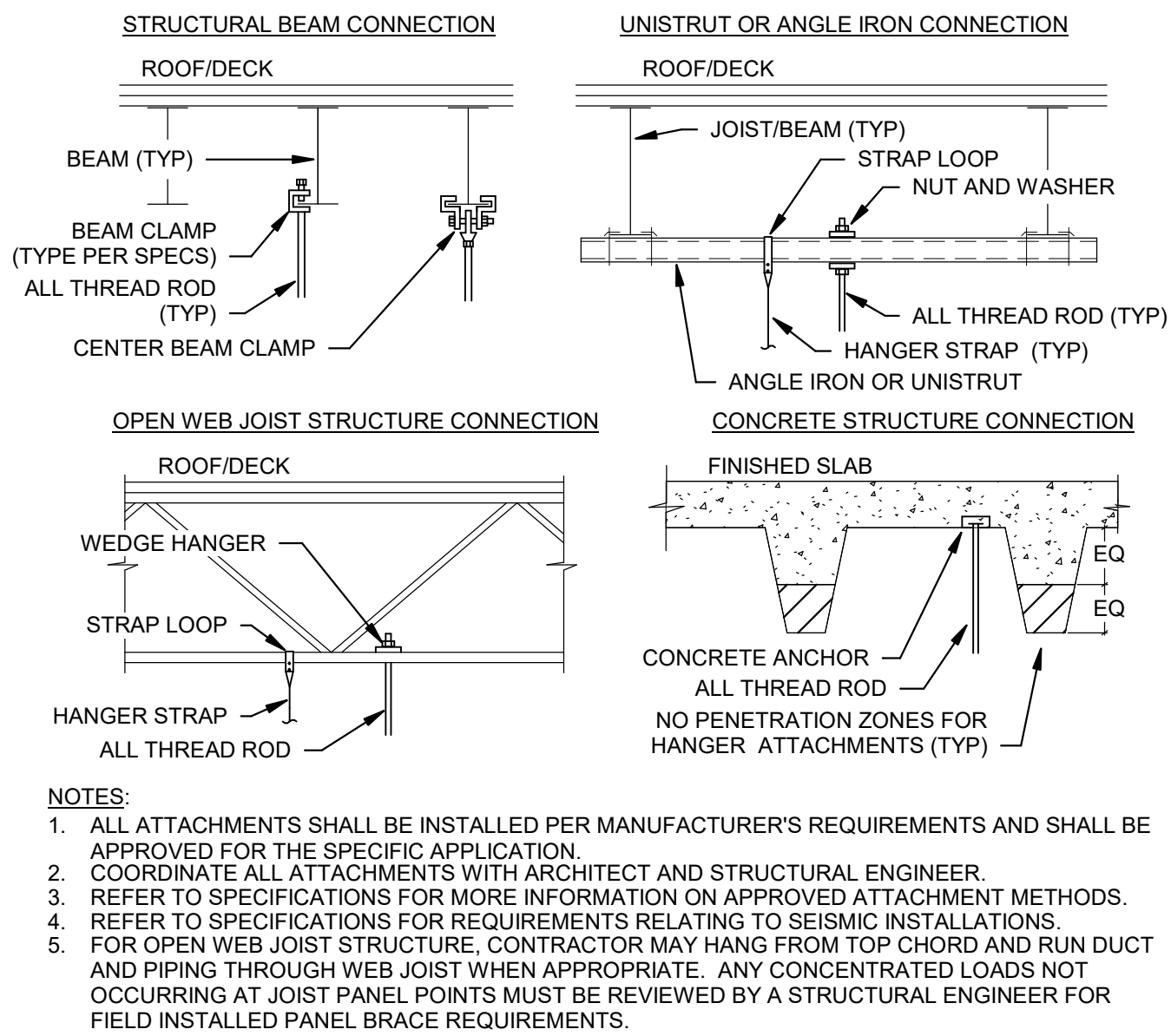


KELLEY P. CRAMM  
LICENSE # E-022323

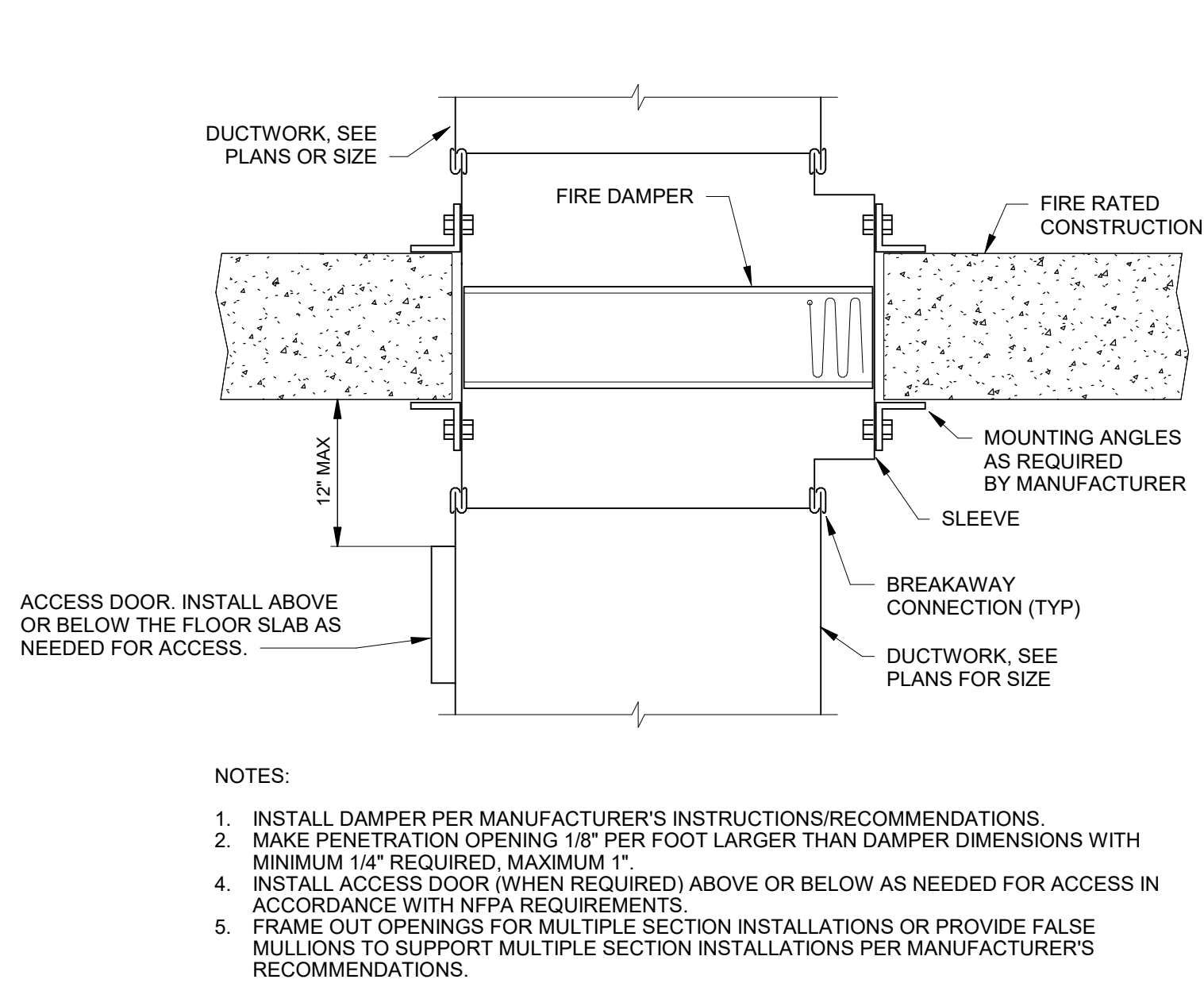
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CHECKED BY: JMF  
DATE: 11.22.2023

~~M-401~~

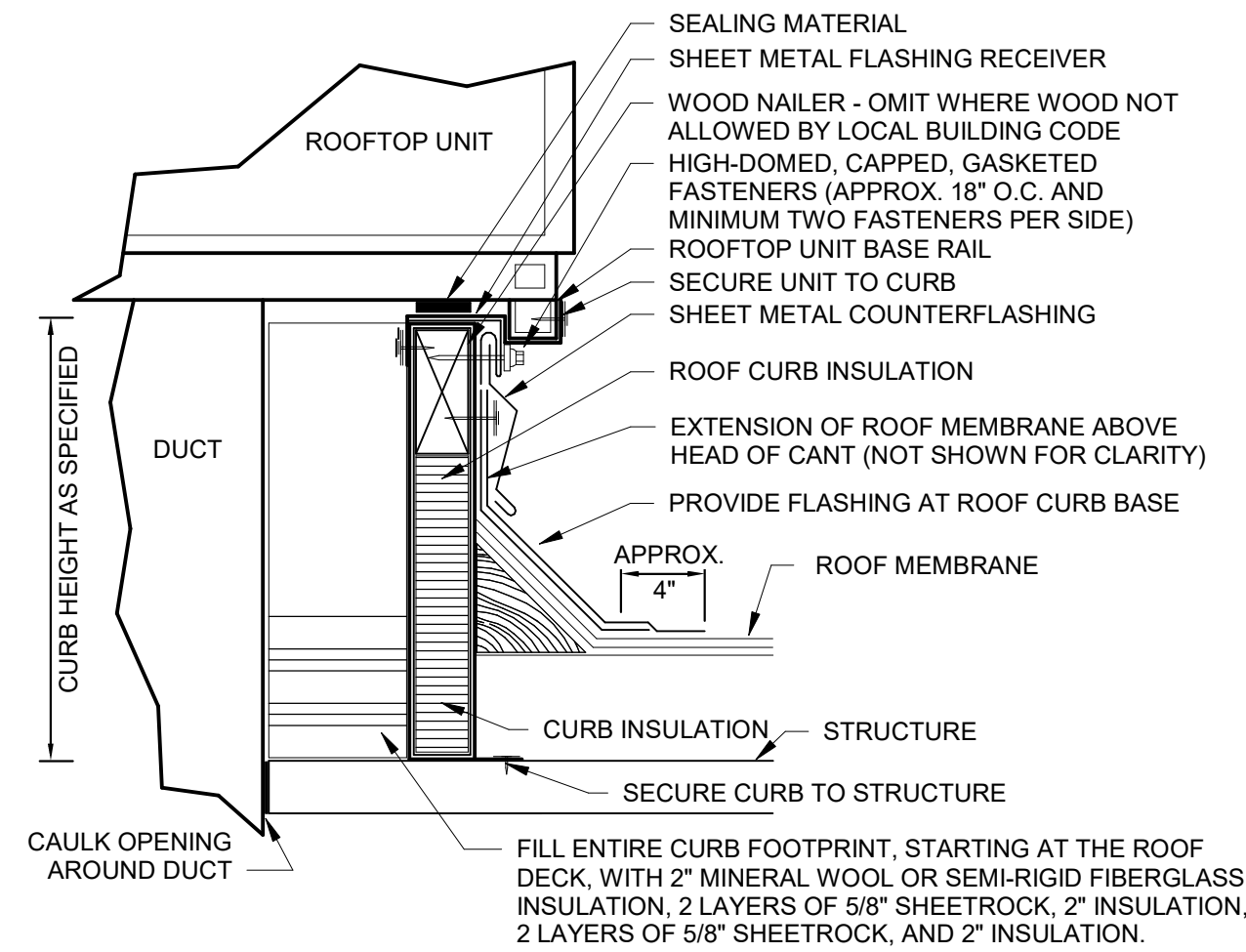




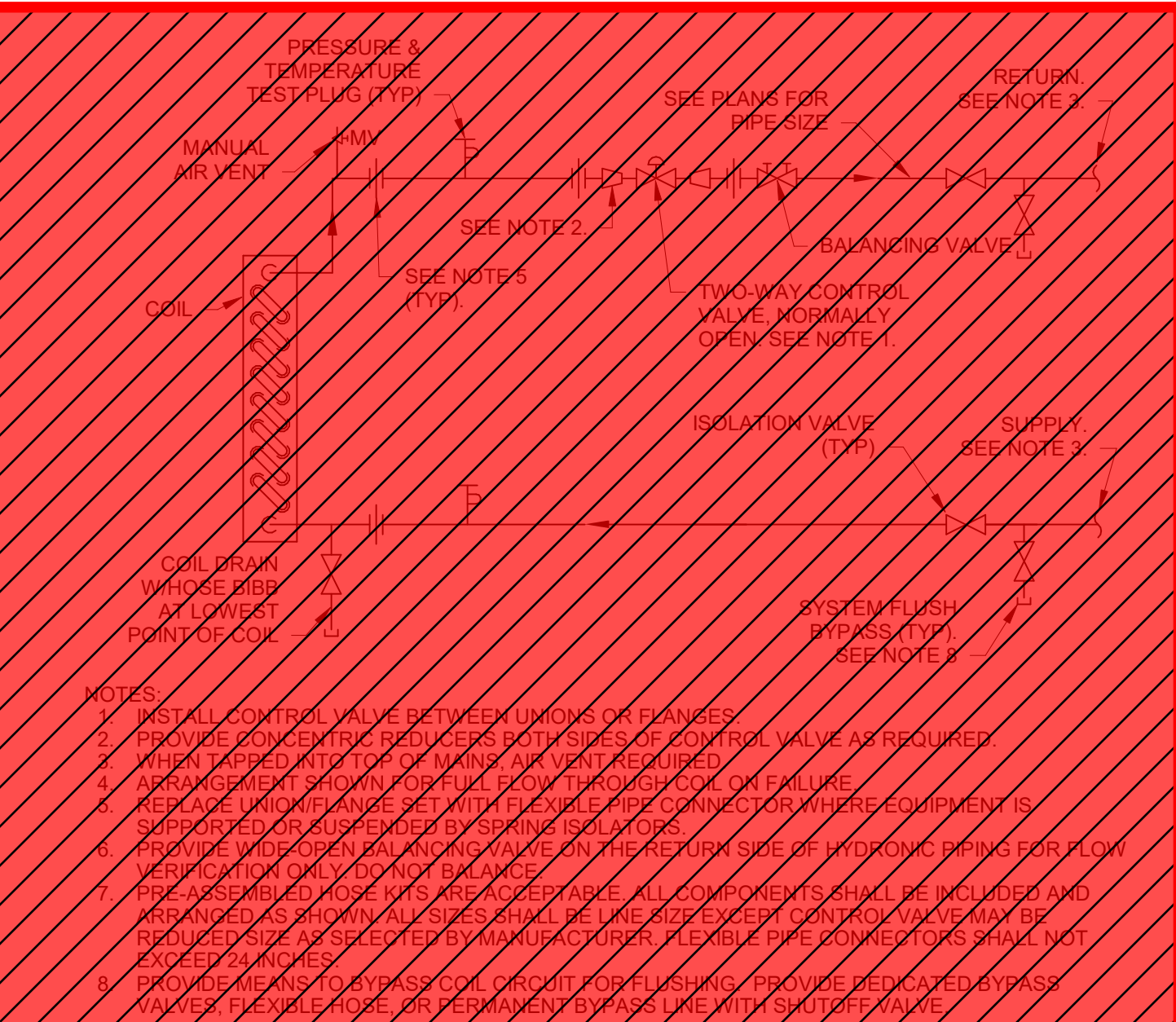
④ HANGER UPPER ATTACHMENT DETAILS  
NTS



③ FIRE DAMPER IN FLOOR DETAIL  
NTS



② ROOF CURB DETAIL  
NTS





## MECHANICAL SYMBOLS

(v2.12)

**NOTE:** THIS IS A MASTER LEGEND AND NOT ALL SYMBOLS, ABBREVIATIONS, ETC. ARE NECESSARILY USED ON THE DRAWINGS.

## CONTROLS SYMBOLS AND NOMENCLATURE

	FLUE DAMPER (BOILERS)		HOT GAS REHEAT COIL		RISER DESIGNATION		MOTORIZED DAMPER
	BOILER		COOLING COIL		FIRE DAMPER		BACKDRAFT DAMPER
	COOLING TOWER		FURNACE		FIRE SMOKE DAMPER		VOLUME DAMPER
	CONDENSING UNIT		HEATING COIL		SMOKE DAMPER		HUMIDISTAT
	FLUID COOLER		DAMPER - GENERIC BLADE TYPE		SMOKE DETECTOR		THERMOSTAT
	WATER-COOLED CHILLER		DAMPER - OPPOSED BLADE TYPE		BTU METER		PRESSURE SENSOR
	AIR-COOLED CHILLER		DAMPER - PARALLEL BLADE TYPE		CARBON MONOXIDE SENSOR		POLLUTANT ALARM
	GENERIC HEAT EXCHANGER		FLEXIBLE SENSING ELEMENT		CARBON DIOXIDE SENSOR		RELAY
	SHELL AND TUBE HEAT EXCHANGER		AIRFLOW STATION		CONTROL PANEL		REFRIGERANT LEAK SENSOR
	BASIN HEATER		PUMP		CURRENT CIRCUIT RELAY		SENSOR - GENERIC
	GROUND HEAT EXCHANGER		FAN		DIFFERENTIAL PRESSURE SENSOR		STATIC PRESSURE PORT
	HEAT RECOVERY WHEEL		HUMIDIFIER		ELECTRIC METER		SWITCH
			AIR FILTER		FLOW METER, FUEL METER		TEMPERATURE SENSOR
			3-WAY CONTROL VALVE		FLOW SWITCH		WATER METER
			2-WAY CONTROL VALVE		HUMIDITY SENSOR		
			AIR BYPASS DAMPER				
			AIRFLOW MEASURING STATION				
			DIRECT EXPANSION COOLING UNIT CONTROLLER				
			FURNACE BURNER CONTROLLER				
			SILICON-CONTROLLED RECTIFIER				
			ELECTRIC HEATER CONTROL (MODULATING)				
			ELECTRIC HEATER CONTROLLER (ON/OFF)				
			ELECTRONIC COMMUTATED MOTOR				
			VARIABLE FREQUENCY DRIVE				
			MOTOR STARTER				
			LOW LIMIT TEMPERATURE CONTROLLER (FREEZE/STAT)				
			EMERGENCY PUSH BUTTON				

POINT TYPE

AI ANALOG INPUT (MODULATING)

AO ANALOG OUTPUT (MODULATING)

AV ANALOG VALUE (VIRTUAL)

BI BINARY INPUT (ON/OFF, OPEN/CLOSED, ETC)

BO BINARY OUTPUT (ON/OFF, OPEN/CLOSED, ETC)

BV BINARY VALUE (VIRTUAL)

COM COMMUNICATION LINK

MI MULTI-STATE INPUT

MO MULTI-STATE OUTPUT

MV MULTI-STATE VALUE (VIRTUAL)

ABBREVIATIONS

X GENERIC INDICATOR OF PLAN MARK NUMBER OR QTY

= NOT EQUAL TO

BAS BUILDING AUTOMATION SYSTEM

CHWS CHILLED WATER SUPPLY

CHWR CHILLED WATER RETURN

CMD COMMAND

CP CONTROL PANEL

CV CONTROL VALVE

CWS CONDENSER WATER SUPPLY

CWR CONDENSER WATER RETURN

DOW DOMESTIC COLD WATER

DDC DIRECT DIGITAL CONTROL

E/C ELECTRICAL CONTRACTOR

EOA ECONOMIZER OUTSIDE AIR

EQ EQUALIZER

E/M EQUIPMENT MANUFACTURER

FA/C FIRE ALARM CONTRACTOR

FIP FIRE IN POSITION

G NATURAL GAS

HWS HEATING WATER SUPPLY

HWR HEATING WATER RETURN

HPWS HEAT PUMP WATER SUPPLY

HPWR HEAT PUMP WATER RETURN

LPS LOW PRESSURE STEAM SUPPLY

LPC LOW PRESSURE STEAM CONDENSATE

M/C MECHANICAL CONTRACTOR

MIN MINIMUM; MINUTES

MOA MINIMUM OUTSIDE AIR

NC NORMALLY CLOSED

NIA NOT IN AUTO (IN HAND)

NO NORMALLY OPEN

PID PROPORTIONAL INTEGRAL DERIVATIVE

RA RETURN AIR

REA RELIEF/EXHAUST AIR

RH RELATIVE HUMIDITY

SA SUPPLY AIR

AS AS SCHEDULED ON DRAWINGS

SPEC SPECIFIED

SPT SETPOINT

TBD TO BE DETERMINED

TCIC TEMPERATURE CONTROLS CONTRACTOR

WIRING TYPES

— POWER WIRING

- - - SYSTEM CONTROL WIRING

- . - BUILDING AUTOMATION WIRING

## PROJECT DESIGN CONDITIONS

CLIMATE CONDITIONS				BUILDING OPERATING HOURS:			
WEATHER STATION:		KANSAS CITY, MO		MONDAY - FRIDAY		TBD BY OWNER	
CLIMATE ZONE:		4A		SATURDAY		TBD BY OWNER	
HEATING (DB):		99.6%	3.4 °F	SUNDAY		TBD BY OWNER	
DESIGN HEATING CONDITIONS (DB):		4 °F		HOLIDAY		TBD BY OWNER	
HUMIDIFICATION (DP/ HR MCD):		99.6%	-4.9 °F/ 4.4 gr/lb			6.0 °F	
COOLING (DB/MCD):		0.4%	99.2 °F/ 76.6 °F/				
DESIGN COOLING CONDITIONS (DB):		99 °F/	77 °F/				
DEHUMIDIFICATION (DP/ HR MCD):		0.4%	76.3 °F/ 141.4 gr/lb			87.1 °F	

SPACE / UNIT DESCRIPTION	SET POINTS										SPACE OPERATING...			NOTES	
	COOLING / DE-HUMIDIFICATION				HEATING		HUMIDIFICATION		ZONE VENTILATION RESET			OCCUPIED / UNOCCUPIED			
	OCC	UNOCC	MAX	MIN	OCC	UNOCC	MIN	MAX	CONTROL	BASE	MAXIMUM				
	°F	°F	RH %	RH %	°F	°F	RH %	RH %	METHOD	PPM	PPM	M-F	SAT	SUN	
ALL AREAS	75	80	NA	NA	70	60	NA	NA	NA	NA	NA	TBD	TBD	TBD	A-C

NOTES:

A. ZONE LEVEL CONTROLS SHALL BE CAPABLE OF OPERATING WITH INDEPENDENT OCCUPANCY SCHEDULES.

B. ZONE LEVEL SET POINT CONDITIONS SHALL BE AS SCHEDULED UNLESS OTHERWISE SCHEDULED OR NOTED ON THE DRAWINGS FOR ROOM SPECIFIC SPACE...

C. ZONE LEVEL OCCUPANCY HOUR SCHEDULE SHALL BE PER BUILDING OPERATING HOURS UNLESS OTHERWISE SCHEDULED.

## PACKAGED DOAS UNIT CONTROL MATRIX

CONTROL FEATURE	UNITS	DOAS I-4 SETPOINT OR Y/N	POINT TYPE INTERFACE WITH DDC (READ/WRITE)	NOTES
BUILDING AUTOMATION SYSTEM (BAS)				
BAS MONITORING AND MANAGEMENT INTERFACE		Y	BACNET	A
CONTROL STRATEGY				
DOAS SUPPLY AIR TEMPERATURE CONTROL		Y		
HEATING AND COOLING SET POINTS				
COOLING MODE ENABLE - OUTSIDE AIR TEMPERATURE	*F DB	75 < X	READWRITE	
HEATING MODE ENABLE - OUTSIDE AIR TEMPERATURE	*F DB	X < 55	READWRITE	
HEATING - SUPPLY AIR TEMPERATURE SETPOINT	*F DB	70	READWRITE	
VENTILATION ONLY MODE - SUPPLY AIR TEMPERATURE SETPOINT	*F DB	N/A	READWRITE	Q
DEHUMIDIFICATION MODE ENABLE - OUTSIDE AIR DEW POINT	*F DP	55	READWRITE	F
DEHUMIDIFICATION - COOLING COIL TEMPERATURE SETPOINT	*F DB	55	READWRITE	F
DEHUMIDIFICATION - REHEAT CONTROL - SUPPLY AIR TEMPERATURE SETPOINT	*F DB	70	READWRITE	C,F
ENERGY RECOVERY				
ENERGY RECOVERY WHEEL (TOTAL ENTHALPY) - CONSTANT SPEED		Y/N	READ STATUS	
ENERGY RECOVERY BYPASS DAMPERS		Y/N	READ STATUS	
ENERGY RECOVERY ECONOMIZER MODE		Y/N	READ STATUS	O
PROGRAMMED CONTROL FEATURES				
HVAC SYSTEM OCCUPIED/UNOCCUPIED MODE - SCHEDULED THROUGH BAS		Y/N	READ	B
EQUIPMENT COMPONENTS, ACCESSORIES AND CONTROL FEATURES				
COOLING COIL (DX - MODULATING CAPACITY)		Y/N	READ STATUS	K
DEHUMIDIFICATION - MODULATING HOT GAS REHEAT		Y/N	READ STATUS	
HEATING - NATURAL GAS - MODULATING		Y/N	READ STATUS	K
OUTSIDE AIR DAMPER - MOTOR OPERATED		Y/N	READ STATUS	J
RELIEF/EXHAUST AIR DAMPER - BAROMETRIC		Y/N		
SUPPLY FAN CONTROL METHODS				
ON DURING OCCUPIED MODE		Y		
CONSTANT SPEED SUPPLY FAN OPERATION		Y/N	READ STATUS	K
EXHAUST FAN CONTROL METHODS				
ENABLE EXHAUST FAN WITH SUPPLY FAN STATUS		Y	READ STATUS	
CONSTANT SPEED EXHAUST FAN OPERATION		Y/N	READ STATUS	
SAFETIES, INTERLOCKS, AND ALARMS				
GAS VALVE SAFETY		Y	READ	F
SUPPLY AIR SMOKE DETECTOR - SAFETY SHUTDOWN		Y	READ	E
RETURN AIR SMOKE DETECTOR - SAFETY SHUTDOWN		Y	READ	E
DIFFERENTIAL PRESSURE SWITCH - FILTER CHANGE ALARM		Y	READ	F
FIRE ALARM CONTROL PANEL - SAFETY SHUTDOWN INTERLOCK		Y	READ	
OUTSIDE AIR DAMPER END SWITCH - SAFETY SHUTDOWN		Y	READ	S
DIV. 23 CONTRACTOR SHALL PROVIDE CONTROL PANEL(S), WIRING, THERMOSTAT(S), TEMPERATURE SENSOR(S), HUMIDISTAT(S), AND/OR CO2 SENSOR(S) WHERE SHOWN ON THE DRAWINGS AND AS REQUIRED TO FACILITATE THE SCHEDULED CONTROL MODULES AND SEQUENCES OF OPERATION. EACH UNIT SHALL CONTROL BASED ON ITS OWN INTERNAL SAFETIES, TIME DELAYS, AND SEQUENCES UNLESS NOTED OTHERWISE. COORDINATE WITH OWNER FINAL BUILDING AND EQUIPMENT SCHEDULES DURING STARTUP. REFERENCE DIVISION SPECIFICATIONS FOR INDIVIDUAL DEVICE REQUIREMENTS.				
NOTES:				
A. PROVIDE UNIT WITH FACTORY MOUNTED DDC CONTROLS AND INTEGRATE INTO THE BAS. BAS SHALL PROVIDE REMOTE SETPOINT ADJUSTMENT, SCHEDULING, AND MONITORING OF THE POINTS LISTED IN THE SCHEDULE FOR EACH UNIT.				
B. DIVISION 23 CONTRACTOR SHALL PROVIDE DEVICE.				
C. LIMIT SUPPLY AIR TEMPERATURE TO 60 WHEN OUTSIDE AIR IS ABOVE 75 F.				
D. DIVISION 28 CONTRACTOR SHALL PROVIDE DEVICE.				
F. DEVICE SHALL BE FACTORY MOUNTED AND PRE-WIRED FOR OPERATION SUBJECT TO THE ONBOARD CONTROLLER.				
J. DAMPER SHALL BE CLOSED DURING UNOCCUPIED MODE.				
K. UNITARY CONTROLLER SHALL MODULATE AND/OR CYCLE SUPPLY FAN SPEED AND COIL CAPACITY SUBJECT TO THE INTERNAL SAFETIES AND SEQUENCES TO MAINTAIN SCHEDULED SETPOINTS.				
O. WHEN SPACE IS IN COOLING MODE AND OUTSIDE AIR CONDITIONS ARE SUCH THAT FREE COOLING IS AVAILABLE, UNIT... MODULATE ERV WHEEL MOTOR SPEED OR MODULATE ENERGY RECOVERY BYPASS DAMPERS TO MAINTAIN SCHEDULE... SUPPLY AIR TEMPERATURE SETPOINT. COOLING COIL SHALL BE PERMITTED TO ENERGIZE WHEN IN THIS MODE.				
S. PROVIDE END SWITCH ON THE OUTSIDE AIR DAMPER AND INTERLOCK THE SWITCH WITH THE SUPPLY FAN TO KEEP IT FROM STARTING IF END SWITCH IS NOT MADE.				

## GENERAL CONTROLS NOTES:

- THE EXISTING BUILDING UTILIZES A TRANE BUILDING MANAGEMENT SYSTEM (BMS). ALL NEW EQUIPMENT WILL BE CONNECTED TO THE TRANE BMS.
- ALL EXISTING DIRECT DIGITAL CONTROL (DDC) CONTROLLERS FROM REMOVED EQUIPMENT SHALL BE TURNED OVER TO OWNER IN WORKING ORDER.
- ALL CONTROL AND COMMUNICATION WIRE SHALL BE INSTALLED IN CONDUIT WHEN LOCATED IN EXPOSED SPACES, TUNNELS, MECHANICAL AND ELECTRICAL ROOMS, CHASES OR WHERE EXPOSED TO WEATHER.
- ALL LOW VOLTAGE CONTROL WIRE NOT INSTALLED IN CONDUIT SHALL BE UL RATED FOR PLENUM INSTALLATION.
- CONTROLS CONTRACTOR SHALL COORDINATE WITH ALL NEW AND EXISTING EQUIPMENT MANUFACTURERS AND SUPPLY ALL CONTROL COMPONENTS REQUIRED FOR A COMPLETE CONTROL SYSTEM, AND AS REQUIRED TO ACHIEVE THE SEQUENCE OF OPERATIONS. METHODS OF CONNECTION TO THE NEW AND EXISTING EQUIPMENT AND CONTROLS SHALL BE CLEARLY INDICATED IN THE SUBMITTALS.
- ALL NEW DDC CONTROL PANELS SHALL BE LOCATED IN MECHANICAL OR ELECTRICAL ROOMS.
- CONTROLS CONTRACTOR SHALL REMOVE ALL EXISTING CONTROLS MADE OBSOLETE BY WORK PERFORMED UNDER THIS CONTRACT. REMOVAL SHALL INCLUDE WIRE, CONDUIT, TUBING, PANELS, SUPPORTS, AND ALL RELATED CONTROL COMPONENTS. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- COORDINATE ALARM PRIORITY LEVEL WITH OWNER PRIOR TO PROGRAMMING.
- ALL EXISTING ROOM AND SPACE TEMPERATURE, PRESSURE AND HUMIDITY SENSORS SHALL BE REPLACED WHERE INDICATED.
- ALL EXISTING HYDRONIC OR DUCT TEMPERATURE, PRESSURE AND HUMIDITY SENSORS SHALL BE REPLACED WHERE INDICATED.
- EXISTING CONTROLS CONDUIT MAY BE REUSED IF CONDUIT IS IN GOOD CONDUCTION.
- ANY REUSED MATERIAL SHALL FALL UNDER THIS PROJECTS GENERAL CONSTRUCTION WARRANTY.

## PROJECT TRADE COORDINATION:

- CONTROLS CONTRACTOR SHALL COORDINATE ALL WORK WITH THE MECHANICAL CONTRACTOR.
- VALVES AND ACTUATORS SHALL BE FURNISHED BY THE CONTROLS CONTRACTOR INSTALLED BY THE MECHANICAL CONTRACTOR.
- NEW PIPE PRESSURE TAPS SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR.
- PIPE WELLS SHALL BE FURNISHED AND LOCATED BY THE CONTROLS CONTRACTOR AND INSTALLED BY THE MECHANICAL CONTRACTOR.
- ANY LINE VOLTAGE POWER REQUIRED TO PERFORM THE WORK REQUIRED BY THESE DRAWINGS AND BY THE SPECIFICATIONS SHALL BE COORDINATED WITH DIVISION 26 CONTRACTOR BY THE CONTROLS CONTRACTOR.
- LOW VOLTAGE POWER SHALL BE PROVIDED BY CONTROLS CONTRACTOR.
- SEE SPECIFICATIONS FOR ADDITIONAL COORDINATION REQUIREMENTS.

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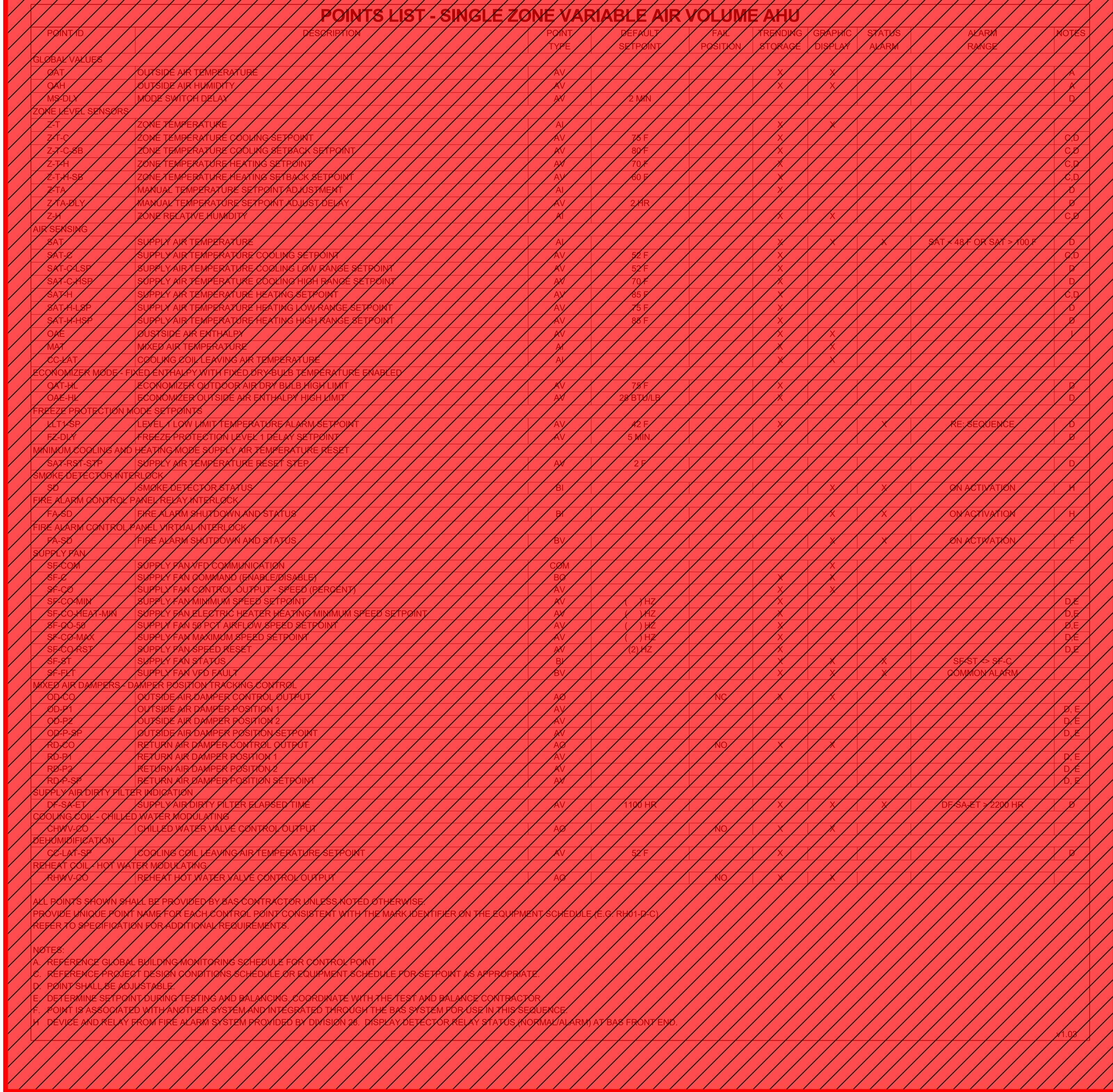


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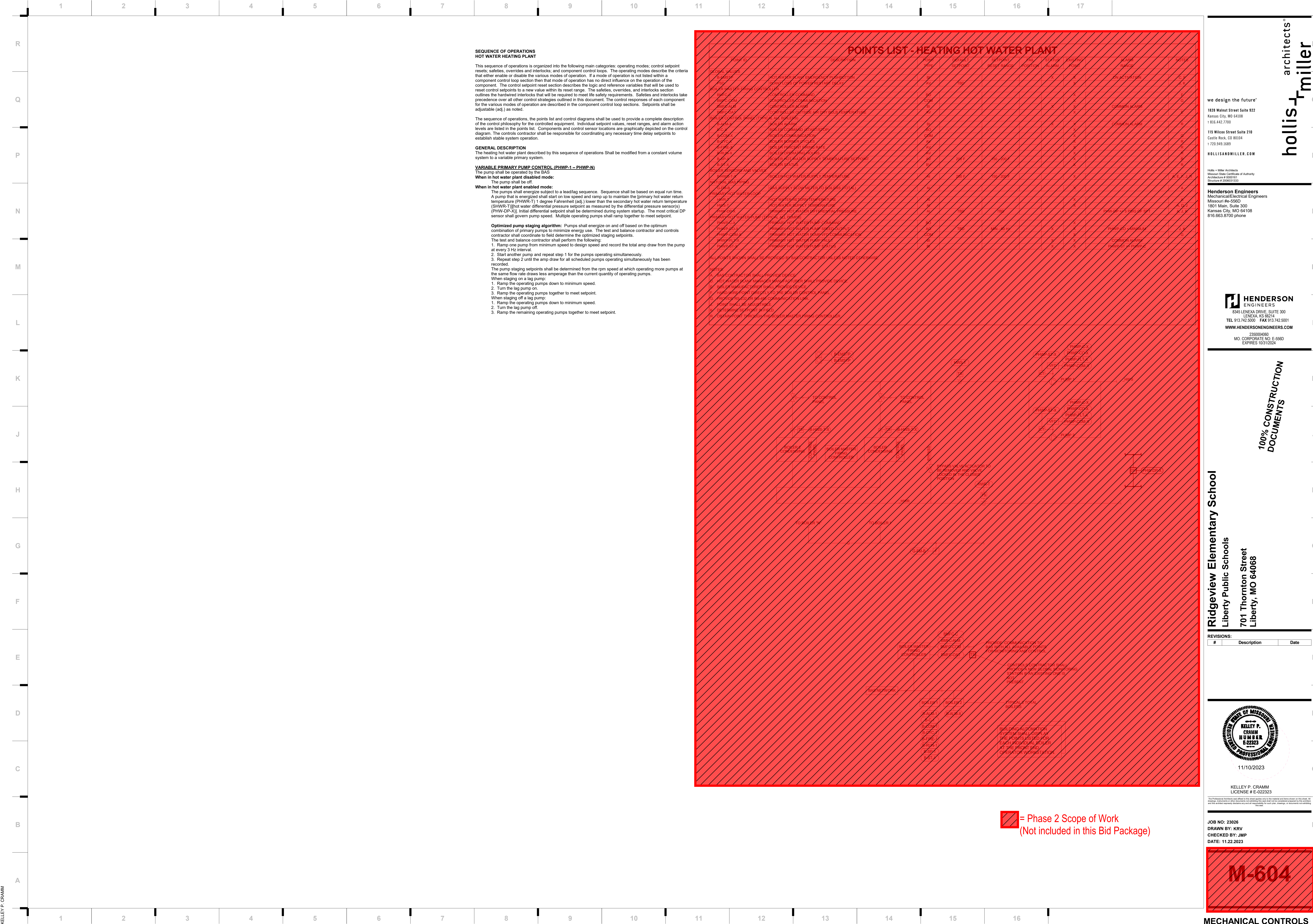












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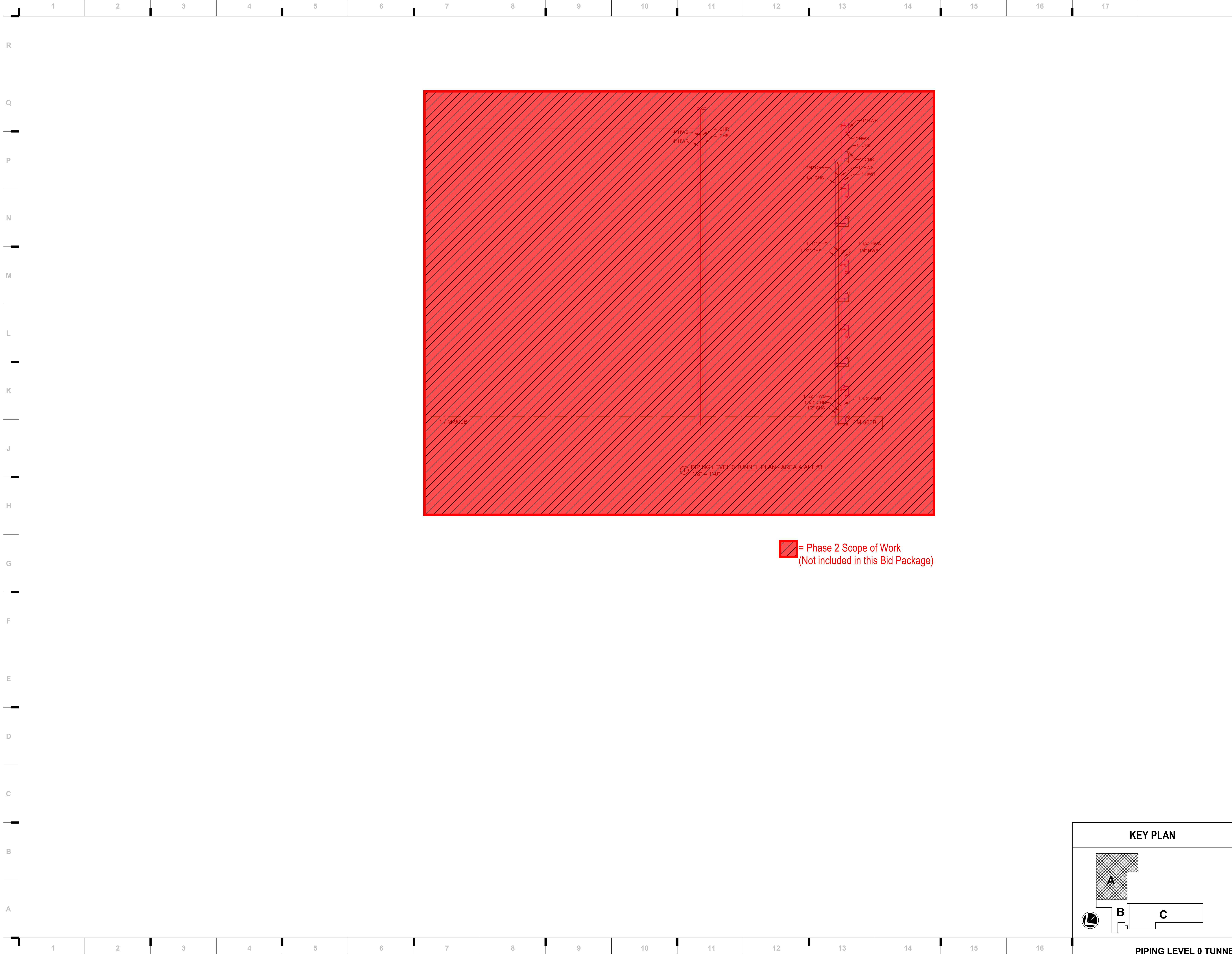
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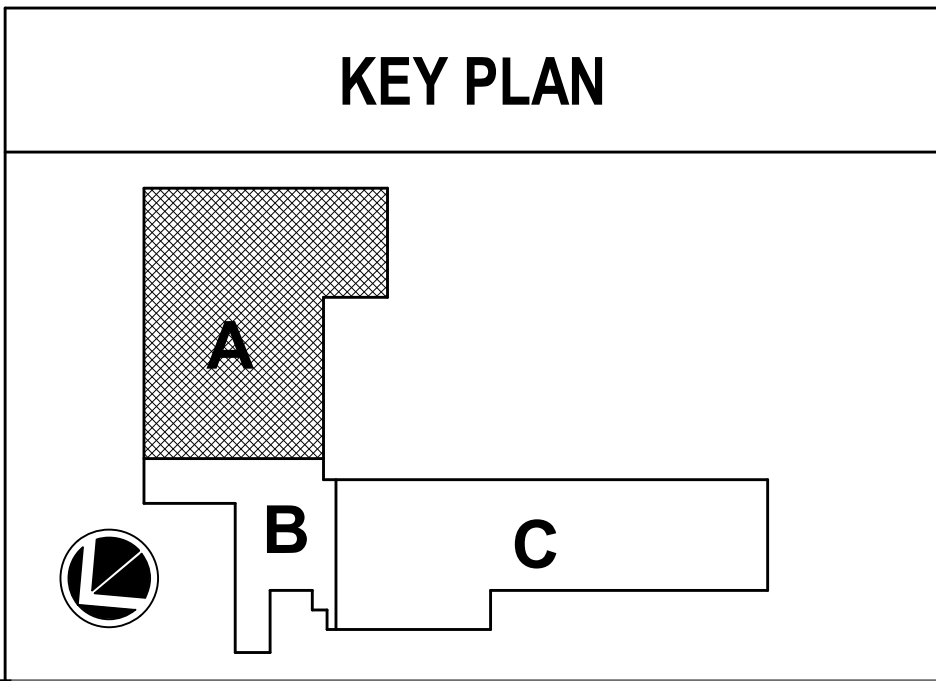




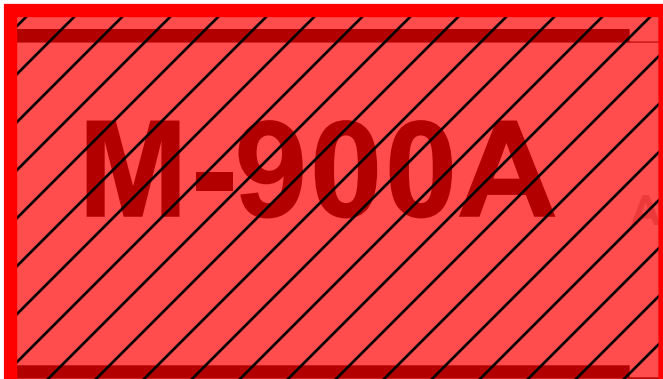
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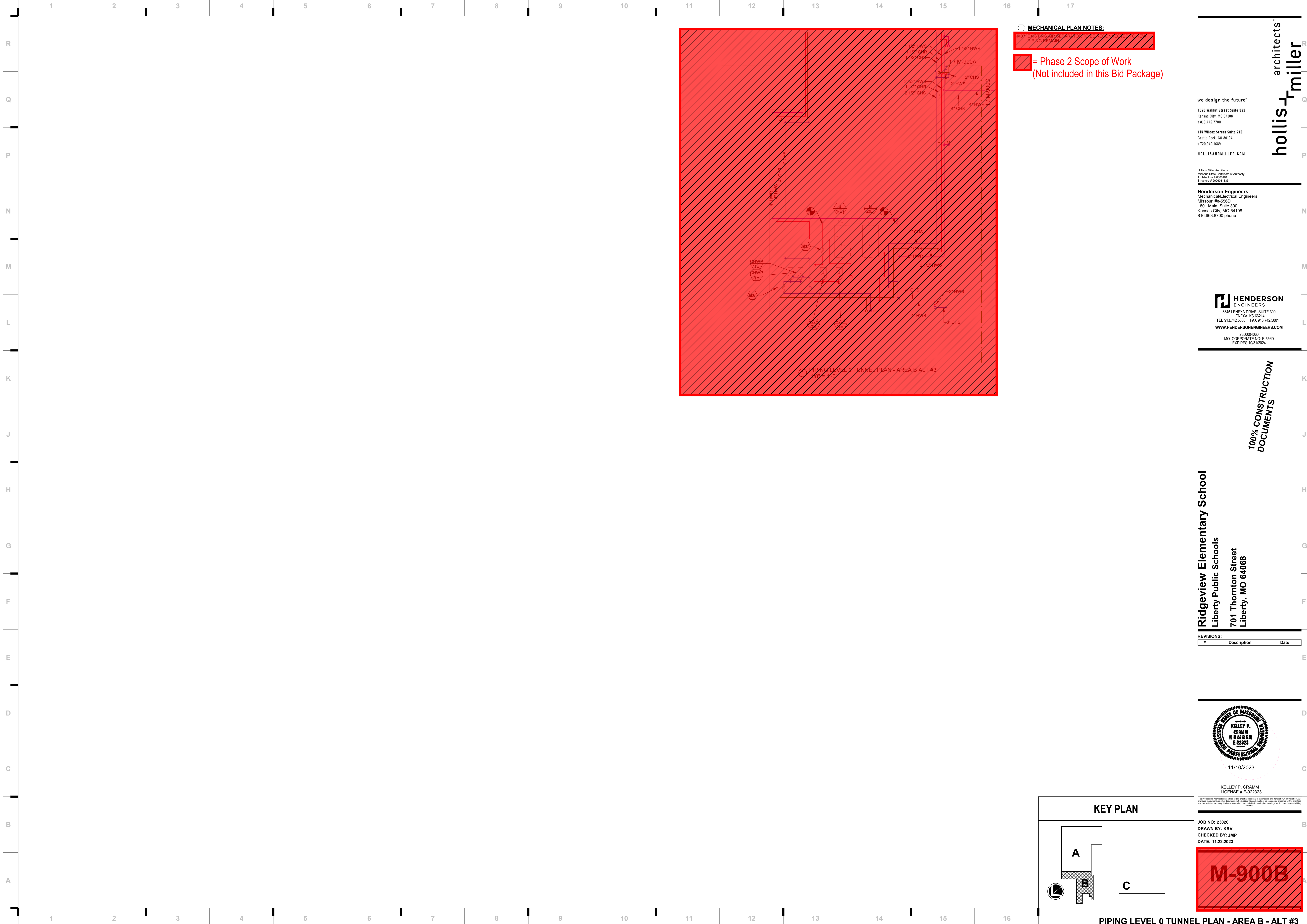
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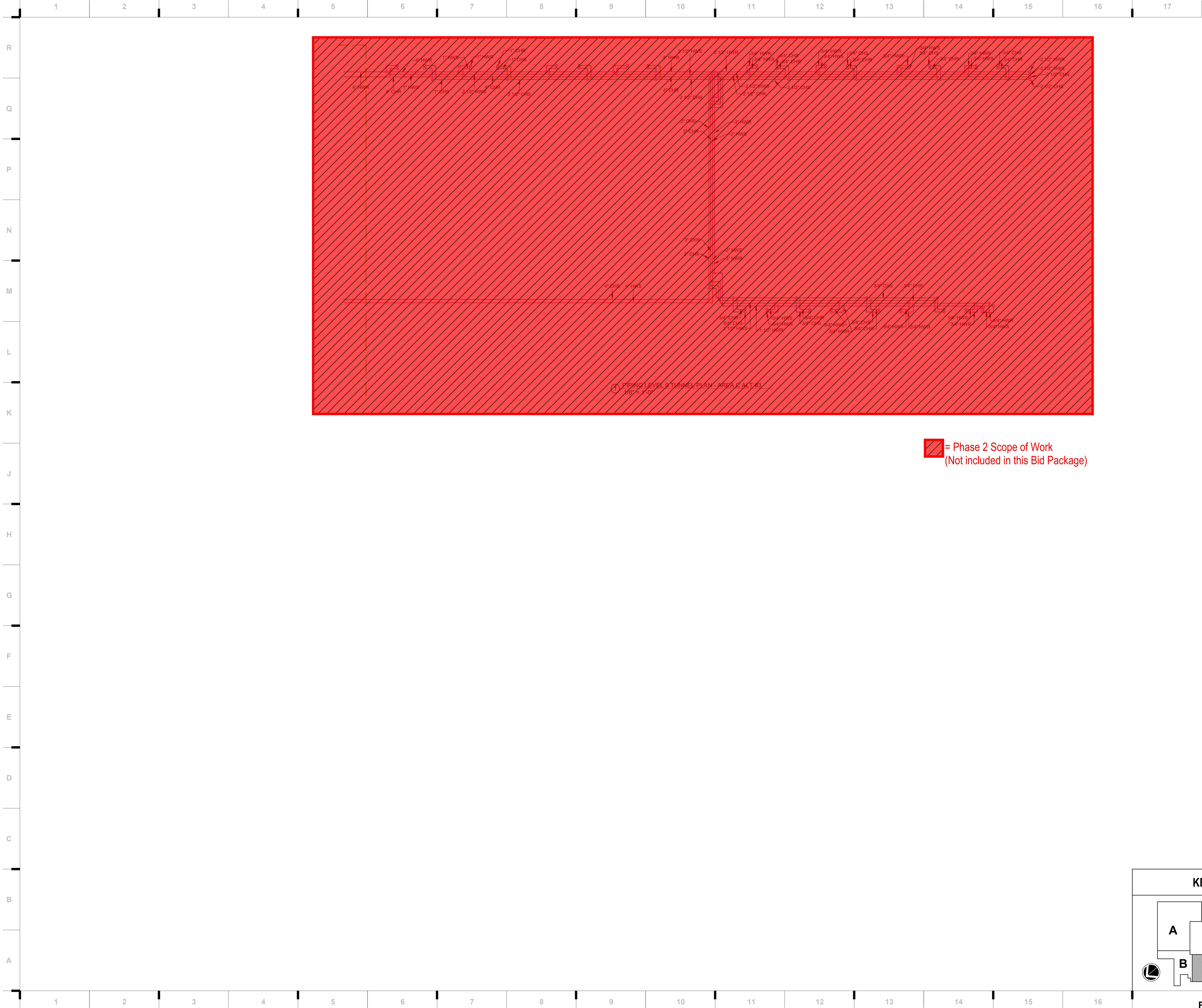
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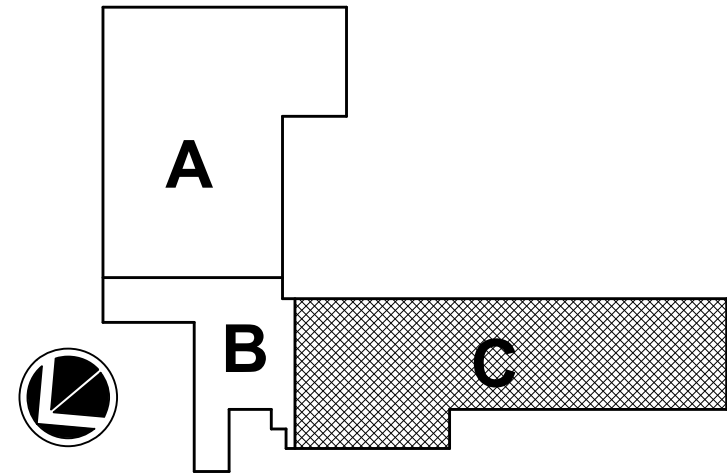


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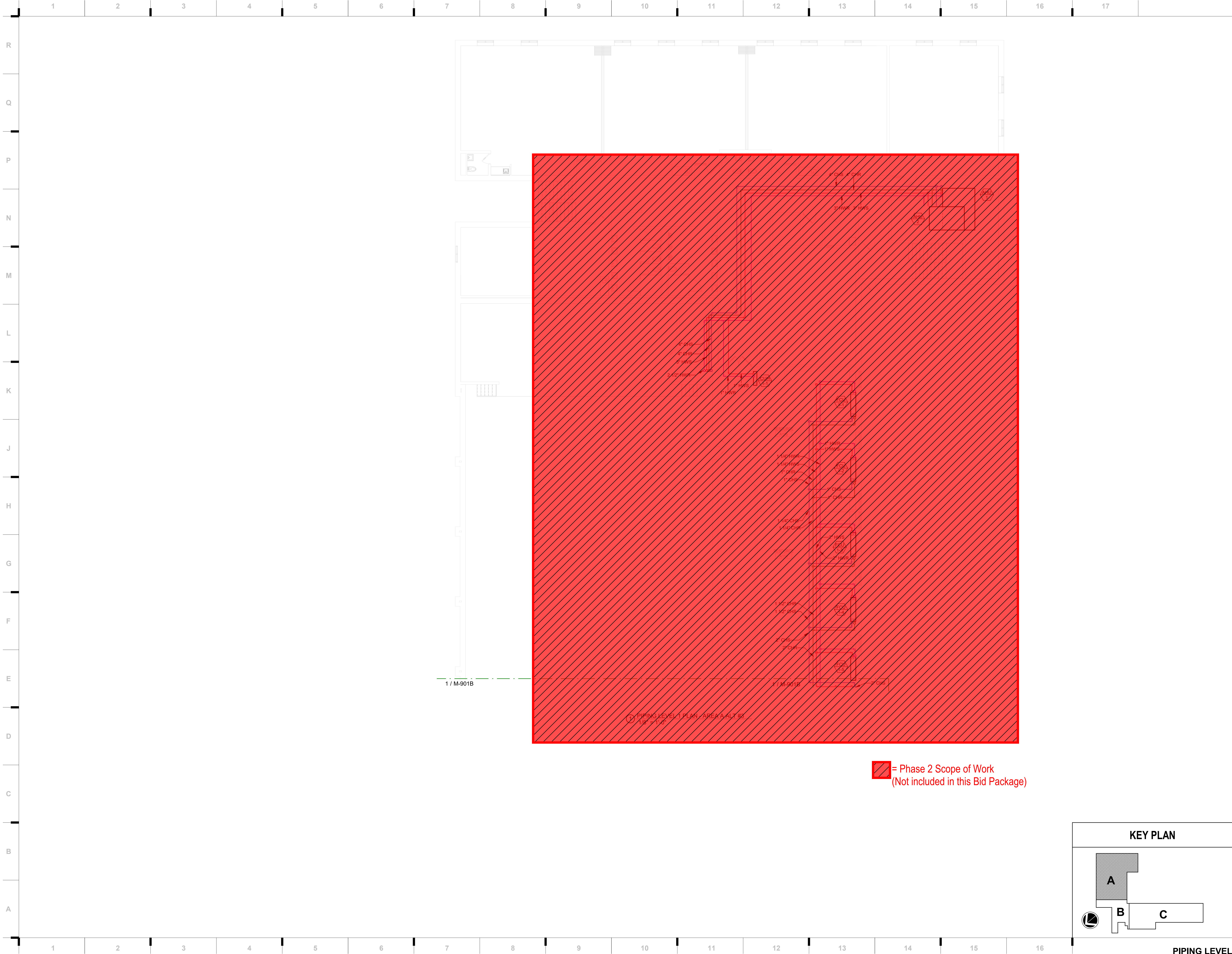
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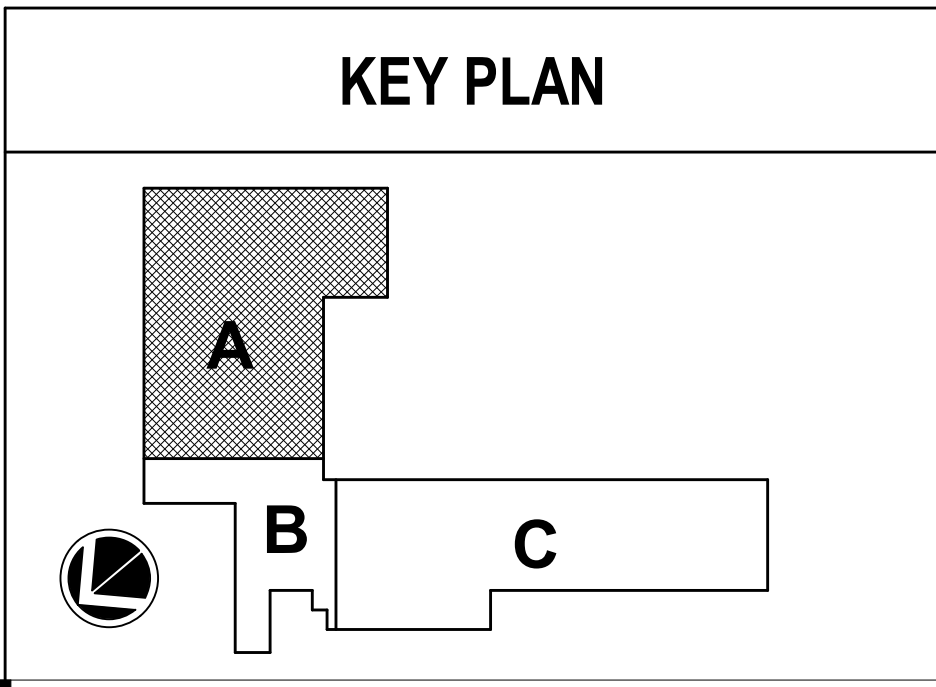
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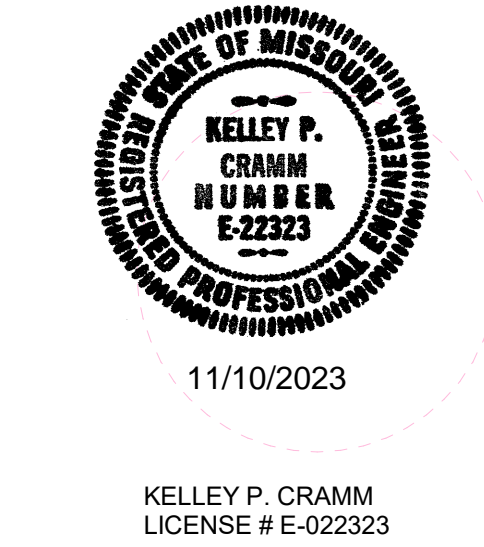


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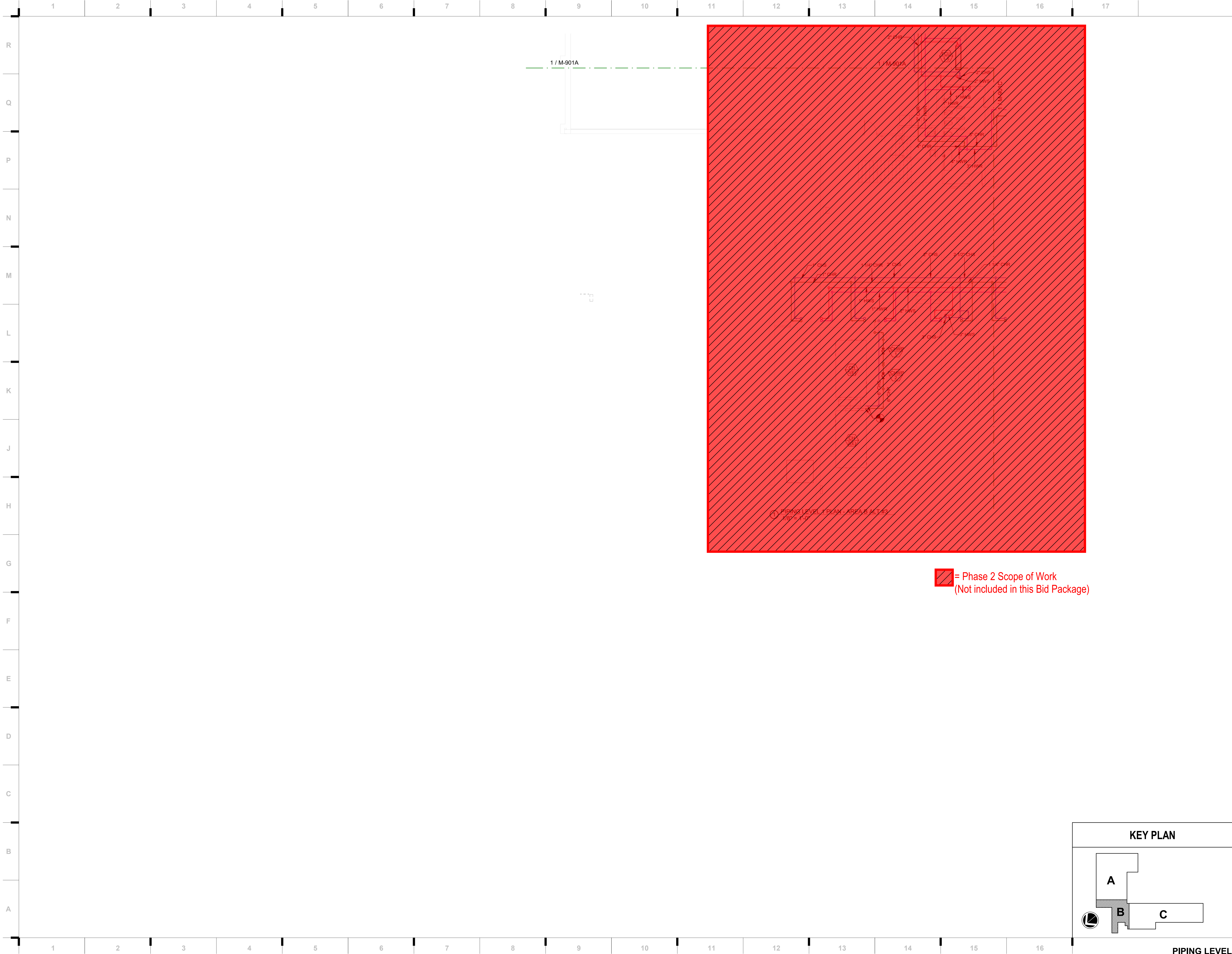
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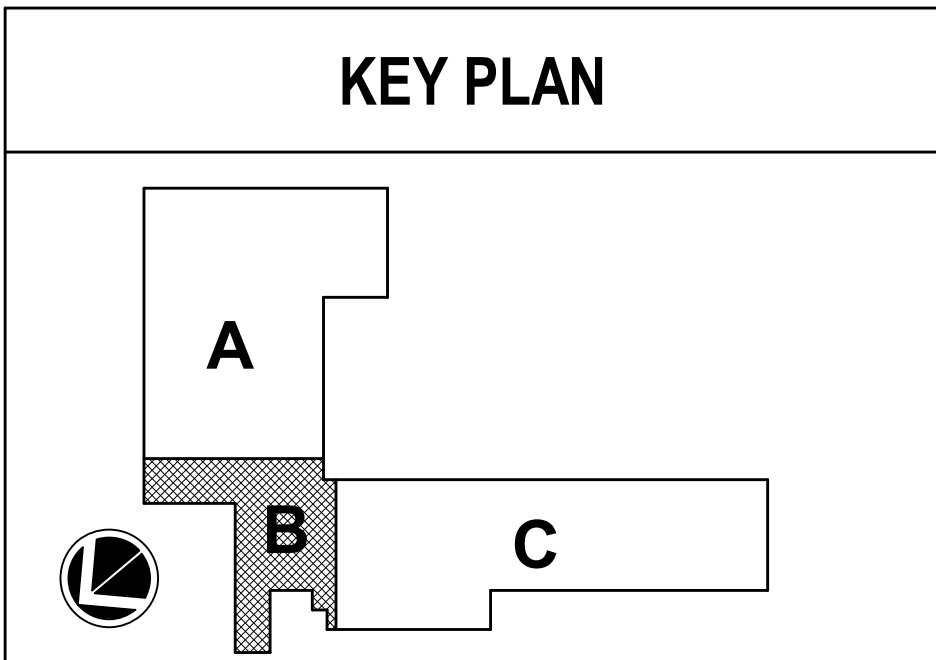
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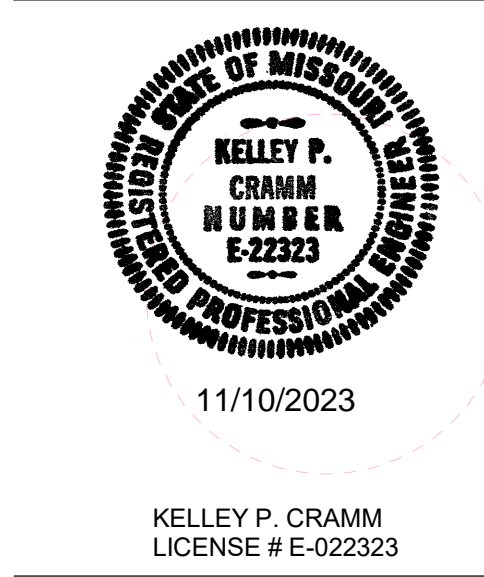
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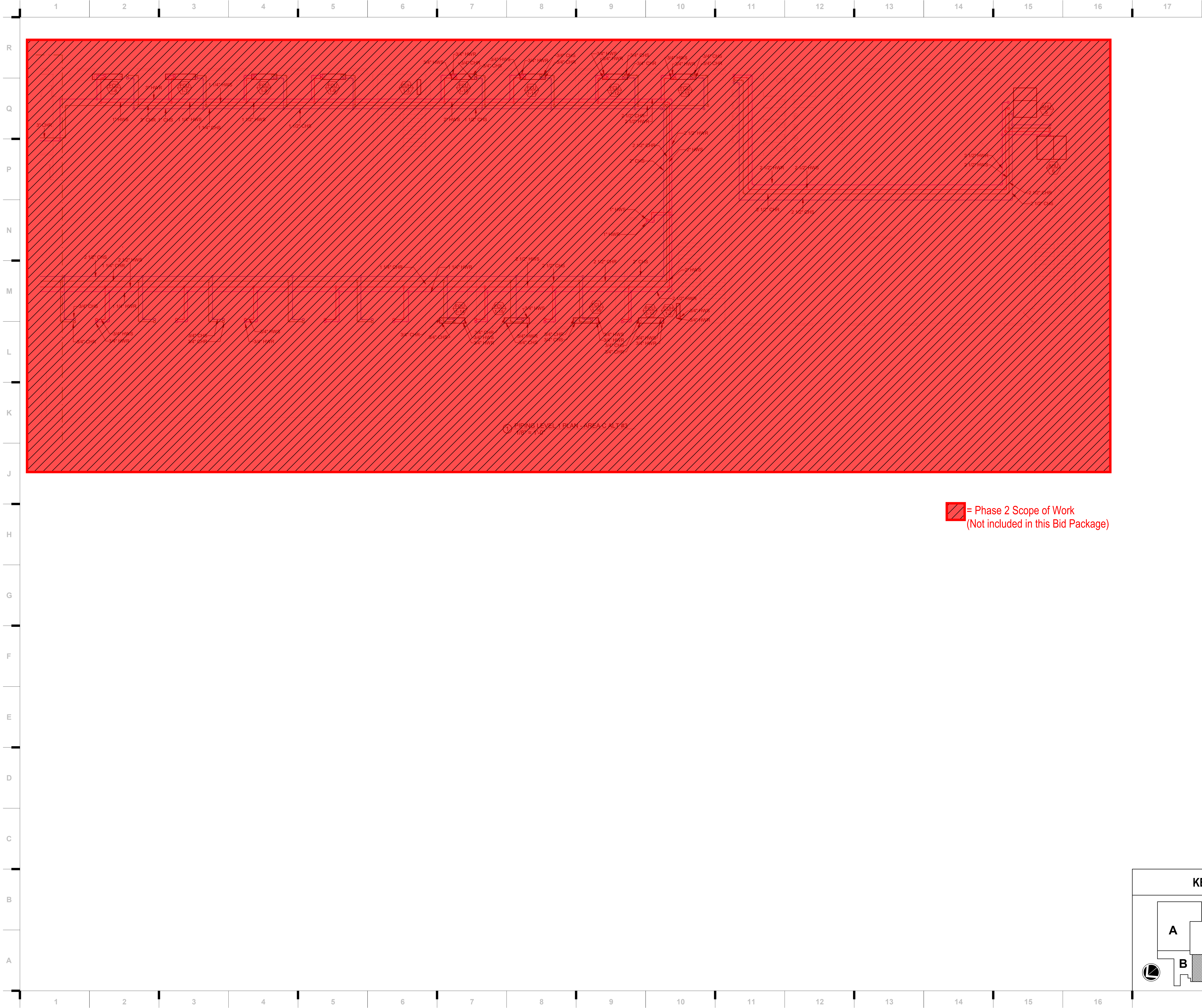
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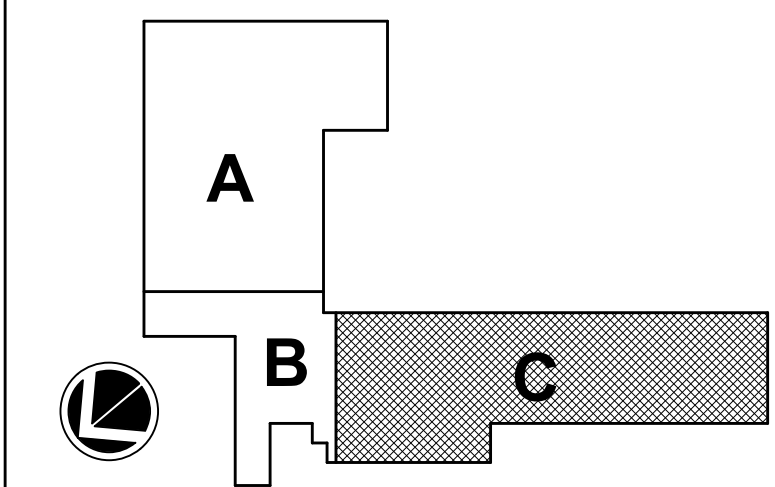


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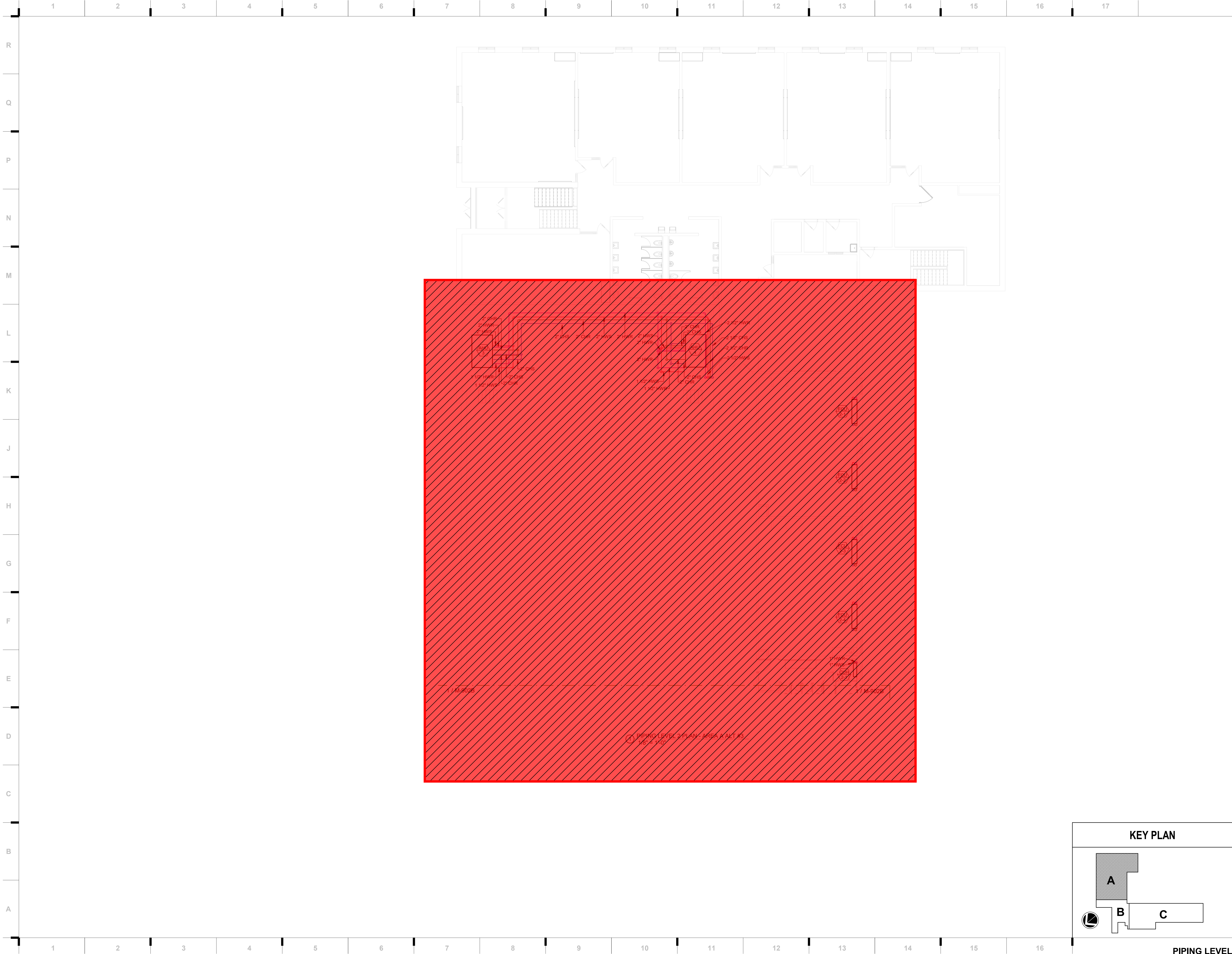
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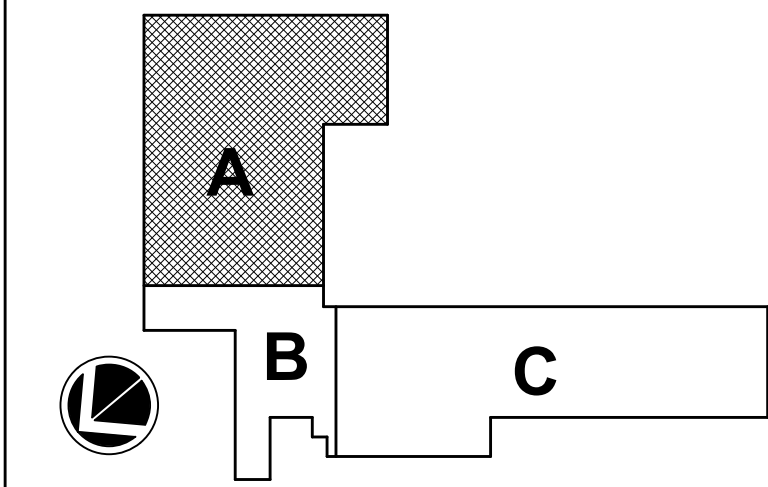
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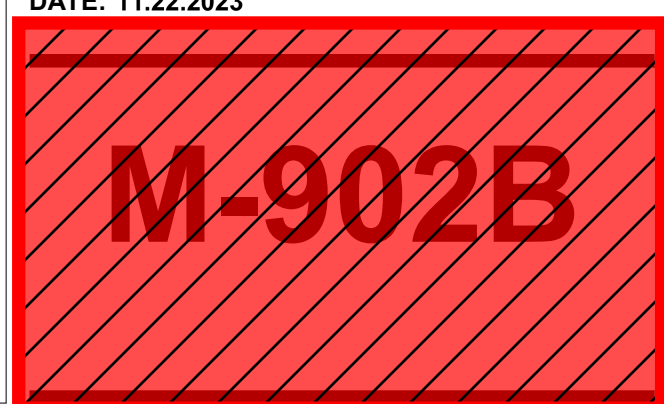
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GENERAL DEMOLITION NOTES:

- PRIOR TO SUBMITTING BID, VISIT THE JOB SITE AND BECOME FULLY ACQUAINTED WITH THE EXISTING CONDITIONS OF THE PROJECT. REVIEW THE GENERAL NOTES, SPECIFICATIONS AND OTHER DRAWINGS FOR ADDITIONAL REQUIREMENTS WHICH MAY NOT BE SPECIFICALLY CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY ARCHITECT, ENGINEER OF CONFLICTS OR DISCREPANCIES PRIOR TO SUBMISSION OF BID.
- EXISTING CONDITIONS WERE TAKEN FROM ORIGINAL DRAWINGS AND SITE VISITS AND MAY NOT REFLECT EXACT "AS-BUILT" CONDITIONS. FIELD VERIFY EXISTING CONDITIONS PRIOR TO SUBMITTING FINAL BIDS. COORDINATE NEW WORK AND DEMOLITION WITH OTHER DISCIPLINES AND EXISTING CONDITIONS PRIOR TO CONSTRUCTION.
- OWNER RETAINS RIGHTS OF SALVAGE FOR EQUIPMENT AND FIXTURES TO BE REMOVED. COORDINATE WITH THE OWNER THE EQUIPMENT AND FIXTURES TO BE SALVAGED AND THE LOCATION FOR STORAGE. AVOID DAMAGE TO EQUIPMENT, FIXTURES AND DEVICES DURING DEMOLITION WORK AND DURING TRANSPORT TO OWNER'S DESIGNATED STORAGE LOCATION.
- REMOVE ITEMS SHOWN HEAVY LINED AND/OR CROSSHATCHED AND/OR NOTED TO BE REMOVED.
- AVOID DAMAGING EXISTING SURFACES AND EQUIPMENT TO REMAIN FOR NEW INSTALLATION. REPAIR ANY DAMAGE CAUSED DURING WORK AT NO EXTRA COST TO THE OWNER.
- SEAL ALL PENETRATIONS THROUGH FLOORS, WALLS, CEILINGS AND ROOFS WHERE PLUMBING COMPONENTS ARE REMOVED AND WHERE THE EXISTING PENETRATION IS NOT USED FOR THE NEW INSTALLATION. REPAIR SURFACES TO MATCH ADJACENT AREAS.
- INSTALL PERMANENT CAPS WHERE PIPING IS REMOVED AND THE EXISTING TAPS ARE NOT USED FOR THE NEW INSTALLATION. INSTALL TEMPORARY CAPS WHERE PIPING IS REMOVED AND THE EXISTING TAPS WILL BE USED FOR THE NEW INSTALLATION TO PROTECT THE INTERIOR SURFACES UNTIL NEW PIPING IS INSTALLED.
- REMOVE PIPE HANGERS, PIPE SUPPORTS AND EQUIPMENT SUPPORTS WHERE PIPING OR EQUIPMENT IS REMOVED AND THE EXISTING HANGERS AND SUPPORTS ARE NOT USED FOR THE NEW INSTALLATION.
- VERIFY THAT EXISTING EQUIPMENT TO REMAIN IS OPERATING PROPERLY. NOTIFY THE ARCHITECT, ENGINEER OF ANY DAMAGED AND/OR MALFUNCTIONING COMPONENTS.
- WHERE SHUTDOWN OF EXISTING ACTIVE PIPING SYSTEMS IS REQUIRED DURING DEMOLITION PHASE OF WORK IN PREPARATION FOR NEW TIE-IN PHASE OF WORK, COORDINATE WITH THE OWNER AND MINIMIZE DOWNTIME. VERIFY EXISTING SYSTEMS, EQUIPMENT, AND COMPONENTS WILL BE PROVIDED WITH BACKUP SERVICE WHERE REQUIRED. NOTIFY OWNER A MINIMUM OF SEVEN (7) DAYS PRIOR TO INTERRUPTION OF SERVICE.

GENERAL NOTES:

- PROVIDE A CONSTRUCTION RECORD SET OF "AS-BUILT" DOCUMENTS TO THE ARCHITECT REFLECTING ANY VARIANCES OF INSTALLED PIPING LOCATIONS OR EQUIPMENT CONTRARY TO THE CONSTRUCTION DOCUMENTS. REFER TO SPECIFICATIONS.
- DRAWINGS ARE DIAGRAMMATIC ONLY AND REPRESENT THE GENERAL SCOPE OF THE WORK. PRIOR TO SUBMITTING BID, VISIT THE JOB SITE TO OBSERVE THE EXISTING CONDITIONS OF THE PROJECT. REVIEW THE GENERAL NOTES, SPECIFICATIONS AND PLANS FOR ADDITIONAL REQUIREMENTS THAT MAY NOT BE SPECIFICALLY CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY ARCHITECT OF ANY CONFLICTS OR DISCREPANCIES PRIOR TO SUBMISSION OF BID.
- PROVIDE TO THE ARCHITECT A COPY OF INSPECTION REPORTS AND APPROVAL CERTIFICATES FROM LOCAL AND STATE INSPECTIONS, REFER TO SPECIFICATIONS.
- INSTALLATION SHALL COMPLY WITH LEGALLY CONSTITUTED CODES AND THE REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION AND ALSO MEET ALL REQUIREMENTS OF THE LANDLORD. OBTAIN A COPY OF THE LANDLORD'S REQUIREMENTS AND REVIEW PRIOR TO SUBMITTING BID.
- PLANS AND SPECIFICATIONS GOVERN WHERE THEY EXCEED CODE REQUIREMENTS.
- VERIFY LOCATION AND DEPTH OF UTILITIES AT POINTS OF CONNECTION BEFORE START OF PIPING INSTALLATION.
- REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION AND MOUNTING HEIGHTS OF PLUMBING FIXTURES.
- DO NOT SCALE FLOOR PLANS FOR EXACT HORIZONTAL LOCATION OF PIPE ROUTING.
- INSTALL CONCEALED PIPING TIGHT TO THE STRUCTURE AND AS HIGH AS POSSIBLE.
- VALVES SHALL BE LINE SIZE UNLESS OTHERWISE NOTED.
- INSTALL EXPOSED PIPING, WHERE NECESSARY, IN FINISHED AREAS TIGHT TO THE STRUCTURE, WALL OR CEILING AND AS HIGH AS POSSIBLE. INSTALL PIPING PARALLEL AND / OR PERPENDICULAR TO WALLS.
- INSTALL VALVES AND APPURTENANCES A MAXIMUM OF 24" ABOVE CEILING IN ACCESSIBLE LOCATION WITHIN 24" OF ACCESS DOORS OR ACCESSIBLE CEILING TILES. PROVIDE PIPE AND FITTINGS TO INSTALL VALVES AND APPURTENANCES AT REQUIRED HEIGHT AND WITHIN 24" OF ACCESS DOORS OR ACCESSIBLE CEILING TILES.
- INSTALL NO PLASTIC PIPE OF ANY KIND ABOVE SLAB IN THE BUILDING. INSTALL NO PLASTIC PIPE IN THE CEILING RETURN AIR PLENUM.
- COORDINATE ALL WORK WITH OTHER TRADES AND CONTRACTORS.
- COORDINATE PIPING INSTALLATION WITH STRUCTURAL GRADE BEAMS, FOOTINGS, COLUMN PIERS, ETC. SLEEVE PIPING THROUGH GRADE BEAMS, FOOTING, ETC. WHERE REQUIRED AND AS NOTED ON PLANS. COORDINATE SLEEVE INSTALLATIONS WITH THE ARCHITECT, STRUCTURAL ENGINEER, STRUCTURAL CONTRACTOR AND GENERAL CONTRACTOR BEFORE CONCRETE IS INSTALLED.
- CLEAN FAUCET AERATORS AND PIPE STRAINERS PRIOR TO TURNING BUILDING OVER TO THE OWNER.
- PROVIDE TRAP PRIMERS WHERE REQUIRED BY LOCAL AUTHORITIES.
- COORDINATE PIPE ROUTING AWAY FROM ELECTRICAL PANELS. DO NOT INSTALL PIPING OVER ELECTRICAL PANELS.
- COORDINATE ALL ROOF PENETRATIONS WITH OTHER TRADES. MAINTAIN 10" MINIMUM CLEARANCE FROM ALL AIR INTAKES. MAINTAIN 2" CLEARANCE FROM ALL OTHER EQUIPMENT.
- INSULATE PIPING ROUTED IN EXTERIOR BUILDING WALLS WITH MINIMUM 2" BATT INSULATION TO PREVENT FREEZING.
- PROVIDE "HEAVY-DUTY" NO-HUB COUPLINGS ON SANITARY PIPING 3" AND LARGER. SEE DIVISION 22 SPECIFICATION SECTION "SANITARY DRAINAGE AND VENT AND PIPING SPECIALTIES" FOR MORE INFORMATION.
- PROVIDE TRANSITION ADAPTER COUPLINGS FOR CONNECTION OF PVC DWV TO CAST IRON AT SLAB ON GRADE. SEE DIVISION 22 SPECIFICATION FOR MORE INFORMATION.
- PROVIDE TRANSITION ADAPTER COUPLINGS FOR CONNECTION OF PVC DWV TO CAST IRON SANITARY, WASTE AND VENT PIPE AT SLAB ON GRADE. SEE DIVISION 22 SPECIFICATION SECTION "SANITARY DRAINAGE AND VENT PIPING AND SPECIALTIES" FOR MORE INFORMATION.
- FLOW CONTROL VALVES SHALL BE SIZE 1/2" AND SET AT 0.5 GPM UNLESS NOTED OTHERWISE.
- WATER HAMMER ARRESTORS SHALL BE SIZE "A" UNLESS NOTED OTHERWISE.
- PROVIDE VERTICAL LIFT SPRING LOADED CHECK VALVES IN HOT AND COLD WATER SUPPLIES FOR MOP SINK FAUCETS DOWNSTREAM OF SHUTOFF VALVES.
- PROVIDE WALL PIPES AT PIPING PENETRATIONS OF ELEVATED WATERPROOF FLOOR SLABS, REFER TO SPECIFICATIONS.
- VERIFY EXISTING EQUIPMENT, INCLUDING ACCESSORIES, IS NOT DAMAGED AND IS IN GOOD WORKING ORDER. REPORT ANY DEFICIENCIES TO THE ARCHITECT.
- PROVIDE SIZE AND LENGTH OF HOT WATER FIXTURE SUPPLY PIPE FROM CIRCULATED HOT WATER BRANCH OR MAIN TO TERMINATION OF HOT WATER FIXTURE SUPPLY PIPE AT EACH FIXTURE PER 2015 INTERNATIONAL ENERGY CONSERVATION CODE, TABLE C404.3.1. FOR 1/2" HOT WATER FIXTURE SUPPLY PIPE SIZE TO INDIVIDUAL LAVATORIES, PROVIDE MAXIMUM LENGTH OF TWO FEET. FOR 3/4" HOT WATER FIXTURE SUPPLY PIPE SIZE TO INDIVIDUAL SINKS, PROVIDE MAXIMUM LENGTH OF 43 FEET. FOR 3/4" HOT WATER FIXTURE SUPPLY PIPE SIZE TO INDIVIDUAL SINKS, PROVIDE MAXIMUM LENGTH OF 21 FEET.

PLUMBING SYMBOLS






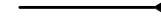




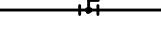
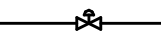



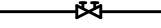




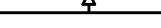




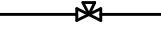




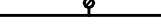



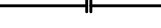



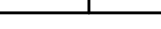



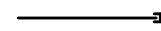




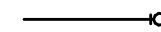



THIS IS A MASTER LEGEND AND NOT ALL SYMBOLS OR ABBREVIATIONS ARE USED.

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







STANDARD MOUNTING HEIGHTS

HOSE BIBB (CENTERLINE)	36"
ICE MAKER OUTLET BOX (CENTER OF BOX)	24"
JANITOR'S SINK FAUCET FITTINGS (CENTERLINE)	42"
NON FREEZE WALL HYDRANT (AFG TO CENTERLINE)	18"
WASHING MACHINE OUTLET BOX (RM)	42"

PIPING SYMBOLS

	OXYGEN OUTLET
	NITROUS OXIDE OUTLET
	MEDICAL AIR OUTLET
	NITROGEN OUTLET
	MEDICAL VACUUM INLET
	FLOOR SINK (FS), SIZE & TYPE
	FLOOR DRAIN (FD), SIZE & TYPE
	ROOF DRAIN (RD), SIZE & TYPE
	BALL VALVE
	CONTROL VALVE
	SHUTOFF VALVE
	CHECK VALVE
	BALANCING VALVE WITH PRESSURE PORTS
	WATER METER
	STRAINER
	STRAINER WITH BLOWOFF
	RELIEF/SAFETY VALVE
	SOLENOID VALVE
	PRESSURE REDUCING VALVE
	GAS PRESSURE REGULATOR
	THERMOSTATIC MIXING VALVE
	PIPE ANCHOR
	EXPANSION JOINT
	BACKFLOW PREVENTER
	PRESSURE GAUGE
	THERMOMETER
	UNION
	FLANGE CONNECTION
	HOSE BIBB (HB)
	NON-FREEZING WALL HYDRANT (NW)
	MANUAL / AUTOMATIC AIR VENT OR VACUUM RELIEF VALVE
	PRESSURE / VACUUM SWITCH
	CLEANOUT
	CAP
	WALL CLEANOUT (WCO)
	FLOOR CLEANOUT (FCO)
	EXTERIOR CLEANOUT (ECO)
	ELBOW UP
	ELBOW DOWN
	TEE UP
	TEE DOWN
	ELBOW UP WITH SHUT-OFF VALVE (SOV)
	ELBOW DOWN WITH SHUT-OFF VALVE (SOV)
	TEE UP WITH SHUT-OFF VALVE (SOV)
	TEE DOWN WITH SHUT OFF VALVE (SOV)
	WATER HAMMER ARRESTER (WHA) WITH PDI SIZES, (A, B, C, D, & E)
	RECIRCULATION PUMP
	P-TRAP
	GAS COCK
	TRAP PRIMER
	TRAP PRIMER WITH DISTRIBUTION UNIT

ANNOTATION

	PLUMBING PLAN NOTE CALLOUT
	PLUMBING EQUIPMENT DESIGNATION. (CONTRACTOR FURNISHED AND INSTALLED). REFER TO PLUMBING FIXTURE OR EQUIPMENT SCHEDULES
	EQUIPMENT DESIGNATION (OWNER FURNISHED, CONTRACTOR INSTALLED)
	MECHANICAL EQUIPMENT DESIGNATION (CONTRACTOR FURNISHED AND INSTALLED UNLESS NOTED OTHERWISE)
	CONNECTION POINT OF NEW WORK TO EXISTING
	DETAIL REFERENCE UPPER NUMBER INDICATES DETAIL NUMBER LOWER NUMBER INDICATES SHEET NUMBER
	SECTION CUT DESIGNATION
	DEDICATED EQUIPMENT ACCESS TILE
	ACCESS PANEL

ABBREVIATIONS

ADA	AMERICANS WITH DISABILITIES ACT	MIN	MINIMUM
AFF	ABOVE FINISHED FLOOR	N/C	NORMALLY CLOSED
AFG	ABOVE FINISHED GRADE	N/O	NORMALLY OPEN
AHU	AIR HANDLING UNIT	NIC	NOT IN CONTRACT
AP	ACCESS PANEL	ORD	OVERFLOW ROOF DRAIN
BAS	BUILDING AUTOMATION SYSTEM	PDI	PLUMBING DRAINAGE INSTITUTE
BFF	BELOW FINISHED FLOOR	PH10	PHASE
BFG	BELOW FINISHED GRADE	PRV	PRESSURE REDUCING VALVE
BOP	BOTTOM OF PIPE	PVC	POLYVINYL CHLORIDE
BOS	BOTTOM OF STRUCTURE	RCF	REINFORCED CONCRETE
BTU	BRITISH THERMAL UNIT	RD	ROOF DRAIN
CP	CONDENSATE PUMP	RPM	REVOLUTIONS PER MINUTE
CPVC	CHLORINATED POLYVINYL CHLORIDE	RTU	ROOFTOP UNIT
CU	COPPER	SF	SQUARE FEET
DI	DUCTILE IRON	SP	SUMP
DN	DOWN	SS	STAINLESS STEEL
DFU	DRAINAGE FIXTURE UNIT	SS	SANITARY SEWER, SOIL STACK
DS	DOWNSPOUT	TDH	TOTAL DYNAMIC HEAD
(E)	EXISTING	TFA	TO FLOOR ABOVE
EMS	ENERGY MANAGEMENT SYSTEM	TFB	TO FLOOR BELOW
ETR	EXISTING TO REMAIN	TYP	TYPICAL
EWG	ELECTRIC WATER COOLER	UL	UNDERWRITERS
FD	FLOOR DRAIN	UNO	UNLESS NOTED OTHERWISE
FFA	FROM FLOOR ABOVE	UPS	UNINTERRUPTIBLE POWER SUPPLY
FFB	FROM FLOOR BELOW	VCP	VITRIFIED CLAY PIPE
FF	FINISHED FLOOR	VFD	VARIABLE FREQUENCY DRIVE
FL	FLOW LINE	VS	VENT STACK
FL	FULL LOAD AMPS	VTR	VENT THROUGH ROOF
FLR	FLOOR	W/	WITH
GPM	GALLONS PER MINUTE	W/O	WITHOUT
HD	HEAD, HUB DRAIN	WC	WATER COLUMN
IE	HERTZ	WS	WASTE STACK
IN WC	INCHES OF WATER COLUMN	WSFU	WATER SUPPLY FIXTURE UNIT
JB	JUNCTION BOX	WVS	WASTE VENT STACK
JW	JUNCTION BOX		
KW	KILOWATT		
MAU	MAKE-UP AIR UNIT		
MAX	MAXIMUM		
MH	1000 STU PER HOUR		
MH	MANHOLE		

LINETYPE LEGEND

THROUGHOUT THE DRAWINGS DIFFERENT LINETYPES ARE USED IN COMBINATION WITH THE SYMBOLS TO INDICATE THE STATUS OF ITEMS AS EXISTING, TO BE DEMOLISHED, TO BE INCLUDED AS PART OF NEW WORK AND/OR ITEMS WHICH ARE ANTICIPATED TO BE PROVIDED IN THE FUTURE. THE STATUS OF ITEMS USING THESE LINETYPES ARE RELATIVE TO THE VIEW IN WHICH THEY APPEAR. PHASING SHOWN IN DRAWINGS IS NOT INTENDED TO FULLY DESCRIBE ALL NECESSARY CONSTRUCTION PHASING, WHICH IS DETERMINED BY THE CONTRACTOR AS PART OF THEIR RESPONSIBILITIES. ANY SUCH PHASES DESCRIBED IN THE CONSTRUCTION DOCUMENTS ARE GENERAL AND ONLY INTENDED TO INDICATE A BROAD ORDER FOR THE SAKE OF DESCRIBING THE PROJECT. THE FOLLOWING LINETYPES MAY BE USED ON ANY DEVICE, EQUIPMENT, NOTE, LINE, SHAPE, ETC.


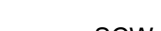


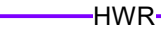




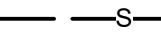


















































EXISTING

NEW

DEMOLISH

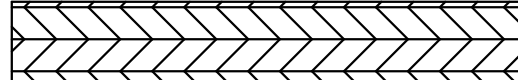
FUTURE

PIPING LINETYPES

	DOMESTIC COLD WATER (CW)
	SOFTENED COLD WATER (SCW)
	DOMESTIC HOT WATER (HW)
	DOMESTIC HOT WATER RECIRC. (HWR)
	DOMESTIC HOT WATER (140°)
	TRAP PRIMER LINE (T)
	SOIL PIPING - ABOVE FLOOR (S)
	SOIL PIPING - BELOW FLOOR (S)
	WASTE PIPING - ABOVE FLOOR (W)
	WASTE PIPING - BELOW FLOOR (W)
	GREASE WASTE - ABOVE FLOOR (GW)
	GREASE WASTE - BELOW FLOOR (GW)
	COMBINATION GREASE WASTE AND VENT (CGWV)
	COMBINATION WASTE AND VENT (CWV)
	STORM DRAIN - ABOVE FLOOR (ST)
	STORM DRAIN - BELOW FLOOR (ST)
	OVERFLOW STORM DRAIN - ABOVE FLOOR (OST)
	VENT BELOW GRADE (VBG)
	VENT BELOW FLOOR (VBF)
	INDIRECT DRAIN (ID)
	CONDENSATE DRAIN - HIGH EFFICIENCY RTU (CDH)
	CONDENSATE DRAIN (CD)
	AUXILIARY CONDENSATE DRAIN (ACD)
	SUMP OR SEWAGE PUMP DISCHARGE (SPD)
	NATURAL GAS (G)
	NATURAL GAS ON ROOF (G)
	MEDIUM PRESSURE NATURAL GAS (MPG)
	MEDIUM PRESSURE NATURAL GAS ON ROOF (MPG)
	NON-POTABLE WATER (NPW)
	LIQUEFIED PETROLEUM GAS (LPG)
	WATER SERVICE (WS)
	FIRE PROTECTION SPRINKLER DRY (DFP)
	FIRE PROTECTION SPRINKLER WET (FP)
	FIRE PROTECTION STANDPIPE DRY (DSP)
	FIRE PROTECTION STANDPIPE WET (WSP)
	CONDENSATE PUMP DISCHARGE (PD)
	VENT PIPING (V)
	ACID WASTE - ABOVE FLOOR (AW)
	ACID WASTE - BELOW FLOOR (AW)
	ACID VENT (AV)
	GRAY WATER (GWS)
	COMPRESSED AIR (CA)
	MEDICAL AIR (MA)
	MEDICAL VACUUM (VE)
	HELIUM (HE)
	INSTRUMENT AIR (IA)
	INSTRUMENT VACUUM (IV)
	NITROGEN (N2)
	NITROUS OXIDE (N2O)
	OXYGEN (O2)
	EVACUAGD (EV)
	CARBON DIOXIDE (CO2)
	MEDICAL AIR INTAKE (AI)
	MEDICAL VACUUM EXHAUST (VE)
	DENTAL AIR (DA)
	DENTAL VACUUM (DV)
	FILTERED WATER (FW1)
	FILTERED WATER W/ SCALE INHIBITOR (FW2)
	REVERSE OSMOSIS (RO)
	REVERSE OSMOSIS REMINERALIZATION (ROR)

HATCHING LEGEND

ENLARGED PLAN



NOT IN SCOPE (NIS)



Ridgeview Elementary School

Liberty Public Schools

701 Thornton School

Liberty, MO 64088

REVISIONS:

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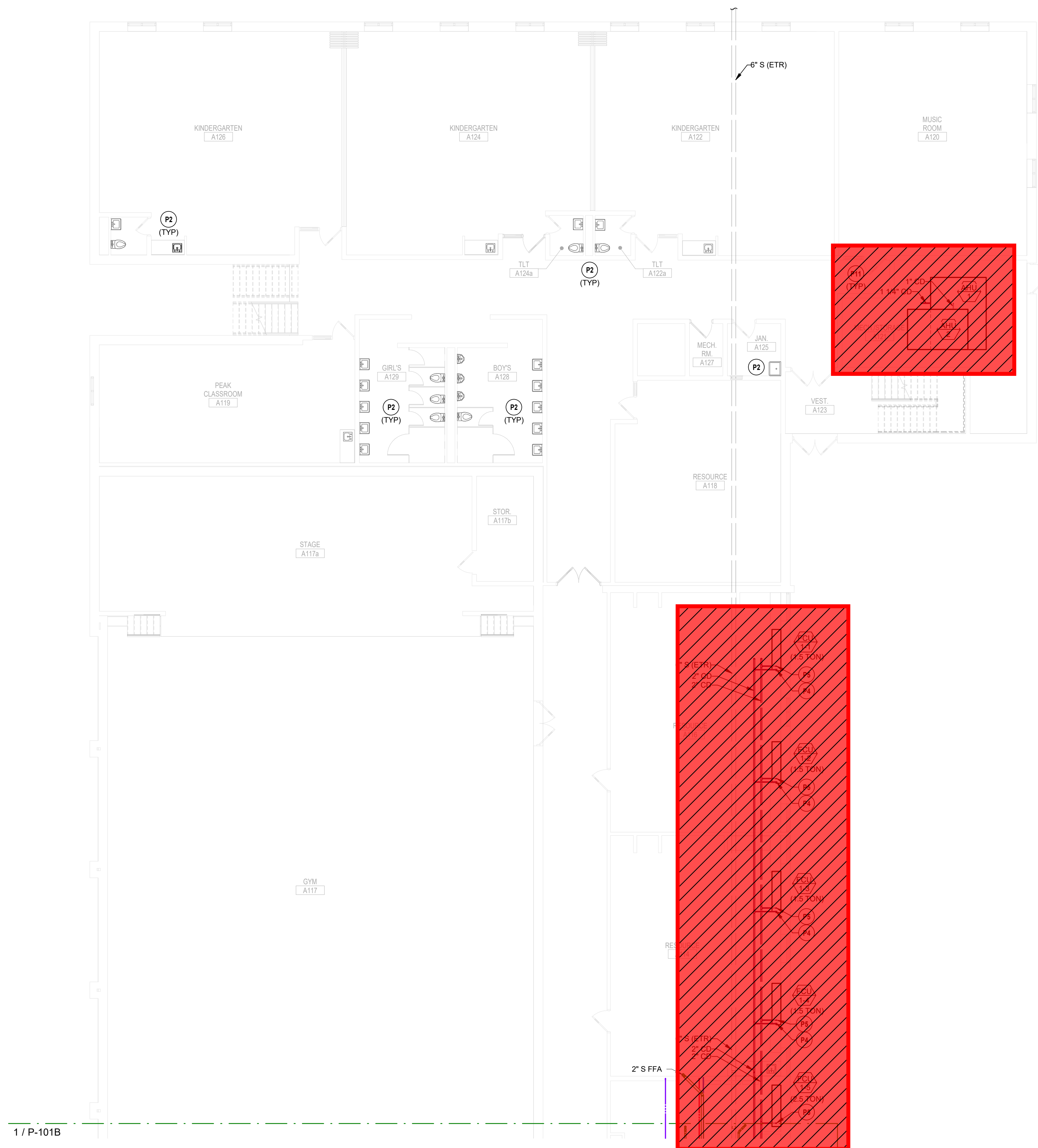


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DRAWN BY: BB  
CHECKED BY: ARE  
DATE: 11.22.2023

P-000





① PLUMBING LEVEL 1 PLAN - AREA A  
1/8" = 1'-0"

○ PLUMBING PLAN NOTES:

P2 EXISTING PLUMBING FIXTURE SHALL REMAIN. PROTECT FROM DAMAGE DURING DEMOLITION AND RENOVATION

P4 1" CONDENSATE DRAIN FROM FAN COIL UNIT ABOVE

P5 1" CONDENSATE DRAIN FROM FAN COIL UNIT AND DOWN BELOW FINISH FLOOR

P11 ROUTE DD PIPE TO NEAREST DRAIN

 = Phase 2 Scope of Work  
(Not included in this Bid Package)

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Liberty Public Schools

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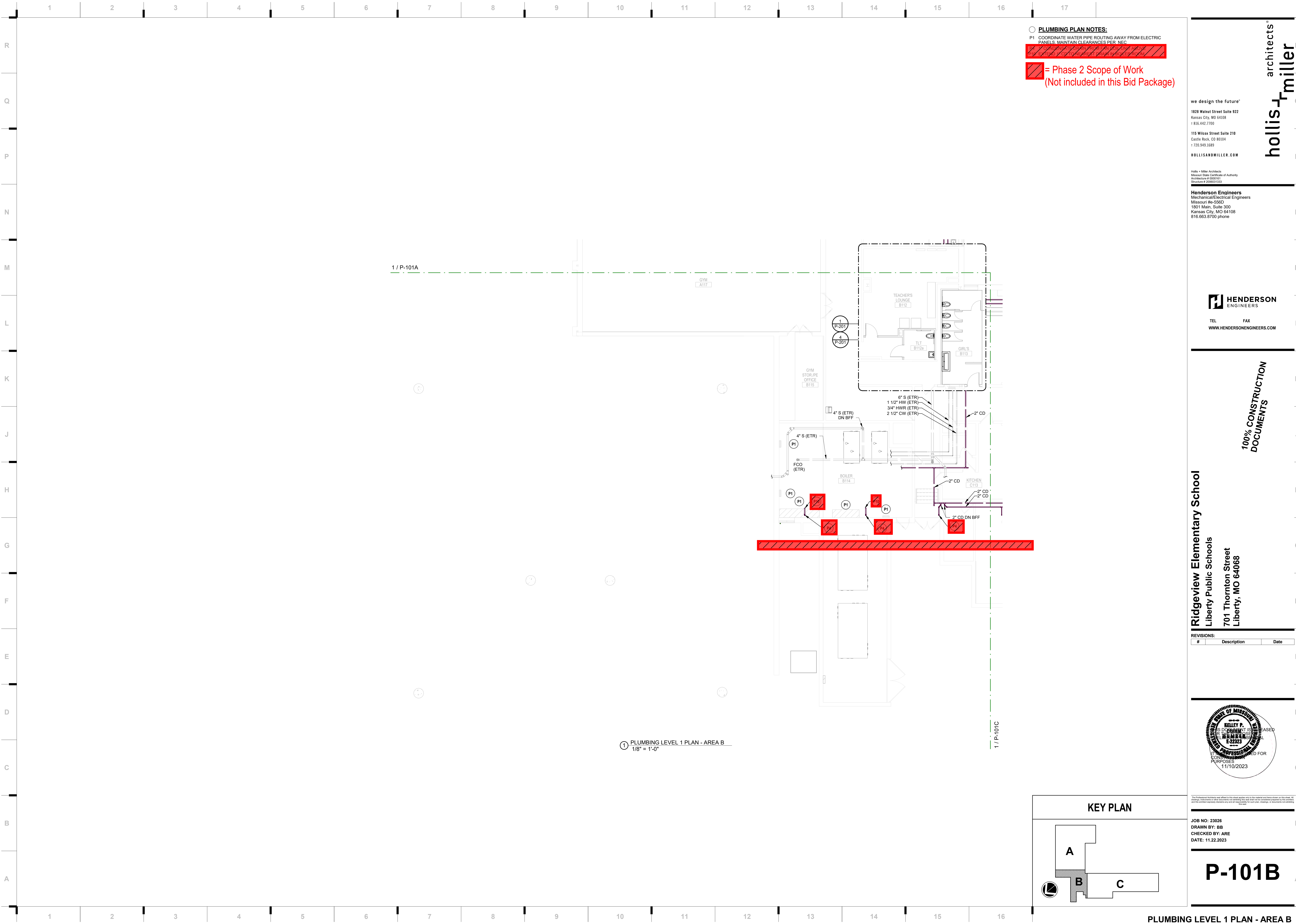
**P-101A**

## PLUMBING LEVEL 1 PLAN - AREA A

 Please consider the environment before printing this.



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○ **PLUMBING PLAN NOTES:**  
P1 COORDINATE WATER PIPE ROUTING AWAY FROM ELECTRIC PANELS. MAINTAIN CLEARANCES PER NEC.  
~~DO NOT EXTEND TO OR CROSS OVER ROOM ABOVE~~  
~~DO NOT EXTEND TO OR CROSS OVER ROOM ABOVE~~  
= Phase 2 Scope of Work  
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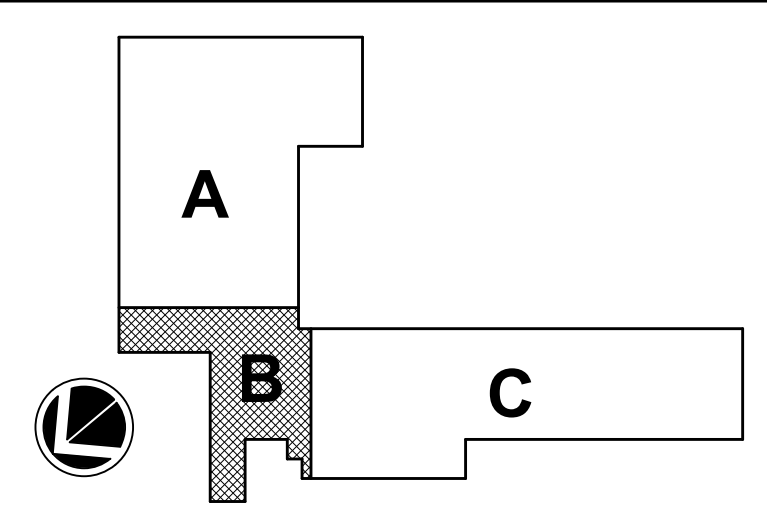
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**P-101B**

KEY PLAN



PLUMBING LEVEL 1 PLAN - AREA B

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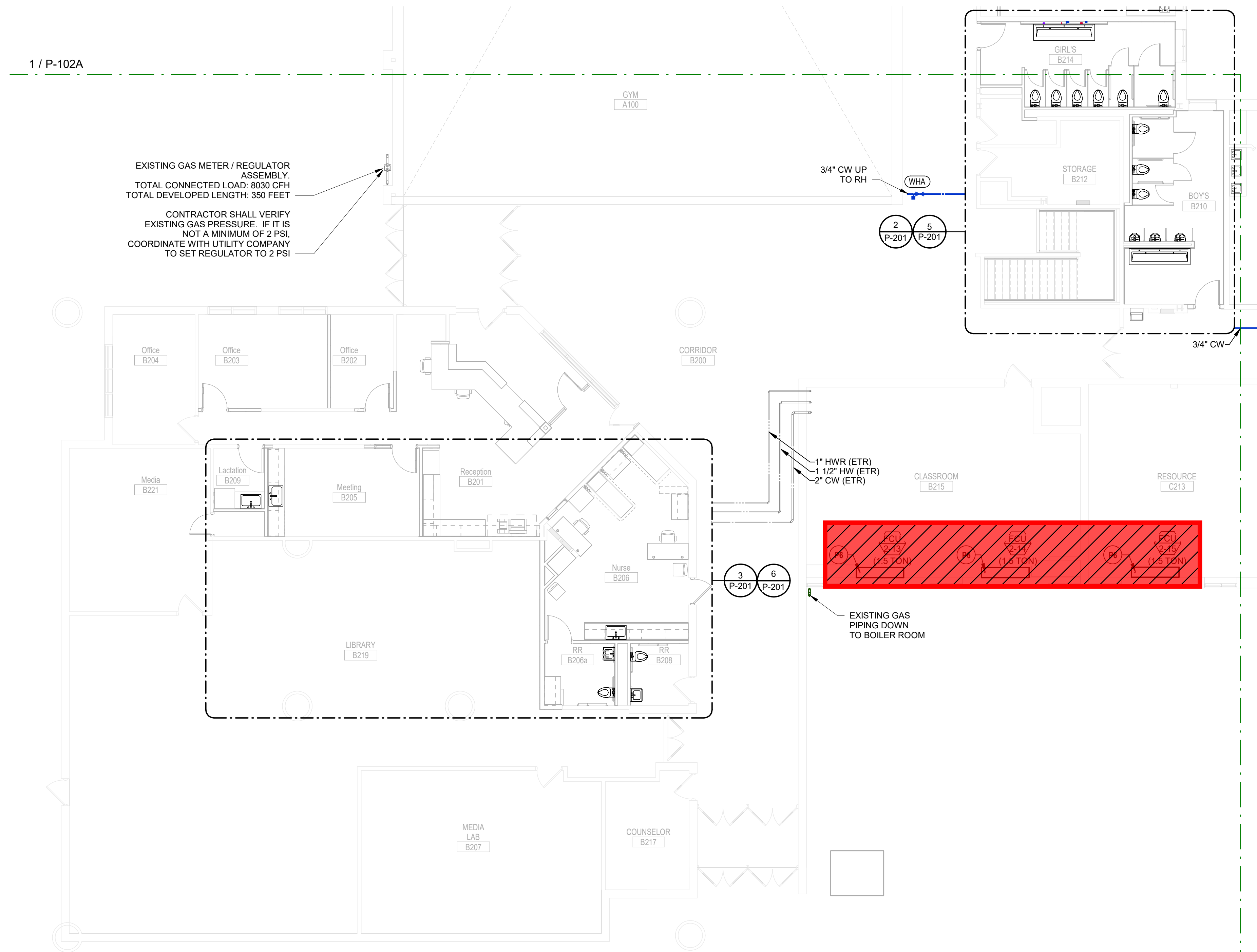


### GROUND LEVEL 2 PLAN - AREA A

① PLUMBING LEVEL 2 PLAN - AREA A  
1/8" = 1'-0"

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PLUMBING PLAN NOTES:

 = Phase 2 Scope of Work  
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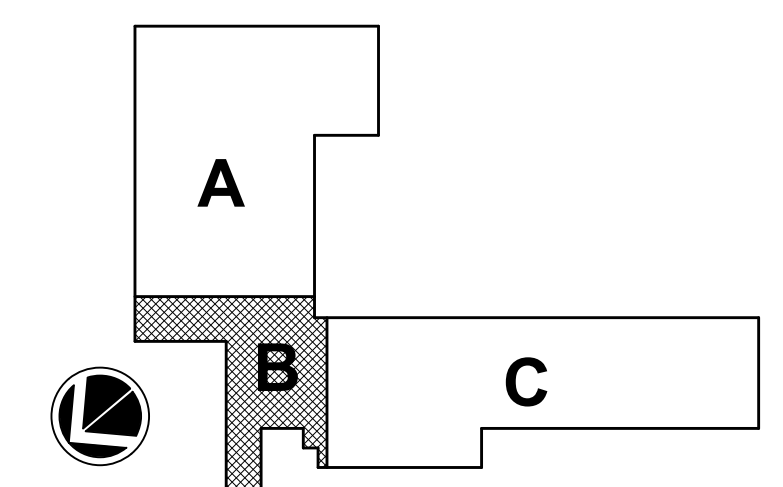


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**DATE: 11.22.2023**

**P-102B**

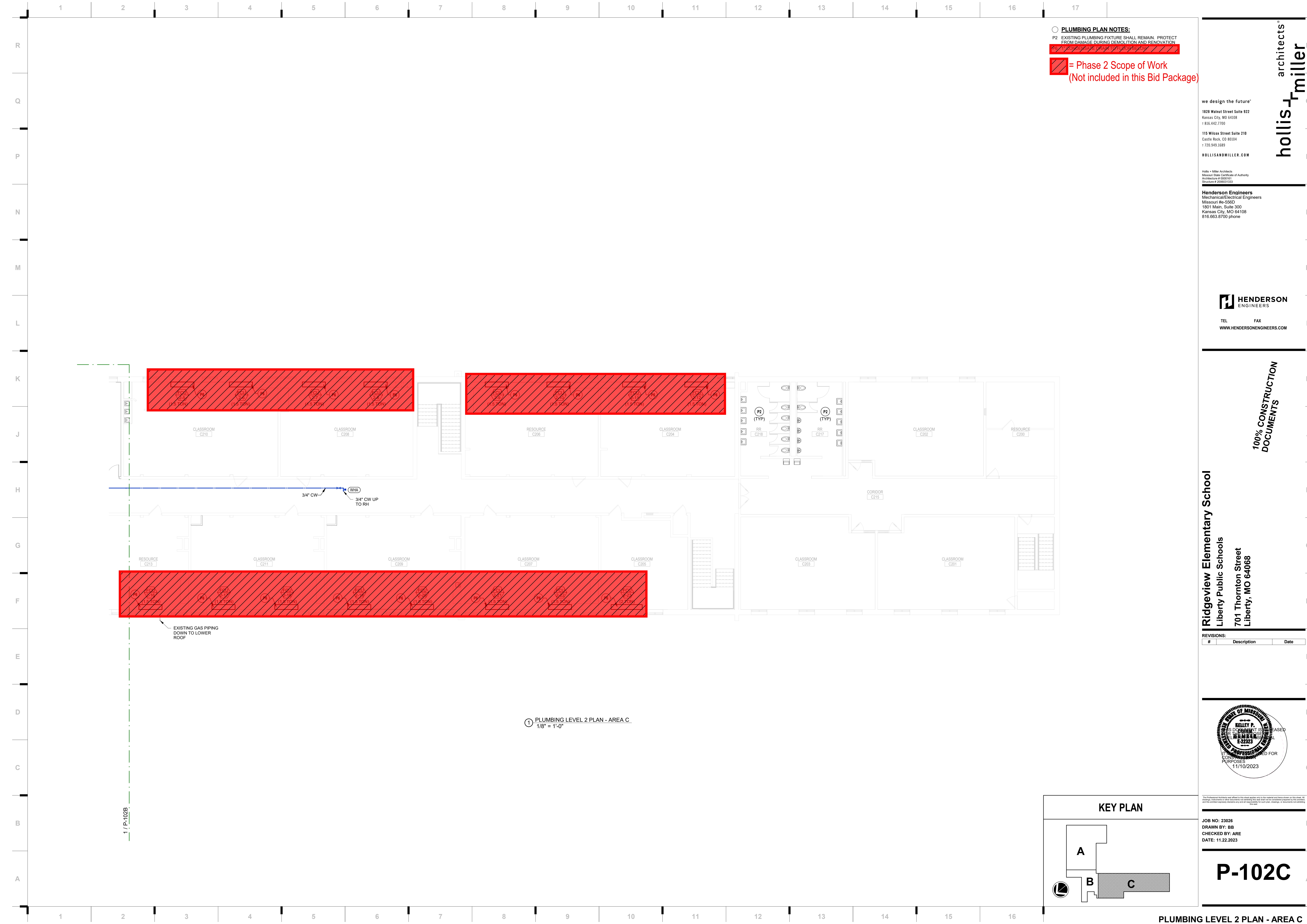
## KEY PLAN



## PLUMBING LEVEL 2 PLAN - AREA B

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**PLUMBING PLAN NOTES:**  
P2 EXISTING PLUMBING FIXTURE SHALL REMAIN. PROTECT FROM DAMAGE DURING DEMOLITION AND RENOVATION.  
= Phase 2 Scope of Work  
(Not included in this Bid Package)

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**P-102C**

PLUMBING LEVEL 2 PLAN - AREA C



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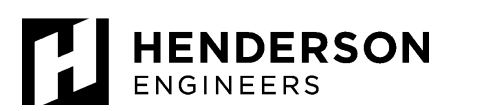
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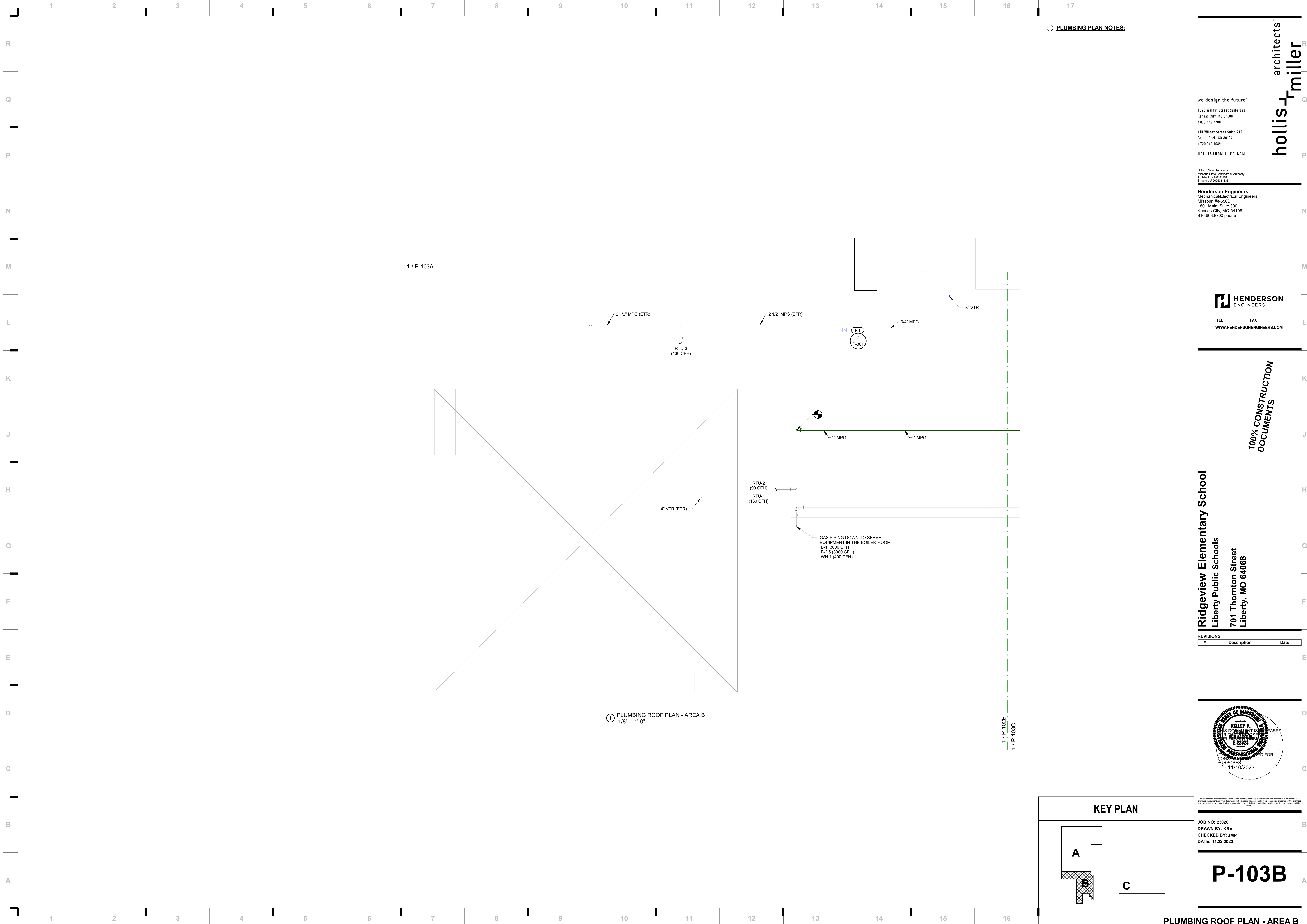
**P-103A**

### PLUMBING ROOF PLAN - AREA A

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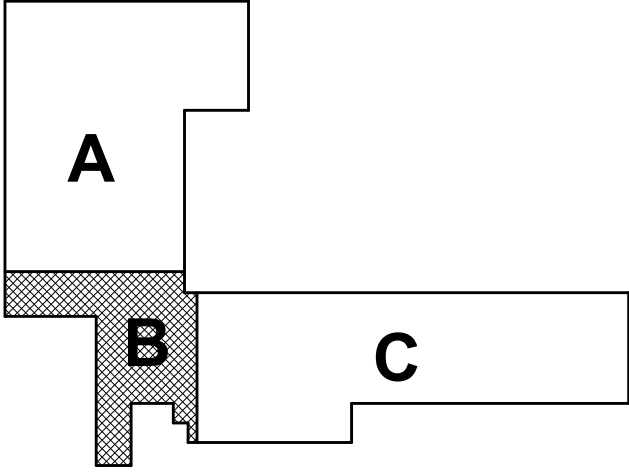
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**P-103B**

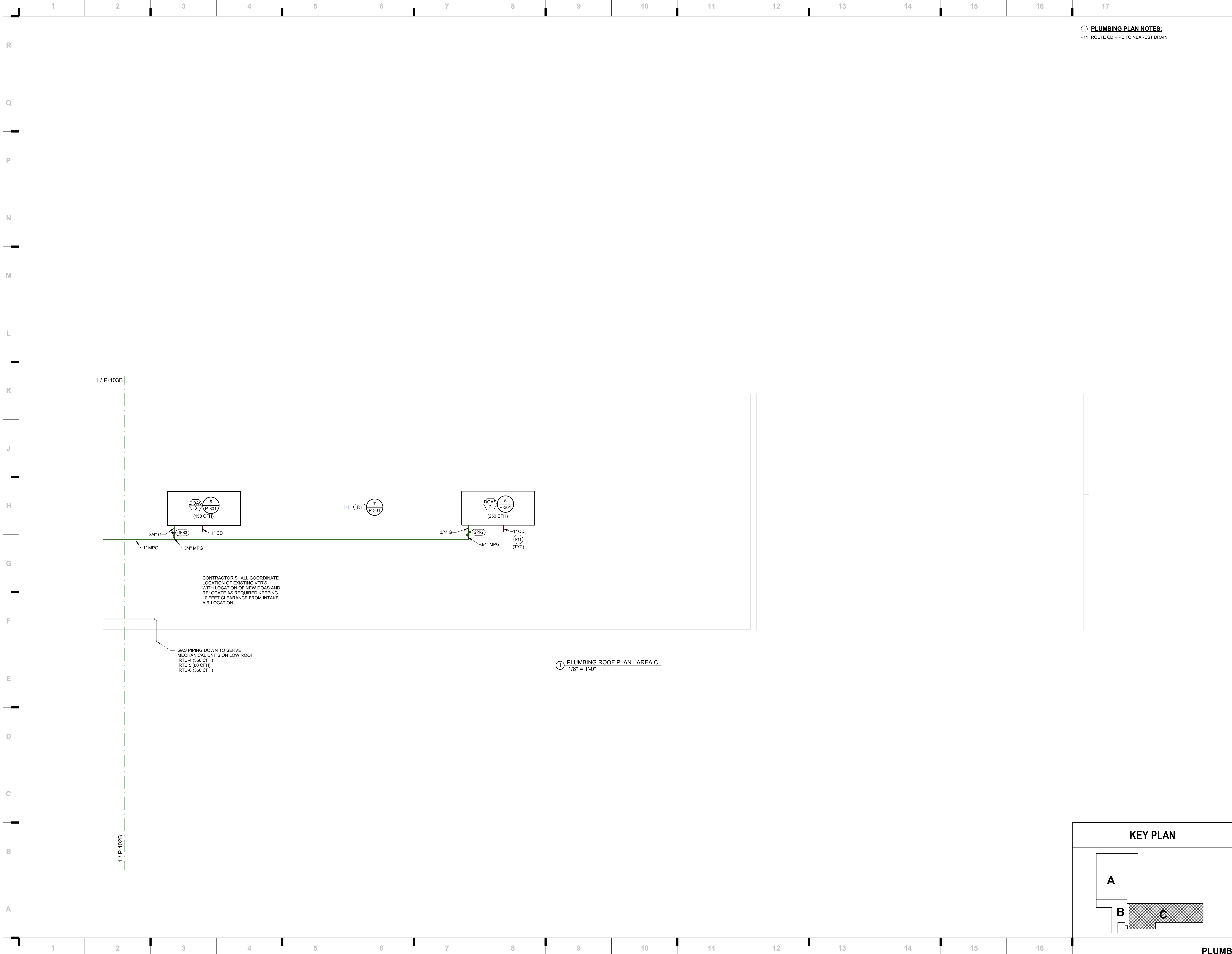
KEY PLAN



PLUMBING ROOF PLAN - AREA B



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PLUMBING PLAN NOTES:  
P11 ROUTE CD PIPE TO NEAREST DRAIN.

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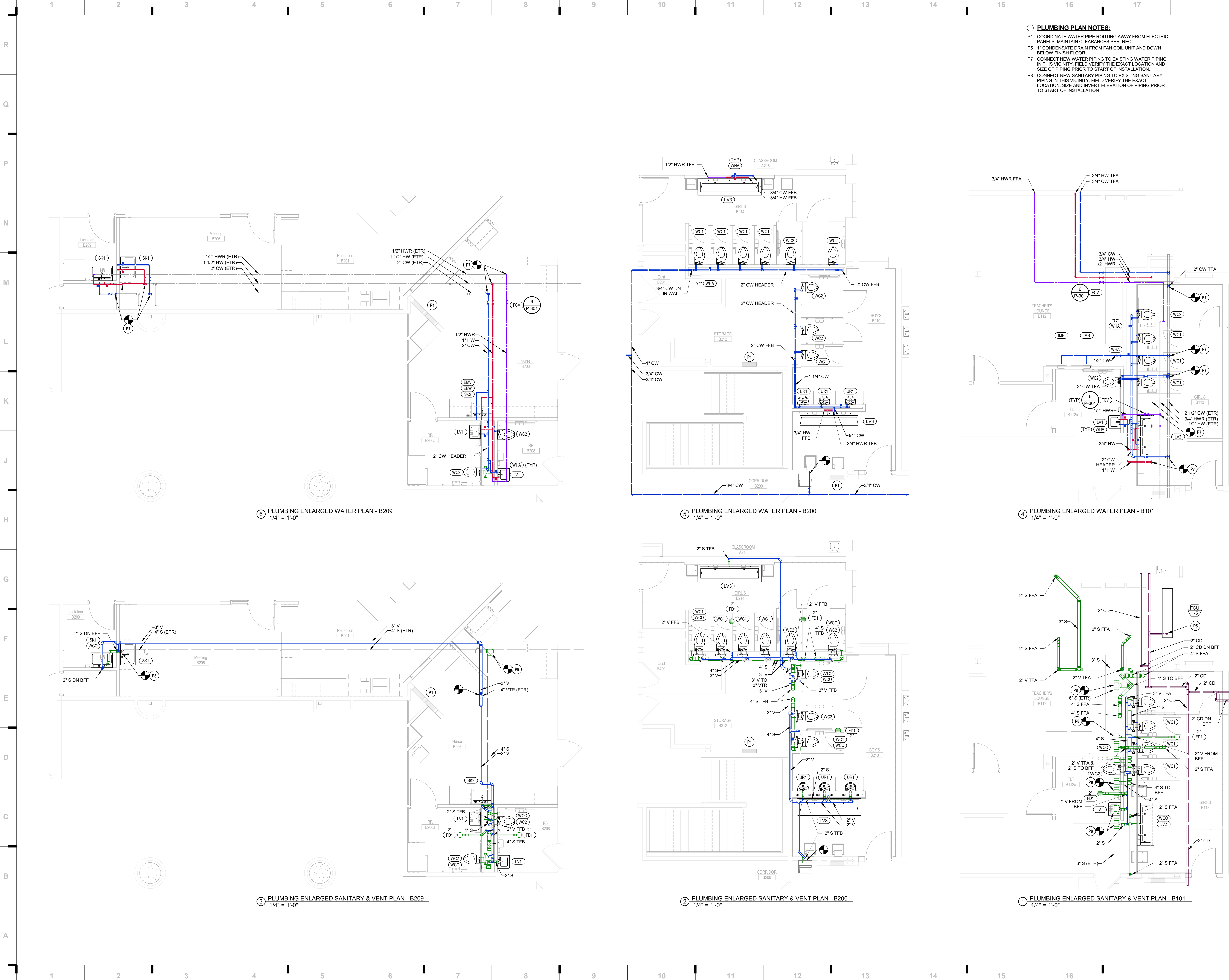
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P-103C

PLUMBING ROOF PLAN - AREA C

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- **PLUMBING PLAN NOTES:**
- P1 COORDINATE WATER PIPE ROUTING AWAY FROM ELECTRIC PANELS. MAINTAIN CLEARANCES PER NEC
  - P5 1" CONDENSATE DRAIN FROM FAN COIL UNIT AND DOWN BELOW FINISH FLOOR
  - P7 CONNECT NEW WATER PIPING TO EXISTING WATER PIPING IN THIS VICINITY. FIELD VERIFY THE EXACT LOCATION AND SIZE OF PIPING PRIOR TO START OF INSTALLATION.
  - P8 CONNECT NEW SANITARY PIPING TO EXISTING SANITARY PIPING IN THIS VICINITY. FIELD VERIFY THE EXACT LOCATION, SIZE AND INVERT ELEVATION OF PIPING PRIOR TO START OF INSTALLATION

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**P-201**







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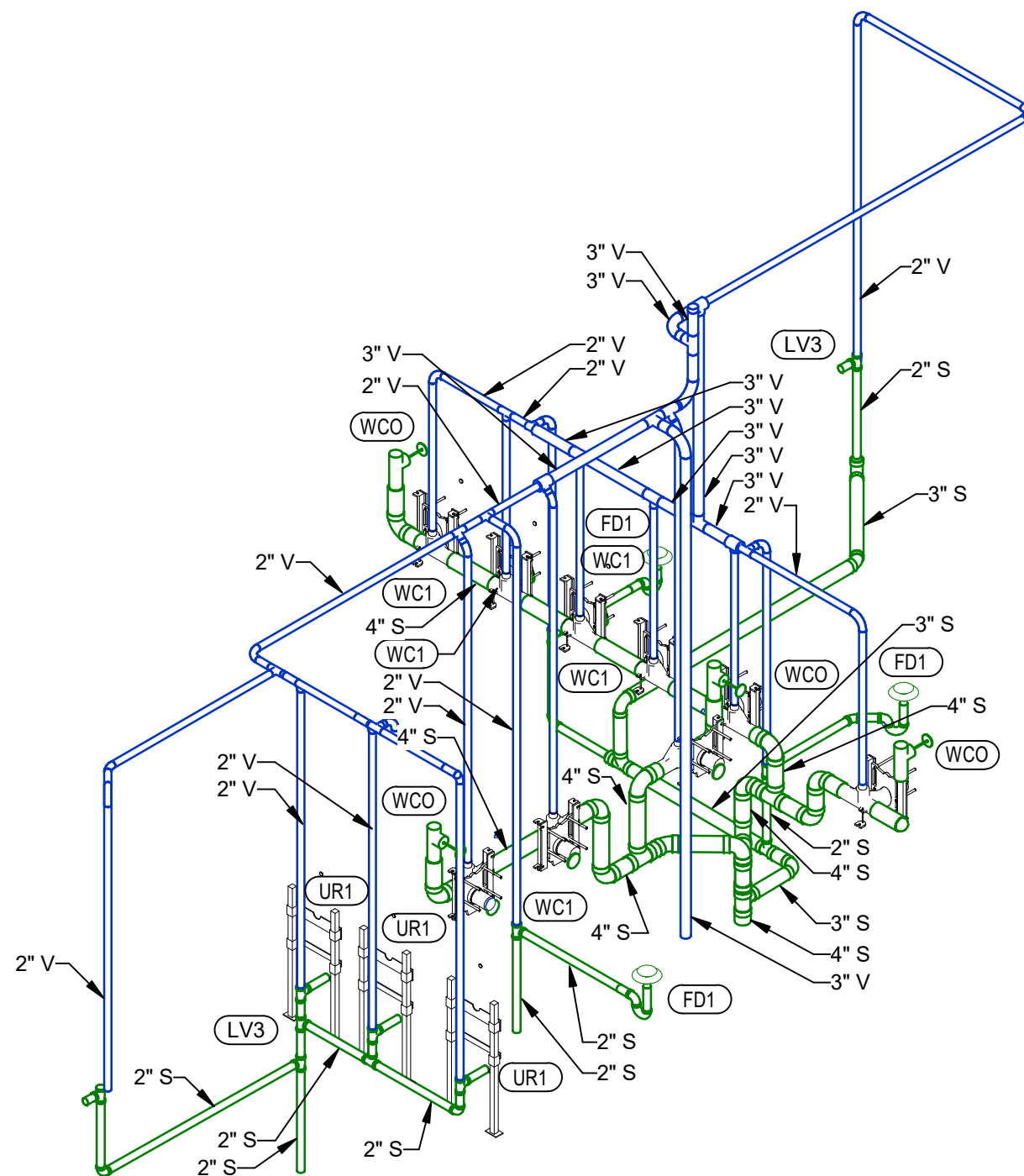
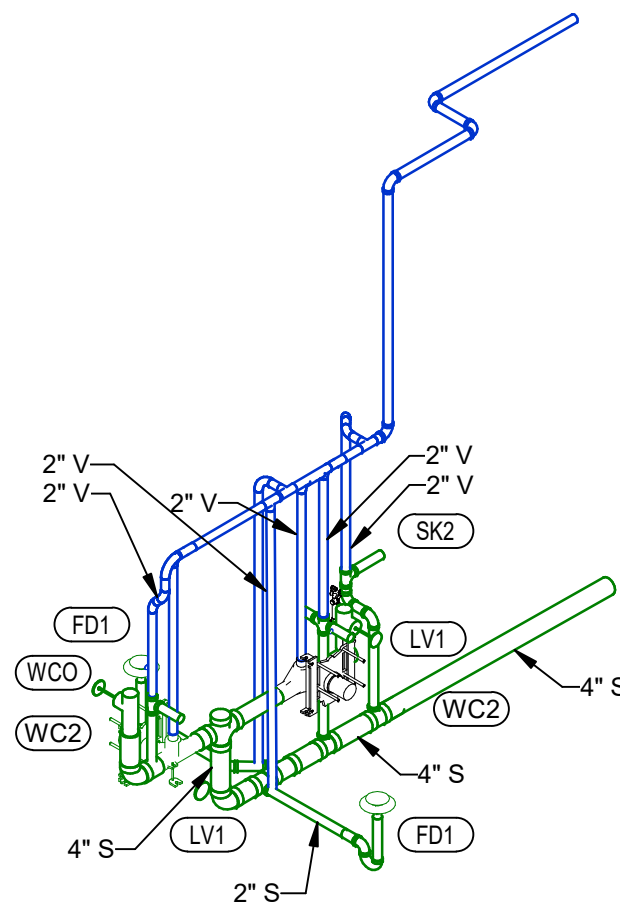
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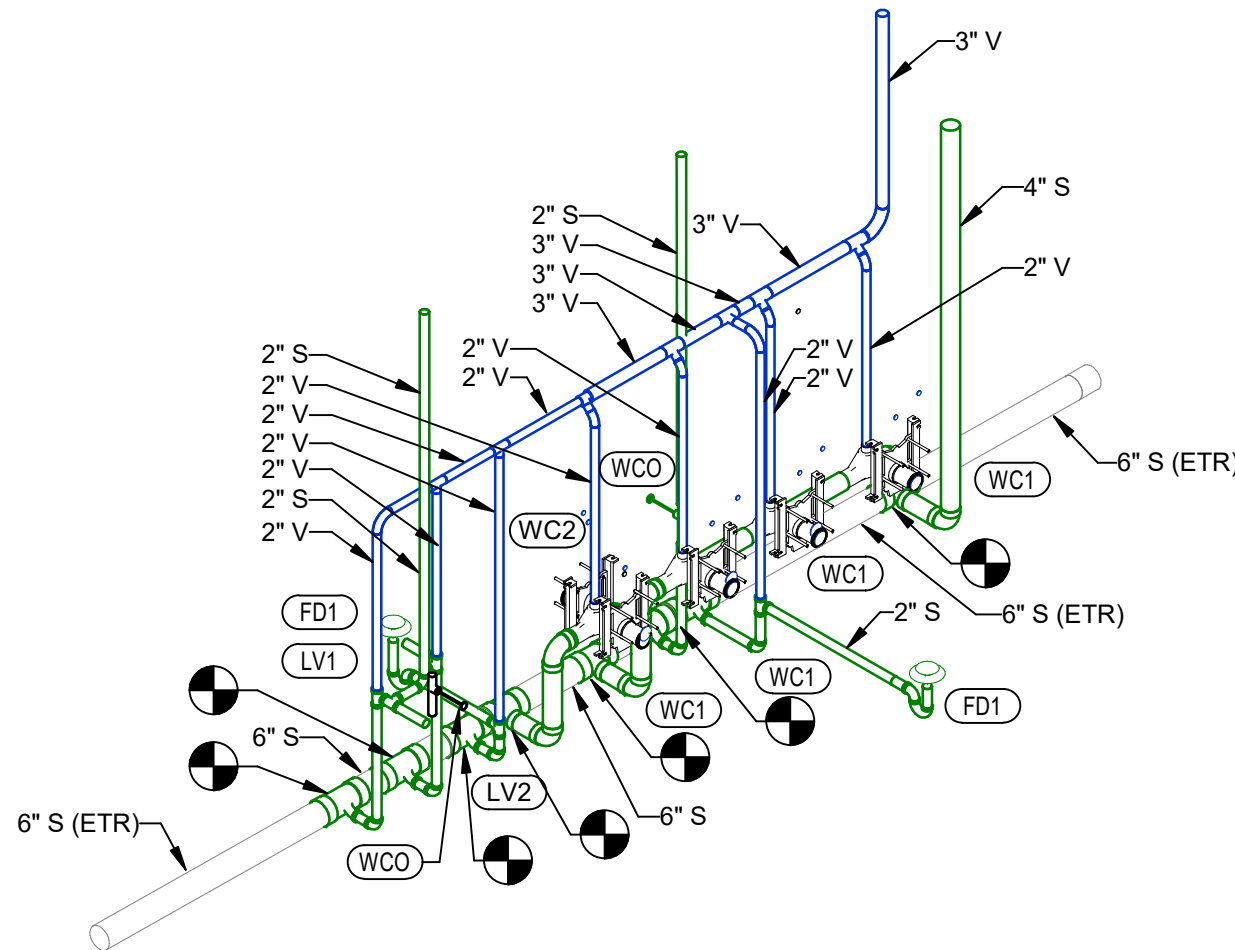
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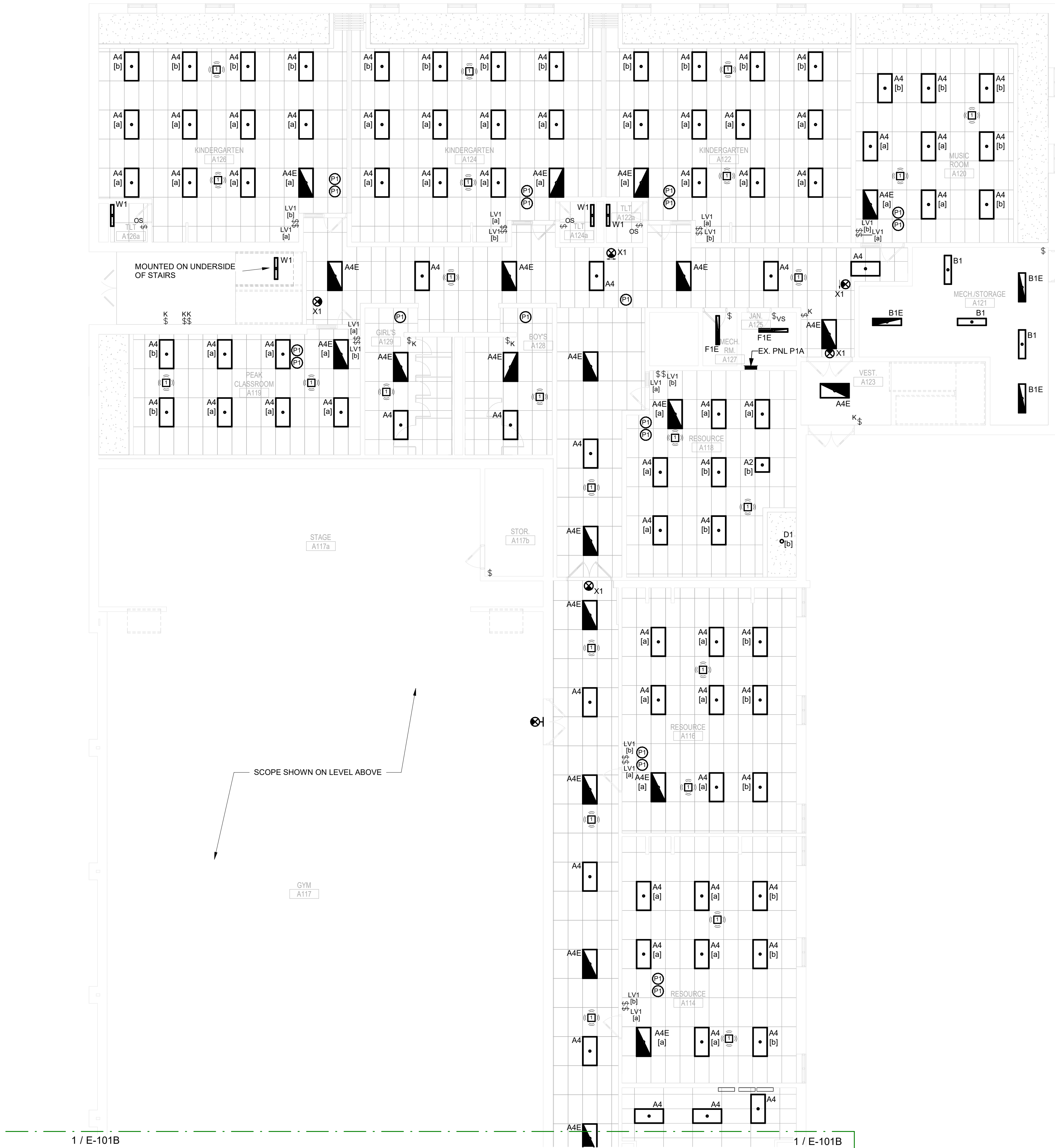




LIGHTING GENERAL NOTES:

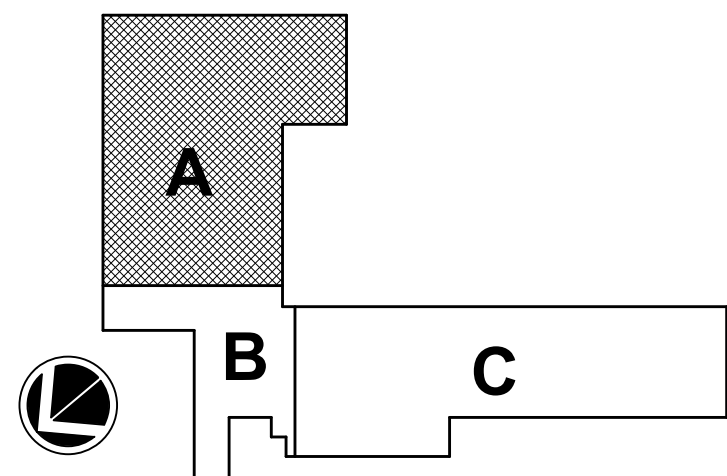
1. EXISTING ROOM LIGHTING CIRCUITS SHALL BE REUSED TO THE MAXIMUM EXTENT POSSIBLE TO CONNECT TO NEW FIXTURES AND CONTROLS IN EACH SPACE, AS DICTATED BY THE CONTROL SCHEME. EXTEND EXISTING CIRCUITRY AS REQUIRED FOR CONNECTION.

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① LIGHTING LEVEL 1 PLAN - AREA A  
1/8" = 1'-0"

KEY PLAN



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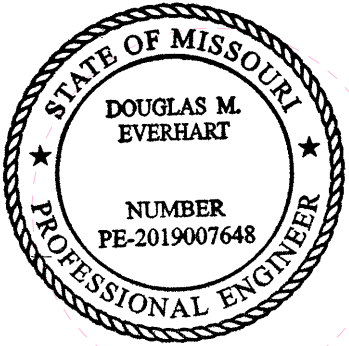
LIGHTING LEVEL 1 PLAN - AREA A

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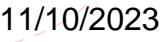
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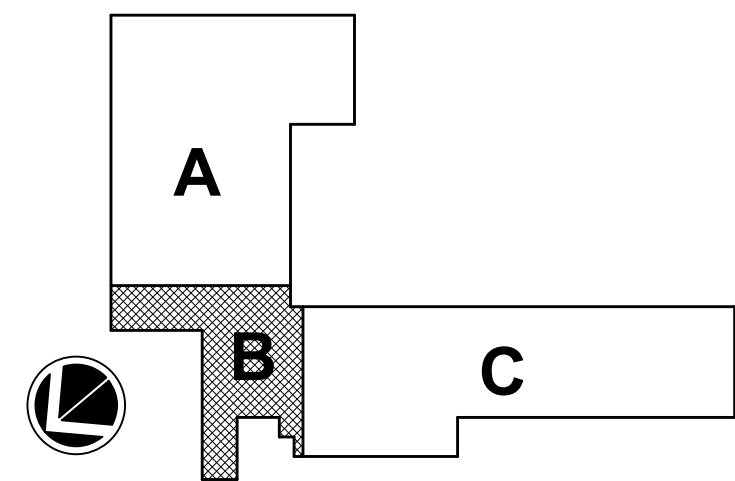


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# E-101B

## KEY PLAN



## LIGHTING LEVEL 1 PLAN - AREA B



LIGHTING GENERAL NOTES:

1. EXISTING ROOM LIGHTING CIRCUITS SHALL BE REUSED TO THE MAXIMUM EXTENT POSSIBLE TO CONNECT TO NEW FIXTURES AND CONTROLS IN EACH SPACE, AS DICTATED BY THE CONTROL SCHEME. EXTEND EXISTING CIRCUITRY AS REQUIRED FOR CONNECTION.

NEW CIRCUITRY SHOWN ONLY WHERE DIFFERS FROM EXISTING DOCUMENTATION OR CHANGES ARE REQUIRED TO MEET DESIGN INTENT.

ELECTRICAL PLAN NOTES:

- E22 USE SURFACE MOUNTED RACEWAY TO CIRCUIT LIGHT FIXTURE TO SWITCH.

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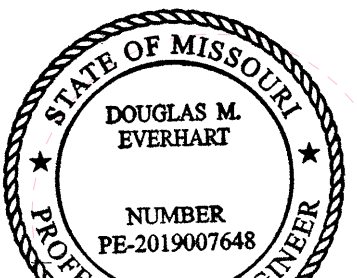
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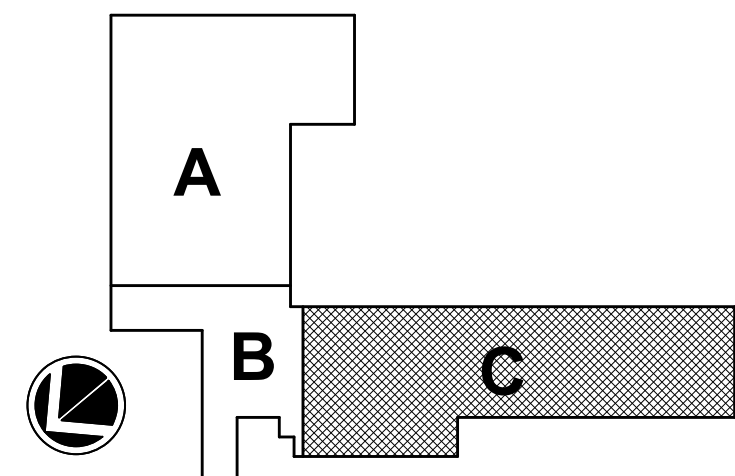
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KEY PLAN



LIGHTING LEVEL 1 PLAN - AREA C

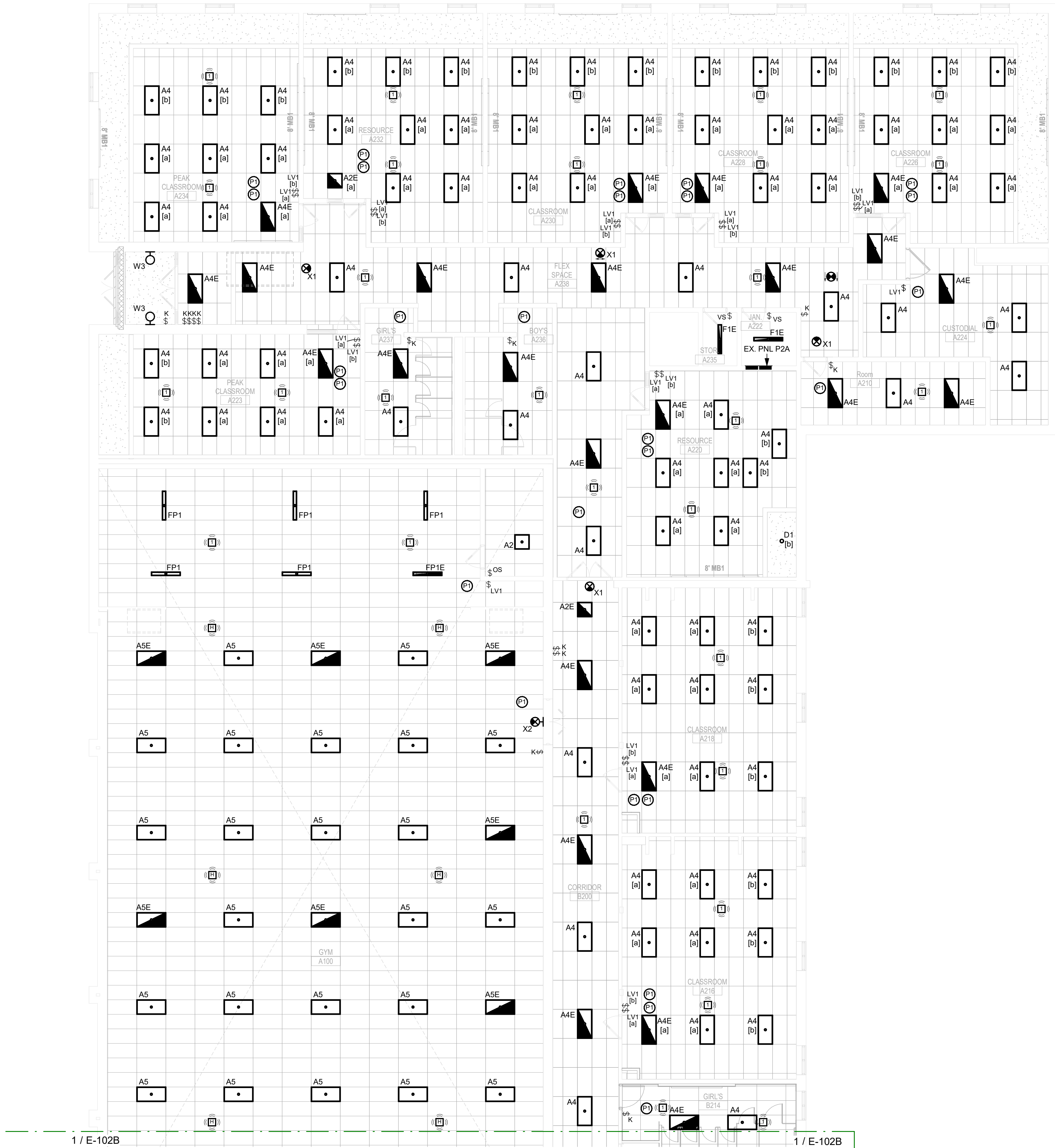
1 LIGHTING LEVEL 1 PLAN - AREA C  
1/8" = 1'-0"



LIGHTING GENERAL NOTES:

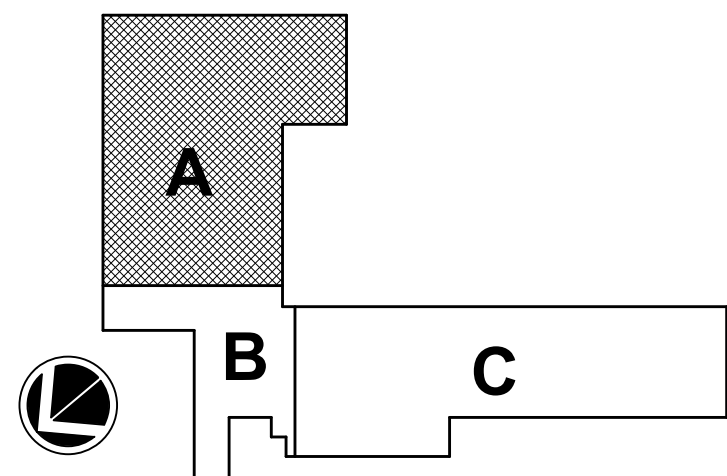
1. EXISTING ROOM LIGHTING CIRCUITS SHALL BE REUSED TO THE MAXIMUM EXTENT POSSIBLE TO CONNECT TO NEW FIXTURES AND CONTROLS IN EACH SPACE, AS DICTATED BY THE CONTROL SCHEME. EXTEND EXISTING CIRCUITRY AS REQUIRED FOR CONNECTION.

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1 LIGHTING LEVEL 2 PLAN - AREA A  
1/8" = 1'-0"

KEY PLAN



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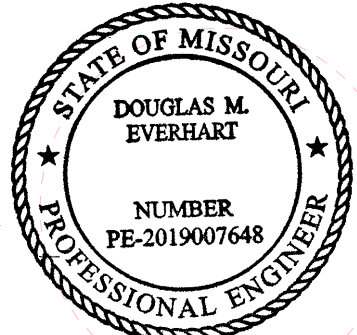
LIGHTING LEVEL 2 PLAN - AREA A

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1 LIGHTING LEVEL 2 PLAN - AREA B  
1/8" = 1'-0"

LIGHTING GENERAL NOTES:

- EXISTING ROOM LIGHTING CIRCUITS SHALL BE REUSED TO THE MAXIMUM EXTENT POSSIBLE TO CONNECT TO NEW FIXTURES AND CONTROLS IN EACH SPACE, AS DICTATED BY THE CONTROL SCHEME. EXTEND EXISTING CIRCUITRY AS REQUIRED FOR CONNECTION.

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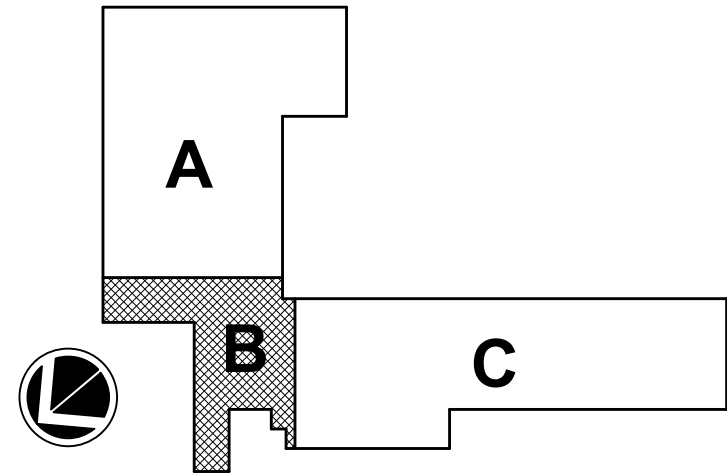
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KEY PLAN



LIGHTING LEVEL 2 PLAN - AREA B



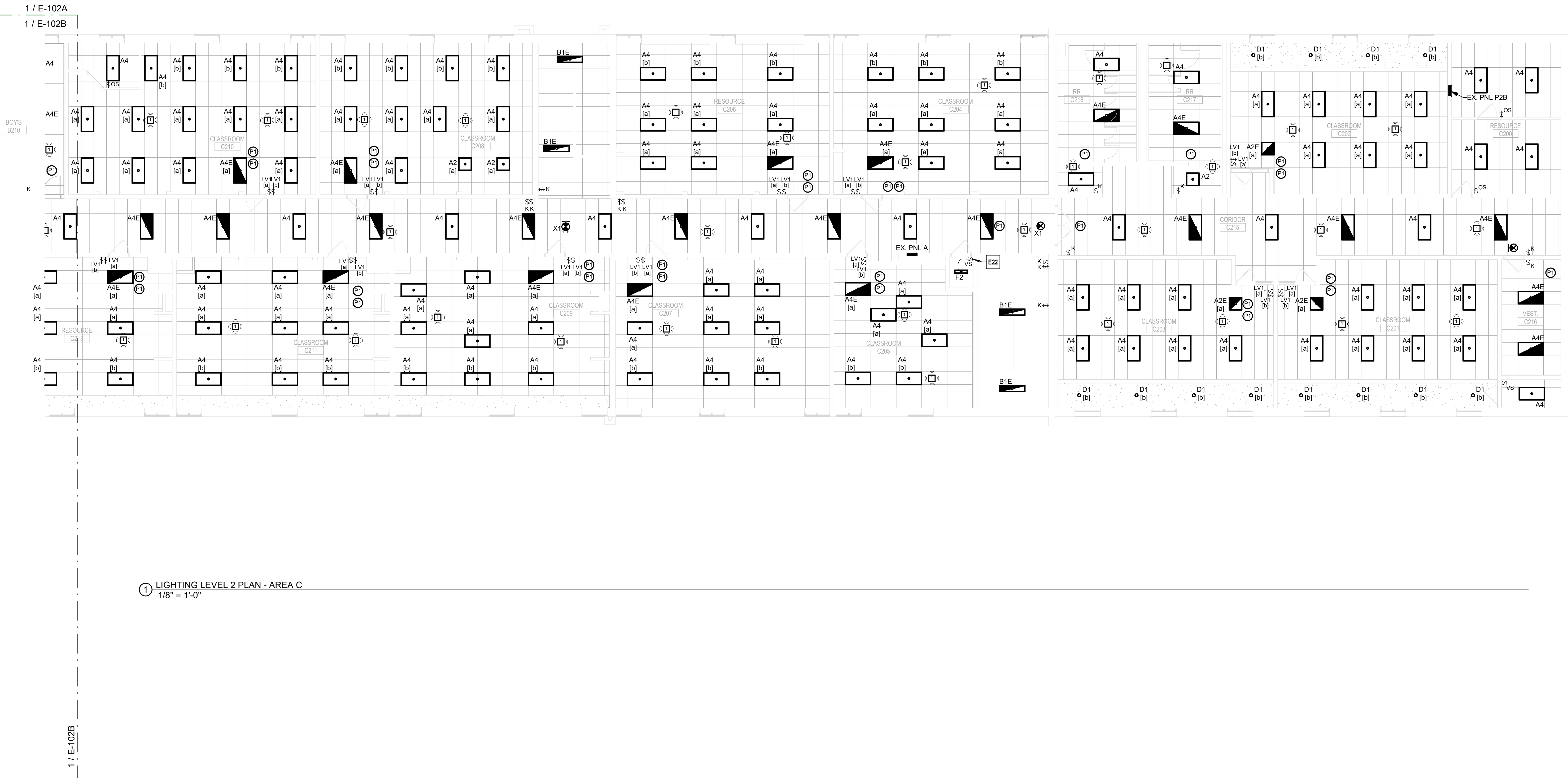
LIGHTING GENERAL NOTES:

1. EXISTING ROOM LIGHTING CIRCUITS SHALL BE REUSED TO THE MAXIMUM EXTENT POSSIBLE TO CONNECT TO NEW FIXTURES AND CONTROLS IN EACH SPACE, AS DICTATED BY THE CONTROL SCHEME. EXTEND EXISTING CIRCUITRY AS REQUIRED FOR CONNECTION.

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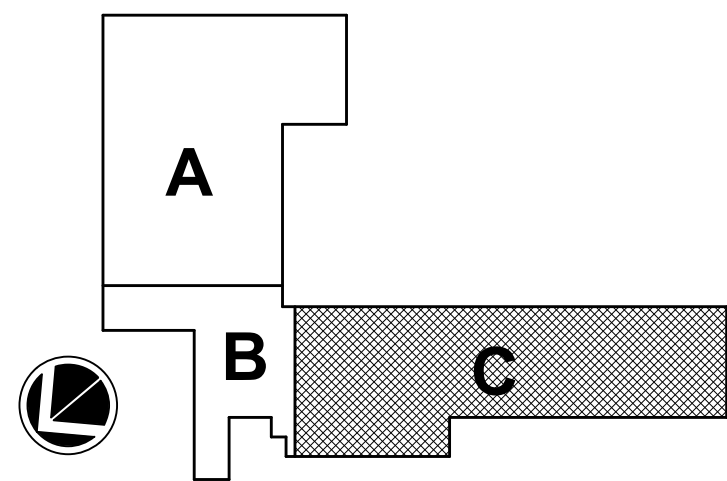
ELECTRICAL PLAN NOTES:

- E22 USE SURFACE MOUNTED RACEWAY TO CIRCUIT LIGHT FIXTURE TO SWITCH.



1 LIGHTING LEVEL 2 PLAN - AREA C  
1/8" = 1'-0"

KEY PLAN



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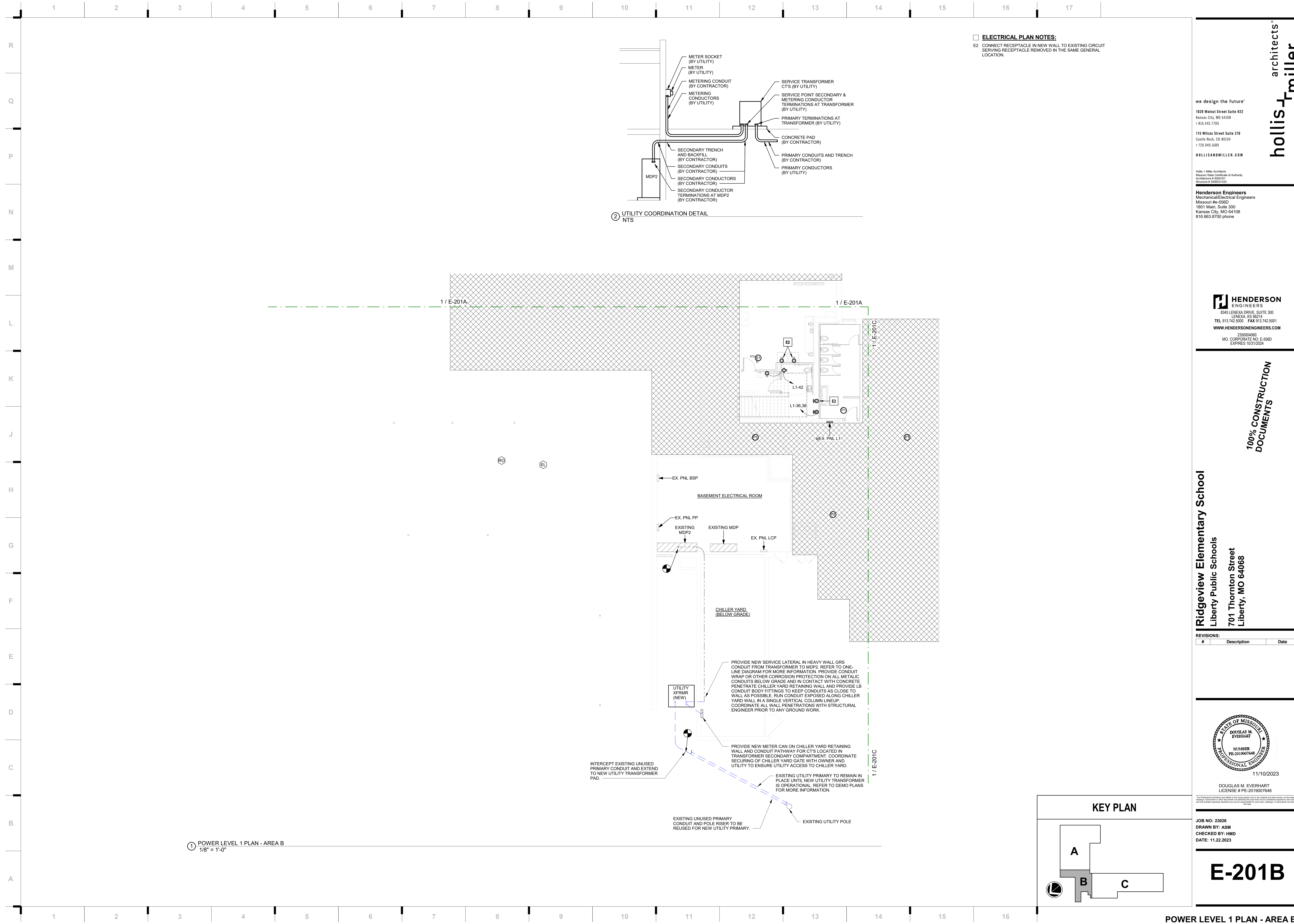
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LIGHTING LEVEL 2 PLAN - AREA C

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1 POWER LEVEL 1 PLAN - AREA B  
1/8" = 1'-0"

☐ ELECTRICAL PLAN NOTES:  
E2 CONNECT RECEPTACLE IN NEW WALL TO EXISTING CIRCUIT SERVING RECEPTACLE REMOVED IN THE SAME GENERAL LOCATION.

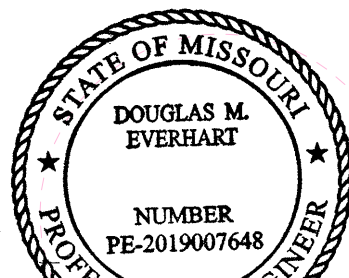
2 UTILITY COORDINATION DETAIL  
NTS

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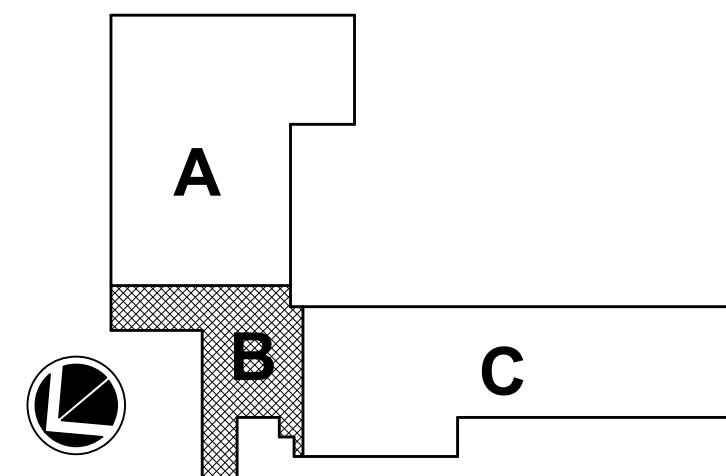
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KEY PLAN



POWER LEVEL 1 PLAN - AREA B

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Structure # 2006031333

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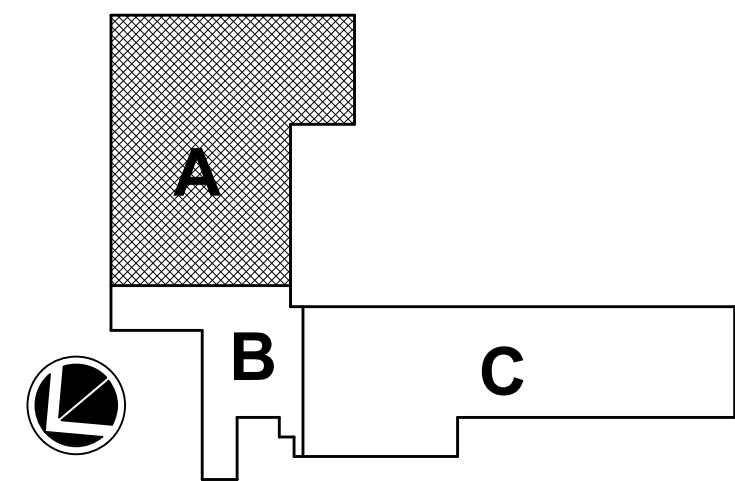
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DATE: 11.22.2023

**E-202A**

KEY PLAN



POWER LEVEL 2 PLAN - AREA A

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1 POWER LEVEL 2 PLAN - AREA B  
1/8" = 1'-0"

NOTE: REPLACE ALL EXISTING RECEPTACLES  
TO REMAIN IN NURSE AND OFFICE AREAS  
WITH TAMPER RESISTANT TYPE DEVICES.

☐ ELECTRICAL PLAN NOTES:  
E2 CONNECT RECEPTACLE IN NEW WALL TO EXISTING CIRCUIT  
SERVING RECEPTACLE REMOVED IN THE SAME GENERAL  
LOCATION.

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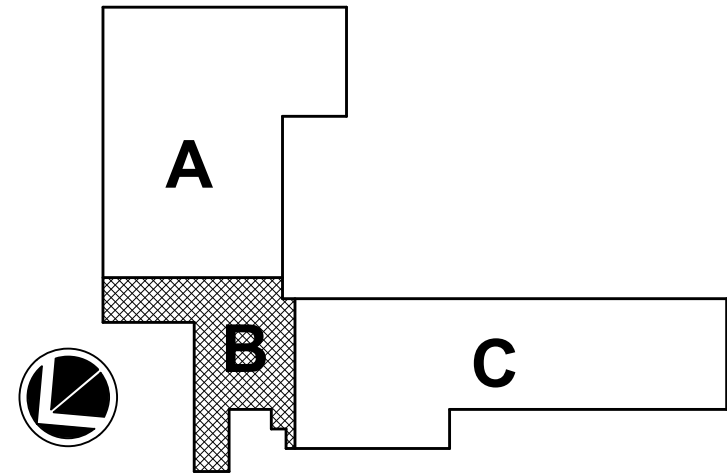
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E-202B

KEY PLAN



POWER LEVEL 2 PLAN - AREA B

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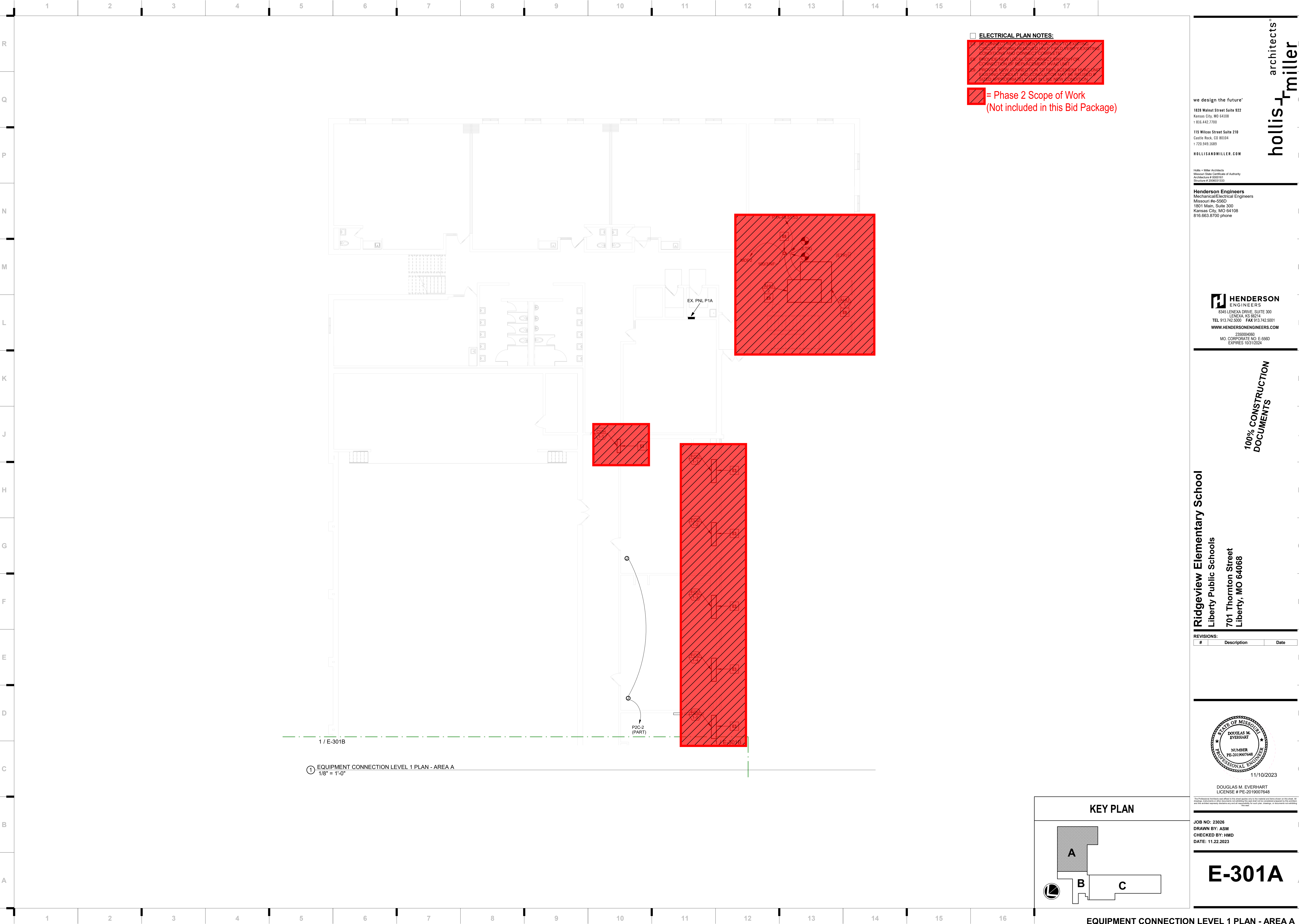
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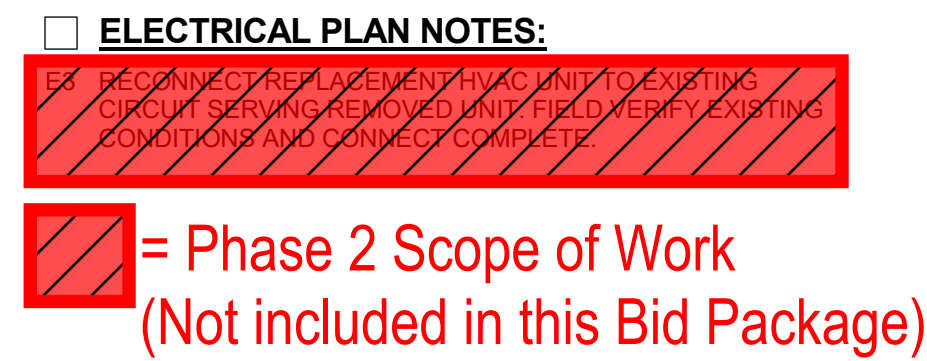
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DATE: 11.22.2023

**E-301A**





**KEY PLAN**

**A**

**B**

**C**

**E-301B**

**JOB NO: 20026**

**DRAWN BY: ASM**

**CHECKED BY: HMD**

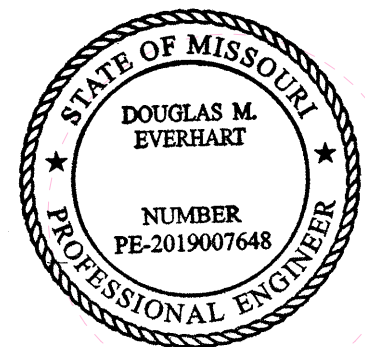
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**EQUIPMENT CONNECTION LEVEL 1 PLAN - AREA B**

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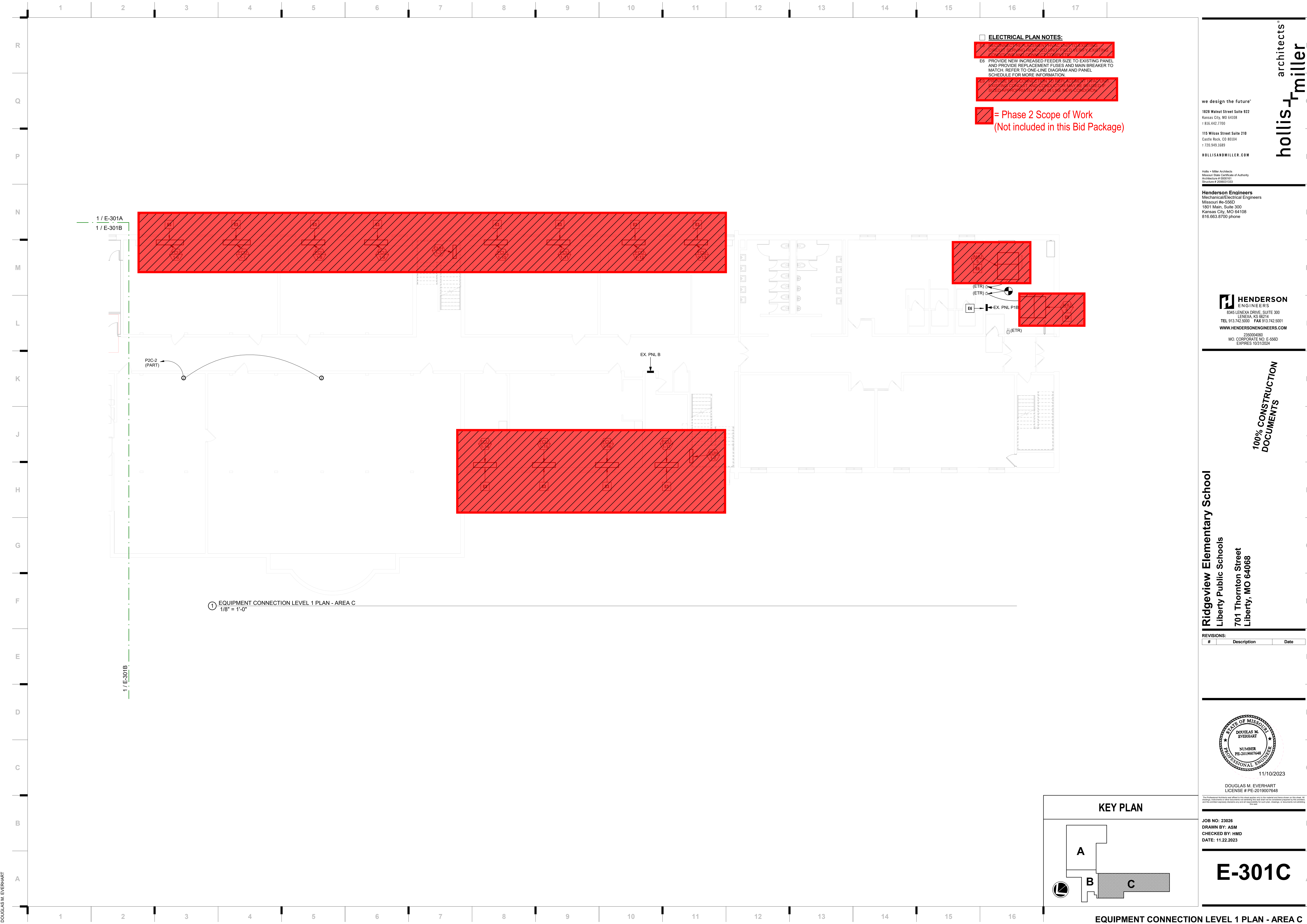


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# E-301B





① EQUIPMENT CONNECTION LEVEL 1 PLAN - AREA C  
1/8" = 1'-0"

☐ **ELECTRICAL PLAN NOTES:**  
E6. PROVIDE NEW INCREASED FEEDER SIZE TO EXISTING PANEL AND PROVIDE REPLACEMENT FUSES AND MAIN BREAKER TO MATCH. REFER TO ONE-LINE DIAGRAM AND PANEL SCHEDULE FOR MORE INFORMATION.  
E5. PROVIDE NEW INCREASED FEEDER SIZE TO EXISTING PANEL AND PROVIDE REPLACEMENT FUSES AND MAIN BREAKER TO MATCH. REFER TO ONE-LINE DIAGRAM AND PANEL SCHEDULE FOR MORE INFORMATION.  
E4. PROVIDE NEW INCREASED FEEDER SIZE TO EXISTING PANEL AND PROVIDE REPLACEMENT FUSES AND MAIN BREAKER TO MATCH. REFER TO ONE-LINE DIAGRAM AND PANEL SCHEDULE FOR MORE INFORMATION.  
E3. PROVIDE NEW INCREASED FEEDER SIZE TO EXISTING PANEL AND PROVIDE REPLACEMENT FUSES AND MAIN BREAKER TO MATCH. REFER TO ONE-LINE DIAGRAM AND PANEL SCHEDULE FOR MORE INFORMATION.  
E2. PROVIDE NEW INCREASED FEEDER SIZE TO EXISTING PANEL AND PROVIDE REPLACEMENT FUSES AND MAIN BREAKER TO MATCH. REFER TO ONE-LINE DIAGRAM AND PANEL SCHEDULE FOR MORE INFORMATION.  
E1. PROVIDE NEW INCREASED FEEDER SIZE TO EXISTING PANEL AND PROVIDE REPLACEMENT FUSES AND MAIN BREAKER TO MATCH. REFER TO ONE-LINE DIAGRAM AND PANEL SCHEDULE FOR MORE INFORMATION.  
E0. PROVIDE NEW INCREASED FEEDER SIZE TO EXISTING PANEL AND PROVIDE REPLACEMENT FUSES AND MAIN BREAKER TO MATCH. REFER TO ONE-LINE DIAGRAM AND PANEL SCHEDULE FOR MORE INFORMATION.

☒ = Phase 2 Scope of Work  
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**E-301C**

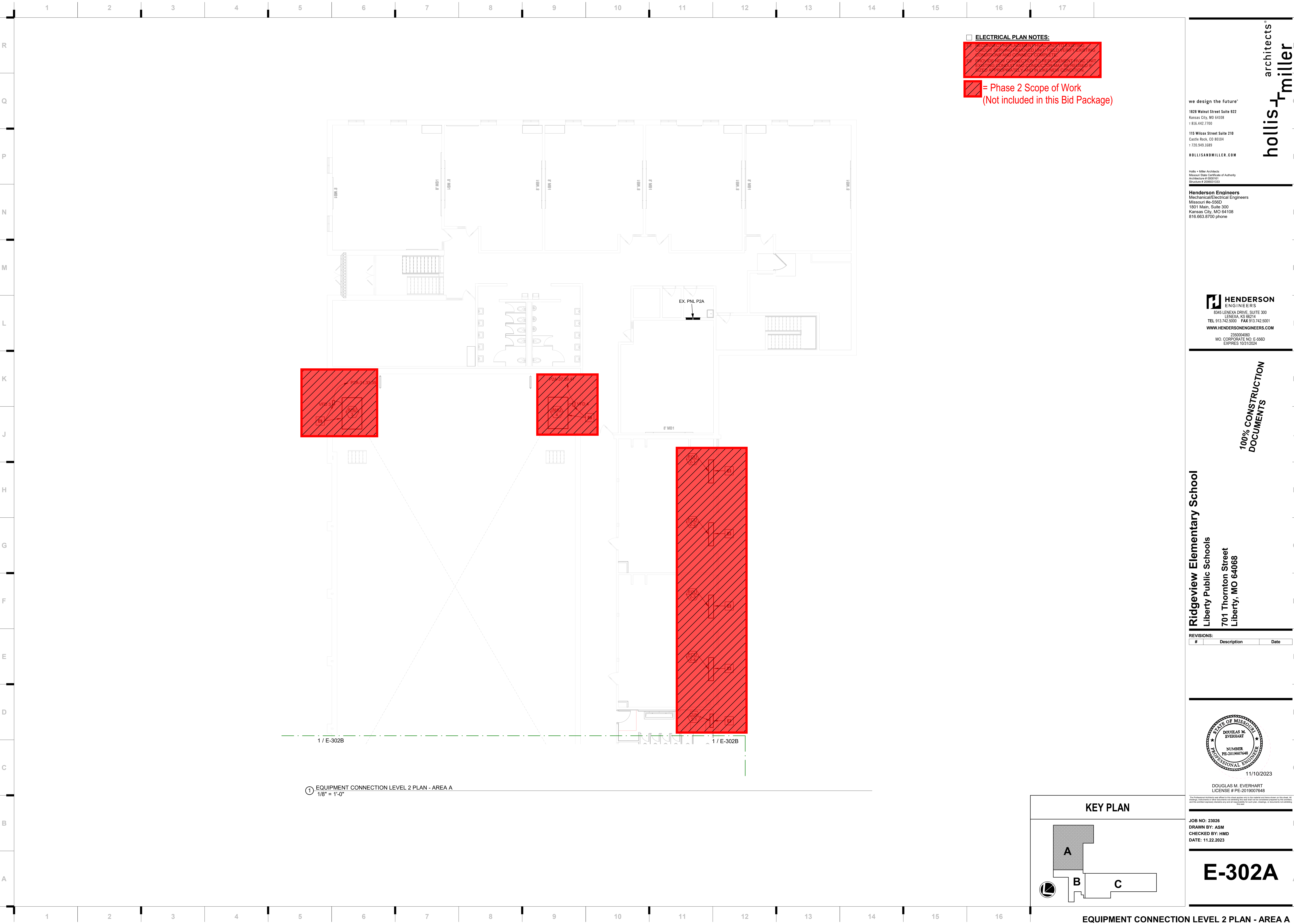
**KEY PLAN**

A B C

**EQUIPMENT CONNECTION LEVEL 1 PLAN - AREA C**



11/10/2023 10:06:04 AM  
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☐ ELECTRICAL PLAN NOTES:  
IF REQUIRED, PREPARE AND PROVIDE ALL NECESSARY  
CIRCUIT BREAKING, FUSES, AND/OR FIDELITY, EXISTING  
CONDITIONS AND CONNECT COMPLETE.  
IF PROVIDE NEW CONNECTION TO REPLACEMENT UNIT,  
CIRCUITS FROM UNIT AND/OR FROM ANY SPACES TO BE  
RIGID APPROPRIATELY AND IN LIKE NEW CONDITION.  
  
= Phase 2 Scope of Work  
(Not included in this Bid Package)

① EQUIPMENT CONNECTION LEVEL 2 PLAN - AREA A  
1/8" = 1'-0"

KEY PLAN

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# E-302A

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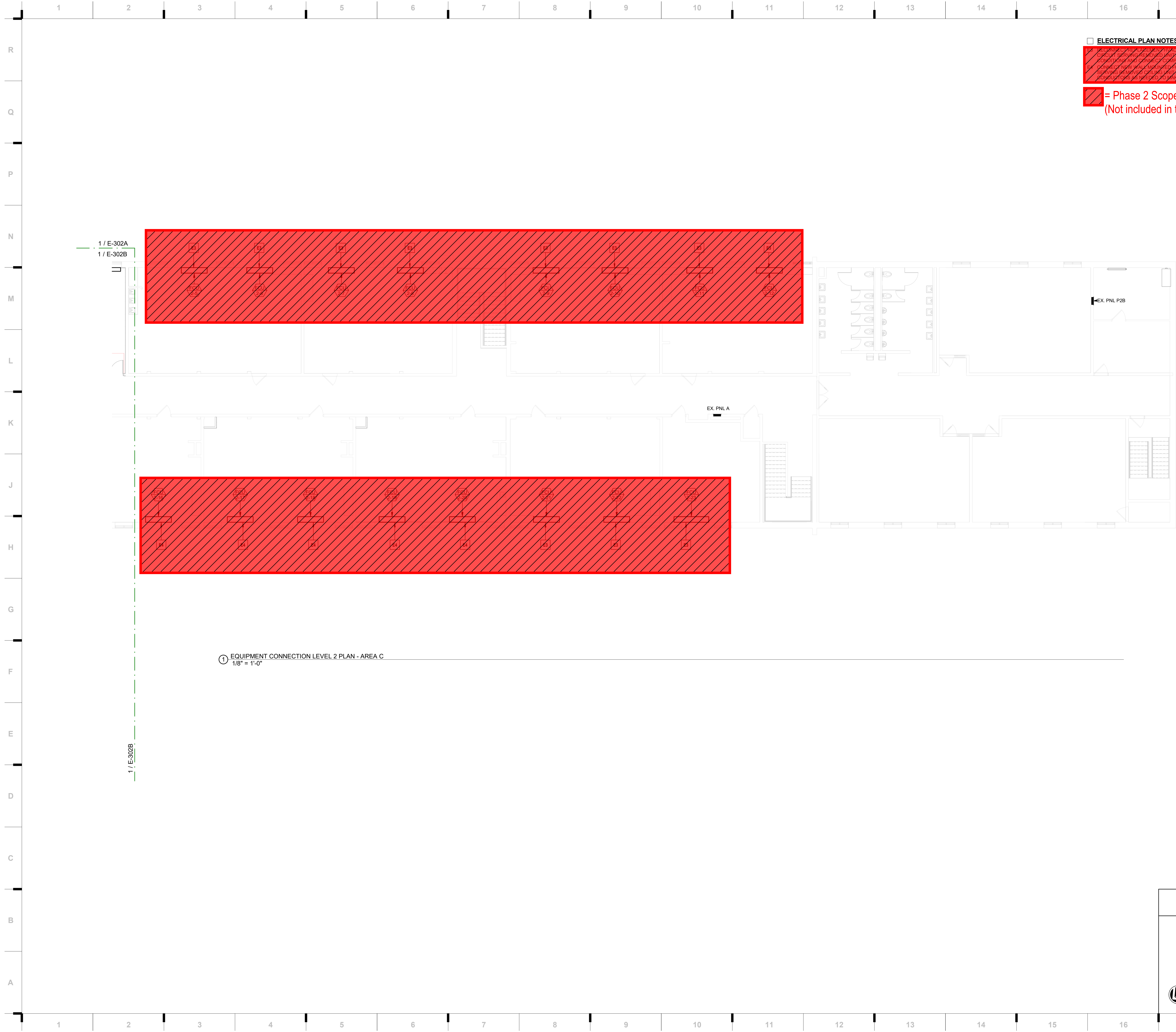
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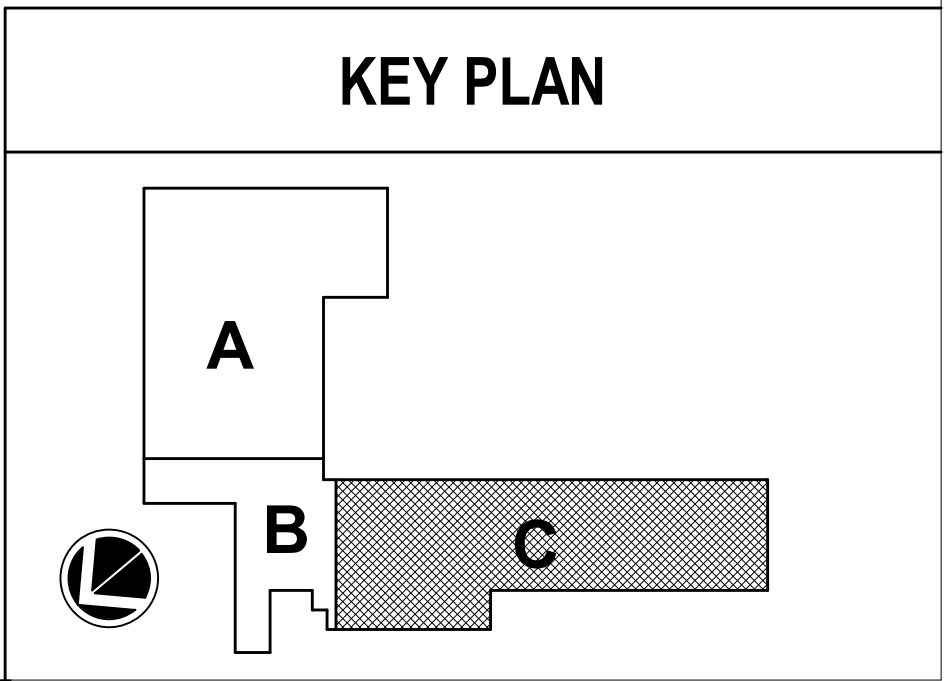


① EQUIPMENT CONNECTION LEVEL 2 PLAN - AREA C  
1/8" = 1'-0"

☐ ELECTRICAL PLAN NOTES:

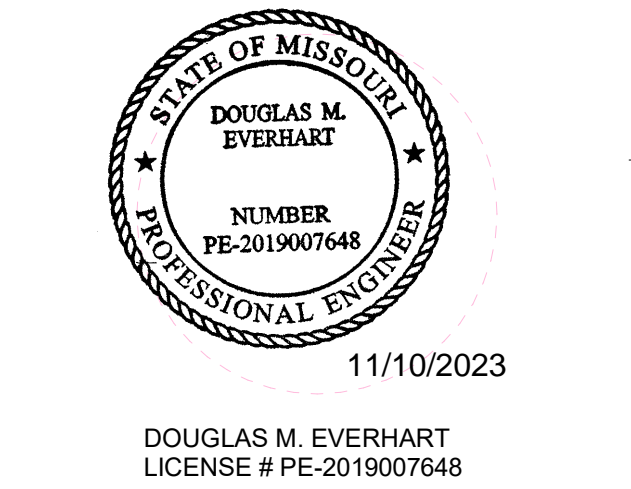
1. ALL DESIGNATED PHASE 2 EQUIPMENT TO BE INSTALLED  
2. CIRCUIT BREAKING REQUIRED AND FIELD VERIFY EXISTING  
3. CONDITIONS AND CONNECT COMPLETE  
4. ALL CONNECTED EQUIPMENT TO BE FIELD VERIFY EXISTING  
5. CIRCUIT BREAKING REQUIRED AND FIELD VERIFY EXISTING  
6. CIRCUIT BREAKING REQUIRED AND FIELD VERIFY EXISTING  
7. CIRCUIT BREAKING REQUIRED AND FIELD VERIFY EXISTING  
8. CIRCUIT BREAKING REQUIRED AND FIELD VERIFY EXISTING  
9. CIRCUIT BREAKING REQUIRED AND FIELD VERIFY EXISTING  
10. CIRCUIT BREAKING REQUIRED AND FIELD VERIFY EXISTING  
11. CIRCUIT BREAKING REQUIRED AND FIELD VERIFY EXISTING  
12. CIRCUIT BREAKING REQUIRED AND FIELD VERIFY EXISTING  
13. CIRCUIT BREAKING REQUIRED AND FIELD VERIFY EXISTING  
14. CIRCUIT BREAKING REQUIRED AND FIELD VERIFY EXISTING  
15. CIRCUIT BREAKING REQUIRED AND FIELD VERIFY EXISTING  
16. CIRCUIT BREAKING REQUIRED AND FIELD VERIFY EXISTING  
17. CIRCUIT BREAKING REQUIRED AND FIELD VERIFY EXISTING

= Phase 2 Scope of Work  
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**E-302C**

EQUIPMENT CONNECTION LEVEL 2 PLAN - AREA C

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# E-303A

### EQUIPMENT CONNECTION ROOF PLAN - AREA A

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### EQUIPMENT CONNECTION ROOF PLAN - AREA B



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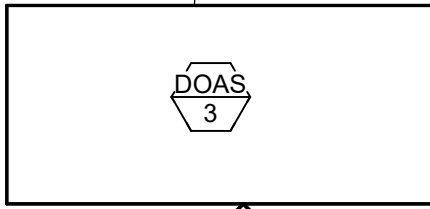
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1 / E-303A  
1 / E-303B

1 / E-303B

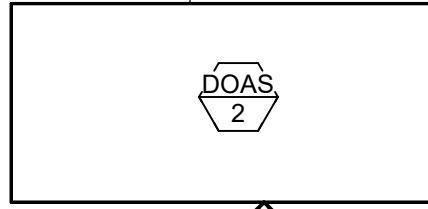
① EQUIPMENT CONNECTION ROOF PLAN - AREA C  
1/8" = 1'-0"

P2C-19,21,23



P2C-3  
(PART)

P2C-13,15,17



WP/WR

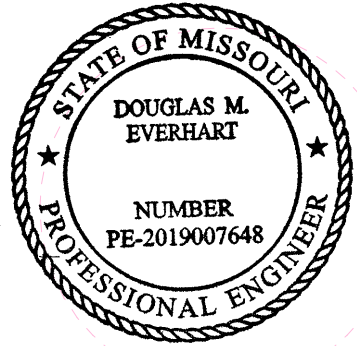
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E-303C

EQUIPMENT CONNECTION ROOF PLAN - AREA C

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## Short-Circuit and Voltage Drop Calculations

Distances are for calculation purposes only and shall not be used for contractor takeoffs nor bidding - Contractor shall notify Engineer of any field condition that results in a change of 10% or greater circuit distance

The following calculations are based on the "Point-by-Point" method where:

$$ISC(2) = ISC(1) \times M(1)$$

$$M = 1/(1+f)$$

ISC (1) = short circuit current at fault point 1

ISC (2) = short circuit current at fault point 2

$$\text{Feeder: } f(30) = \frac{1.732 \times I \times \text{Lsc}}{C \times E}$$

$$\text{XFMR: } f(30) = \frac{I(\text{Psc}) \times V_p \times 1.73 \times \%Z}{100,000 \times \text{KVA}}$$

$$I(\text{Sca}) = \frac{V_p \times M \times I(\text{Psc})}{V_s}$$

$$\text{Feeder: } f(10) = \frac{Z_L \times I \times \text{Lsc}}{C \times E}$$

$$\text{XFMR: } f(10) = \frac{I(\text{Psc}) \times V_p \times \%Z}{100,000 \times \text{KVA}}$$

VOLTAGE DROP (30):

$$\%VD = \frac{(R \times \cos(\arccos(pf)) + X \times \sin(\arccos(pf))) \times L \times I \times 1.73}{E}$$

VOLTAGE DROP (10):

$$\%VD = \frac{(R \times \cos(\arccos(pf)) + X \times \sin(\arccos(pf))) \times 2 \times L \times I}{E}$$

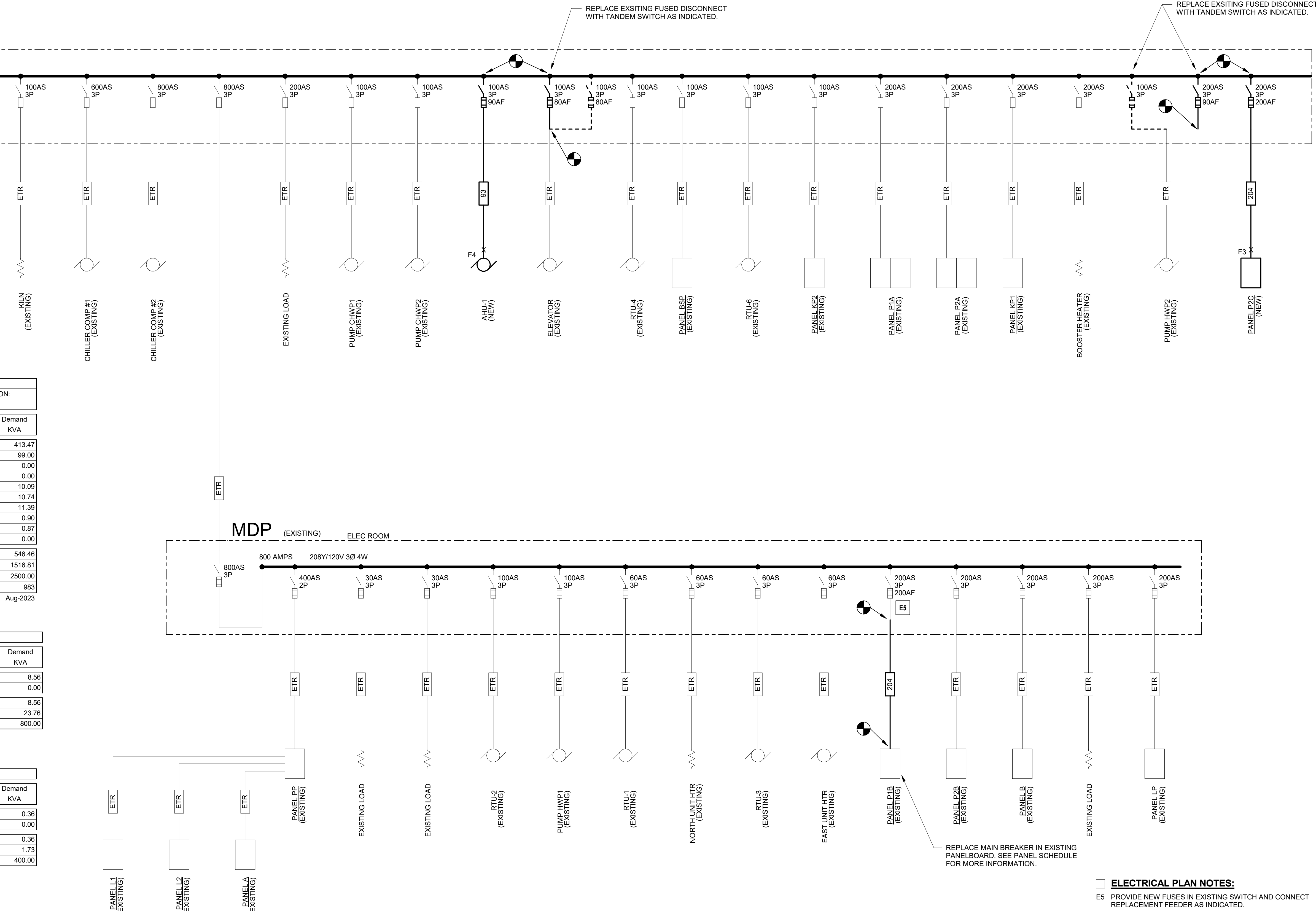
%VD CUM = Cumulative Voltage Drop from Fault Point 1 to Fault Point #

R = resistance in ohms per LF

X = reactances in ohms per LF

Feeder Types: NM - Non Magnetic Conduit, M - Magnetic Conduit, FB - Feeder Busway, PB - Plug-In Busway, TX - Transformer

Fault Point (F#)	Bus/Feeder Description	Source (Fault Point)	Phase	Source Isc (amps)	Conduit Type TX	Material	Feeder Quantity of Parallel Sets and Bus/Phase & Neutral Size	Conductor 'C' Value	Busway 'C' Value	L-L Voltage (E)	Circuit Length (L)	Load Power Factor (pf)	Circuit Load (Amperage)	Conductor Resistance (R)	Conductor Reactance (X)	Arccos (pf) (Radians)	Type	Degree Rise	KVA	New Xlmm Z	Existing Xlmm Z	Secondary Voltage	Tap Setting	f	M	Fault Current (amps)	Voltage Drop (%VD)	Cumulative Voltage Drop (%VD)	Fault Point (F#)
1	Utility Service Point			36,523 at the secondary of the utility transformer																									
	Motor Contribution			1,000 The connected full load motor amps (includes compressors) on the system																									
2	MDP2	1	3	42,523	M	CU	7 Set(s) of 500 kcmil	22185	--	208	55	0.9	2,000	0.000029	0.000048	0.451027								0.125	0.89	37,784	-0.62%	-0.62%	2
3	P2C	2	3	37,784	M	CU	1 Set(s) of 3/0 AWG	12844	--	208	80	0.85	160	0.000079	0.000052	0.554811								1.960	0.34	12,766	-1.01%	-1.62%	3
4	AHU-1	2	3	37,784	M	CU	1 Set(s) of 3 AWG	4774	--	208	250	0.85	43	0.000250	0.000059	0.554811								16.477	0.06	2,162	-2.16%	-2.77%	4



### ONE-LINE DIAGRAM GENERAL NOTES:

- THE INFORMATION SHOWN IN THE SHORT-CIRCUIT AND VOLTAGE DROP CALCULATIONS SCHEDULE IS SHOWN FOR CALCULATION PURPOSES ONLY. CONTRACTOR SHALL NOT USE THE CONDUIT TYPES, CONDUCTOR TYPES, SIZES, QUANTITIES OR LENGTHS FOR TAKEOFFS OR BIDDING PURPOSES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY CONFLICTS BETWEEN THIS SCHEDULE AND OTHER PORTIONS OF THE CONSTRUCTION DOCUMENTS. CONTRACTOR SHALL NOTIFY ENGINEER OF AS-BUILT CONDITIONS THAT CONSTITUTE A CHANGE FROM WHAT IS SHOWN BELOW; THIS INCLUDES CONDUCTOR LENGTHS DIFFERING BY MORE THAN 10%.
- REFER TO THE SHORT-CIRCUIT AND VOLTAGE DROP CALCULATIONS TABLE ON THIS SHEET. AVAILABLE FAULT CURRENT INFORMATION IS LISTED UNDER THE "FAULT CURRENT" COLUMN. VOLTAGE DROP VALUES ARE LISTED UNDER THE "CUMULATIVE VOLTAGE DROP" COLUMN. THE AIC/SCCR RATING OF THE EQUIPMENT SHALL NOT BE LESS THAN THE AVAILABLE 3-PHASE SYMMETRICAL FAULT CURRENT. ALL SERIES RATED EQUIPMENT SHALL BE PROPERLY LISTED AND LABELED PER CODE.
- FEEDER NUMBER DESIGNATIONS PRECEDED BY "V" INDICATE THAT THE CONDUCTORS ARE UP-SIZED DUE TO VOLT-DROP CONSIDERATIONS. PROVIDE LUG ADAPTERS AS NEEDED IN ORDER TO PROPERLY LAND CONDUCTORS AT TERMINATION(S).
- FEEDER SIZES ARE BASED ON COPPER (CU) THHN/THWN-2 INSULATION, UNLESS NOTED OTHERWISE. CONDUIT SIZES SHOWN ARE APPROPRIATE FOR SCHEDULE 40 EMT, GRS, IMC AND RMC. ADJUST SIZE AS NEEDED FOR OTHER RACEWAY TYPES. UNDER BID ALTERNATE PRICING, CU WIRE MAY BE SUBSTITUTED FOR AL. UNLESS NOTED OTHERWISE. ALL CONDUCTOR SIZES ARE BASED ON 75 DEG C RATED TERMINATIONS, UNLESS NOTED OTHERWISE. FOR ANY OTHER CONDITIONS MODIFY SIZES PER CODE. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- BRANCH CIRCUIT SIZES ARE BASED ON COPPER (CU) THHN/THWN-2 INSULATION, UNLESS NOTED OTHERWISE. CONDUIT SIZES SHOWN ARE APPROPRIATE FOR SCHEDULE 40 EMT, GRS, IMC AND RMC. ADJUST SIZE AS NEEDED FOR OTHER RACEWAY TYPES. ALL CONDUCTOR SIZES ARE BASED ON 60 DEG C RATED TERMINATIONS, UNLESS NOTED OTHERWISE. FOR ANY OTHER CONDITIONS MODIFY SIZES PER CODE. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- INSTALL FEEDERS OVERHEAD AS HIGH AS PRACTICABLE AND ORTHOGONALLY ALONG BUILDING STRUCTURE, UNLESS NOTED OTHERWISE. COORDINATE FINAL ROUTING WITH OTHER TRADES.
- CIRCUIT BREAKERS RATED 1200A OR HIGHER SHALL HAVE APPROPRIATE DOCUMENTATION AND METHOD TO REDUCE CLEARING TIME IN ORDER TO REDUCE ARC FLASH ENERGY PER CODE. PROVIDE ELECTRONIC TRIP UNIT WITH INSTANTANEOUS TRIP AND ENERGY-REDUCING MAINTENANCE SWITCH WITH LOCAL STATUS INDICATOR FOR COMPLIANCE. PROVIDE PROVISIONS TO INTERFERE WITH OWNER ALARM/MONITORING SYSTEM TO INDICATE MAINTENANCE SWITCH STATUS.
- PROVIDE A PERMANENT LABEL ON FRONT OF EQUIPMENT ENCLOSURE. REFER TO SPECIFICATIONS FOR LABEL REQUIREMENTS. LABEL SHALL READ AS FOLLOWS (INCLUDE RESPECTIVE NAMES IN BLANKS):

### SERVICE EQUIPMENT LABEL:

EXAMPLE:  
208Y/120V, 60HZ  
800A  
SCCR = 65,000A  
MAX AVAILABLE FAULT CURRENT = 58,815A  
CALCULATED: 01/01/2018

### PANELBOARD/SWITCHBOARD LABEL:

LINE 1: PANELBOARD/SWITCHBOARD " " SUPPLIED BY UPSTREAM  
LINE 2: PANELBOARD/SWITCHBOARD " " SUPPLIED BY UPSTREAM  
LINE 3: LOCATED IN " " SUPPLIES DOWNSTREAM  
LINE 4: PANELBOARD " " SUPPLIES DOWNSTREAM  
LINE 5: PANELBOARD(S) " "

### TRANSFORMERS LABEL:

LINE 1: TRANSFORMER " " SUPPLIED BY UPSTREAM  
LINE 2: PANELBOARD/SWITCHBOARD " " SUPPLIED BY UPSTREAM  
LINE 3: LOCATED IN " " SUPPLIES DOWNSTREAM  
LINE 4: TRANSFORMER " " SUPPLIES DOWNSTREAM  
LINE 5: PANELBOARD(S) " "

### ELECTRICAL UTILITY CONTACT NOTE:

UTILITY COMPANY: EVERGY  
UTILITY CONTACT: JOHN MASSIE  
PHONE: (816)766-3997  
EMAIL: JOHN.MASSIE@EVERGY.COM

### FAULT CURRENT GENERAL NOTE (ESTIMATED VALUE):

THE MAXIMUM AVAILABLE 3-PHASE SYMMETRICAL FAULT CURRENT VALUE AT THE UTILITY TRANSFORMER SECONDARY/POINT OF SERVICE COULD NOT BE DETERMINED AT THE TIME OF THIS SUBMITTAL. THE ESTIMATED WORST CASE VALUE OF 36,523A IS BASED ON AN INFINITE BUS CALCULATION AT THE UTILITY TRANSFORMER. CONTRACTOR SHALL VERIFY ACTUAL AVAILABLE FAULT CURRENT VALUE WITH UTILITY. NOTIFY ENGINEER IF ACTUAL VALUE EXCEEDS ESTIMATED CALCULATED VALUE. ESTIMATED DESIGN VALUE IS BASED ON THE FOLLOWING:

UTILITY TRANSFORMER SECONDARY VOLTAGE: 208Y/120V, 3Ø, 4W  
UTILITY TRANSFORMER SIZE: 500KVA, Z=3.8%

### ONE-LINE DIAGRAM GENERAL NOTES (REMODEL PROJECT):

- COORDINATE WORK WITH ARCHITECTURAL PHASING DRAWINGS TO PROPERLY STAGE TRANSITION TO PROVIDE POWER TO EXISTING, NEW AND TEMPORARY LOADS. MONITOR LOADS ON DISTRIBUTION SYSTEM TO MAKE SURE SHIFTING OF LOADS DOES NOT OVERLOAD ELECTRICAL EQUIPMENT.
- VERIFY THE INTEGRITY OF THE EXISTING GROUNDING ELECTRODE SYSTEM AND THAT THE NEUTRAL AND GROUND ARE PROPERLY BONDED TOGETHER AT THE POINT OF SERVICE ENTRANCE. NOTIFY THE OWNER AND THE ENGINEER OF ANY EXISTING DEFICIENCIES.

### ONE-LINE DIAGRAM SUPPLEMENTAL SPECIFICATIONS:

- GROUNDING ELECTRODE SYSTEM SHALL BE PER LOCAL REQUIREMENTS AND SHALL NOT BE LESS STRINGENT THAN THAT SPECIFIED IN THE CONSTRUCTION DOCUMENTS.
- PROVIDE PROPERLY SIZED LUGS FOR ALL EQUIPMENT, CIRCUIT BREAKERS, AND OTHER ELECTRICAL DEVICES TO ACCOMMODATE INSTALLED CONDUCTORS. A LARGER FRAME, OVERSIZED LUGS OR NON-STANDARD PRODUCT MAY BE REQUIRED IN SOME INSTANCES. UTILIZE PIN ADAPTERS ONLY IF NECESSARY AND ONLY AS ALLOWED BY MANUFACTURER AND AHJ.
- PROVIDE ANY AVAILABLE SPACE IN SWITCHBOARDS/PANELBOARDS WITH BUSSING.
- PROVIDE (4) EMPTY 1" CONDUITS WITH PULL STRINGS FROM EACH RECESSED PANELBOARD UP TO ACCESSIBLE CEILING SPACE. CAP AND LABEL CONDUITS FOR FUTURE USE.
- PROVIDE TYPED FINAL CIRCUIT DIRECTORY FOR ALL PANELBOARDS TO REFLECT ACTUAL AS-BUILT CONDITIONS. COORDINATE FINAL ROOM NAMES, NUMBERS AND DESCRIPTIONS WITH OWNER PRIOR TO COMPLETION. CIRCUIT DESCRIPTIONS SHALL BE PER CODE AND SHALL BE DISTINGUISHABLE FROM ALL OTHERS.

### FEEDER SCHEDULE:

FEEDER TAG	FEEDER DESCRIPTION
43	(3)#8, (1)#10 G, 3/4" C
53	(3)#8, (1)#10 G, 3/4" C
63	(3)#6, (1)#10 G, 3/4" C
83	(3)#4, (1)#8 G, 1" C
93	(3)#3, (1)#8 G, 1" C
94	(4)#3, (1)#8 G, 1-1/4" C
104	(4)#3, (1)#8 G, 1-1/4" C
154	(4)#10, (1)#6 G, 1-1/2" C
174	(4)#20, (1)#6 G, 2" C
203	(3)#30, (1)#6 G, 2" C
204	(4)#30, (1)#6 G, 2" C
403	(2) 2" C, EACH W/ (3)#30, (1)#3 G
804A	(2) 3-1/2" C, EACH W/ (4)-500 kcmil, (1)#10 G
2504	(7) 3-1/2" C, EACH W/ (4)-500 kcmil, (1)-350 kcmil G
ETR	EXISTING CONDUIT AND CONDUCTORS TO REMAIN
S2504	(7) 3" C, EACH W/ (4)-500 kcmil

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EXPIRES 10/31/2024

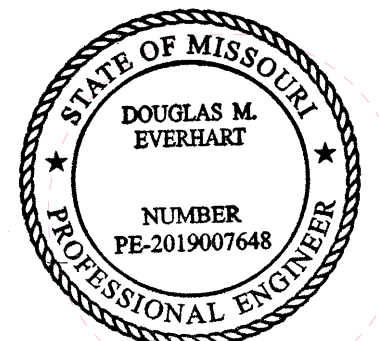
100% CONSTRUCTION  
DOCUMENTS

Ridgeview Elementary School

Liberty Public Schools  
701 Thornton Street  
Liberty, MO 64068

### REVISIONS:

#	Description	Date
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11/10/2023

DOUGLAS M. EVERHART  
LICENSE # PE-2019007648

This Professional Engineer's seal and stamp are placed on this document solely to the extent and terms shown on this seal. All drawings, calculations and other documents created by this seal and stamp are considered prepared by the seal holder.

JOB NO: 23026  
DRAWN BY: ASM  
CHECKED BY: HMD  
DATE: 11.22.2023

E-400

ELECTRICAL ONELINE

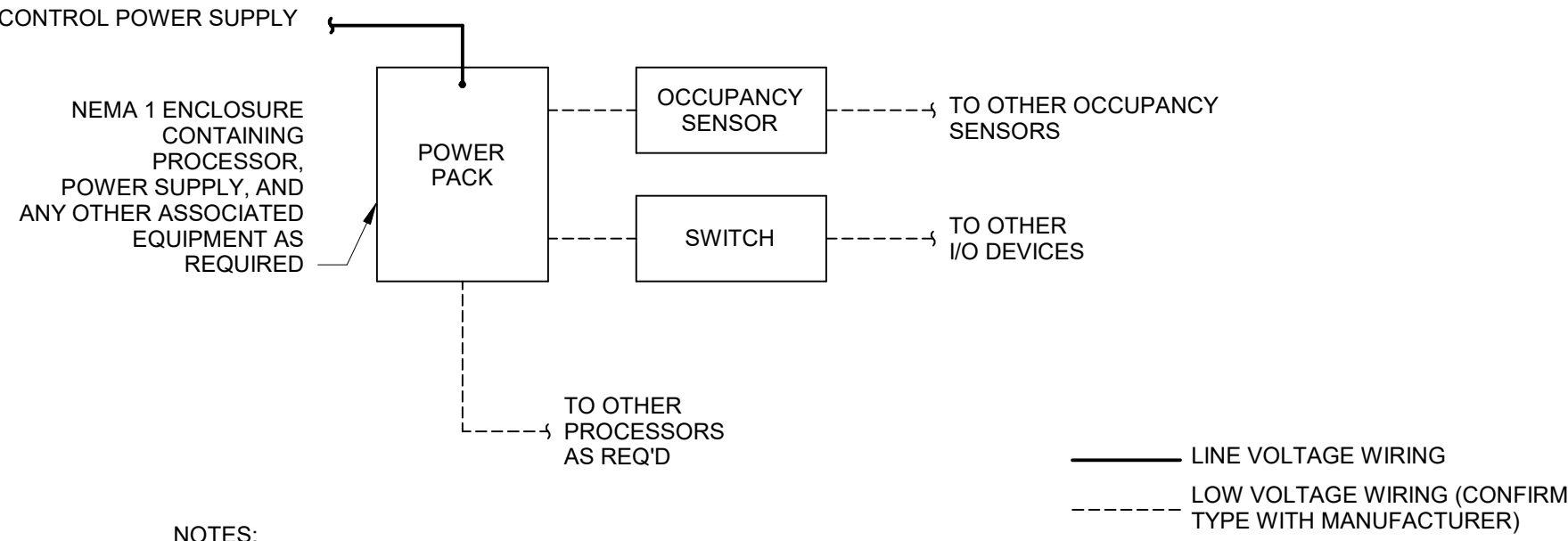


LIGHT FIXTURE SCHEDULE GENERAL NOTES:

1. ALL LIGHT FIXTURES AND RELATED COMPONENTS SHALL BE PROVIDED BY THE CONTRACTOR, UNLESS NOTED OTHERWISE.
2. ALL LIGHT FIXTURES AND RELATED COMPONENTS SHALL BE PROVIDED BY THE CONTRACTOR AS PART OF THE BASE BID, UNLESS NOTED OTHERWISE.
3. THE PARTY SUPPLYING THE LIGHT FIXTURES IS RESPONSIBLE FOR SUPPLYING THE PROPER QUANTITY OF LIGHT FIXTURES.

SEQUENCE OF OPERATIONS

1. Classrooms
- a. Timeclock: N/A
- b. Daylighting: Lighting within daylight zone shall be switched separately from general lighting space lighting
- c. Manual Control: Occupant can manually control lights via local switch(es). (on/off)
- d. Occupancy: Occupant must manually turn lights on
- e. Vacancy: After 20-minutes, all controlled loads shall turn off.
2. Corridor
- a. Timeclock: N/A
- b. Daylighting: N/A
- c. Manual Control: Keyed switches
- d. Occupancy: Lights shall turn on to 100%.
- e. Vacancy: After 20-minutes, all controlled loads shall turn off.
3. Gym
- a. Timeclock: N/A
- b. Daylighting: N/A
- c. Manual Control: Occupant can manually control lights via local switch(es). (on/off)
- d. Occupancy: Occupant must manually turn lights on
- e. Vacancy: After 20-minutes, all controlled loads shall turn off.
4. Private Office, Nurse, Reception
- a. Timeclock: N/A
- b. Daylighting: N/A
- c. Manual Control: Occupant can manually control lights via local switch(es). (on/off)
- d. Occupancy: Occupant must manually turn lights on
- e. Vacancy: After 20-minutes, all controlled loads shall turn off.
5. Electrical/Mechanical Rooms
- a. Manual Control: Occupant can manually control lights via local switch(es). (on/off)
- b. Manual Control: Occupant must manually turn lights on
- c. Manual Control: Occupant must manually turn lights on
- d. Occupancy: Occupant must manually turn lights on
- e. Vacancy: After 20-minutes, all controlled loads shall turn off.
6. Janitor/Storage
- a. Timeclock: N/A
- b. Daylighting: N/A
- c. Manual Control: Occupant can manually control lights via local switch(es). (on/off)
- d. Occupancy: Occupant must manually turn lights on
- e. Vacancy: After 20-minutes, all controlled loads shall turn off.
7. Cafeteria/Multipurpose Room
- a. Timeclock: N/A
- b. Daylighting: Lighting within daylight zone shall be switched separately from general lighting space lighting
- c. Manual Control: Occupant can manually control lights via local switch(es). (on/off)
- d. Occupancy: Occupant must manually turn lights on
- e. Vacancy: After 20-minutes, all controlled loads shall turn off.



NOTES:

1. REFER TO LIGHTING CONTROL DEVICE SCHEDULE FOR DEVICE AND EQUIPMENT SPECIFICATIONS.
2. DETAIL IS DIAGRAMMATIC AND IS BASED ON LEGRAND. THIS REPRESENTS THE GENERAL SCOPE OF WORK AND LOCATION OF DEVICES IN RELATION TO EACH OTHER ALONG THE POWER CIRCUIT. DIAGRAMS MAY BE DIFFERENT FOR ALLOWED EQUIVALENT MANUFACTURERS. ELECTRICAL CONTRACTOR SHALL COORDINATE FULL SYSTEM REQUIREMENTS WITH SELECTED MANUFACTURER. PROVIDE ALL PARTS AND PIECES REQUIRED FOR A FULLY FUNCTIONAL SYSTEM. REFER TO FINAL APPROVED MANUFACTURER'S INSTALLATION INSTRUCTIONS AND WIRING DIAGRAMS FOR INSTALLATION.
3. PROVIDE SYSTEM PROGRAMMING AS REQUIRED FOR SYSTEM TO OPERATE PER THESE CONTRACT DOCUMENTS.
4. PROVIDE SYSTEM COMMISSIONING AS REQUIRED PER ENERGY CODE.

① DISTRIBUTED LIGHTING CONTROL DIAGRAM  
12" = 1'-0"

LIGHT FIXTURE SCHEDULE

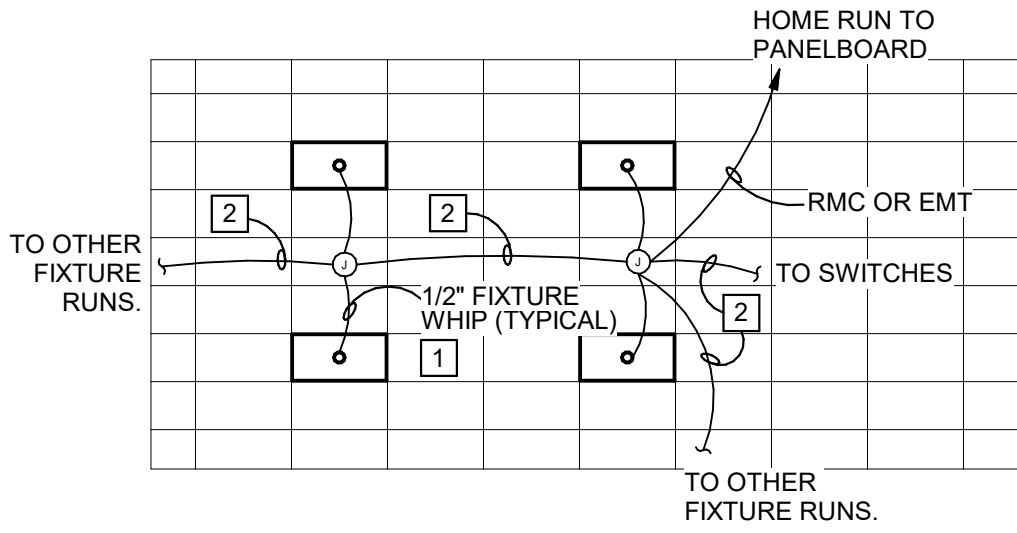
TYPE	MANUFACTURER	SERIES / MODEL	APPROVED ALTERNATES	SOURCE				DIMMING TYPE	VOLTAGE	INPUT WATTS	INPUT VA	DESCRIPTION	NOTES
				QTY	TYPE	CRI	CCT						
A2/A2E	HE WILLIAMS	LT-22-L27/835-AF-(EM10W)-DIM-UNV	LT SERIES COOPER LITHONIA	-	LED	80	3500K	2722LM	0-10V, 10%	277	21	2X2 LED RECESSED TROFFER, DIFFUSE LENS. INTEGRAL 0-10V 10% DIMMABLE DRIVER.	
A3/A3E	COOPER LIGHTING	FPS LED SERIES 22FPSL2SCT3-EL10W	FPS LED SERIES HE WILLIAMS LITHONIA	-	LED	80	3500K	SELECT	0-10V, 10%	277	22	2X4 LED FULLY LUMINOUS FLAT PANEL, CLEAR ACRYLIC LENS. INTEGRAL 0-10V 10% DIMMABLE DRIVER.	
A4/A4E	HE WILLIAMS	LT-24-L40/835-AF-(EM10W)-DIM-UNV	LT SERIES COOPER LITHONIA	-	LED	80	3500K	3972LM	0-10V, 10%	277	32	2X4 LED RECESSED TROFFER, DIFFUSE LENS. INTEGRAL 0-10V 10% DIMMABLE DRIVER.	
A5/A5E	HE WILLIAMS	LT-24-L64/835-AF-(EM10W)-DIM-UNV	LT SERIES COOPER LITHONIA	-	LED	80	3500K	6396LM	0-10V, 10%	277	49	2X4 LED RECESSED TROFFER, DIFFUSE LENS. INTEGRAL 0-10V 10% DIMMABLE DRIVER. 10W INTEGRAL EMERGENCY BATTERY ON ASE FIXTURES	
B1/B1E	HE WILLIAMS	LT-14-L28/835-AF-(EM10W)-LT-14-SMK-W-DIM-UNV	LT SERIES COOPER LITHONIA	-	LED	80	3500K	2814LM	0-10V, 10%	277	21	1X4 LED SURFACE MOUNT TROFFER, DIFFUSE LENS. INTEGRAL 0-10V 10% DIMMABLE DRIVER.	
B2/B2E	HE WILLIAMS	LT-22-L27/835-AF-(EM10W)-LT-22-SMK-W-DIM-UNV	LT SERIES COOPER LITHONIA	-	LED	80	3500K	2722LM	0-10V, 10%	277	21	2X2 LED SURFACE MOUNT TROFFER, DIFFUSE LENS. INTEGRAL 0-10V 10% DIMMABLE DRIVER.	
D1	HE WILLIAMS	6DR-TL SERIES 6DR-TL-L20/835-DIM-UNV-OW-OF-CS	6DR-TL SERIES COOPER LITHONIA	-	LED	80	3500K	1497LM	0-10V, 1%	277	14	6" LED DOWNLIGHT	
D1E	HE WILLIAMS	6DR-TL-L20/835-DIM-UNV-OW-OF-CS-(WE TCC)	6DR-TL SERIES COOPER LITHONIA	-	LED	80	3500K	1497LM	0-10V, 1%	277	14	6" LED DOWNLIGHT WITH EMERGENCY OPTION AND WET/CC TRIM OPTION FOR USE IN EXTERIOR LOCATIONS UNDER COVERED CEILING.	
F1/F1E	HE WILLIAMS	75R SERIES 75R-4-L30/835-EM10WLP-UNV	75R SERIES COOPER LITHONIA	-	LED	80	3500K	2916LM	N/A	277	20	ROUND LENSED 4 FT NARROW STRIP FOR BACK OF HOUSE AREAS.	
F2	HE WILLIAMS	75R SERIES 75R-2-L15/835-EM10WLP-UNV	75R SERIES COOPER LITHONIA	-	LED	80	3500K	1511LM	N/A	277	11	ROUND LENSED 2 FT NARROW STRIP FOR BACK OF HOUSE AREAS.	
FP1/FP1E	HE WILLIAMS	75R SERIES 75R-4-L30/835-EM10WLP-UNV	75R SERIES COOPER LITHONIA	-	LED	80	3500K	2916LM	0-10V, 10%	277	20	ROUND LENSED 4 FT PENDANT MOUNTED NARROW STRIP FOR BACK OF HOUSE AREAS.	
G	XICO	ES0275-W SERIES ES0275-W-2-MWH-E2-OFL-S80-35-DLDM-3-5-UNV-FD10-NN-EMB-(CONTROL SYSTEM)-WM-SWMB	TBD	-	LED	80	3500K	2902LM	0-10V, 1%	277	41	2'-0" WALL SCONCE. SLIM PROFILE. INTEGRAL 0-10V / 0-10V DIMMING DRIVER.	
UC3	COOPER LIGHTING	HU11 SERIES HU11XX09SP	HE WILLIAMS LITHONIA	-	LED	90	SELECT	1125LM	0-10V, 5%	120	16	SLIM UNDERCABINET FIXTURE. FROSTED ACRYLIC LENS. HARDWIRED END FEED (NO PLUG). LENGTHS AS SHOWN ON PLANS - MOUNT END TO END FOR ENTIRE LENGTH OF CABINET. PROVIDE DAISY CHAIN CONNECTIONS AS NEEDED. ARCHITECT TO SELECT FINISH. FIXTURE TO BE ROUTED THROUGH SWITCH IN ROOM.	
UC4	COOPER LIGHTING	HU11 SERIES HU11XX09SP	HE WILLIAMS LITHONIA	-	LED	90	SELECT	1540LM	0-10V, 5%	120	21	SLIM UNDERCABINET FIXTURE. FROSTED ACRYLIC LENS. HARDWIRED END FEED (NO PLUG). LENGTHS AS SHOWN ON PLANS - MOUNT END TO END FOR ENTIRE LENGTH OF CABINET. PROVIDE DAISY CHAIN CONNECTIONS AS NEEDED. ARCHITECT TO SELECT FINISH. FIXTURE TO BE ROUTED THROUGH SWITCH IN ROOM.	
W1	HE WILLIAMS	WMAUD SERIES WMAUD-3-L30/835-U/L30/835U-AF-EM10W-UNV	COOPER LITHONIA	-	LED	80	3500K	6174LM	0-10V, 5%	277	47	ARCHITECTURAL WALL MOUNT UP/DOWN.	
W2	FLUXWERX	LN1 SERIES LN1-P3-D-WW-WV-1-835-A-F2-1K-(FIELD VERIFY LENGTHS)-N	TBD	-	LED	80	3500K	1100LM/4FT	0-10V, 3%	277	279	ULTRA SLIM LINEAR, WALL MOUNTED AROUND PERIMETER OF TRIANGLE SPACE IN COMMONS AREA.	
W3	COOPER LIGHTING	LSRWMB SERIES LSRWMB20D010MB EC8B10208035 8LBMH	HE WILLIAMS LITHONIA	-	LED	80	3500K	2000LM	0-10V, 1%	277	21	WALL MOUNT CYLINDER DOWNLIGHT	
X1	LITHONIA	EXRG EL M6	HE WILLIAMS COOPER	-	LED	-	-	-	N/A	277	1	RED TEXT CEILING MOUNT EXIT WITH NI-MH BACKUP BATTERY.	
X2	LITHONIA	EXRG EL M6	HE WILLIAMS COOPER	-	LED	-	-	-	N/A	277	1	RED TEXT WALL MOUNT EXIT WITH NI-MH BACKUP BATTERY.	

LIGHTING CONTROL DEVICE SCHEDULE

LINE-VOLTAGE WALL SWITCH OCCUPANCY SENSORS					
SYMBOL TAG	MANUFACTURER MODEL/SERIES	ALTERNATE MANUFACTURER	DEVICE DESCRIPTION	COVERAGE (W X D)	VOLTAGE
§ VS § OS	LEGRAND DW-200	ACUTY, COOPER CRESTRON, HUBBELL LEVITON, LUTRON	PIR MOUNT DUAL TECHNOLOGY OCCUPANCY SENSOR. INTEGRAL MANUAL OVERRIDE SWITCHES. DUAL RELAY. LINE-VOLTAGE. LOAD: 120V+800W, 277V+1200W.	PIR MAJOR 30' x 35' PIR MINOR 15' x 20' ULT MAJOR 20' x 20' ULT MINOR 15' x 15'	120/ 277
LINE-VOLTAGE DIMMING WALL SWITCH OCCUPANCY SENSORS					
SYMBOL TAG	MANUFACTURER MODEL/SERIES	ALTERNATE MANUFACTURER	DEVICE DESCRIPTION	COVERAGE (W X D)	VOLTAGE
§ OSD	LEGRAND PW-100D	N/A	WALL MOUNT PASSIVE INFRARED OCCUPANCY SENSOR. INTEGRAL MANUAL OVERRIDE SWITCH. SINGLE RELAY. LINE-VOLTAGE. FORWARD PHASE DIMMING. LOAD: 120V+700W, 277V+1200W.	MAJOR 30' x 35' MINOR 15' x 20'	120/ 277
STAND-ALONE LOW-VOLTAGE LIGHTING CONTROL SYSTEMS					
STAND-ALONE LOW-VOLTAGE OCCUPANCY SENSORS					
SYMBOL TAG	MANUFACTURER MODEL/SERIES	ALTERNATE MANUFACTURER	DEVICE DESCRIPTION	COVERAGE (W X D)	VOLTAGE
Ⓜ	LEGRAND DT-300	ACUTY, COOPER HUBBELL, LEVITON	CEILING MOUNT DUAL TECHNOLOGY OCCUPANCY SENSOR. 360 DEGREE COVERAGE. LOW-VOLTAGE, ISOLATED RELAY.	PIR MAJOR 36' Ø PIR MINOR 25' Ø ULT 36' x 36'	24
Ⓜ	LEGRAND HB-300B-L3	ACUTY, COOPER HUBBELL, LEVITON	CEILING MOUNT PASSIVE INFRARED OCCUPANCY SENSOR. 360 DEGREE COVERAGE. LOW-VOLTAGE.	40' Ø (20' MOUNTING)	24
STAND-ALONE LOW-VOLTAGE POWER PACKS					
SYMBOL TAG	MANUFACTURER MODEL/SERIES	ALTERNATE MANUFACTURER	DEVICE DESCRIPTION	VOLTAGE	NOTES
Ⓟ	LEGRAND BZ-250	ACUTY, COOPER HUBBELL, LEVITON	POWER PACK FOR LOW-VOLTAGE OCCUPANCY SENSORS. 20A LOAD. (1) RELAY. MANUAL- AND AUTO-ON MODES. HOLD-ON AND -OFF INPUTS. LOAD: 16A AT 120V OR 277V. OUTPUT: 225mA AT 24V. PLENUM RATED.	120/ 277	
STAND-ALONE LOW-VOLTAGE SWITCHES					
SYMBOL TAG	MANUFACTURER MODEL/SERIES	ALTERNATE MANUFACTURER	DEVICE DESCRIPTION	VOLTAGE	NOTES
§ LV1	LEGRAND DCC2	ACUTY, COOPER HUBBELL, LEVITON	MOMENTARY 1-BUTTON DECORATOR SWITCH FOR MANUAL ON/OFF CONTROL OF STAND-ALONE LOW-VOLTAGE OCCUPANCY SENSORS. INTEGRAL LED ILLUMINATES WHEN LOAD IS ON.	24	
<b>GENERAL NOTES:</b> A. OCCUPANCY SENSOR LAYOUT DESIGNED FROM BASIS-OF-DESIGN COVERAGE PATTERNS. IF SUBMITTING ALTERNATE PER EQUIVALENT MANUFACTURER COLUMN, ADJUST SENSOR QUANTITIES AND LOCATIONS PER MANUFACTURER-SPECIFIC SPACING CRITERIA. B. PROVIDE SHOP DRAWINGS FOR ENGINEER AND ARCHITECT REVIEW THAT INCLUDE PRODUCT CUTSHEETS AND PROJECT-SPECIFIC LAYOUTS. LAYOUTS MUST INCLUDE SENSOR LOCATIONS, HEIGHTS, ORIENTATION, AND COVERAGE AREAS. SHOW COORDINATION WITH ALL OTHER CEILING DEVICES INCLUDING BUT NOT LIMITED TO HVAC SUPPLY AND RETURN GRILLES, SPRINKLERS, LIGHT FIXTURES, AND OTHER OWNER-PROVIDED CEILING MOUNTED DEVICES SUCH AS SPEAKERS, SECURITY CAMERAS, PROJECTORS, ETC. (SENSORS MAY BE ADVERSELY AFFECTED IF LOCATED TOO CLOSE TO OTHER CEILING MOUNTED DEVICES). ALSO PROVIDE SCHEMATICS AND SCHEDULES WHEN APPLICABLE. C. LIGHTING CONTROLS PRICING SHALL BE COMPLETELY SEPARATE OF ANY LIGHT FIXTURE PRICING. D. VERIFY COLOR(S) FOR ALL WALL AND CEILING MOUNTED DEVICES WITH THE ARCHITECT. E. ALL WALL SWITCH AND CEILING SENSORS SHALL HAVE AN ADJUSTABLE TIME DELAY RANGE OF 0-30 MIN. UNO. CONFIRM SENSOR SETTINGS WITH SEQUENCE OF OPERATIONS AND OWNER PRIOR TO SYSTEM COMMISSIONING. F. PROVIDE COPIES OF OPERATION AND MAINTENANCE INSTRUCTIONS FOR ALL DEVICES TO OWNER. G. PROVIDE A NEUTRAL CONDUCTOR TO ALL WALL SWITCH LOCATIONS PER NEC REQUIREMENTS. H. DO NOT SHARE NEUTRAL CONDUCTOR ON LOAD SIDE OF DIMMERS.					

ELECTRICAL NOTES:

1. PROVIDE SUFFICIENT LENGTH TO MOVE CENTER OF LUMINAIRE IN A 5'-0" RADIUS OF THE LOCATION SHOWN ON THE PLANS.
2. RMC OR EMT (UNLESS TYPE MC CABLE IS ALLOWED BY SPECIFICATIONS. IF MORE THAN 4 CURRENT CARRYING CONDUCTORS INCLUDING NEUTRALS, MC CABLE IS NOT ALLOWED).



② LIGHTING STANDARD LUMINAIRE WIRING  
NTS

Ridgeview Elementary School

Liberty Public Schools

701 Thornton Street

Liberty, MO 64068

REVISIONS:

#	Description	Date
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11/10/2023

DOUGLAS M. EVERHART  
LICENSE # PE-2019007648

This Professional Engineer seal and stamp is the property of the engineer and shall remain in the possession of the engineer. It shall not be used for any other project or for any other purpose. The engineer shall be responsible for the proper use and maintenance of this seal and stamp. The seal and stamp shall be used in accordance with the rules and regulations of the State of Missouri. The seal and stamp shall be used in accordance with the rules and regulations of the State of Missouri.

JOB NO: 23026  
DRAWN BY: HMD  
CHECKED BY: ASM  
DATE: 11.22.2023

E-500







GENERAL NOTES	
<b>SPECIFICATION REFERENCES:</b>	
1.	REFER TO DIVISION 27 SPECIFICATION SECTION "AUDIO-VIDEO SYSTEMS" AND RELATED DOCUMENTS AND SECTIONS FOR PRODUCT INFORMATION AND ADDITIONAL REQUIREMENTS.
2.	CATEGORY AND FIBER CABLEING SHALL BE INSTALLED, TERMINATED, AND TESTED PER DIVISION 27 SECTION "TELECOMMUNICATIONS REQUIREMENTS FOR AUDIO-VIDEO SYSTEMS".
<b>GENERAL PATHWAY NOTES:</b>	
1.	ALL BUILDING INFRASTRUCTURE, CONDUIT, AND PATHWAYS INCLUDING BUT NOT LIMITED TO CONDUIT, RACEWAYS, CABLE TRAYS, PEDESTALS, BACK BOXES, JUNCTION BOXES, FLOOR BOXES, DOORS, LIDS, AND COVERS ARE PER DIVISION 27 SECTION "COMMON WORK RESULTS FOR COMMUNICATIONS" UNLESS OTHERWISE NOTED WITHIN THIS DRAWING SERIES SET.
2.	REFER TO "MINIMUM SEPARATION REQUIREMENTS" ON THIS SHEET FOR CONDUIT SPACING INFORMATION.
3.	PROVIDE CONTINUOUS UNOBSTRUCTED CABLE PATH FOR ENTIRE LENGTH OF CABLE RUN. EXPOSED CABLEING MAY REQUIRE CONDUIT TRANSITIONS(S) TO ACHIEVE A COMPLETE PATHWAY. REFER TO "CIRCUIT ROUTING" ON THIS SHEET FOR ADDITIONAL REQUIREMENTS.
4.	COORDINATE ANY CONFLICTS WITH APPROPRIATE DISCIPLINES.
5.	REFER TO LIFE SAFETY PLANS FOR LOCATION OF FIRE-RATED AND SMOKE-RATED WALLS AND FLOORS. PROVIDE LISTED FIRESTOPPING SYSTEMS FOR PENETRATIONS PER DIVISION 27 SPECIFICATION SECTION "COMMON WORK RESULTS FOR COMMUNICATIONS".
<b>BOX SCHEDULE NOTES:</b>	
1.	VERIFY QUANTITIES, LOCATIONS, AND MOUNTING WITH PLAN, DETAIL, AND EQUIPMENT VIEW DRAWINGS.
2.	ALL BOXES SHOWN IN SCHEDULE ARE PER DIVISION 27 SECTION "COMMON WORK RESULTS FOR COMMUNICATIONS" UNLESS OTHERWISE NOTED WITHIN THIS DRAWING SERIES SET.
3.	FIELD VERIFY MOUNTING CONDITIONS AND BOX SIZE PRIOR TO INSTALLATION.
4.	WALL MOUNTED BOXES SHOWN AT SWITCH OR CONVENIENCE OUTLET HEIGHT SHALL MATCH MOUNTING HEIGHT OF ADJACENT BOXES ON WALL UNLESS OTHERWISE NOTED.
5.	WALL MOUNTED TERMINATION GANG BOXES SHALL BE MOUNTED 16" A.F.F. TO CENTER OF DEVICE UNLESS OTHERWISE NOTED.
6.	WALL MOUNTED TERMINATION NEMA AND MANUFACTURER SPECIFIC BOXES SHALL BE MOUNTED 16" A.F.F. TO BOTTOM OF DEVICE UNLESS OTHERWISE NOTED.
7.	SURFACE MOUNTED BOXES SHALL BE PAINTED TO MATCH SURROUNDING FINISH.
8.	COORDINATE ANY CONFLICTS WITH APPROPRIATE DISCIPLINES.
<b>GENERAL PANEL AND PLATE NOTES:</b>	
1.	CUSTOM TERMINATION COVER PANELS AND PLATES SHALL BE PROVIDED PER SPECIFICATION SECTION "AUDIO-VIDEO SYSTEMS" REQUIREMENTS AND SHALL BE SIZED TO APPROPRIATELY SELF-TRIM THEIR CORRESPONDING BACK BOX.
2.	ALL PANELS AND PLATES SHALL BE 1/8" THICK (MINIMUM) BLACK ANODIZED ALUMINUM WITH ENGRAVED OR LASER ETCHED LETTERING OF A CONTRASTING COLOR. DEFAULT ENGRAVED TEXT COLOR SHALL BE WHITE. UTILIZE 3/16" UPPER CASE LETTERING, SANS-SERIF FONT. VERIFY PLATE COLOR WITH ARCHITECT.
3.	REINFORCE PLATE AND/OR INCREASE PLATE THICKNESS TO MINIMIZE DEFLECTION.
4.	UTILIZE COUNTERSUNK SCREW HEADS. SCREWS HEADS SHALL MATCH PLATE COLOR.
5.	ANY PANEL AND PLATE DETAILS OR INFORMATION RELATED TO TERMINATION PLATING CONTAINED IN THIS SET ARE INCLUDED FOR COMMUNICATION OF FABRICATION REQUIREMENTS AND ARE FOR CONCEPT ONLY. LAYOUTS DO NOT REFLECT SPECIFIC REQUIREMENTS FOR THIS PROJECT UNLESS SPECIFICALLY STATED AS SUCH. VERIFY SIZES OF ALL COMPONENTS AND BOXES PRIOR TO SUBMITTAL OF SHOP DRAWINGS.
6.	FIELD VERIFY THE SIZE OF ALL COMPONENTS AND BOXES PRIOR TO INSTALLATION. MODIFY PLATE SIZES IN THE CASE OF ALTERATIONS TO FIELD CONDITIONS.
7.	REFER TO SPECIFICATIONS FOR SUBMITTAL AND ADDITIONAL PANEL AND PLATE REQUIREMENTS.
<b>CABLE TERMINATION NOTES:</b>	
1.	ALL AUDIO TERMINATIONS SHOULD COMPLY WITH RANE CORPORATION RANENOTE 110 REFERENCE FOR SOUND SYSTEM INTERCONNECTION.
<b>EQUIPMENT RACK NOTES:</b>	
1.	REFER TO SPECIFICATIONS FOR RACK LAYOUT SUBMITTAL REQUIREMENTS.
2.	ANY RACK LAYOUTS OR INFORMATION RELATED TO EQUIPMENT RACKING CONTAINED IN THIS SET ARE FOR CONCEPT ONLY. VERIFY RACK LAYOUT FOR EQUIPMENT FURNISHED PRIOR TO SUBMITTAL OF SHOP DRAWINGS. REVISE AS REQUIRED FOR ALTERNATES ACCEPTED OR REJECTED.
3.	IF THERE ARE DIFFERENCES IN EQUIPMENT RACKING INFORMATION TO THAT SHOWN ON THE SIGNAL FLOW DIAGRAMS, SIGNAL FLOWS SHALL TAKE PRECEDENCE.
<b>LOUDSPEAKER INSTALLATION NOTES:</b>	
1.	ANY STRUCTURAL DETAILS, STRUCTURAL MEMBER TYPES, SIZES, AND ATTACHMENT METHODS CONTAINED IN THIS SET ARE SHOWN FOR CONCEPT ONLY. FINAL DESIGN, INCLUDING DOCUMENTATION STAMPED BY STRUCTURAL ENGINEER (PROVIDED AS PORTION OF SHOP DRAWING REQUIREMENTS), SHALL BE MADE BY THE CONTRACTOR AND SHALL BE VERIFIED BY THE OWNER AND AV CONSULTANT.
2.	REFER TO SPECIFICATIONS FOR ALL MOUNTING, INSTALLATION, ACCESS, AND SHOP DRAWING REQUIREMENTS.
3.	EXPOSED LOUDSPEAKER CIRCUITS UTILIZING STRUCTURAL STEEL PATHWAYS SHALL BE ROUTED HIGH WITHIN TRUSS SPACE OR WHERE OTHERWISE PROTECTED FROM DAMAGE. ROUTING SHALL MINIMIZE CIRCUIT LENGTH BETWEEN LOUDSPEAKER AND EQUIPMENT RACK WHERE FEASIBLE. NEATLY BUNDLE CIRCUITS AND FASTEN SECURELY TO STRUCTURE TO ENSURE PROPER SUPPORT AND PROTECTION. TO MINIMIZE DAMAGE FROM TEMPORARY RIGGING ACTIVITIES ASSOCIATED WITH SPECIAL EVENT SUPPORT, AVOID ROUTING CIRCUITS IN AREAS PRONE TO THIS USE, I.E. BOTTOM CHORDS OF TRUSSES. AVOID CONTACT OR CONFLICT WITH OTHER BUILDING ELEMENTS SUCH AS LIGHTING FIXTURES & BALLASTS, DUCTS, RIGGING, AND SHARP EDGES. CABLE COLOR SHALL MATCH SURROUNDING ELEMENTS.

WIRE TYPE AND ABBREVIATIONS																																							
(NOTE 1)	ABBREVIATION DEFINITION OR SIGNAL TYPES																																						
AB	AUDIO TRANSPORT OVER MANUF. PROPRIETARY (NON-IP) PROTO. - REQ. STP																																						
AEC	ACOUSTIC ECHO CANCELING SIGNAL																																						
AES	DIGITAL AUDIO OVER AES FORMAT - BALANCED																																						
AN	AUDIO TRANSPORT OVER IP STANDARD PROTOCOL REQUIRING STP																																						
CC	RELAY OR CONTACT CLOSURE CONTROL SIGNAL																																						
Com	CONTROL SIGNAL (RS232, RS422, RS485)																																						
CI	LOW CAPACITANCE CONTROL CABLE FOR LONG RUNS																																						
CO	CONTROL SIGNAL OVER MANUF. PROPRIETARY PROTOCOL																																						
DVI	DVI VIDEO SIGNAL																																						
DM	DIGITAL MEDIA AUDIO/VIDEO/CONTROL SIGNAL																																						
DP	DISPLAY PORT SIGNAL																																						
FW	FIREWIRE IEEE 1394																																						
GPIQ	GPIO/GPIQ - GENERAL PURPOSE INPUT AND/OR OUTPUT																																						
H	HDMI VIDEO/AUDIO SIGNAL																																						
HDSDI	HD-SDI PER SMPTE 292M																																						
IC	INTERCOM (PRODUCTION)																																						
IR	INFRARED CONTROL SIGNAL																																						
I/O	VARIABLE VOLTAGE CONTROL SIGNAL																																						
L	LINE LEVEL AUDIO SIGNAL																																						
LAN	ETHERNET																																						
LS	LOUDSPEAKER LEVEL AUDIO SIGNAL 2/4/8/16OHM																																						
LS70	LOUDSPEAKER LEVEL AUDIO SIGNAL 70V																																						
M	MICROPHONE LEVEL AUDIO SIGNAL																																						
MADI	MADI SIGNAL PROTOCOL																																						
MIDI	MIDI CONTROL SIGNAL																																						
MMF	MULTI-MODE FIBER																																						
Mono	MONO AUDIO SIGNAL																																						
Phone	TELEPHONE SIGNAL																																						
R	RGBHV VIDEO SIGNAL																																						
Ref	REFERENCE/SYNC/BLACK - BLACK BURST OR TRI-LEVEL SYNCHRONIZATION																																						
RF	RADIO FREQUENCY																																						
RF	RF WIRELESS MIC ANTENNA (-5dB @ 800MHz NO AMP)																																						
RF	RF WIRELESS MIC ANTENNA (-5dB @ 800MHz NO AMP)																																						
RF	RF WIRELESS MIC ANTENNA (-5dB @ 800MHz NO AMP)																																						
SAT IF	SATELLITE INTERMEDIATE FREQUENCY SIGNAL (TYPICALLY L-BAND)																																						
SDI	SERIAL DIGITAL INTERFACE PER SMPTE 259M																																						
SMF	SINGLE-MODE FIBER																																						
SPDIF	DIGITAL AUDIO OVER SPDIF																																						
SI	STEREO AUDIO SIGNAL																																						
TLY	TALLY																																						
TB	THUNDERBOLT SIGNAL																																						
TC	TIMECODE																																						
TIE LINES	MICROPHONE LEVEL																																						
	LINE LEVEL																																						
	LOUDSPEAKER LEVEL																																						
TPA	AUDIO SIGNAL OVER TWISTED PAIR																																						
TPC	CONTROL SIGNAL OVER TWISTED PAIR																																						
TPT	TELEVISION SIGNAL OVER TWISTED PAIR																																						
TPV	VIDEO SIGNAL OVER TWISTED PAIR																																						
TRIAx	TRIAx VIDEO CAMERA CABLE																																						
TV	CABLE TELEVISION DISTRIBUTION SIGNAL																																						
USB	UNIVERSAL SERIAL BUS SIGNAL																																						
USB1	USB VERSION 1.0																																						
USB2	USB VERSION 2.0																																						
USB3	USB VERSION 3.0																																						
V	COMPOSITE VIDEO SIGNAL																																						
Y	COMPONENT VIDEO SIGNAL																																						
3GSDI	3G-SDI PER SMPTE 424M																																						
6GSDI	6G-SDI																																						
+	DENOTES PORTION OF ITEM																																						
<b>NOTES</b>																																							
COMPLY WITH ALL MANUFACTURER REQUIREMENTS.																																							
1. SIGNAL FLOW SIGNAL TYPE ABBREVIATION.																																							
2. CABLE DISTANCE LIMITATION. CONTACT CONSULTANT FOR CONDITIONS OUTSIDE PARAMETERS.																																							
3. REFER TO SPECIFICATION FOR WIRE TYPE.																																							
4. REFER TO SIGNAL FLOWS FOR WIRE TYPE.																																							
5. REFER TO SCHEDULES FOR WIRE TYPE.																																							
SIGNAL FLOW BLOCK LEGEND																																							
<table><tr><th>Block Description</th><th>Specification Reference</th></tr><tr><td>Y/S/V 1</td><td>Y/S/V 1/2</td></tr><tr><td>ML 1</td><td>SI 1</td></tr><tr><td>Y/S/V 2</td><td>Y/S/V 3</td></tr><tr><td>ML 2</td><td>SI 2</td></tr><tr><td>R/Y 3</td><td>R/Y/S/V 4</td></tr><tr><td>SI 1</td><td>SI 3</td></tr><tr><td>R/Y 4</td><td>DM 5</td></tr><tr><td>SI 2</td><td>DM 6</td></tr><tr><td>R/Y 5</td><td>DM 7</td></tr><tr><td>SI 3</td><td>Cont Net</td></tr><tr><td>DM 1</td><td>LS L</td></tr><tr><td>DM 2</td><td>LS R</td></tr><tr><td>USB</td><td>Com A</td></tr><tr><td>IR in</td><td>Com B</td></tr><tr><td>IO</td><td>IR A</td></tr><tr><td>IO</td><td>IR B</td></tr><tr><td>LAN</td><td>CC 1</td></tr><tr><td>Product Name/Model#</td><td></td></tr></table>		Block Description	Specification Reference	Y/S/V 1	Y/S/V 1/2	ML 1	SI 1	Y/S/V 2	Y/S/V 3	ML 2	SI 2	R/Y 3	R/Y/S/V 4	SI 1	SI 3	R/Y 4	DM 5	SI 2	DM 6	R/Y 5	DM 7	SI 3	Cont Net	DM 1	LS L	DM 2	LS R	USB	Com A	IR in	Com B	IO	IR A	IO	IR B	LAN	CC 1	Product Name/Model#	
Block Description	Specification Reference																																						
Y/S/V 1	Y/S/V 1/2																																						
ML 1	SI 1																																						
Y/S/V 2	Y/S/V 3																																						
ML 2	SI 2																																						
R/Y 3	R/Y/S/V 4																																						
SI 1	SI 3																																						
R/Y 4	DM 5																																						
SI 2	DM 6																																						
R/Y 5	DM 7																																						
SI 3	Cont Net																																						
DM 1	LS L																																						
DM 2	LS R																																						
USB	Com A																																						
IR in	Com B																																						
IO	IR A																																						
IO	IR B																																						
LAN	CC 1																																						
Product Name/Model#																																							
<b>PLAN BOX &amp; CONDUIT EXAMPLE</b>																																							
<p>"JUNCTION BOX" IN PLAN LOCATION "Q1738". REFERENCE BOX SCHEDULE.</p> <p>CONDUIT BETWEEN "A" AND "J".</p> <p>ONE (1) 0.75" CONDUIT SPECIFIED FOR LINE LEVEL SIGNALS ONLY.</p> <p>ASSORTED FLOOR BOX IN PLAN LOCATION "Q1738". NUMBER "01". REFERENCE BOX SCHEDULE.</p> <p>CONDUIT FROM BOX "A." HOMERUNS TO INDICATED LOCATION.</p> <p>ONE (1) 2" CONDUIT SPECIFIED FOR MICROPHONE LEVEL SIGNALS ONLY. TERMINATES AT BOX "M.".</p> <p>MULTIPLE CONDUITS. ONE (1) 1.25" CONDUIT SPECIFIED FOR LOUDSPEAKER LEVEL SIGNALS ONLY, TWO (2) 0.75" CONDUIT SPECIFIED FOR LINE LEVEL SIGNALS ONLY, AND ONE (1) 1.00" CONDUIT SPECIFIED FOR VIDEO SIGNALS ONLY.</p> <p>CONDUIT FROM BOX "A." HOMERUNS TO INDICATED LOCATION.</p> <p>ONE (1) 0.75" CONDUIT SPECIFIED FOR VIDEO LEVEL SIGNALS ONLY.</p> <p>TRAY DESTINATION. TERMINATE CONDUIT AT TRAY DIVIDER LOCATION INDICATED FOR USE WITH CONDUIT GROUP DIVISION.</p> <p>CONDUIT FROM BOX "A." STUB TO ABOVE ACCESSIBLE CEILING.</p>																																							
<b>NOTE:</b> FOR TYPICAL BOXES, REFER TO TYPICAL BOX SCHEDULE FOR ADDITIONAL INSTRUCTIONS. FOLLOW CONDUIT REQUIREMENTS AS LISTED IN SCHEDULE AND ANY ADDITIONAL NOTES AS INDICATED ON PLANS.																																							

AUDIO-VIDEO SYMBOLS	
(NOTE 1)	AUDIO
CAT6 STP	90m
NO SEP	
RG-6	100m
SMF	1000m
CAT6 STP	90m
22 AWG	
22 AWG	
22 AWG	
(NOTE 3)	
PREMADE	25'
CAT6 STP	90m
PREMADE	3m
PREMADE	4.5m
(NOTE 4)	
RG-59	300'
RG-6	370'
RG-11	580'
22 AWG	
PREMADE	
22 AWG	
CAT6	90m
(NOTE 5)	
RG-6	100m
SMF	40km
PREMADE	
CAT3	
RG-59	
RG-58	IN RACK
RG-8X	40'
RG-213	65'
RG-8U	120'
RG-59	IN RACK
RG-6	DISTRO
RG-11	DISTRO
PREMADE	950'
RG-6	1150'
RG-11	1850'
PREMADE	10m
PREMADE	5m
24 AWG	
PREMADE	3m
RG-6	
22 AWG	
22 AWG	
(NOTE 4)	
CAT6	90m
CAT6	90m
CAT6	90m
RG-59U	IN ROOM
RG-11U	2950'
RG-59	IN RACK
RG-6	DISTRO
RG-11	DISTRO
1/2" HARDLINE	TRUNK
PREMADE	
PREMADE	5m
PREMADE	5m
PREMADE	5m
RG-59	750'
RG-6	900'
RG-11	1200'
RG-59	125'
RG-6	200'
RG-11	390'
(NOTE 4)	
<b>DATA</b>	
SIGNAL FLOW	PANEL/PLATE
	DESCRIPTION
	ST FIBER PANEL MOUNT CONNECTOR
	ST FIBER CABLE MOUNT CONNECTOR
	LC FIBER PANEL MOUNT CONNECTOR
	LC FIBER CABLE MOUNT CONNECTOR
	HYBRID FIBER PANEL MOUNT CONNECTOR
	HYBRID FIBER CABLE MOUNT CONNECTOR
	UTP PANEL MOUNT CONNECTOR
	UTP CABLE MOUNT CONNECTOR
	RJ-45 STANDARD PANEL MOUNT CONNECTOR
	RJ-45 STANDARD CABLE MOUNT CONNECTOR
	RJ-11 PANEL MOUNT CONNECTOR
	RJ-11 CABLE MOUNT CONNECTOR
<b>NOTE:</b> REFER TO DIVISION 27 SECTION "TELECOMMUNICATIONS REQUIREMENTS FOR AUDIO-VIDEO SYSTEMS" FOR ADDITIONAL INFORMATION	
AUDIO-VIDEO	
SIGNAL FLOW	PANEL/PLATE
	DESCRIPTION
	FEMALE RCA PANEL MOUNT CONNECTOR
	MALE RCA CABLE MOUNT CONNECTOR
	FEMALE PANEL MOUNT MULTIPIN CONNECTOR
	FEMALE CABLE MOUNT MULTIPIN CONNECTOR
	MALE CABLE MOUNT MULTIPIN CONNECTOR
	PATCH JACK PLUG
<b>NOTE:</b> PANEL & PLATE CONNECTORS ARE NOT SHOWN TO SCALE.	

CONDUIT/CIRCUIT GROUP DIVISIONS	
GROUP	DESCRIPTIONS
A	CONTROL CIRCUITS
L	LINE LEVEL AUDIO CIRCUITS
M	MICROPHONE LEVEL AUDIO CIRCUITS
P	PRODUCTION INTERCOM COMMUNICATION CIRCUITS
S	SPEAKER LEVEL AUDIO CIRCUITS INCLUDING BOTH LOW IMPEDANCE AND HIGH IMPEDANCE (70 VOLT) TYPES
V	VIDEO CIRCUITS
W	RF LEVEL CIRCUITS INCLUDING WIRELESS MICROPHONE, ANTENNA CABLE, SATELLITE, ASSISTED LISTENING SYSTEM, AND TV DISTRIBUTION
<b>LEVEL</b>	
0-28 VOLT INTO <50 KOHMS	
2 VOLT PEAK-TO-PEAK INTO 100 OHMS	
-30dBu TO +24dBu	
BELOW -30dBu	
30dBu TO +24dBu	
GREATER THAN +24dBu	
<b>BANDWIDTH</b>	
0 Hz TO 20KHz	
20 Hz TO 20KHz	
20 Hz TO 20KHz	
20 Hz TO 20KHz	
0 Hz TO 250 MHz	
5 MHz TO 3GHz	
MINIMUM SEPARATION REQUIREMENTS	
GROUP	A
A	NO SEP
L	ADJACENT
M	ADJACENT
P	ADJACENT
S	ADJACENT
V	ADJACENT
W	ADJACENT
POWER	2"
A	NO SEP
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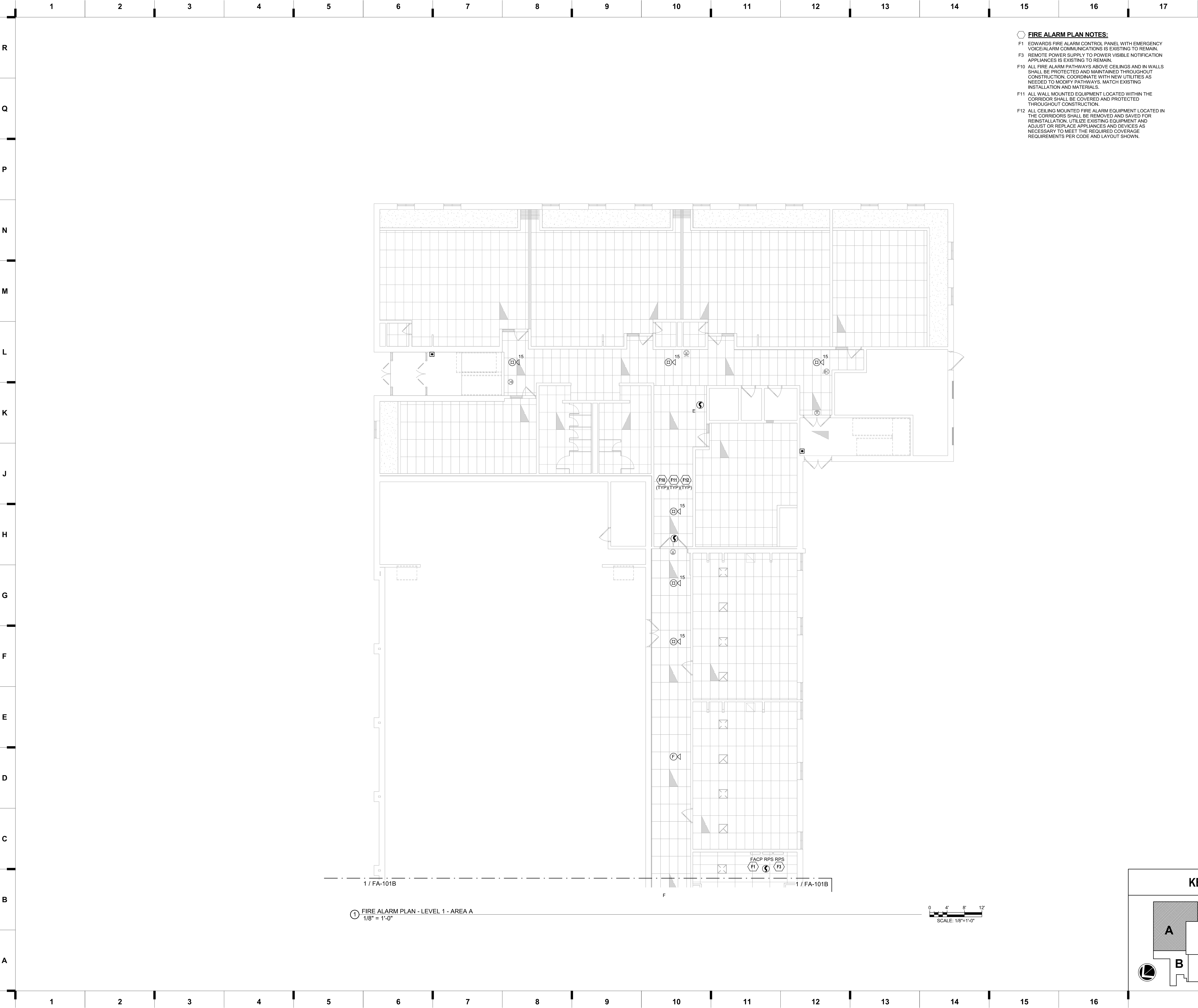








11/10/2023 10:07:24 AM  
CHRISTOPHER J. CULP



- FIRE ALARM PLAN NOTES:
- F1 EDWARDS FIRE ALARM CONTROL PANEL WITH EMERGENCY VOICE/ALARM COMMUNICATIONS IS EXISTING TO REMAIN.
- F3 REMOTE POWER SUPPLY TO POWER VISIBLE NOTIFICATION APPLIANCES IS EXISTING TO REMAIN.
- F10 ALL FIRE ALARM PATHWAYS ABOVE CEILINGS AND IN WALLS SHALL BE PROTECTED AND MAINTAINED THROUGHOUT CONSTRUCTION. COORDINATE WITH NEW UTILITIES AS NEEDED TO MODIFY PATHWAYS. MATCH EXISTING INSTALLATION AND MATERIALS.
- F11 ALL WALL MOUNTED EQUIPMENT LOCATED WITHIN THE CORRIDOR SHALL BE COVERED AND PROTECTED THROUGHOUT CONSTRUCTION.
- F12 ALL CEILING MOUNTED FIRE ALARM EQUIPMENT LOCATED IN THE CORRIDORS SHALL BE REMOVED AND SAVED FOR REINSTALLATION. UTILIZE EXISTING EQUIPMENT AND ADJUST OR REPLACE APPLIANCES AND DEVICES AS NECESSARY TO MEET THE REQUIRED COVERAGE REQUIREMENTS PER CODE AND LAYOUT SHOWN.

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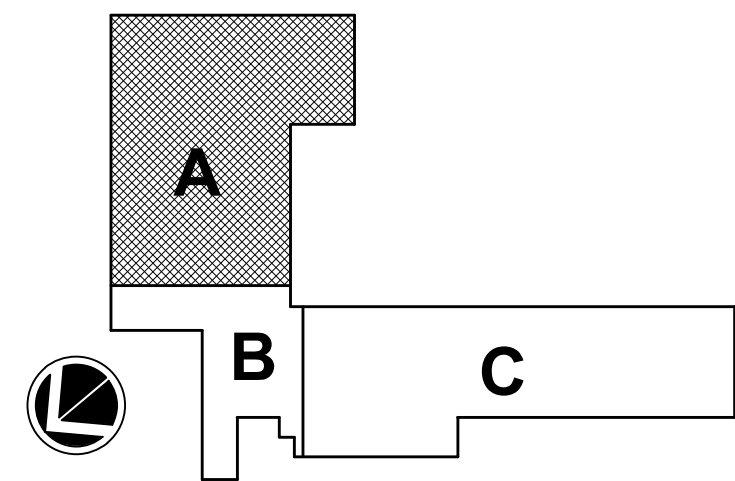


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LICENSE # PE-2013037646

JOB NO: 23026  
DRAWN BY: TR  
CHECKED BY: AJ  
DATE: 11.22.2023

**FA-101A**

### KEY PLAN



FIRE ALARM PLAN - LEVEL 1 - AREA A

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F1 EDWARDS FIRE ALARM CONTROL PANEL WITH EMERGENCY VOICE/ALARM COMMUNICATIONS IS EXISTING TO REMAIN.

F3 REMOTE POWER SUPPLY TO POWER VISIBLE NOTIFICATION APPLIES TO THE FOLLOWING:

F10 ALL FIRE ALARM PATHWAYS ABOVE CEILINGS AND IN WALLS SHALL BE PROTECTED AND MAINTAINED THROUGHOUT CONSTRUCTION. COORDINATE WITH NEW UTILITIES AS NECESSARY TO MODIFY PATHWAYS TO MATCH EXISTING INSTALLATION AND MATERIALS.

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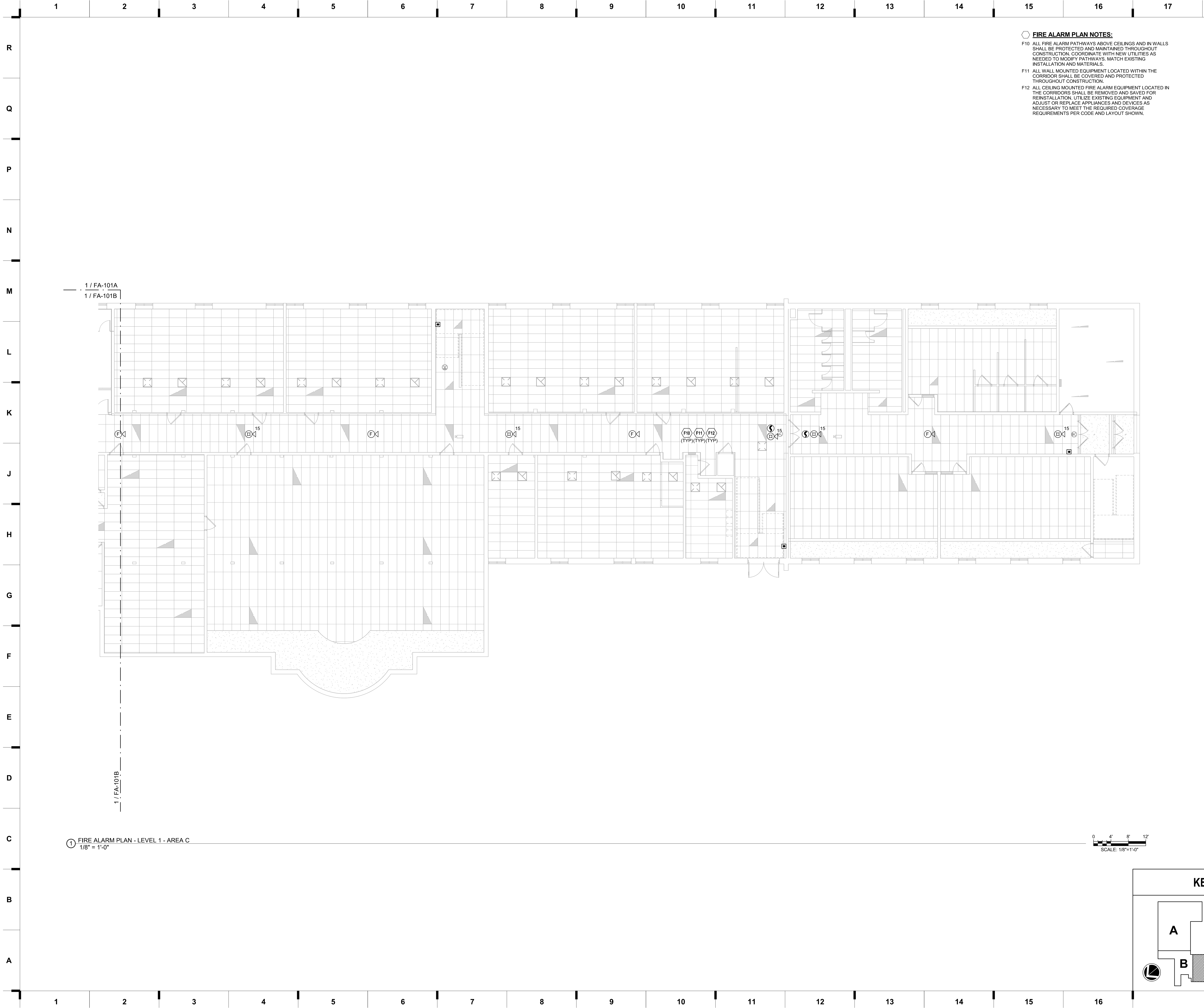


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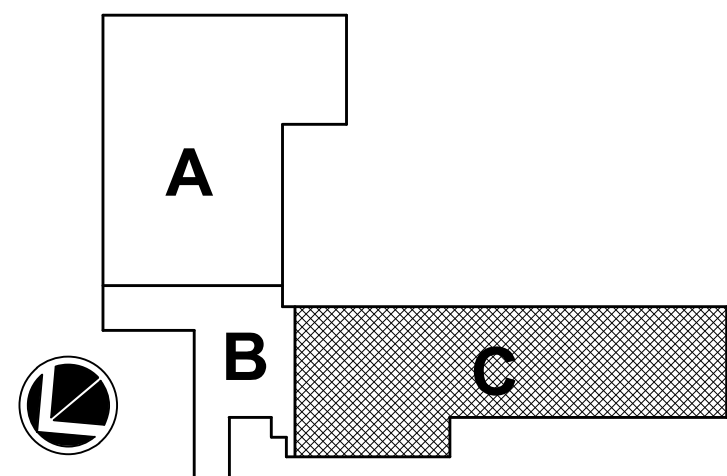
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**FA-101C**

**KEY PLAN**

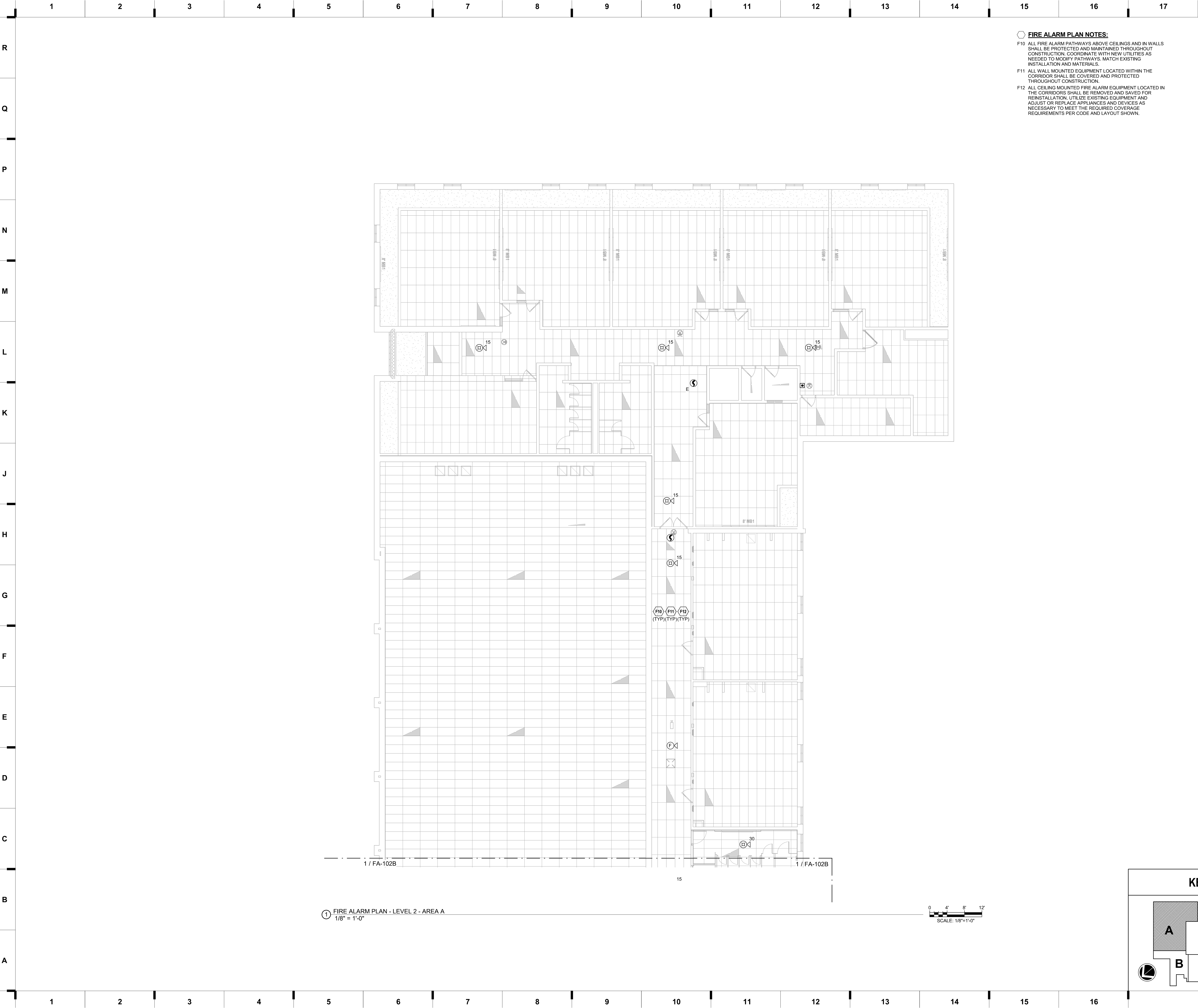


**FIRE ALARM PLAN - LEVEL 1 - AREA C**

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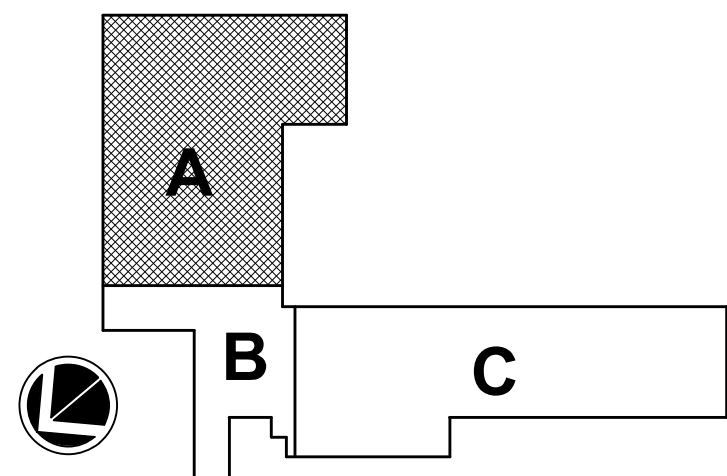
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① FIRE ALARM PLAN - LEVEL 2 - AREA A  
1/8" = 1'-0"



KEY PLAN



Ridgeview Elementary School

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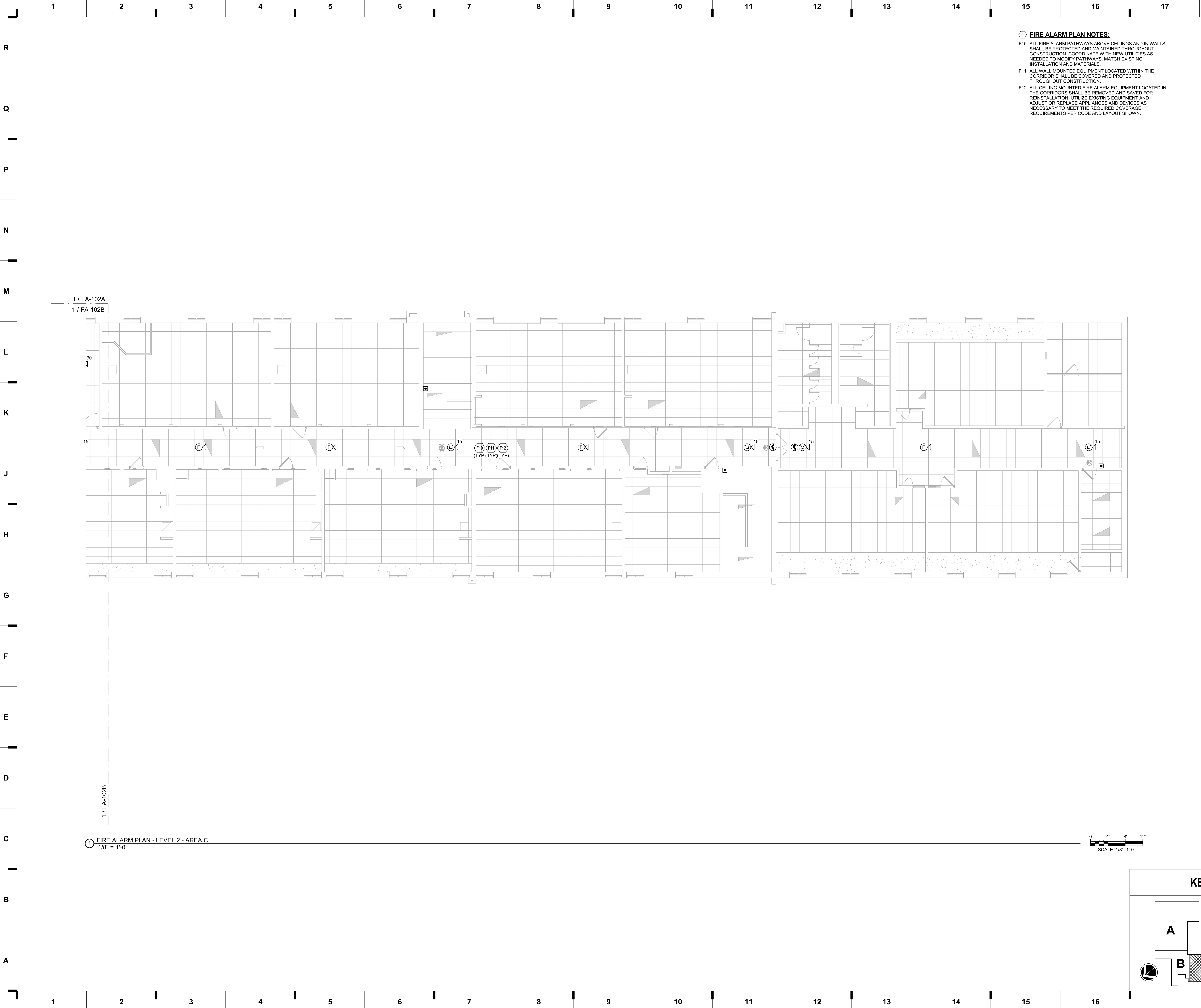


① FIRE ALARM PLAN - LEVEL 2 - AREA B  
1/8" = 1'-0"

## FIRE ALARM PLAN - LEVEL 2 - AREA B



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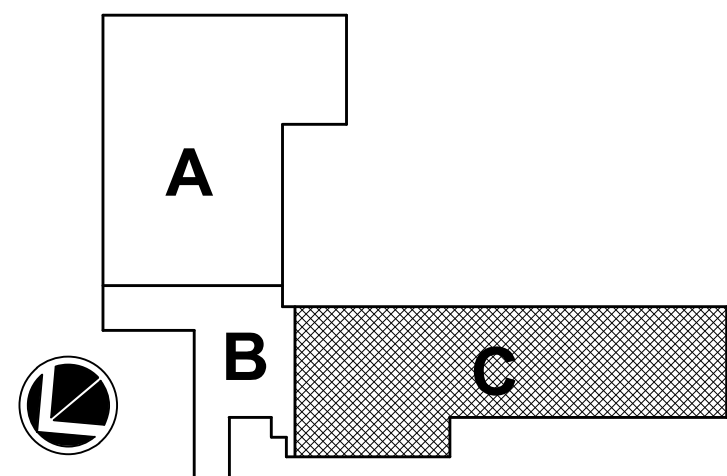


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0 4' 8' 12'  
SCALE: 1/8"=1'-0"

1 FIRE ALARM PLAN - LEVEL 2 - AREA C  
1/8" = 1'-0"

### KEY PLAN



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FIRE ALARM PLAN - LEVEL 2 - AREA C

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