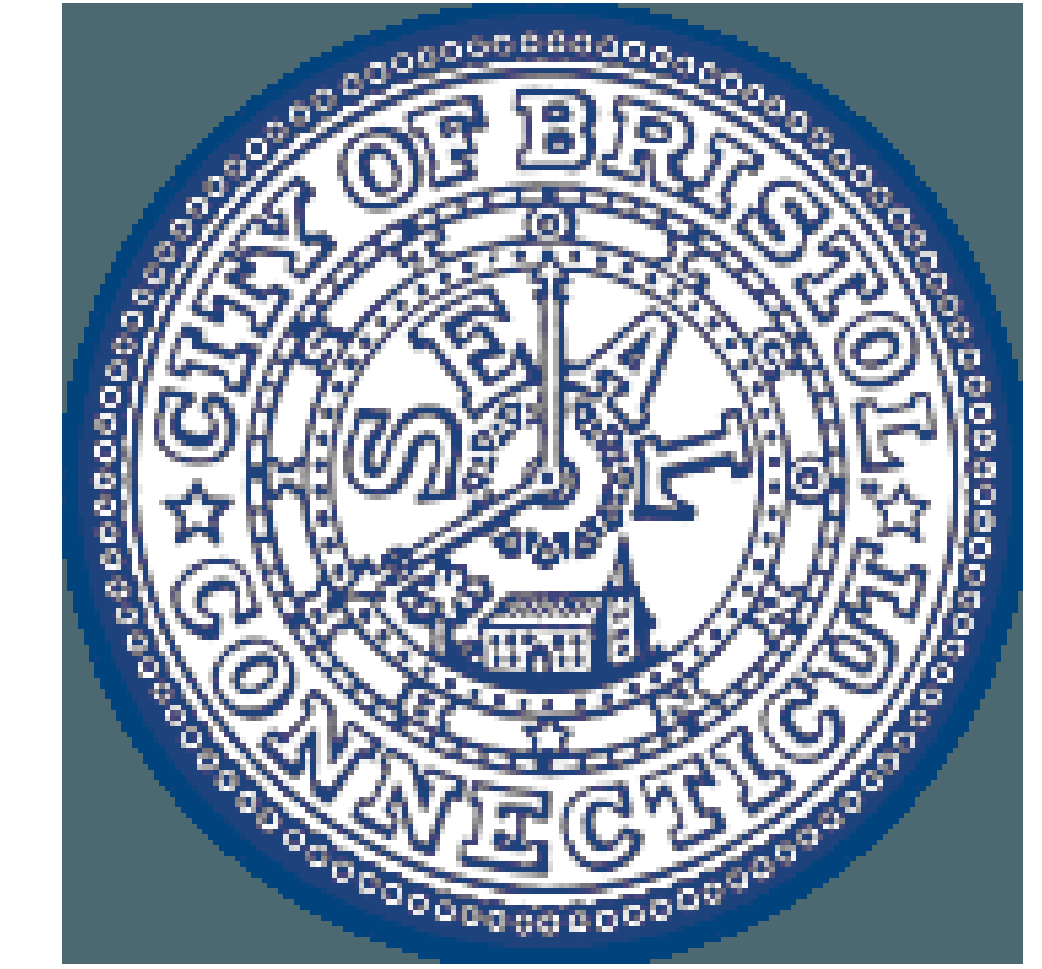


# MECH IMPROVEMENTS AT SOUTH SIDE ELEMENTARY SCHOOL BRISTOL, CT



CONTRACT 2C20-064

21 Tuttle Rd.  
Bristol, CT 06010

April 15, 2020

CITY OF BRISTOL, CT  
Mayor Ellen Zoppo-Sassu

Weston & Sampson<sup>SM</sup>

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100 Foxborough Boulevard Suite 250  
Foxborough, MA 02035  
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DRAWING LIST	
A101	OVERALL FIRST FLOOR PLAN
A101A	FIRST FLOOR PLAN PART A
A101B	FIRST FLOOR PLAN PART B
A102	OVERALL SECOND FLOOR PLAN
A102A	SECOND FLOOR PLAN PART A
A102B	SECOND FLOOR PLAN PART B
A102A	ROOF PLAN PART A
D101A	FIRST FLOOR DEMOLITION PLAN PART A
D101B	FIRST FLOOR DEMOLITION PLAN PART B
D102A	SECOND FLOOR DEMOLITION PLAN PART A
D102A	SECOND FLOOR RCP DEMOLITION PLAN PART A
D102B	SECOND FLOOR RCP DEMOLITION PLAN PART B
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HM2	SECOND FLOOR ABATEMENT PLAN
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H101B	FIRST FLOOR DUCTWORK PLAN PART B
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H502	HVAC DETAILS
H503	HVAC DETAILS
H601	SCHEDULES

DRAWING LIST	
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H701	CONTROLS
H702	CONTROLS
H703	CONTROLS
H704	ADD ALTERNATE CONTROLS
H801	AIRFLOW DIAGRAMS
H802	AIRFLOW DIAGRAMS
H803	AIRFLOW DIAGRAMS
H804	AIRFLOW DIAGRAMS
H805	AIRFLOW DIAGRAMS
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HD102A	SECOND FLOOR DEMOLITION PLAN PART A
HD102B	SECOND FLOOR DEMOLITION PLAN PART B
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E102	LEVEL 1 LIGHTING PLAN PART B
E103	LEVEL 1 LIGHTING PLAN PART A
E201	BASEMENT POWER PLAN
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ED104	LEVEL 2 DEMOLITION PLAN PART A
ED105	LEVEL 2 DEMOLITION PLAN PART B
ED106	ROOF DEMOLITION PLAN PART A
ED107	ROOF DEMOLITION PLAN PART B

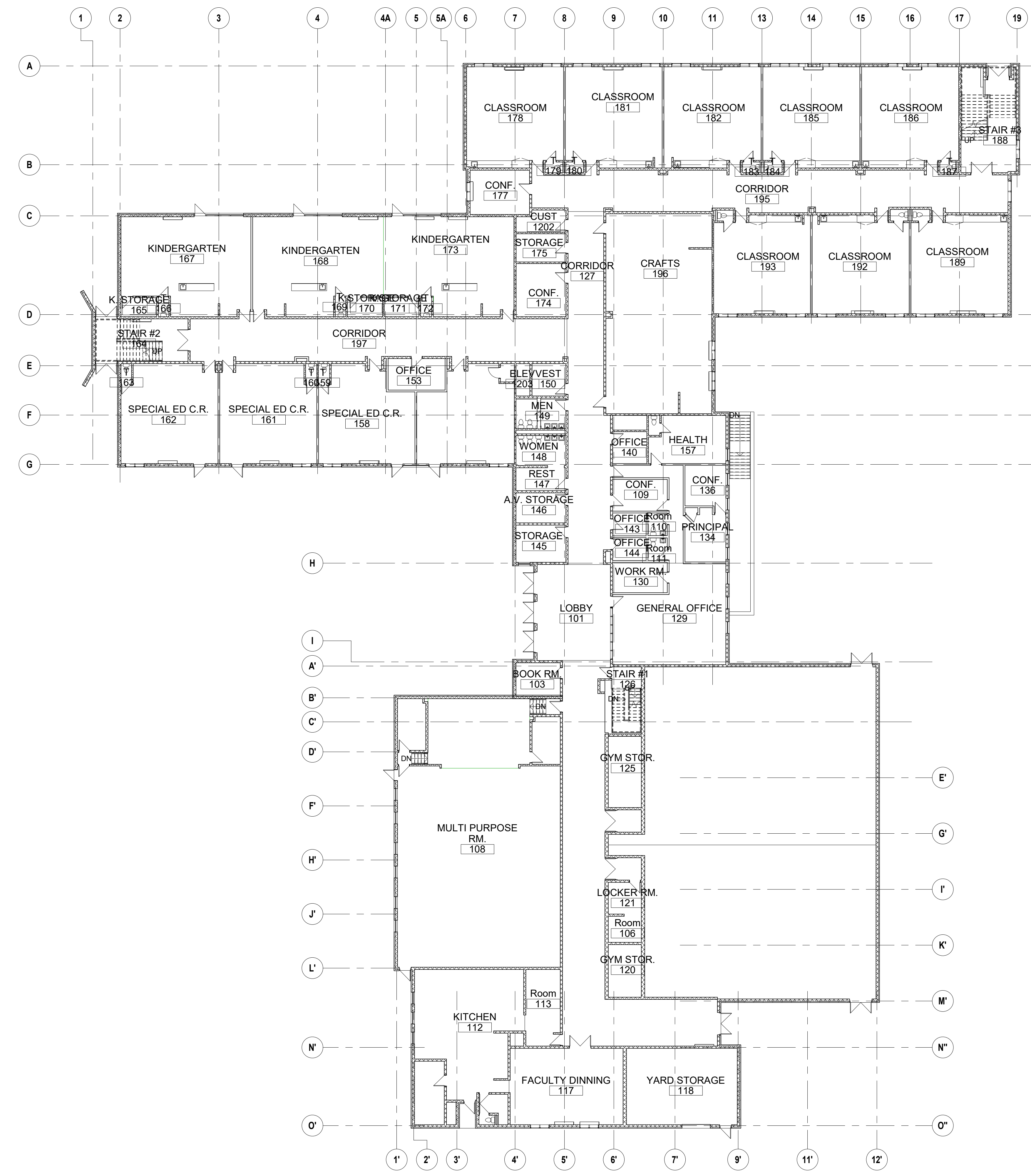


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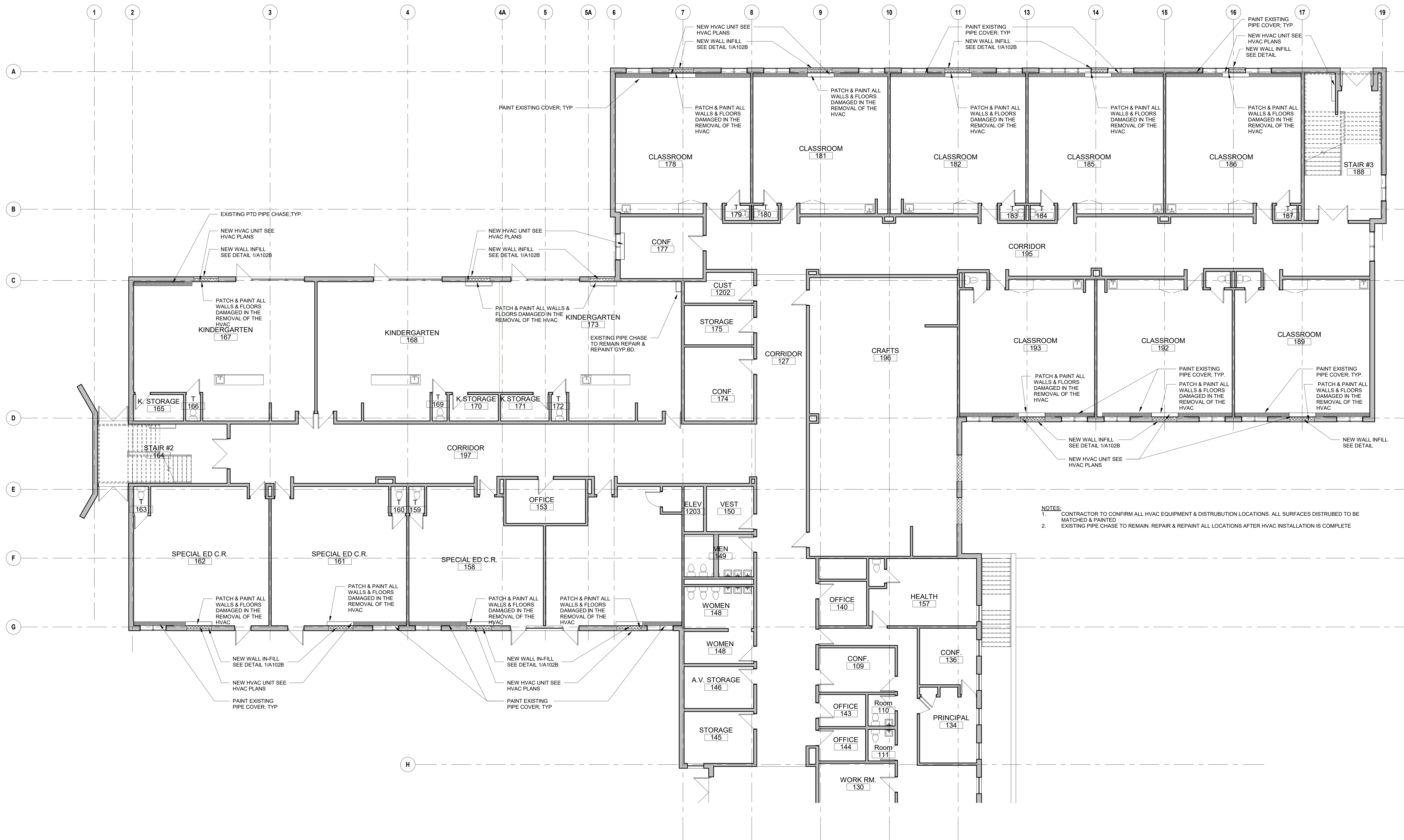
**OVERALL FIRST FLOOR PLAN**

Sheet Number:

**A101**

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1 OVERALL First Floor PLAN  
 A101 1/16" = 1'-0"



NOTES:  
 1. CONTRACTOR TO CONFIRM ALL HVAC EQUIPMENT & DISTRIBUTION LOCATIONS. ALL SURFACES DISTRIBUTED TO BE MATCHED & PAINTED  
 2. EXISTING PIPE CHASE TO REMAIN. REPAIR & REPAINT ALL LOCATIONS AFTER HVAC INSTALLATION IS COMPLETE

1 First Floor PLAN PART A  
 A101A 1/8" = 1'-0"

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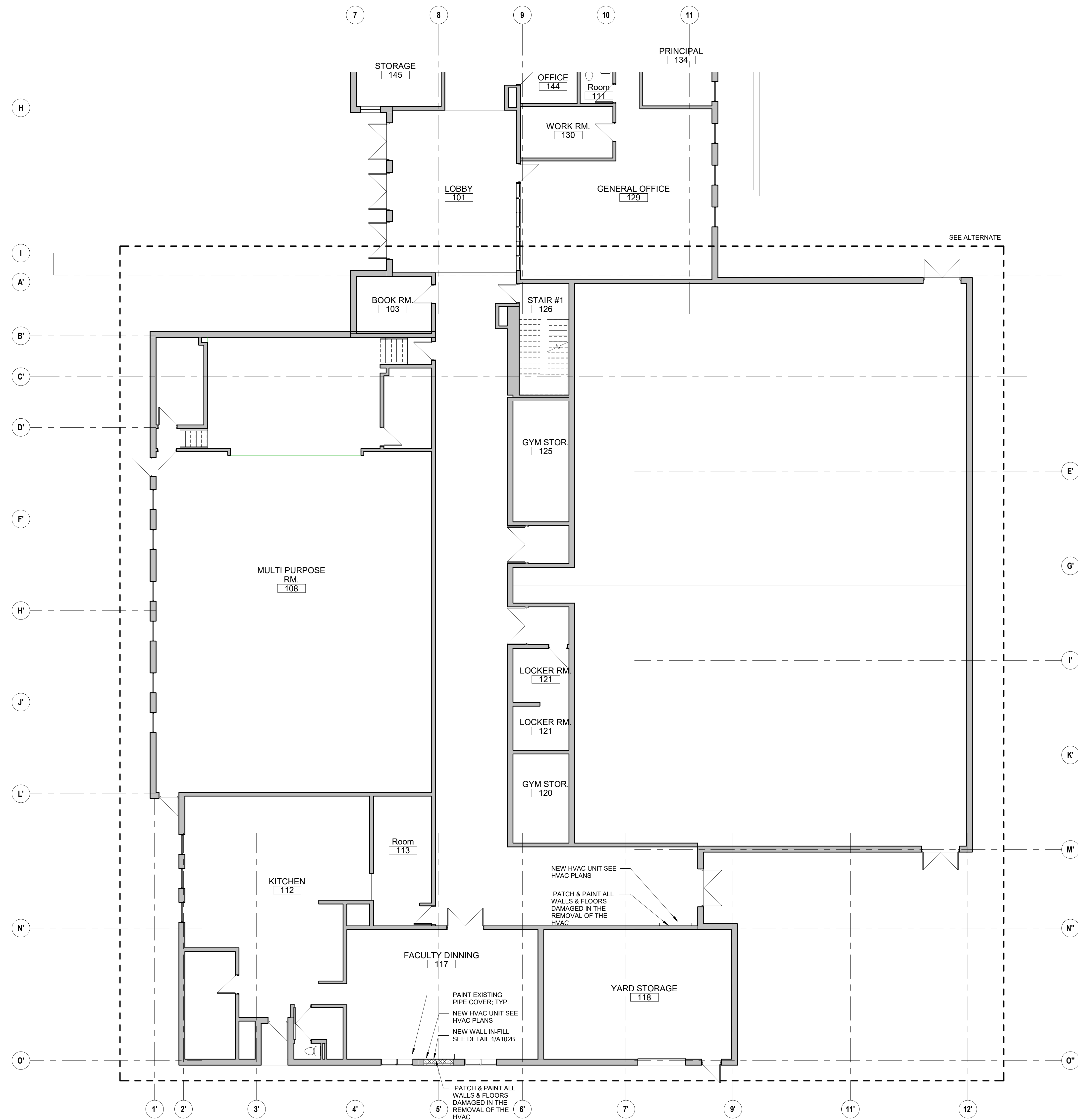
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Drawing Title:  
**FIRST FLOOR PLAN PART A**  
 Sheet Number:  
**A101A**  
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  - EXISTING PIPE CHASE TO REMAIN. REPAIR & REPAINT ALL LOCATIONS AFTER HVAC INSTALLATION IS COMPLETE

1 First Floor PLAN PART B  
A101B 1/8" = 1'-0"

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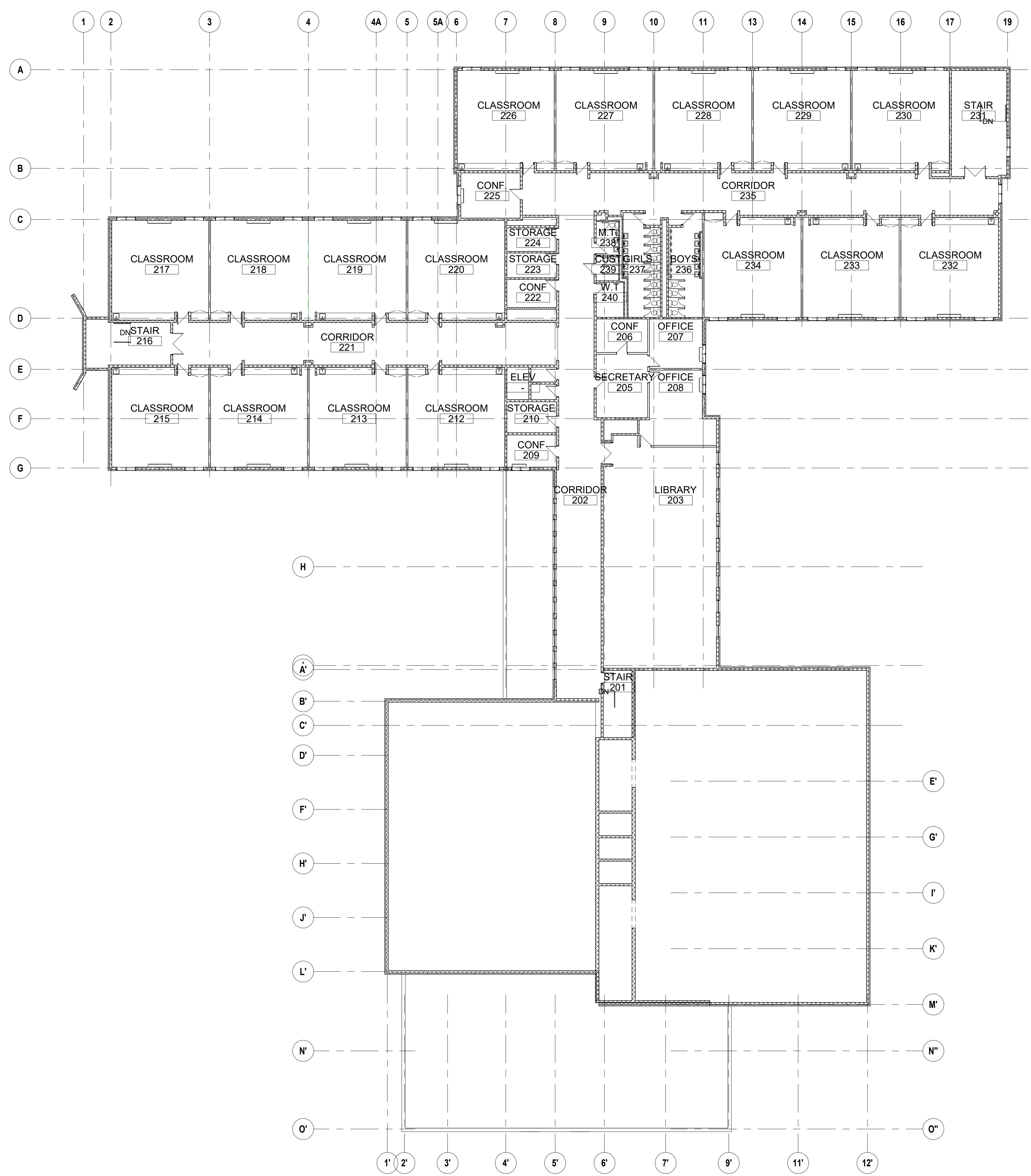
Drawing Title:

FIRST FLOOR  
PLAN PART B

Sheet Number:

**A101B**

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1 OVERALL Second Floor PLAN  
 A102 / 1/16" = 1'-0"

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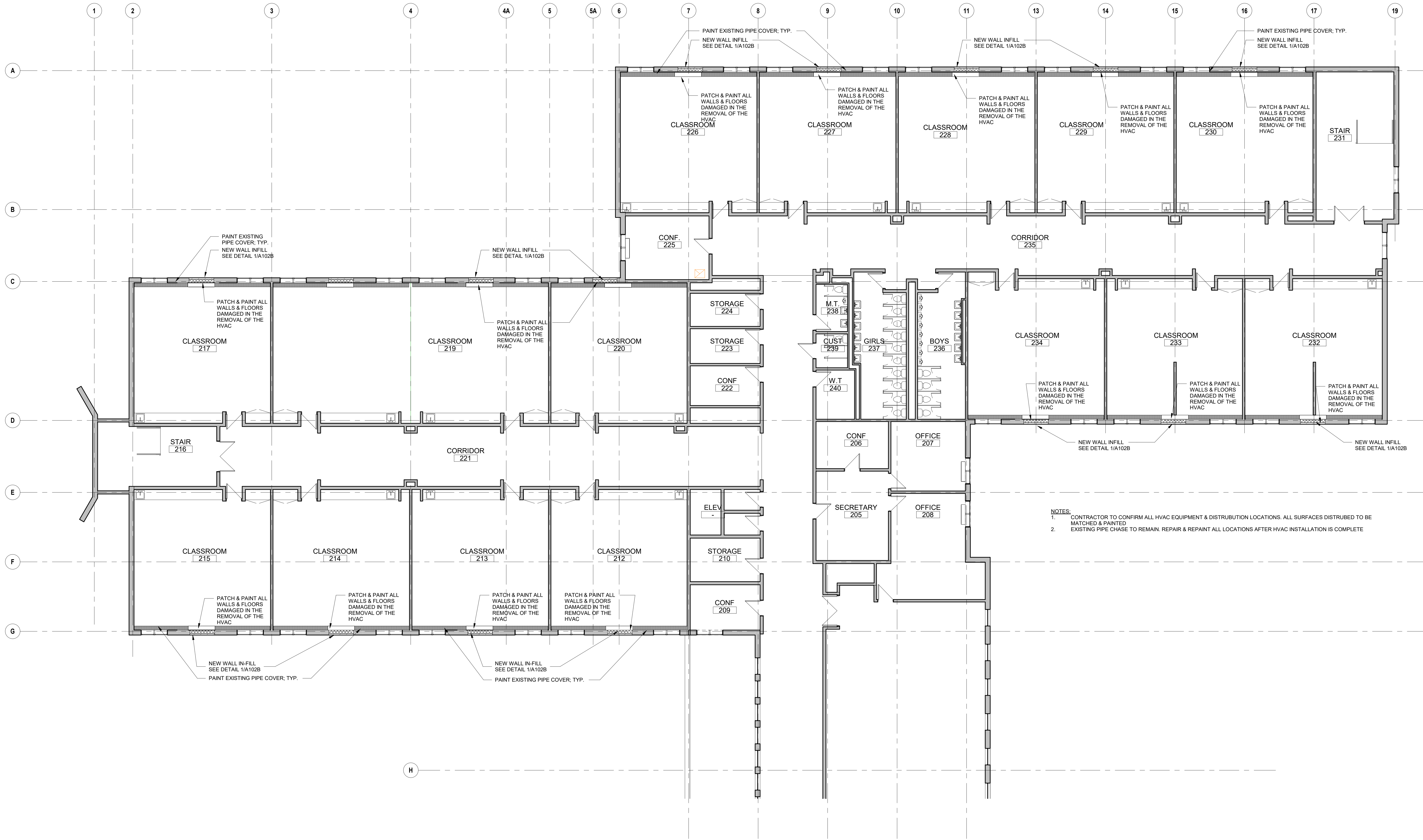
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**OVERALL  
 SECOND FLOOR  
 PLAN**

Sheet Number:

**A102**

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NOTES:  
 1. CONTRACTOR TO CONFIRM ALL HVAC EQUIPMENT & DISTRIBUTION LOCATIONS. ALL SURFACES DISTRIBUTED TO BE MATCHED & PAINTED  
 2. EXISTING PIPE CHASE TO REMAIN. REPAIR & REPAINT ALL LOCATIONS AFTER HVAC INSTALLATION IS COMPLETE

1 Second Floor PLAN PART A

A102A 1/8" = 1'-0"

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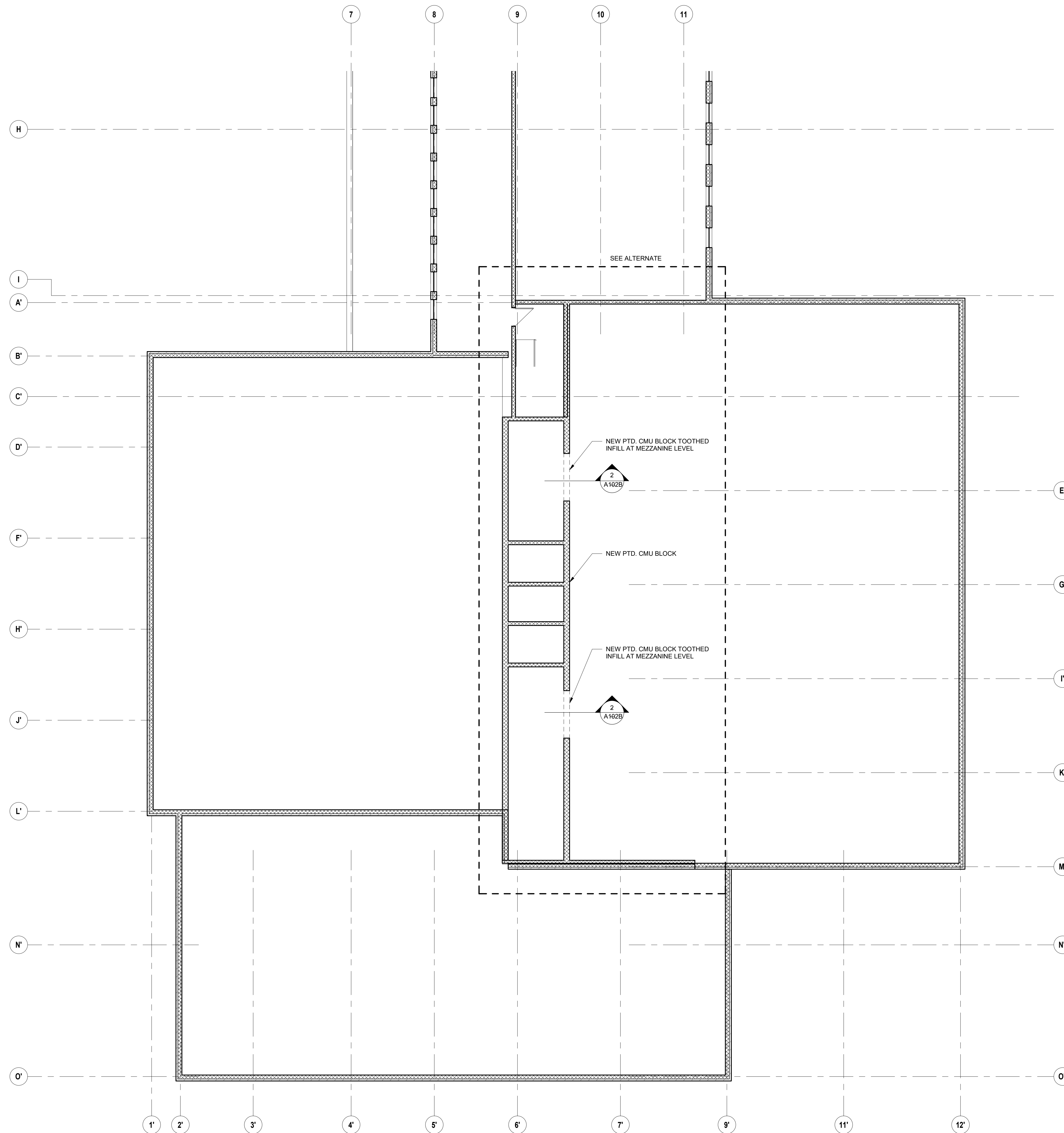
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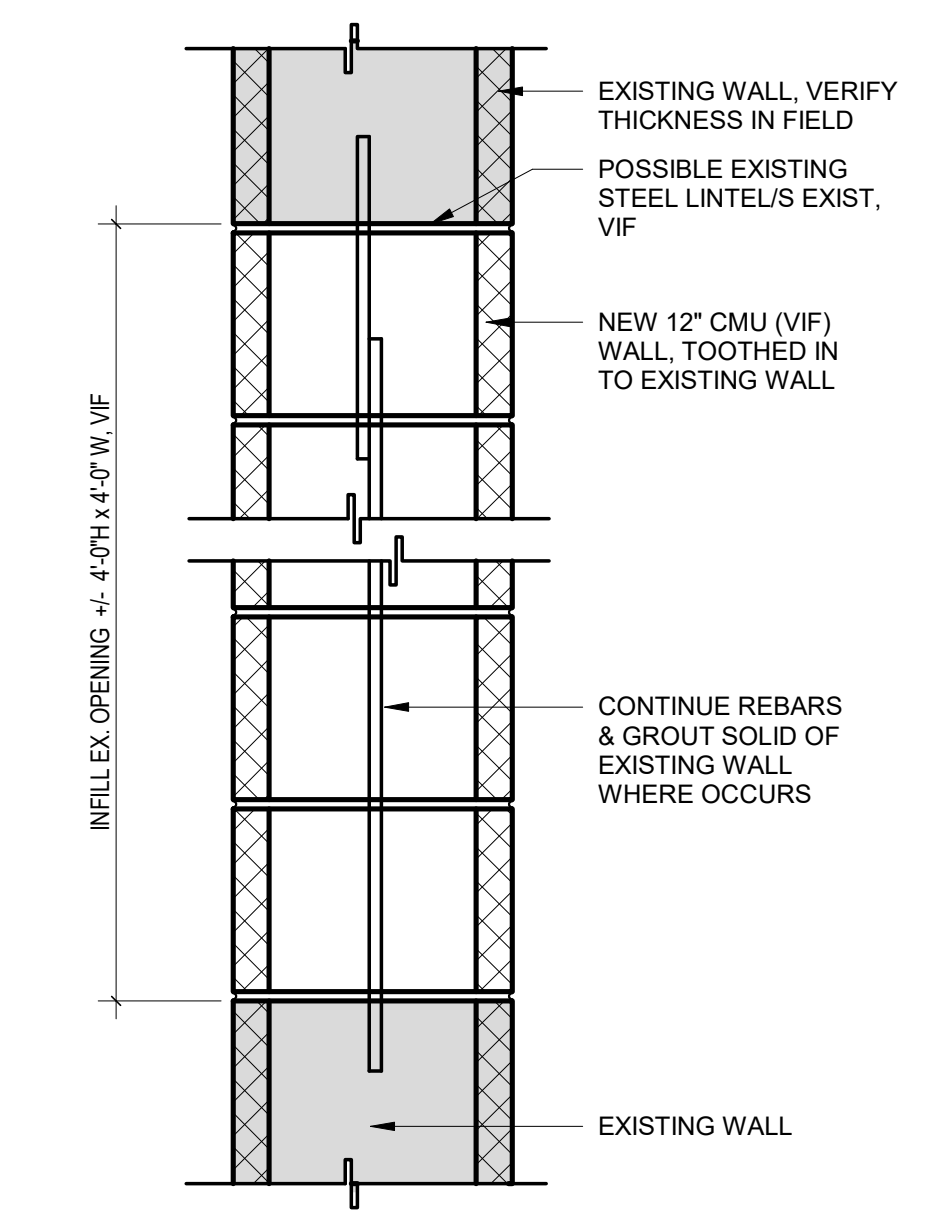
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Drawing Title:  
**SECOND FLOOR PLAN PART A**  
 Sheet Number:  
**A102A**  
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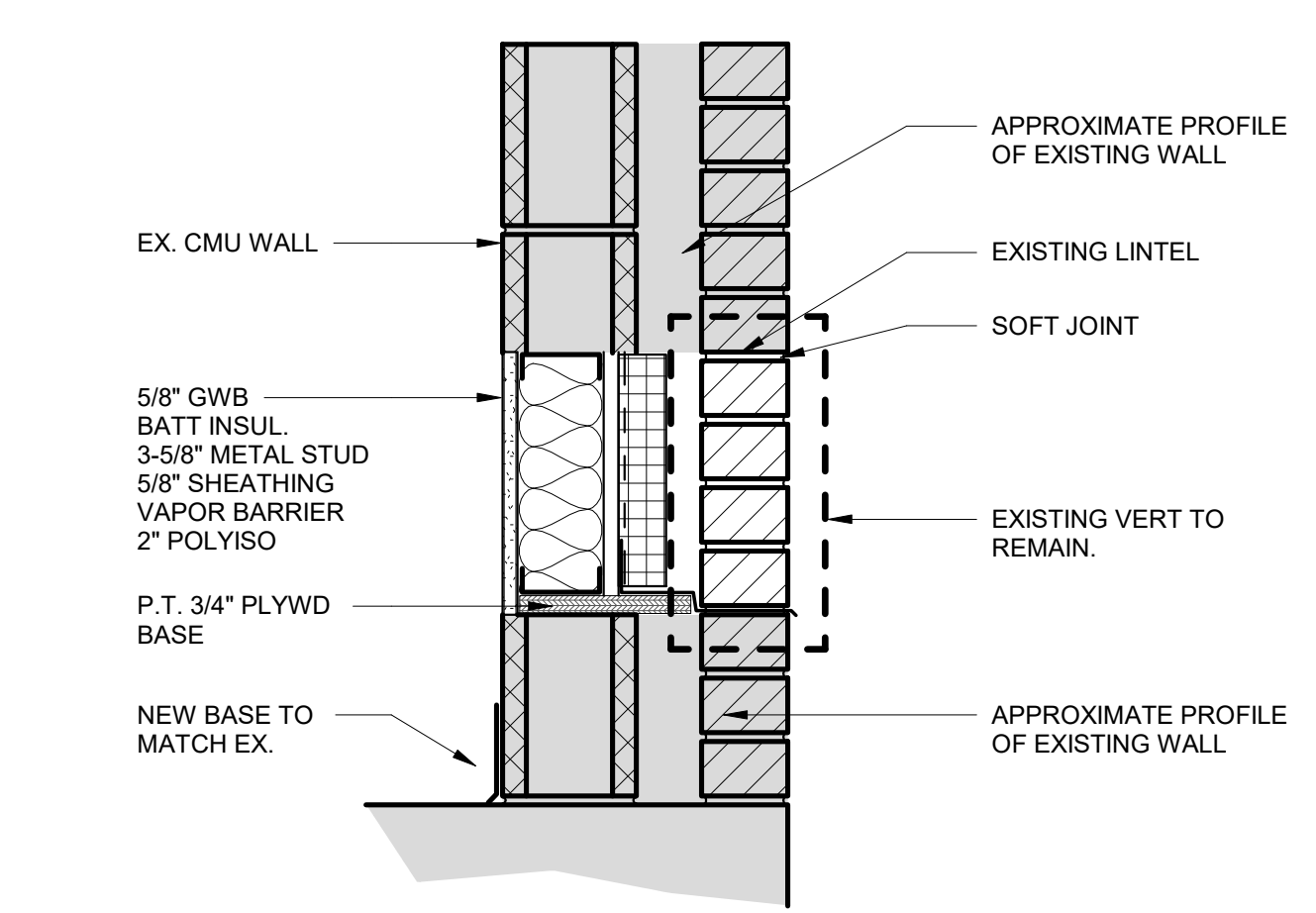


3 Second Floor PLAN PART B  
A102B 1/8" = 1'-0"

- NOTES:
- CONTRACTOR TO CONFIRM ALL HVAC EQUIPMENT & DISTRIBUTION LOCATIONS. ALL SURFACES DISTRIBUTED TO BE MATCHED & PAINTED
  - EXISTING PIPE CHASE TO REMAIN. REPAIR & REPAINT ALL LOCATIONS AFTER HVAC INSTALLATION IS COMPLETE



2 CMU Wall infill  
A102B 1 1/2" = 1'-0"



1 Exterior Wall infill  
A102B 1 1/2" = 1'-0"

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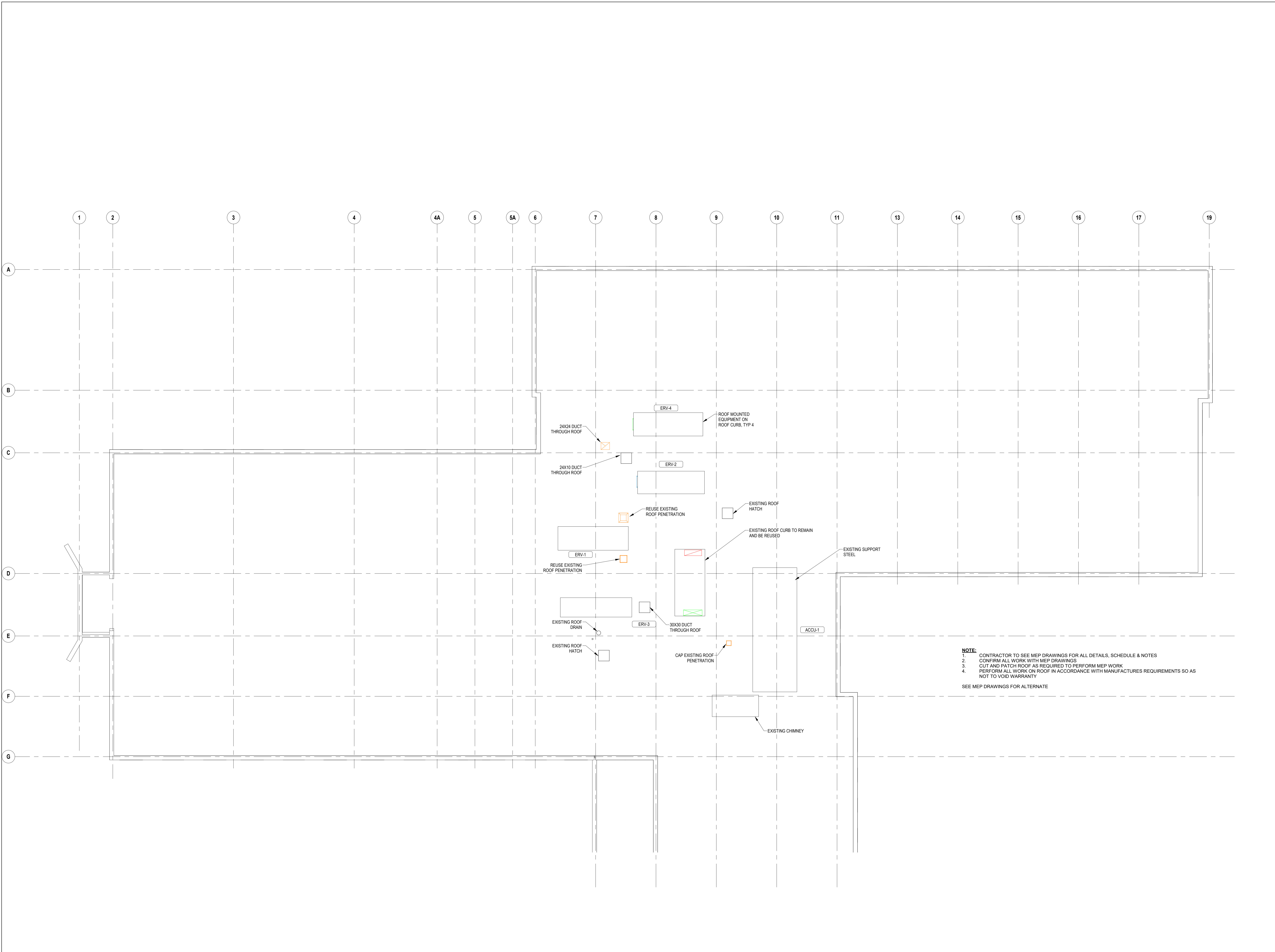
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**SECOND FLOOR  
PLAN PART B**

Sheet Number:

**A102B**

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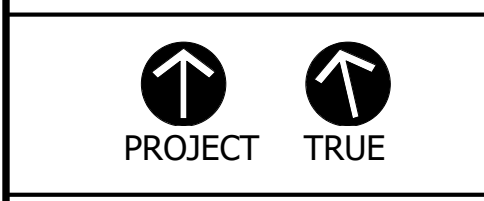
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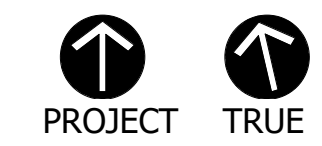
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**ROOF PLAN PART A**  
 Sheet Number:  
**A103A**

**1** ROOF PLAN PART A  
 A103A 1/8" = 1'-0"



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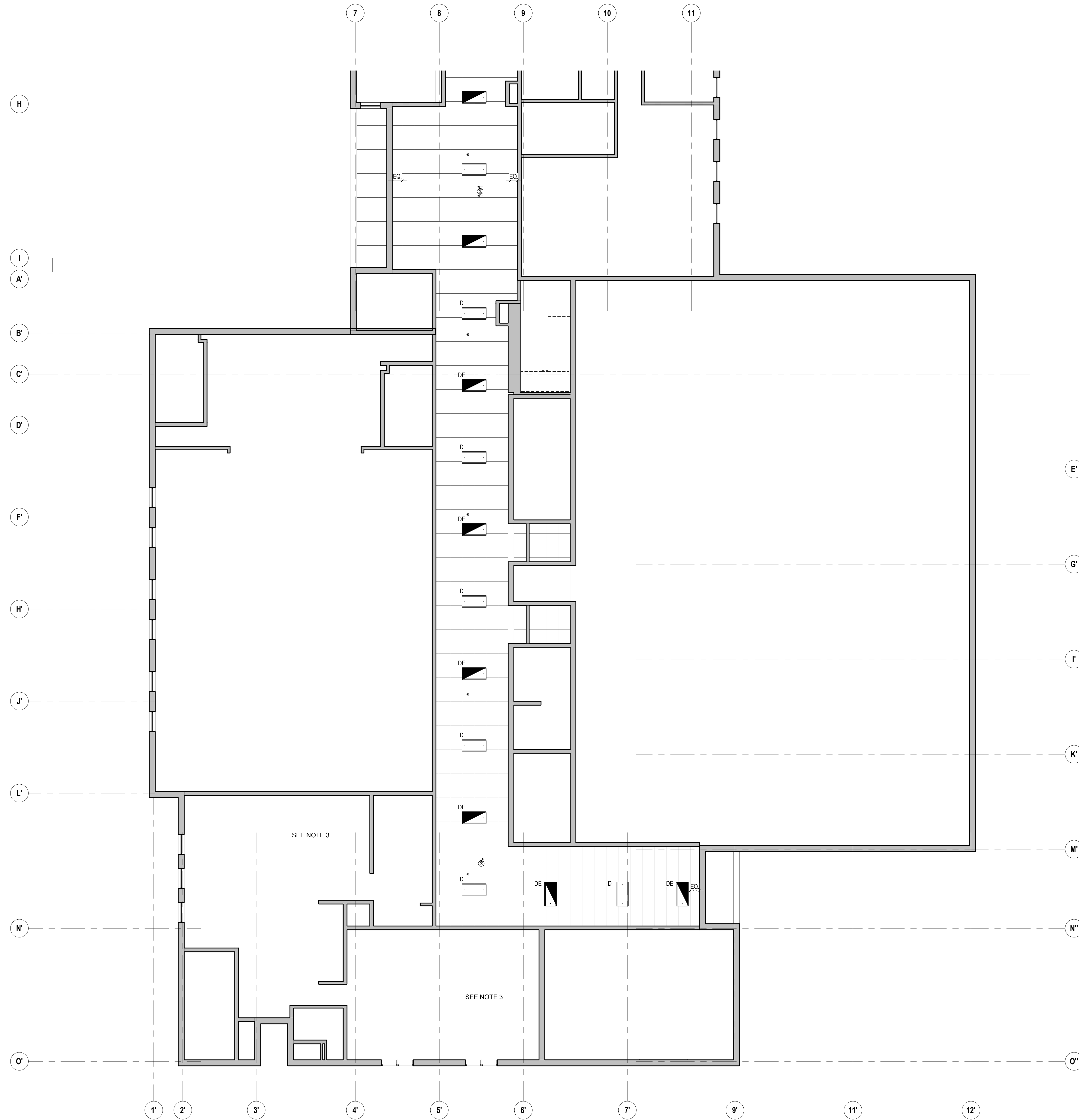
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 W&S Project No: Do Not Use

Drawing Title:  
**FIRST FLOOR RCP PLAN PART A**  
 Sheet Number:  
**A104A**  
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**NOTE:**  
 1. NEW ACOUSTICAL CEILING TILES, GRID & LIGHT FIXTURES IN CORRIDOR.  
 2. NEW ACOUSTICAL CEILING TILES & GRID, REINSTALL EXISTING LIGHT FIXTURES  
 3. NEW ACOUSTICAL CEILING TILES WHERE EXISTING TILES WERE REMOVED FOR MEP WORK  
 4. SALVAGE & REINSTALL ALL OTHER CEILING DEVICES IN ALL LOCATIONS

**1 First Floor RCP PLAN PART A**  
 A104A 1/8" = 1'-0"



- NOTE:**
1. NEW ACOUSTICAL CEILING TILES, GRID & LIGHT FIXTURES IN CORRIDOR.
  2. NEW ACOUSTICAL CEILING TILES & GRID. REINSTALL EXISTING LIGHT FIXTURES
  3. NEW ACOUSTICAL CEILING TILES WHERE EXISTING TILES WERE REMOVED FOR MEP WORK
  4. SALVAGE & REINSTALL ALL OTHER CEILING DEVICES IN ALL LOCATIONS

1 **First Floor RCP PLAN PART B**  
 A104B 1/8" = 1'-0"

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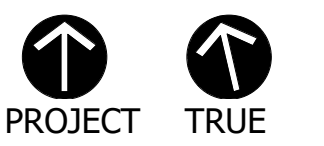
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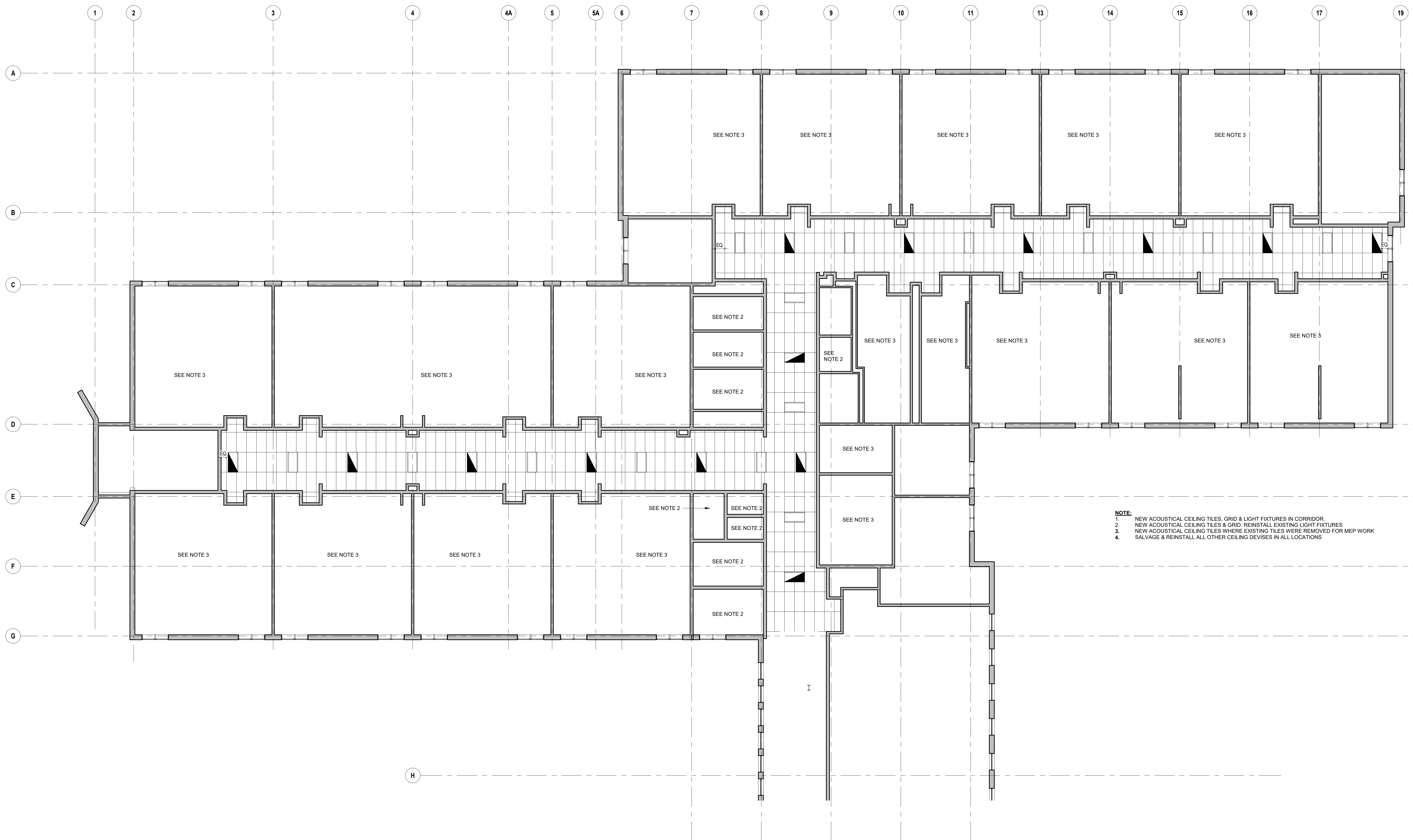
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Drawing Title:

**FIRST FLOOR RCP  
 PLAN PART B**

Sheet Number:

**A104B**



**NOTE:**  
 1. NEW ACOUSTICAL CEILING TILES, GRID & LIGHT FIXTURES IN CORRIDOR  
 2. NEW ACOUSTICAL CEILING TILES & GRID, REINSTALL EXISTING LIGHT FIXTURES  
 3. NEW ACOUSTICAL CEILING TILES WHERE EXISTING TILES WERE REMOVED FOR MEP WORK  
 4. SALVAGE & REINSTALL ALL OTHER CEILING DEVICES IN ALL LOCATIONS

1 **Second Floor RCP PLAN PART A**  
 A105A 1/8" = 1'-0"

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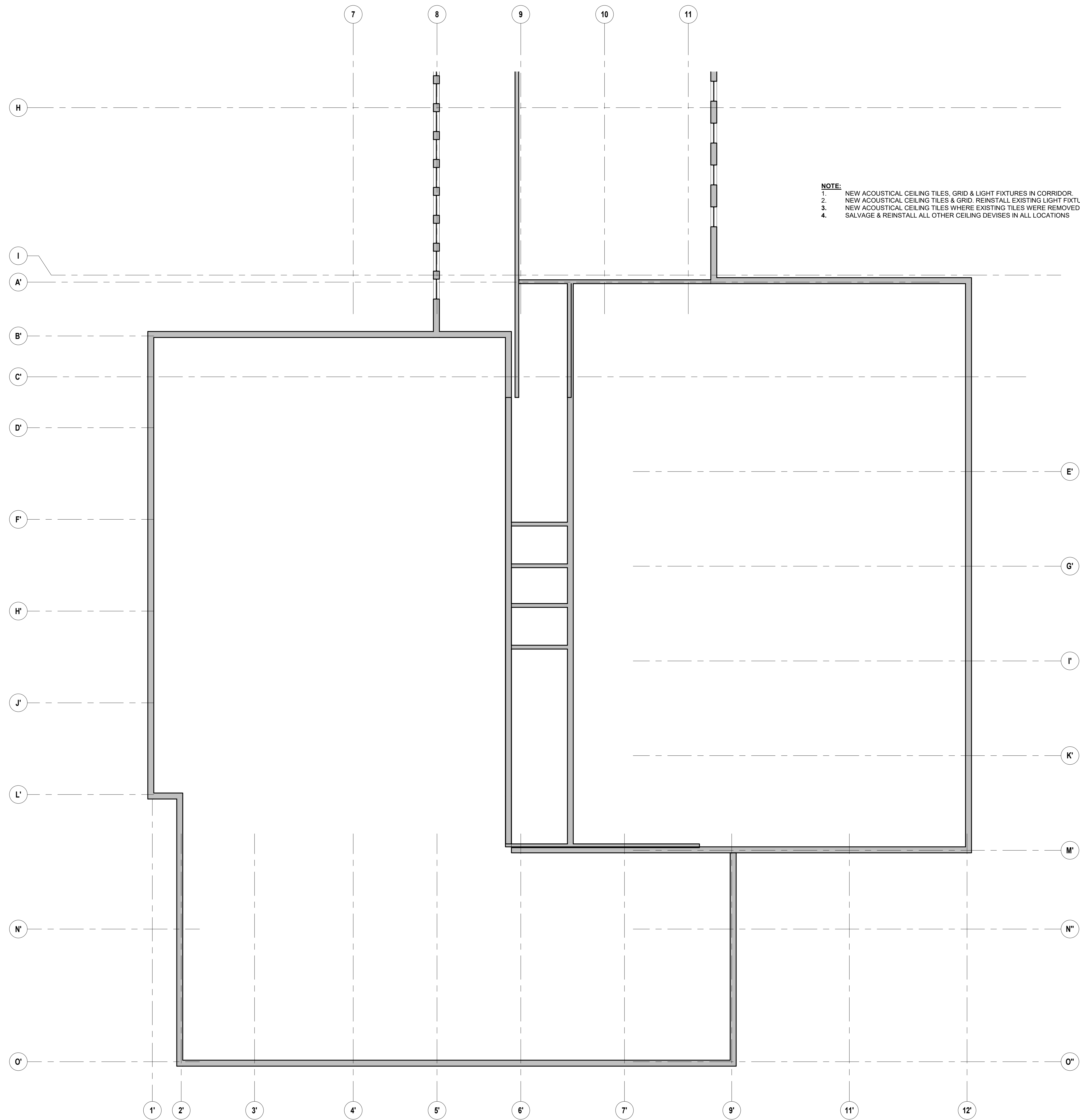
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**SECOND FLOOR RCP PLAN PART A**  
 Sheet Number:  
**A105A**  
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1 **Second Floor RCP PLAN PART B**  
 A105B 1/8" = 1'-0"

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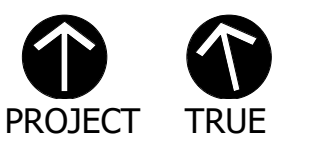
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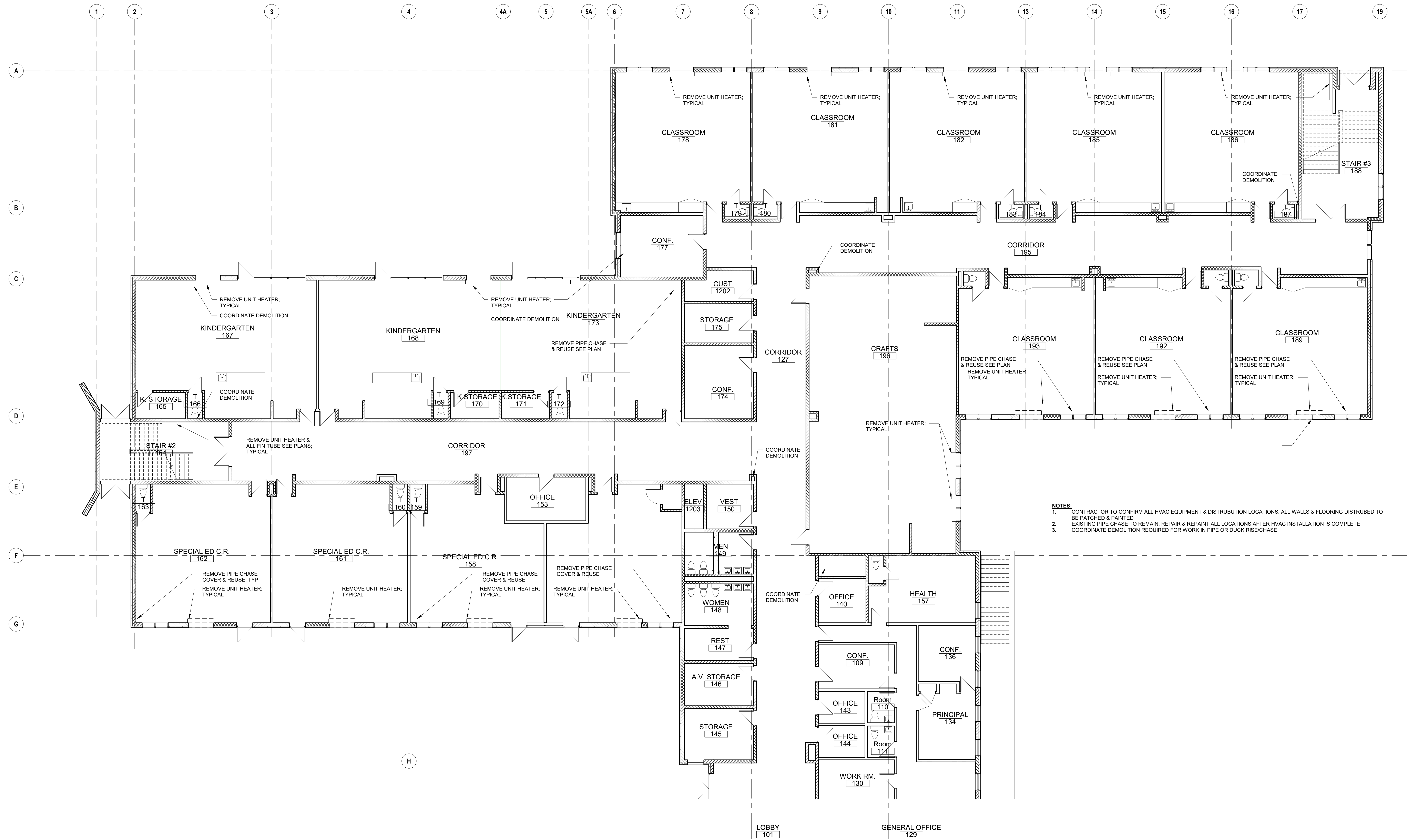
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Drawing Title:

**SECOND FLOOR  
 RCP PLAN PART B**

Sheet Number:

**A105B**



**NOTES:**  
 1. CONTRACTOR TO CONFIRM ALL HVAC EQUIPMENT & DISTRIBUTION LOCATIONS. ALL WALLS & FLOORING DISTURBED TO BE PATCHED & PAINTED  
 2. EXISTING PIPE CHASE TO REMAIN. REPAIR & REPAINT ALL LOCATIONS AFTER HVAC INSTALLATION IS COMPLETE  
 3. COORDINATE DEMOLITION REQUIRED FOR WORK IN PIPE OR DUCK RISE/CHASE

**1 First Floor DEMOLITION PLAN PART A**  
 D101A 1/8" = 1'-0"

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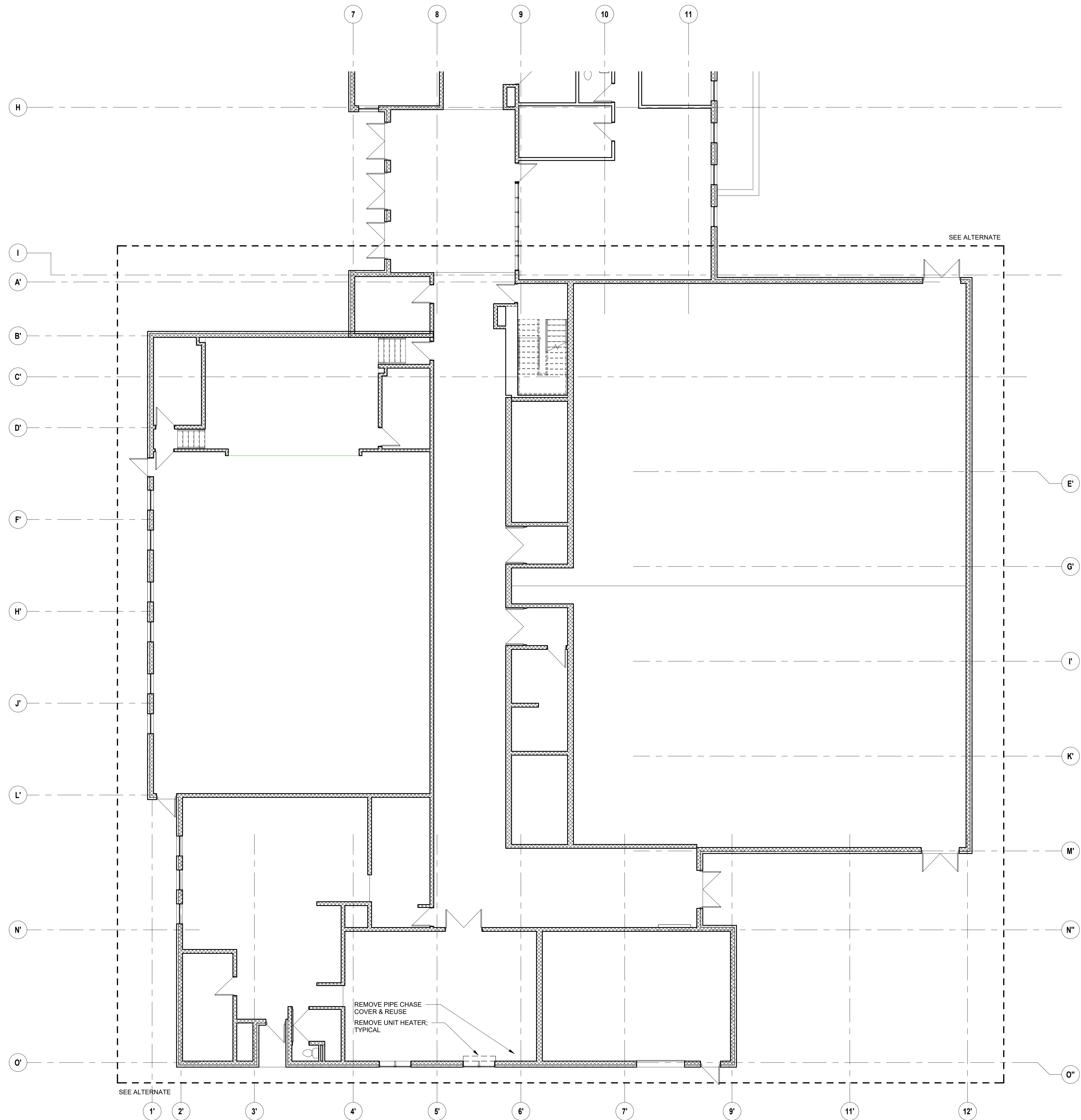
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Drawing Title:  
**FIRST FLOOR DEMOLITION PLAN PART A**  
 Sheet Number:  
**D101A**  
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- NOTES:**
1. CONTRACTOR TO CONFIRM ALL HVAC EQUIPMENT & DISTRIBUTION LOCATIONS. ALL FLOORING & WALLS DISTURBED TO BE REPAIRED & PAINTED
  2. EXISTING PIPE CHASE TO REMAIN. REPAIR & REPAINT ALL LOCATIONS AFTER HVAC INSTALLATION IS COMPLETE

1 First Floor DEMOLITION PLAN PART B  
 D101B 1/8" = 1'-0"

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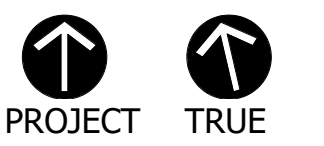
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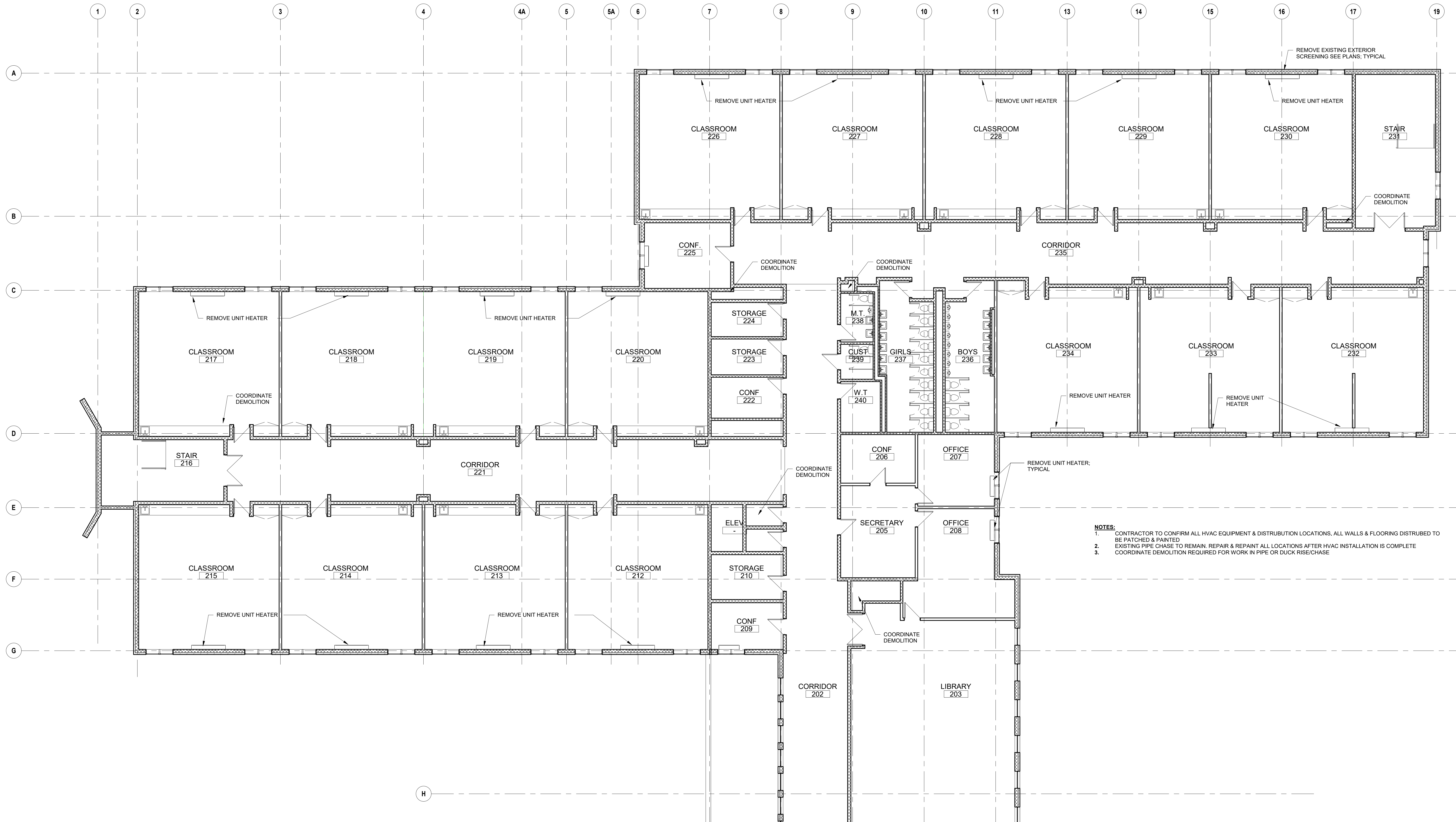
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Drawing Title:

FIRST FLOOR  
 DEMOLITION PLAN  
 PART B

Sheet Number:

**D101B**



**NOTES:**  
 1. CONTRACTOR TO CONFIRM ALL HVAC EQUIPMENT & DISTRIBUTION LOCATIONS. ALL WALLS & FLOORING DISTURBED TO BE PATCHED & PAINTED  
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 3. COORDINATE DEMOLITION REQUIRED FOR WORK IN PIPE OR DUCK RISE/CHASE

1 **Second Floor DEMOLITION PLAN PART A**  
 D102A 1/8" = 1'-0"

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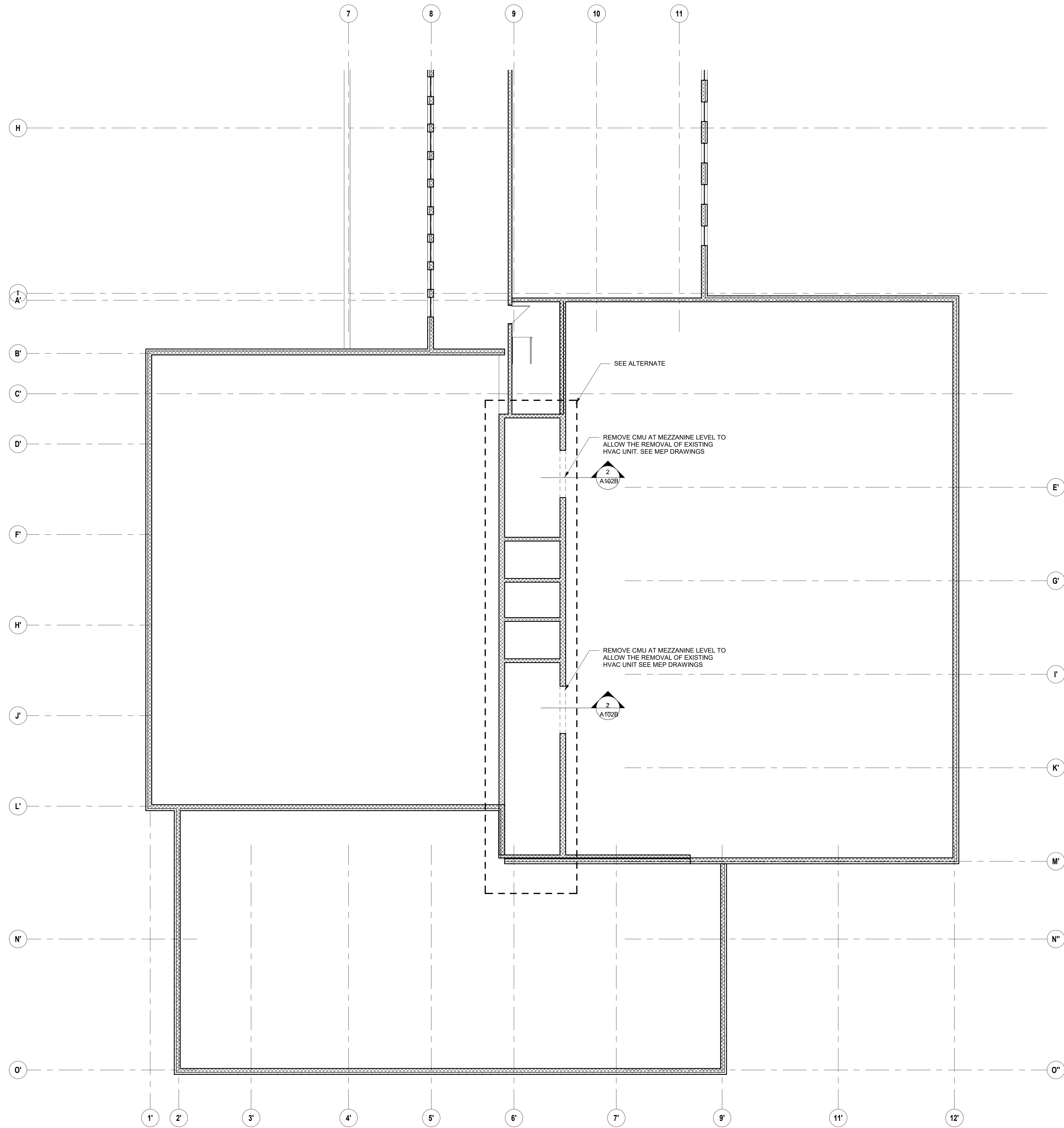
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Drawing Title:  
**SECOND FLOOR DEMOLITION PLAN PART A**  
 Sheet Number:  
**D102A**  
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1  
D102B 1/8" = 1'-0" **Second Floor DEMOLITION PLAN PART B**

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Consultants:

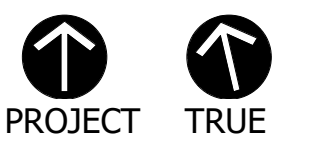
**QA+M**  
 architecture  
 Quisenberry Arcari Malk  
 195 Scott Swamp Road  
 Farmington, CT 06022  
 (860) 677-4594  
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Seal:

Revisions:

Rev	Date	Description

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ADDENDUM 2  
 SCALE: AS NOTED

Date: APRIL 21, 2020  
 Drawn By: JCB  
 Reviewed By: AC  
 Approved By: -  
 W&S Project No: Do Not Use

Drawing Title:

**SECOND FLOOR  
 DEMOLITION PLAN  
 PART B**

Sheet Number:

**D102B**



Project:



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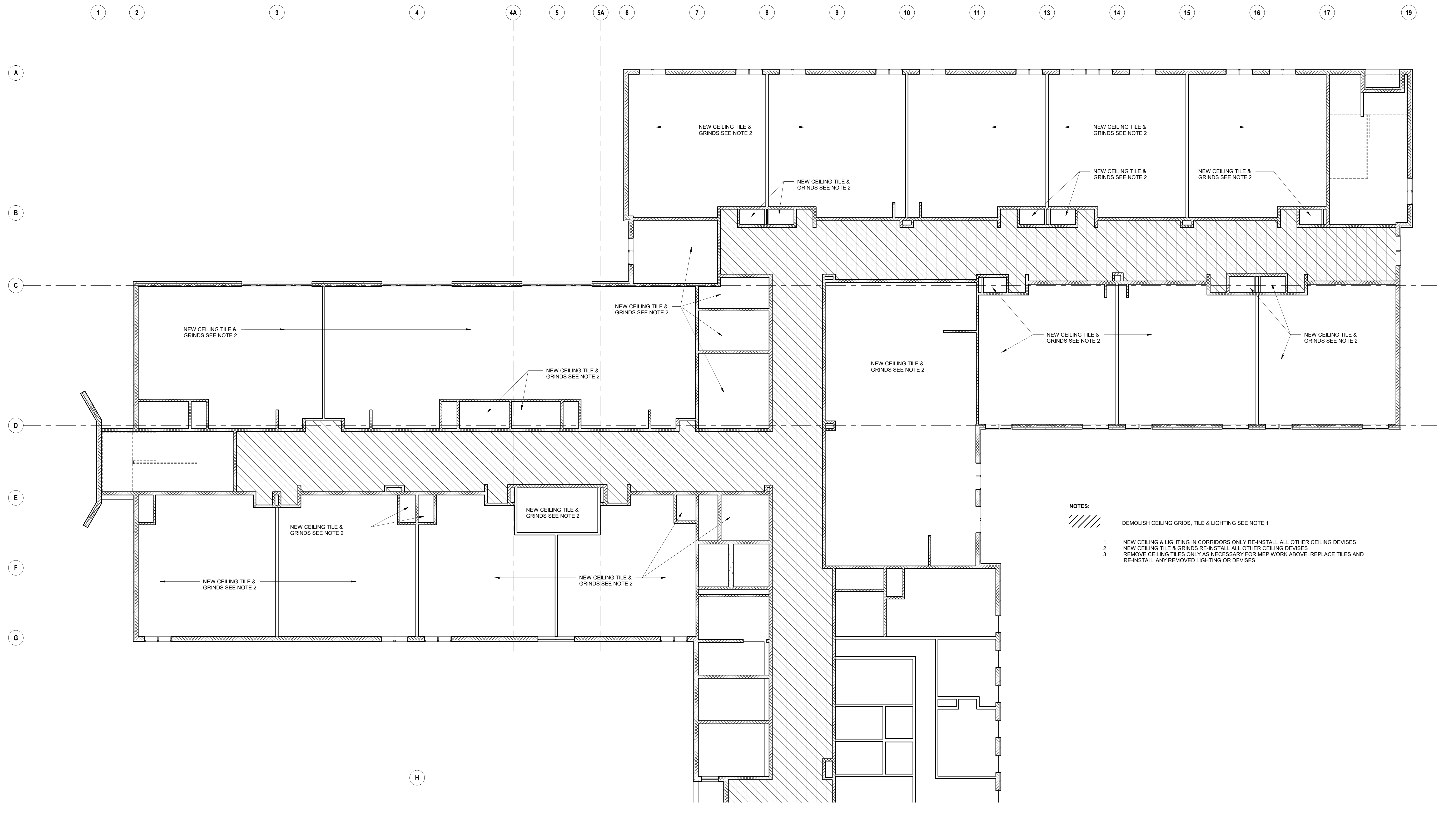
Revisions:

Rev	Date	Description

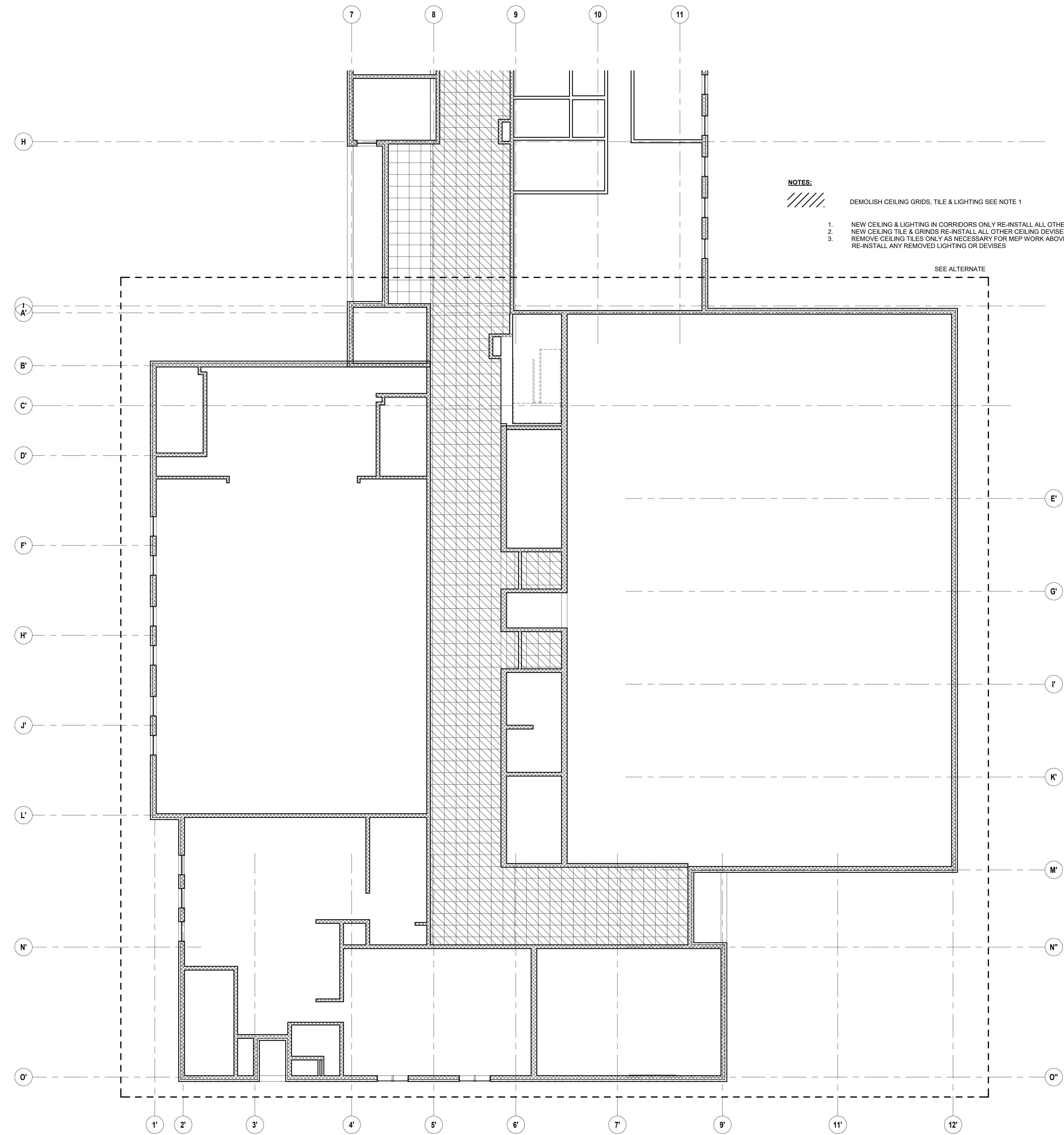
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ADDENDUM 2  
 SCALE: AS NOTED  
 Date: APRIL 21, 2020  
 Drawn By: JCB  
 Reviewed By: AC  
 Approved By: -  
 W&S Project No: Do Not Use

Drawing Title:  
**FIRST FLOOR RCP  
 DEMOLITION PLAN  
 PART A**  
 Sheet Number:  
**D104 A**



**Reflected Ceiling First Floor DEMOLITION PLAN**  
**PART A**  
 1  
 D104 A 1/8" = 1'-0"



- NOTES:**
- 1. DEMOLISH CEILING GRIDS, TILE & LIGHTING SEE NOTE 1
  - 2. NEW CEILING & LIGHTING IN CORRIDORS ONLY RE-INSTALL ALL OTHER CEILING DEVICES
  - 3. NEW CEILING TILE & GRINDS RE-INSTALL ALL OTHER CEILING DEVICES
  - 4. REMOVE CEILING TILES ONLY AS NECESSARY FOR MEP WORK ABOVE. REPLACE TILES AND RE-INSTALL ANY REMOVED LIGHTING OR DEVICES

**Reflected Ceiling First Floor DEMOLITION PLAN  
PART B**  
D104B 1/8" = 1'-0"

Project:

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Weston & Sampson Engineers, Inc.  
100 Foxborough Boulevard Suite 250  
Foxborough, MA 02035  
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Consultants:

**QA+M**  
architecture  
QuisenberryArcanMalk  
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Revisions:

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Issued For: FOR BID

**PROJECT TRUE**

ADDENDUM 2  
SCALE: AS NOTED  
Date: APRIL 21, 2020  
Drawn By: Author  
Reviewed By: Checker  
Approved By: Approver  
W&S Project No: Do Not Use

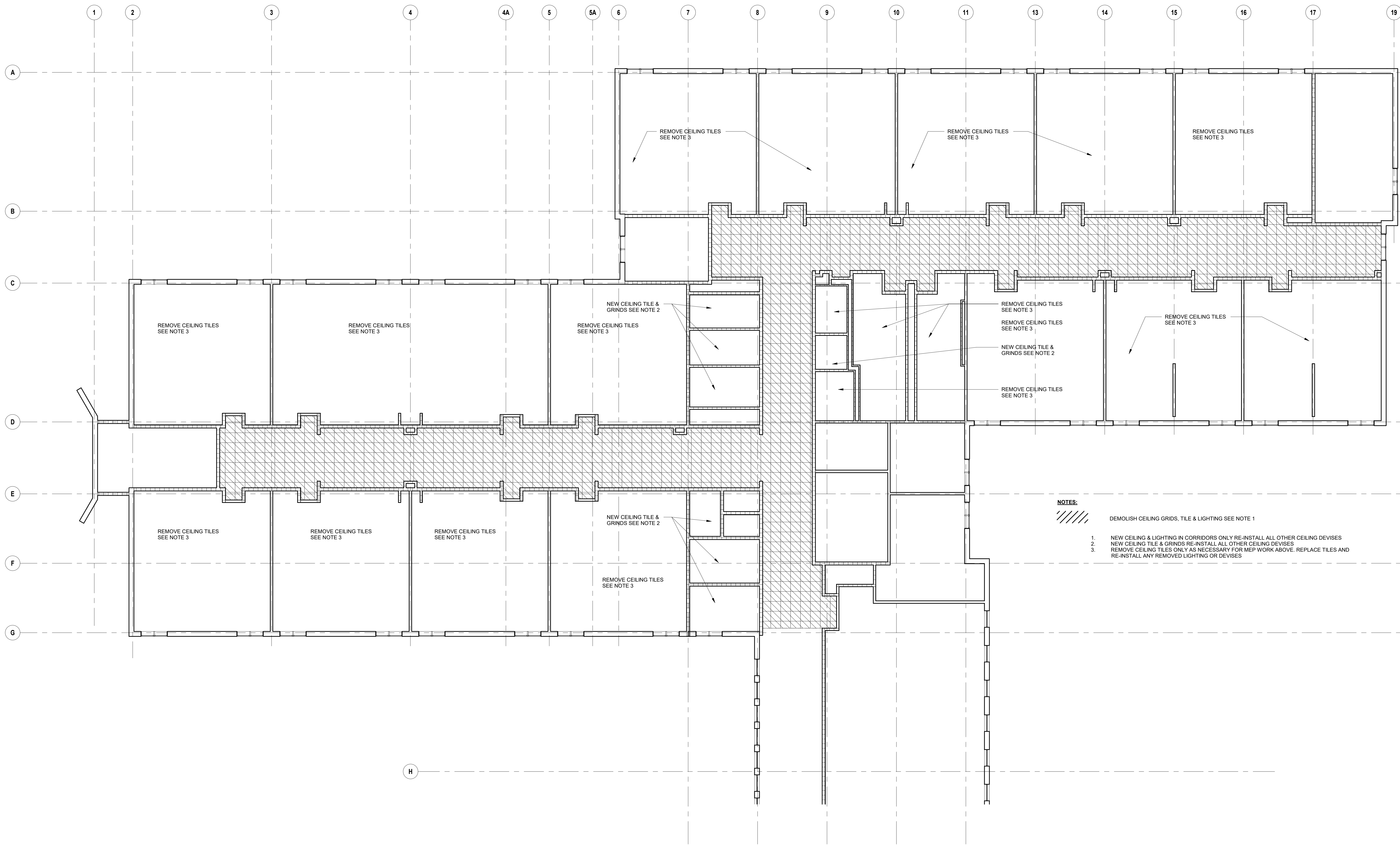
Drawing Title:

**FIRST FLOOR RCP  
DEMOLITION PLAN  
PART B**

Sheet Number:

**D104B**

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**Reflected Ceiling Second Floor Demolition Plan**  
**PART A**  
 1  
 D105 A 1/8" = 1'-0"

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 Quisenberry Arcari Malk  
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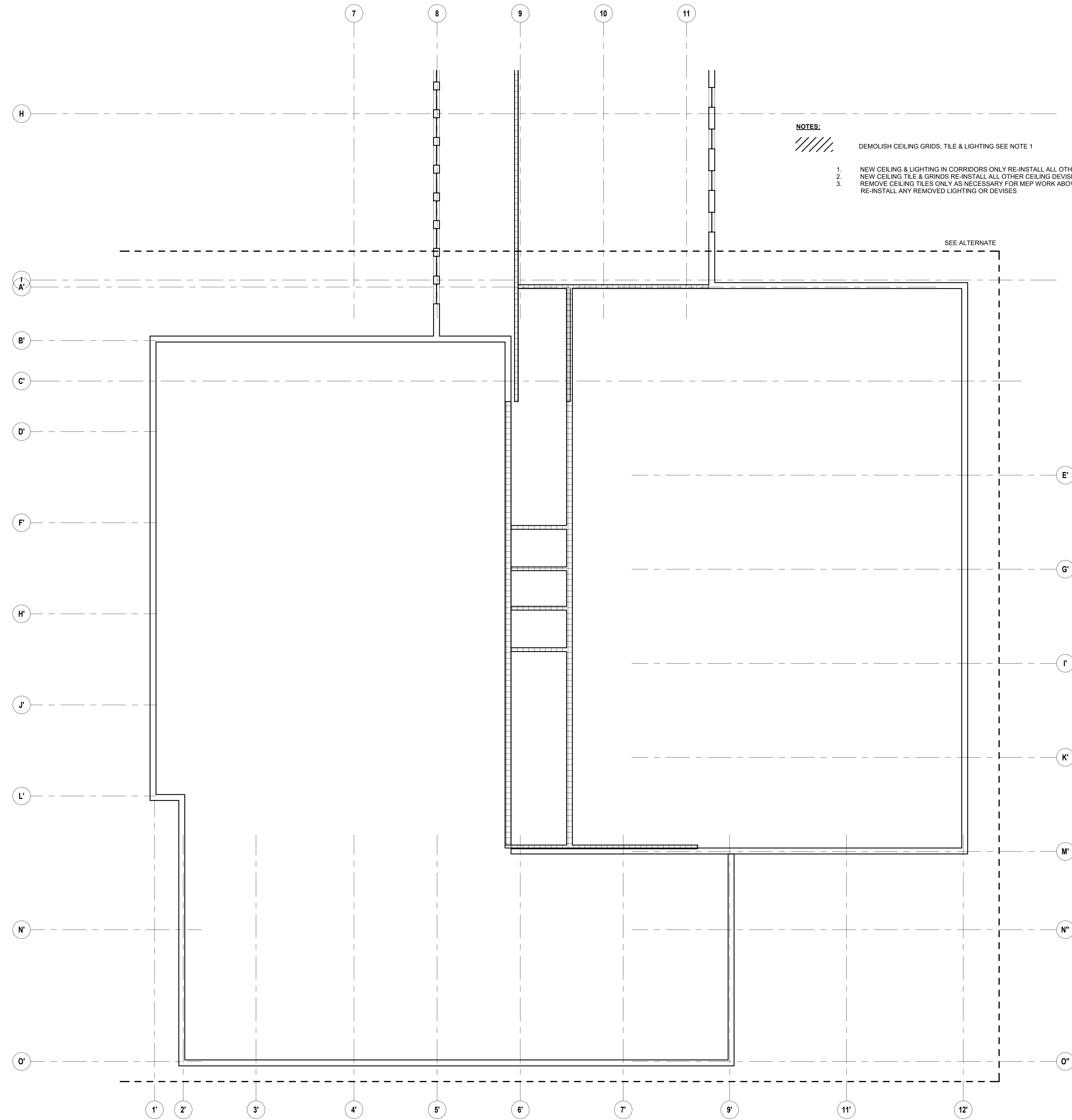
Revisions:

Rev	Date	Description

Issued For: FOR BID  
 PROJECT  
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ADDENDUM 2  
 SCALE: AS NOTED  
 Date: APRIL 21, 2020  
 Drawn By: JCB  
 Reviewed By: AC  
 Approved By: -  
 W&S Project No: Do Not Use

Drawing Title:  
**SECOND FLOOR  
 RCP DEMOLITION  
 PLAN PART A**  
 Sheet Number:  
**D105 A**  
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- NOTES:**
- 1. DEMOLISH CEILING GRIDS, TILE & LIGHTING SEE NOTE 1
  - 2. NEW CEILING & LIGHTING IN CORRIDORS ONLY RE-INSTALL ALL OTHER CEILING DEVICES
  - 3. NEW CEILING TILE & GRINDS RE-INSTALL ALL OTHER CEILING DEVICES
  - 4. REMOVE CEILING TILES ONLY AS NECESSARY FOR MEP WORK ABOVE. REPLACE TILES AND RE-INSTALL ANY REMOVED LIGHTING OR DEVICES

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 Approved By: -  
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Drawing Title:

**SECOND FLOOR  
 RCP DEMOLITION  
 PLAN PART B**

Sheet Number:

**D105 B**

**Reflected Ceiling Second Floor Demolition Plan  
 PART B**  
 1  
 D105 B 1/8" = 1'-0"

**ABATEMENT NOTES:**

- AC = ASBESTOS CONTAINING  
PCB'S = POLYCHLORINATED BIPHENYLS
- ☐ LOCATION OF SUSPENDED AC ACOUSTICAL CEILING TILES.
  - ▨ REMOVE ALL SUSPENDED AC ACOUSTICAL CEILING TILES. DISPOSE OF AS FRIABLE ASBESTOS WASTE. DECONTAMINATE ALL CEILING GRIDS SCHEDULED TO REMAIN.
  - ① REMOVE ALL AC MUDDIED INSULATION AND WOVEN CLOTH WRAP ON FIBERGLASS INSULATION. DISPOSE OF AS FRIABLE ASBESTOS WASTE.
  - ② REMOVE ALL AC TAR COATING ON INTERIOR OF UNIT HEATER. DISPOSE OF AS NON-FRIABLE ASBESTOS WASTE.
  - ③ REMOVE ALL AC MUDDIED PACKING AT VALVE ON INTERIOR OF UNIT HEATER. DISPOSE OF AS FRIABLE ASBESTOS WASTE.
  - ④ REMOVE ALL SHEETROCK AND ASSOCIATED AC JOINT COMPOUND AND VINYL COVE BASE AT PIPE CHASE. DISPOSE OF AS FRIABLE ASBESTOS WASTE.
  - ⑤ REMOVE ENTIRE LIGHT FIXTURE WITH AC FIXTURE PAPER. DISPOSE OF AS FRIABLE ASBESTOS WASTE.
  - ⑥ REMOVE ALL AC SEALANT AT FILTER BOX TO HVAC UNIT. DISPOSE OF AS ASBESTOS AND PCB WASTE GREATER THAN 50 PPM.
  - ⑦ NOT USED
  - ⑧ REMOVE ALL VINYL COVE BASE ADHESIVE FROM CMU AT PIPE CHASE. DISPOSE OF AS ASBESTOS WASTE.

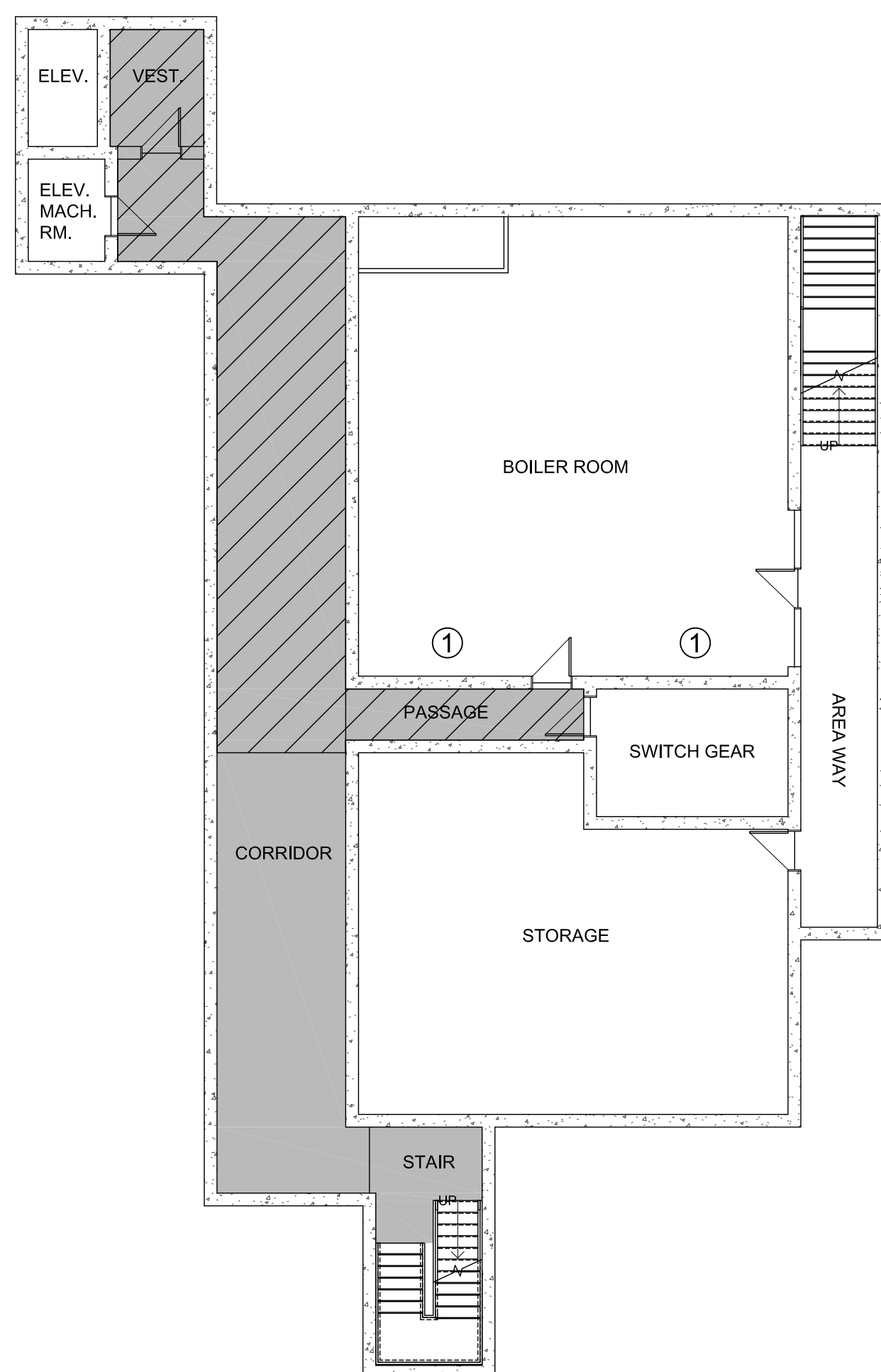
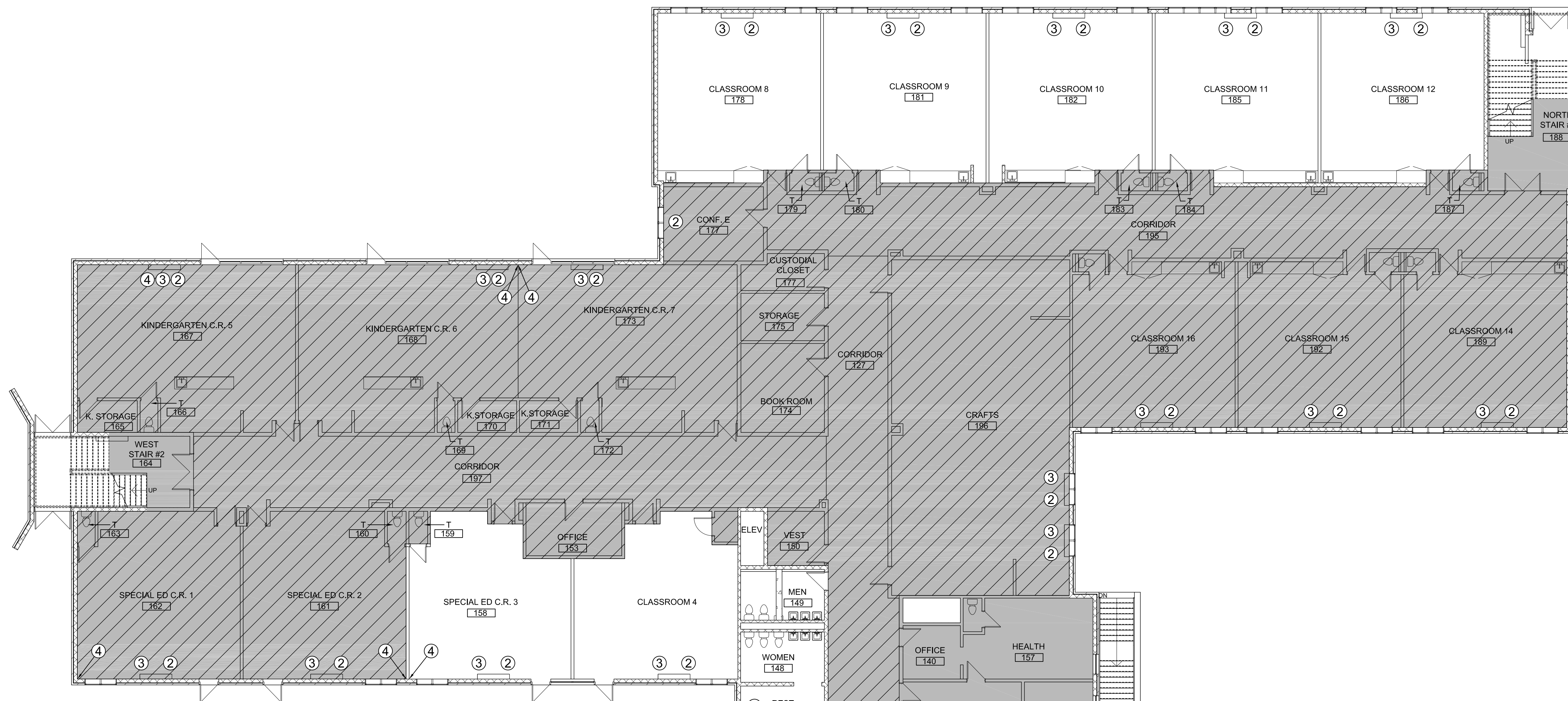
**LEAD-BASED PAINT NOTE:**

BOTH HIGH AND LOW LEVELS OF LEAD-BASED PAINT WERE FOUND ON VARIOUS COMPONENTS THROUGHOUT THE DEMOLITION AREA. ALL WORK MUST BE PERFORMED BY LEAD-TRAINED WORKERS AND COMPLY WITH AND MEET THE REQUIREMENTS OF ALL ASPECTS OF 1926.62 OSHA LEAD IN CONSTRUCTION STANDARD. METAL BUILDING COMPONENTS MUST BE RECYCLED IN A FACILITY THAT ACCEPTS LEAD-BASED PAINT.

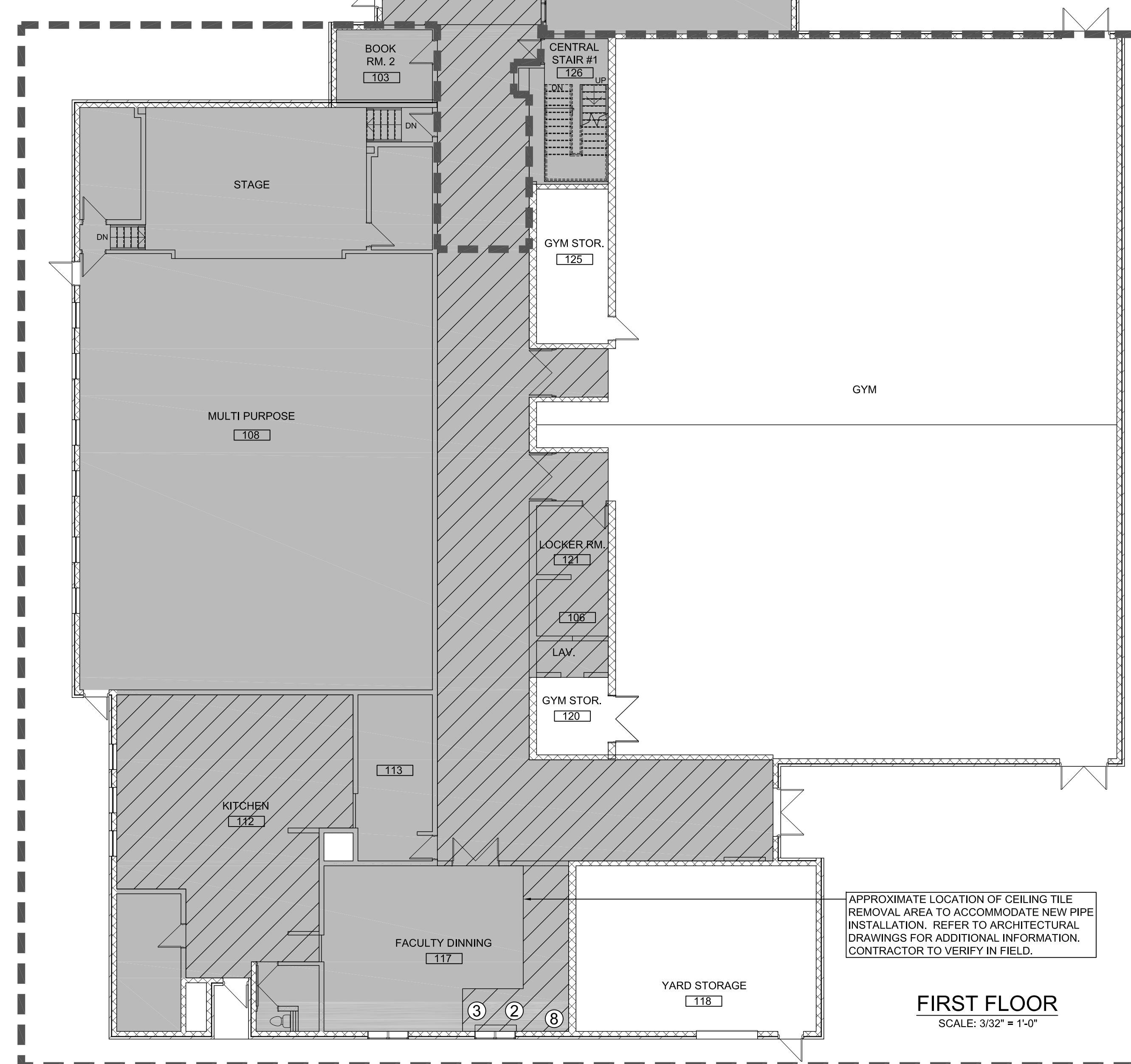
HIGH LEVELS OF LEAD ( $\geq 1.0$  MG/CM<sup>2</sup>) WERE IDENTIFIED ON THE FOLLOWING SURFACES: EXTERIOR WOOD DOOR OVERHANG, METAL VENTS, METAL LINTELS TO VENTS AND INTERIOR STRUCTURAL STEEL.

**UNIVERSAL WASTE KEY:**

U-SHAPED FLUORESCENT BULBS; (162 EA) (CORRIDORS ONLY)



**BASEMENT**  
SCALE: 3/32" = 1'-0"



**FIRST FLOOR**  
SCALE: 3/32" = 1'-0"

APPROXIMATE LOCATION OF CEILING TILE REMOVAL AREA TO ACCOMMODATE NEW PIPE INSTALLATION. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION. CONTRACTOR TO VERIFY IN FIELD.

Project:  
**CONTRACT 2C20-064**

**MECH IMPROVEMENTS AT SOUTH SIDE ELEMENTARY SCHOOL BRISTOL, CT**  
21 Tuttle Rd.  
Bristol, CT 06010

**Weston & Sampson**  
Weston & Sampson Engineers, Inc.  
100 Foxborough Boulevard, Suite 250  
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(508) 698-3034 (800) 5AMPSON  
www.westonandsampson.com

Consultants:  
**QA+M architecture**  
Quisenberry/Arca/Malk  
195 Scott Swamp Place  
Farmington, CT 06032  
(860) 677-4594  
qamarch.com

**EAGLE Environmental, Inc.**  
8 SOUTH MAIN STREET, SUITE 3  
TERRYVILLE, CONNECTICUT 06786  
860-598-8207

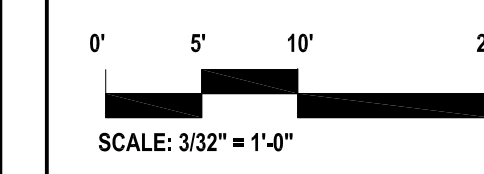
Seal:

Revisions:

Rev	Date	Description
1	4/15/2020	ADDENDUM #1

Issued For: ADDENDUM #1

PROJECT TRUE



Date: April 14, 2020  
Drawn By: BB  
Reviewed By: CL  
Approved By: CL  
W&S Project No: 2191117

Drawing Title:  
**BASEMENT & FIRST FLOOR ABATEMENT PLAN**

Sheet Number:  
**HM-1**  
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**ABATEMENT NOTES:**

- AC = ASBESTOS CONTAINING  
PCB'S = POLYCHLORINATED BIPHENYLS
- LOCATION OF SUSPENDED AC ACOUSTICAL CEILING TILES.
  - ▨ REMOVE ALL SUSPENDED AC ACOUSTICAL CEILING TILES. DISPOSE OF AS FRIABLE ASBESTOS WASTE. DECONTAMINATE ALL CEILING GRIDS SCHEDULED TO REMAIN.
  - ① REMOVE ALL AC MUDDIED INSULATION AND WOVEN CLOTH WRAP ON FIBERGLASS INSULATION. DISPOSE OF AS FRIABLE ASBESTOS WASTE.
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  - ⑤ REMOVE ENTIRE LIGHT FIXTURE WITH AC FIXTURE PAPER. DISPOSE OF AS FRIABLE ASBESTOS WASTE.
  - ⑥ REMOVE ALL AC SEALANT AT FILTER BOX TO HVAC UNIT. DISPOSE OF AS ASBESTOS AND PCB WASTE GREATER THAN 50 PPM.
  - ⑦ NOT USED
  - ⑧ REMOVE ALL VINYL COVE BASE ADHESIVE FROM CMU AT PIPE CHASE. DISPOSE OF AS ASBESTOS WASTE.

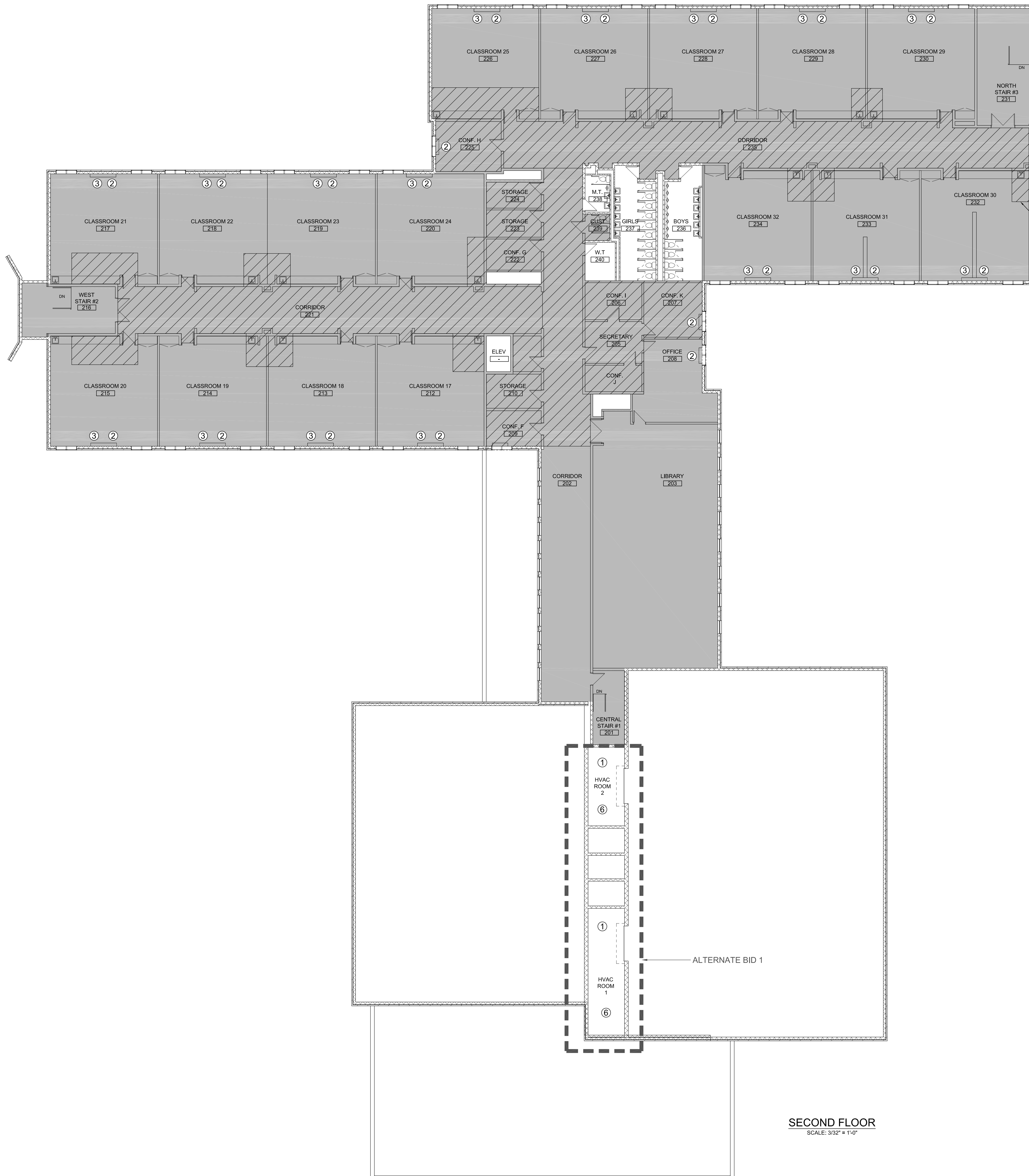
**LEAD-BASED PAINT NOTE:**

BOTH HIGH AND LOW LEVELS OF LEAD-BASED PAINT WERE FOUND ON VARIOUS COMPONENTS THROUGHOUT THE DEMOLITION AREA. ALL WORK MUST BE PERFORMED BY LEAD-TRAINED WORKERS AND COMPLY WITH AND MEET THE REQUIREMENTS OF ALL ASPECTS OF 1926.62 OSHA LEAD IN CONSTRUCTION STANDARD. METAL BUILDING COMPONENTS MUST BE RECYCLED IN A FACILITY THAT ACCEPTS LEAD-BASED PAINT.

HIGH LEVELS OF LEAD ( $\geq 1.0$  MG/CM<sup>2</sup>) WERE IDENTIFIED ON THE FOLLOWING SURFACES: EXTERIOR WOOD DOOR OVERHANG, METAL VENTS, METAL LINTELS TO VENTS AND INTERIOR STRUCTURAL STEEL.

**UNIVERSAL WASTE KEY:**

U-SHAPED FLUORESCENT BULBS; (162 EA) (CORRIDORS ONLY)



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

Project:  
**CONTRACT 2C20-064**

**MECH IMPROVEMENTS AT SOUTH SIDE ELEMENTARY SCHOOL BRISTOL, CT**  
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Consultants:  
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architecture  
Quisenberry/Arca/Malk  
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qamarch.com

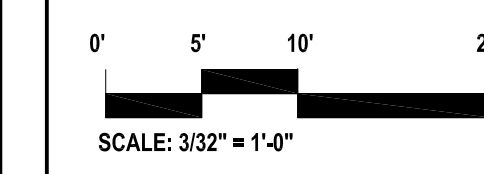
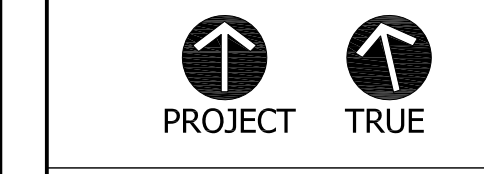
**EAGLE**  
Environmental, Inc.  
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860-595-6207

Seal:

Revisions:

Rev	Date	Description
1	4/15/2020	ADDENDUM #1

Issued For: ADDENDUM #1



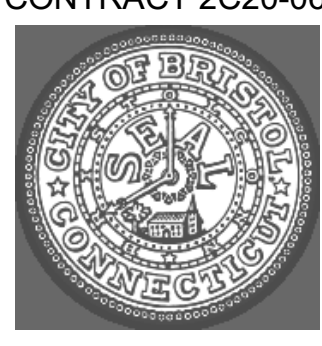
Date: April 14, 2020  
Drawn By: BB  
Reviewed By: CL  
Approved By: CL  
W&S Project No: 2191117

Drawing Title:  
**SECOND FLOOR ABATEMENT PLAN**

Sheet Number:  
**HM-2**

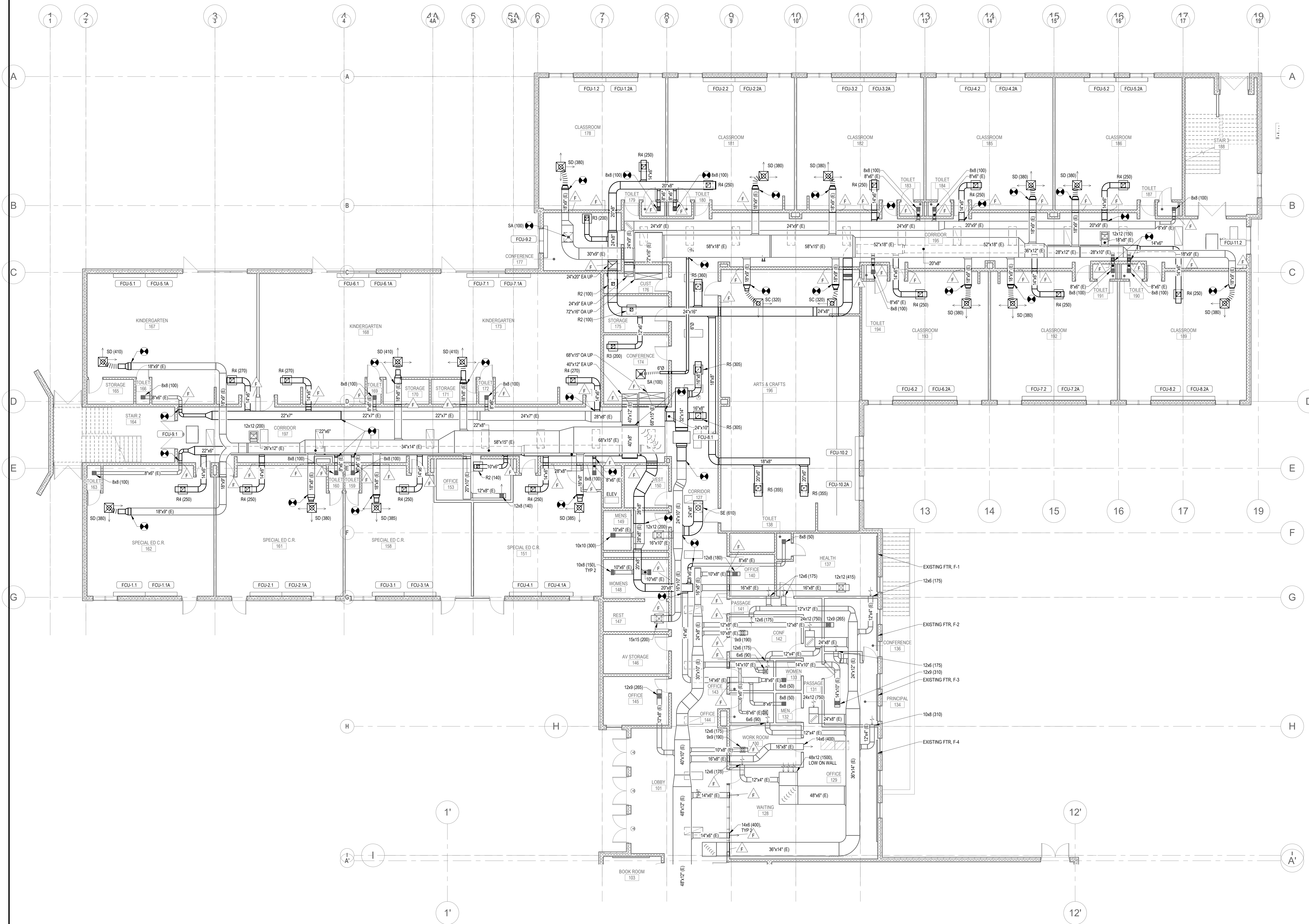


**GENERAL NOTE**  
 ALL EXISTING DUCTWORK SHALL BE CLEANED TO COMPLY WITH NADCA AIR DUCT CLEANING STANDARDS.

Project:  
**CONTRACT 2C20-064**  
  
 MECH IMPROVEMENTS AT SOUTH SIDE ELEMENTARY SCHOOL BRISTOL, CT  
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Revisions:

Rev	Date	Description

Issued For: BID SET

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0' 4' 8' 16'  
 SCALE: 1/8" = 1'-0"

Date: April 2, 2020  
 Drawn By: MRC  
 Reviewed By: SEH  
 Approved By: SEH  
 W&S Project No: 219117

Drawing Title:  
**FIRST FLOOR DUCTWORK PLAN PART A**

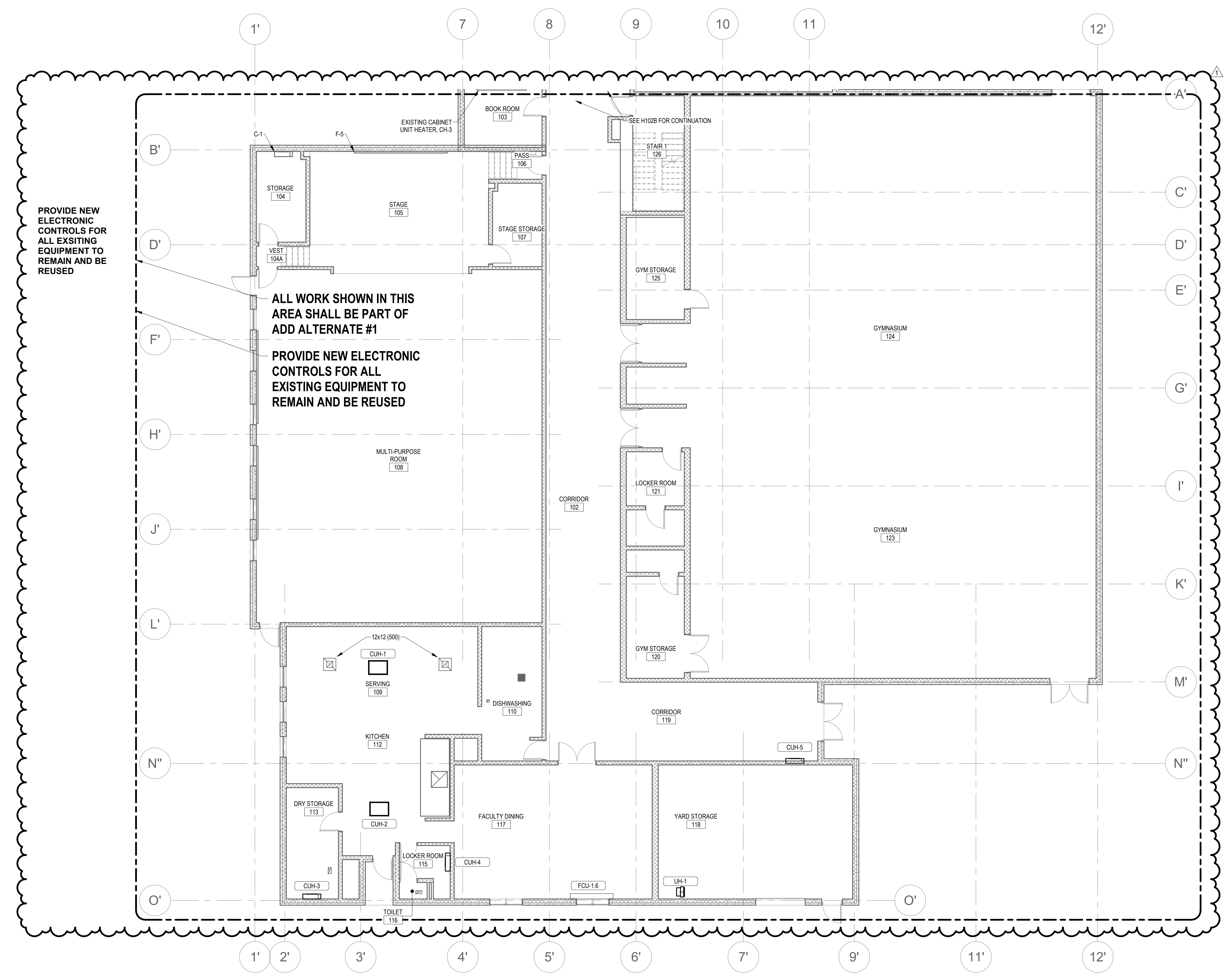
Sheet Number:  
**H101A**

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**GENERAL NOTES**

1. ALL EXISTING DUCTWORK SHALL BE CLEANED TO COMPLY WITH NADECA AIR DUCT CLEANING STANDARDS.
2. ALL NEW HANGERS SHALL BE ATTACHED TO THE EXISTING STEEL VIA CLAMP OR STYLE HANGERS, NO WELDING ALLOWED AS THE STEEL IS COVERED WITH LEAD PAINT.



PROVIDE NEW ELECTRONIC CONTROLS FOR ALL EXISTING EQUIPMENT TO REMAIN AND BE REUSED

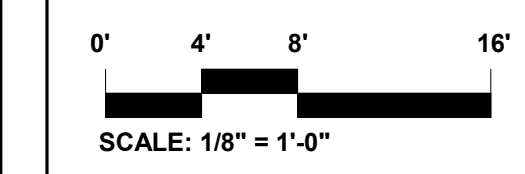
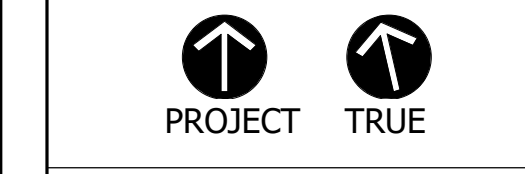
ALL WORK SHOWN IN THIS AREA SHALL BE PART OF ADD ALTERNATE #1  
 PROVIDE NEW ELECTRONIC CONTROLS FOR ALL EXISTING EQUIPMENT TO REMAIN AND BE REUSED

Seal:

Revisions:

Rev	Date	Description
1	4/15/2020	ADDENDUM #1

Issued For: ADDENDUM #1



Date: April 15, 2020  
 Drawn By: MRC  
 Reviewed By: SEH  
 Approved By: SEH  
 W&S Project No: 2191117

Drawing Title:  
**FIRST FLOOR DUCTWORK PLAN PART B**

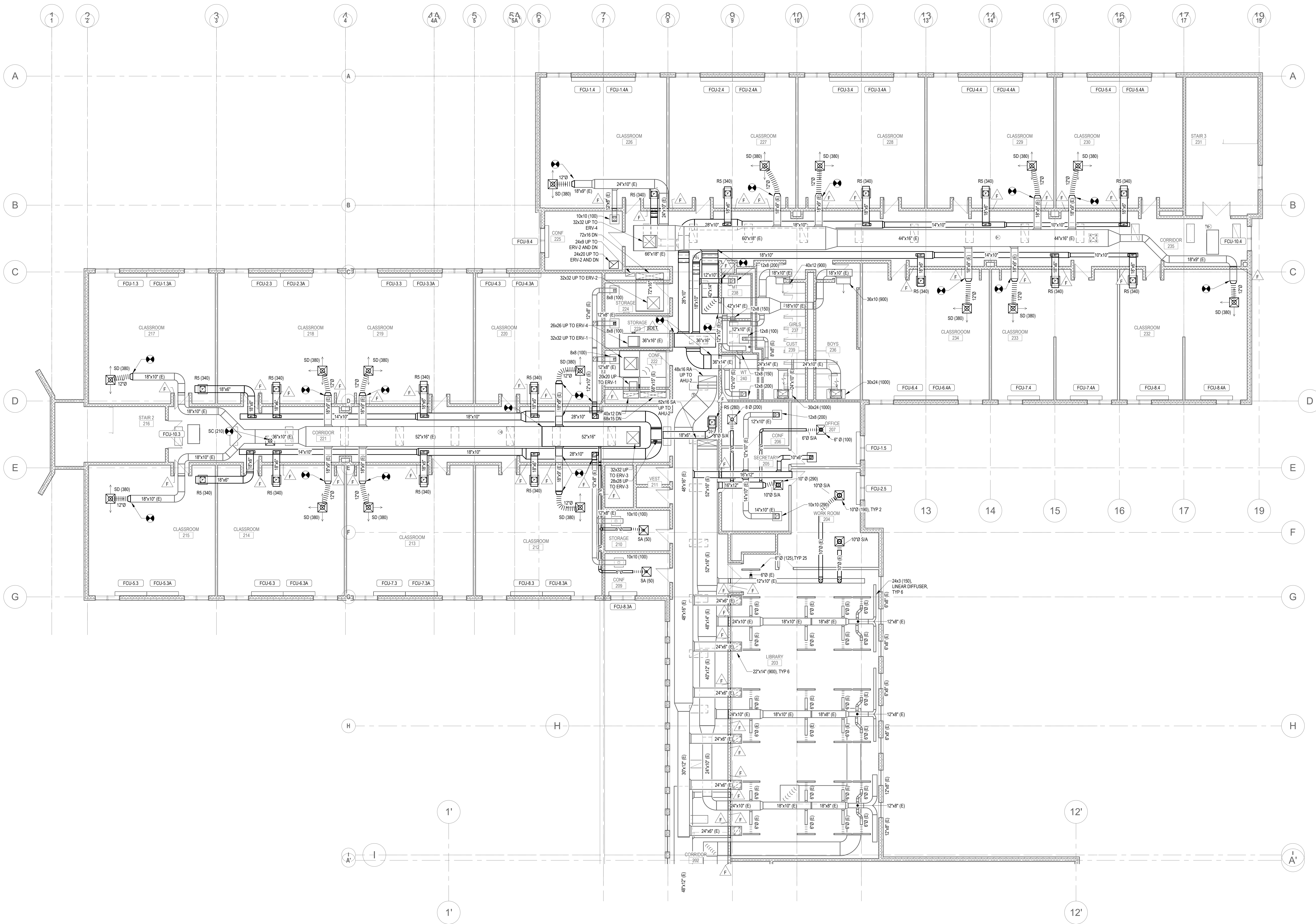
Sheet Number:  
**H101B**

**GENERAL NOTE**  
 ALL EXISTING DUCTWORK SHALL BE CLEANED TO COMPLY WITH NADCA AIR DUCT CLEANING STANDARDS.

Project:  
**CONTRACT 2C20-064**  
  
 MECH IMPROVEMENTS AT SOUTH SIDE ELEMENTARY SCHOOL BRISTOL, CT  
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Consultants:  
**QA+M**  
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 QuisenberryArcanMalk  
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 (860) 677-4594  
 qaamarch.com

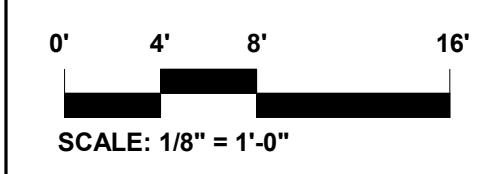


Seal:

Revisions:

Rev	Date	Description

Issued For: BID SET  
  
  
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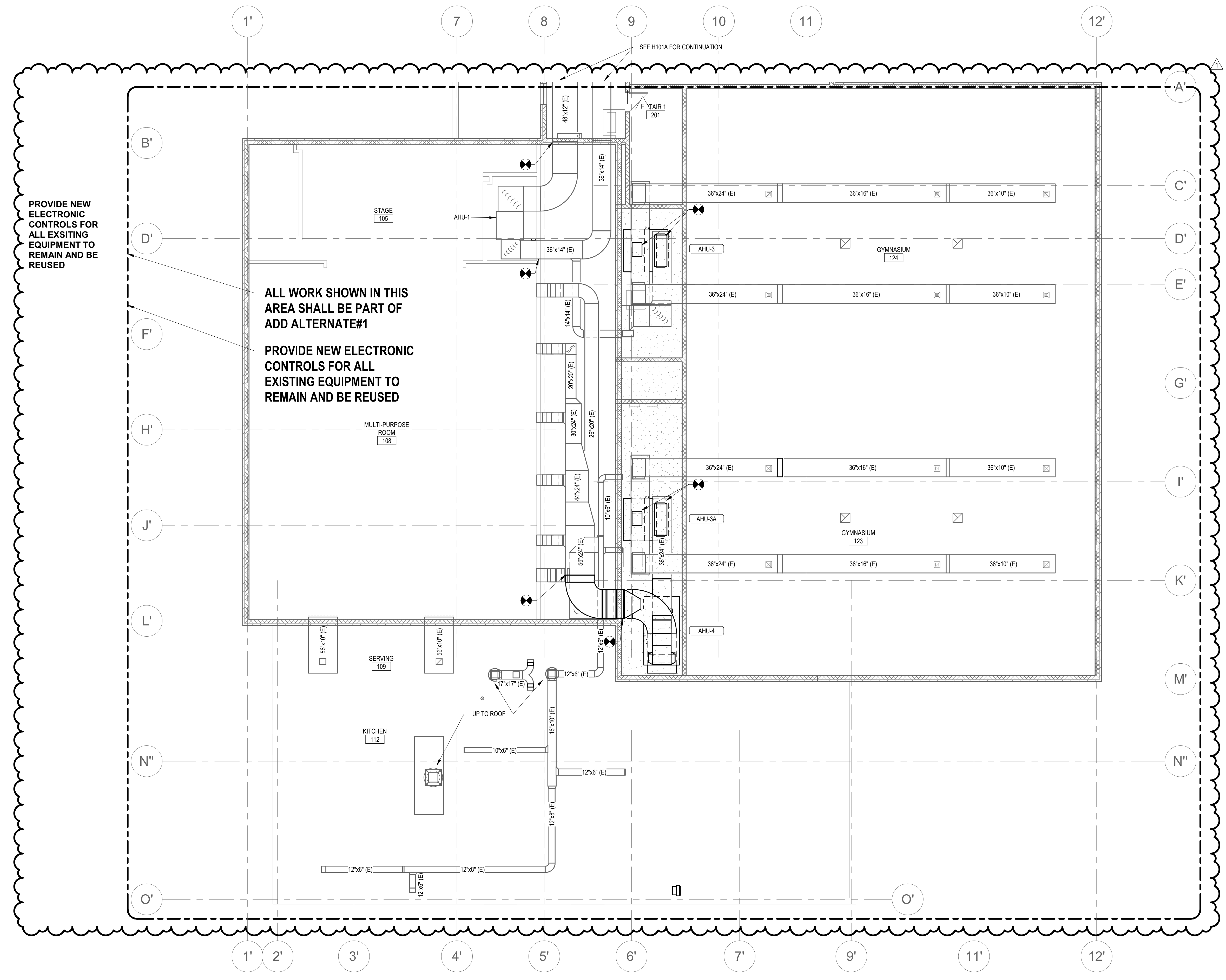
Date: April 2, 2020  
 Drawn By: MRC  
 Reviewed By: SEH  
 Approved By: SEH  
 W&S Project No: 2191117

Drawing Title:  
**SECOND FLOOR DUCTWORK PLAN PART A**

Sheet Number:  
**H102A**  
WESTON & SAMPSON COPYRIGHT 2018

**GENERAL NOTES**

- ALL EXISTING DUCTWORK SHALL BE CLEANED TO COMPLY WITH MACKA AIR DUCT CLEANING STANDARDS.
- ALL NEW HANGERS SHALL BE ATTACHED TO THE EXISTING STEEL VIA CLAMP ON STYLE HANGERS. NO WELDING ALLOWED AS THE STEEL IS COVERED WITH LEAD PAINT.



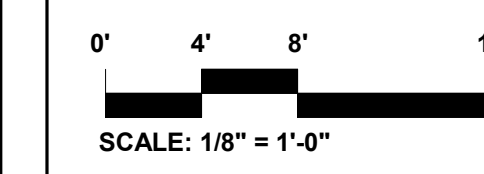
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Revisions:

Rev	Date	Description
1	4/15/2020	ADDENDUM #1

Issued For: **ADDENDUM #1**

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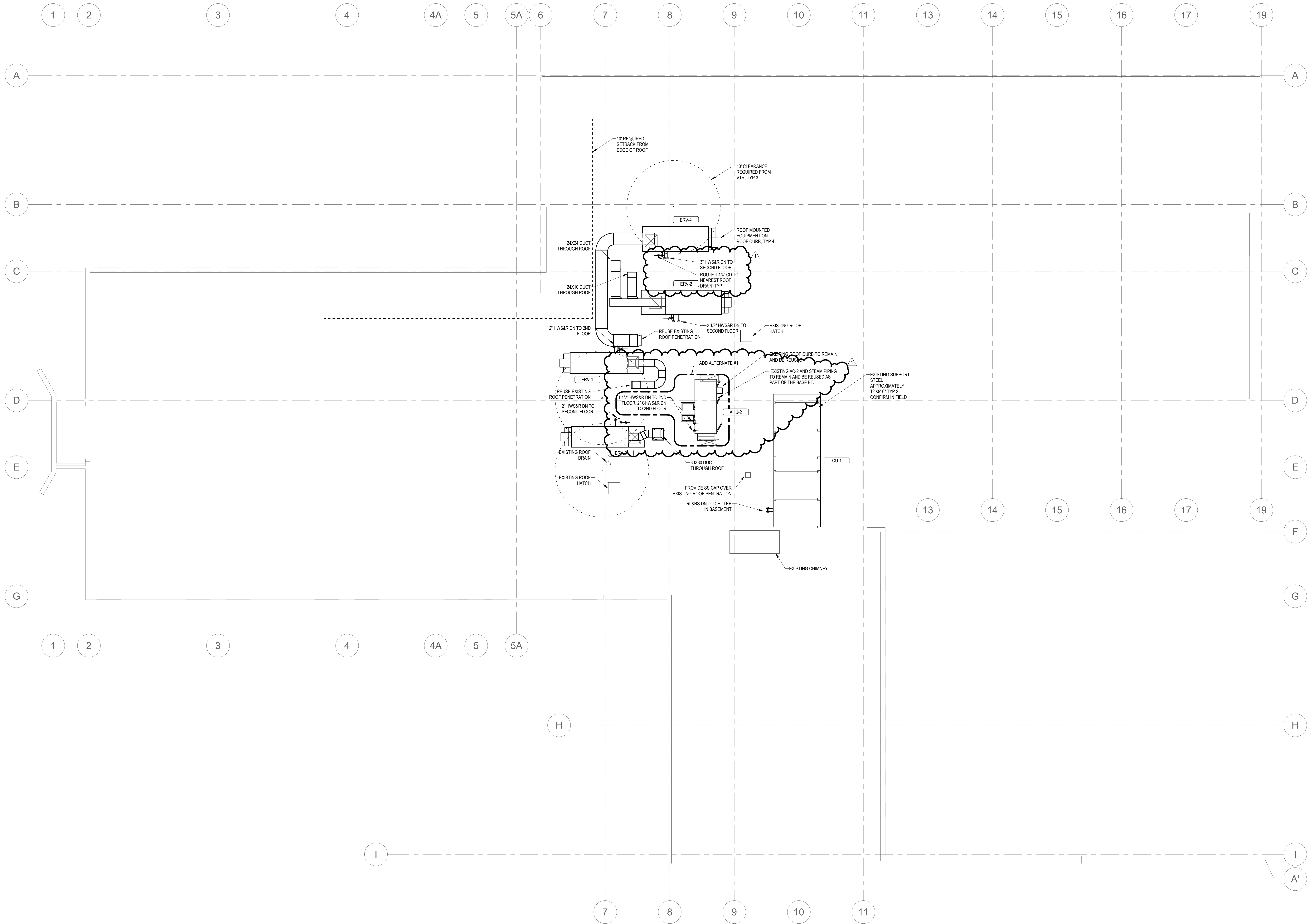
Date: April 15, 2020  
 Drawn By: MRC  
 Reviewed By: SEH  
 Approved By: SEH  
 W&S Project No: 2191117

Drawing Title:  
**SECOND FLOOR  
 DUCTOWKR PLAN  
 PART B**

Sheet Number:  
**H102B**

**GENERAL NOTES**

1. ALL EXISTING DUCTWORK SHALL BE CLEANED TO COMPLY WITH NADCA AIR DUCT CLEANING STANDARDS.
2. ALL NEW HANGERS SHALL BE ATTACHED TO THE EXISTING STEEL VIA CLAMP ON STYLE HANGERS. NO WELDING ALLOWED AS THE STEEL IS COVERED WITH LEAD PAINT.



Project:  
**CONTRACT 2C20-064**  
  
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 Bristol, CT 06010

**Weston & Sampson**  
 Weston & Sampson Engineers, Inc.  
 100 Foxborough Boulevard Suite 250  
 Foxborough, MA 02035  
 (508) 698-3024 (800) SAMPSON  
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Consultants:  
**QA+M**  
 architecture  
 QuisenberryArcanMalk  
 195 South Swamp Road  
 Farmington, CT 06032  
 (860) 677-4594  
 qa+m.com

**EAGLE**  
 Environmental, Inc.

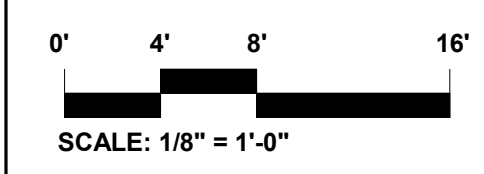
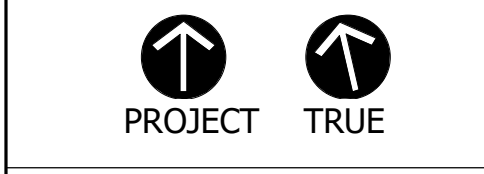
**VANZELM**  
 ENGINEERS  
 VAN ZELM BRYWOOD & SHARFIELD, INC.  
 100 STATE STREET  
 BRISTOL, CONNECTICUT 06010  
 (860) 677-4594

Seal:

Revisions:

Rev	Date	Description
1	4/15/2020	ADDENDUM #1

Issued For: ADDENDUM #1

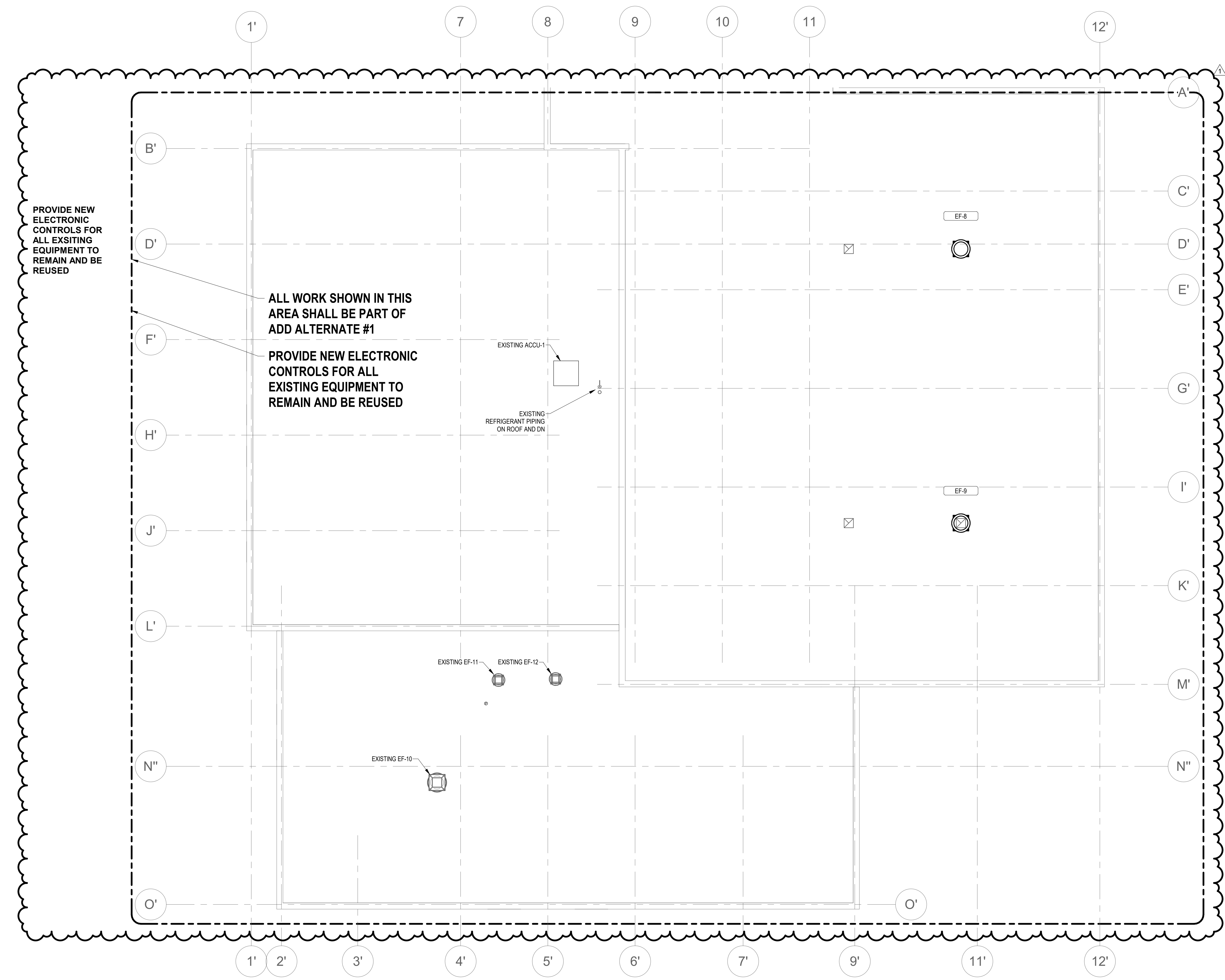


Date: April 15, 2020  
 Drawn By: MRC  
 Reviewed By: SEH  
 Approved By: SEH  
 W&S Project No: 2191117

Drawing Title:  
**ROOF PLAN PART A**

Sheet Number:  
**H103A**



**GENERAL NOTES**  
 1. ALL EXISTING DUCTWORK SHALL BE CLEANED TO COMPLY WITH NADCA AIR DUCT CLEANING STANDARDS.  
 2. ALL NEW HANGERS SHALL BE ATTACHED TO THE EXISTING STEEL VIA CLAMP ON STYLE HANGERS. NO WELDING ALLOWED AS THE STEEL IS COVERED WITH LEAD PAINT.

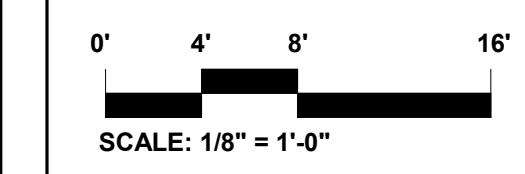


Seal:

Revisions:

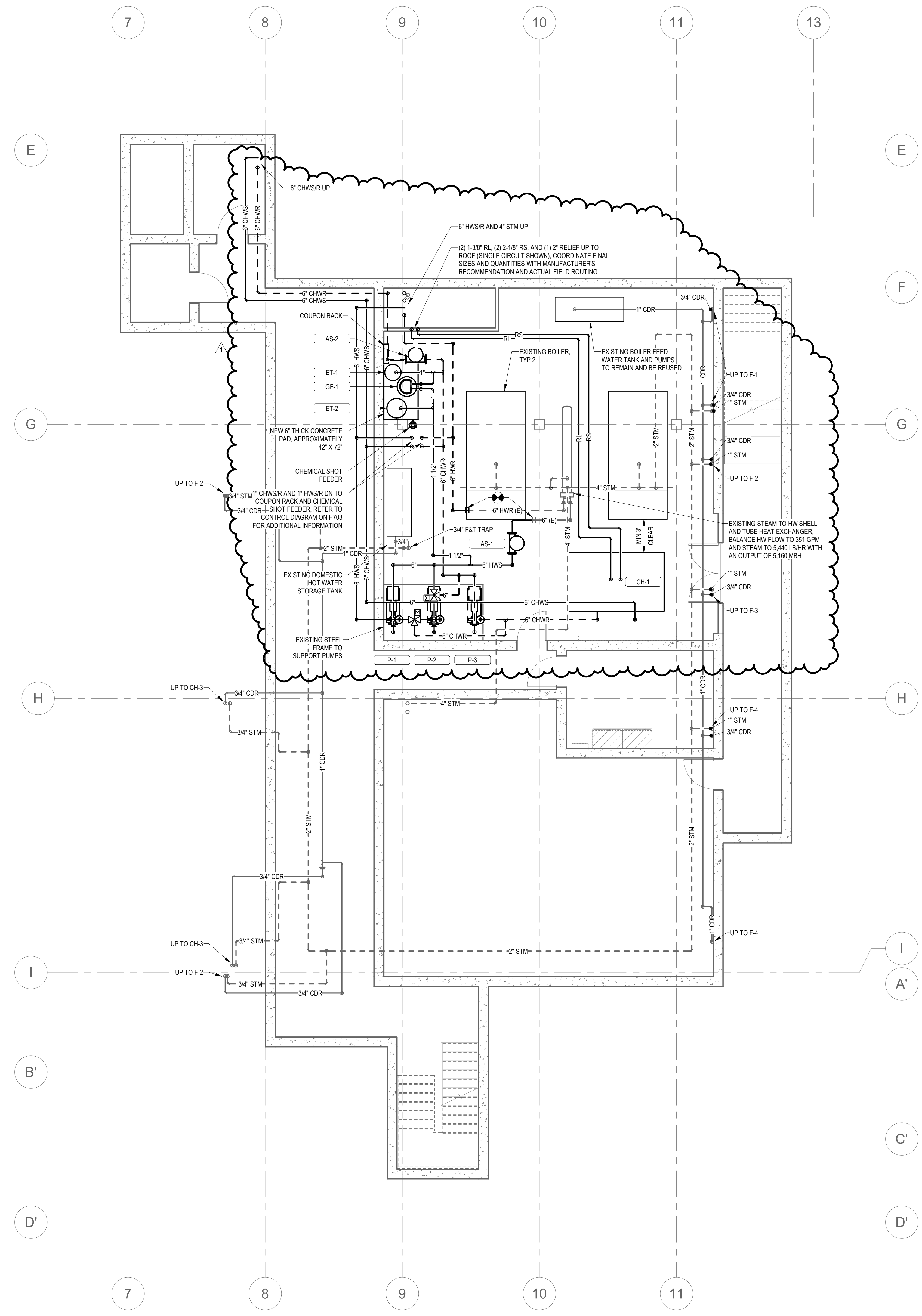
Rev	Date	Description
1	4/15/2020	ADDENDUM #1

Issued For: ADDENDUM #1  
 PROJECT  
 TRUE



Date: April 15, 2020  
 Drawn By: MRC  
 Reviewed By: SEH  
 Approved By: SEH  
 W&S Project No: 2191117

Drawing Title:  
**ROOF PLAN PART B**  
 Sheet Number:  
**H103B**  
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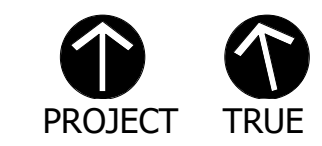


1 H200 BASEMENT FLOOR PIPING PLAN  
3/16\"/>

Seal:

Revisions:

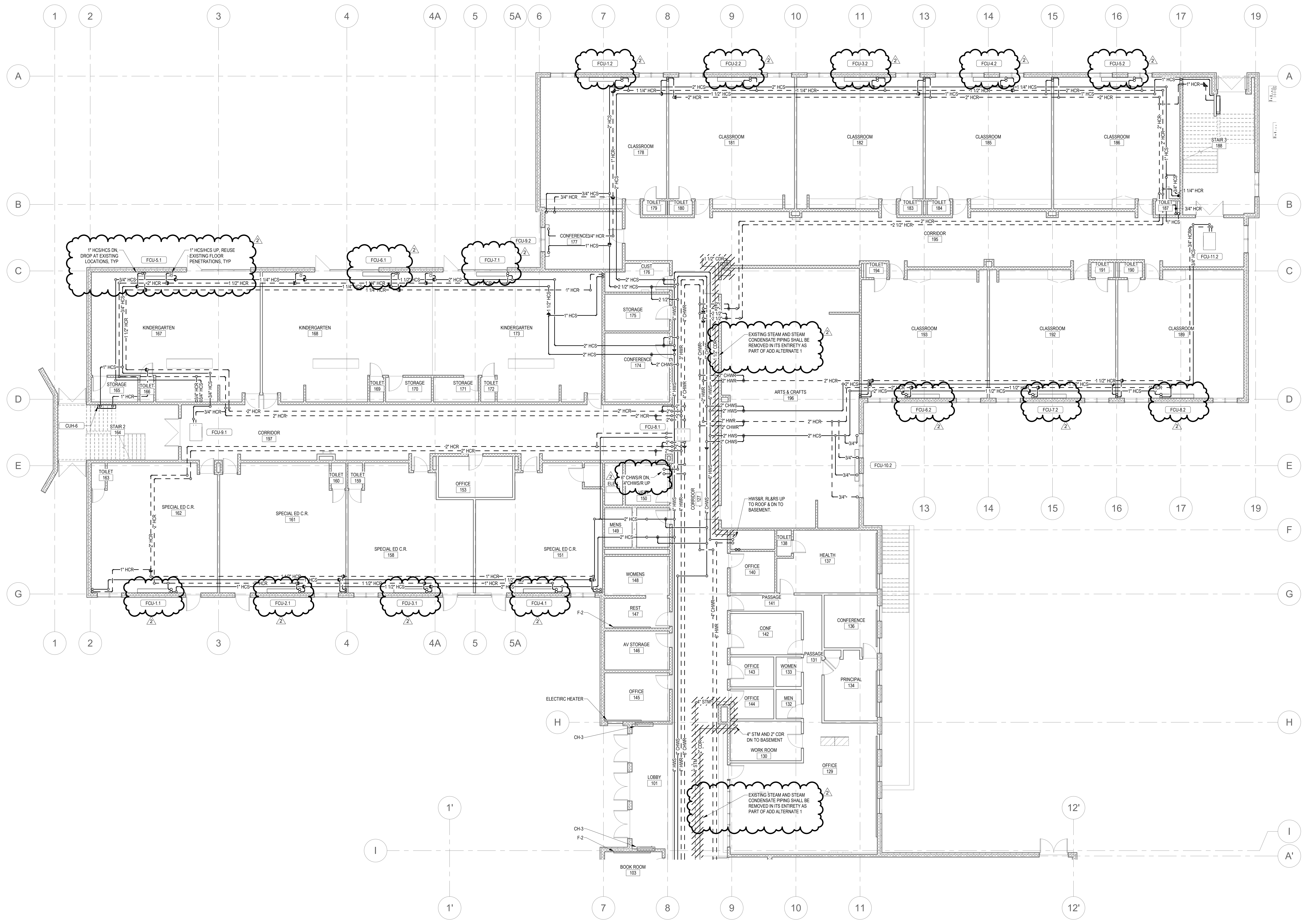
Rev	Date	Description
1	4/15/2020	ADDENDUM #1

Issued For: ADDENDUM #1  


Date: April 15, 2020  
Drawn By: HJH  
Reviewed By: SEH  
Approved By: SEH  
W&S Project No: 2191117

Drawing Title:  
**BASEMENT NEW  
WORK PIPING  
PLAN**

Sheet Number:  
**H200**  
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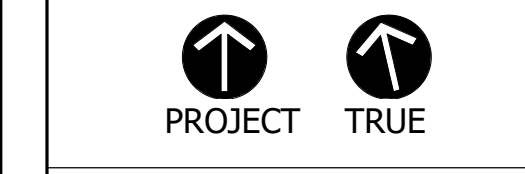


Seal:

Revisions:

Rev	Date	Description
2	4/23/2020	ADDENDUM #2

Issued For: ADDENDUM #2

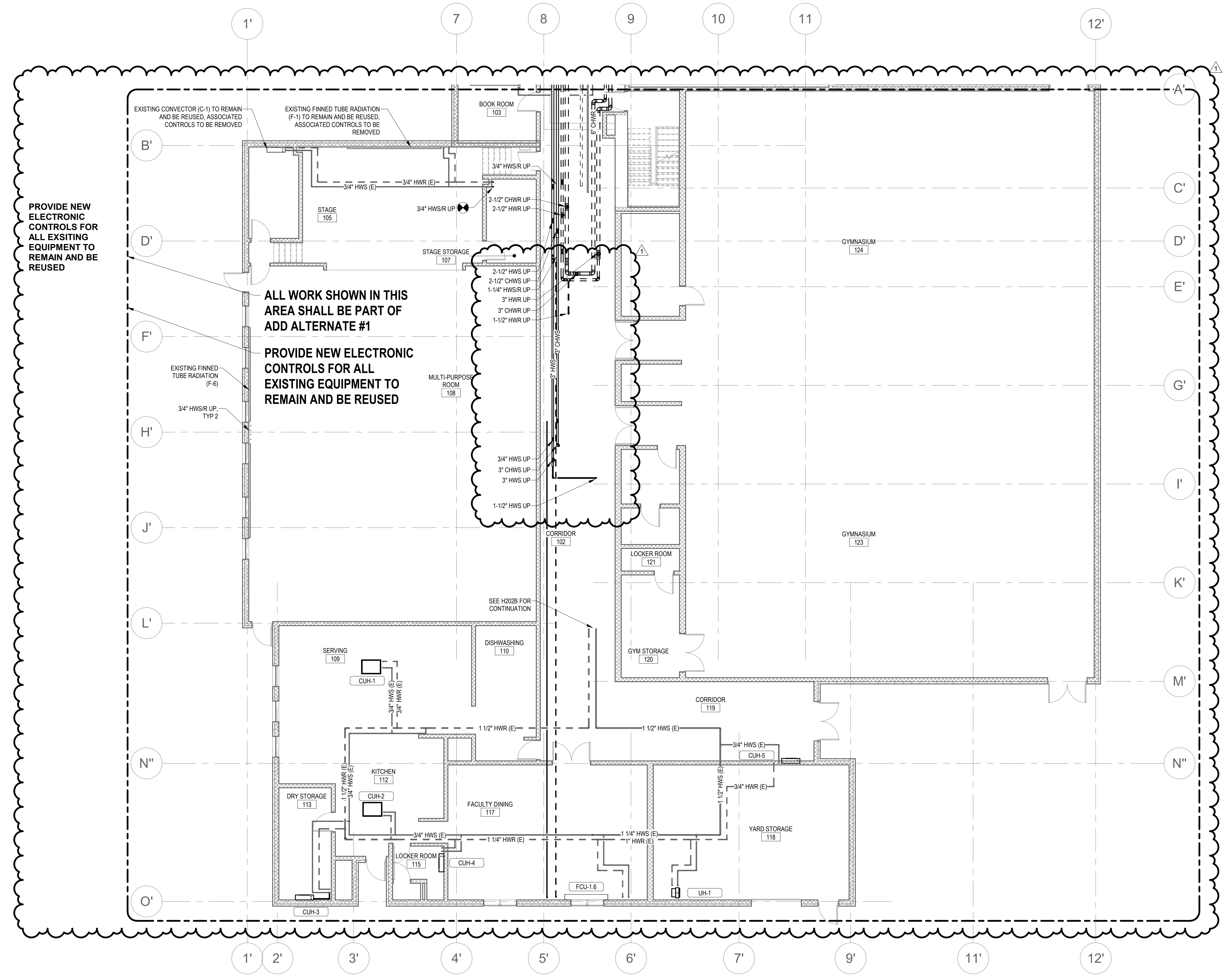


SCALE: 1/8" = 1'-0"

Date: April 23, 2020  
 Drawn By: MRC  
 Reviewed By: SEH  
 Approved By: SEH  
 W&S Project No: 2191117

Drawing Title:  
**FIRST FLOOR PIPING PLAN PART A**

Sheet Number:



PROVIDE NEW ELECTRONIC CONTROLS FOR ALL EXISTING EQUIPMENT TO REMAIN AND BE REUSED

ALL WORK SHOWN IN THIS AREA SHALL BE PART OF ADD ALTERNATE #1

PROVIDE NEW ELECTRONIC CONTROLS FOR ALL EXISTING EQUIPMENT TO REMAIN AND BE REUSED



HVAC GENERAL NOTES:  
1. ALL PIPING 3/4" UNLESS OTHERWISE NOTED.

Seal:


Revisions:

Rev	Date	Description
1	4/15/2020	ADDENDUM #1

Issued For: ADDENDUM #1

PROJECT TRUE



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

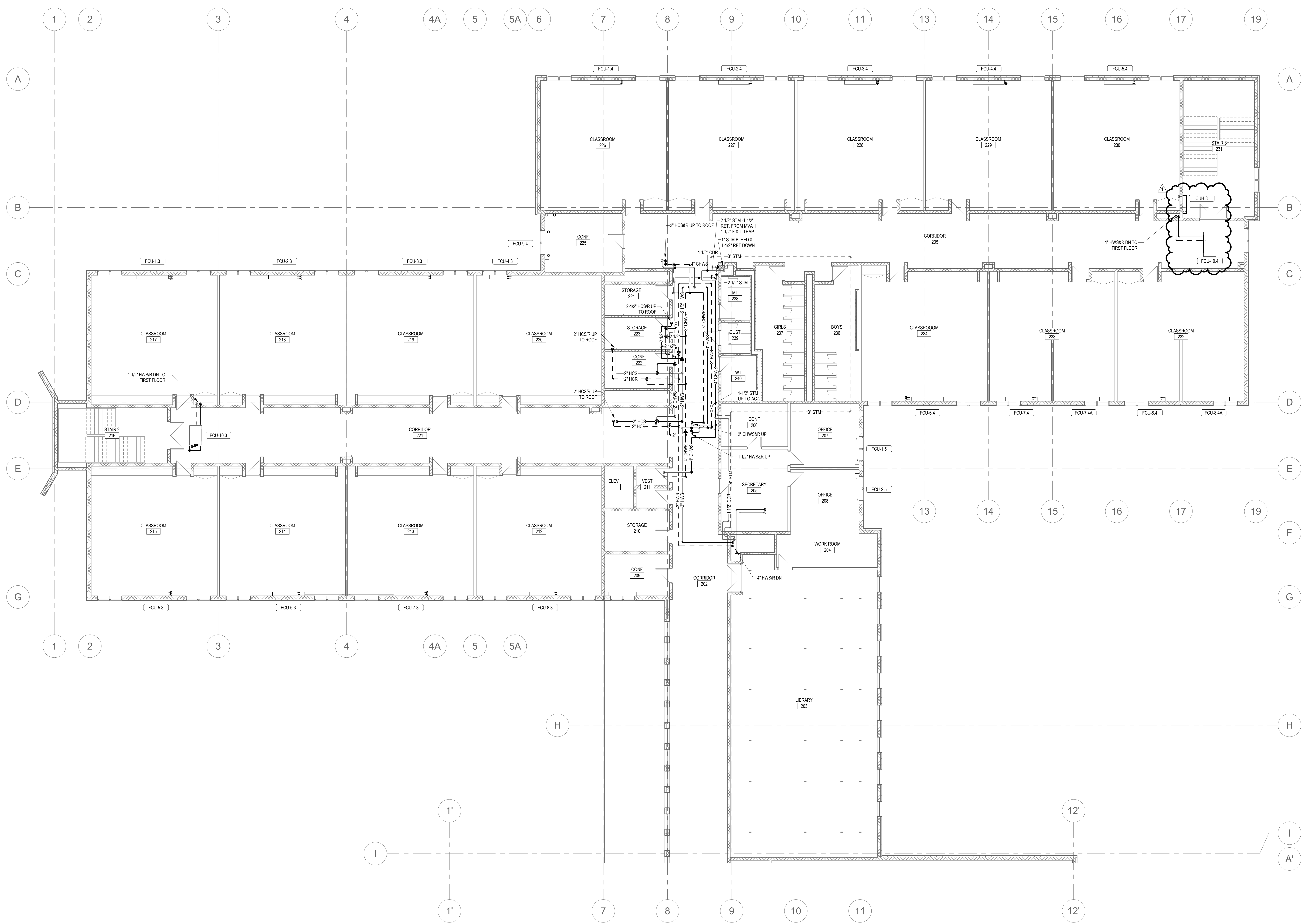
Date: April 15, 2020  
Drawn By: MRC  
Reviewed By: SEH  
Approved By: SEH  
W&S Project No: 2191117

Drawing Title:  
**FIRST FLOOR  
PIPING PLAN  
PART B**

Sheet Number:  
**H201B**

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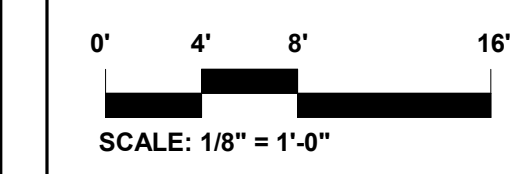
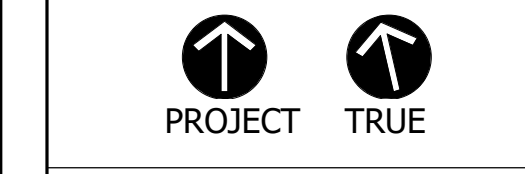


Seal:

Revisions:

Rev	Date	Description
1	4/15/2020	ADDENDUM #1

Issued For: ADDENDUM #1

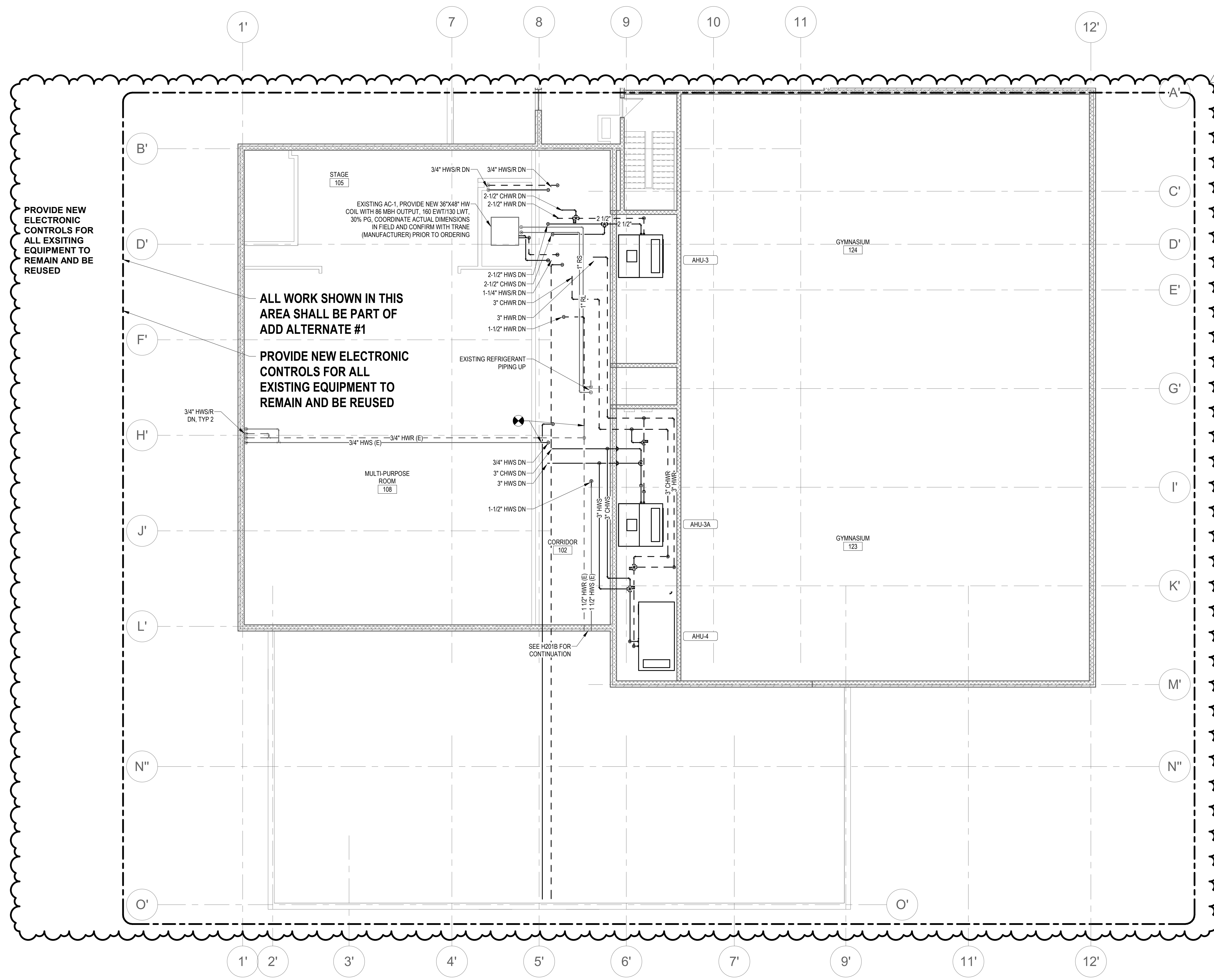


Date: April 15, 2020  
 Drawn By: MRC  
 Reviewed By: SEH  
 Approved By: SEH  
 W&S Project No: 2191117

Drawing Title:  
**SECOND FLOOR PIPING PART PLAN A**

Sheet Number:

**H202A**  
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PROVIDE NEW ELECTRONIC CONTROLS FOR ALL EXISTING EQUIPMENT TO REMAIN AND BE REUSED

ALL WORK SHOWN IN THIS AREA SHALL BE PART OF ADD ALTERNATE #1

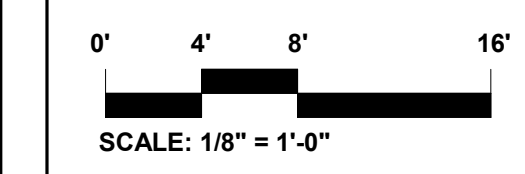
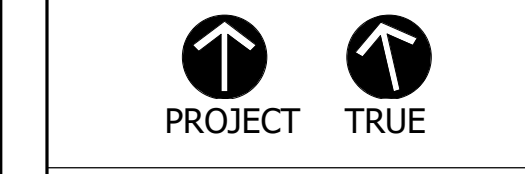
PROVIDE NEW ELECTRONIC CONTROLS FOR ALL EXISTING EQUIPMENT TO REMAIN AND BE REUSED

Seal:

Revisions:

Rev	Date	Description
1	4/15/2020	ADDENDUM #1

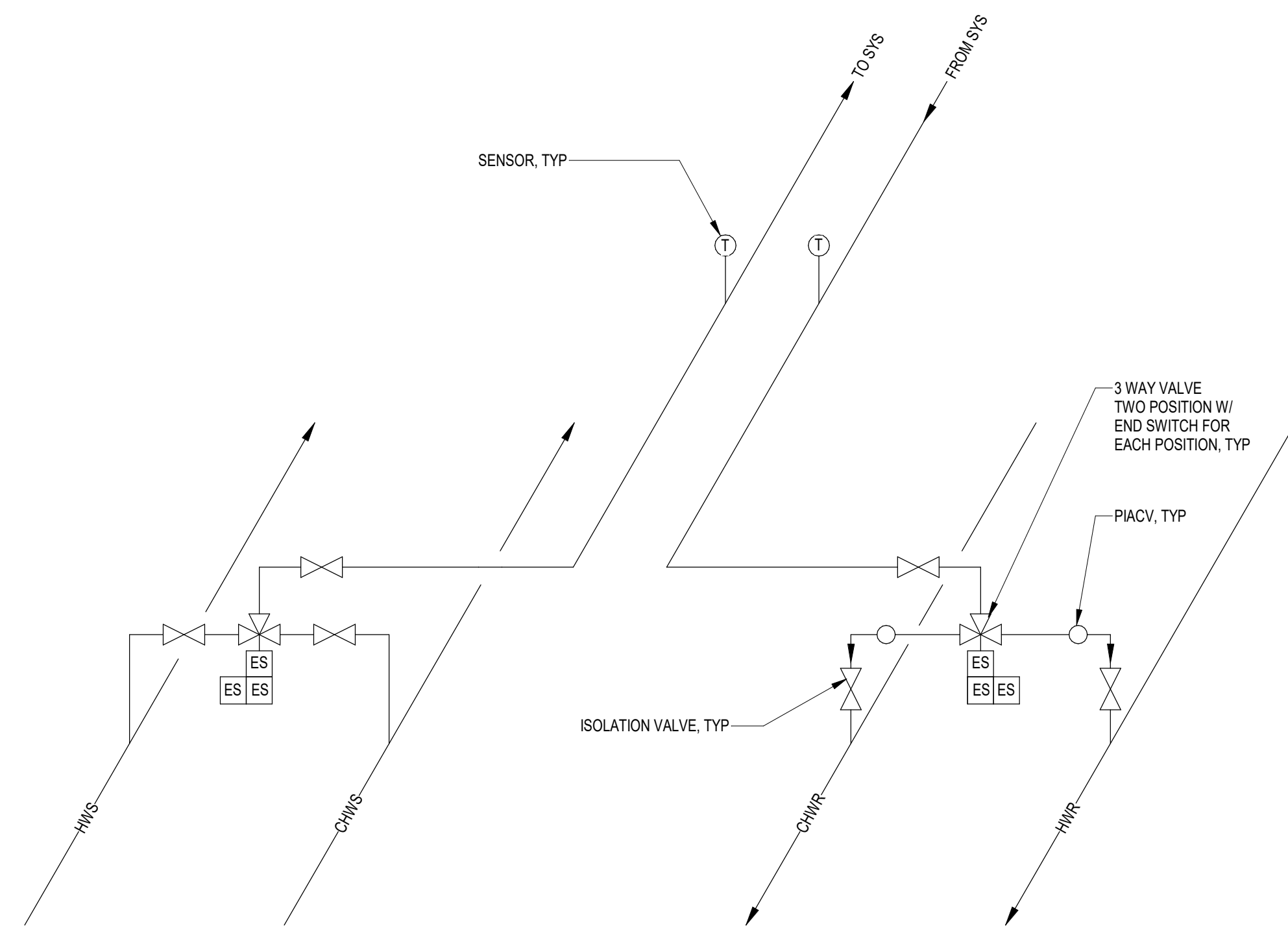
Issued For: **ADDENDUM #1**



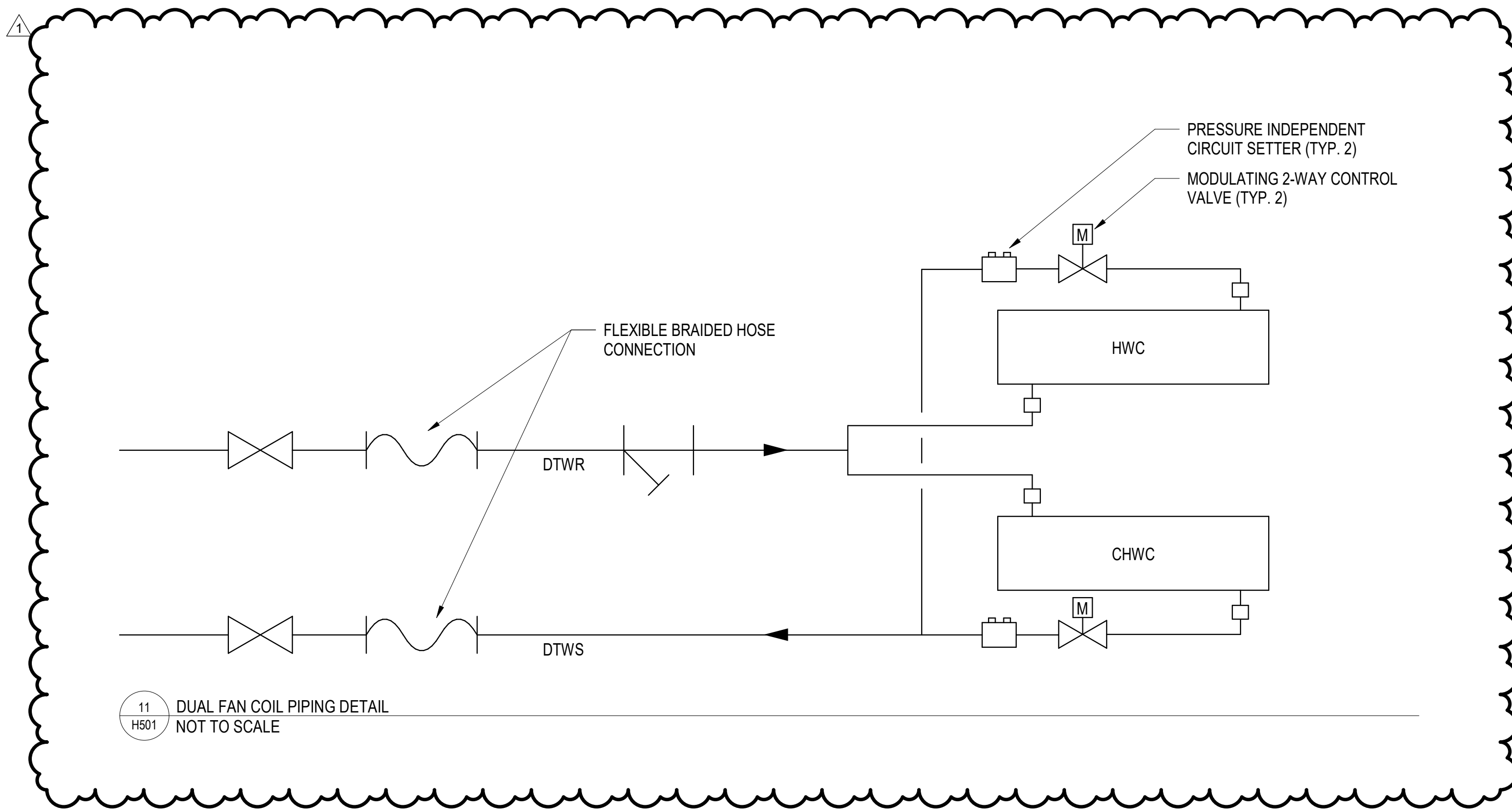
Date: April 15, 2020  
 Drawn By: MRC  
 Reviewed By: SEH  
 Approved By: SEH  
 W&S Project No: 2191117

Drawing Title:  
**SECOND FLOOR PIPING PLAN PART B**

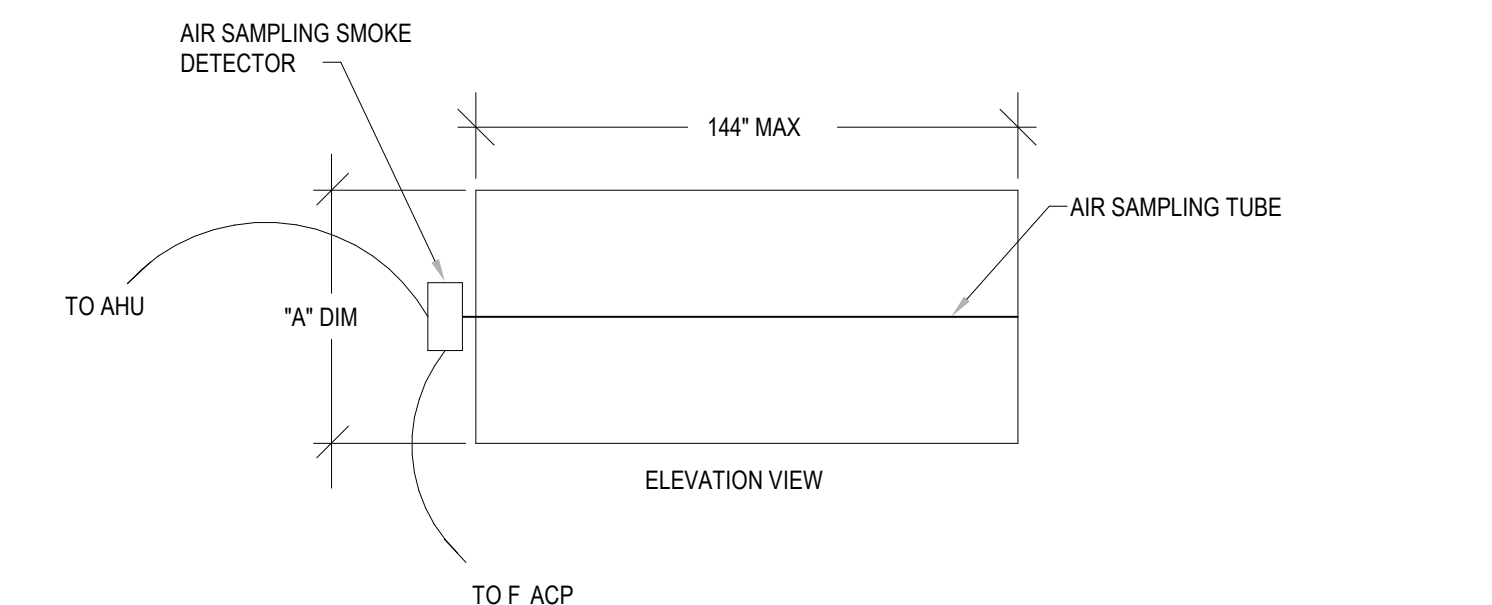
Sheet Number:  
**H202B**  
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9 FOUR PIPE TO TWO PIPE  
H501 NOT TO SCALE



11 DUAL FAN COIL PIPING DETAIL  
H501 NOT TO SCALE

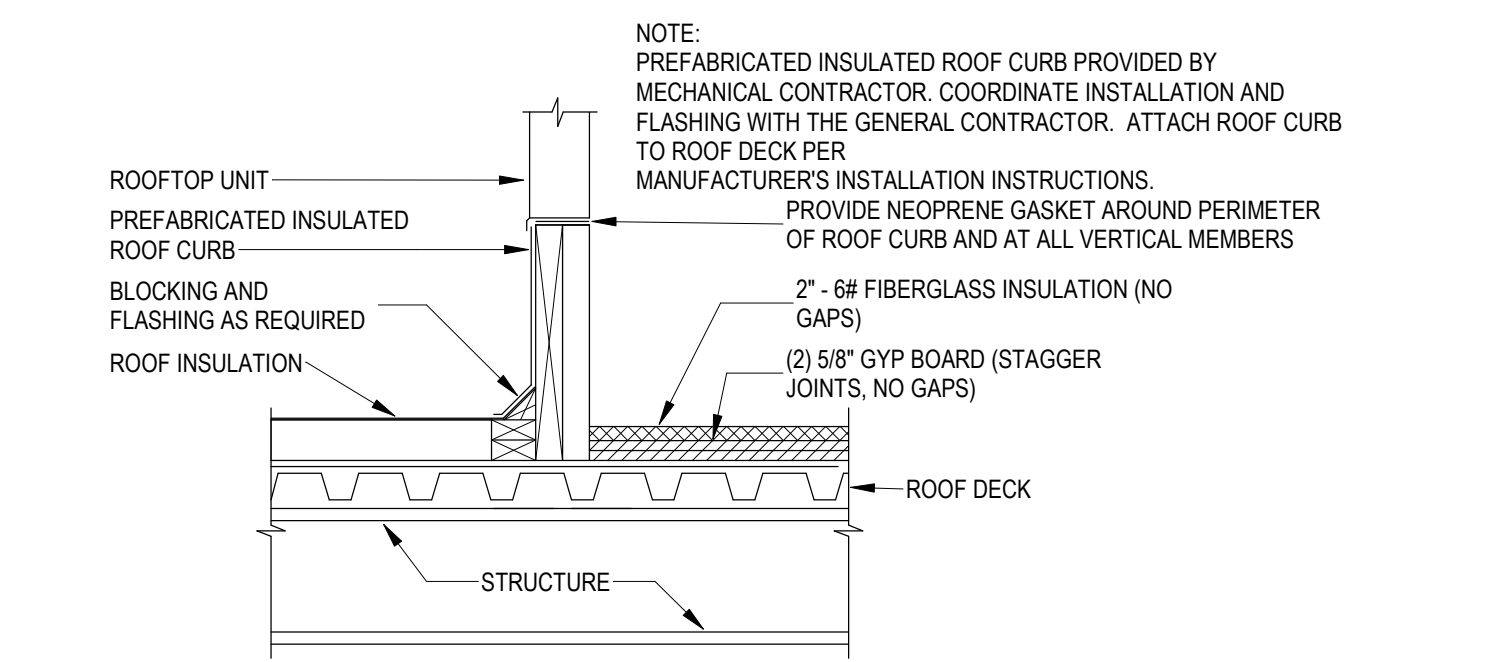


NOTE:

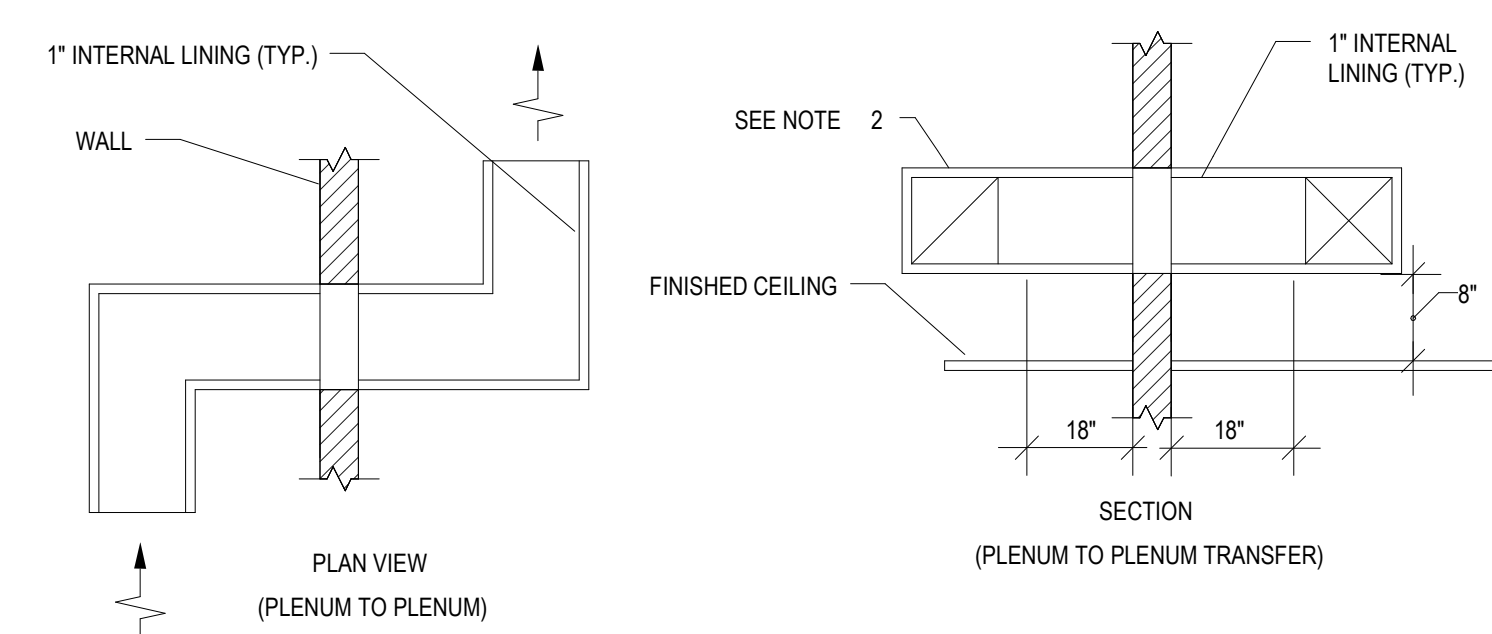
- SMOKE DETECTORS SHALL BE IN ACCORDANCE WITH NFPA 72 AND ELECTRICAL SPECIFICATIONS. DETECTORS SHALL BE FURNISHED AND WIRED TO THE FIRE ALARM CONTROL PANEL (FACP) BY THE ELECTRICAL CONTRACTOR, INSTALLED BY THE HVAC CONTRACTOR, AND WIRED TO ITS RESPECTIVE UNIT BY THE ATC CONTRACTOR.
- SMOKE DETECTORS SHALL BE EQUALLY SPACED AS DEFINED BY THE ELEVATION PARAMETERS.

"A" DIM	NO. OF SMOKE DETECTORS
36"	1
72"	2
96"	3
120"	4
144"	5

6 DUCT SMOKE DETECTOR DETAIL  
H501 NOT TO SCALE



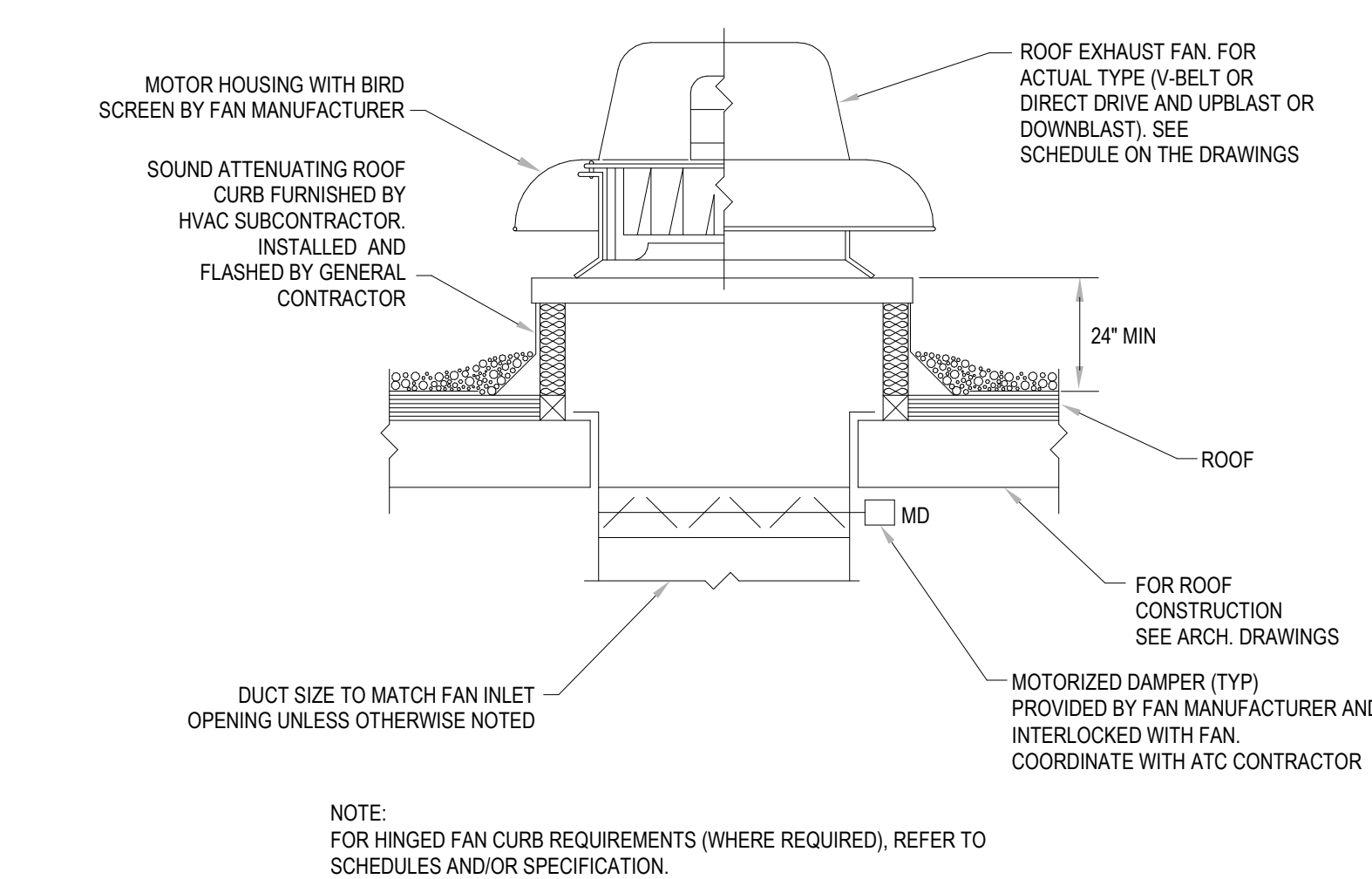
7 ROOFTOP UNIT CURB INSTALLATION DETAIL  
H501 NOT TO SCALE



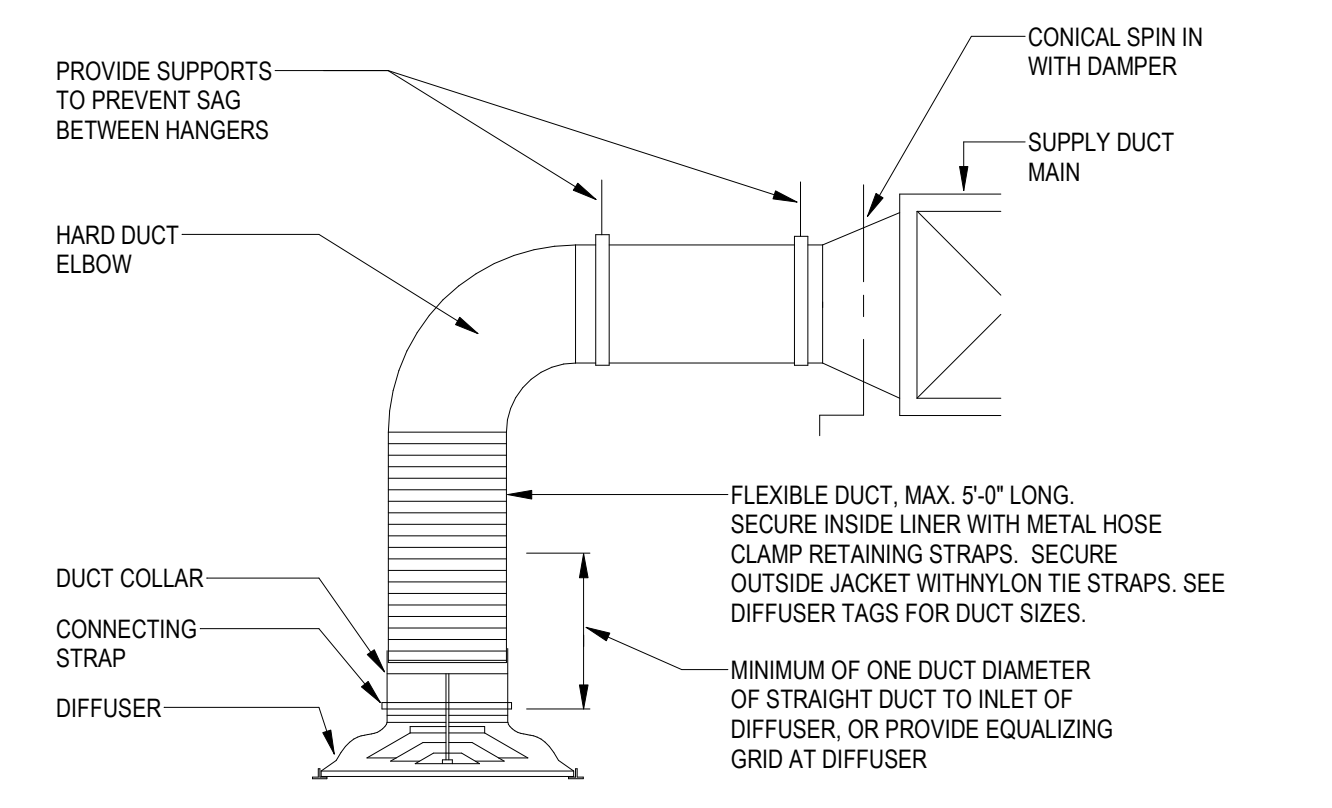
NOTES:  
REFER TO ARCHITECTURAL DRAWINGS FOR FULL HEIGHT WALL PARTITIONS. PROVIDE TRANSFER AIR DUCT IN EACH ROOM AND/OR WHERE SHOWN ON THE DRAWINGS. REFER TO FLOOR PLANS FOR TRANSFER DUCT SIZE.

- SUPPORT TRANSFER DUCT FROM STRUCTURE ABOVE.
- OPEN END DUCT.

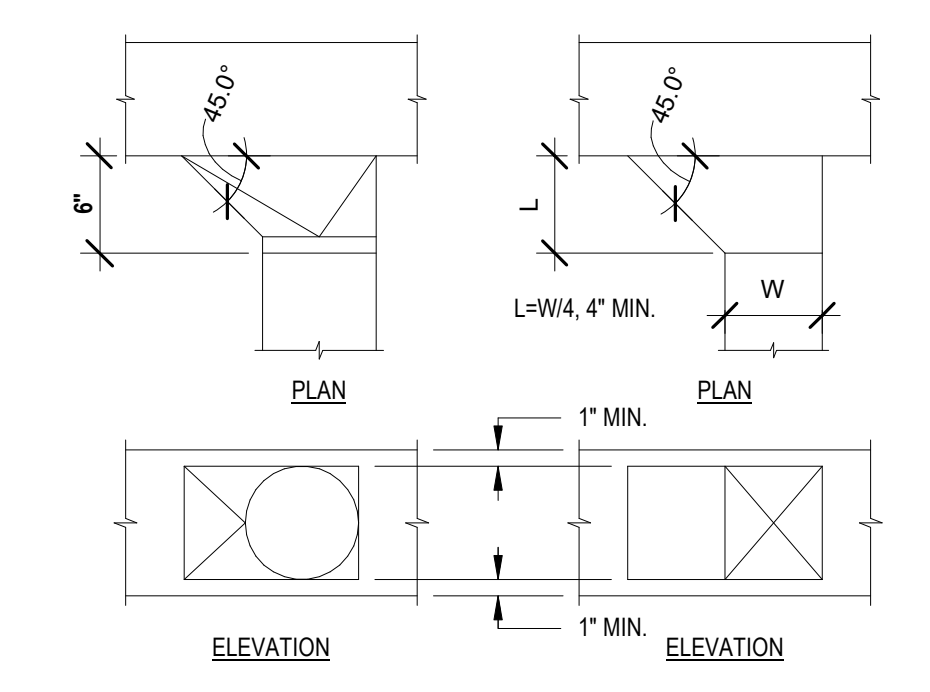
8 TRANSFER DUCT DETAIL  
H501 NOT TO SCALE



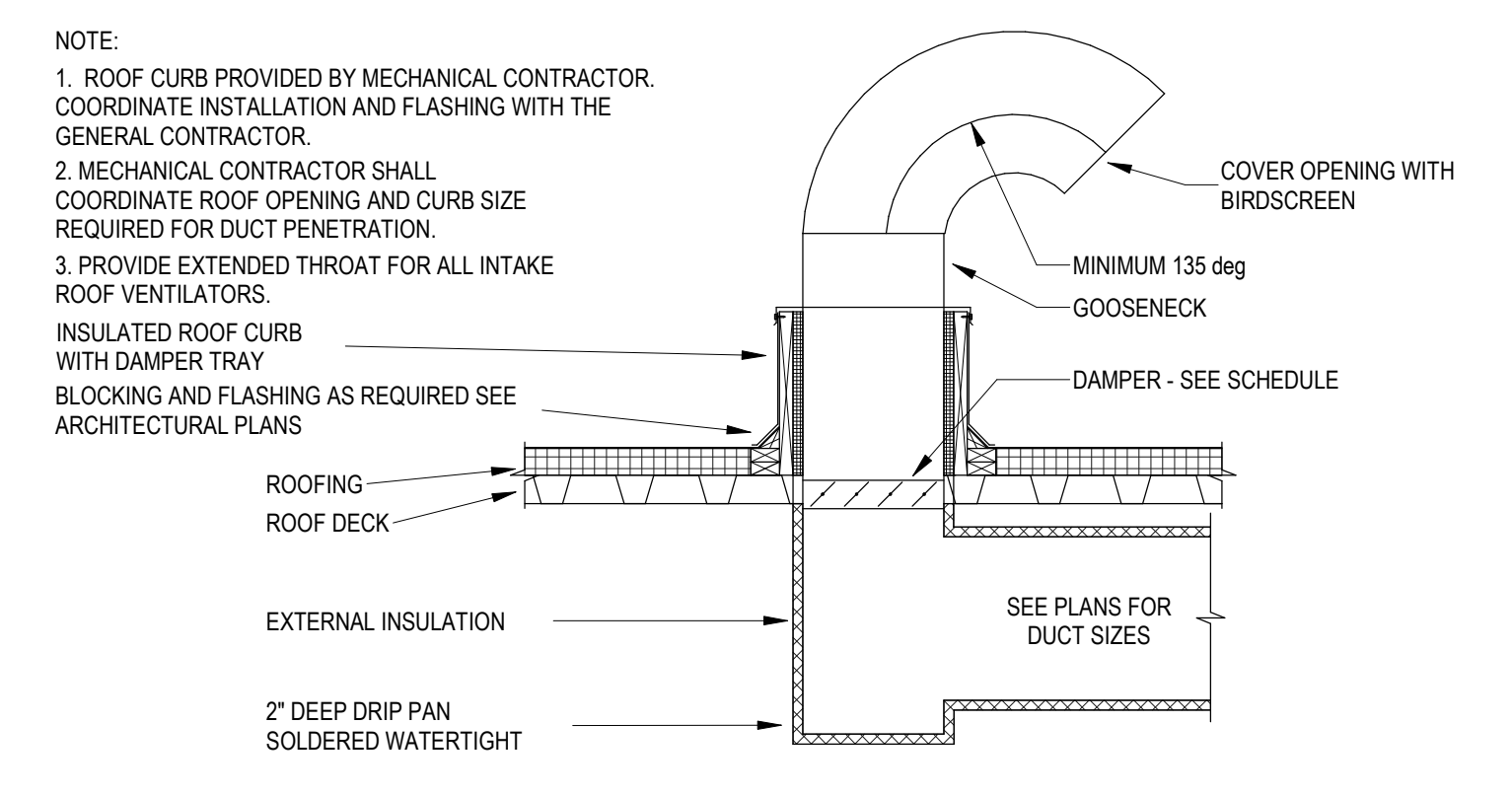
10 ROOF EXHAUST FAN DETAIL  
H501 NOT TO SCALE



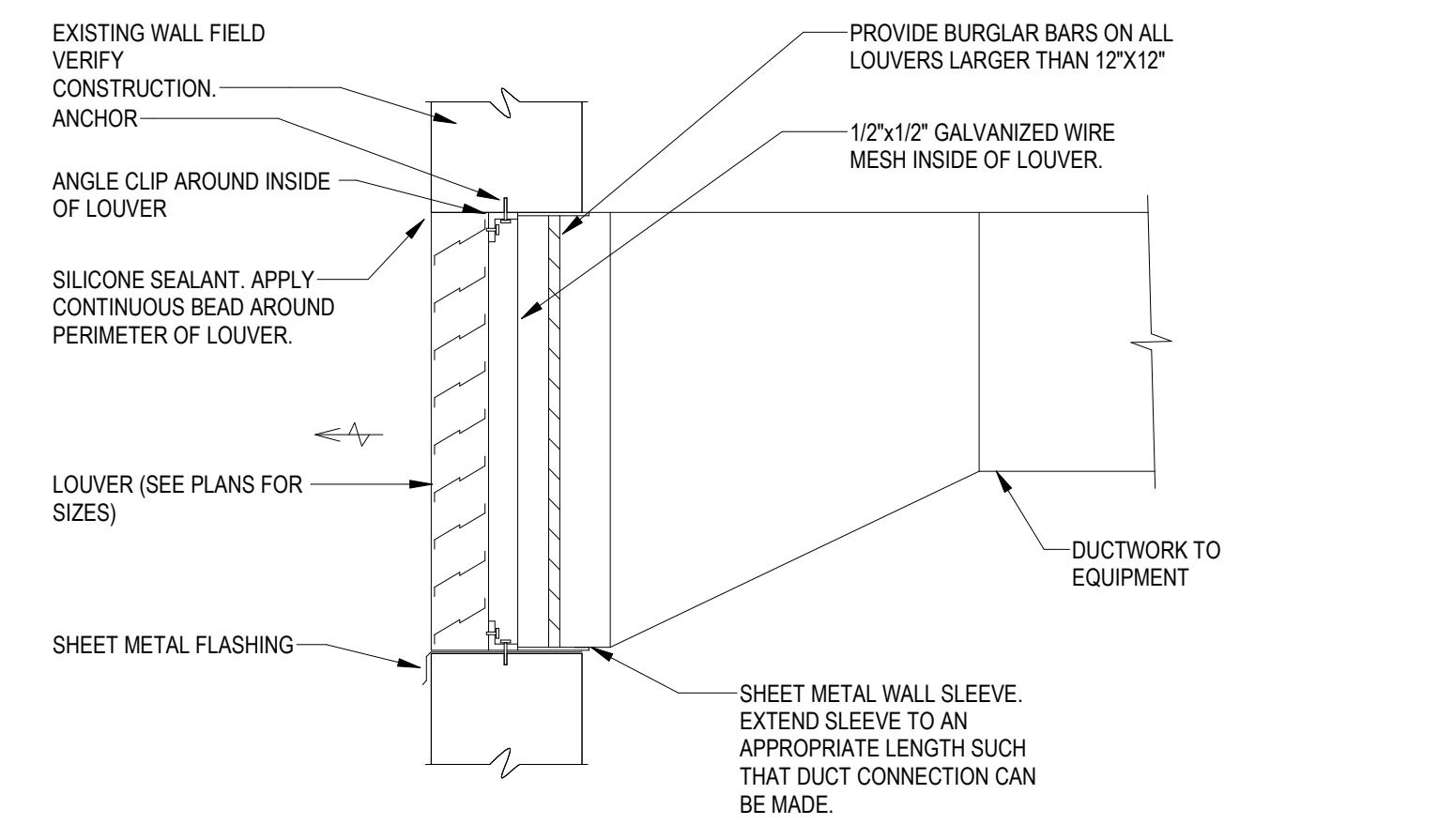
1 DIFFUSER FLEXIBLE DUCT CONNECTION  
H501 NOT TO SCALE



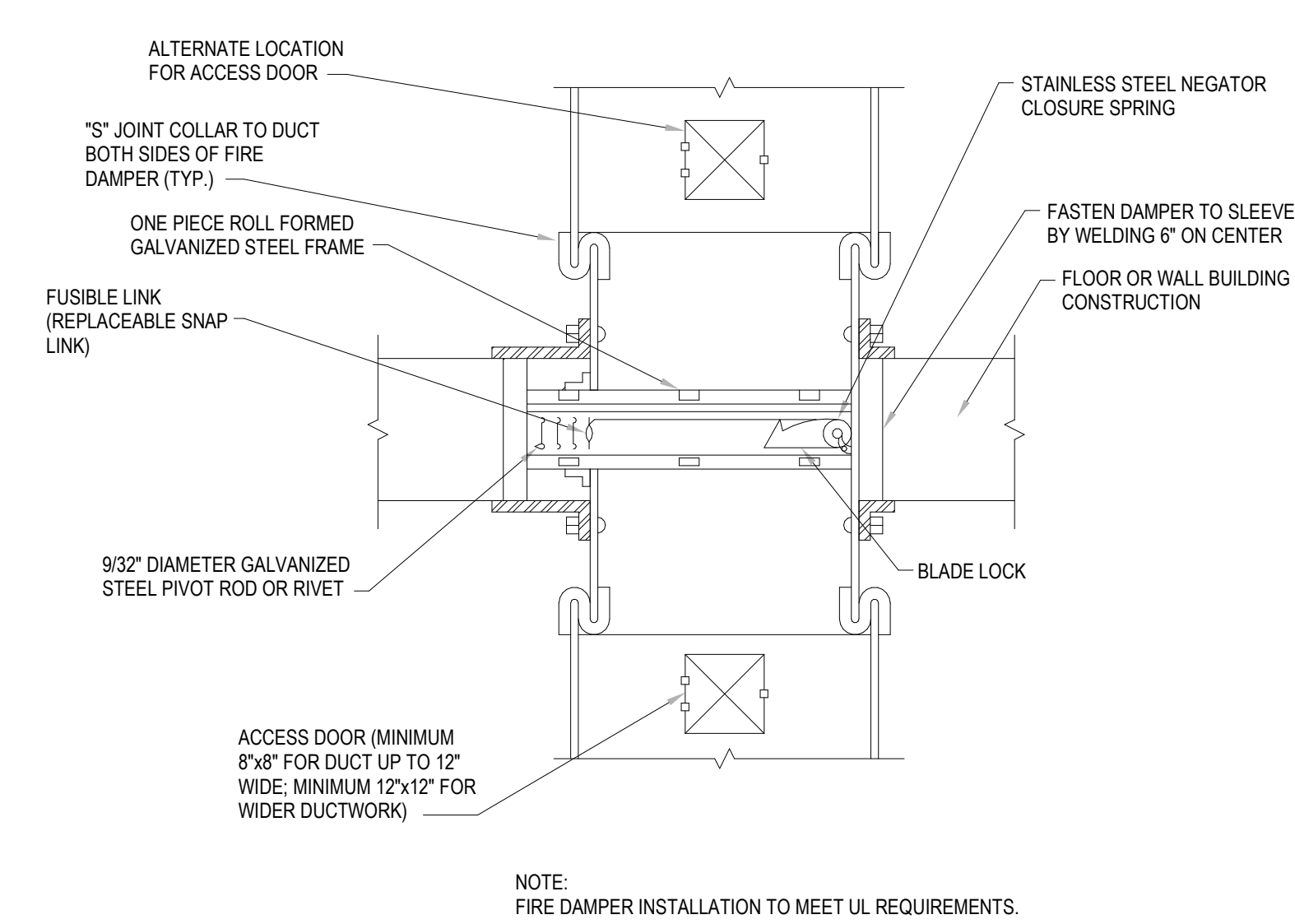
2 DUCT TAKE-OFF DETAIL  
H501 NOT TO SCALE



3 GOOSENECK DETAIL - INTAKE OR EXHAUST  
H501 NOT TO SCALE



4 LOUVER ASSEMBLY DETAIL  
H501 NOT TO SCALE



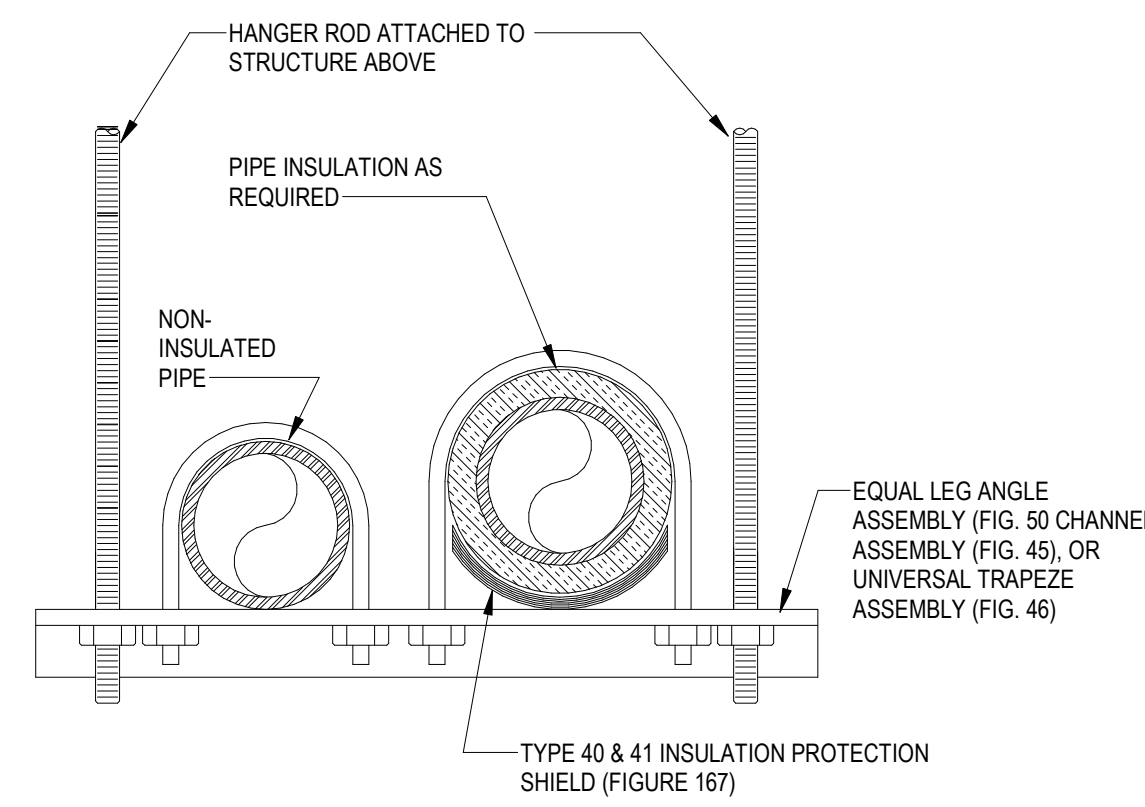
5 FIRE DAMPER DETAIL  
H501 NOT TO SCALE

Revisions:

Rev	Date	Description
1	4/15/2020	ADDENDUM #1

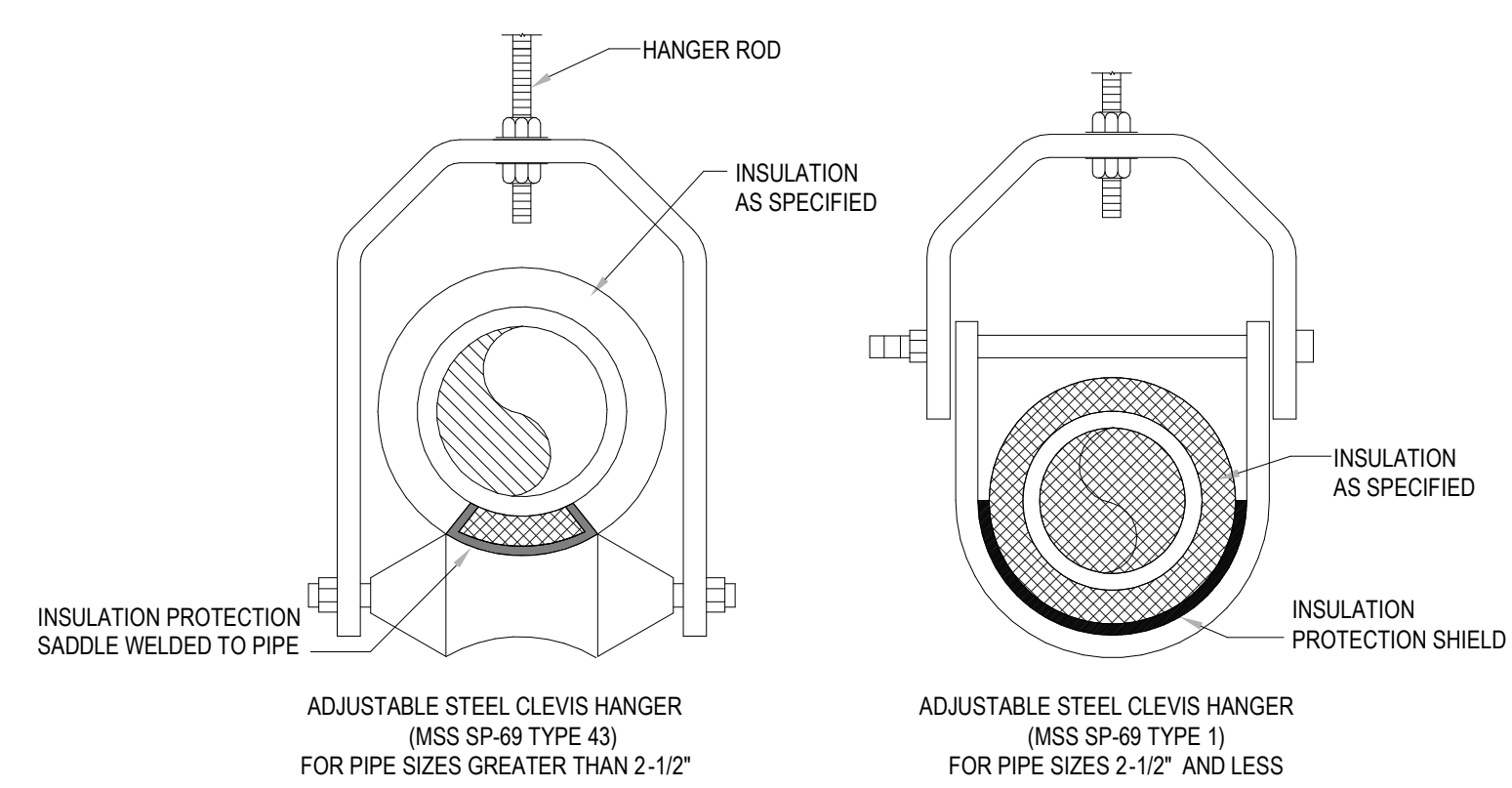
Issued For: ADDENDUM #1

Date: April 15, 2020  
Drawn By: MRC  
Reviewed By: SEH  
Approved By: SEH  
W&S Project No: 2191117



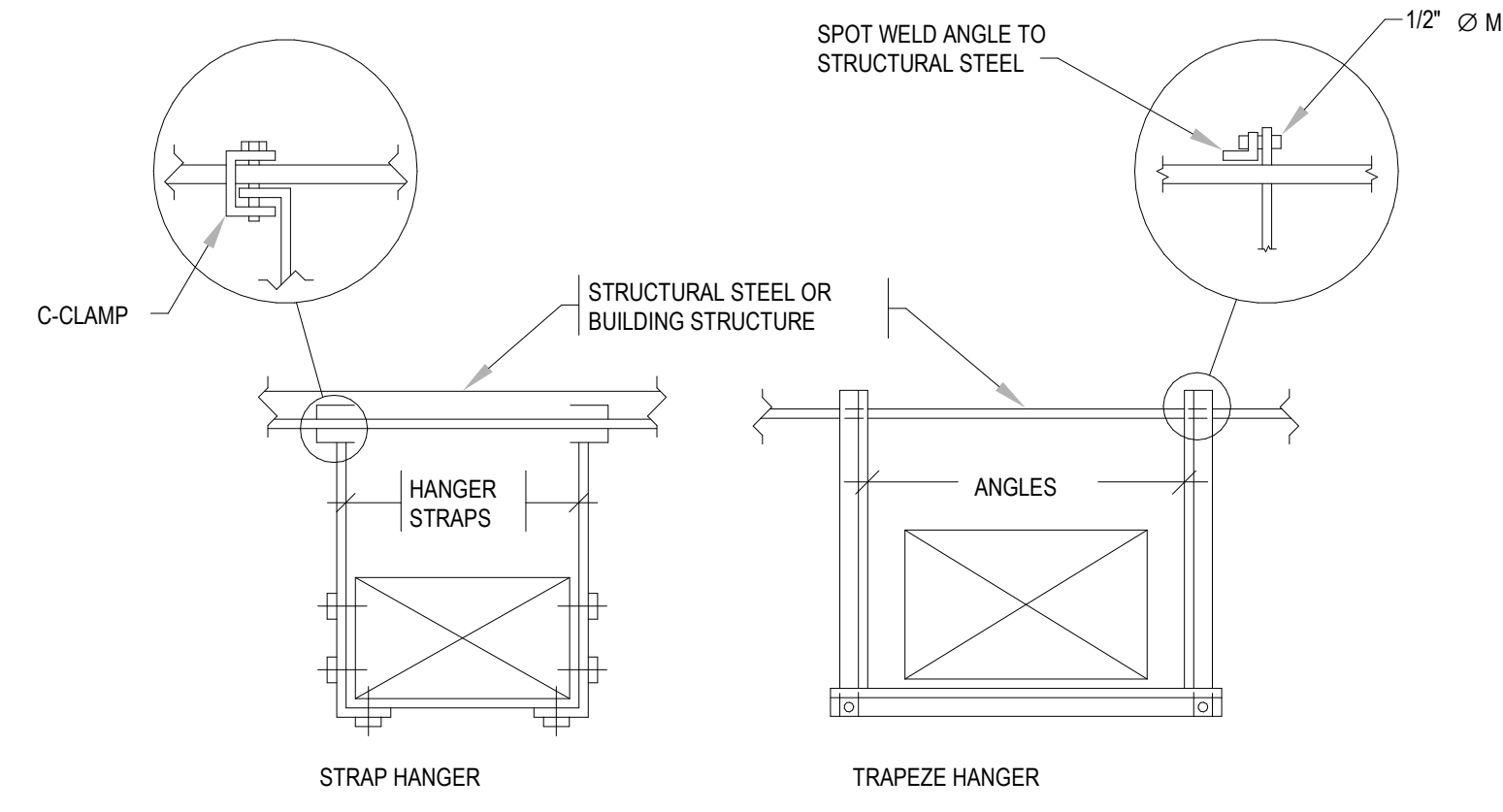
- NOTES:
1. SIZE RODS, SPRING CUSHION, AND HORIZONTAL MEMBER APPROVED TO SATISFY LOAD REQUIREMENT WITH SAFETY FACTOR OF 5.
  2. FIGURE NUMBERS ARE TYPICAL TO GRINNELL SUPPORT NUMBERS.

5 TRAPEZE TYPE PIPE SUPPORT  
1/8" = 1'-0"



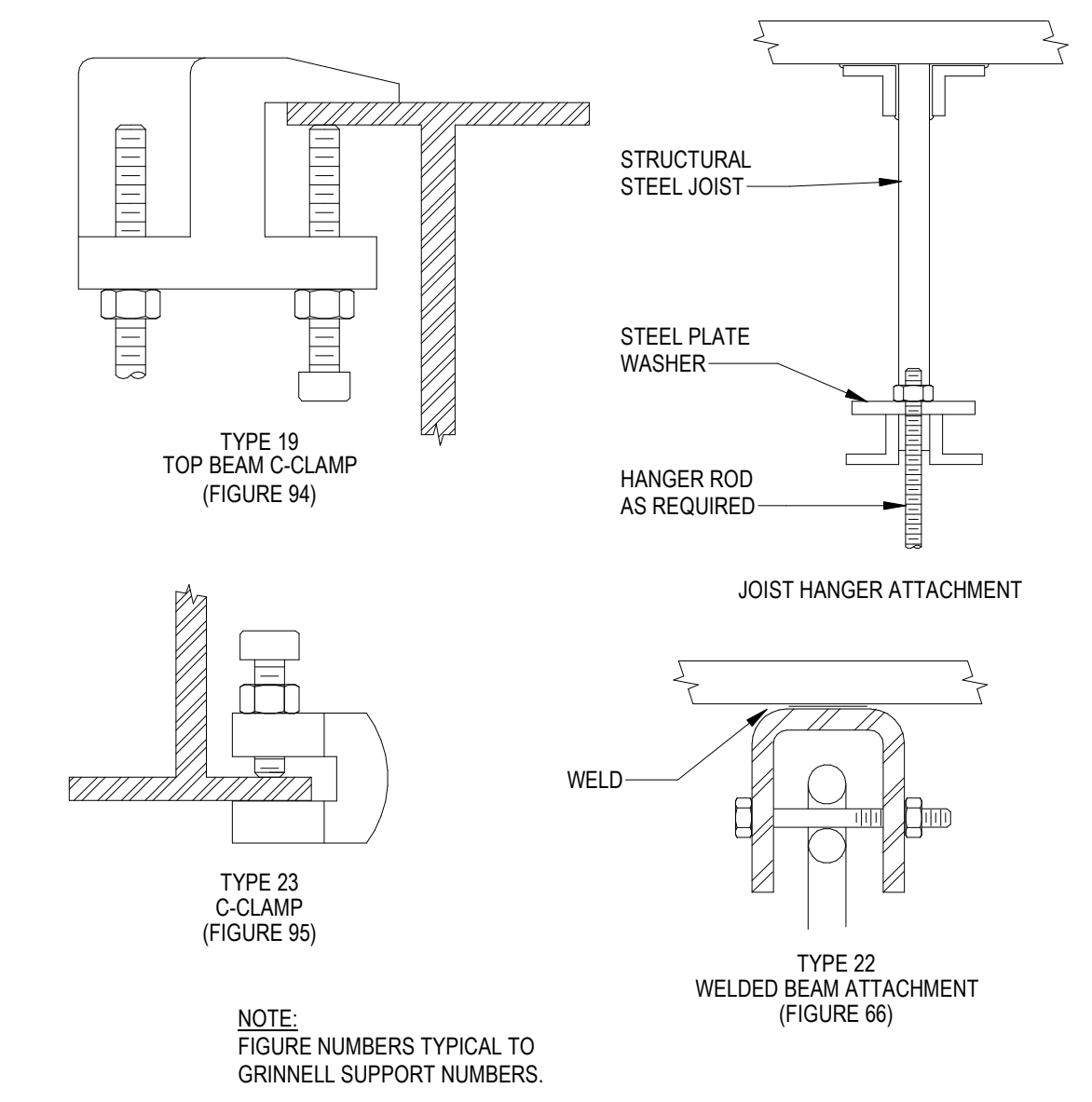
- NOTES:
1. FOR TYPE OF HANGER AND INSULATION REQUIREMENTS REFER TO SPECIFICATIONS.
  2. SERVICE PIPING AS INDICATED IN SPECIFICATIONS SHALL BE INSTALLED ON ROLLER HANGERS.

6 PIPE HANGING DETAIL  
NO SCALE

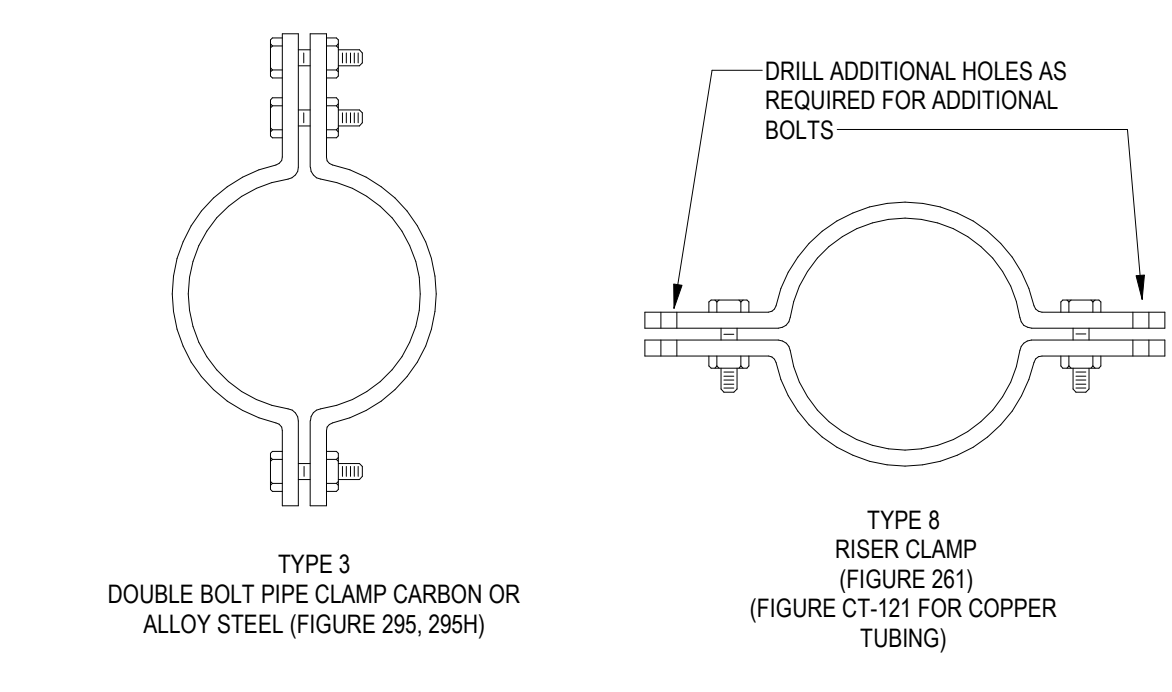


- NOTES:
1. REFER TO OTHER DETAILS ON THIS DRAWING FOR HIGH VELOCITY DUCTWORK DETAILS AS REQUIRED.
  2. FOR STRAP AND TRAPEZE HANGER SIZE, REFER TO SMACNA DUCT STANDARDS.
  3. NO POP RIVETS ALLOWED, USE SELF-TAPPING SHEET METAL SCREWS ONLY.

7 DUCT HANGING DETAIL  
1/8" = 1'-0"

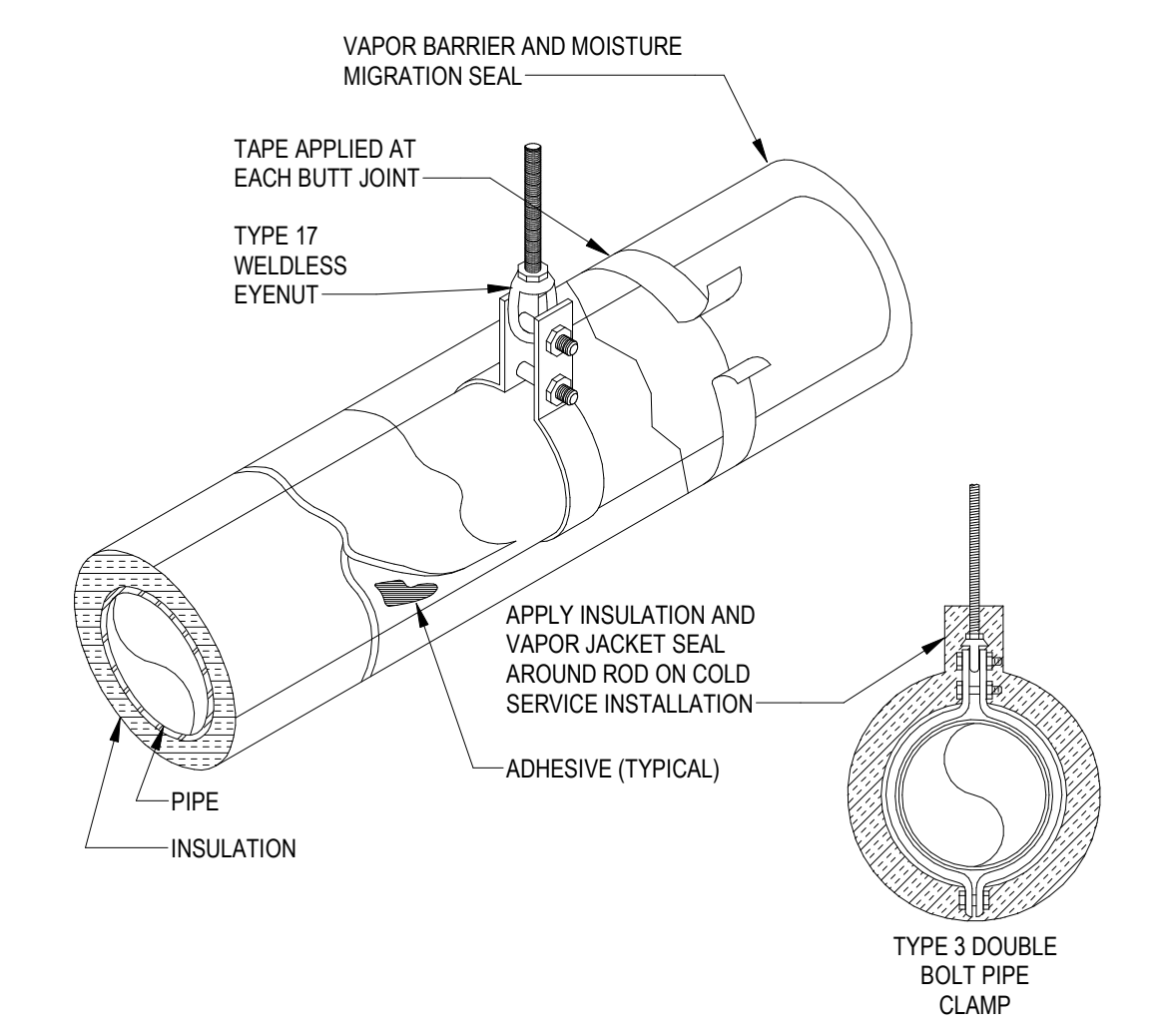


1 C-CLAMPS, JOIST HANGER ROD, AND WELDED BEAM ATTACHMENTS  
1/8" = 1'-0"

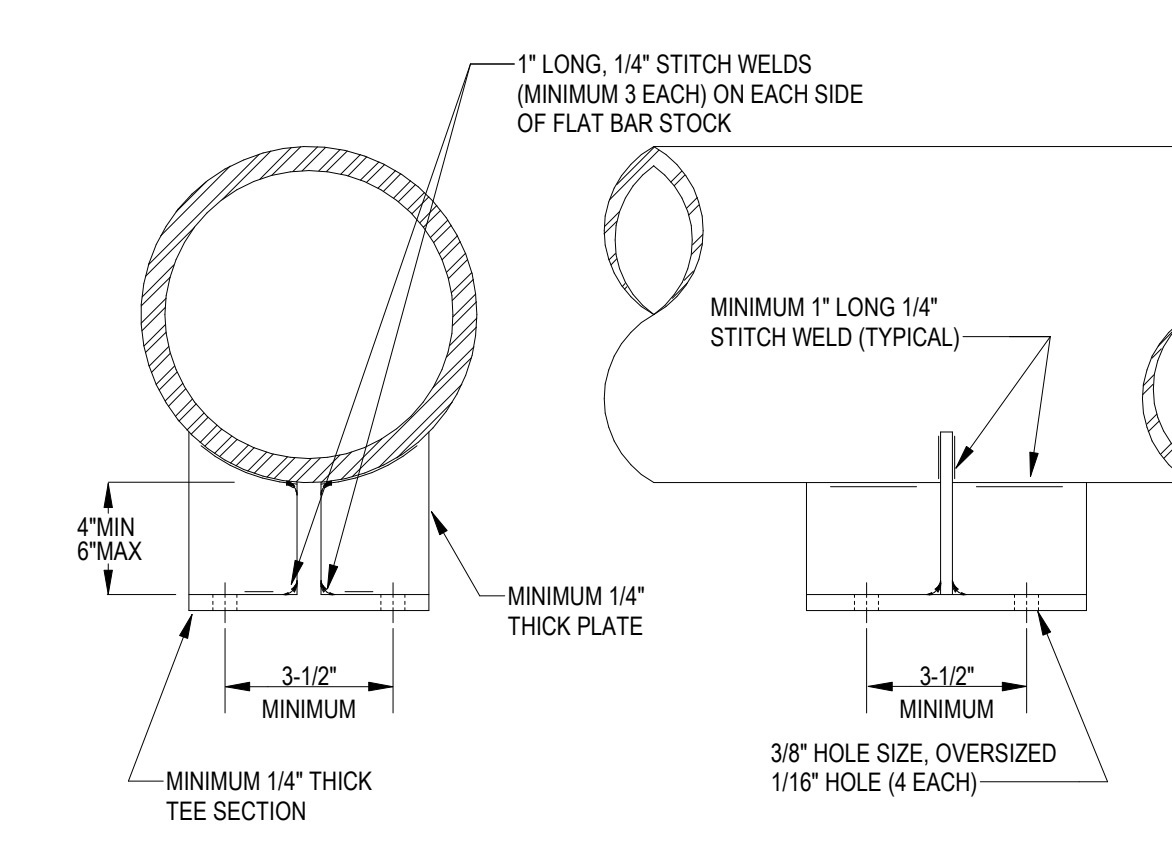


- NOTE:
- FIGURE NUMBERS ARE TYPICAL TO GRINNELL SUPPORT NUMBERS.

2 PIPE CLAMPS  
1/8" = 1'-0"



3 PIPE HANGER, INSULATION AND VAPOR JACKET  
1/8" = 1'-0"



- NOTES:
1. SUPPORT WITH APPROVED ANCHORS TO MATCH BASE MATERIALS AND LOCAL REQUIREMENTS.
  2. STRUCTURAL TEE SECTION CUT AT WEB CENTER OF W-SHAPE STEEL BEAM.

4 T-BAR MOUNTED PIPE ANCHOR  
1/8" = 1'-0"

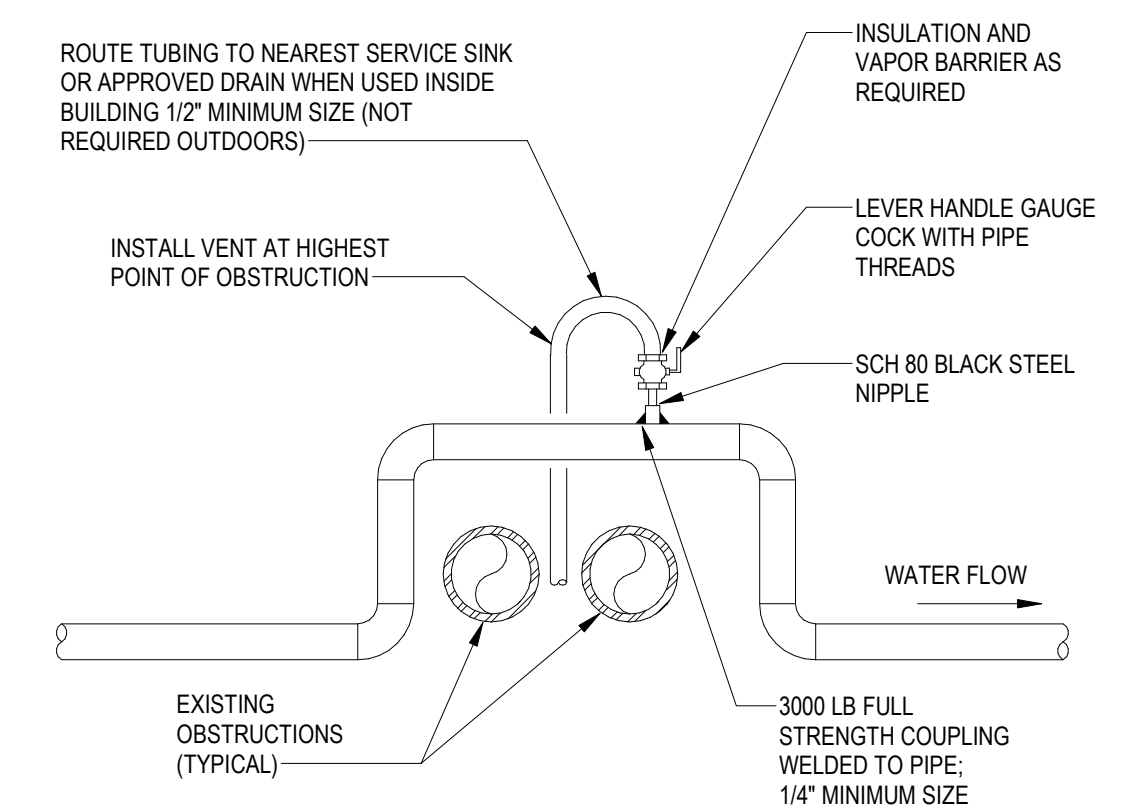
Seal:

Revisions:

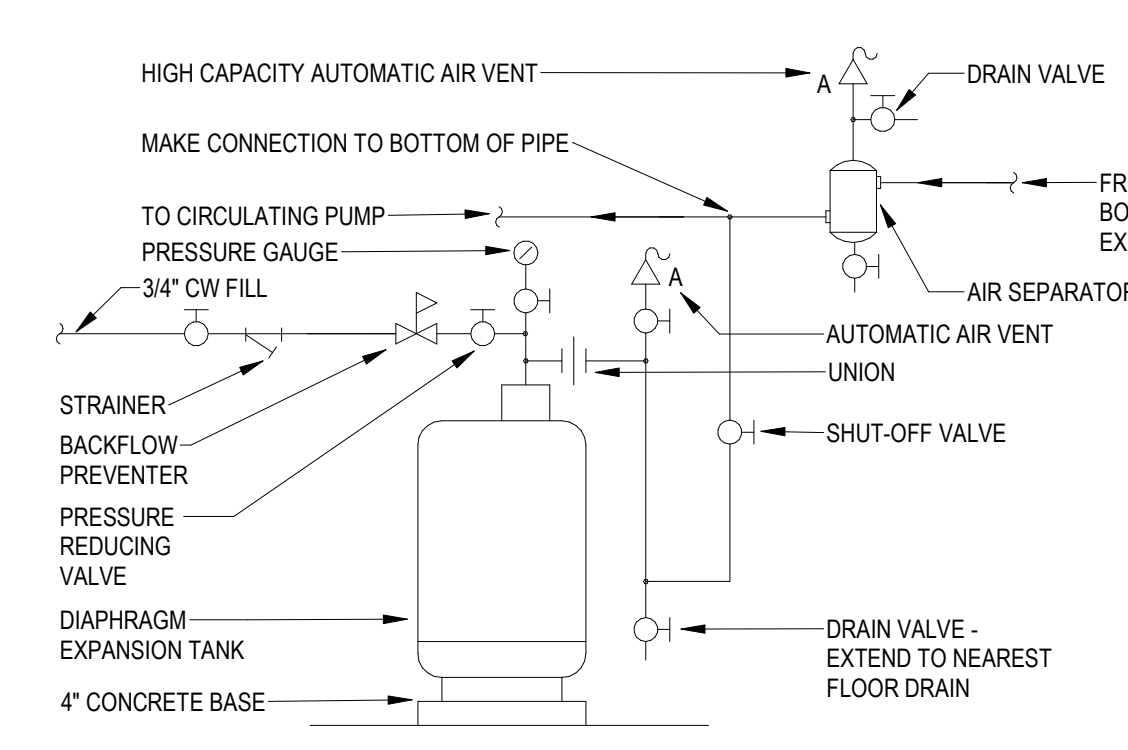
Rev	Date	Description

Issued For: BID SET

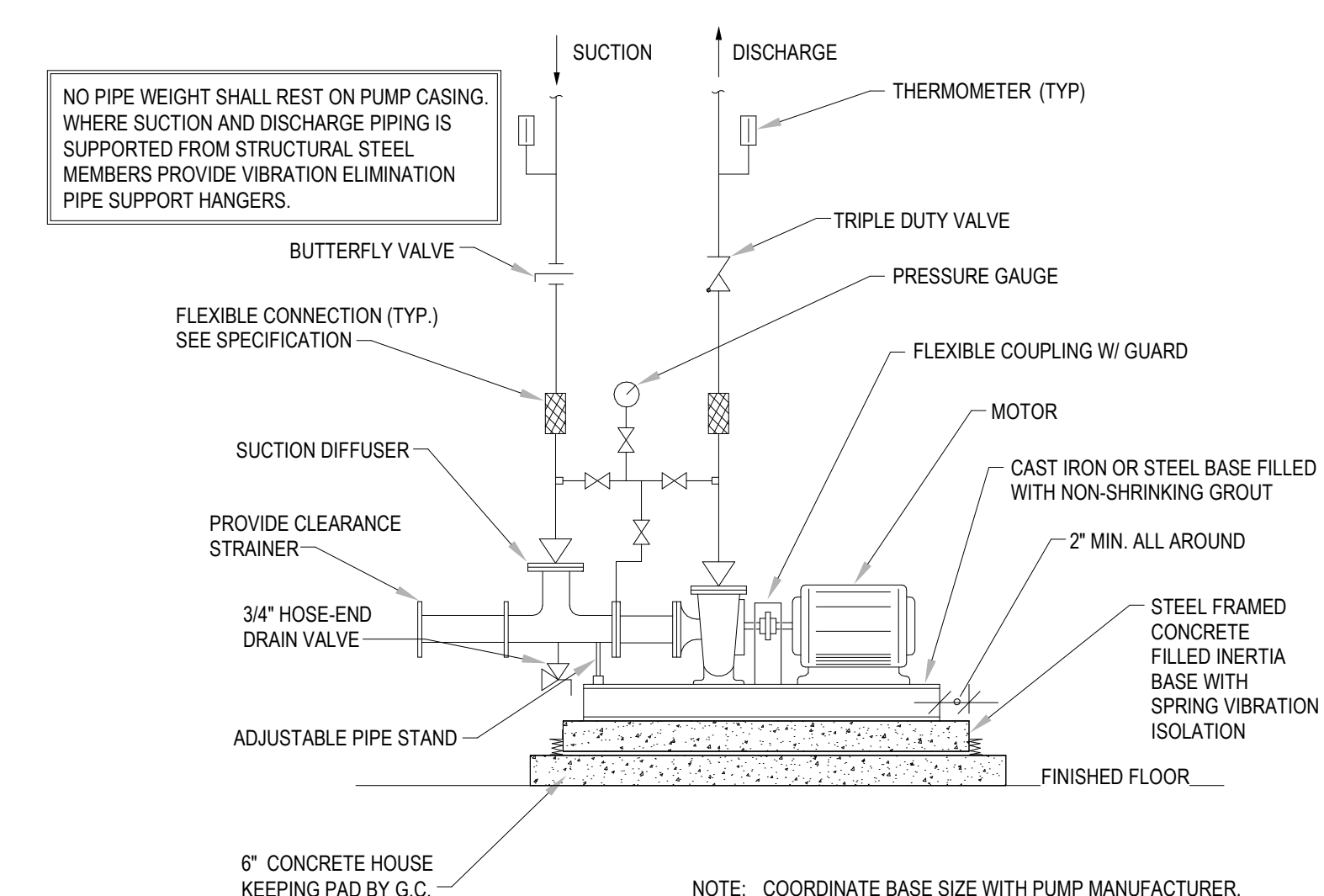
Date: April 2, 2020  
Drawn By: MRC  
Reviewed By: SEH  
Approved By: SEH  
W&S Project No: 219117



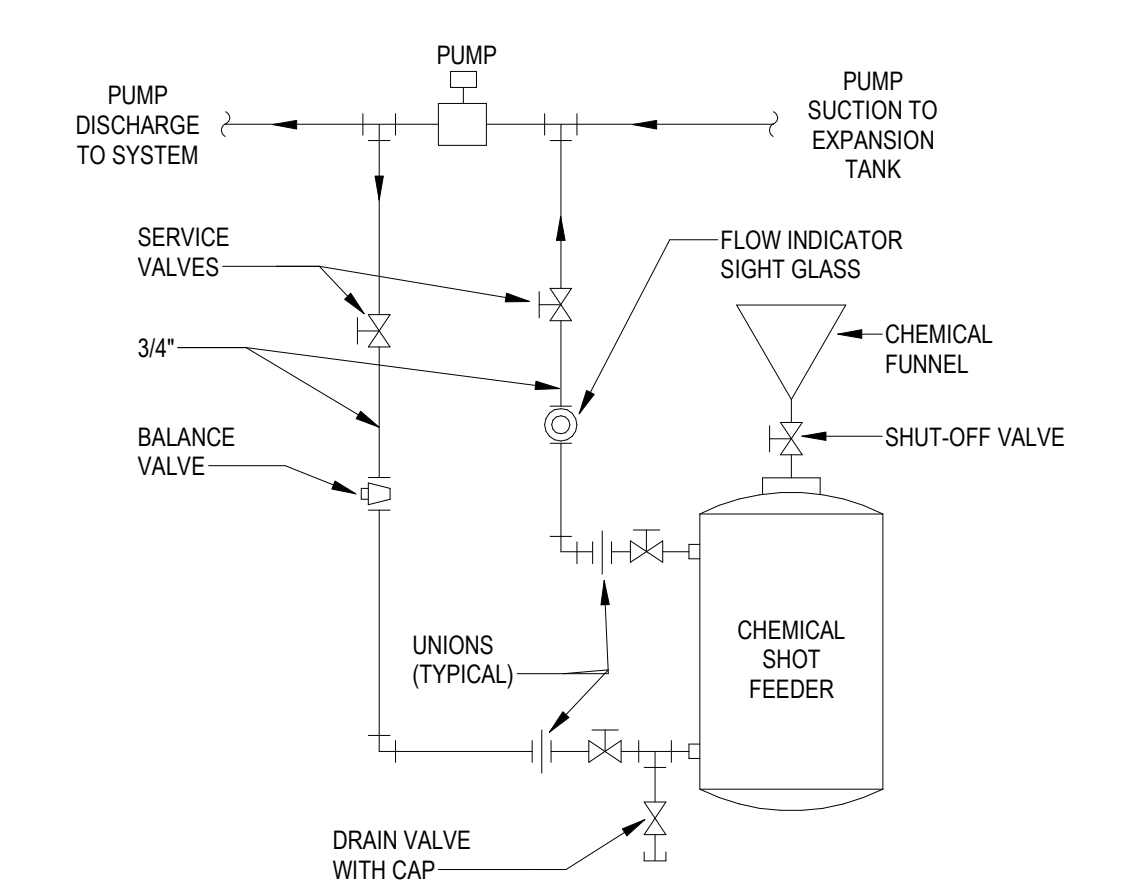
5 HIGH POINT MANUAL AIR VENT  
1/8" = 1'-0"



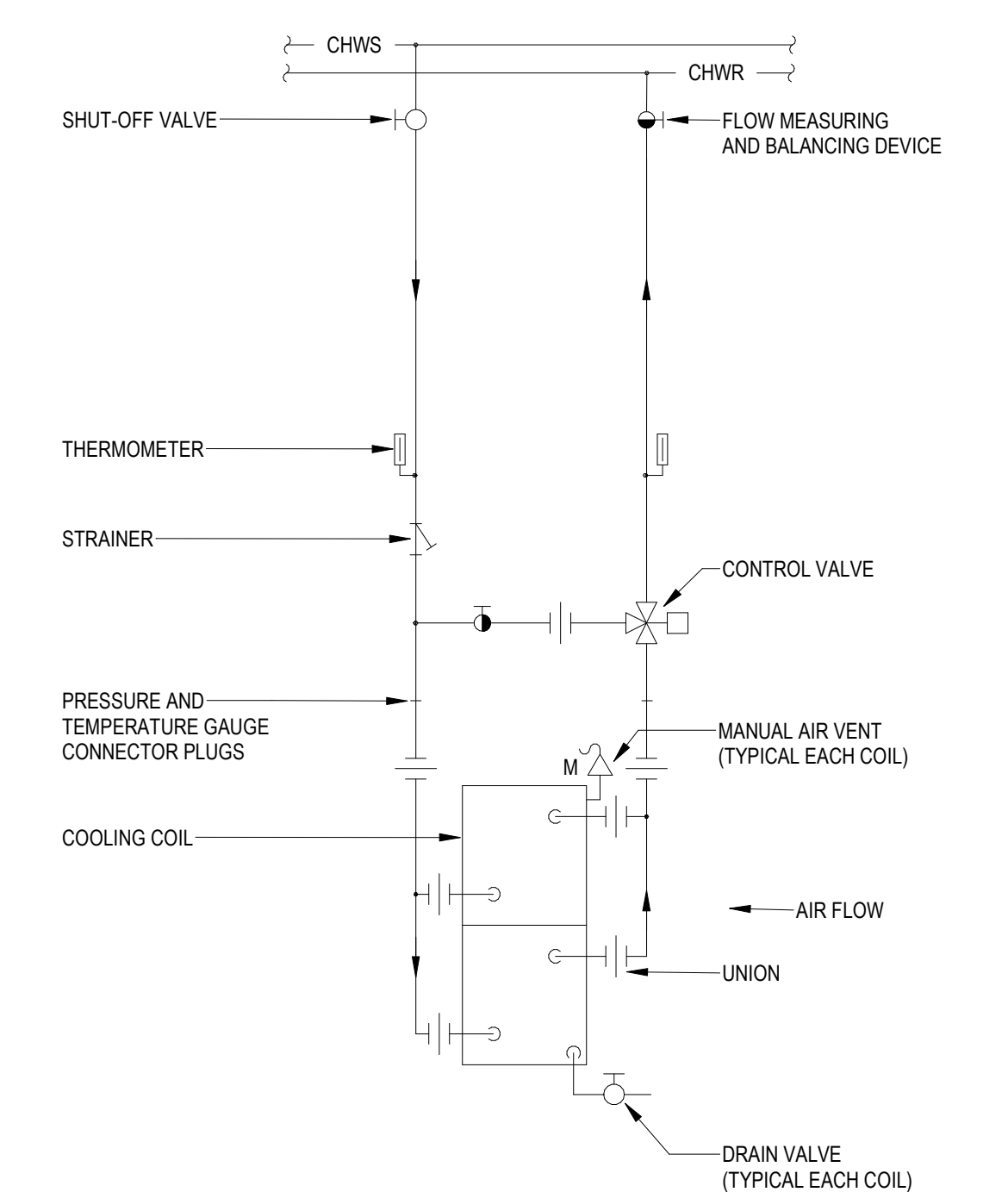
6 EXPANSION TANK PIPING DETAIL  
NO SCALE



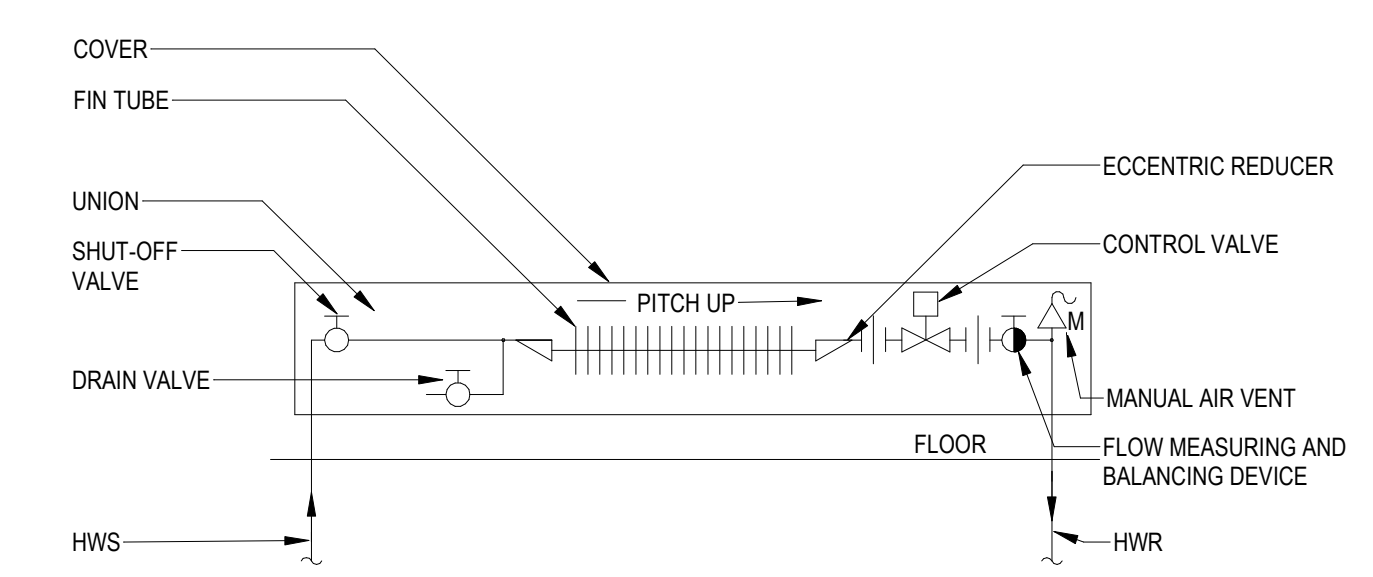
7 END SUCTION PUMP DETAIL  
NO SCALE



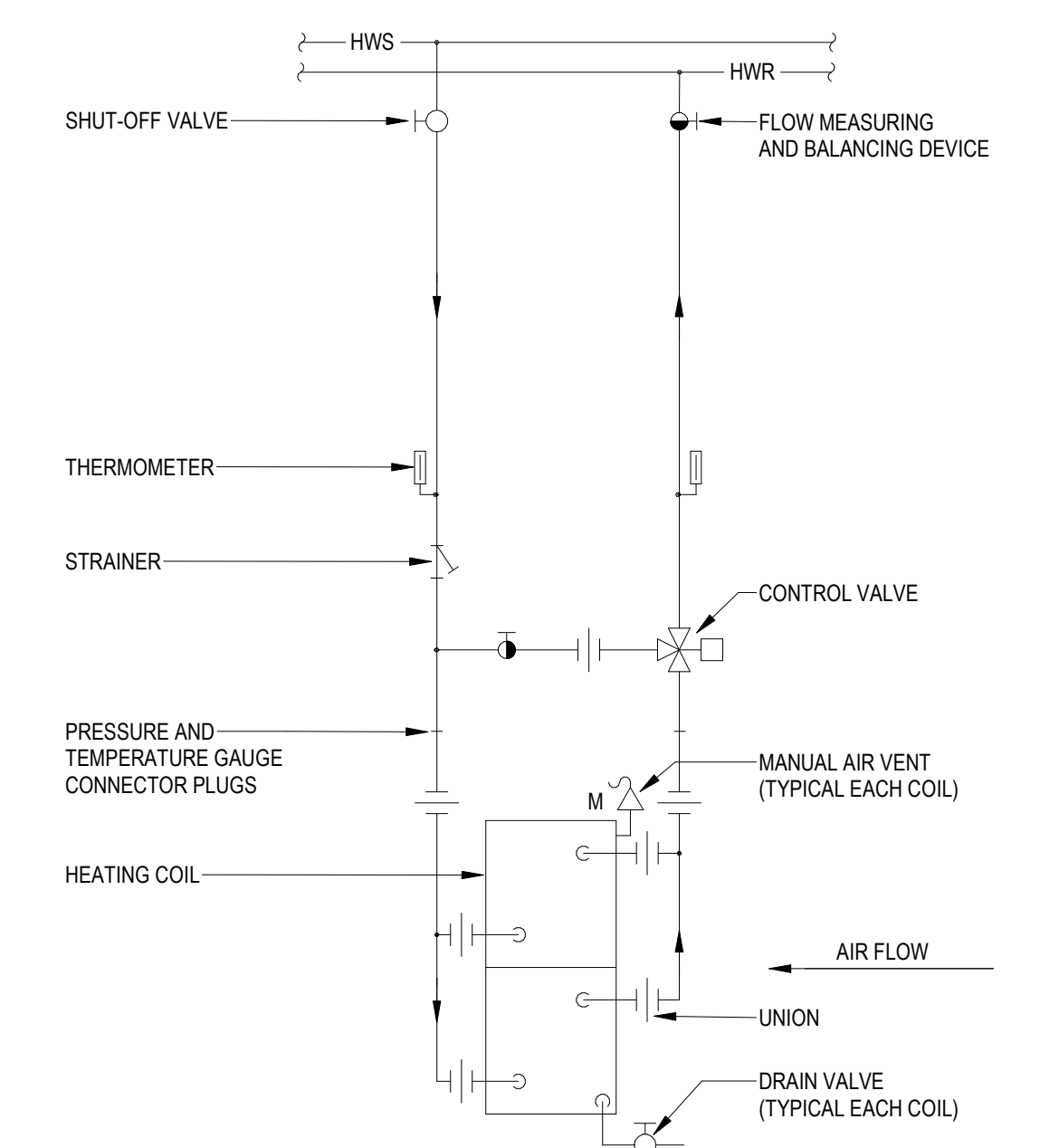
8 CHEMICAL SHOT FEEDER DIAGRAM  
1/8" = 1'-0"



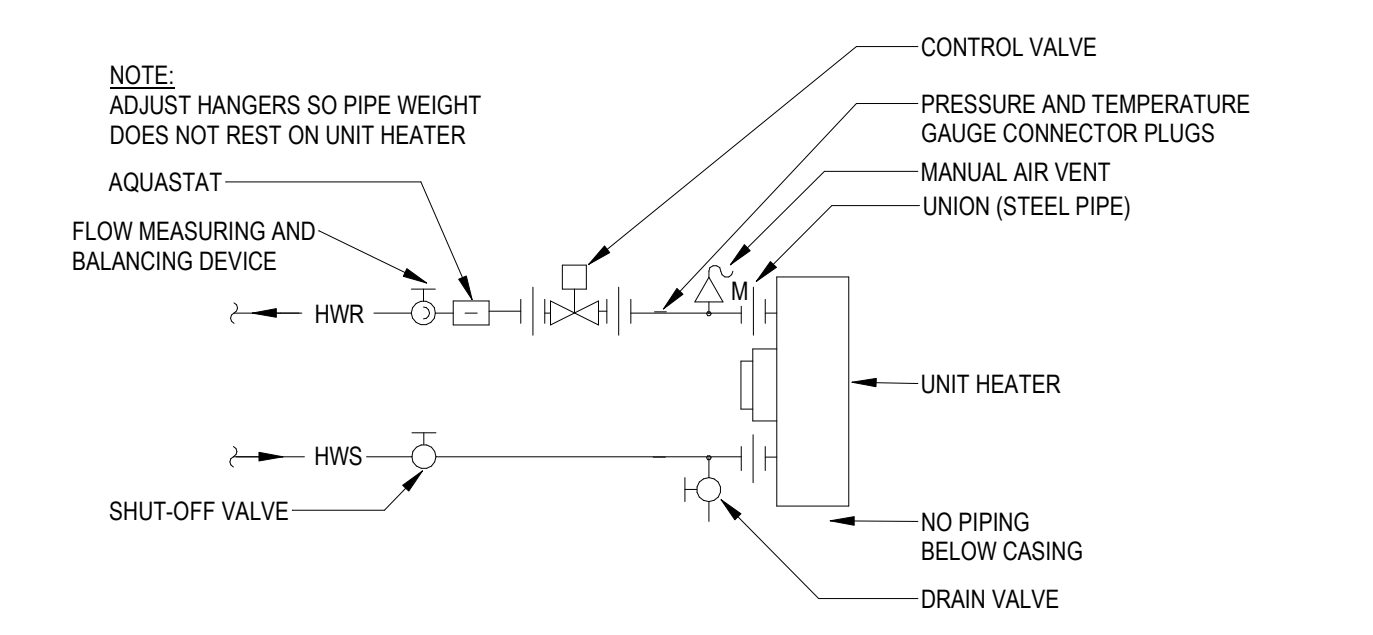
1 CHILLED WATER COIL PIPING  
DETAIL W/3-WAY VALVE - MULTIPLE  
1/8" = 1'-0"




2 HOT WATER BASEBOARD RADIATION PIPING DETAIL I  
1/8" = 1'-0"




3 HOT WATER COIL PIPING DETAIL W/3-WAY VALVE - MULTIPLE  
1/8" = 1'-0"



4 HOT WATER UNIT HEATER PIPING DETAIL W/2-WAY VALVE I  
1/8" = 1'-0"

Project:  
CONTRACT 2C20-064  
  
MECH IMPROVEMENTS AT  
SOUTH SIDE ELEMENTARY  
SCHOOL BRISTOL, CT  
21 Tuttle Rd.  
Bristol, CT 06010

Weston & Sampson  
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100 Foxborough Boulevard Suite 250  
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qaamarch.com

Seal:

Revisions:

Rev	Date	Description

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Reviewed By: SEH  
Approved By: SEH  
W&S Project No: 2191117

Drawing Title:  
HVAC DETAILS  
Sheet Number:  
H503  
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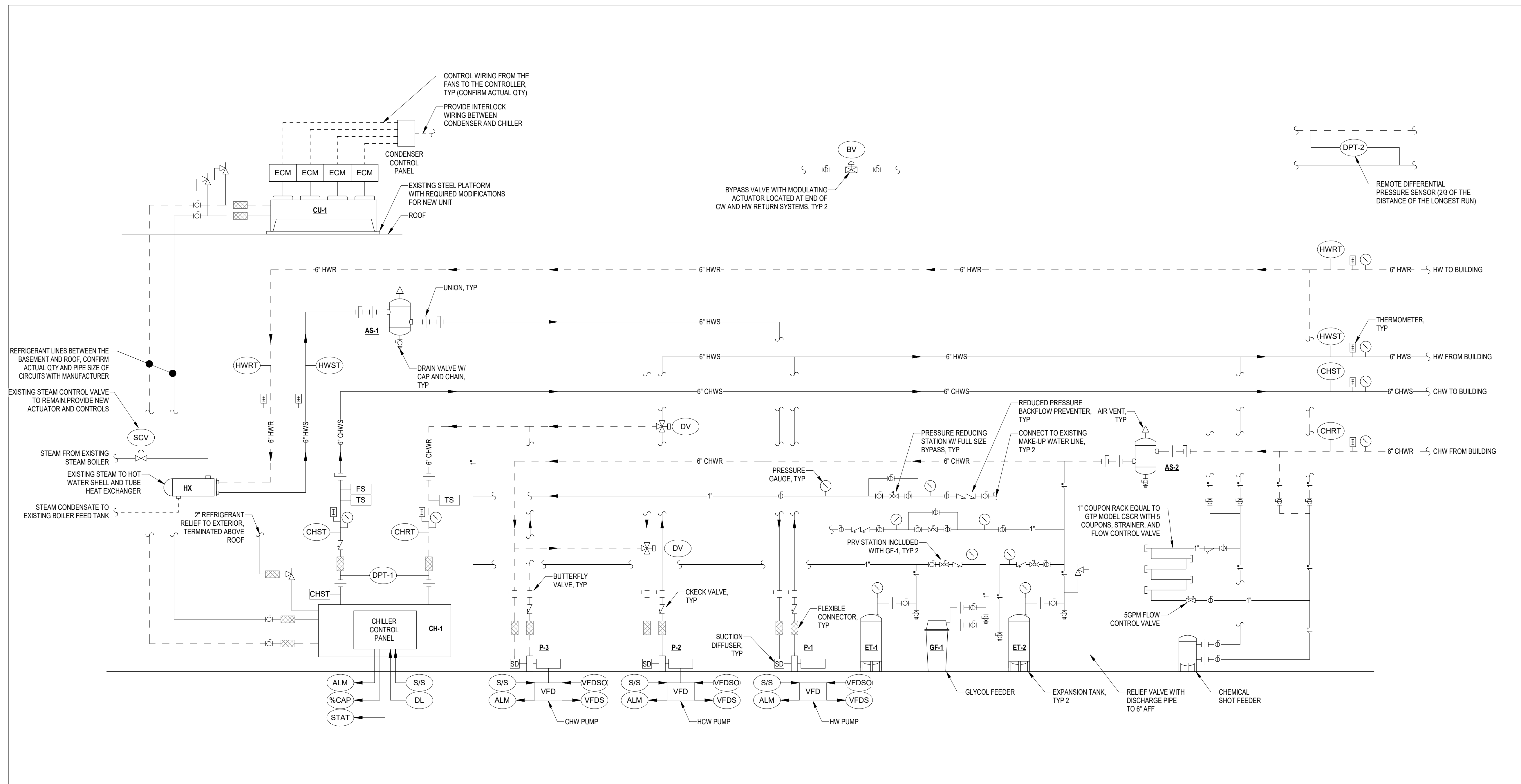












**2-PIPE AUTOMATIC CHANGE-OVER SYSTEM WITH DEAD BAND CONTROL SEQUENCES**

- GENERAL**
1. THE CHILLER SHALL BE CONTROLLED BY THE MANUFACTURER'S INTEGRAL CONTROL PANEL AND INTERFACED TO THE BMS.
  2. THE REMOTE CONDENSER SHALL BE CONTROLLED BY THE MANUFACTURER'S INTEGRAL CONTROL PANEL AND INTERFACED TO THE BAS.
  3. PROVIDE ALL NEW CONTROLS FOR THE EXISTING STEAM BOILER, STEAM TO HOT WATER HEAT EXCHANGER, AND BOILER FEED SYSTEM AS REQUIRED TO REPLACE ALL OF THE EXISTING PNEUMATIC CONTROLS AND TIE INTO THE NEW BMS.
  4. LOCAL HAND-OFF AUTOMATIC SWITCHES (H-O-A) FOR EQUIPMENT SHALL PROVIDE LOCAL OVERRIDE OF BAS. ALL HARDWIRED SAFETIES SHALL BE ACTIVE IN BOTH "H" AND "A" POSITIONS.
  5. ALL TEMPERATURES LISTED ARE FAHRENHEIT. ALL LIST VALUES SHALL BE ADJUSTABLE.
  6. PROVIDE VALVES, TEMPERATURE SENSORS AND OTHER SENSORS SHOWN AND COORDINATE ALL LOCATIONS WITH MECHANICAL CONTRACTOR. COORDINATE AND ENSURE MANUFACTURER'S RECOMMENDED UPSTREAM AND DOWNSTREAM PIPE DIAMETERS ARE PROVIDED.
  7. PROVIDE INDIVIDUAL GRAPHICS OF EACH SYSTEM (PUMPS, CHILLER, REMOTE CONDENSER, HX, BOILERS, ETC.) WITH REAL TIME UPDATING OF CONDITIONS (STATUS, TEMPERATURES, ETC.).

- ALARM**
1. HEATING SUPPLY TEMPERATURE SENSOR (HWST) SHALL TRANSMIT AN ALARM SIGNAL TO THE BMS AND OPERATOR WORKSTATION AND SHUT THE HOT WATER DISTRIBUTION PIPES DOWN IF A TEMPERATURE ABOVE 200°F (ADJ.) IS SENSED FOR 5 MINUTES (ADJ.).
  2. HEATING TEMPERATURE SENSOR (HWST) SHALL TRANSMIT AN ALARM SIGNAL TO THE BMS AND EXISTING FRONT END IF A TEMPERATURE BELOW 70°F (ADJ.) IS SENSED FOR 5 MINUTES (ADJ.). EXCLUDE THIS ALARM ON WHEN THE SYSTEM IS IN THE COOLING MODE OR ON START-UP OF SYSTEM.

- CHILLER CONTROL SEQUENCE**
- GENERAL**
1. CHILLER MANUFACTURER SHALL FURNISH FIELD MOUNTED (CHILLED WATER SUPPLY AND RETURN TEMPERATURE SENSORS) TO CONTROL AND MONITOR CHILLER CAPACITY, AND FS (FLOW SWITCH) TO VERIFY CHILLER FLOW (THE FLOW SWITCH AND TEMPERATURE SENSORS SHALL BE INSTALLED BY BMS CONTRACTOR). MANUFACTURER SHALL PROVIDE ADJUSTABLE 3-8 SECONDS TIME DELAY BEFORE SHUTDOWN ON LOSS OF FLOW TO ALLOW TIME FOR CHILLED WATER SPARE PUMP TO START.
  2. CONTROL OF INTERNAL CHILLER OPERATION SHALL BE DONE THROUGH THE CONTROL PANEL PROVIDED BY THE CHILLER MANUFACTURER.
  3. AFTER STOPPING, THE CHILLER SHALL NOT START FOR 30 MINUTES. AFTER STARTING, THE CHILLER SHALL NOT STOP FOR AT LEAST 60 MINUTES BEFORE STOPPING. CHILLER SHALL BE LIMITED TO TWO STARTS PER HOUR AND A MAXIMUM FIVE STARTS PER 24 HOUR PERIOD.
  4. CHILLED WATER FS (FLOW SWITCH) SHALL PROVE FLOW AT MINIMUM CHILLER FLOW (CONTRACTOR TO CONFIRM WITH MANUFACTURER).
  5. BMS CONTRACTOR SHALL PROVIDE DPT-1 (DIFFERENTIAL PRESSURE SENSOR/TRANSMITTER) FOR THE EVAPORATOR OF THE CHILLER. THE DPT SHALL BE USED TO MONITOR THE CHILLED WATER FLOW, BASED ON DP SIGNAL AND CHILLER MANUFACTURER FLOW CURVES. COORDINATE FLOW CURVE WITH MANUFACTURER.

- OPERATION**
1. ON A CALL FOR COOLING, THE CHILLED WATER PUMP SHALL BE STARTED. AFTER THE CHILLER STARTS-UP, IT SHALL GO UNDER NORMAL CONTROL - SEE PUMP CONTROLS.
  2. THE CHILLER SYSTEM SHALL BE SIGNALLED TO START BY THE BMS ON A CALL FOR COOLING BY ANY ZONE WHEN THE OAT (OUTDOOR AIR TEMPERATURE SENSOR) IS ABOVE 50° FOR 10 MINUTES.
  3. THE CHILLER MANUFACTURER'S CONTROLS SHALL PROVE FLOW BEFORE THE CHILLER'S STARTED AND CONTROL OPERATION INCLUDING ANTI-RECYCLING TIME DELAYS.
  4. WHEN THE OAT DROPS BELOW THE SET POINT FOR 15 MINUTES, THE CHILLER SHALL BE STOPPED, AND AFTER 10 MINUTES THE PUMP'S SHALL STOP.
  5. BAS CONTRACTOR SHALL SIGNAL THE CHILLER TO PROVIDE THE FOLLOWING LINEAR OUTDOOR AIR WET BULB RESET SCHEDULE:

OAT WB	T
OVER 70°F	44
UNDER 55°	48

- ALARM**
1. COOLING SUPPLY TEMPERATURE SENSOR (CWST) SHALL TRANSMIT AN ALARM SIGNAL TO THE BAS AND OPERATOR WORKSTATION AND SHUT THE CHILLED WATER DISTRIBUTION PUMP DOWN IF A TEMPERATURE BELOW 40°F (ADJ.) IS SENSED FOR 5 MINUTES (ADJ.).
  2. COOLING TEMPERATURE SENSOR (CWST) SHALL TRANSMIT AN ALARM SIGNAL TO THE BAS AND EXISTING FRONT END IF A TEMPERATURE ABOVE 80°F (ADJ.) IS SENSED FOR 5 MINUTES (ADJ.). EXCLUDE THIS ALARM ON WHEN THE SYSTEM IS IN THE COOLING MODE OR ON START-UP OF SYSTEM.
  3. IF CHILLER FAILS, ALARM SHALL BE SENT TO THE BAS/ OPERATOR WORKSTATION AND THE LOCAL ALARM PANEL.
- HOT WATER DISTRIBUTION PUMP (P-1)**
- GENERAL**
1. ON A CALL FOR HEAT THE HOT WATER PUMP SHALL BE AUTOMATICALLY STARTED AND STOPPED BY THE BAS BEFORE HEAT EXCHANGER IS ACTIVATED.
  2. WHEN THE HOT WATER PUMP IS STARTED, IT SHALL BE STARTED AT LOW SPEED (INITIALLY 25% - CONFIRM WITH PUMP MANUFACTURER). THE REMOTE DIFFERENTIAL PRESSURE SENSOR DPT-2 SHALL CONTROL THE OPERATING PUMP VARIABLE FREQUENCY DRIVE (VFD) AND SLOWLY INCREASE THE SPEED AS REQUIRED TO THE MINIMUM SPEED THAT MAINTAINS THE SET POINT OF THE REMOTE DPT-2 SENSOR. INITIAL SET POINT SHALL BE 15 PSI - FINAL SET POINTS SHALL BE COORDINATED WITH BALANCER TO THE MINIMUM REQUIRED TO ALLOW FULL FLOW THROUGH THE MOST REMOTE COILS.
  3. THE HEATING HOT WATER SUPPLY PUMP (P-1) SHALL OPERATE CONTINUOUSLY WHEN COMMANDED ON BY THE BMS IF A PUMP FAILURE IS SENSED, THE CONTROLLER SHALL DISABLE THE PUMP, CHANGE THE DIVERTER VALVES (DV) ASSOCIATED WITH P-2 TO HEATING, AND ENABLE THE STANDBY-BY PUMP (P-2).
  4. IF PUMP FAILS, THEN THE BAS SHALL ALARM AND SEND A DETAILED ALARM TO THE OPERATOR WORKSTATION.

- CHILLED WATER DISTRIBUTION PUMPS (P-3)**
- GENERAL**
1. ON A CALL FOR COOLING THE CHILLED WATER PUMP SHALL BE AUTOMATICALLY STARTED AND STOPPED BY THE BMS BEFORE CHILLER IS ACTIVATED.
  2. WHEN THE CHILLED WATER PUMP IS STARTED, IT SHALL BE STARTED AT LOW SPEED (INITIALLY 25% - CONFIRM WITH PUMP MANUFACTURER). THE REMOTE DIFFERENTIAL PRESSURE SENSOR DPT-2 SHALL CONTROL THE OPERATING PUMP VARIABLE FREQUENCY DRIVE (VFD) AND SLOWLY INCREASE THE SPEED AS REQUIRED TO THE MINIMUM SPEED THAT MAINTAINS THE SET POINT OF THE REMOTE DPT-2 SENSOR. INITIAL SET POINT SHALL BE 15 PSI - FINAL SET POINTS SHALL BE COORDINATED WITH BALANCER TO THE MINIMUM REQUIRED TO ALLOW FULL FLOW THROUGH THE MOST REMOTE COILS.
  3. THE CHILLED WATER SUPPLY PUMP (P-3) SHALL OPERATE CONTINUOUSLY WHEN COMMANDED ON BY THE BMS SYSTEM IF A PUMP FAILURE IS SENSED, THE CONTROLLER SHALL DISABLE THE PUMP, CHANGE THE DIVERTER VALVES (DV) ASSOCIATED WITH P-2 TO COOLING, AND ENABLE THE STANDBY-BY PUMP.
  4. IF PUMP FAILS, THEN THE BAS SHALL ALARM AND SEND A DETAILED ALARM TO THE OPERATOR WORKSTATION.

**HOT WATER RESET**

1. WHEN THE OUTSIDE AIR TEMPERATURE DROPS TO 60°F (ADJ.), IF REHEAT IS REQUIRED IN ANY ZONE, OR AT ANY HRV, THE SCV SHALL MODULATE TO MAINTAIN THE HOT WATER SUPPLY TEMPERATURE (HWST).
2. THE HOT WATER SUPPLY TEMPERATURE SHALL BE MODULATED BETWEEN 100°F AND 190°F (ADJ.) ACCORDING TO THE FOLLOWING ADJUSTABLE SCHEDULE:

OUTDOOR AIR TEMP	HOT WATER SUPPLY TEMP
-10°F	190°F
10°F	160°F
50°F	100°F

- REPORTING FUNCTIONS**
- HISTORIES**
1. THE BMS SYSTEM SHALL PRINT OUT ANY TEMPERATURE OR DATA FROM ANY SENSOR OR DEFINED VARIABLE, ON REQUEST OF OPERATOR.
  2. THE BMS SHALL BE PROGRAMMED TO RECORD HISTORIES OF ALL:
    - A. WATER TEMPERATURES AND STATUS.
    - B. HOUR OF DAY AND TIME OF DAY.
    - C. HOURS OF OPERATION ASSOCIATED WITH EACH PIECE OF EQUIPMENT.
    - D. ANY OTHER ITEM, OVER ANY TIME PERIOD, REQUESTED BY OPERATOR.
  3. THE BMS SHALL PRINTOUT ALL CHANGES IN EQUIPMENT STATUS, AS THEY OCCUR.
- ALARM**
1. IN ADDITION TO ALARMS PREVIOUSLY LISTED, ALL SENSORS AND VARIABLES SHALL BE CAPABLE OF HIGH/LOW ALARM POINTS. AT A MINIMUM THE FOLLOWING SHALL BE ALARMED, AFTER APPROPRIATE TIME DELAYS:
    - A. ANY PIECE OF EQUIPMENT IS INDICATED AS OFF, WHEN IT SHOULD BE ON (IGNORE IF CHILLER IS OFF TEMPORARILY DUE TO LOW LOAD CONDITIONS).
    - B. ANY PIECE OF EQUIPMENT IS ON, THAT IS INDICATED AS OFF OR FAILS.

**HOT WATER/CHILLED WATER CONTROL SEQUENCES**

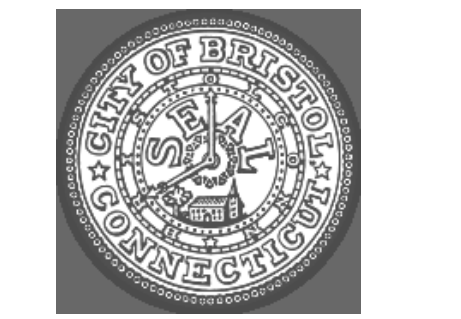
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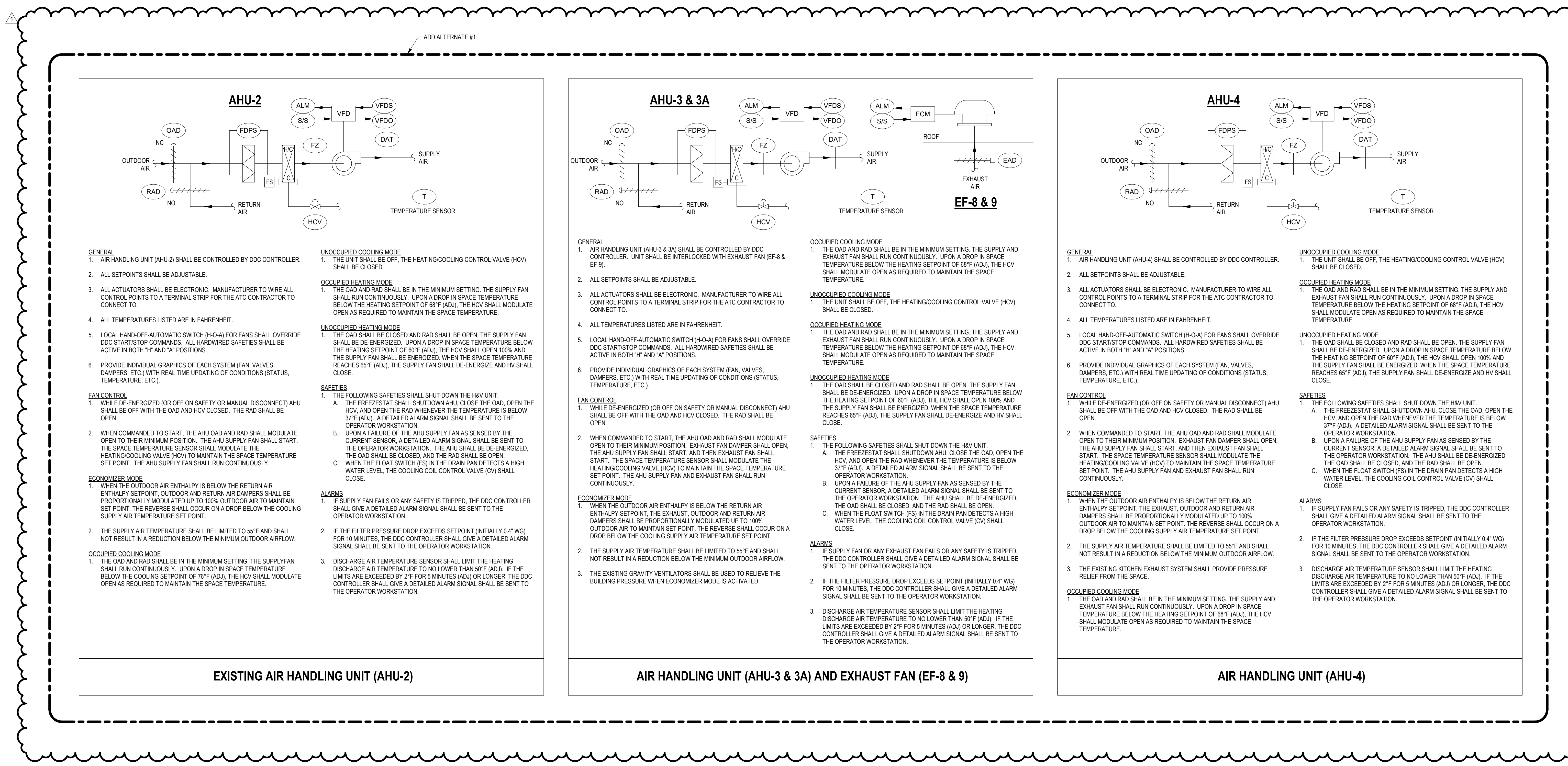
Rev	Date	Description
1	4/23/2020	ADDENDUM #1
2	4/23/2020	ADDENDUM #2

Issued For: ADDENDUM #2

Date: April 23, 2020  
 Drawn By: HJH  
 Reviewed By: SEH  
 Approved By: SEH  
 W&S Project No: 2191117



Rev	Date	Description
1	4/15/2020	ADDENDUM #1



ADD ALTERNATE #1

### AHU-2

**GENERAL**

- AIR HANDLING UNIT (AHU-2) SHALL BE CONTROLLED BY DDC CONTROLLER.
- ALL SETPOINTS SHALL BE ADJUSTABLE.
- ALL ACTUATORS SHALL BE ELECTRONIC. MANUFACTURER TO WIRE ALL CONTROL POINTS TO A TERMINAL STRIP FOR THE ATC CONTRACTOR TO CONNECT TO.
- ALL TEMPERATURES LISTED ARE IN FAHRENHEIT.
- LOCAL HAND-OFF-AUTOMATIC SWITCH (H-O-A) FOR FANS SHALL OVERRIDE DDC START/STOP COMMANDS. ALL HARDWIRED SAFETIES SHALL BE ACTIVE IN BOTH "H" AND "A" POSITIONS.
- PROVIDE INDIVIDUAL GRAPHICS OF EACH SYSTEM (FAN, VALVES, DAMPERS, ETC.) WITH REAL TIME UPDATING OF CONDITIONS (STATUS, TEMPERATURE, ETC.).

**FAN CONTROL**

- WHILE DE-ENERGIZED (OR OFF ON SAFETY OR MANUAL DISCONNECT) AHU SHALL BE OFF WITH THE OAD AND HCV CLOSED. THE RAD SHALL BE OPEN.
- WHEN COMMANDED TO START, THE AHU OAD AND RAD SHALL MODULATE OPEN TO THEIR MINIMUM POSITION. THE AHU SUPPLY FAN SHALL START. THE SPACE TEMPERATURE SENSOR SHALL MODULATE THE HEATING/COOLING VALVE (HCV) TO MAINTAIN THE SPACE TEMPERATURE SET POINT. THE AHU SUPPLY FAN SHALL RUN CONTINUOUSLY.

**ECONOMIZER MODE**

- WHEN THE OUTDOOR AIR ENTHALPY IS BELOW THE RETURN AIR ENTHALPY SETPOINT, OUTDOOR AND RETURN AIR DAMPERS SHALL BE PROPORTIONALLY MODULATED UP TO 100% OUTDOOR AIR TO MAINTAIN SET POINT. THE REVERSE SHALL OCCUR ON A DROP BELOW THE COOLING SUPPLY AIR TEMPERATURE SET POINT.
- THE SUPPLY AIR TEMPERATURE SHALL BE LIMITED TO 55°F AND SHALL NOT RESULT IN A REDUCTION BELOW THE MINIMUM OUTDOOR AIRFLOW.

**OCCUPIED COOLING MODE**

- THE OAD AND RAD SHALL BE IN THE MINIMUM SETTING. THE SUPPLY FAN SHALL RUN CONTINUOUSLY. UPON A DROP IN SPACE TEMPERATURE BELOW THE COOLING SETPOINT OF 76°F (ADJ), THE HCV SHALL MODULATE OPEN AS REQUIRED TO MAINTAIN THE SPACE TEMPERATURE.

**UNOCCUPIED COOLING MODE**

- THE UNIT SHALL BE OFF. THE HEATING/COOLING CONTROL VALVE (HCV) SHALL BE CLOSED.

**OCCUPIED HEATING MODE**

- THE OAD AND RAD SHALL BE IN THE MINIMUM SETTING. THE SUPPLY FAN SHALL RUN CONTINUOUSLY. UPON A DROP IN SPACE TEMPERATURE BELOW THE HEATING SETPOINT OF 68°F (ADJ), THE HCV SHALL MODULATE OPEN AS REQUIRED TO MAINTAIN THE SPACE TEMPERATURE.

**UNOCCUPIED HEATING MODE**

- THE OAD AND RAD SHALL BE CLOSED AND RAD SHALL BE OPEN. THE SUPPLY FAN SHALL BE DE-ENERGIZED. UPON A DROP IN SPACE TEMPERATURE BELOW THE HEATING SETPOINT OF 60°F (ADJ), THE HCV SHALL OPEN 100% AND THE SUPPLY FAN SHALL BE ENERGIZED. WHEN THE SPACE TEMPERATURE REACHES 65°F (ADJ), THE SUPPLY FAN SHALL DE-ENERGIZE AND HV SHALL CLOSE.

**SAFETIES**

- THE FOLLOWING SAFETIES SHALL SHUT DOWN THE H&V UNIT.
  - THE FREEZESTAT SHALL SHUTDOWN AHU. CLOSE THE OAD, OPEN THE HCV, AND OPEN THE RAD WHENEVER THE TEMPERATURE IS BELOW 37°F (ADJ). A DETAILED ALARM SIGNAL SHALL BE SENT TO THE OPERATOR WORKSTATION.
  - UPON A FAILURE OF THE AHU SUPPLY FAN AS SENSED BY THE CURRENT SENSOR, A DETAILED ALARM SIGNAL SHALL BE SENT TO THE OPERATOR WORKSTATION. THE AHU SHALL BE DE-ENERGIZED, THE OAD SHALL BE CLOSED, AND THE RAD SHALL BE OPEN.
  - WHEN THE FLOAT SWITCH (FS) IN THE DRAIN PAN DETECTS A HIGH WATER LEVEL, THE COOLING COIL CONTROL VALVE (CV) SHALL CLOSE.

**ALARMS**

- IF SUPPLY FAN FAILS OR ANY SAFETY IS TRIPPED, THE DDC CONTROLLER SHALL GIVE A DETAILED ALARM SIGNAL SHALL BE SENT TO THE OPERATOR WORKSTATION.
- IF THE FILTER PRESSURE DROP EXCEEDS SETPOINT (INITIALLY 0.4" WG) FOR 10 MINUTES, THE DDC CONTROLLER SHALL GIVE A DETAILED ALARM SIGNAL SHALL BE SENT TO THE OPERATOR WORKSTATION.
- DISCHARGE AIR TEMPERATURE SENSOR SHALL LIMIT THE HEATING DISCHARGE AIR TEMPERATURE TO NO LOWER THAN 50°F (ADJ). IF THE LIMITS ARE EXCEEDED BY 2°F FOR 5 MINUTES (ADJ) OR LONGER, THE DDC CONTROLLER SHALL GIVE A DETAILED ALARM SIGNAL SHALL BE SENT TO THE OPERATOR WORKSTATION.

**EXISTING AIR HANDLING UNIT (AHU-2)**

### AHU-3 & 3A

**GENERAL**

- AIR HANDLING UNIT (AHU-3 & 3A) SHALL BE CONTROLLED BY DDC CONTROLLER. UNIT SHALL BE INTERLOCKED WITH EXHAUST FAN (EF-8 & EF-9).
- ALL SETPOINTS SHALL BE ADJUSTABLE.
- ALL ACTUATORS SHALL BE ELECTRONIC. MANUFACTURER TO WIRE ALL CONTROL POINTS TO A TERMINAL STRIP FOR THE ATC CONTRACTOR TO CONNECT TO.
- ALL TEMPERATURES LISTED ARE IN FAHRENHEIT.
- LOCAL HAND-OFF-AUTOMATIC SWITCH (H-O-A) FOR FANS SHALL OVERRIDE DDC START/STOP COMMANDS. ALL HARDWIRED SAFETIES SHALL BE ACTIVE IN BOTH "H" AND "A" POSITIONS.
- PROVIDE INDIVIDUAL GRAPHICS OF EACH SYSTEM (FAN, VALVES, DAMPERS, ETC.) WITH REAL TIME UPDATING OF CONDITIONS (STATUS, TEMPERATURE, ETC.).

**FAN CONTROL**

- WHILE DE-ENERGIZED (OR OFF ON SAFETY OR MANUAL DISCONNECT) AHU SHALL BE OFF WITH THE OAD AND HCV CLOSED. THE RAD SHALL BE OPEN.
- WHEN COMMANDED TO START, THE AHU OAD AND RAD SHALL MODULATE OPEN TO THEIR MINIMUM POSITION. EXHAUST FAN DAMPER SHALL OPEN, THE AHU SUPPLY FAN SHALL START, AND THEN EXHAUST FAN SHALL START. THE SPACE TEMPERATURE SENSOR SHALL MODULATE THE HEATING/COOLING VALVE (HCV) TO MAINTAIN THE SPACE TEMPERATURE SET POINT. THE AHU SUPPLY FAN AND EXHAUST FAN SHALL RUN CONTINUOUSLY.

**ECONOMIZER MODE**

- WHEN THE OUTDOOR AIR ENTHALPY IS BELOW THE RETURN AIR ENTHALPY SETPOINT, THE EXHAUST, OUTDOOR AND RETURN AIR DAMPERS SHALL BE PROPORTIONALLY MODULATED UP TO 100% OUTDOOR AIR TO MAINTAIN SET POINT. THE REVERSE SHALL OCCUR ON A DROP BELOW THE COOLING SUPPLY AIR TEMPERATURE SET POINT.
- THE SUPPLY AIR TEMPERATURE SHALL BE LIMITED TO 55°F AND SHALL NOT RESULT IN A REDUCTION BELOW THE MINIMUM OUTDOOR AIRFLOW.
- THE EXISTING GRAVITY VENTILATORS SHALL BE USED TO RELIEVE THE BUILDING PRESSURE WHEN ECONOMIZER MODE IS ACTIVATED.

**UNOCCUPIED COOLING MODE**

- THE OAD AND RAD SHALL BE IN THE MINIMUM SETTING. THE SUPPLY AND EXHAUST FAN SHALL RUN CONTINUOUSLY. UPON A DROP IN SPACE TEMPERATURE BELOW THE HEATING SETPOINT OF 68°F (ADJ), THE HCV SHALL MODULATE OPEN AS REQUIRED TO MAINTAIN THE SPACE TEMPERATURE.

**OCCUPIED COOLING MODE**

- THE UNIT SHALL BE OFF. THE HEATING/COOLING CONTROL VALVE (HCV) SHALL BE CLOSED.

**UNOCCUPIED HEATING MODE**

- THE OAD AND RAD SHALL BE CLOSED AND RAD SHALL BE OPEN. THE SUPPLY FAN SHALL BE DE-ENERGIZED. UPON A DROP IN SPACE TEMPERATURE BELOW THE HEATING SETPOINT OF 60°F (ADJ), THE HCV SHALL OPEN 100% AND THE SUPPLY FAN SHALL BE ENERGIZED. WHEN THE SPACE TEMPERATURE REACHES 65°F (ADJ), THE SUPPLY FAN SHALL DE-ENERGIZE AND HV SHALL CLOSE.

**SAFETIES**

- THE FOLLOWING SAFETIES SHALL SHUT DOWN THE H&V UNIT.
  - THE FREEZESTAT SHALL SHUTDOWN AHU. CLOSE THE OAD, OPEN THE HCV, AND OPEN THE RAD WHENEVER THE TEMPERATURE IS BELOW 37°F (ADJ). A DETAILED ALARM SIGNAL SHALL BE SENT TO THE OPERATOR WORKSTATION.
  - UPON A FAILURE OF THE AHU SUPPLY FAN AS SENSED BY THE CURRENT SENSOR, A DETAILED ALARM SIGNAL SHALL BE SENT TO THE OPERATOR WORKSTATION. THE AHU SHALL BE DE-ENERGIZED, THE OAD SHALL BE CLOSED, AND THE RAD SHALL BE OPEN.
  - WHEN THE FLOAT SWITCH (FS) IN THE DRAIN PAN DETECTS A HIGH WATER LEVEL, THE COOLING COIL CONTROL VALVE (CV) SHALL CLOSE.

**ALARMS**

- IF SUPPLY FAN OR ANY EXHAUST FAN FAILS OR ANY SAFETY IS TRIPPED, THE DDC CONTROLLER SHALL GIVE A DETAILED ALARM SIGNAL SHALL BE SENT TO THE OPERATOR WORKSTATION.
- IF THE FILTER PRESSURE DROP EXCEEDS SETPOINT (INITIALLY 0.4" WG) FOR 10 MINUTES, THE DDC CONTROLLER SHALL GIVE A DETAILED ALARM SIGNAL SHALL BE SENT TO THE OPERATOR WORKSTATION.
- DISCHARGE AIR TEMPERATURE SENSOR SHALL LIMIT THE HEATING DISCHARGE AIR TEMPERATURE TO NO LOWER THAN 50°F (ADJ). IF THE LIMITS ARE EXCEEDED BY 2°F FOR 5 MINUTES (ADJ) OR LONGER, THE DDC CONTROLLER SHALL GIVE A DETAILED ALARM SIGNAL SHALL BE SENT TO THE OPERATOR WORKSTATION.

**AIR HANDLING UNIT (AHU-3 & 3A) AND EXHAUST FAN (EF-8 & 9)**

### AHU-4

**GENERAL**

- AIR HANDLING UNIT (AHU-4) SHALL BE CONTROLLED BY DDC CONTROLLER.
- ALL SETPOINTS SHALL BE ADJUSTABLE.
- ALL ACTUATORS SHALL BE ELECTRONIC. MANUFACTURER TO WIRE ALL CONTROL POINTS TO A TERMINAL STRIP FOR THE ATC CONTRACTOR TO CONNECT TO.
- ALL TEMPERATURES LISTED ARE IN FAHRENHEIT.
- LOCAL HAND-OFF-AUTOMATIC SWITCH (H-O-A) FOR FANS SHALL OVERRIDE DDC START/STOP COMMANDS. ALL HARDWIRED SAFETIES SHALL BE ACTIVE IN BOTH "H" AND "A" POSITIONS.
- PROVIDE INDIVIDUAL GRAPHICS OF EACH SYSTEM (FAN, VALVES, DAMPERS, ETC.) WITH REAL TIME UPDATING OF CONDITIONS (STATUS, TEMPERATURE, ETC.).

**FAN CONTROL**

- WHILE DE-ENERGIZED (OR OFF ON SAFETY OR MANUAL DISCONNECT) AHU SHALL BE OFF WITH THE OAD AND HCV CLOSED. THE RAD SHALL BE OPEN.
- WHEN COMMANDED TO START, THE AHU OAD AND RAD SHALL MODULATE OPEN TO THEIR MINIMUM POSITION. EXHAUST FAN DAMPER SHALL OPEN, THE AHU SUPPLY FAN SHALL START, AND THEN EXHAUST FAN SHALL START. THE SPACE TEMPERATURE SENSOR SHALL MODULATE THE HEATING/COOLING VALVE (HCV) TO MAINTAIN THE SPACE TEMPERATURE SET POINT. THE AHU SUPPLY FAN AND EXHAUST FAN SHALL RUN CONTINUOUSLY.

**ECONOMIZER MODE**

- WHEN THE OUTDOOR AIR ENTHALPY IS BELOW THE RETURN AIR ENTHALPY SETPOINT, THE EXHAUST, OUTDOOR AND RETURN AIR DAMPERS SHALL BE PROPORTIONALLY MODULATED UP TO 100% OUTDOOR AIR TO MAINTAIN SET POINT. THE REVERSE SHALL OCCUR ON A DROP BELOW THE COOLING SUPPLY AIR TEMPERATURE SET POINT.
- THE SUPPLY AIR TEMPERATURE SHALL BE LIMITED TO 55°F AND SHALL NOT RESULT IN A REDUCTION BELOW THE MINIMUM OUTDOOR AIRFLOW.
- THE EXISTING KITCHEN EXHAUST SYSTEM SHALL PROVIDE PRESSURE RELIEF FROM THE SPACE.

**UNOCCUPIED COOLING MODE**

- THE OAD AND RAD SHALL BE IN THE MINIMUM SETTING. THE SUPPLY AND EXHAUST FAN SHALL RUN CONTINUOUSLY. UPON A DROP IN SPACE TEMPERATURE BELOW THE HEATING SETPOINT OF 68°F (ADJ), THE HCV SHALL MODULATE OPEN AS REQUIRED TO MAINTAIN THE SPACE TEMPERATURE.

**OCCUPIED HEATING MODE**

- THE OAD AND RAD SHALL BE CLOSED AND RAD SHALL BE OPEN. THE SUPPLY FAN SHALL BE DE-ENERGIZED. UPON A DROP IN SPACE TEMPERATURE BELOW THE HEATING SETPOINT OF 60°F (ADJ), THE HCV SHALL OPEN 100% AND THE SUPPLY FAN SHALL BE ENERGIZED. WHEN THE SPACE TEMPERATURE REACHES 65°F (ADJ), THE SUPPLY FAN SHALL DE-ENERGIZE AND HV SHALL CLOSE.

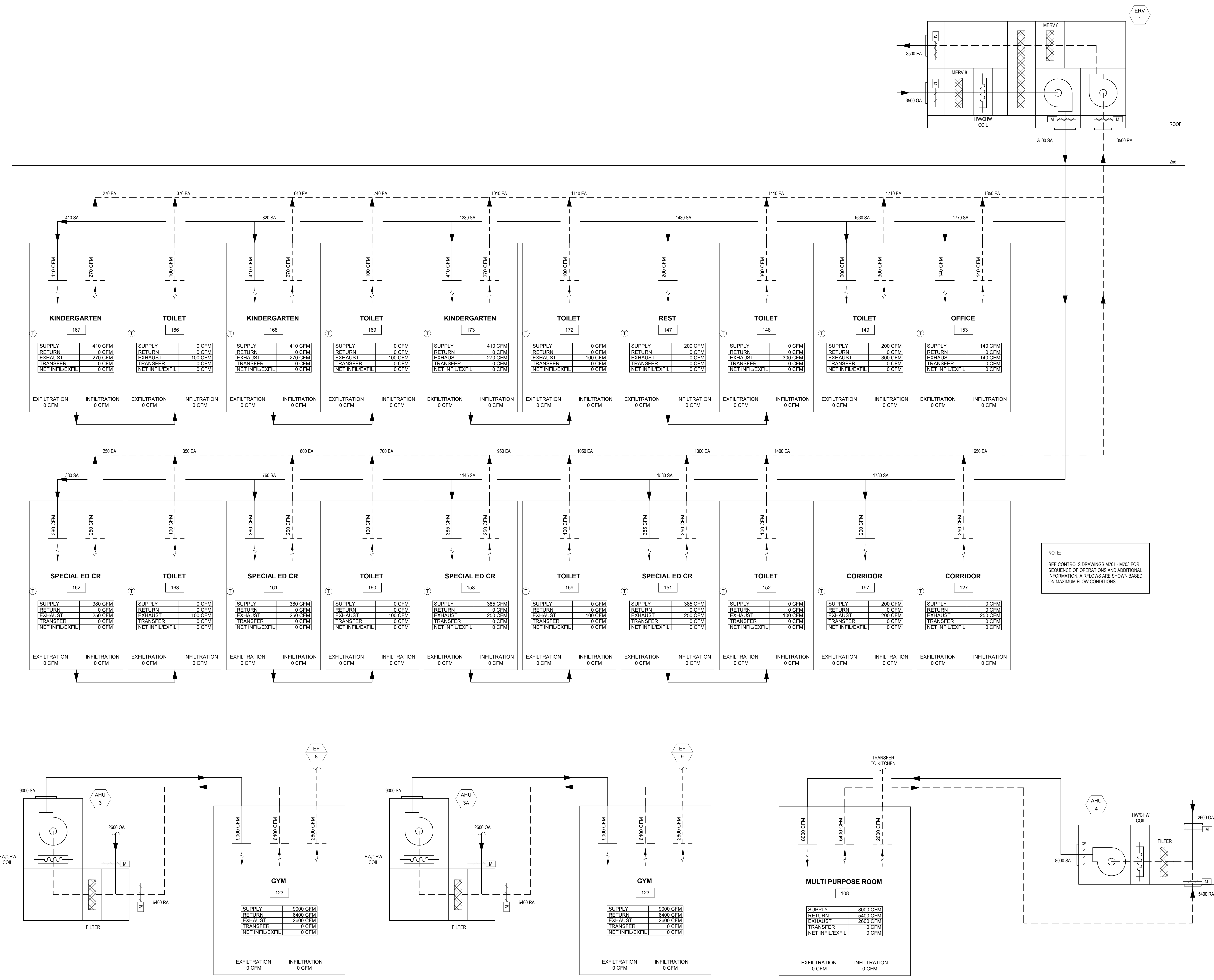
**SAFETIES**

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  - WHEN THE FLOAT SWITCH (FS) IN THE DRAIN PAN DETECTS A HIGH WATER LEVEL, THE COOLING COIL CONTROL VALVE (CV) SHALL CLOSE.

**ALARMS**

- IF SUPPLY FAN OR ANY EXHAUST FAN FAILS OR ANY SAFETY IS TRIPPED, THE DDC CONTROLLER SHALL GIVE A DETAILED ALARM SIGNAL SHALL BE SENT TO THE OPERATOR WORKSTATION.
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**AIR HANDLING UNIT (AHU-4)**



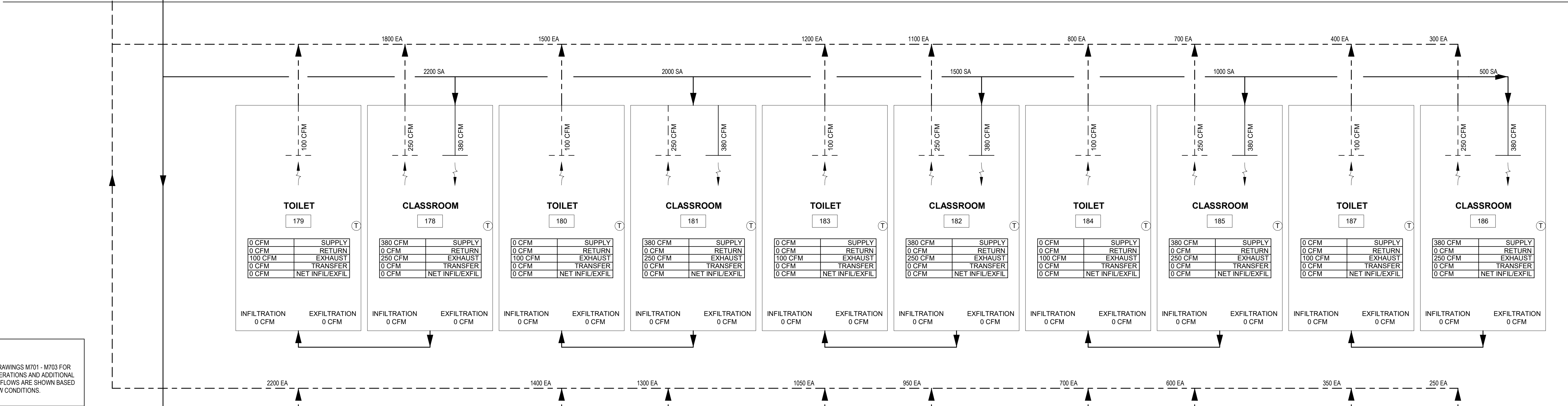
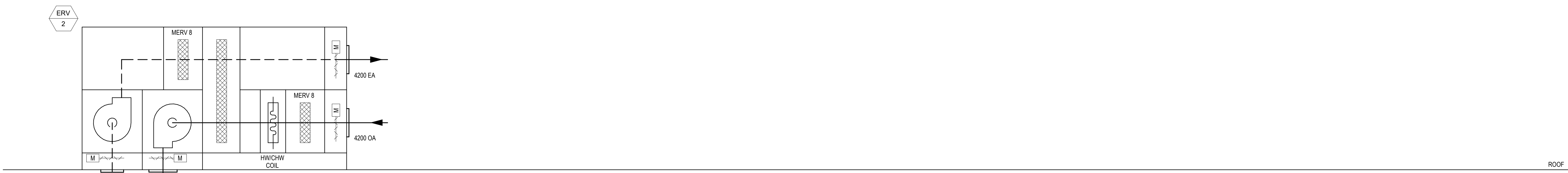
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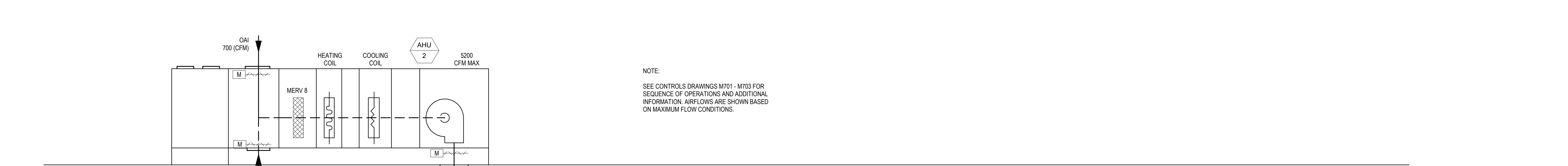
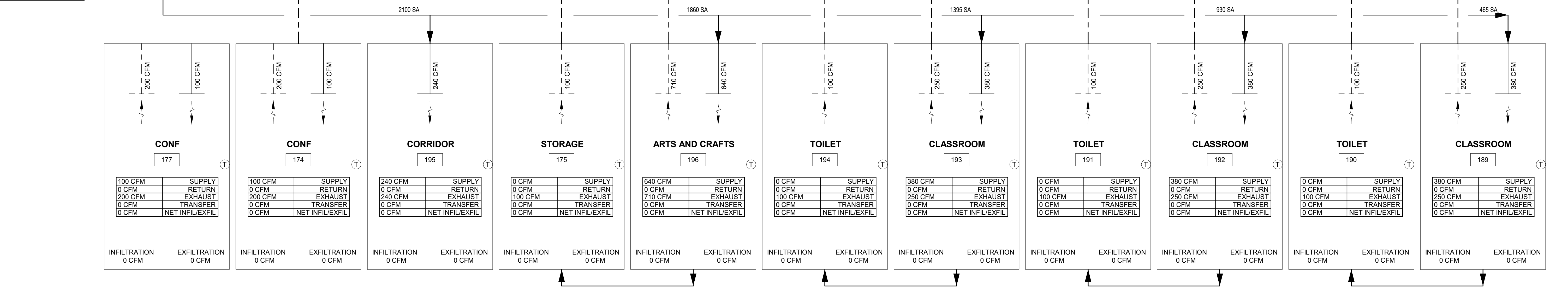
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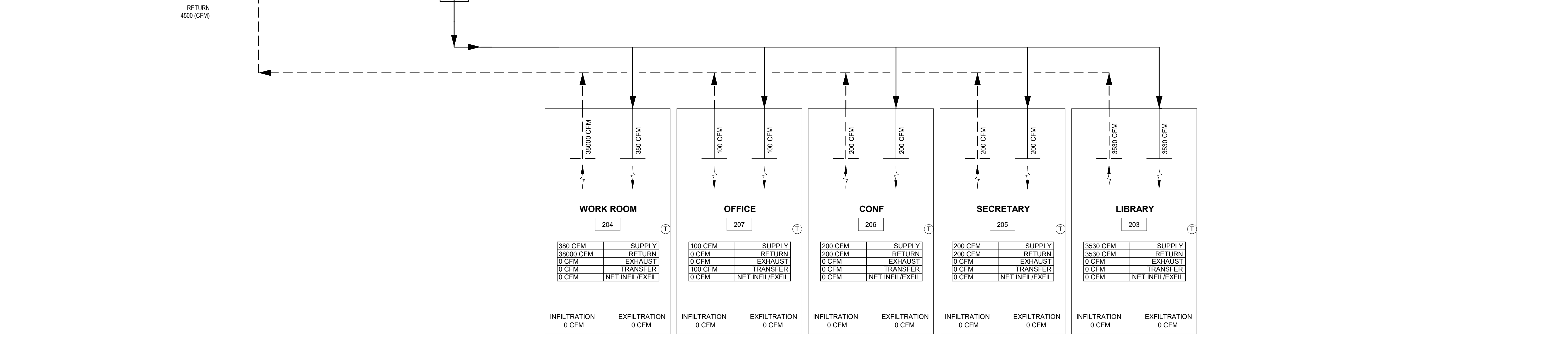
Date: April 2, 2020  
 Drawn By: HJH  
 Reviewed By: SEH  
 Approved By: SEH  
 W&S Project No: 219117



NOTE:  
SEE CONTROLS DRAWINGS M701 - M703 FOR  
SEQUENCE OF OPERATIONS AND ADDITIONAL  
INFORMATION. AIRFLOWS ARE SHOWN BASED  
ON MAXIMUM FLOW CONDITIONS.



NOTE:  
SEE CONTROLS DRAWINGS M701 - M703 FOR  
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Project:  
**CONTRACT 2C20-064**  
  
MECH IMPROVEMENTS AT  
SOUTH SIDE ELEMENTARY  
SCHOOL BRISTOL, CT  
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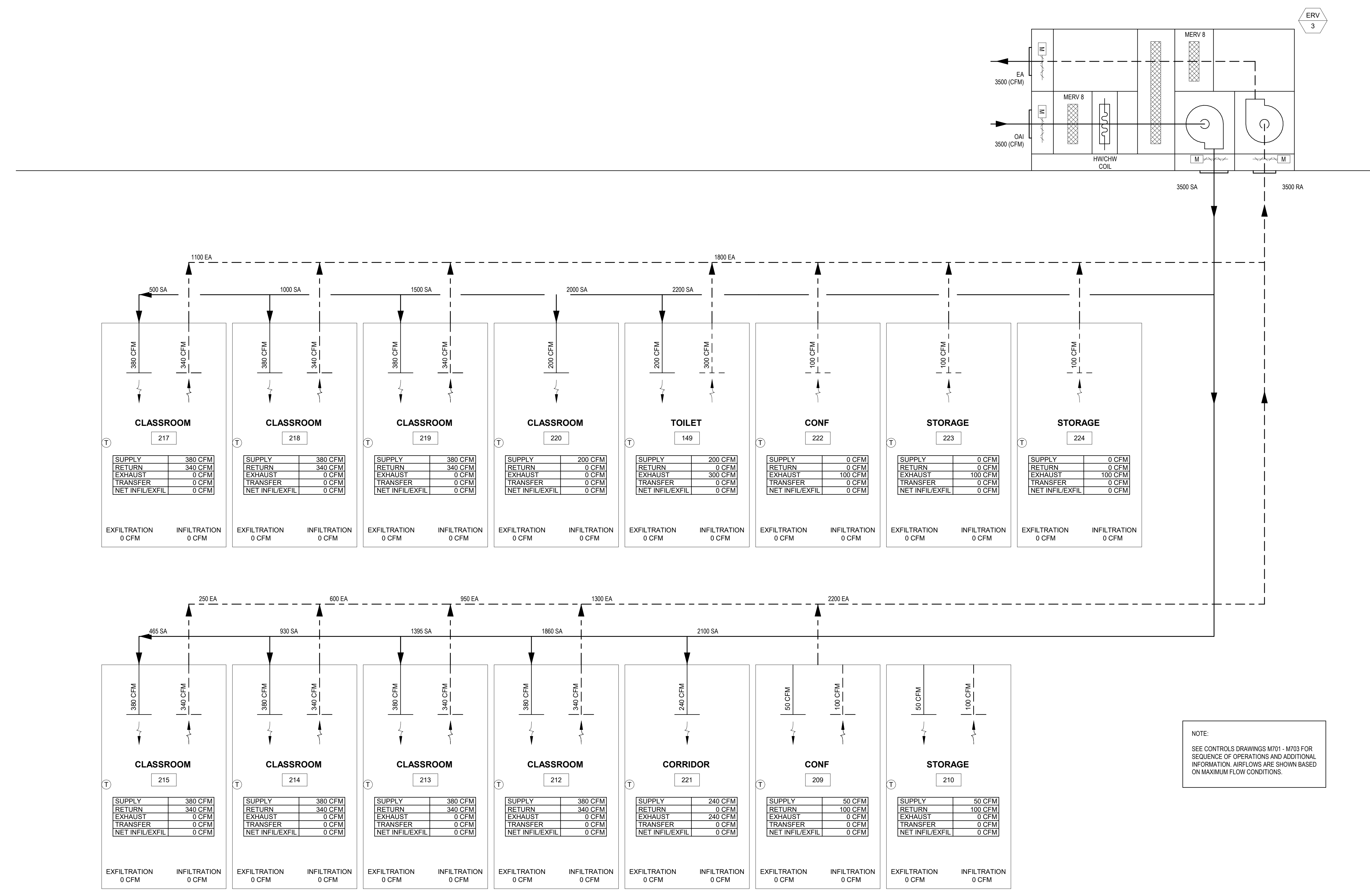
Revisions:

Rev	Date	Description

Issued For: BID SET

Date: April 2, 2020  
Drawn By: HJH  
Reviewed By: SEH  
Approved By: SEH  
W&S Project No: 219117

Drawing Title:  
**AIRFLOW  
DIAGRAMS**  
Sheet Number:  
**H802**  
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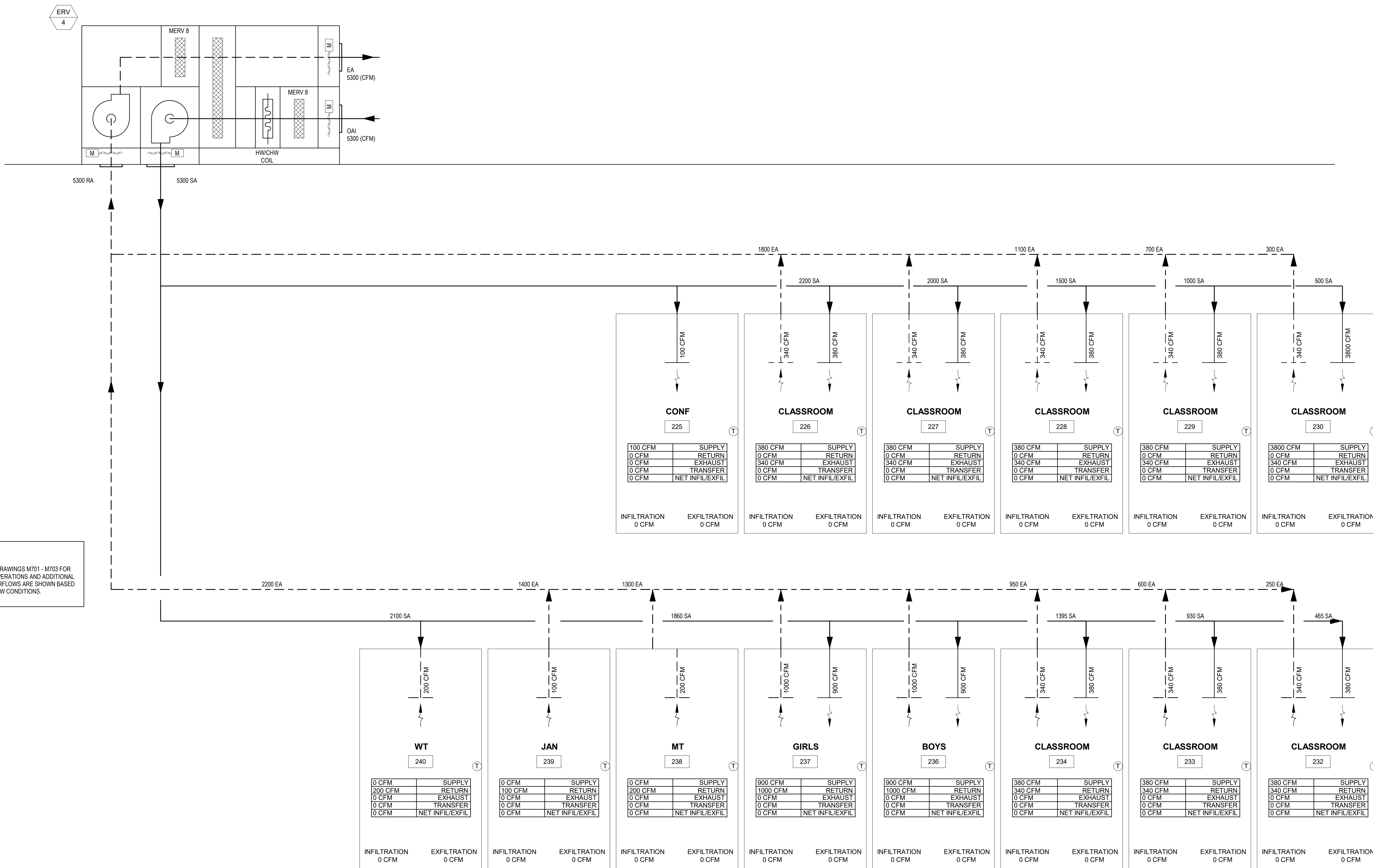
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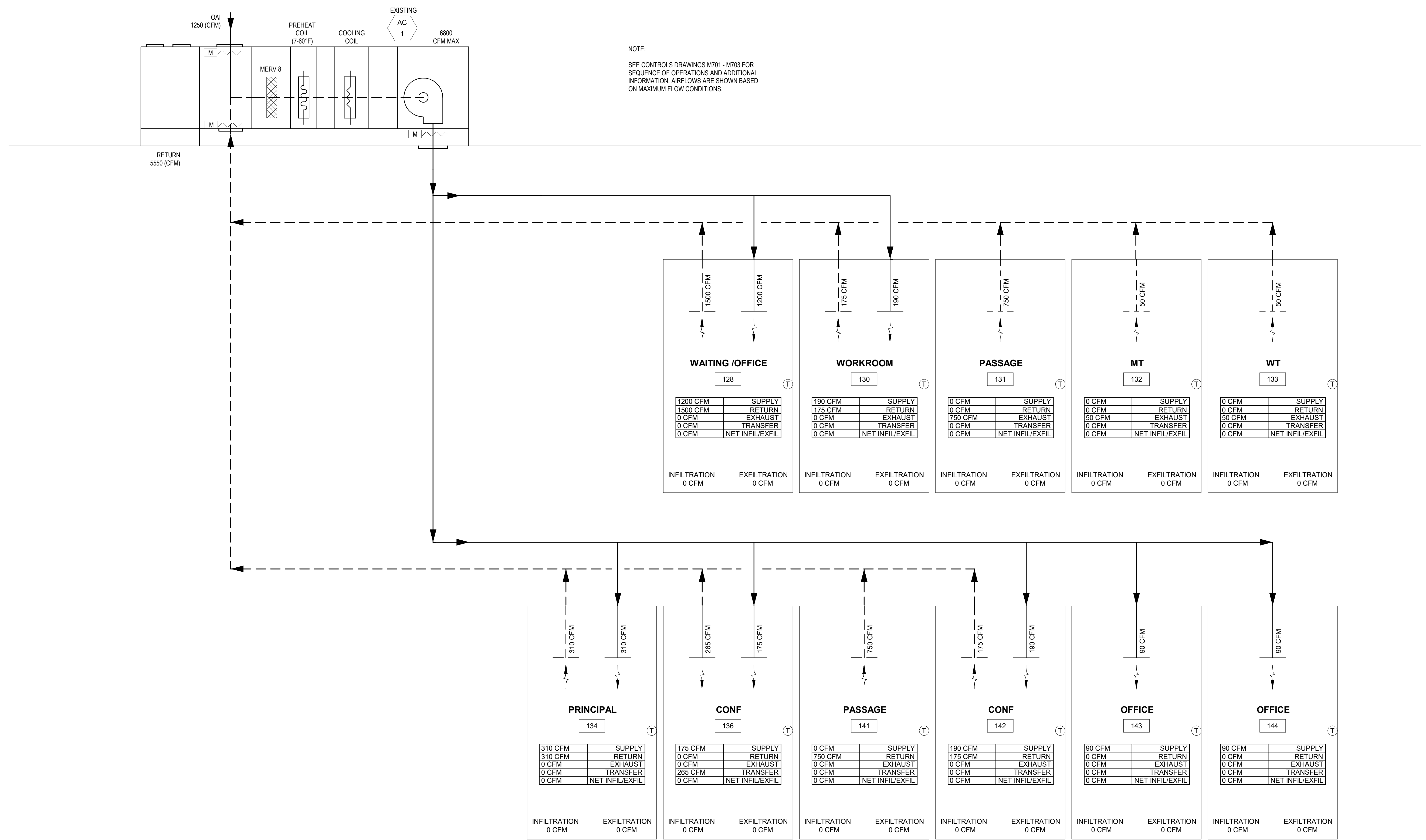
Rev	Date	Description

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 Drawn By: HJH  
 Reviewed By: SEH  
 Approved By: SEH  
 W&S Project No: 2191117

Drawing Title:  
**AIRFLOW DIAGRAMS**  
 Sheet Number:  
**H803**  
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Revisions:

Rev	Date	Description

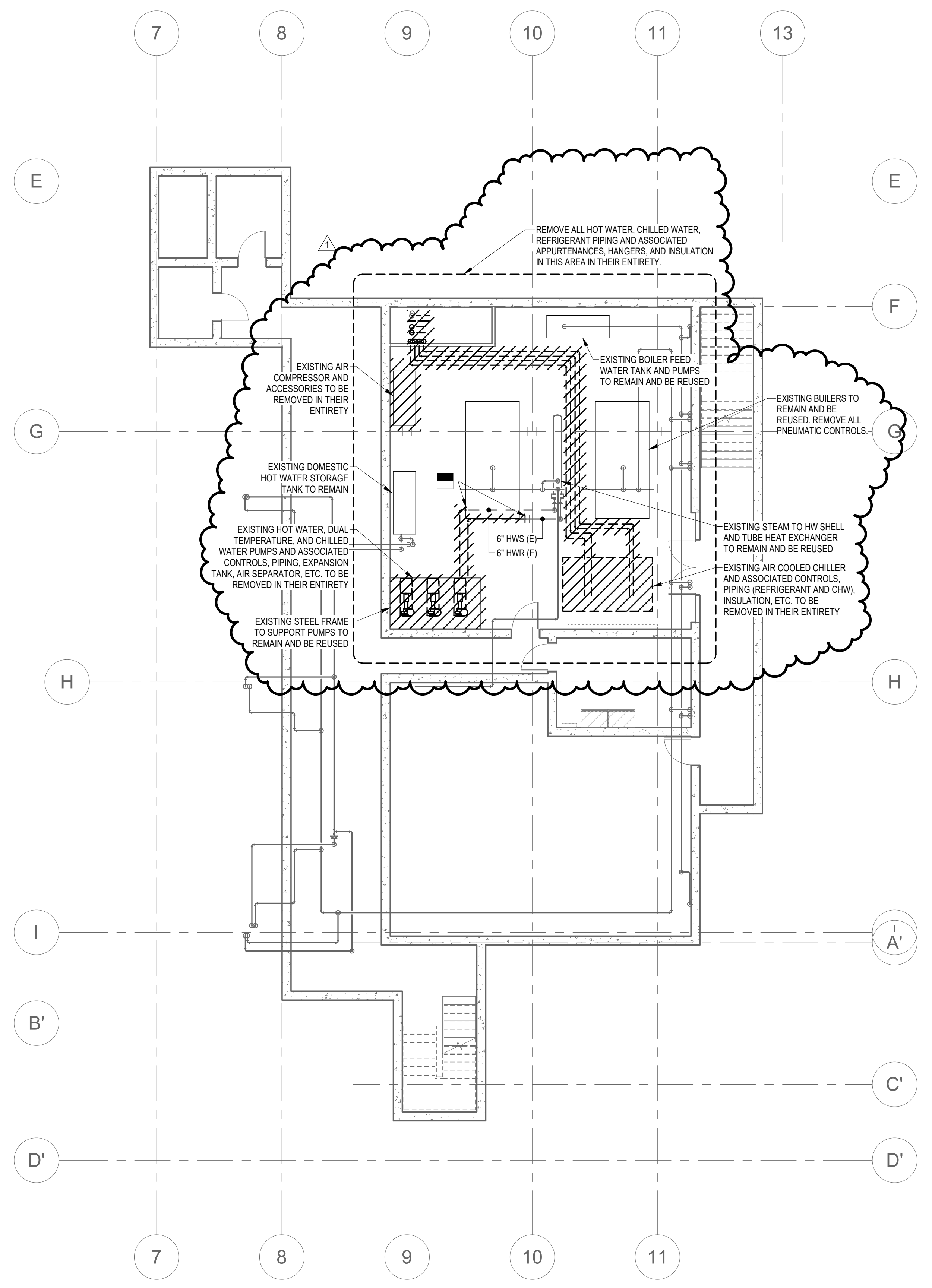
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Date: April 2, 2020  
 Drawn By: HJH  
 Reviewed By: SEH  
 Approved By: SEH  
 W&S Project No: 219117



**GENERAL NOTES**

1. REMOVE ALL OF THE EXISTING UNIT VENTILATORS AND ASSOCIATED CONTROLS, PIPING, AND SLEEVE INCLUDING THE OUTSIDE AIR INTAKE GRILLE IN THEIR ENTIRETY. PATCHING OF THE FLOOR, INTERIOR, EXTERIOR WALL AND ROOF SHALL BE COORDINATED WITH THE ARCHITECTURAL PLANS.
2. REFERENCE HM-1 & HM-2



Project:  
CONTRACT 2C20-064

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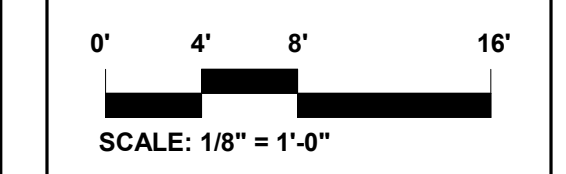
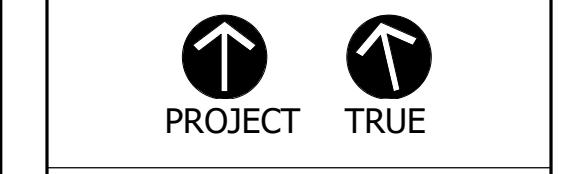
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100 STATE STREET  
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www.vanzelm.com

Seal:

Revisions:

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1	4/15/2020	ADDENDUM #1

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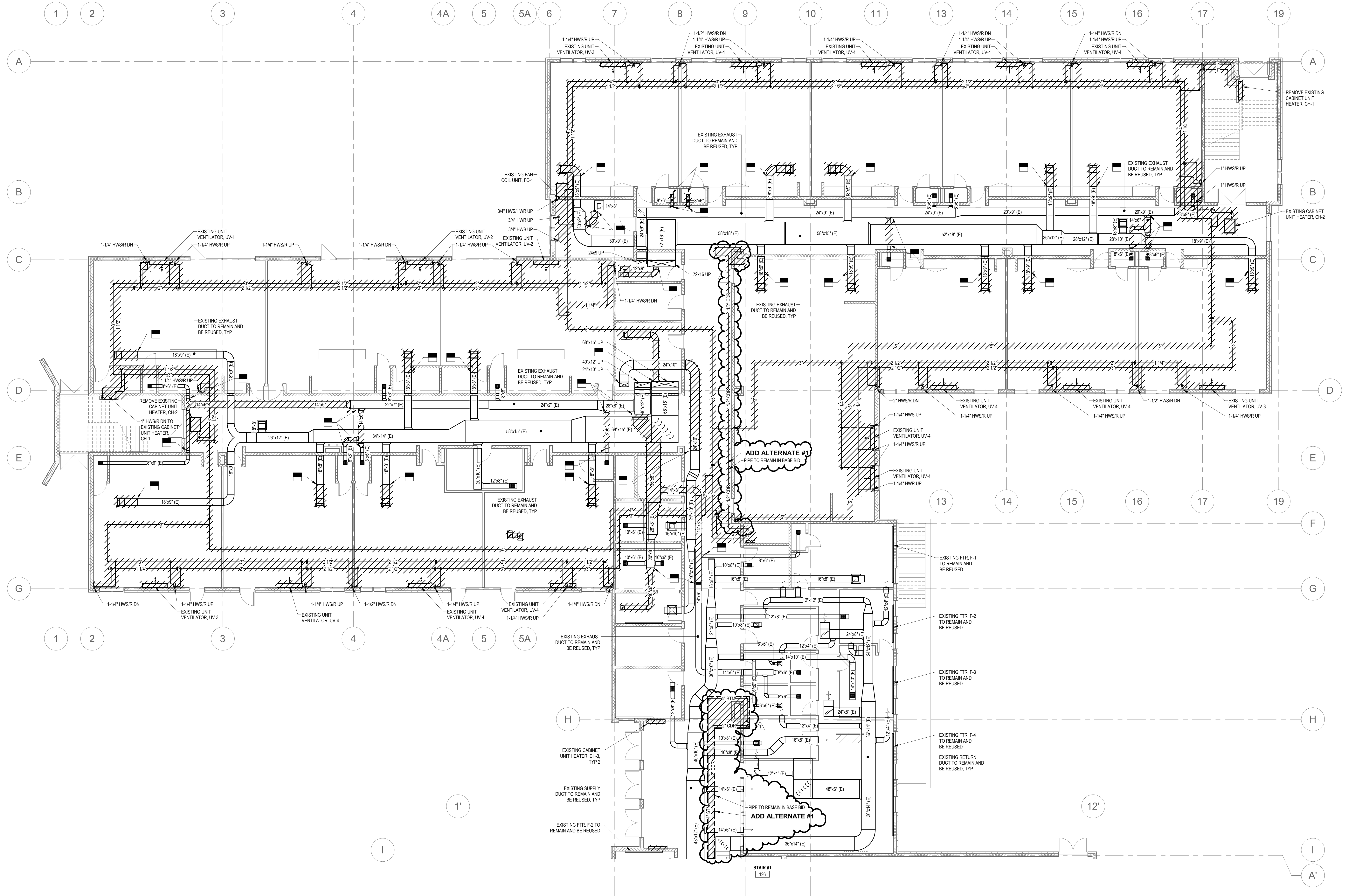
Date: April 15, 2020  
Drawn By: MRC  
Reviewed By: SEH  
Approved By: SEH  
W&S Project No: 2191117

Drawing Title:  
**BASEMENT DEMOLITION PLAN**

Sheet Number:  
**HD100**

**GENERAL NOTES**

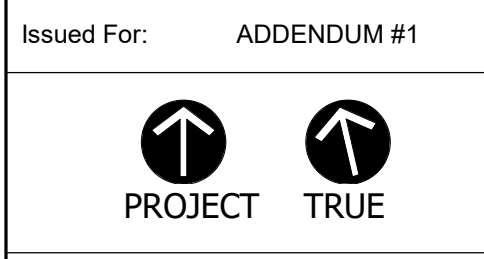
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2. REFERENCE HM-1 & HM-2



Seal:

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1	4/15/2020	ADDENDUM #1



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 Drawn By: MRC  
 Reviewed By: SEH  
 Approved By: SEH  
 W&S Project No: 219117

Drawing Title:  
**FIRST FLOOR  
 DEMOLITION PLAN  
 PART A**

Sheet Number:  
**HD101A**  
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**GENERAL NOTES**

1. REMOVE ALL OF THE EXISTING UNIT VENTILATORS AND ASSOCIATED CONTROLS, PIPING AND SLEEVE (INCLUDING THE OUTSIDE AIR INTAKE GRILLE) IN THEIR ENTIRETY. PATCHING OF THE FLOOR, INTERIOR, EXTERIOR WALL AND ROOF SHALL BE COORDINATED WITH THE ARCHITECTURAL PLANS.
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Consultants:

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architecture

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195 Scott Swamp Road  
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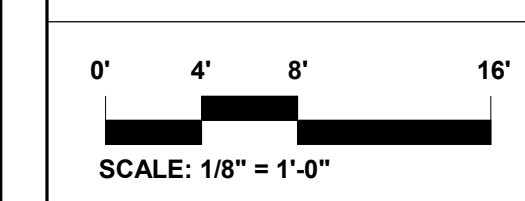
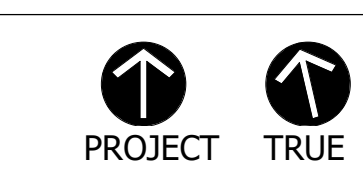
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100 MAIN STREET  
STEELE POINT, FARMINGTON, CT 06032  
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Seal:

Revisions:

Rev	Date	Description
1	4/15/2020	ADDENDUM #1

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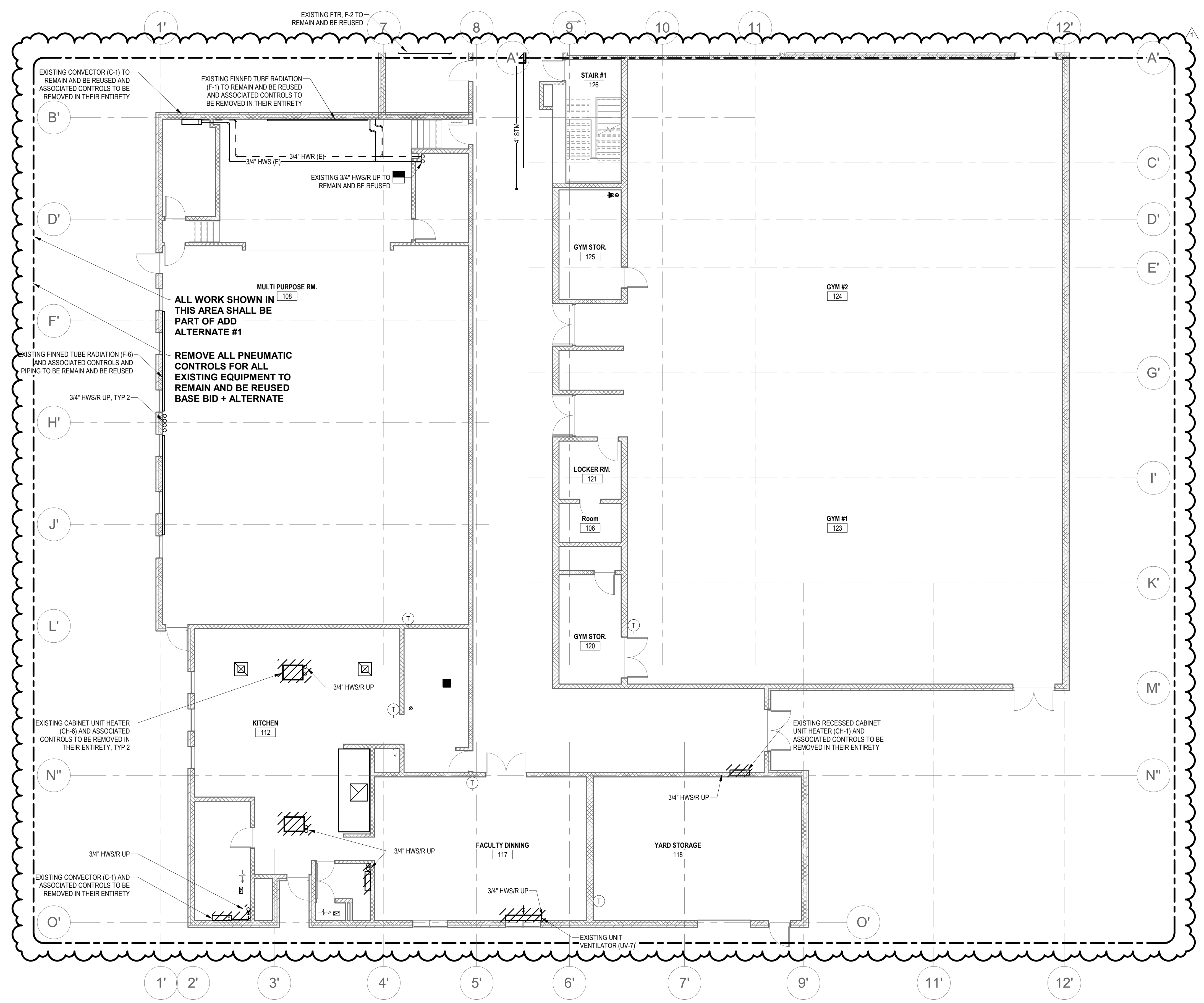
Date: April 15, 2020  
Drawn By: MRC  
Reviewed By: SEH  
Approved By: SEH  
W&S Project No: 2191117

Drawing Title:

**FIRST FLOOR  
DEMOLITION PLAN  
PART B**

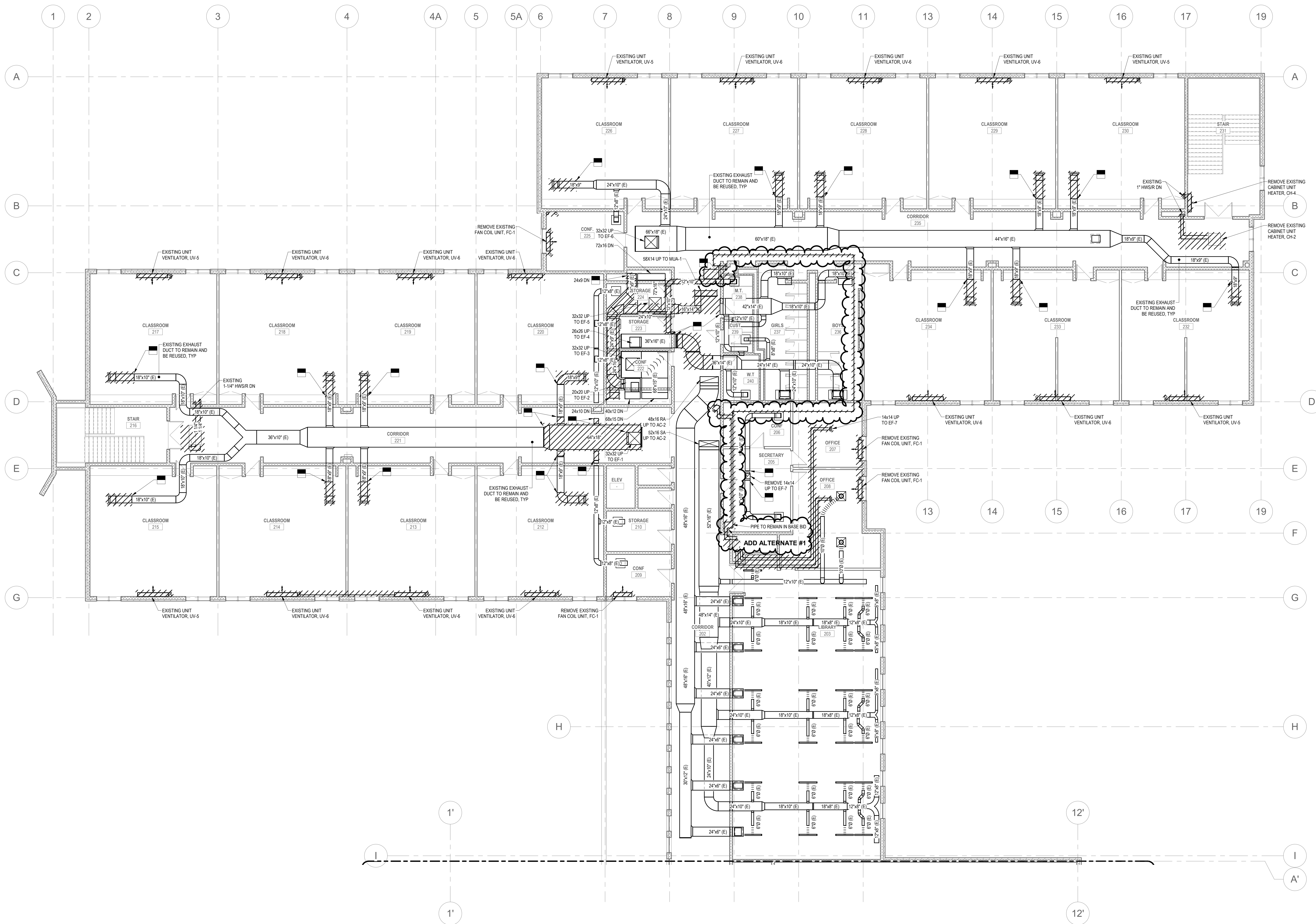
Sheet Number:

**HD101B**



**GENERAL NOTES**

- REMOVE ALL OF THE EXISTING UNIT VENTILATORS AND ASSOCIATED CONTROLS, PIPING, AND SLEEVE (INCLUDING THE OUTSIDE AIR INTAKE GRILLE) IN THEIR ENTIRETY. PATCHING OF THE FLOOR, INTERIOR EXTERIOR WALL AND ROOF SHALL BE COORDINATED WITH THE ARCHITECTURAL PLANS.
- REFERENCE HM-1 & HM-2

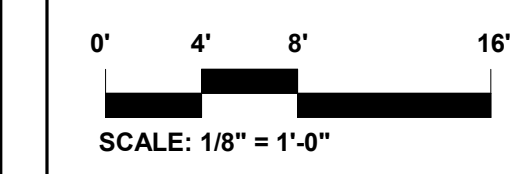
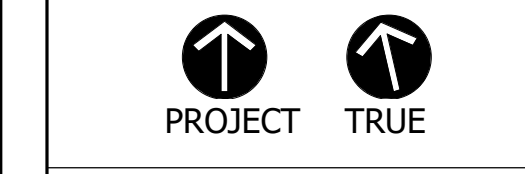


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Revisions:

Rev	Date	Description
1	4/15/2020	ADDENDUM #1

Issued For: ADDENDUM #1



Date: April 15, 2020  
 Drawn By: MRC  
 Reviewed By: SEH  
 Approved By: SEH  
 W&S Project No: 2191117

Drawing Title:  
**SECOND FLOOR  
 DEMOLITION PLAN  
 PART A**

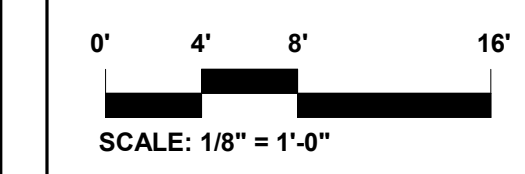
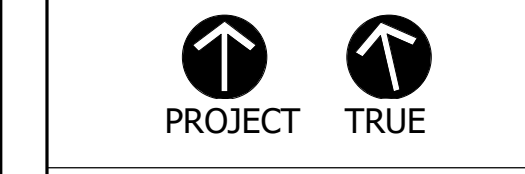
Sheet Number:

**HD102A**  
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Revisions:

Rev	Date	Description
1	4/15/2020	ADDENDUM #1

Issued For: ADDENDUM #1



Date: April 15, 2020  
 Drawn By: MRC  
 Reviewed By: SEH  
 Approved By: SEH  
 W&S Project No: 2191117

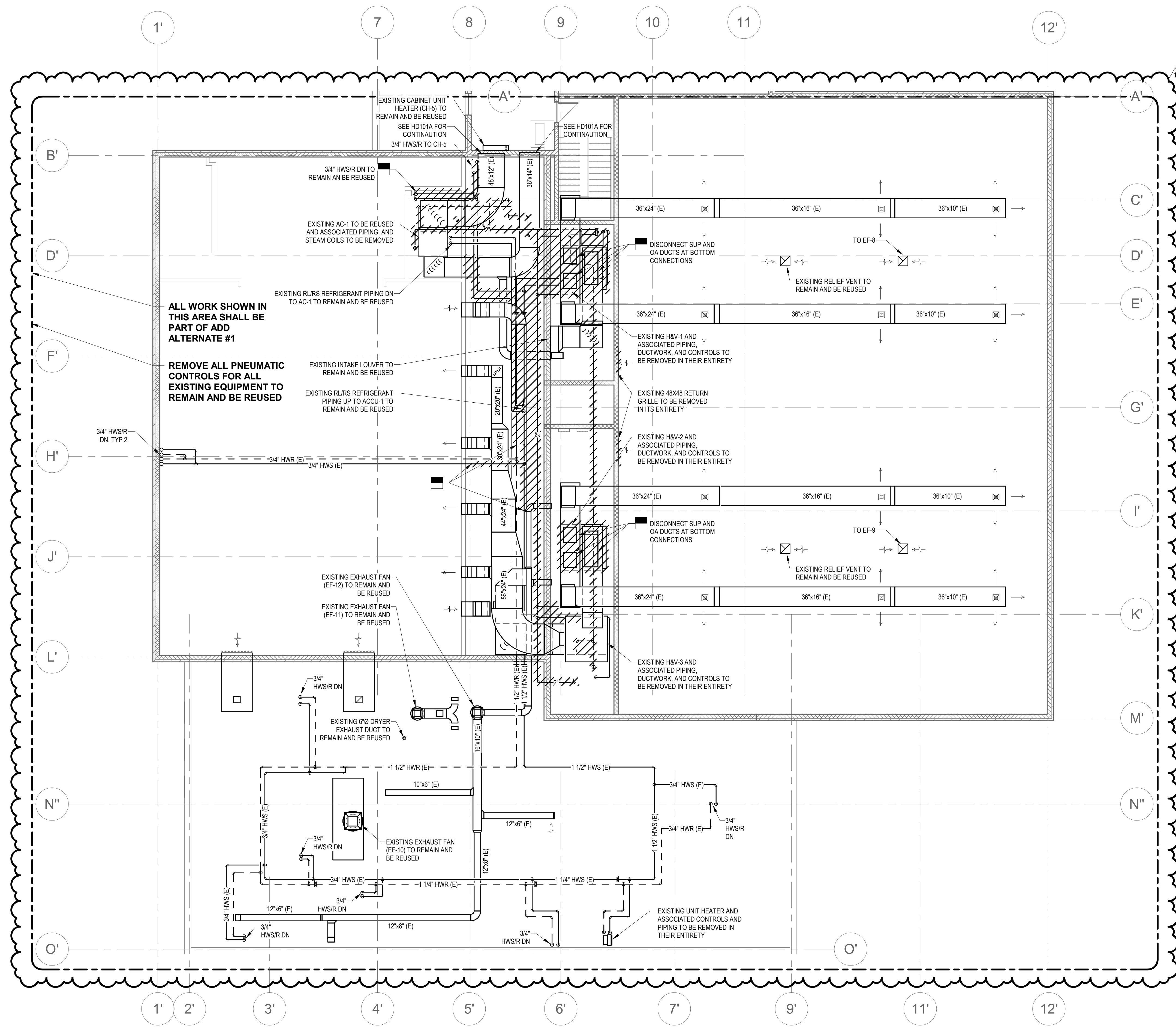
Drawing Title:  
**SECOND FLOOR  
 DEMOLITION PLAN  
 PART B**

Sheet Number:

**HD102B**  
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**GENERAL NOTES**

- REMOVE ALL OF THE EXISTING UNIT VENTILATORS AND ASSOCIATED CONTROLS, PIPING, AND SLEEVE (INCLUDING THE OUTSIDE AIR INTAKE GRILLE) IN THEIR ENTIRETY. PATCHING OF THE FLOOR, INTERIOR EXTERIOR WALL AND ROOF SHALL BE COORDINATED WITH THE ARCHITECTURAL PLANS.
- REFERENCE HM-1 & HM-2



**GENERAL NOTES**

1. REMOVE ALL OF THE EXISTING UNIT VENTILATORS AND ASSOCIATED CONTROLS, PIPING, AND SLEEVE (INCLUDING THE OUTSIDE AIR INTAKE GRILLE) IN THEIR ENTIRETY. PATCHING OF THE FLOOR, INTERIOR, EXTERIOR WALL AND ROOF SHALL BE COORDINATED WITH THE ARCHITECTURAL PLANS.
2. REFERENCE HM-1 & HM-2

Project:  
**CONTRACT 2C20-064**  
  
**MECH IMPROVEMENTS AT SOUTH SIDE ELEMENTARY SCHOOL BRISTOL, CT**  
 21 Tuttle Rd.  
 Bristol, CT 06010

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Consultants:  
**QA+M**  
 architecture  
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 196 Scott Swamp Road  
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 qaamarch.com

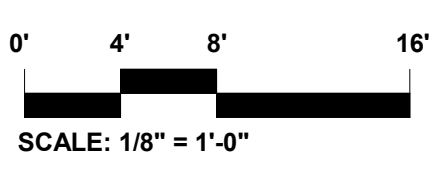
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1	4/15/2020	ADDENDUM #1

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 PROJECT  
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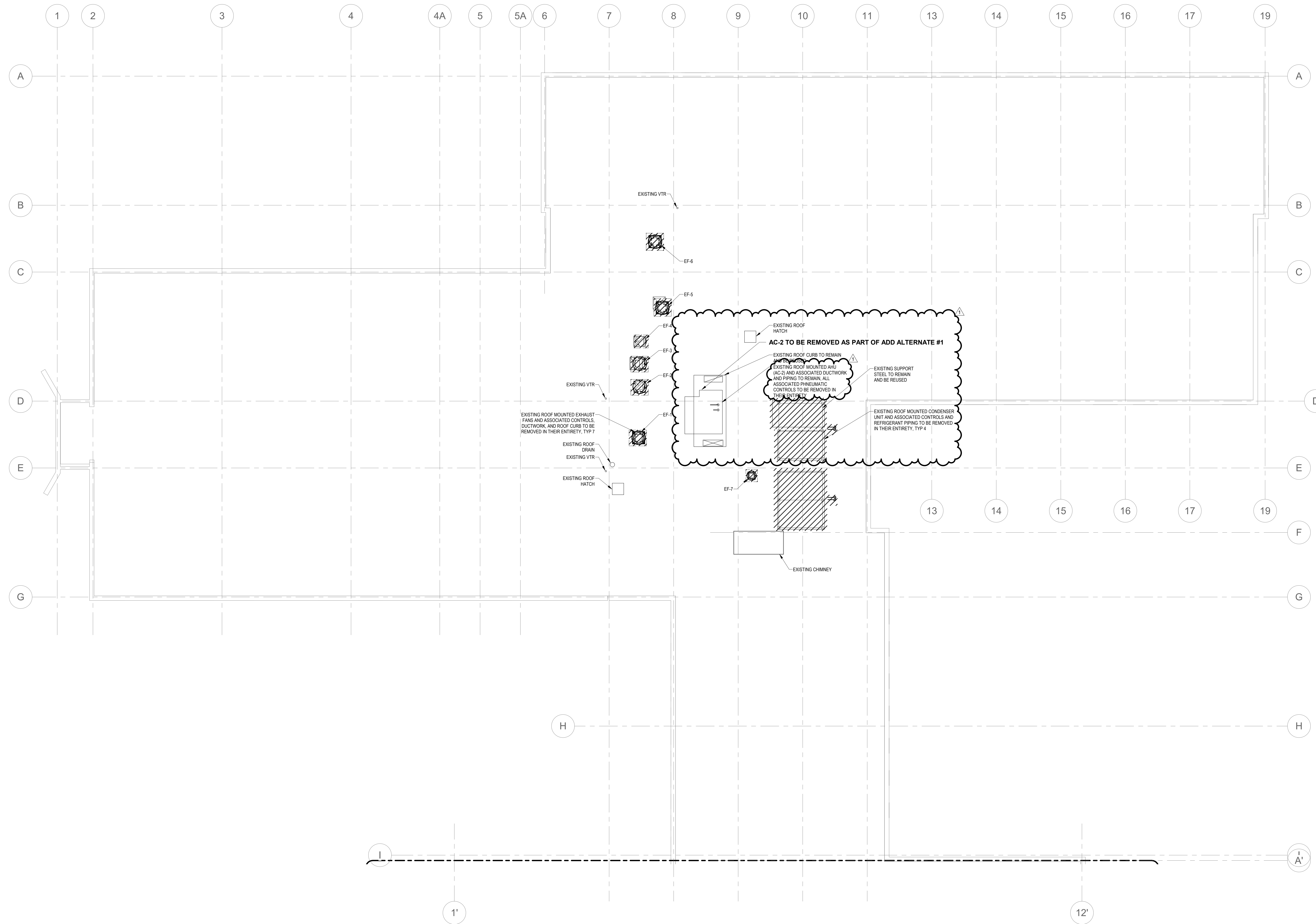


Date: April 15, 2020  
 Drawn By: MRC  
 Reviewed By: SEH  
 Approved By: SEH  
 W&S Project No: 2191117

Drawing Title:  
**ROOF DEMOLITION PLAN PART A**

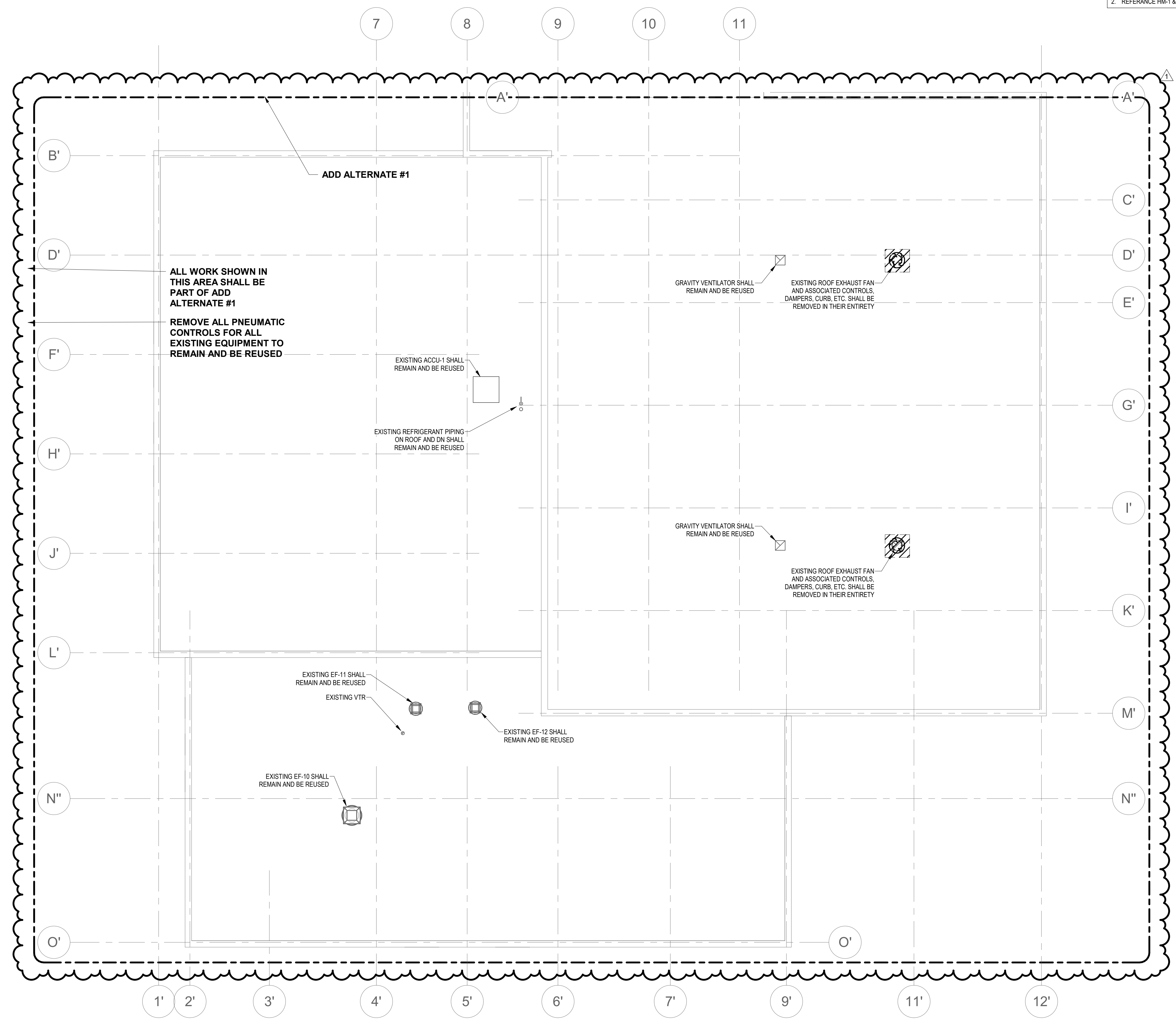
Sheet Number:

**HD103A**



**GENERAL NOTES**

1. REMOVE ALL OF THE EXISTING UNIT VENTILATORS AND ASSOCIATED CONTROLS, PIPING, AND SLEEVE INCLUDING THE OUTSIDE AIR INTAKE GRILLE IN THEIR ENTIRETY. PATCHING OF THE FLOOR, INTERIOR, EXTERIOR WALL AND ROOF SHALL BE COORDINATED WITH THE ARCHITECTURAL PLANS.
2. REFERENCE HM-1 & HM-2



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Consultants:  
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Revisions:

Rev	Date	Description
1	4/15/2020	ADDENDUM #1

Issued For: ADDENDUM #1

**PROJECT TRUE**

0' 4' 8' 16'  
 SCALE: 1/8" = 1'-0"

Date: April 15, 2020  
 Drawn By: MRC  
 Reviewed By: SEH  
 Approved By: SEH  
 W&S Project No: 2191117

Drawing Title:  
**ROOF  
 DEMOLITION PLAN  
 PART B**

Sheet Number:

**HD103B**

Table with columns listing electrical symbols and their corresponding abbreviations, such as '1 POLE (2P, 3P, 4P, ETC.) AMPERE' and 'AMP SWITCH'.

Table with columns for SYMBOL, DESCRIPTION, and a corresponding SYMBOL, DESCRIPTION section, detailing various electrical symbols like 'SURFACE LIGHT (TYPE DENOTED)' and 'MOTOR (SEE SCHEDULE)'.

DEMOLITION NOTES

- List of demolition notes including: 'THE ELECTRICAL CONTRACTOR WILL WORK IN CONJUNCTION WITH THE GENERAL CONTRACTOR TO DEMOLISH THE EXISTING ELECTRICAL SYSTEM...', 'EXISTING SYSTEMS THAT ARE TO REMAIN AND BE PROTECTED DURING DEMOLITION/CONSTRUCTION INCLUDE:', and 'PRIOR TO REMOVAL OF EQUIPMENT, CONFIRM THAT FEEDER AND BRANCH CIRCUITS ARE NO LONGER ACTIVE...'.

GENERAL ELECTRICAL NOTES

- List of general electrical notes including: 'DRAWINGS ARE DIAGRAMMATIC ONLY. THE EXACT LOCATION, MOUNTING HEIGHTS, SIZE OF EQUIPMENT AND ROUTING OF RACEWAYS SHALL BE COORDINATED AND DETERMINED IN THE FIELD.', 'WIRING METHODS: A. EXTERIOR ABOVE GRADE FEEDERS SHALL BE RGS CONDUIT.', 'CONNECTORS FOR RIGID CONDUIT SHALL BE MADE WITH THREADED COUPLINGS.', and 'THE CONTRACTOR SHALL PROVIDE ALL REQUIRED POWER SUPPLIES, APPURTENANCES, FINAL CONNECTIONS, TESTING AND WORK REQUIRED FOR ADDITIONS TO THE EXISTING FIRE ALARM SYSTEM...'.

ELECTRICAL SYMBOL NOTES

- Notes explaining electrical symbols: 'THE LIGHTING FIXTURE TYPE IS INDICATED BY AN UPPER CASE LETTER. THE CIRCUIT DESIGNATION IS INDICATED BY A NUMBER.', 'ELECTRIC HEATER CONNECTIONS. THE HEATER TYPE IS INDICATED BY A NUMBER FOLLOWING THE UPPER CASE LETTER "H"', and 'MOTOR CONNECTIONS. THE MOTOR IS INDICATED BY A NUMBER WITHIN OR ADJACENT TO THE MOTOR SYMBOL...'.

ELECTRICAL DRAWINGS

- Index of electrical drawings including: 'E001 ELECTRICAL TITLE SHEET', 'E101 LEVEL 1 LIGHTING PLAN PART A', 'E102 LEVEL 1 LIGHTING PLAN PART B', and 'E103 LEVEL 2 LIGHTING PLAN PART A'.

Project header for City of Bristol, CT, including the city seal and project name: 'HVAC SYSTEM UPGRADES AT SOUTH SIDE ELEMENTARY SCHOOL'.

Weston & Sampson Engineers, Inc. contact information: 100 Foxborough Boulevard, Suite 250, Foxborough, MA 02035.

QA+M architecture logo and contact information: 150 Scott Stamp Road, Foxborough, CT 06242.

EAGLE Environmental, Inc. logo.

VANZELM ENGINEERS logo and contact information: 100 EAST MAIN STREET, FARMINGTON, CT 06030.

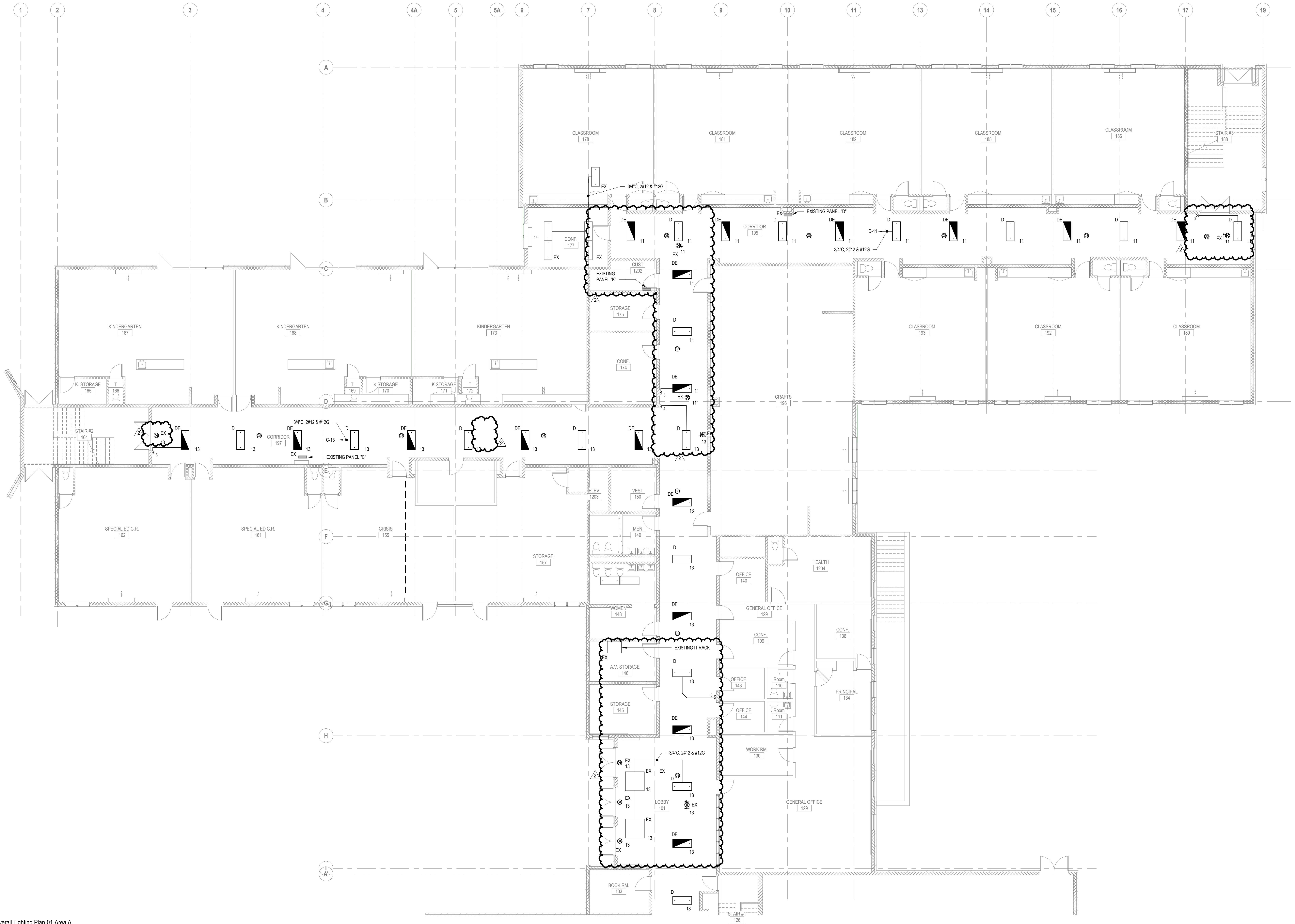
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Table with columns for Date, Drawn By, Reviewed By, and W&S Project No., containing project details like 'Date: 04/02/2020' and 'Drawn By: MK'.

ELECTRICAL TITLE SHEET

Sheet Number: E001





1 Overall Lighting Plan-01-Area A  
E101  
1/8" = 1'-0"

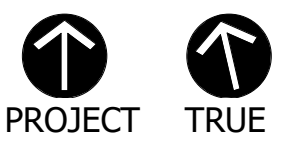
**DRAWING NOTE:**

- REFER TO DRAWING E001 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES

Seal:

Revisions:

Rev	Date	Description
1	04/15/20	ADDENDUM #1
2	04/23/20	ADDENDUM #2

Issued For: BID SET  


SCALE: AS NOTED  
Date: 04/02/2020  
Drawn By: MK  
Reviewed By: DNM  
Approved By: RFM  
W&S Project No: 2170808

Drawing Title:  
**LEVEL 1 LIGHTING  
PLAN PART A**  
Sheet Number:  
**E101**  
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1 Overall Lighting Plan-01-Area B  
E102 / 1/8" = 1'-0"

**DRAWING NOTE:**  
1. REFER TO DRAWING E001 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES

**ALTERNATE NOTE:**  
1. ALL WORK INCLUDED IN THIS DRAWING SHALL BE INCLUDED AS PART OF ALTERNATE 1

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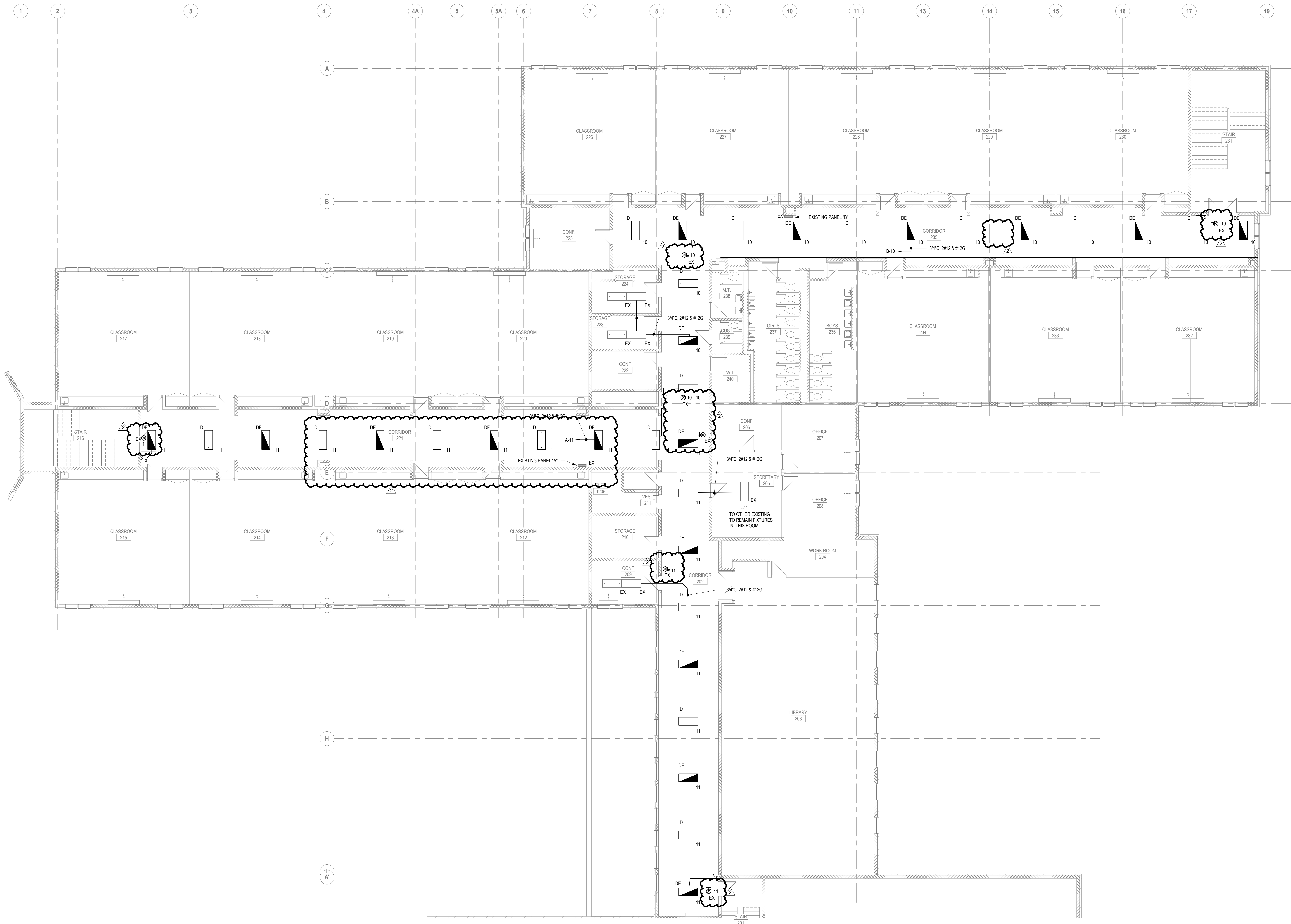
Revisions:

Rev	Date	Description
1	04/15/20	ADDENDUM #1

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PROJECT TRUE

SCALE: AS NOTED  
Date: 04/02/2020  
Drawn By: MK  
Reviewed By: DNM  
Approved By: RFM  
W&S Project No: 2170808


Drawing Title:  
**LEVEL 1 LIGHTING  
PLAN PART B**  
Sheet Number:  
**E102**



1 Overall-Lighting Plan-02-Area A  
E103 1/8" = 1'-0"

**DRAWING NOTE:**

1. REFER TO DRAWING E001 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES

Project:  
CITY OF BRISTOL, CT  
  
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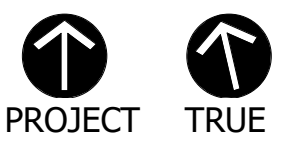
Consultants:  
  
QA+M  
architecture  
Quisenberry Arcan/Malk  
195 Scott Swamp Road  
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(860) 671-4564  
qa+m.com

  
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SCALE: AS NOTED  
Date: 04/02/2020  
Drawn By: MK  
Reviewed By: DNM  
Approved By: RFM  
W&S Project No: 2170808

Drawing Title:  
LEVEL 2 LIGHTING  
PLAN PART A

Sheet Number:  
E103

Project:

CITY OF BRISTOL, CT



HVAC SYSTEM UPGRADES  
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Consultants:

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SCALE: AS NOTED

Date: 04/02/2020

Drawn By: MK

Reviewed By: DNM

Approved By: RFM

W&S Project No: 2170808

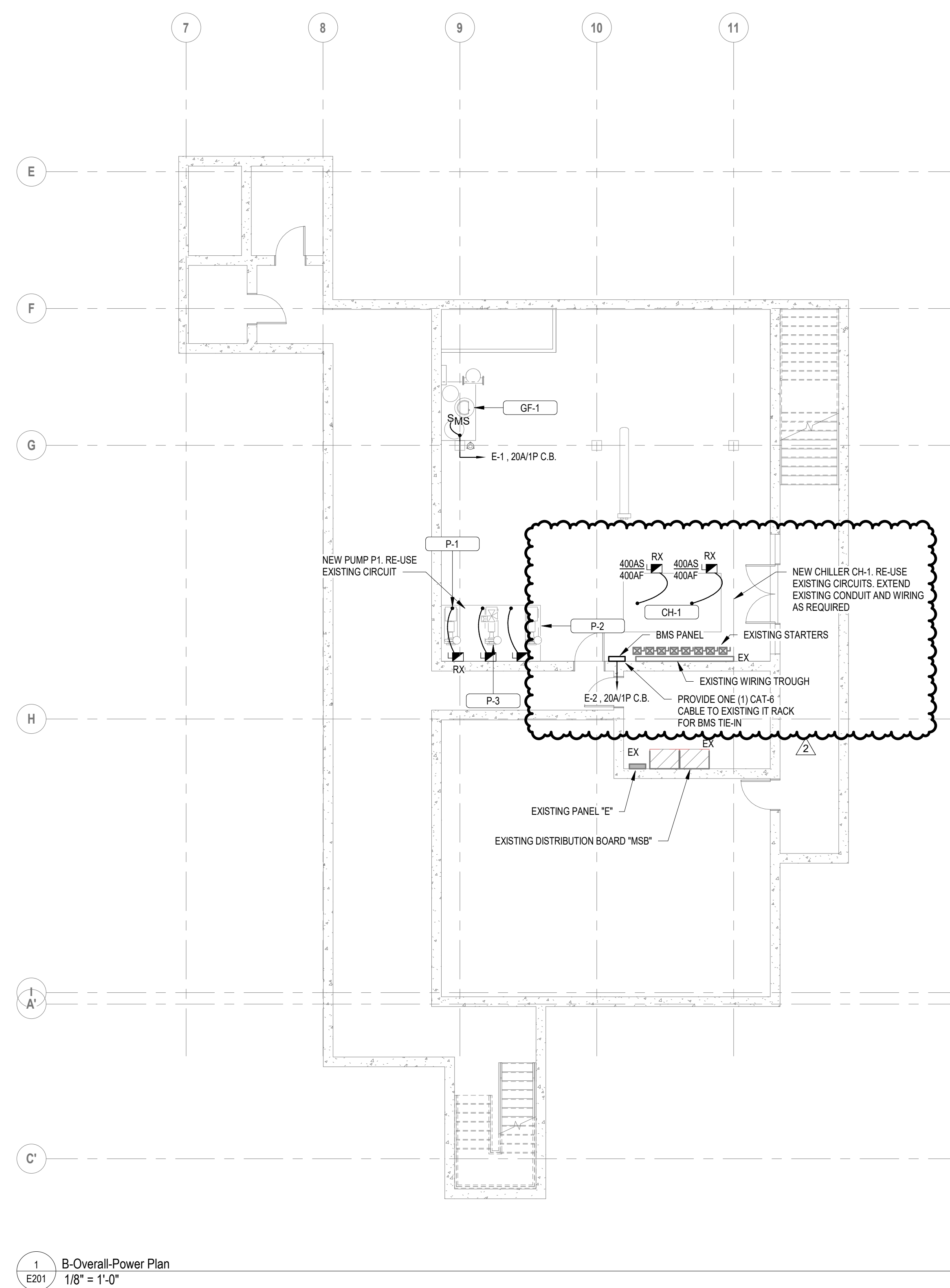
Drawing Title:

BASEMENT  
POWER PLAN

Sheet Number:

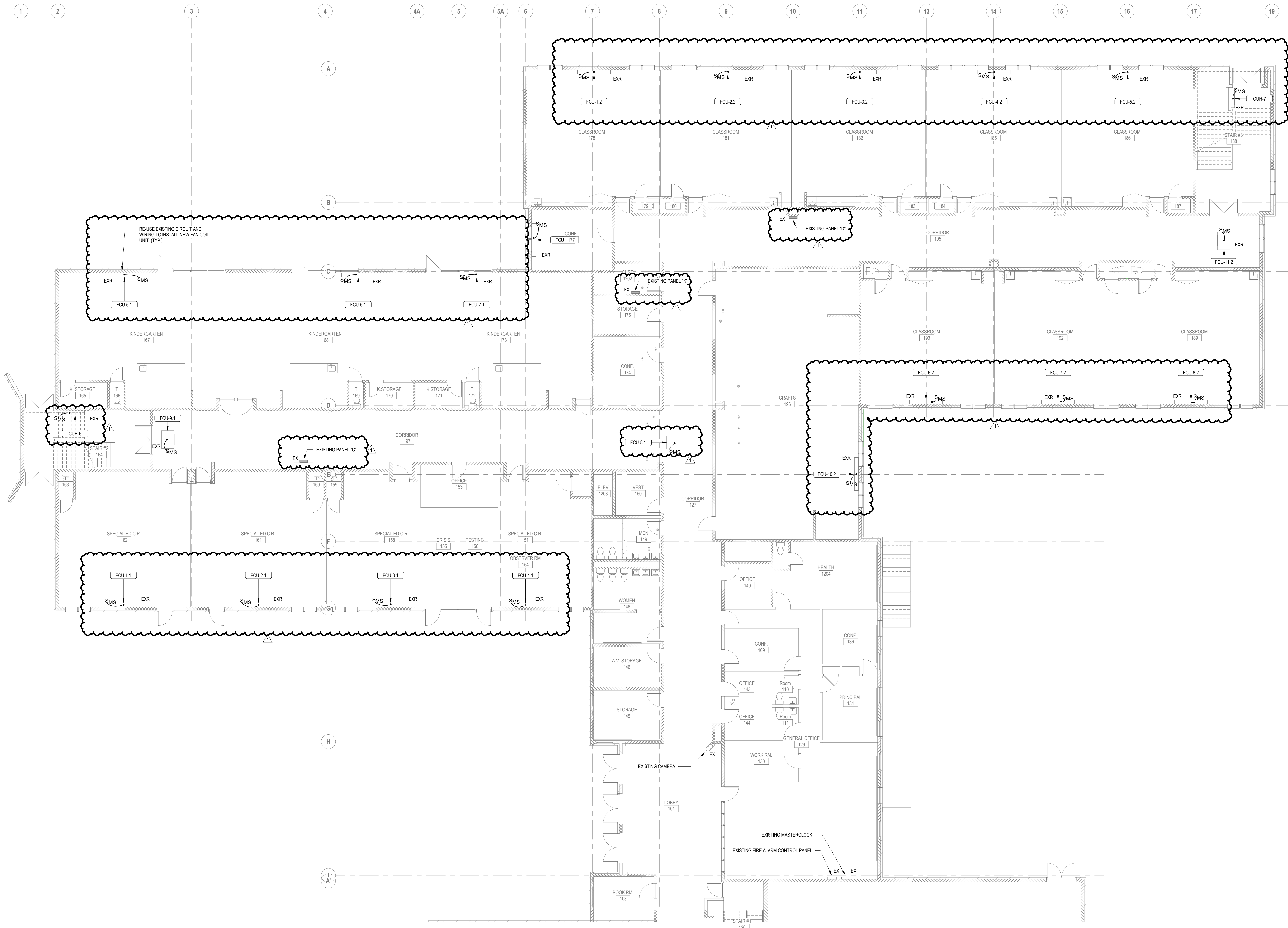
E201

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DRAWING NOTE:

- REFER TO DRAWING E001 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES



1 LEVEL 1 POWER PLAN PART A  
E202  
1/8" = 1'-0"

**DRAWING NOTE:**  
1. REFER TO DRAWING E001 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES

**Project:**  
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HVAC SYSTEM UPGRADES  
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ELEMENTARY SCHOOL  
21 Tuttle Rd.  
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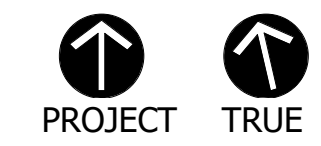
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VANZELM HEYWOOD & SHARPE, INC.  
100 WEST STREET  
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**Revisions:**

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1	04/15/20	ADDENDUM #1

Issued For: BID SET  


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Date: 04/02/2020  
Drawn By: MK  
Reviewed By: DNM  
Approved By: RFM  
W&S Project No: 2170808

Drawing Title:  
**LEVEL 1 POWER PLAN PART A**  
Sheet Number:  
**E202**  
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1 LEVEL 1 POWER PLAN PART B  
E203 / 1/8" = 1'-0"

**DRAWING NOTE:**  
1. REFER TO DRAWING E001 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES

**ALTERNATE NOTE:**  
1. ALL WORK INCLUDED IN THIS DRAWING SHALL BE INCLUDED AS PART OF ALTERNATE 1

Seal:

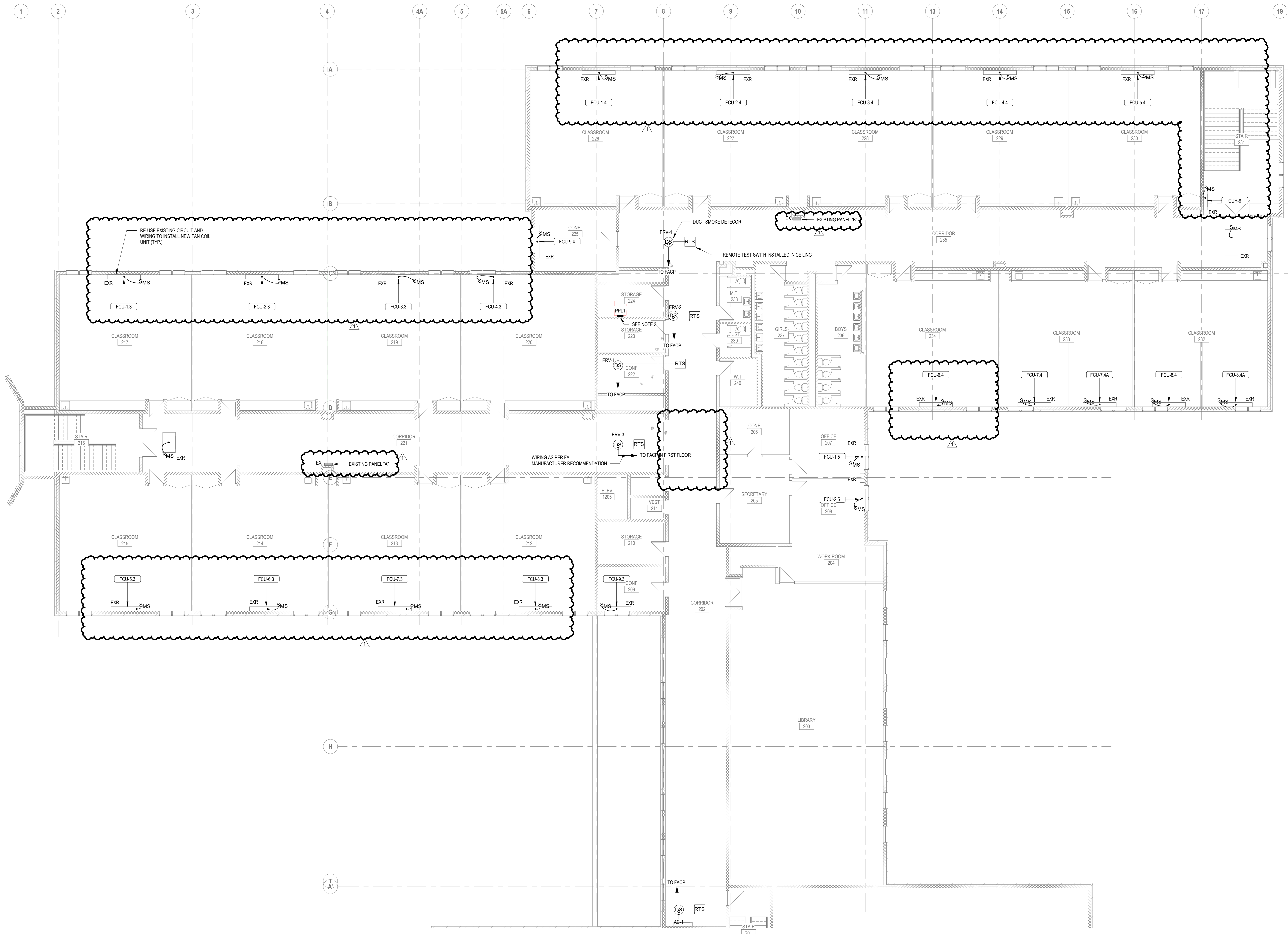
Revisions:

Rev	Date	Description
1	04/15/20	ADDENDUM #1
2	04/23/20	ADDENDUM #2

Issued For: BID SET  
PROJECT TRUE

SCALE: AS NOTED  
Date: 04/02/2020  
Drawn By: MK  
Reviewed By: DNM  
Approved By: RFM  
W&S Project No: 2170808

Drawing Title:  
**LEVEL 1 POWER  
PLAN PART B**  
Sheet Number:  
**E203**



1 LEVEL 2 POWER PLAN PART A  
 EX04 1/8" = 1'-0"

- DRAWING NOTE:
- REFER TO DRAWING E001 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES
  - PROVIDE NEW 100A CIRCUIT BREAKER IN EXISTING MSB. RUN 4#10 & RIG IN EXISTING 1-1/2" CONDUIT TO NEW PANEL PPL1.

Project:  
 CITY OF BRISTOL, CT  
  
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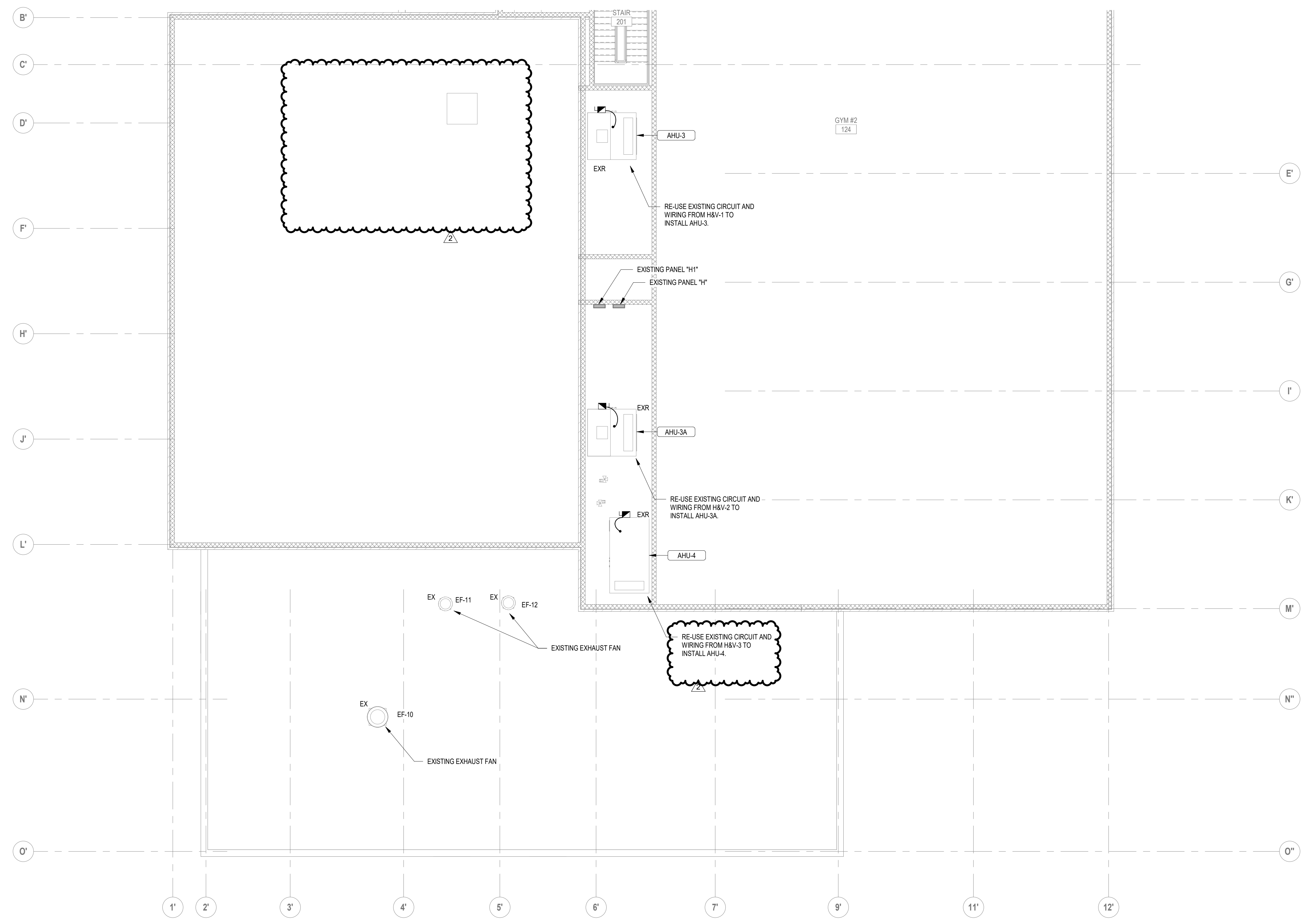
Revisions:

Rev	Date	Description
1	04/15/20	ADDENDUM #1

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SCALE: AS NOTED  
 Date: 04/02/2020  
 Drawn By: MK  
 Reviewed By: DNM  
 Approved By: RFM  
 W&S Project No: 2170808

Drawing Title:  
 LEVEL 2 POWER  
 PLAN PART A  
 Sheet Number:  
 E204  
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1 LEVEL 2 POWER PLAN PART B  
E205 / 1/8" = 1'-0"

- DRAWING NOTE:**
- REFER TO DRAWING E001 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES
  - CONTRACTOR TO PROVIDE SUPPORT FOR EXISTING TO REMAIN DEVICES.
- ALTERNATE NOTE:**
- ALL WORK INCLUDED IN THIS DRAWING SHALL BE INCLUDED AS PART OF ALTERNATE 1

Seal:

Revisions:

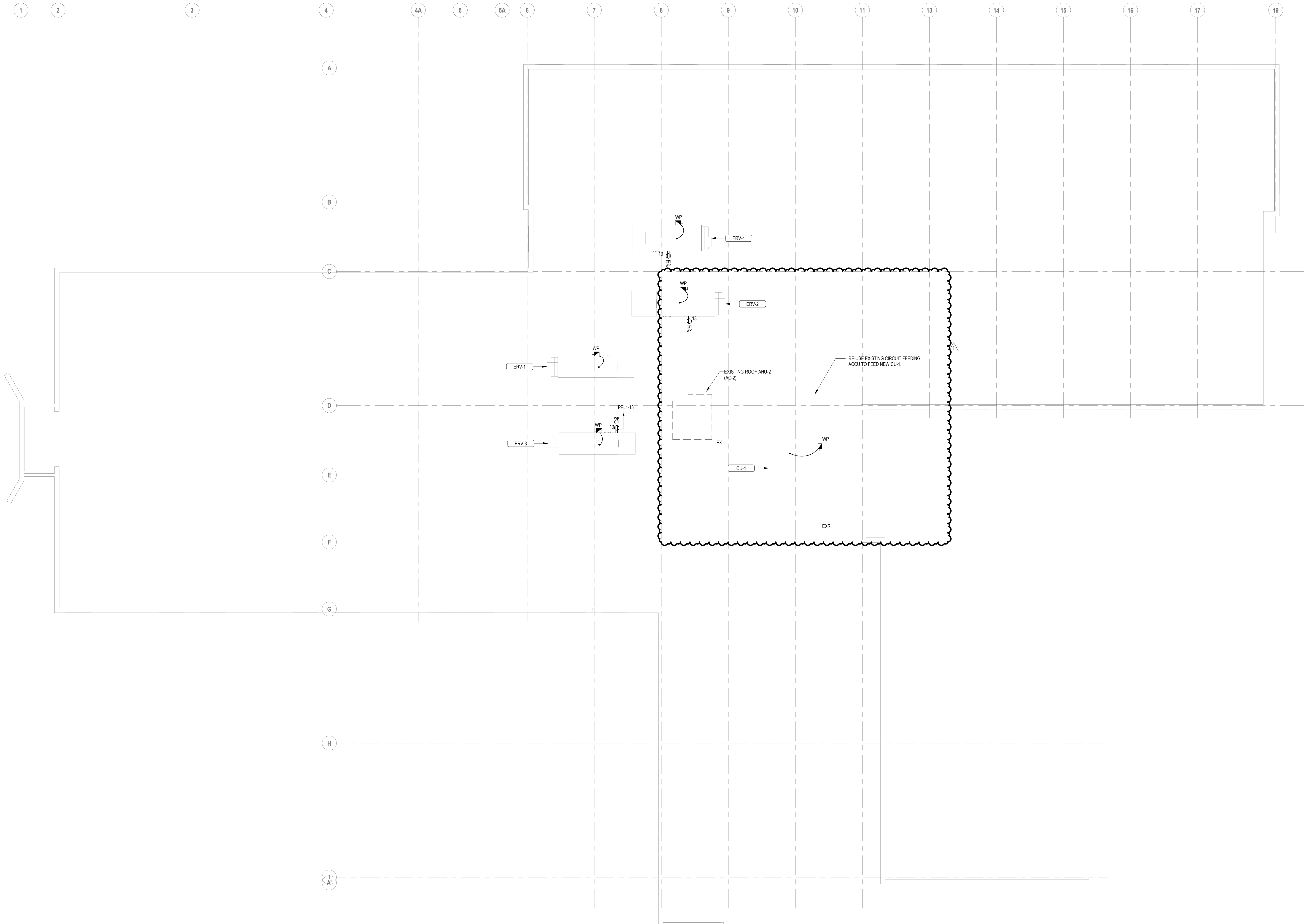
Rev	Date	Description
1	04/15/20	ADDENDUM #1
2	04/23/20	ADDENDUM #2

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Drawn By: MK  
Reviewed By: DNM  
Approved By: RFM  
W&S Project No: 2170808


Drawing Title:  
LEVEL 2 POWER  
PLAN PART B  
Sheet Number:  
E205  
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1 ROOF POWER PLAN PART A  
E206  
1/8" = 1'-0"

**DRAWING NOTE:**  
1. REFER TO DRAWING E001 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES

**Project:**  
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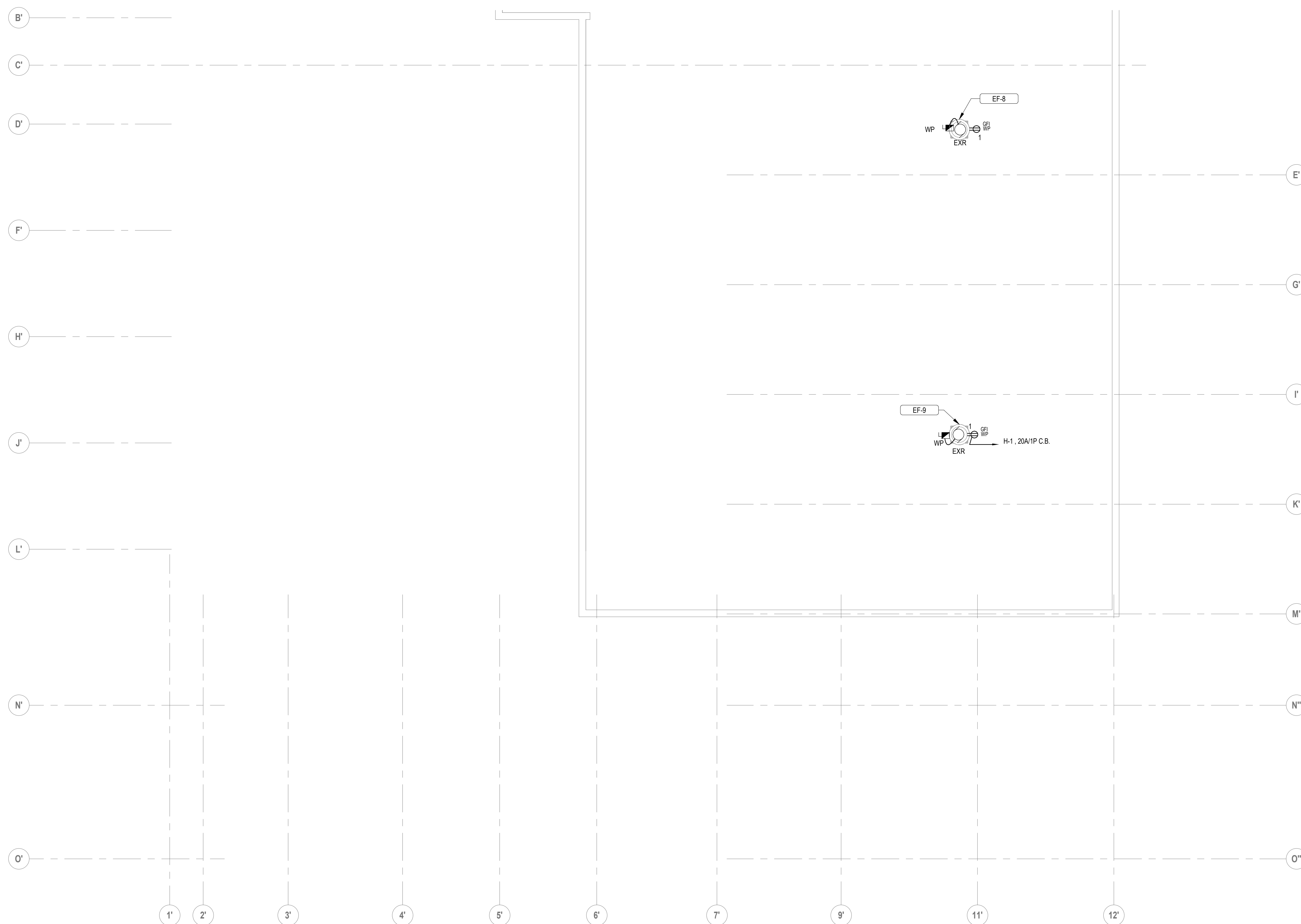
**Revisions:**

Rev	Date	Description
1	04/15/20	ADDENDUM #1

Issued For: BID SET  
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**SCALE: AS NOTED**  
Date: 04/02/2020  
Drawn By: MK  
Reviewed By: DNM  
Approved By: RFM  
W&S Project No: 2170808

Drawing Title:  
**ROOF POWER PLAN PART A**  
Sheet Number:  
**E206**  
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1 ROOF POWER PLAN PART B  
E207 / 1/8" = 1'-0"

**DRAWING NOTE:**  
1. REFER TO DRAWING E001 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES

**ALTERNATE NOTE:**  
1. ALL WORK INCLUDED IN THIS DRAWING SHALL BE INCLUDED AS PART OF ALTERNATE 1

**Project:**  
CITY OF BRISTOL, CT



HVAC SYSTEM UPGRADES  
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Revisions:

Rev	Date	Description
1	04/15/20	ADDENDUM #1

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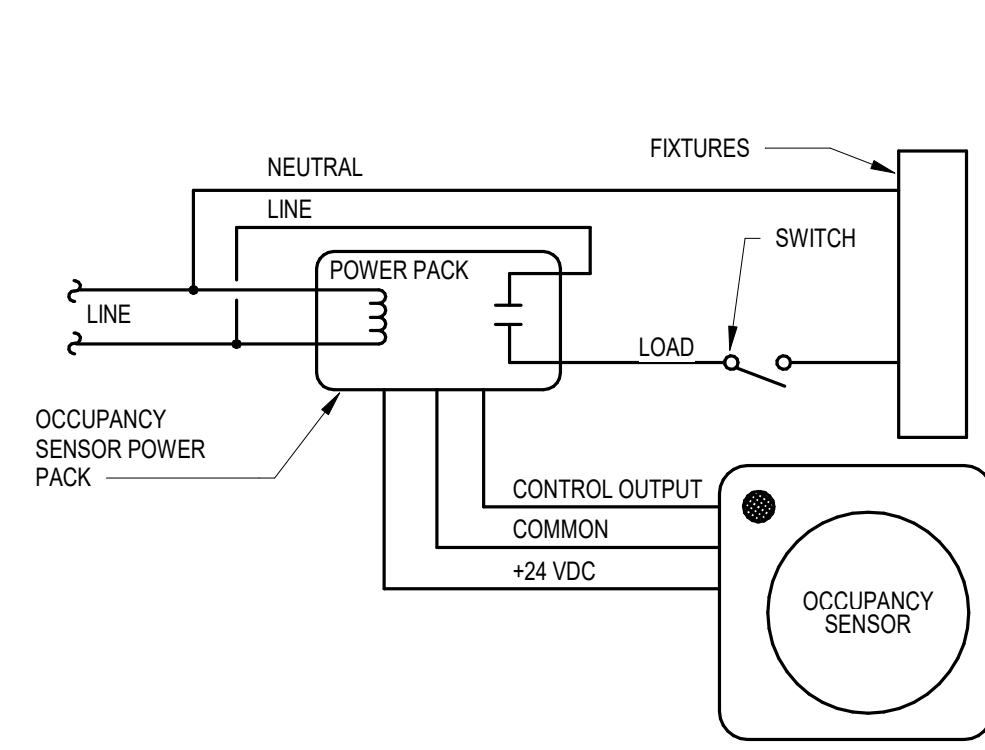
SCALE: AS NOTED

Date: 04/02/2020  
Drawn By: MK  
Reviewed By: DNM  
Approved By: RFM  
W&S Project No: 2170808

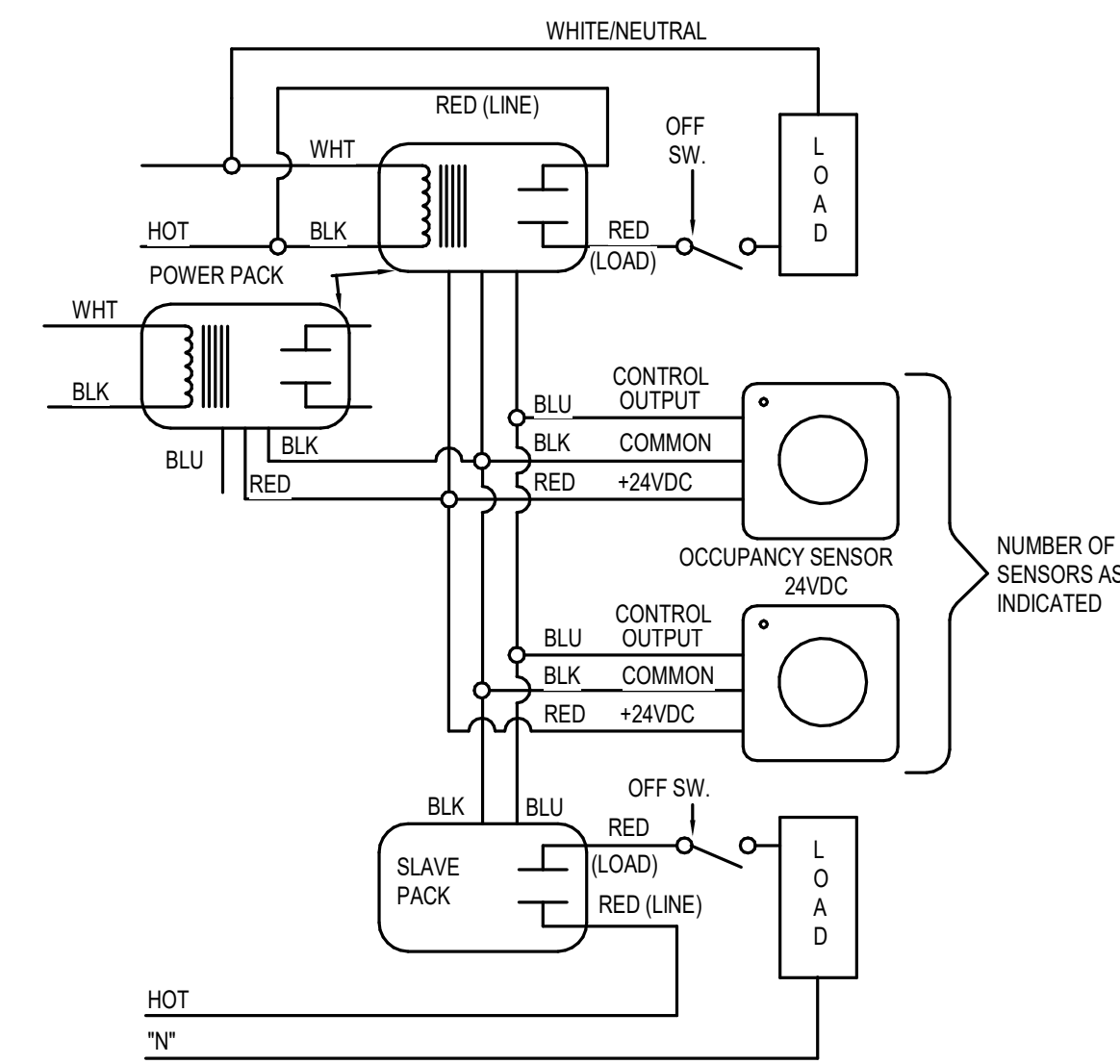
Drawing Title:  
**ROOF POWER PLAN PART B**

Sheet Number:  
**E207**

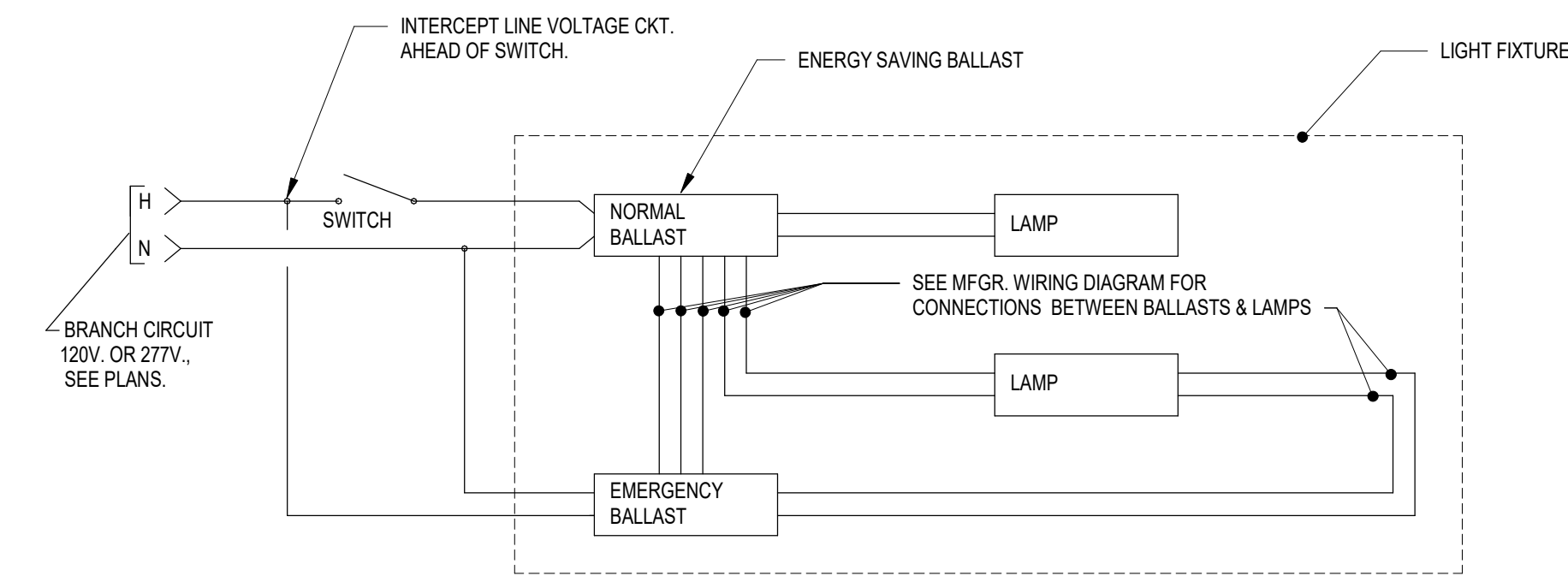
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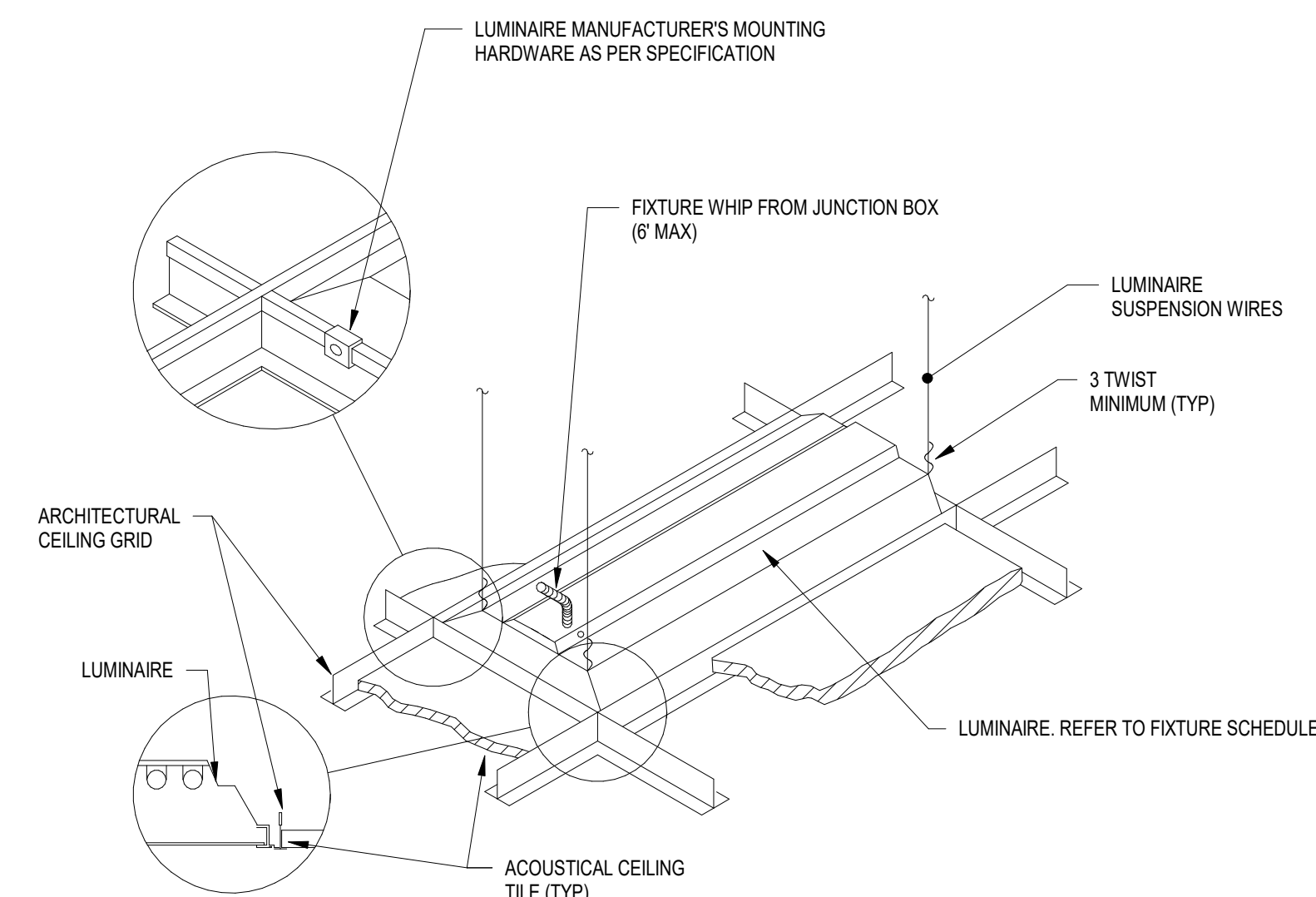
2  
E501 Ceiling Mounted Occupancy Sensor Wiring Diagram  
NOT TO SCALE



5  
E501 Multiple Occupancy Sensor Wiring Diagram  
NOT TO SCALE

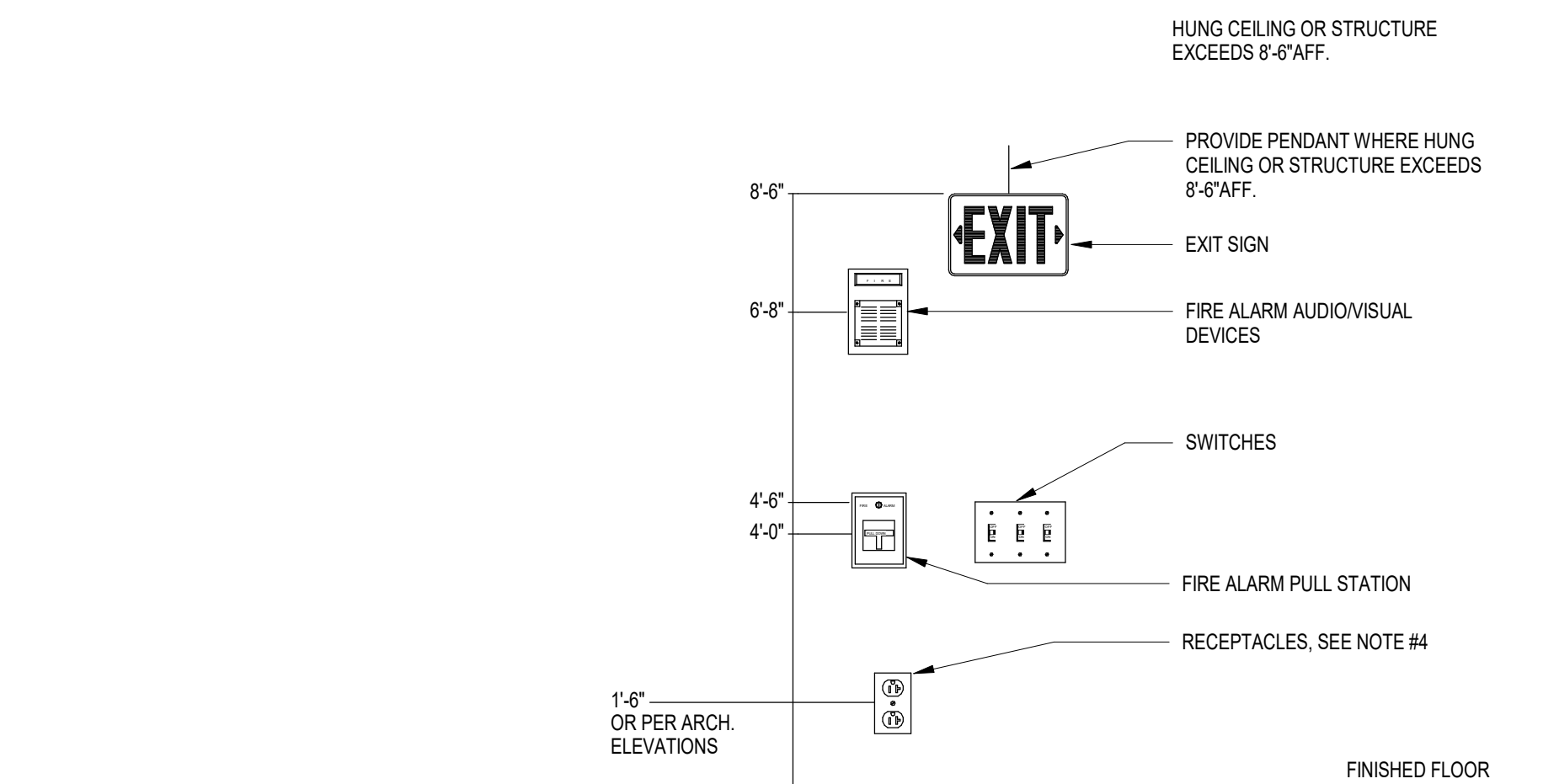


7  
E501 TYPICAL EMERGENCY BALLAST/LED DRIVER WIRING DIAGRAM  
NOT TO SCALE



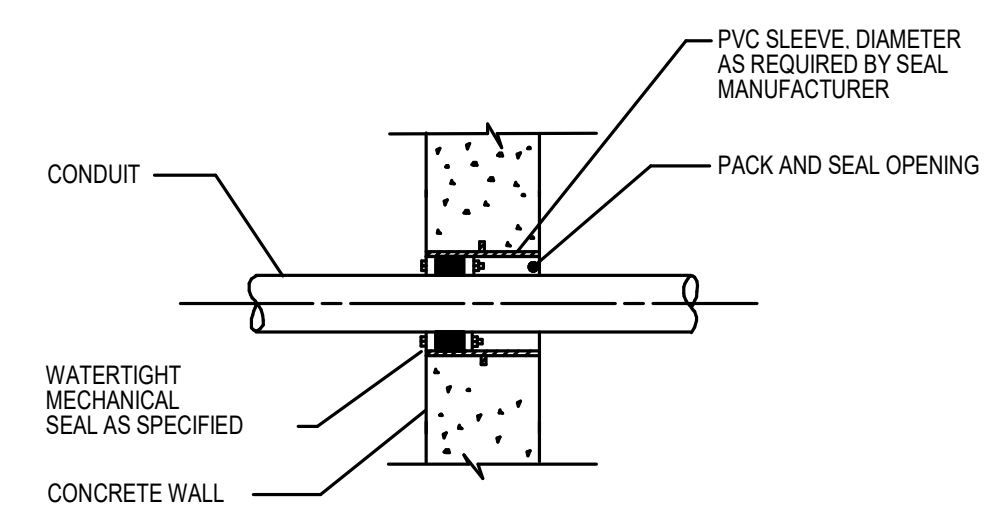
GENERAL NOTE:  
1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S MOUNTING INSTRUCTIONS AND USING THE RECOMMENDED MOUNTING HARDWARE.

1  
E501 LUMINAIRE MOUNTING - LAY-IN CEILING  
1" = 1'-0"

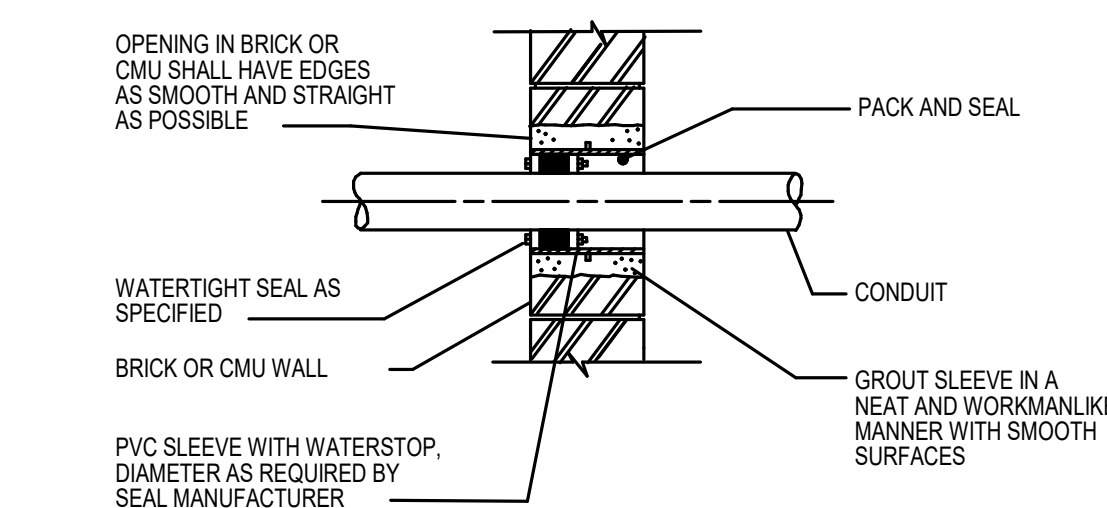


NOTES:  
1. ALL MOUNTING HEIGHTS SHALL BE MEASURED FROM FINISHED FLOOR TO CENTERLINE OF DEVICE EXCEPT EXIT SIGNS.  
2. DEVICES SHALL BE INSTALLED ON A COMMON VERTICAL CENTERLINE WHEREVER POSSIBLE.  
3. ALL DEVICES SHALL BE INSTALLED AT MOUNTING HEIGHTS AS INDICATED ON THIS DETAIL UNLESS OTHERWISE NOTED ON ARCH. ELEVATIONS & DETAILS.

8  
E501 TYPICAL DEVICE MOUNTING HEIGHT DETAIL  
NOT TO SCALE



4  
E501 Watertight Conduit Penetration  
NOT TO SCALE



LIGHTING FIXTURE SCHEDULE									
TYPE	DESCRIPTION	MANUFACTURER	CATALOG NUMBER	NO. OF LAMPS	LAMP TYPE	MOUNTING	VOLTAGE	LOAD (WATTS)	NOTES
D	2' X 4' LED RECESSED LIGHT FIXTURE	METALUX	24 CZ-LD5-35-UNV-L835-CD1-U	-	LED/ 3321 LUMENS/ 3500K	RECESSED GRID	120	25	
DE	2' X 4' EMERGENCY LED RECESSED LIGHT FIXTURE	METALUX	24 CZ-LD5-35-UNV-L835-CD1-U	-	LED/ 3321 LUMENS/ 3500K	RECESSED GRID	120	25	NOTE 1
X1	LED EXIT SIGN, MOUNTING, NUMBER OF FACES AND ARROWS AS SHOWN ON FLOOR PLANS	EMERGLITE	WPREDMNR	-	LED	UNIVERSAL	120	2.5	

NOTES:  
1. PROVIDE WITH INTEGRAL EMERGENCY LED DRIVER

HVAC EQUIPMENT SCHEDULE																
NO.	DESCRIPTION	LOCATION		LOAD				VOLT	PHASE	Panel	Circuit Number	CONDUIT & WIRE SIZE	STARTER COMPONENT	CONTROL DEVICE COMPONENT	DISCONNECT COMPONENT	NOTES
		NAME	NUMBER	HP	A	W										
ERV-1	ENERGY RECOVERY VENTILATOR			5.00 hp	14.0 A	4539 W	208 V	3	PPL1		1,3,5	3/4" , 3#10 & #10G	VFD	-	30AF/30AT	
ERV-2	ENERGY RECOVERY VENTILATOR			7.50 hp	21.1 A	6841 W	208 V	3	PPL1		7,9,11	1" , 3#8 & #10G	VFD	-	60AF/45AT	
ERV-3	ENERGY RECOVERY VENTILATOR			5.00 hp	14.0 A	4539 W	208 V	3	PPL1		12,4,6	3/4" , 3#10 & #10G	VFD	-	30AF/30AT	
ERV-4	ENERGY RECOVERY VENTILATOR			7.50 hp	21.1 A	6841 W	208 V	3	PPL1		8,10,12	1" , 3#8 & #10G	VFD	-	60AF/45AT	
FCU-8.1	FAN COIL UNIT	CORRIDOR	127	0.00 hp	7.7 A	832 W	120 V	1	K		1	3/4" , 2#12 & #12G	-	-	20A1P	PROVIDE 20A1P C.B. IN PANEL K
P-2	PUMP	BIOLER ROOM	013	7.50 hp	24.2 A	7847 W	208 V	3		BASEMENT WIRING TROUGH	1,3,5	1" , 3#8 & #10G	VFD	-	60AF/60AT	
P-3	PUMP	BIOLER ROOM	013	7.50 hp	24.2 A	7847 W	208 V	3		BASEMENT WIRING TROUGH	2,4,6	1" , 3#8 & #10G	VFD	-	60AF/60AT	


Panel ID: PPL1  
Voltage: 208Y/120  
Phase/Wire: 3/4  
Fed From: MSB  
Location: STORAGE 224

MCB Rating: 100.0 A  
A.I.C. Rating: 10,000 AMPS SYMMETRICAL  
Manufacturer:

CKT	DESCRIPTION	CB Size	Poles	A	B	C	Poles	CB Size	DESCRIPTION	CKT	
1				1.7	1.7					2	
3	ERV-1	30 A	3		1.7	1.7		3	30 A	ERV-3	
5										4	
7				2.5	2.5					6	
9	ERV-2	45 A	3		2.5	2.5		3	45 A	ERV-4	
11										8	
13	RCPT	20 A	1	0.5	0.0					10	
15	SPARE	20 A	1		0.0	0.0		3	20 A	SPARE	
17	SPARE	20 A	1							12	
19	SPACE	--	--	0.0	0.0			--	--	14	
21	SPACE	--	--		0.0	0.0		--	--	16	
23	SPACE	--	--					--	--	18	
25	SPACE	--	--	0.0	0.0			--	--	20	
27	SPACE	--	--		0.0	0.0		--	--	22	
29	SPACE	--	--					--	--	24	
						0.0	0.0	--	--	26	
								--	--	28	
								--	--	30	
Total kVA:				9.0 kVA	8.4 kVA	8.4 kVA					
Total Connected Load (kVA)				25.8 kVA							
Total Connected Current (Amps)				71.7 A							

NOTE: PROVIDE 150A PANEL WITH 100A MCB

Project:  
CITY OF BRISTOL, CT



HVAC SYSTEM UPGRADES AT SOUTH SIDE ELEMENTARY SCHOOL  
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Date: 04/02/2020

Drawn By: MK

Reviewed By: DNM

Approved By: RFM

W&S Project No: 2170808

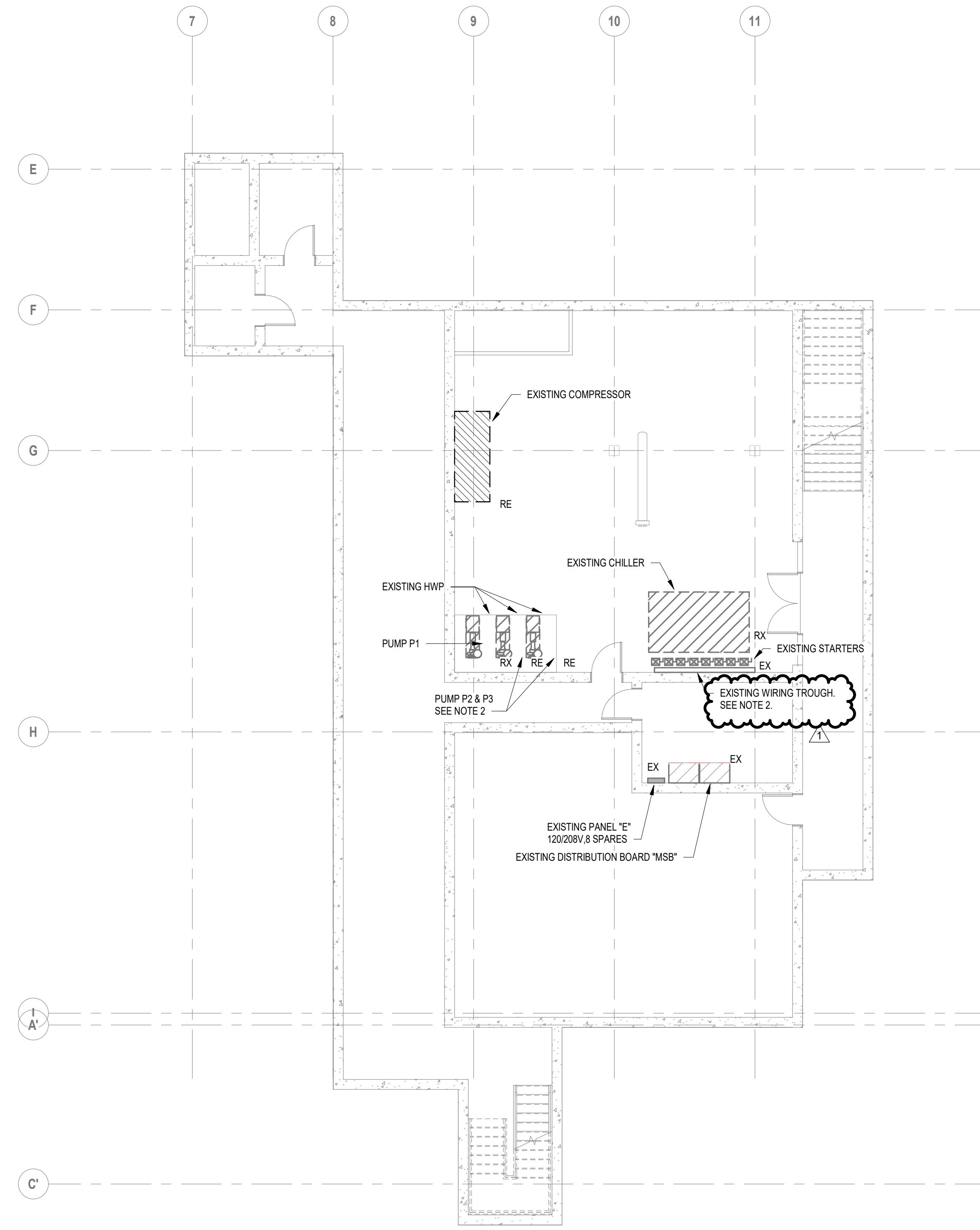
Drawing Title:

ELECTRICAL SCHEDULES SHEET

Sheet Number:

E601

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1 Overall-Demolition Plan-B  
ED101 1/8" = 1'-0"

- DRAWING NOTE:**
- REFER TO DRAWING ED01 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES
  - DEMO AND REMOVE EXISTING STARTER FOR PUMPS P1, P2, & P3 LOCATED ON WIRING TROUGH. REMOVE BACK TO SOURCE WIRING AND CONDUIT FOR PUMPS P2 & P3 ONLY.

**Project:**  
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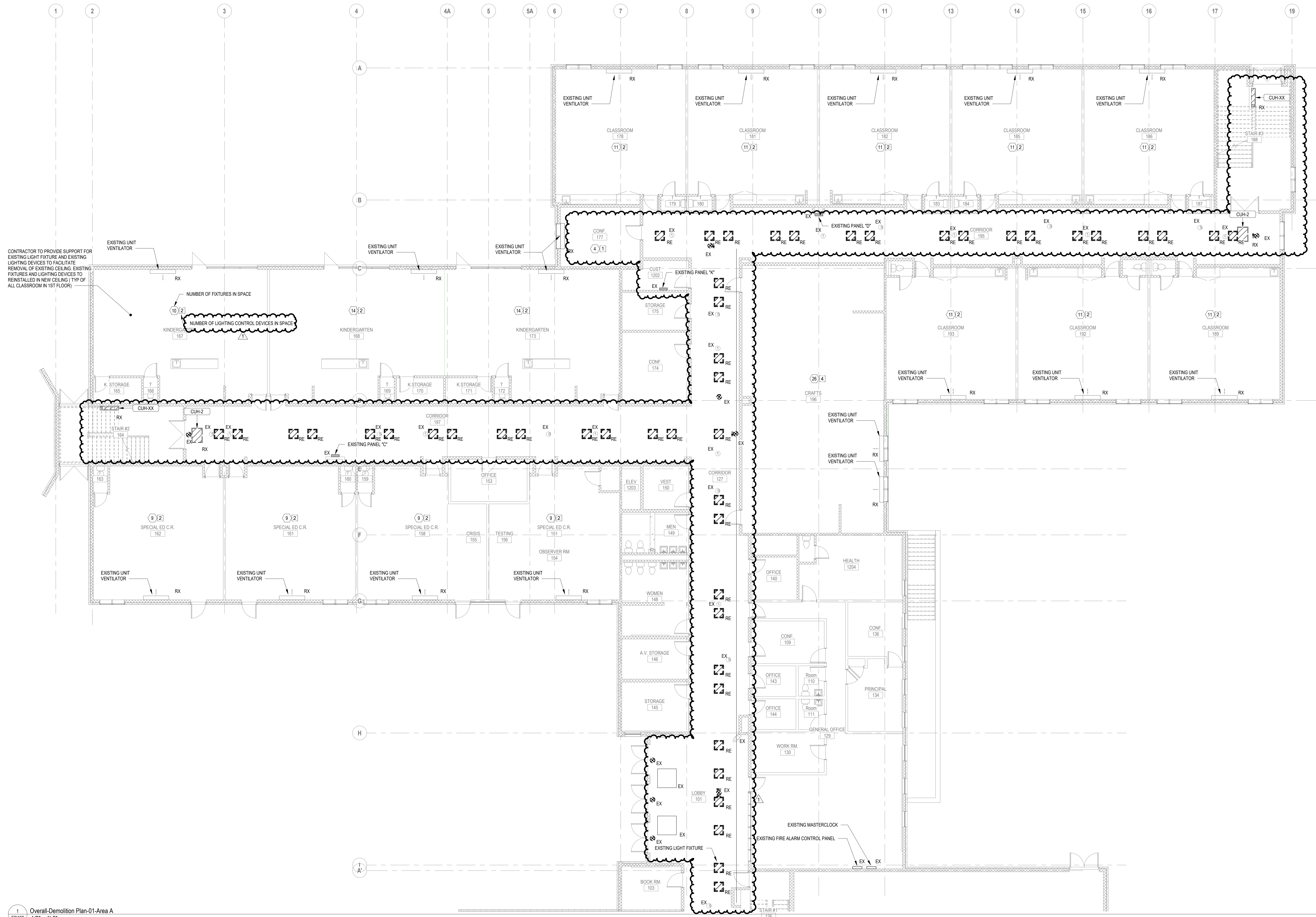
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Date: 04/02/2020  
Drawn By: MK  
Reviewed By: DNM  
Approved By: RFM  
W&S Project No: 2170808

Drawing Title:  
**BASEMENT  
DEMOLITION PLAN**

Sheet Number:  
**ED101**

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CONTRACTOR TO PROVIDE SUPPORT FOR EXISTING LIGHT FIXTURE AND EXISTING LIGHTING DEVICES TO FACILITATE REMOVAL OF EXISTING CEILING. EXISTING FIXTURES AND LIGHTING DEVICES TO BE REINSTALLED IN NEW CEILING (TYP OF ALL CLASSROOM IN 1ST FLOOR)

NUMBER OF FIXTURES IN SPACE  
 NUMBER OF LIGHTING CONTROL DEVICES IN SPACE

1 Overall-Demolition Plan-01-Area A  
 ED102  
 1/8" = 1'-0"

- DRAWING NOTE:**
- REFER TO DRAWING E001 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES
  - CONTRACTOR TO PROVIDE SUPPORT FOR EXISTING TO REMAIN DEVICES.

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**SCALE: AS NOTED**  
 Date: 04/02/2020  
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 W&S Project No: 2170808

**Drawing Title:**  
 LEVEL 1  
 DEMOLITION  
 PLAN PART A  
 Sheet Number:  
**ED102**  
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1 Overall-Demolition Plan-01-Area B  
ED103 / 1/8" = 1'-0"

- DRAWING NOTE:**
- REFER TO DRAWING E001 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES
  - CONTRACTOR TO PROVIDE SUPPORT FOR EXISTING TO REMAIN DEVICES.
- ALTERNATE NOTE:**
- ALL WORK INCLUDED IN THIS DRAWING SHALL BE INCLUDED AS PART OF ALTERNATE 1

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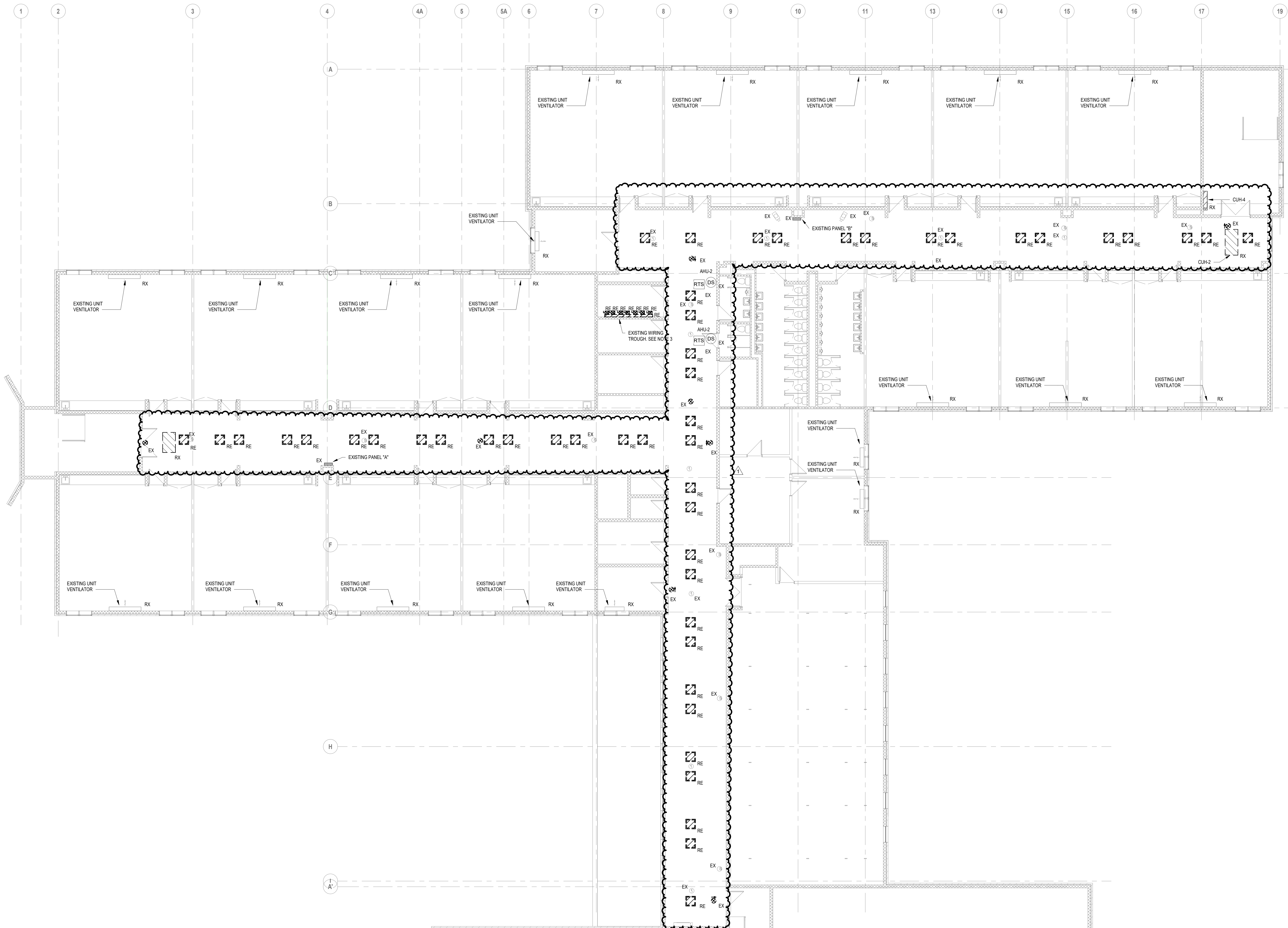
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 Reviewed By: DNM  
 Approved By: RFM  
 W&S Project No: 2170808


Drawing Title:  
**LEVEL 1  
 DEMOLITION PLAN  
 PART B**  
 Sheet Number:  
**ED103**  
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1 Overall-Demolition Plan-02-Area A  
ED104  
1/8" = 1'-0"

**DRAWING NOTE:**

- REFER TO DRAWING E001 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES
- CONTRACTOR TO PROVIDE SUPPORT FOR EXISTING TO REMAIN DEVICES
- DEMO AND REMOVE ALL EXISTING STARTER/CONNECT FOR EF-1 THROUGH EF-7, AND MAU BEING FED FROM THE WIRING TROUGH. REMOVE ALL WIRING FROM WIRING TROUGH TO MSB. REMOVE EXISTING 70AMP BREAKER IN EXISTING SWITCHBOARD MSB AND REPLACE WITH NEW 100AMP BREAKER. RUN NEW #4/10 & #6/ND IN EXISTING 1-1/2" TO NEW PANEL PPL1.

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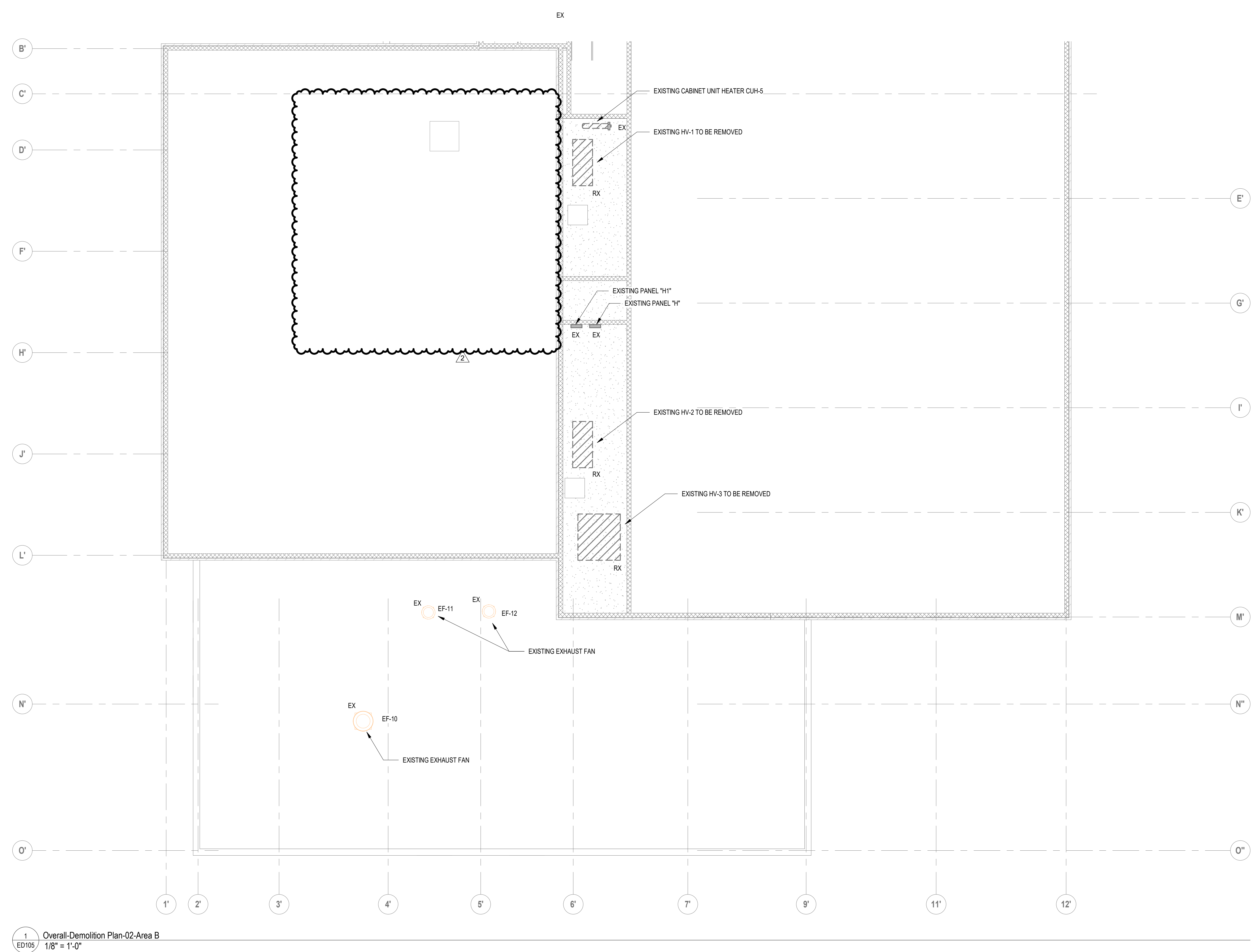
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Drawing Title:  
**LEVEL 2  
DEMOLITION PLAN  
PART A**  
Sheet Number:  
**ED104**  
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Revisions:

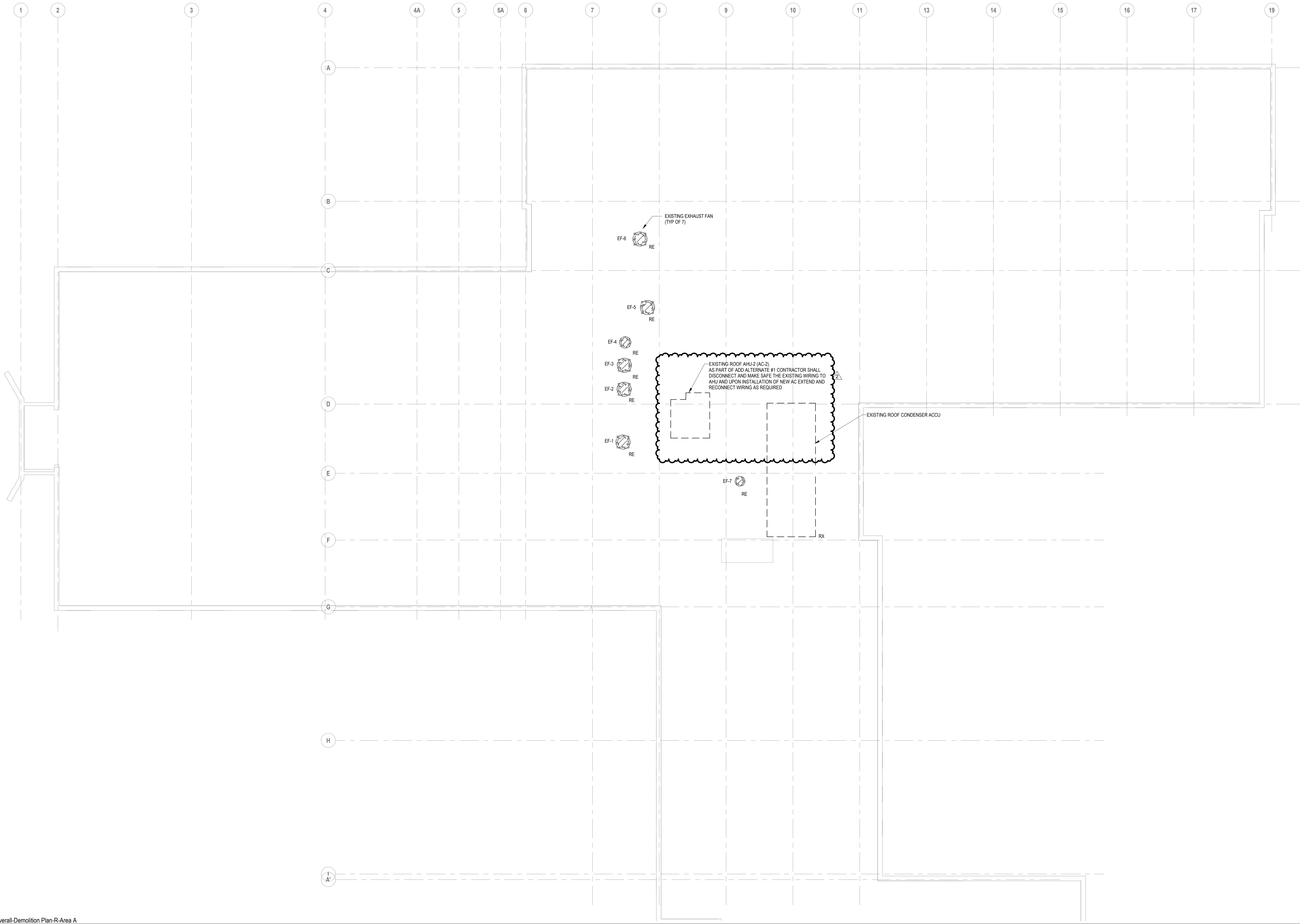
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 W&S Project No: 2170808


- DRAWING NOTE:**
- REFER TO DRAWING E001 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES
  - CONTRACTOR TO PROVIDE SUPPORT FOR EXISTING TO REMAIN DEVICES.
- ALTERNATE NOTE:**
- ALL WORK INCLUDED IN THIS DRAWING SHALL BE INCLUDED AS PART OF ALTERNATE 1

Drawing Title:  
**LEVEL 2  
 DEMOLITION PLAN  
 PART B**  
 Sheet Number:  
**ED105**  
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1 Overall-Demolition Plan-R-Area A  
ED106  
1/8" = 1'-0"


DRAWING NOTE:  
1. REFER TO DRAWING E001 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES

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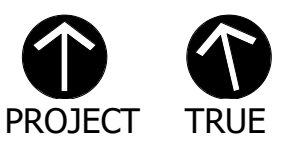
  
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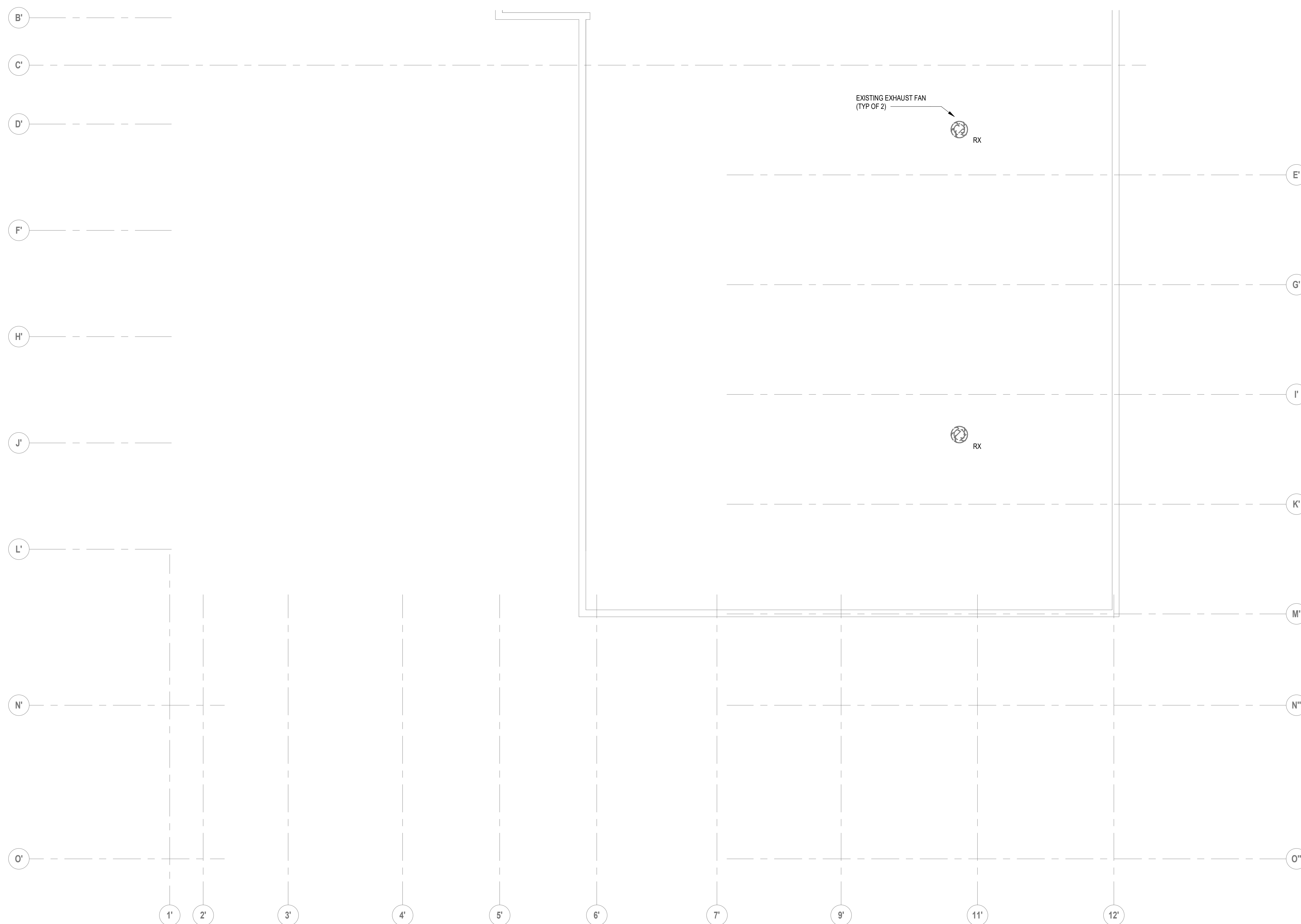
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Approved By: RFM  
W&S Project No: 2170808

Drawing Title:  
ROOF  
DEMOLITION PLAN  
PART A  
Sheet Number:  
ED106  
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1 Overall-Demolition Plan-R-Area B  
ED107 / 1/8" = 1'-0"

DRAWING NOTE:

- REFER TO DRAWING E001 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES

ALTERNATE NOTE:

- ALL WORK INCLUDED IN THIS DRAWING SHALL BE INCLUDED AS PART OF ALTERNATE

Project:

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General Contractors

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Drawn By: MK

Reviewed By: DNM

Approved By: RFM

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Drawing Title:

ROOF  
DEMOLITION PLAN  
PART B

Sheet Number:

ED107