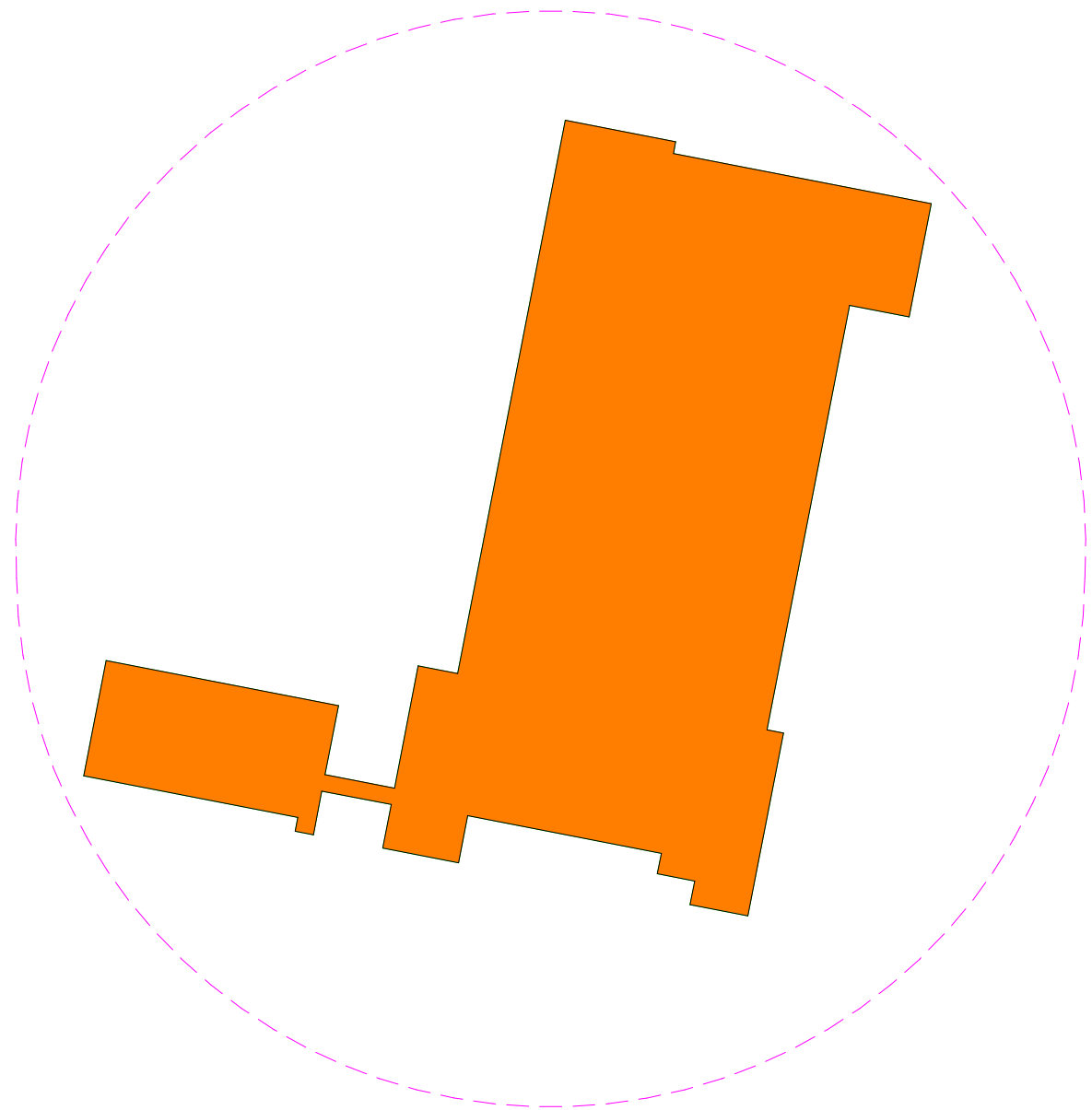


NO.	ISSUANCE	DATE	REVISION
1	90% CONSTRUCTION DOCUMENTS	03-27-2020	
2	100% CONSTRUCTION DOCUMENTS	04-17-2020	

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GENERAL:	
EN-001	ENERGY COMPLIANCE
G-051	SITE PLAN
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SAUNDERS TRADES & TECHNICAL HIGH SCHOOL

PROJECT LOCATION MAP  
SCALE: N.T.S.

DESIGN TEAM:

ARCHITECT  
FULLER AND D'ANGELO P.C.

45 KNOLLWOOD ROAD  
ELMSFORD, NY 10523  
phone: 914.592.4444 fax: 914.592.1717



MECHANICAL, ELECTRICAL & PLUMBING CONSULTANTS

**LIRO ENGINEERS, INC.**

A LiRo Group Company

3 AERIAL WAY

SYOSSET, NY 11791

phone: 516.938.5476 fax: 516.937.5421

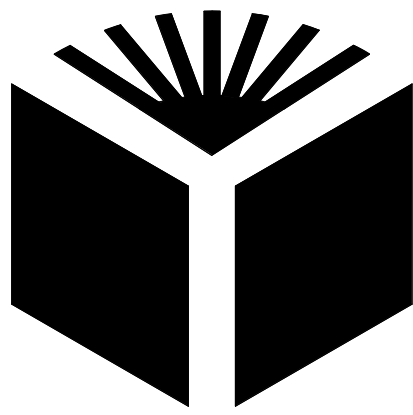
ENVIRONMENTAL CONSULTANTS  
**LIRO ENGINEERS, INC.**  
100 DUFFY AVENUE, SUITE 402  
HICKSVILLE, NY 11801  
phone: 516.595.2900 fax: 516.937.5421

YONKERS PUBLIC SCHOOLS

One Larkin Center, Yonkers, New York 10701

HVAC UPGRADES  
SAUNDERS TRADES AND TECHNICAL HIGH SCHOOL

183 PALMER RD, YONKERS, NY 10701



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SED # 66-23-00-01-0-206-017                      YPS JOB # 10881

100% CONSTRUCTION DOCUMENTS                      APRIL 17TH, 2020







## E

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PROJECT TITLE		
<b>SAUNDERS TRADES AND TECHNICAL HIGH SCHOOL HVAC UPGRADES</b>		
PROJECT ADDRESS		
<b>183 PALMER RD YONKERS, NY 10701</b>		
OWNER		
<b>YONKERS PUBLIC SCHOOLS</b>		
ARCHITECT		
<b>FULLER AND D'ANGELO P.C.</b>  45 KNOLLWOOD ROAD ELMSFORD, NY 10523 (T) 914.592.4444		
MEP ENGINEER AND ENVIRONMENTAL ENGINEER		
 <b>LiRo Engineers, Inc.</b> <i>A LiRo Group Company</i> Syosset, N.Y. 516-214-8157/[T]		
KEY PLAN: NOT TO SCALE		
SHEET SIZE 30x42		
MARK	DATE	DESCRIPTION
REVISION		
MARK	DATE	DESCRIPTION
ISSUE		
SED #:	66-23-00-01-0-206-017	
YPS JOB:	10881	
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<b>ENERGY COMPLIANCE</b>		
<b>EN-001</b>		

PROJECT ADDRESS

**183 PALMER RD  
YONKERS, NY 10701**

OWNER

**YONKERS PUBLIC  
SCHOOLS**

ARCHITECT

**FULLER AND  
D'ANGELO P.C.**

45 KNOLLWOOD ROAD  
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 **LiRo Engineers, Inc.**  
*A LiRo Group Company*  
Syosset, N.Y. 516-214-8157(T)

KEY PLAN: NOT TO SCALE

Name - Title	Signature	Date
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Project Title: Saunders Trades and Technical High School HVAC Upgrades Report date: 05/12/20  
Data filename: M:\MEP Projects\2019\19-233-0801 Yonkers PS-Saunders HS EngEnv Design\2 Engineering\HVAC\Load Calc\Saunders\_COMCheck.cck Page 1 of 11

SHEET SIZE		30x42
MARK	DATE	DESCRIPTION
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SHEET TITLE

## ENERGY COMPLIANCE

EN-001





**G-051**



## SCOPE OF WORK

- ### SPECIAL JOB CONDITIONS

- ASBESTOS ABATEMENT BASE SCOPE OF WORK TABLE:**

**ASBESTOS ABATEMENT ALTERNATE SCOPE OF WORK TABLE:**

PROJECT TITLE

**SAUNDERS TRADES  
AND TECHNICAL  
HIGH SCHOOL HVAC  
UPGRADES**

PROJECT ADDRESS

**183 PALMER RD  
YONKERS, NY 10701**

OWNER

**YONKERS PUBLIC  
SCHOOLS**

ARCHITECT

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ELMSFORD, NY 10523  
(T) 914.592.4444

MEP ENGINEER AND ENVIRONMENTAL ENGINEER



KEY PLAN: NOT TO SCALE

SHEET SIZE 30X42


SRK	DATE	DESCRIPTION
REVISION	04.17.20	90% CD

WORK SHEET	DATE	DESCRIPTION
DESIGN #:	66-23-00-01-0-206-017	
PS JOB:	10881	
DESIGN BY:	R. SALERNO- 10-00697	
DRAWN BY:	S. RAMCHARAN	
CHK'D BY:	C. ZANONI - 92-16430	
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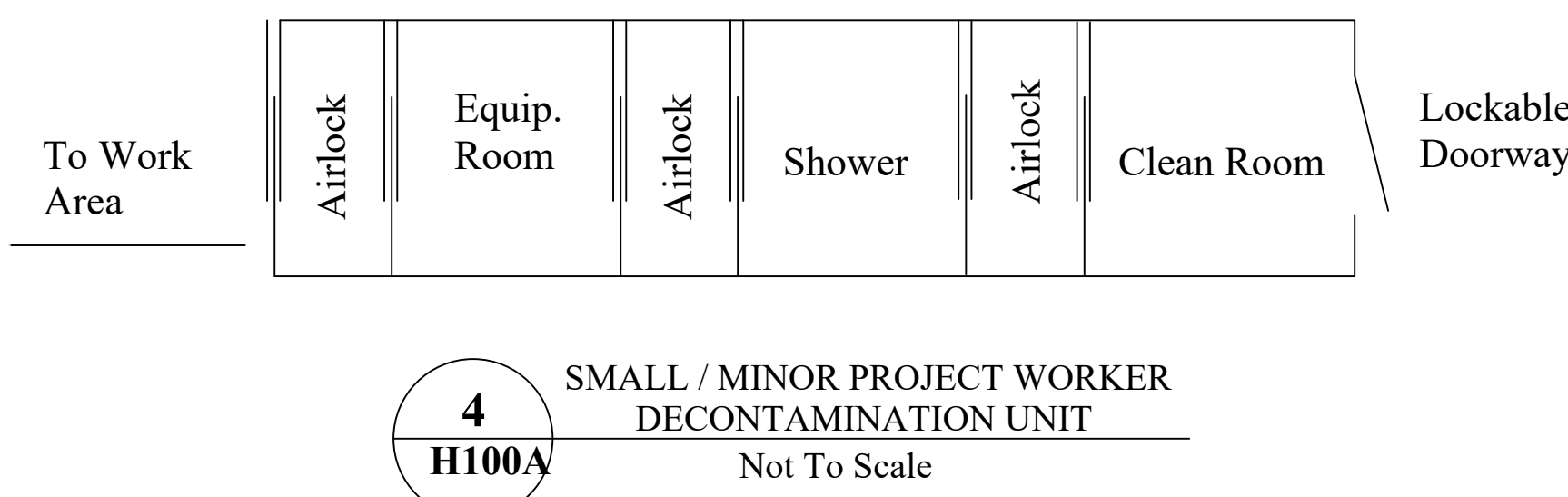
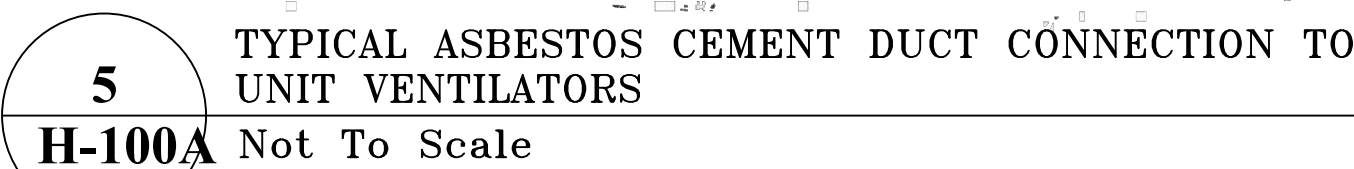
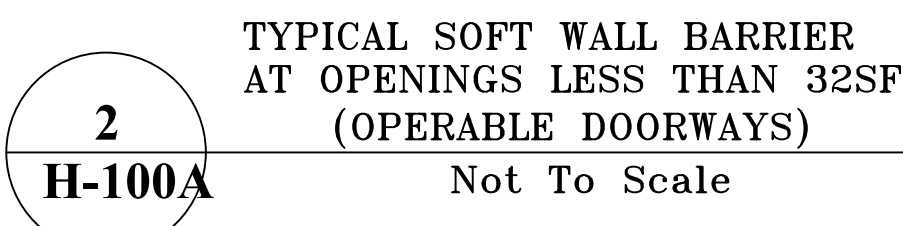


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EET TITLE

## SCOPE OF WORK AND DETAILS

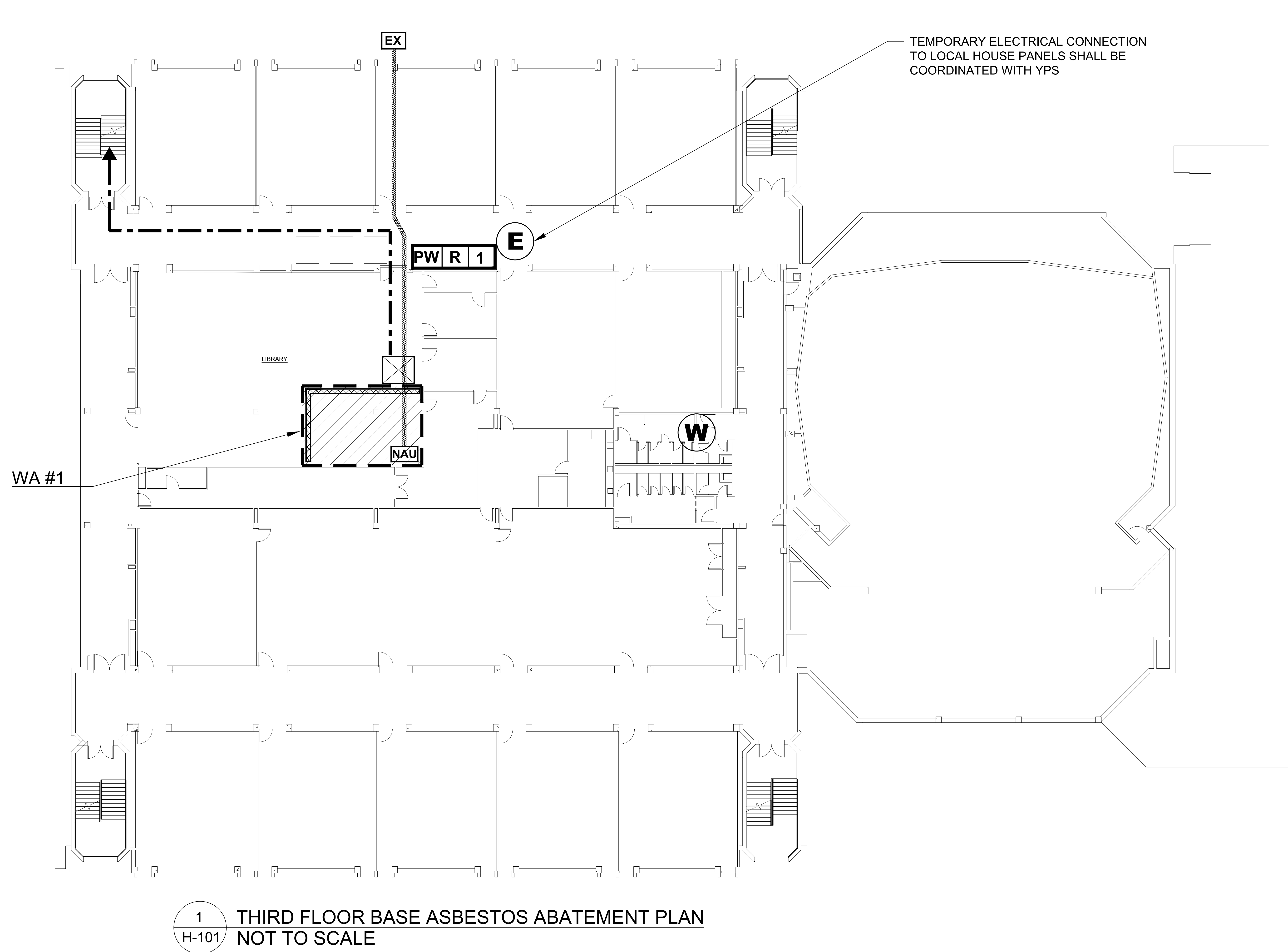
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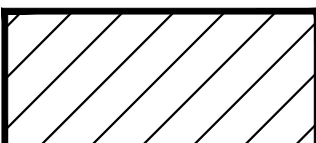
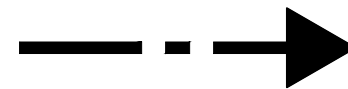

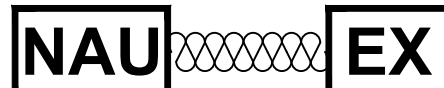

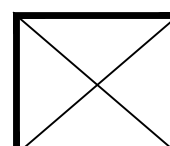







Work Area	Location	Description of Asbestos Material	Approximate Quantity Of ACM	ICR 56 Procedure
1	3rd Floor Library (Corner)	9"x9" Beige Floor Tile and Mastic	200.0 SF	56-11.7
Total			200.0 SF	

## LEGEND

- |   |   |   |                      |
|---|---|---|----------------------|
|  | - WORK AREA LIMITS                          |  | - TEMPORARY ELECTRIC |
|  | - FLOOR TILES - 9"X9" BEIGE                 |  | - WASTE ROUTE        |
|  | - REMOTE SMALL PROJECT DECONTAMINATION UNIT |  | - NEGATIVE AIR UNIT  |
|  | - TEMPORARY WATER                           |  | - AIRLOCK            |
|   |   |  | - ISOLATION BARRIER  |

PROJECT TITLE

## SAUNDERS TRADES AND TECHNICAL HIGH SCHOOL HVAC UPGRADES

PROJECT ADDRESS

183 PALMER RD  
YONKERS, NY 10701

OWNER

**YONKERS PUBLIC  
SCHOOLS**

ARCHITECT

**FULLER AND  
D'ANGELO P.C.**

45 KNOLLWOOD ROAD  
ELMSFORD, NY 10523  
(T) 914.592.4444

MEP ENGINEER AND ENVIRONMENTAL ENGINEER



KEY PLAN: NOT TO SCALE

SHEET SIZE 30X42


MARK	DATE	DESCRIPTION
REVISION		
	04.17.20	90% CD

ARK	DATE	DESCRIPTION
ISSUE		
SED #:	66-23-00-01-0-206-017	
YPS JOB:	10881	
DESIGN BY: R. SALERNO - 10-00697		
DRAWN BY: S. RAMCHARAN		
CHKD BY:	C. ZANONI - 92-16430	
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SHEET TITLE

**THIRD FLOOR  
BASE  
ASBESTOS ABATEMENT  
PLAN**

**H-101**

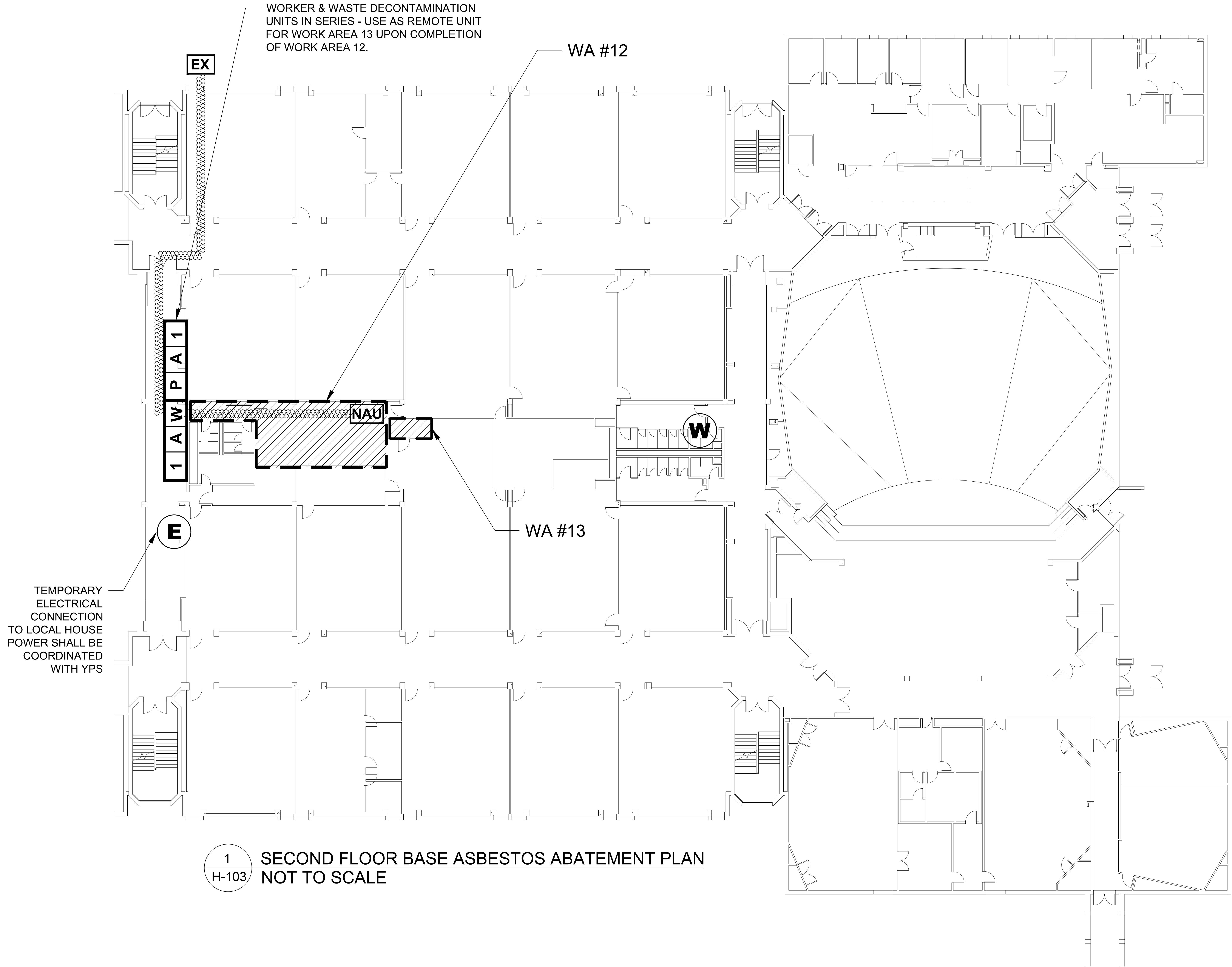






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Work Area	Location	Description of Asbestos Material	Approximate Quantity Of ACM	ICR 56 Procedure
12	2nd Floor Teacher Room	9"x9" Floor Tile and Mastic	550.0 SF	56-11.7
13	2nd Floor Storage Room	9"x9" Floor Tile and Mastic	65.0 SF	56-11.7
Total			615.0 SF	



LEGEND

---

- WORK AREA LIMITS

- FLOOR TILES - 9"X9" BEIGE

PW

A

#

- ATTACHED LARGE PROJECT DECONTAMINATION UNIT

W

- TEMPORARY WATER

E

- TEMPORARY ELECTRIC

---

→

- WASTE ROUTE

NAU

EX

- NEGATIVE AIR UNIT

PROJECT TITLE

SAUNDERS TRADES AND TECHNICAL HIGH SCHOOL HVAC UPGRADES

PROJECT ADDRESS

183 PALMER RD  
YONKERS, NY 10701

OWNER

YONKERS PUBLIC SCHOOLS

ARCHITECT

FULLER AND D'ANGELO P.C.  
45 KNOLLWOOD ROAD  
ELMSFORD, NY 10523  
(T) 914.582.4444

MEP ENGINEER AND ENVIRONMENTAL ENGINEER

LiRo Engineers, Inc.  
A LiRo Group Company  
Syosset, N.Y. 516-214-8157(T)

KEY PLAN: NOT TO SCALE

SHEET SIZE 30X42

MARK	DATE	DESCRIPTION
REVISION		
	04.17.20	90% CD

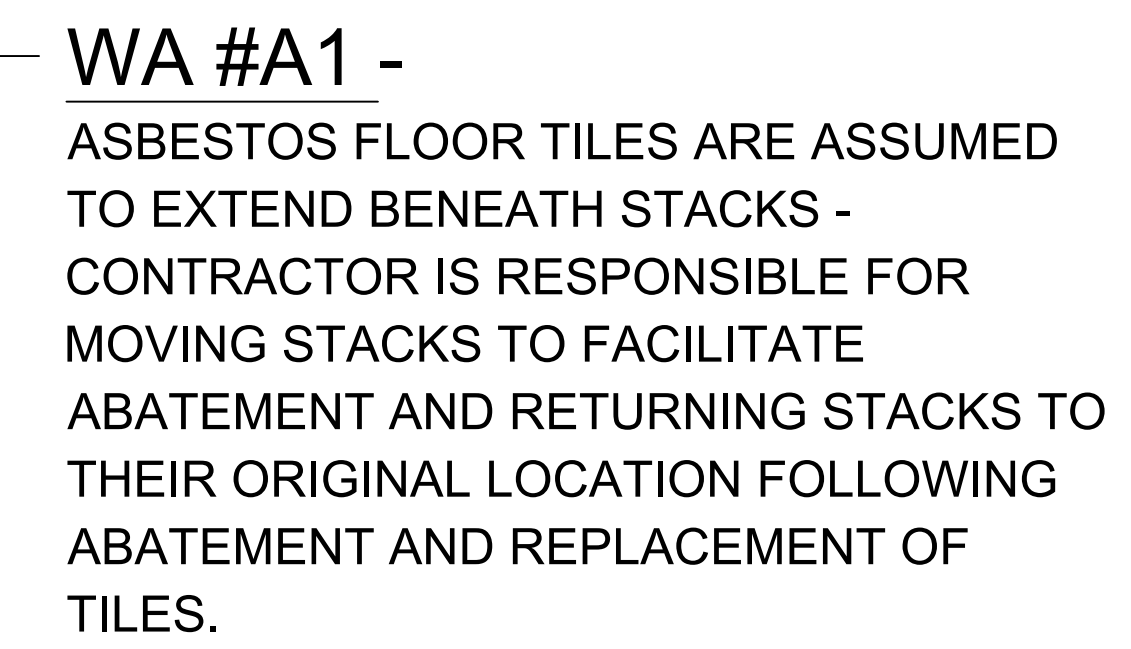
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YPS JOB:	10881	
DESIGN BY:	R. SALERNO - 10-00697	
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SECOND FLOOR BASE ASBESTOS ABATEMENT PLAN

H-103

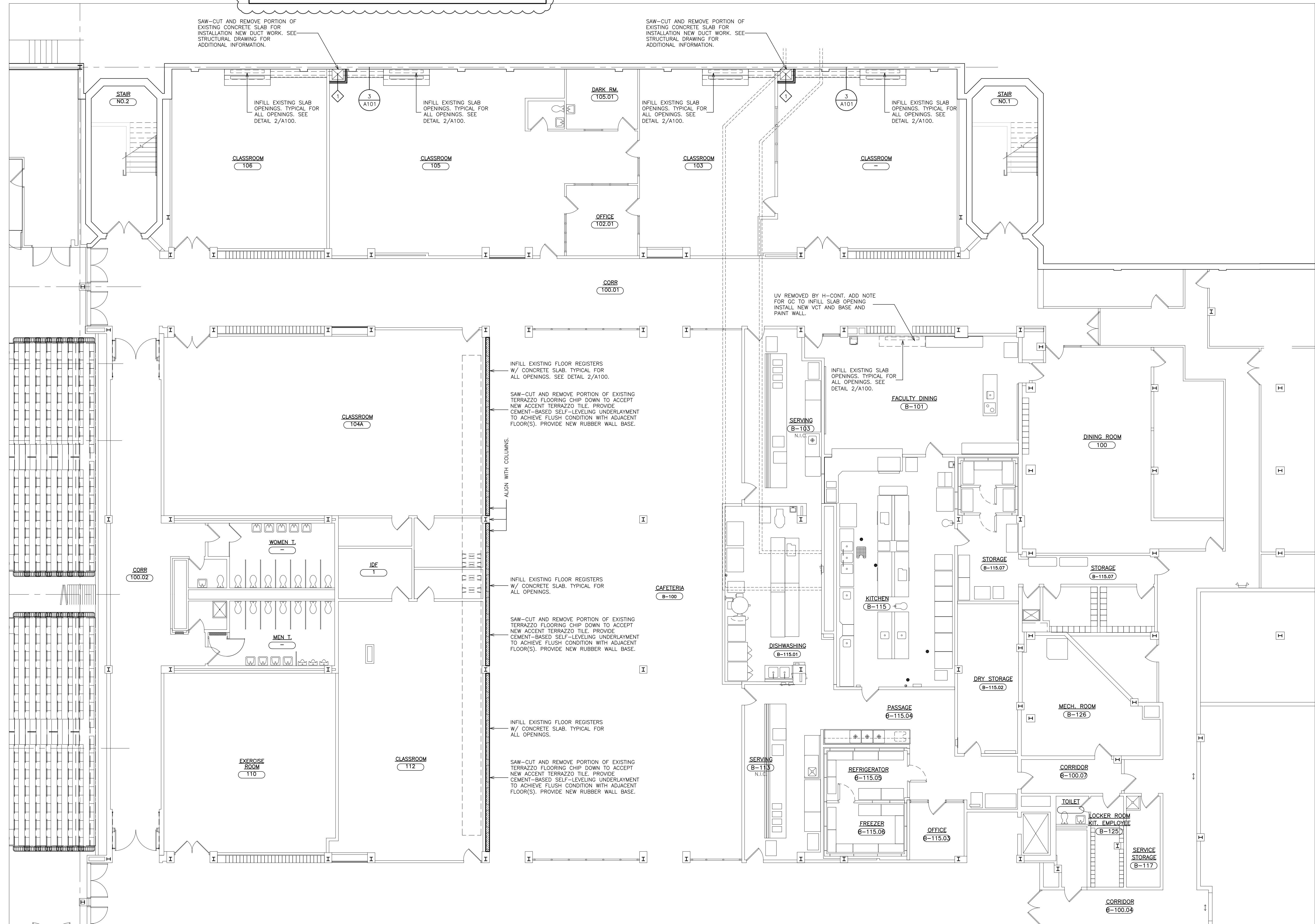
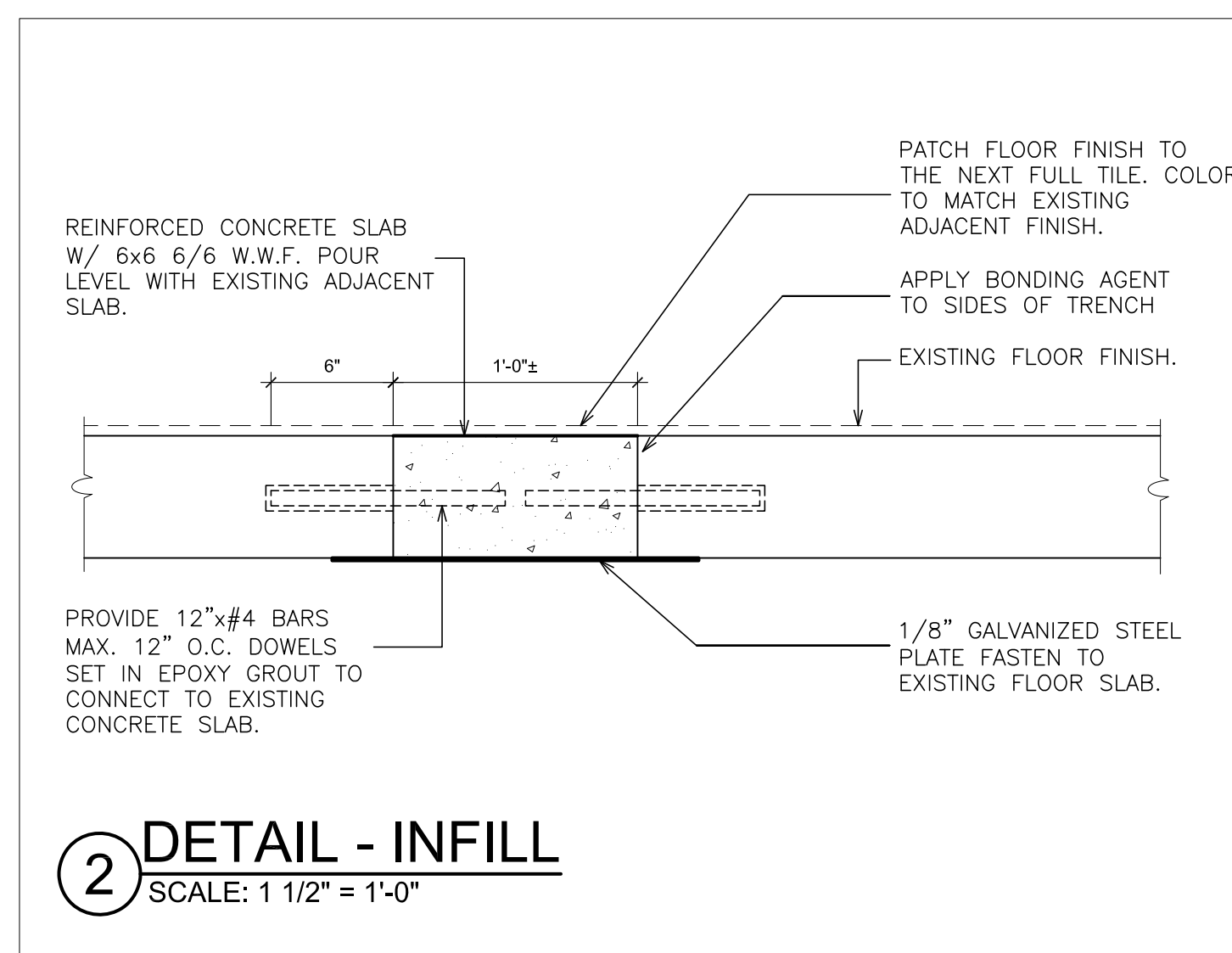
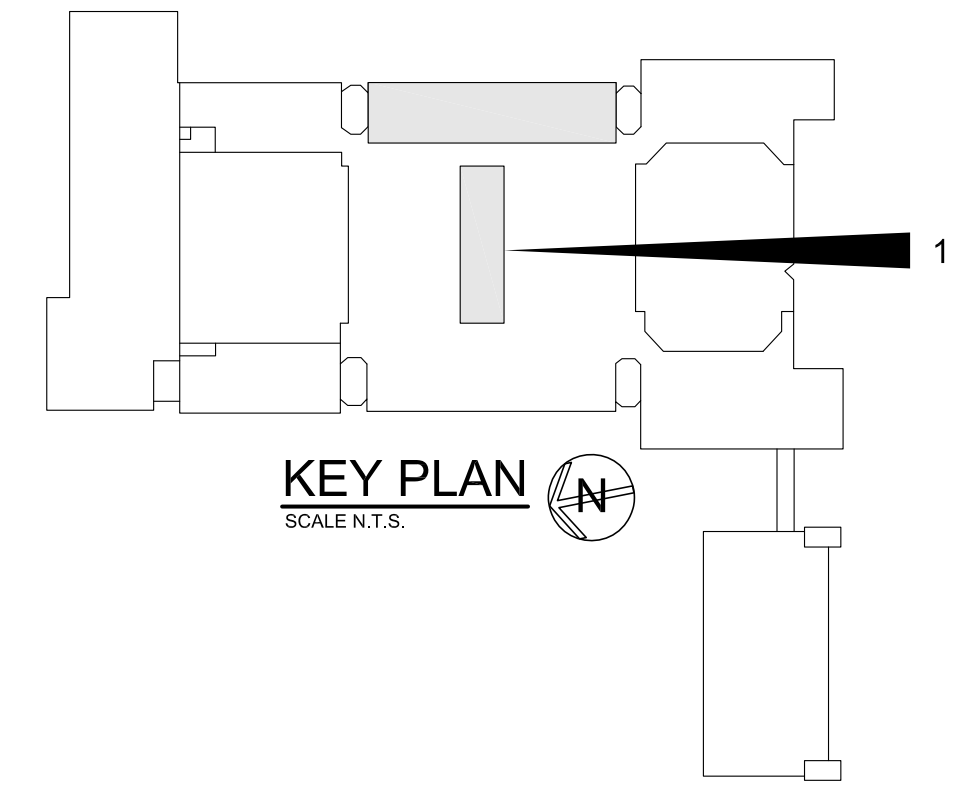




Work Area	Location	Description of Asbestos Material	Approximate Quantity Of ACM	ICR 56 Procedure
A1	3 <sup>rd</sup> Floor Library	9"x9" Beige Floor Tile and Mastic	2,450.0 SF	56-11.7
Total			2,450.0 SF	

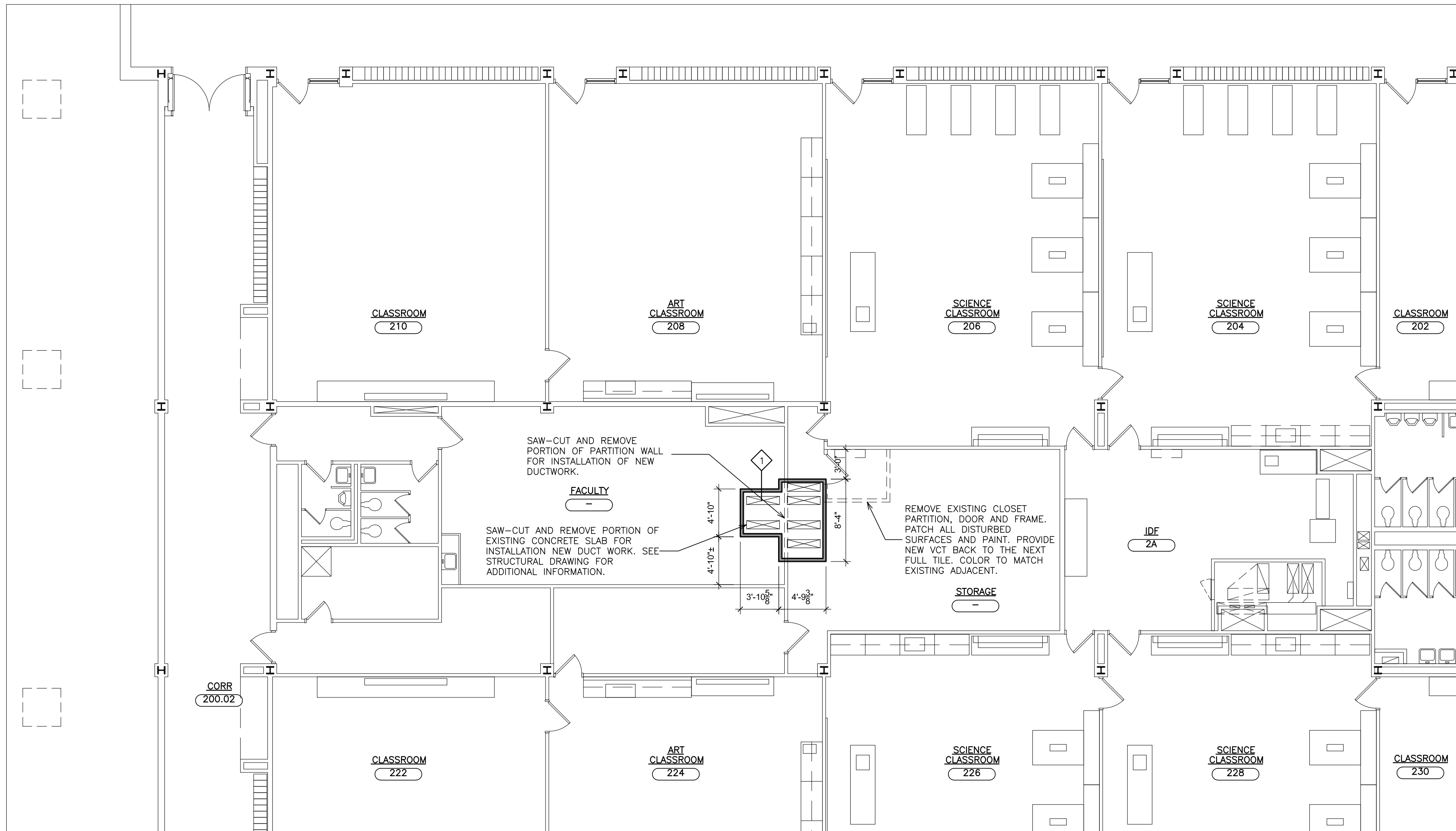
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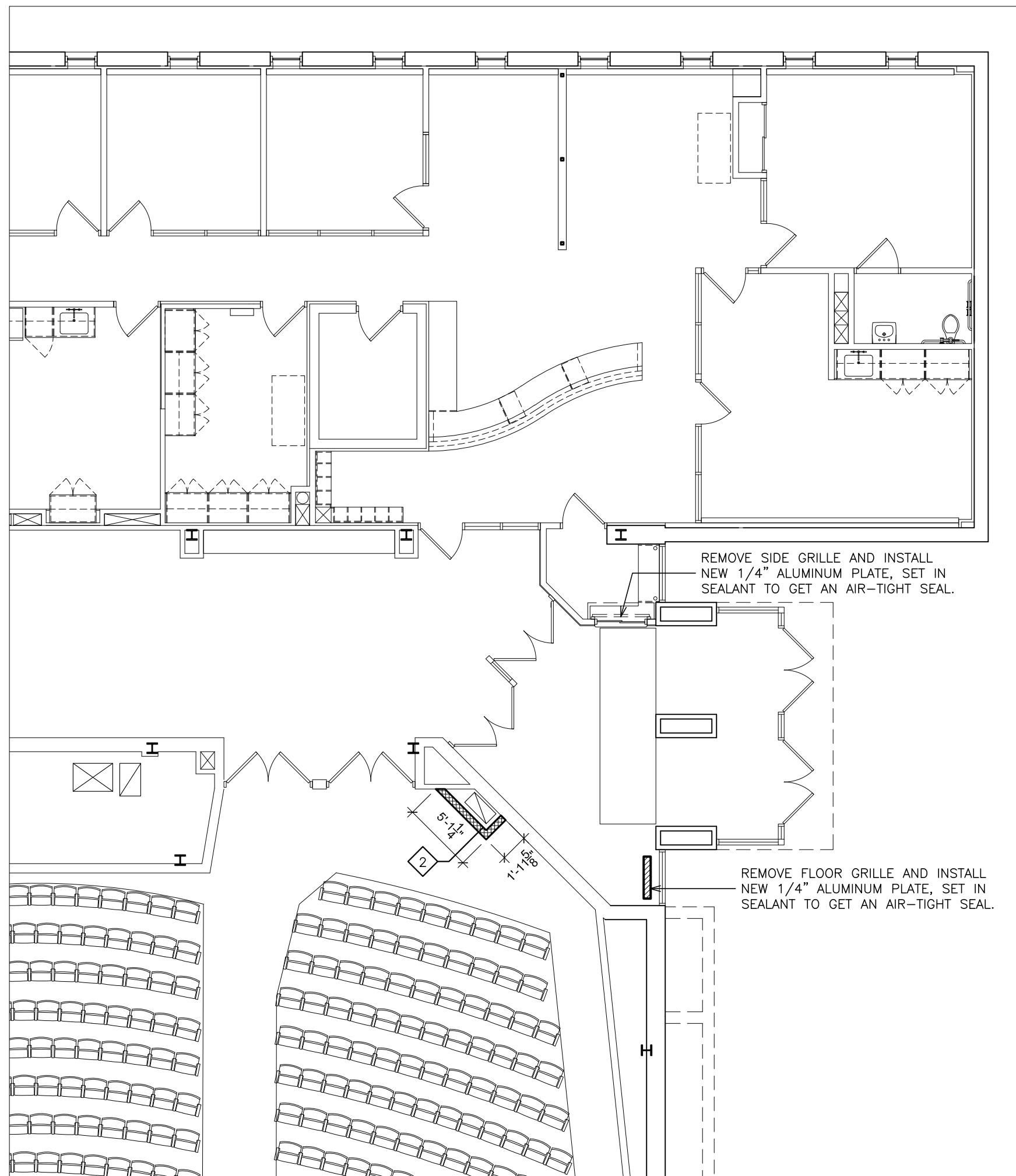


**1 PARTIAL FIRST PLAN**  
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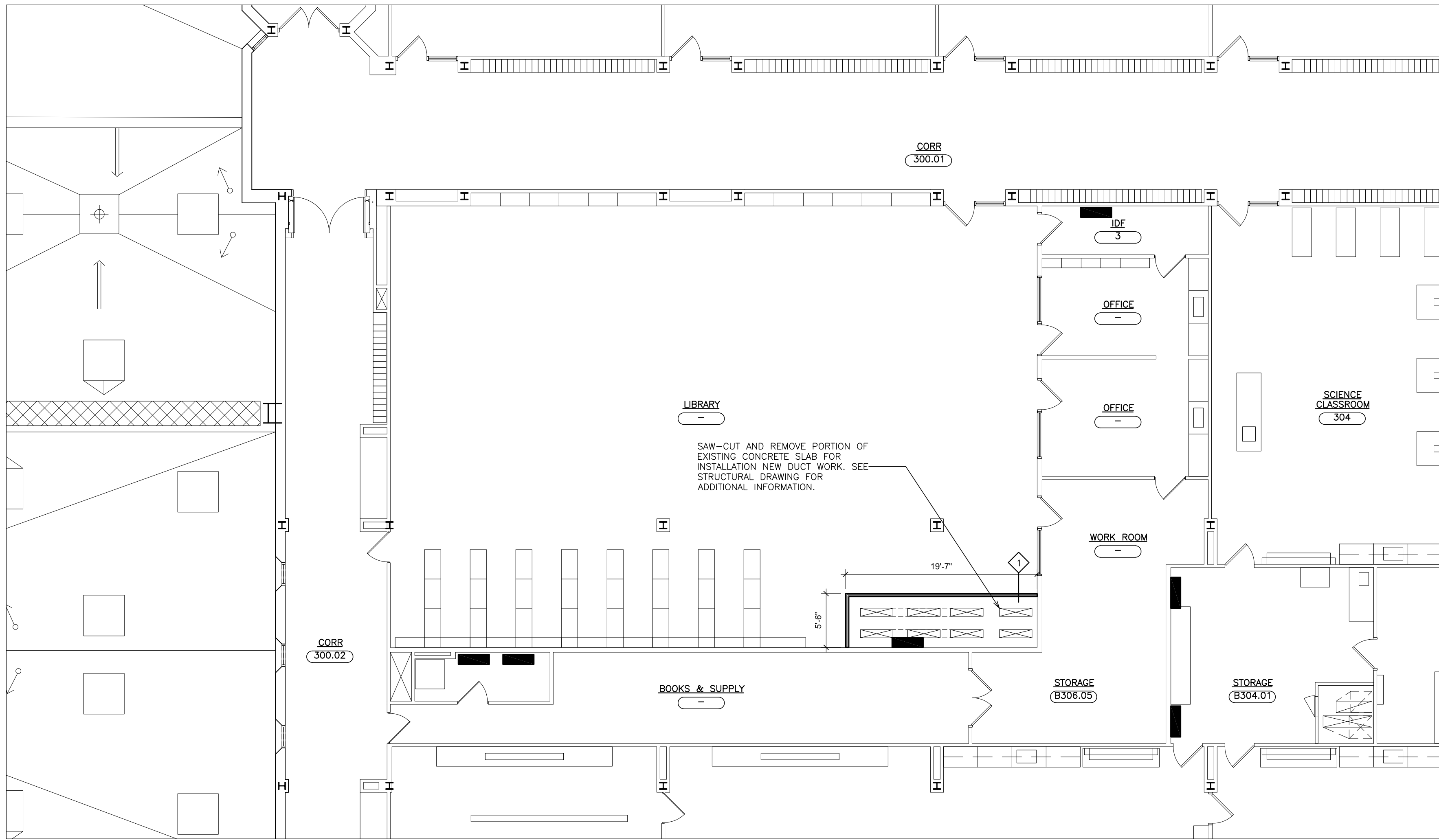




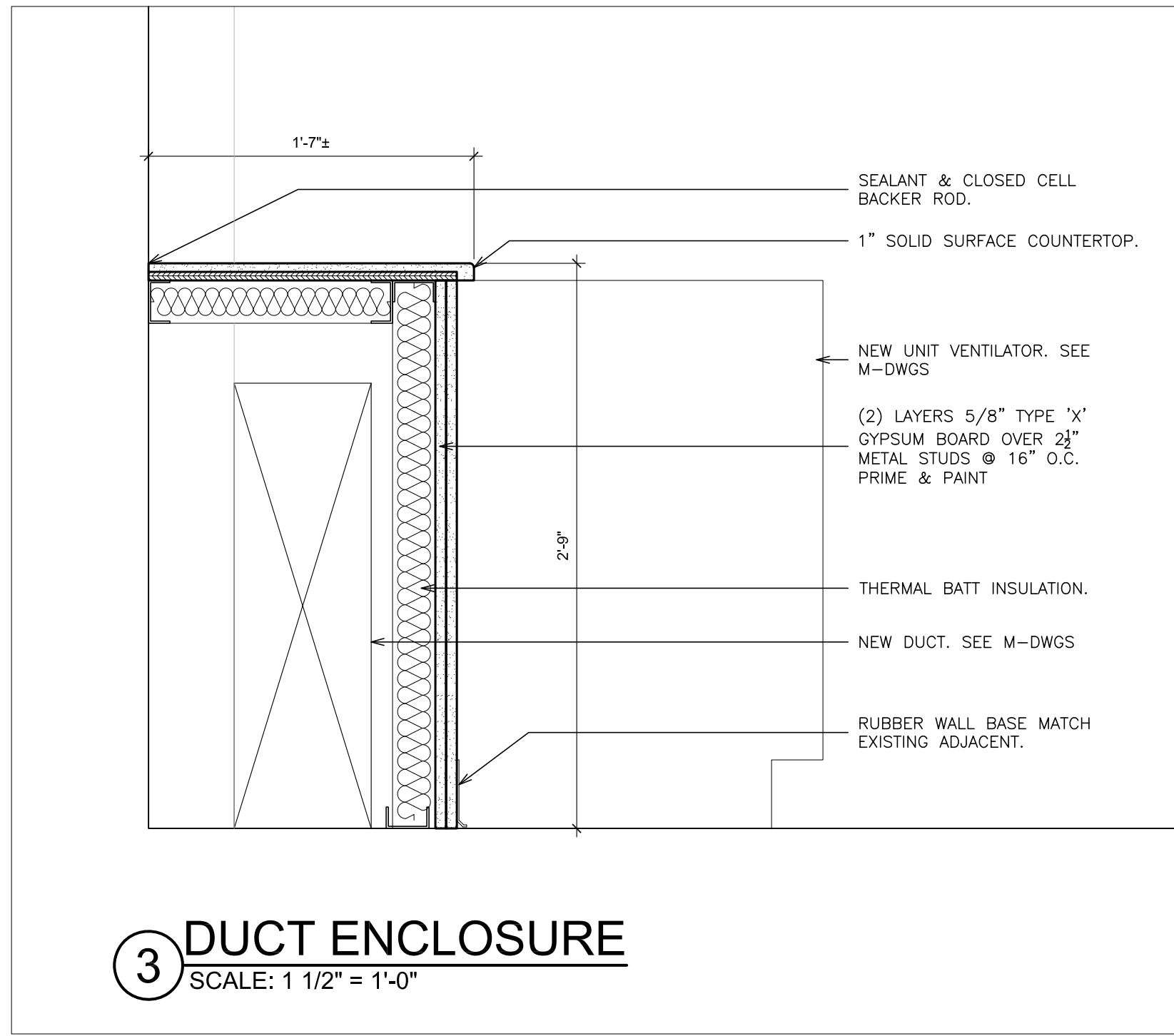
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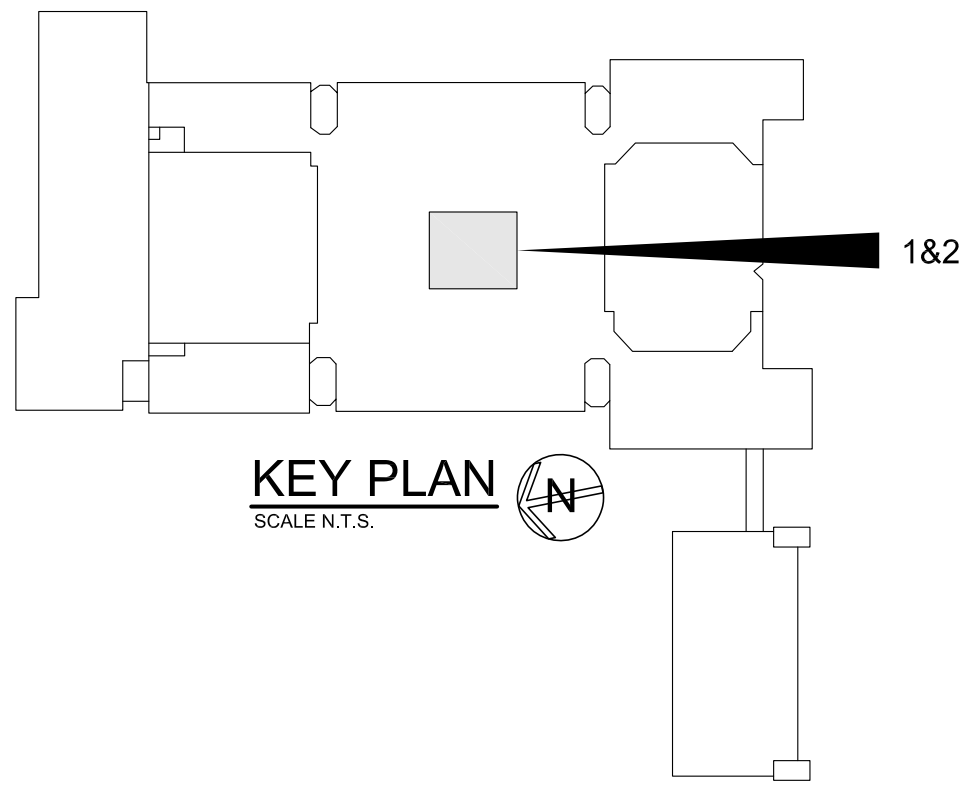
1A PARTIAL SECOND FLOOR PLAN  
SCALE: 1/8" = 1'-0"



2 PARTIAL THIRD FLOOR PLAN  
SCALE: 1/8" = 1'-0"



3 DUCT ENCLOSURE  
SCALE: 1 1/2" = 1'-0"



PROJECT TITLE  
**SAUNDERS TRADES  
AND TECHNICAL  
HIGH SCHOOL HVAC  
UPGRADES**

PROJECT ADDRESS  
**183 PALMER RD  
YONKERS, NY 10701**

OWNER  
**YONKERS PUBLIC  
SCHOOLS**

ARCHITECT  
**FULLER AND  
D'ANGELO P.C.**  
45 KNOLLWOOD ROAD  
ELMSFORD, NY 10523  
(T) 914.582.4444

MEP ENGINEER AND ENVIRONMENTAL ENGINEER  
 **LiRo Engineers, Inc.**  
*A LiRo Group Company*  
Syosset, N.Y. 516-214-8157(T)

KEY PLAN: NOT TO SCALE

SHEET SIZE 30X42

MARK DATE DESCRIPTION  
REVISION

MARK DATE DESCRIPTION  
ISSUE  
SED #: 66-23-00-01-0-206-017  
YPS JOB: 10881  
DESIGN BY: Designer  
DRAWN BY: Author  
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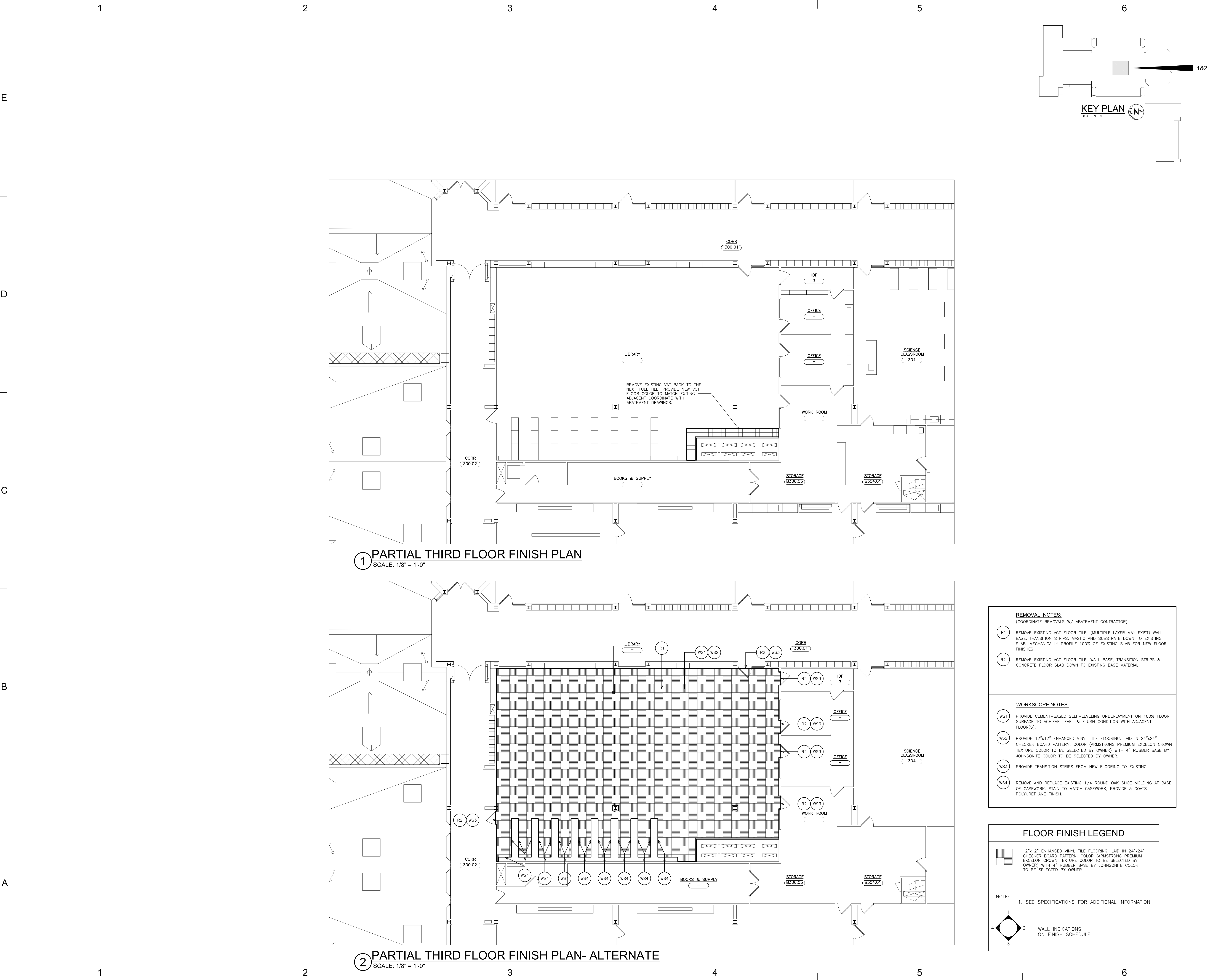




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SHEET TITLE

**SECOND FLOOR PLAN  
& THIRD FLOOR PLAN**



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PROJECT TITLE			SAUNDERS TRADES AND TECHNICAL HIGH SCHOOL HVAC UPGRADES		
PROJECT ADDRESS			183 PALMER RD YONKERS, NY 10701		
OWNER			YONKERS PUBLIC SCHOOLS		
ARCHITECT			FULLER AND D'ANGELO P.C. 45 KNOLLWOOD ROAD ELMSFORD, NY 10523 (T) 914.582.4444		
MEP ENGINEER AND ENVIRONMENTAL ENGINEER			 <b>LiRo Engineers, Inc.</b> <i>A LiRo Group Company</i> Syosset, N.Y. 516-214-8157(T)		
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MARK			DATE		
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THIRD FLOOR FINISH PLANS					
A102					





## SAUNDERS TRADES AND TECHNICAL HIGH SCHOOL HVAC UPGRADES

183 PALMER RD  
YONKERS, NY 10701

**YONKERS PUBLIC  
SCHOOLS**

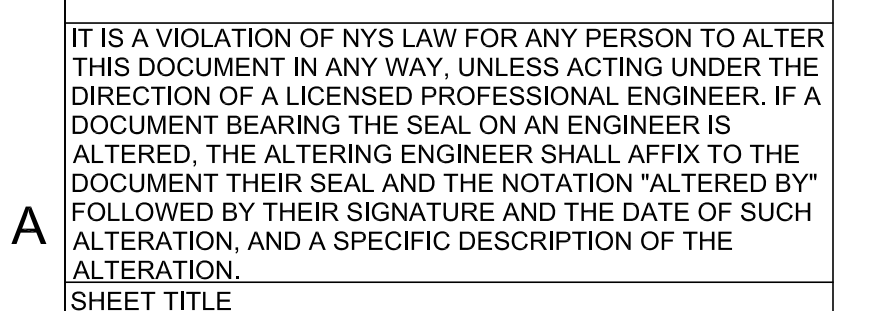
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**FULLER AND  
D'ANGELO P.C.**

45 KNOLLWOOD ROAD  
ELMSFORD, NY 10523  
(T) 914.592.4444

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ENGINEER'S SEAL			



A103



- ### GENERAL NOTES:
1. DIMENSIONS AND CONDITIONS ON THE ROOF PLAN AND DETAILS ARE APPROXIMATE AND MUST BE CONFIRMED BY THE CONTRACTOR. ONLY CERTAIN FASTENERS ARE SHOWN ON THE DRAWINGS, REFER TO THE SPECIFICATIONS FOR ADDITIONAL FASTENER REQUIREMENTS.
  2. PROVIDE NEW CRICKETS AT NEW MECHANICAL EQUIPMENT AS REQUIRED TO MAINTAIN POSITIVE DRAINAGE TO EXISTING ROOF DRAINS.
  3. INSTALL NEW WALKWAY PADS WHERE SHOWN ON THE ROOF PLAN.
  4. PATCH AND/OR REPLACE EXISTING ROOFING AFFECTED BY NEW WORK. WORK SHALL BE COMPATIBLE TO EXISTING ROOFING SYSTEM AND MATCHED BY INSTALLER TO EXISTING ROOFING MANUFACTURE, SO AS NOT TO VOID ANY EXISTING ROOFING WARRANTIES.
  5. REINFORCE ALL PENETRATIONS. SEE STRUCTURAL DRAWINGS
  6. COORDINATE WORK WITH OTHER TRADES.
  7. ALL NECESSARY TEMPORARY PROTECTION SHALL BE INSTALLED ON EXISTING BUILDING TO PREVENT DAMAGE TO FOUNDATION AND SUPER STRUCTURE DURING CONSTRUCTION OF NEW WORK.
  8. DRAWINGS INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION. SPECIAL CONDITIONS ARE WHERE SHOWN, SIMILAR DETAILS SHALL BE USED, SUBJECT TO ACCEPTANCE BY THE ARCHITECT.
  9. EXISTING ROOFS ARE UNDER WARRANTY, COORDINATE W/ OWNER WHICH ROOFS ARE UNDER WARRANTY AND ROOF MANUFACTURER.
  10. EXISTING SUBCONTRACTOR TO BE A QUALIFIED INSTALLER OF THE EXISTING ROOF SYSTEM TO MAINTAIN EXISTING WARRANTY.
  11. CONTACT EXISTING ROOF MANUFACTURER PRIOR TO COMMENCING ANY WORK. ROOF MANUFACTURER TO PROVIDE INSPECTION / ACCEPTANCE REPORT UPON COMPLETION OF ROOF WORK.
  12. CONTRACTOR TO PROTECT EXISTING ROOF(S) DURING CONSTRUCTION. CONTRACTOR TO PROVIDE "1" RIDGE INSULATION AND 1/2" EXTERIOR POLYURETHANE FOAM BOARD INSULATION TO PROTECT EXISTING ROOF(S) FROM ALL WEATHERS. CONTRACTOR TO LIMIT ROOF TRAFFIC ON EXISTING ROOFS.



PROJECT TITLE

**SAUNDERS TRADES  
AND TECHNICAL  
HIGH SCHOOL HVAC  
UPGRADES**

PROJECT ADDRESS

**183 PALMER RD  
YONKERS, NY 10701**

OWNER

**YONKERS PUBLIC  
SCHOOLS**

ARCHITECT

**FULLER AND  
D'ANGELO P.C.**

45 KNOLLWOOD ROAD  
ELMSFORD, NY 10523  
(T) 914-552-4444

MEP ENGINEER AND ENVIRONMENTAL ENGINEER

**LiRo Engineers, Inc.**  
*A LiRo Group Company*  
Syosset, N.Y. 516-214-8157(T)

KEY PLAN: NOT TO SCALE

SHEET SIZE 30X42

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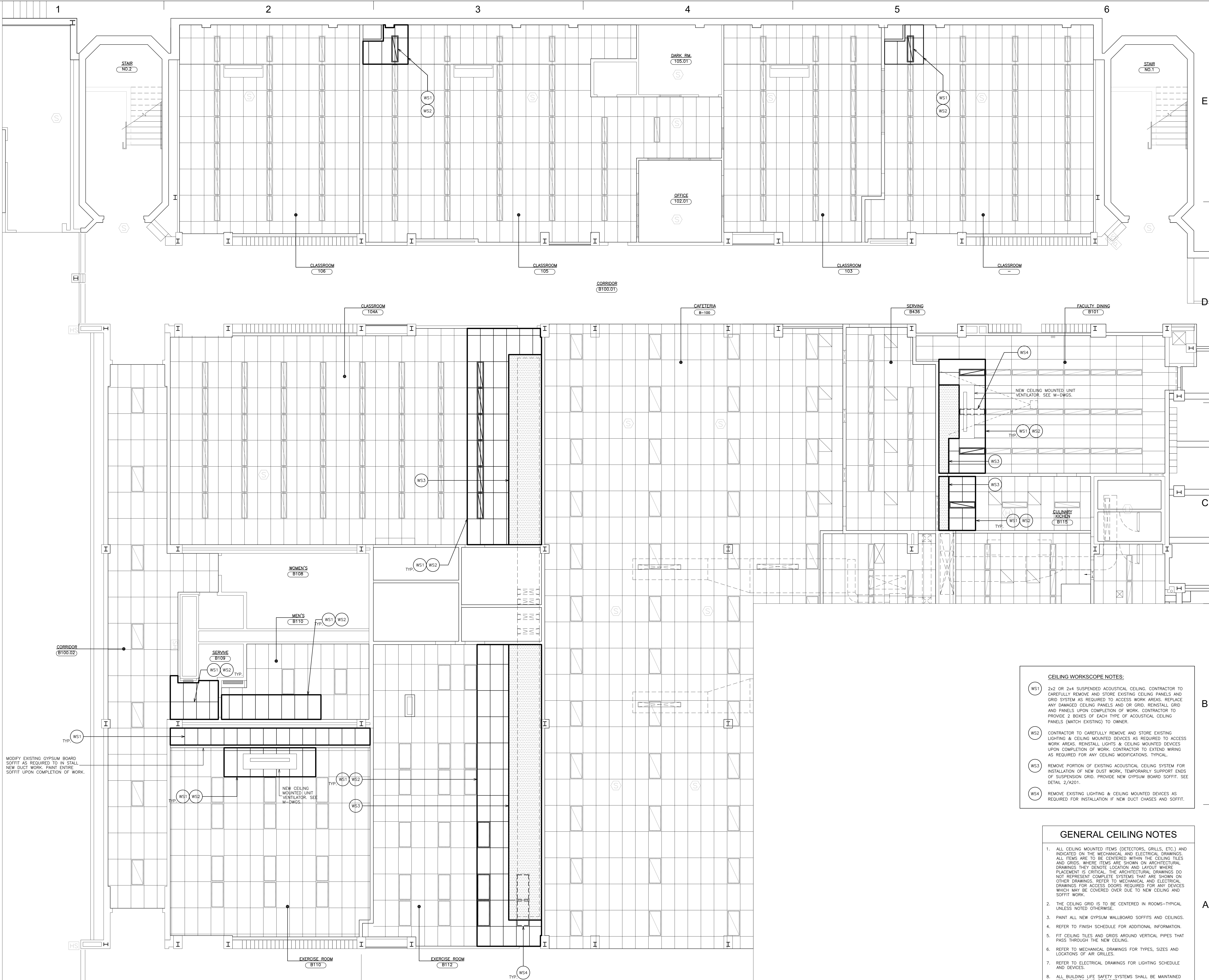
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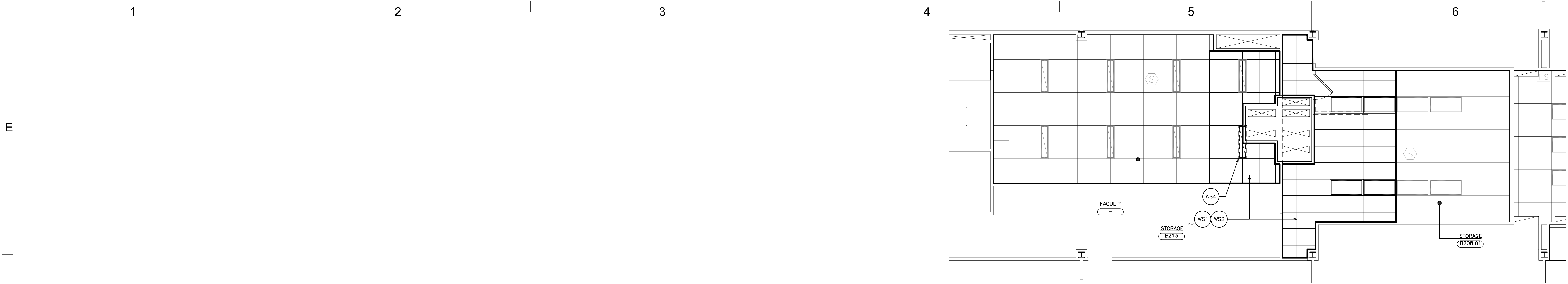
**PARTIAL FIRST FLOOR  
REFLECTED CEILING  
PLAN**

A200

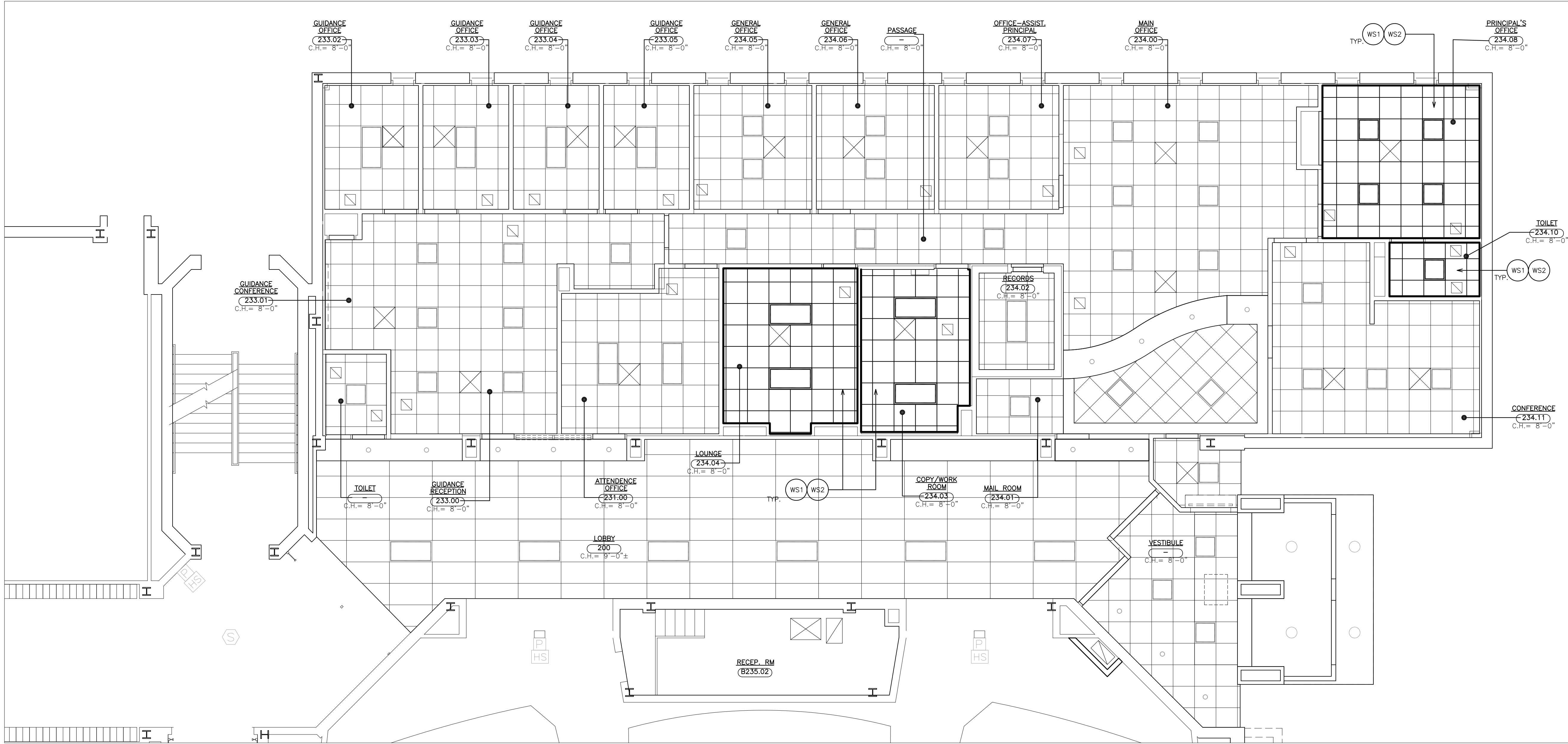


**1 FIRST FLOOR REFLECTED CEILING PLAN**  
SCALE: 3/16" = 1'-0"

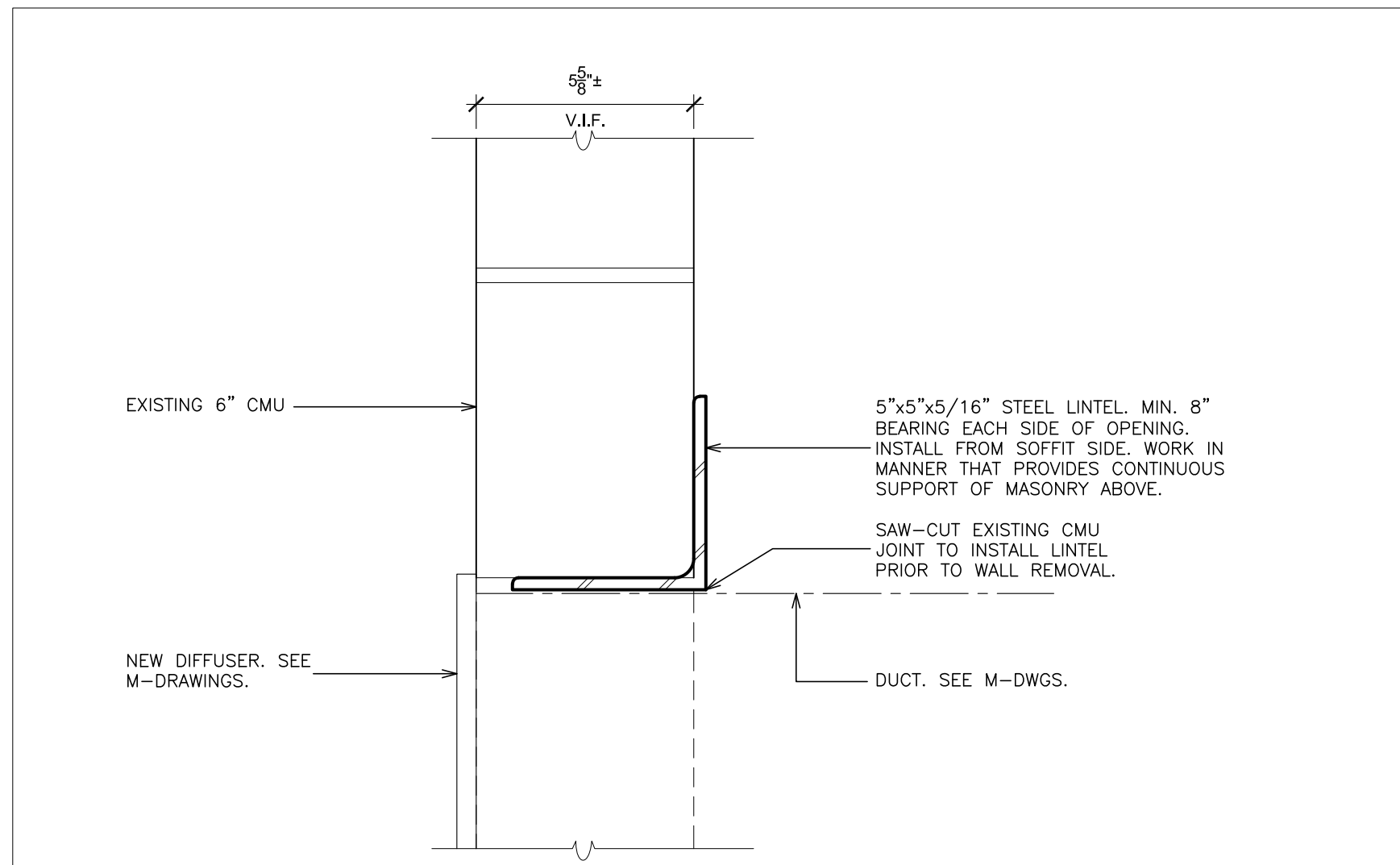




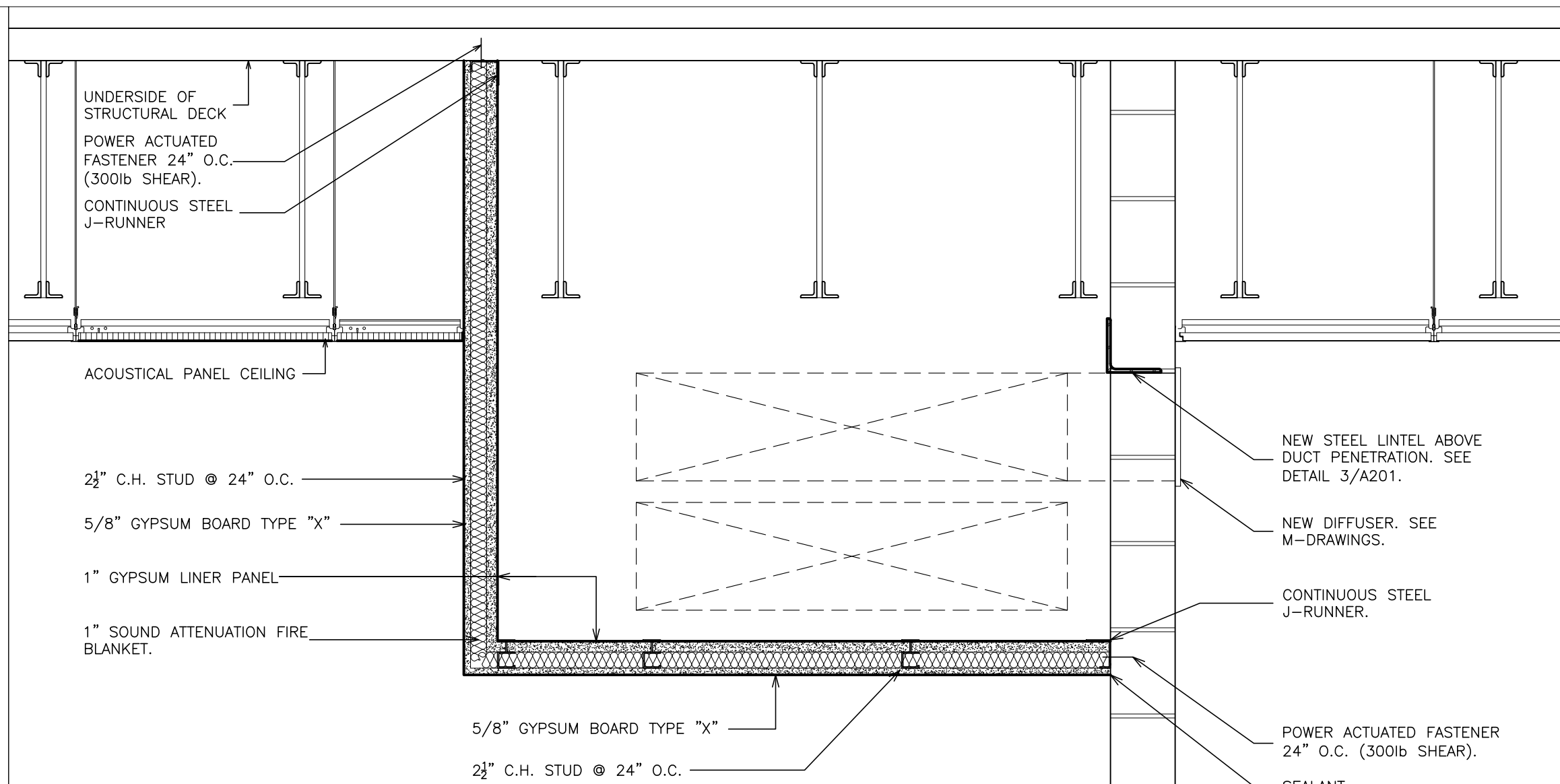
2 SECOND FLOOR REFLECTED CEILING PLAN  
SCALE: 3/16" = 1'-0"



1 SECOND FLOOR REFLECTED CEILING PLAN  
SCALE: 3/16" = 1'-0"



3 DETAIL- DUCT PENETRATION @ STAGE  
SCALE: 3" = 1'-0"



2 DETAIL - 1 HOUR RATED SOFFIT  
SCALE: 1" = 1'-0"

- CEILING WORKSCOPE NOTES:**
- WS1 2x2 OR 2x4 SUSPENDED ACOUSTICAL CEILING. CONTRACTOR TO CAREFULLY REMOVE AND STORE EXISTING CEILING PANELS AND GRID SYSTEM AS REQUIRED TO ACCESS WORK AREAS. REPLACE ANY DAMAGED CEILING PANELS AND OR GRID. REINSTALL GRID AND PANELS UPON COMPLETION OF WORK. CONTRACTOR TO PROVIDE 2 BOXES OF EACH TYPE OF ACOUSTICAL CEILING PANELS (MATCH EXISTING) TO OWNER.
  - WS2 CONTRACTOR TO CAREFULLY REMOVE AND STORE EXISTING LIGHTING & CEILING MOUNTED DEVICES AS REQUIRED TO ACCESS WORK AREAS. REINSTALL LIGHTS & CEILING MOUNTED DEVICES UPON COMPLETION OF WORK. CONTRACTOR TO EXTEND WIRING AS REQUIRED FOR ANY CEILING MODIFICATIONS. TYPICAL.
  - WS3 REMOVE PORTION OF EXISTING ACOUSTICAL CEILING SYSTEM FOR INSTALLATION OF NEW DUST WORK. TEMPORARILY SUPPORT ENDS OF SUSPENSION GRID. PROVIDE NEW GYPSUM BOARD SOFFIT. SEE DETAIL 2/A201.
  - WS4 REMOVE EXISTING LIGHTING & CEILING MOUNTED DEVICES AS REQUIRED FOR INSTALLATION IF NEW DUCT CHASES AND SOFFIT.

- GENERAL CEILING NOTES**
- ALL CEILING MOUNTED ITEMS (DETECTORS, GRILLS, ETC.) AND INDICATED ON THE MECHANICAL AND ELECTRICAL DRAWINGS. ALL ITEMS ARE TO BE CENTERED WITHIN THE CEILING TILES AND GRIDS, WHERE ITEMS ARE SHOWN ON ARCHITECTURAL DRAWINGS THEY DENOTE LOCATION AND LAYOUT WHERE PLACEMENT IS CRITICAL. THE ARCHITECTURAL DRAWINGS DO NOT REPRESENT COMPLETE SYSTEMS THAT ARE SHOWN ON OTHER DRAWINGS. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR ACCESS DOORS REQUIRED FOR ANY DEVICES WHICH MAY BE COVERED OVER DUE TO NEW CEILING AND SOFFIT WORK.
  - THE CEILING GRID IS TO BE CENTERED IN ROOMS-TYPICAL UNLESS NOTED OTHERWISE.
  - PAIN ALL NEW GYPSUM WALLBOARD SOFFITS AND CEILINGS.
  - REFER TO FINISH SCHEDULE FOR ADDITIONAL INFORMATION.
  - FIT CEILING TILES AND GRIDS AROUND VERTICAL PIPES THAT PASS THROUGH THE NEW CEILING.
  - REFER TO MECHANICAL DRAWINGS FOR TYPES, SIZES AND LOCATIONS OF AIR GRILLES.
  - REFER TO ELECTRICAL DRAWINGS FOR LIGHTING SCHEDULE AND DEVICES.
  - ALL BUILDING LIFE SAFETY SYSTEMS SHALL BE MAINTAINED WHEN BUILDING IS OCCUPIED.

PROJECT TITLE  
**SAUNDERS TRADES  
AND TECHNICAL  
HIGH SCHOOL HVAC  
UPGRADES**

PROJECT ADDRESS  
**183 PALMER RD  
YONKERS, NY 10701**

OWNER  
**YONKERS PUBLIC  
SCHOOLS**

ARCHITECT  
**FULLER AND  
D'ANGELO P.C.**  
45 KNOLLWOOD ROAD  
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MEP ENGINEER AND ENVIRONMENTAL ENGINEER  
**LiRo Engineers, Inc.**  
A LiRo Group Company  
Syosset, N.Y. 516-214-8157(T)

KEY PLAN: NOT TO SCALE

SHEET SIZE 30X42

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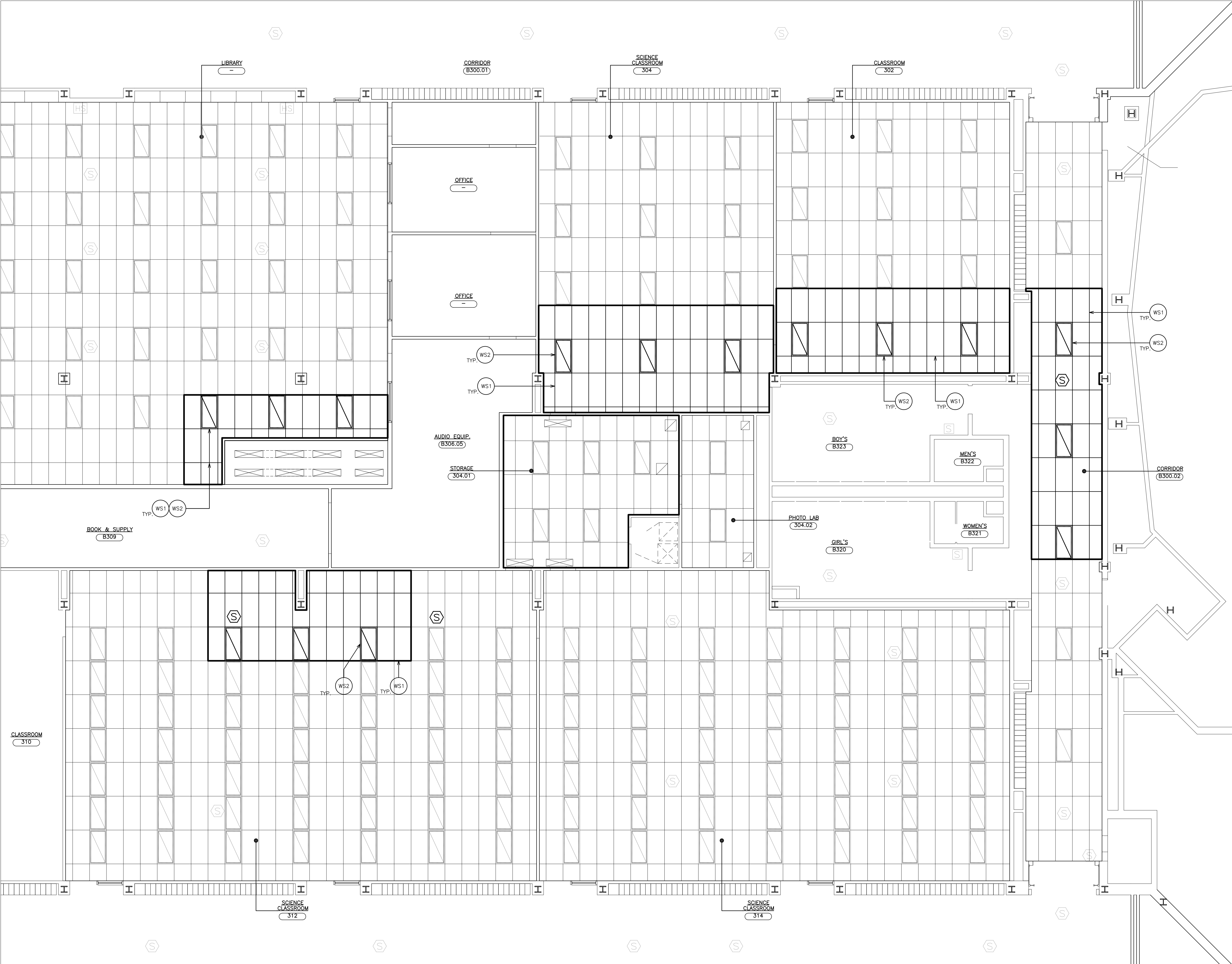


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SHEET TITLE

**SECOND FLOOR  
REFLECTED CEILING  
PLANS**

A201





### 1 THIRD FLOOR REFLECTED CEILING PLAN

CEILING WORKSCOPE NOTES:

- |     |  |
|-----|--|
| WS1 | 2-2 OR 2-4 SUSPENDED ACOUSTICAL CEILING. CONTRACTOR TO CAREFULLY REMOVE AND STORE EXISTING CEILING PANELS AND GRID SYSTEM AS REQUIRED TO ACCESS WORK AREAS. REPLACE ANY DAMAGED CEILING PANELS AND OR GRID. RENEWAL GRID SHALL BE USED UPON COMPLETION OF WORK. CONTRACTOR TO PROVIDE 2 BOXES OF EACH TYPE OF ACOUSTICAL CEILING PANELS (MATCH EXISTING) TO OWNER. |
| WS2 | CONTRACTOR TO CAREFULLY REMOVE AND STORE EXISTING LIGHTING & CEILING MOUNTED DEVICES AS REQUIRED TO ACCESS WORK AREAS. RENEWAL LIGHTS & CEILING MOUNTED DEVICES SHALL BE REPLACED WITH EQUIVALENTS. CONTRACTOR TO EXERCISE WIRING AS REQUIRED FOR ANY CEILING MODIFICATIONS. TYPICAL.  |
| WS3 | REMOVE PORTION OF EXISTING ACOUSTICAL CEILING SYSTEM FOR INSTALLATION OF NEW DUST WORK. TEMPORARILY BRACE ENDS OF SUSPENSION GRID. PROVIDE NEW Gypsum BOARD SOFFIT. SEE DETAIL 2/A021.   |
| WS4 | REMOVE EXISTING LIGHTING & CEILING MOUNTED DEVICES AS REQUIRED FOR INSTALLATION IF NEW DUCT CHASES AND SOFFIT.   |

## GENERAL CEILING NOTES

1. ALL CEILING MOUNTED ITEMS (DETECTORS, GRILLS, ETC.) AND INDICATED ON THE MECHANICAL AND ELECTRICAL DRAWINGS. ALL TO BE COVERED WITHIN THE CEILING TILES AND GRIDS, WHERE ITEMS ARE SHOWN ON ARCHITECTURAL DRAWINGS, ROOM RECORD, OR MECHANICAL AND ELECTRICAL DRAWINGS, THERE IS AN ASSUMPTION THAT THE PLACEMENT IS CORRECT. THE ARCHITECTURAL DRAWINGS DO NOT REPRESENT COMPLETE SYSTEMS THAT ARE SHOWN ON MECHANICAL, ELECTRICAL, ROOM RECORD, MECHANICAL AND ELECTRICAL DRAWINGS FOR ACCESS DOORS REQUIRED FOR ANY DEVICES WHICH ARE TO BE COVERED OVER DUE TO NEW CEILING AND SOFFIT WORK.
2. THE CEILING GRID IS TO BE CENTERED IN ROOMS-TYPICAL UNLESS NOTED OTHERWISE.
3. PAINT ALL NEW GYPSUM WALLBOARD SOFFITS AND CEILINGS.
4. REFER TO FINISH SCHEDULE FOR ADDITIONAL INFORMATION.
5. FIT CEILING TILES AND GRIDS AROUND VERTICAL PIPES THAT PASS THROUGH THE NEW CEILING.
6. REFER TO MECHANICAL DRAWINGS FOR TYPES, SIZES AND LOCATIONS OF AIR GRILLES.
7. REFER TO ELECTRICAL DRAWINGS FOR LIGHTING SCHEDULE AND FIXTURES.
8. ALL BUILDING LIFE SAFETY SYSTEMS SHALL BE MAINTAINED WHEN BUILDING IS OCCUPIED.

PROJECT TITLE

# SAUNDERS TRADES AND TECHNICAL HIGH SCHOOL HVAC UPGRADES

PROJECT ADDRESS

183 PALMER RD  
YONKERS, NY 10701

OWNER

**YONKERS PUBLIC  
SCHOOLS**

ARCHITECT

**FULLER AND  
D'ANGELO P.C.**

45 KNOLLWOOD ROAD  
ELMSFORD, NY 10523  
(T) 914.592.4444

MEP ENGINEER AND ENVIRONMENTAL ENGINEER



**LiRo Engineers, Inc.**  
*A LiRo Group Company*  
Syosset, N.Y. 516-214-8157(T)

KEY PLAN: NOT TO SCALE

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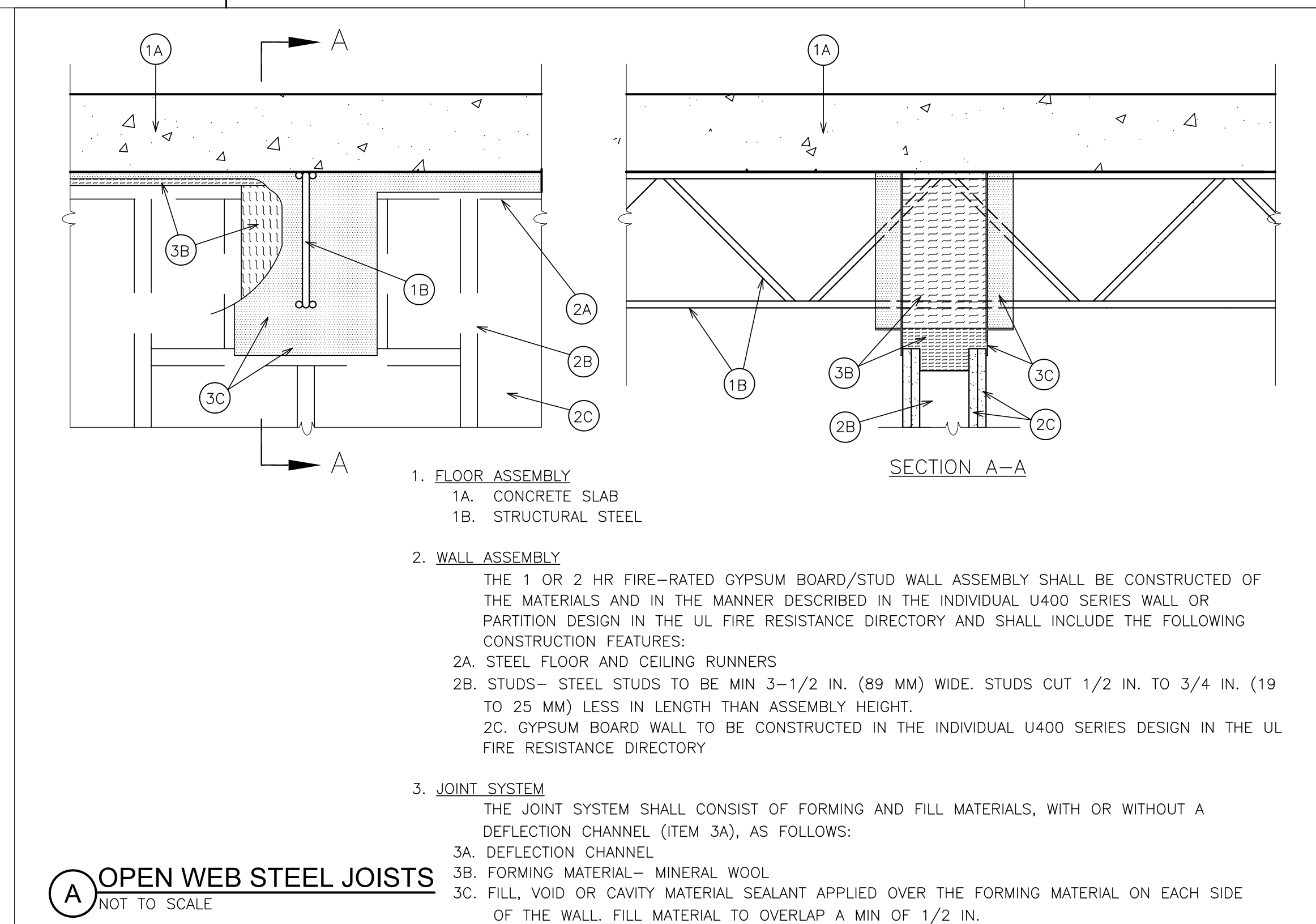
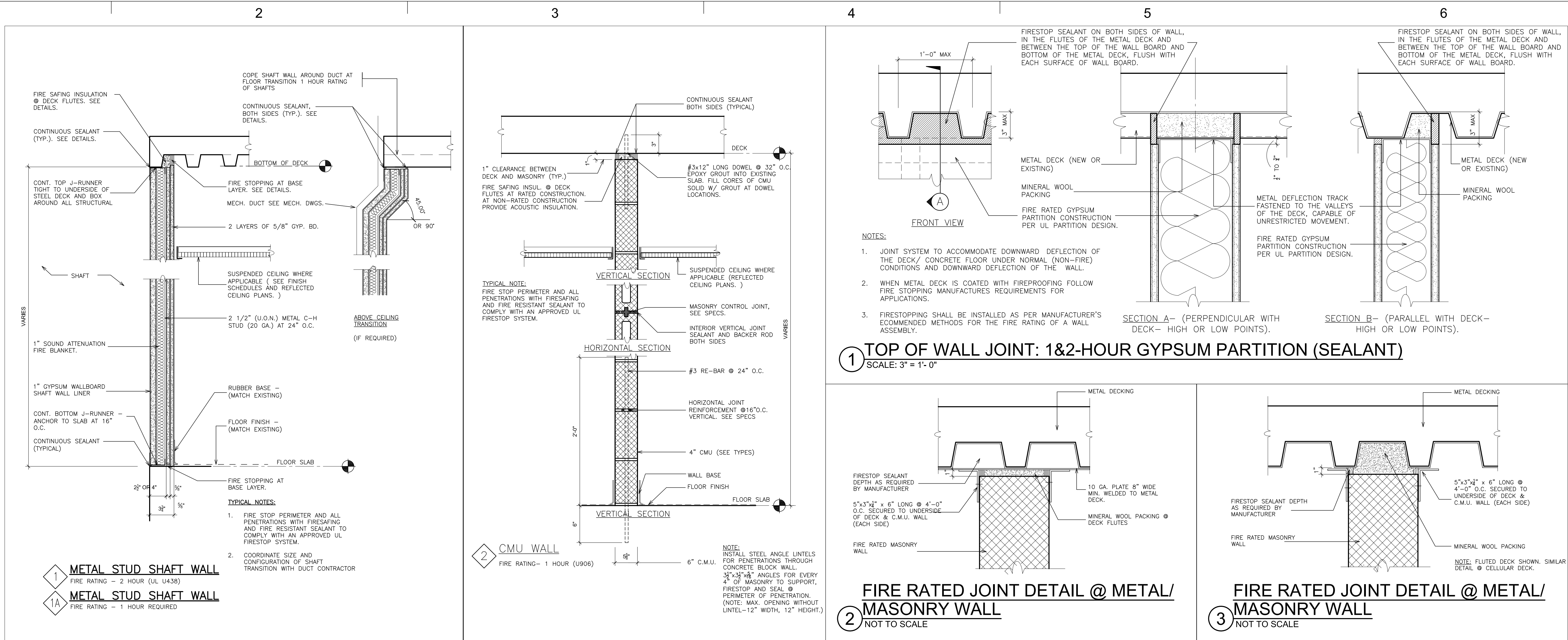
PARTIAL THIRD FLOOR  
REFLECTED CEILING  
PLAN

A202

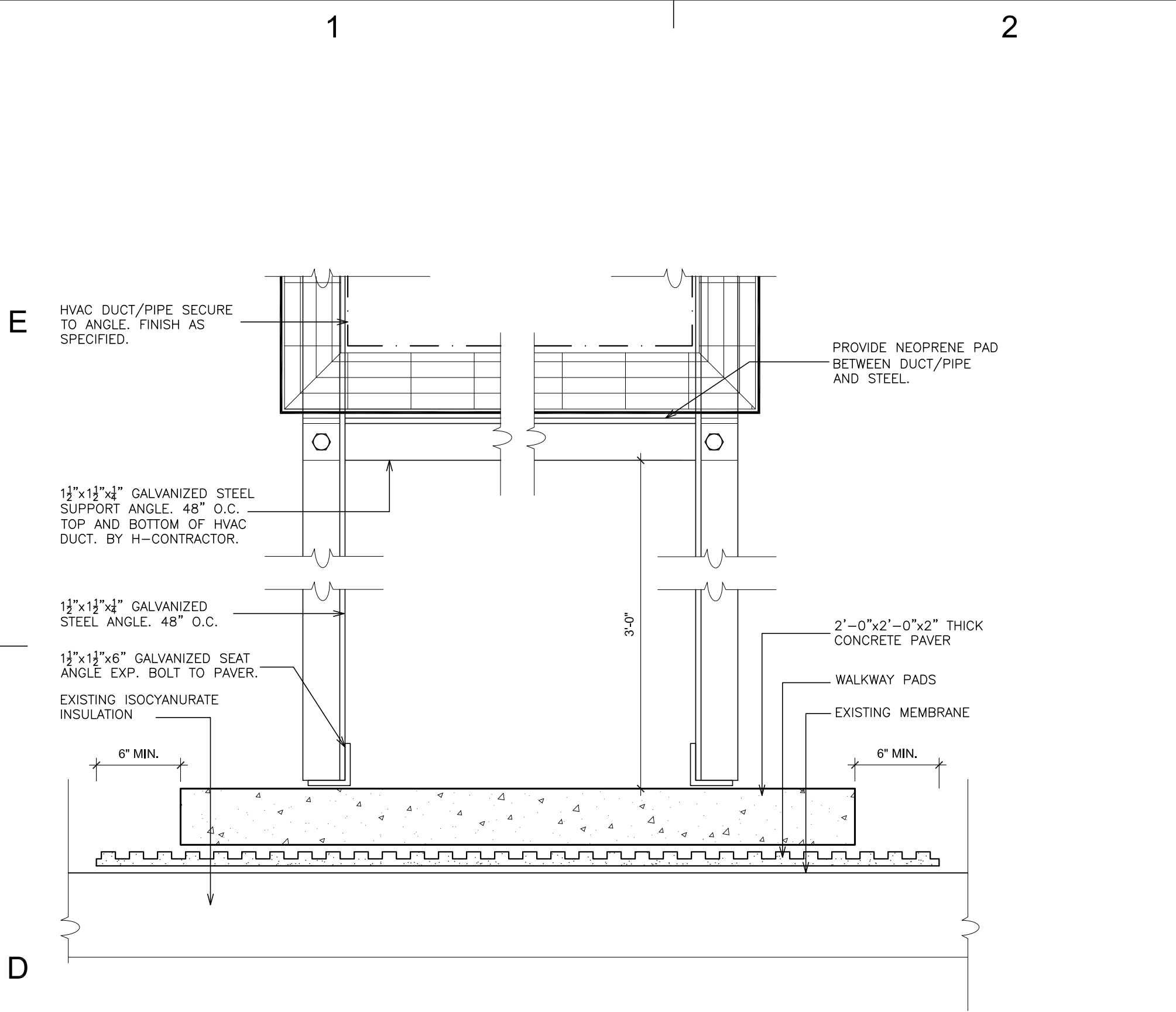




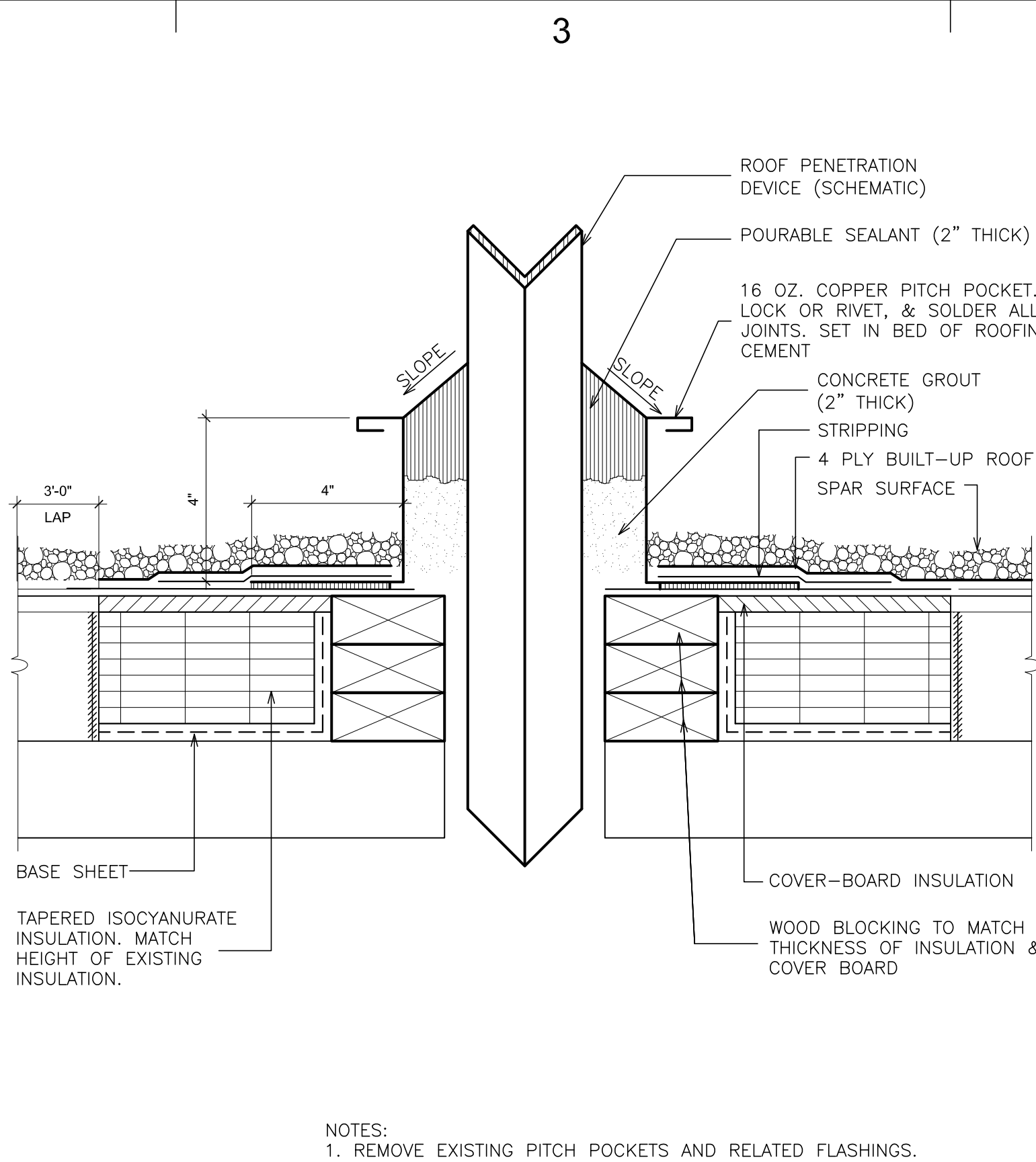
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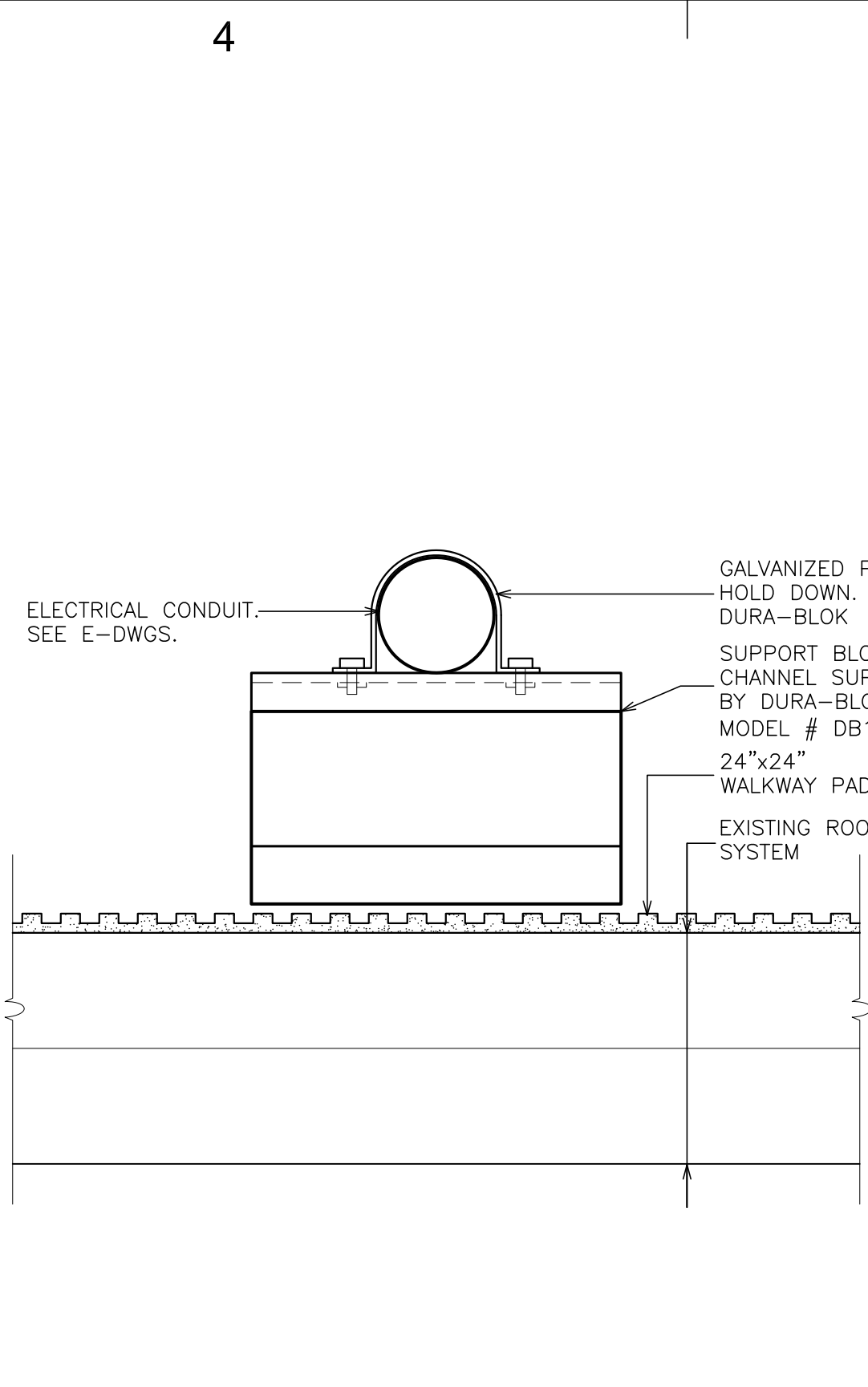




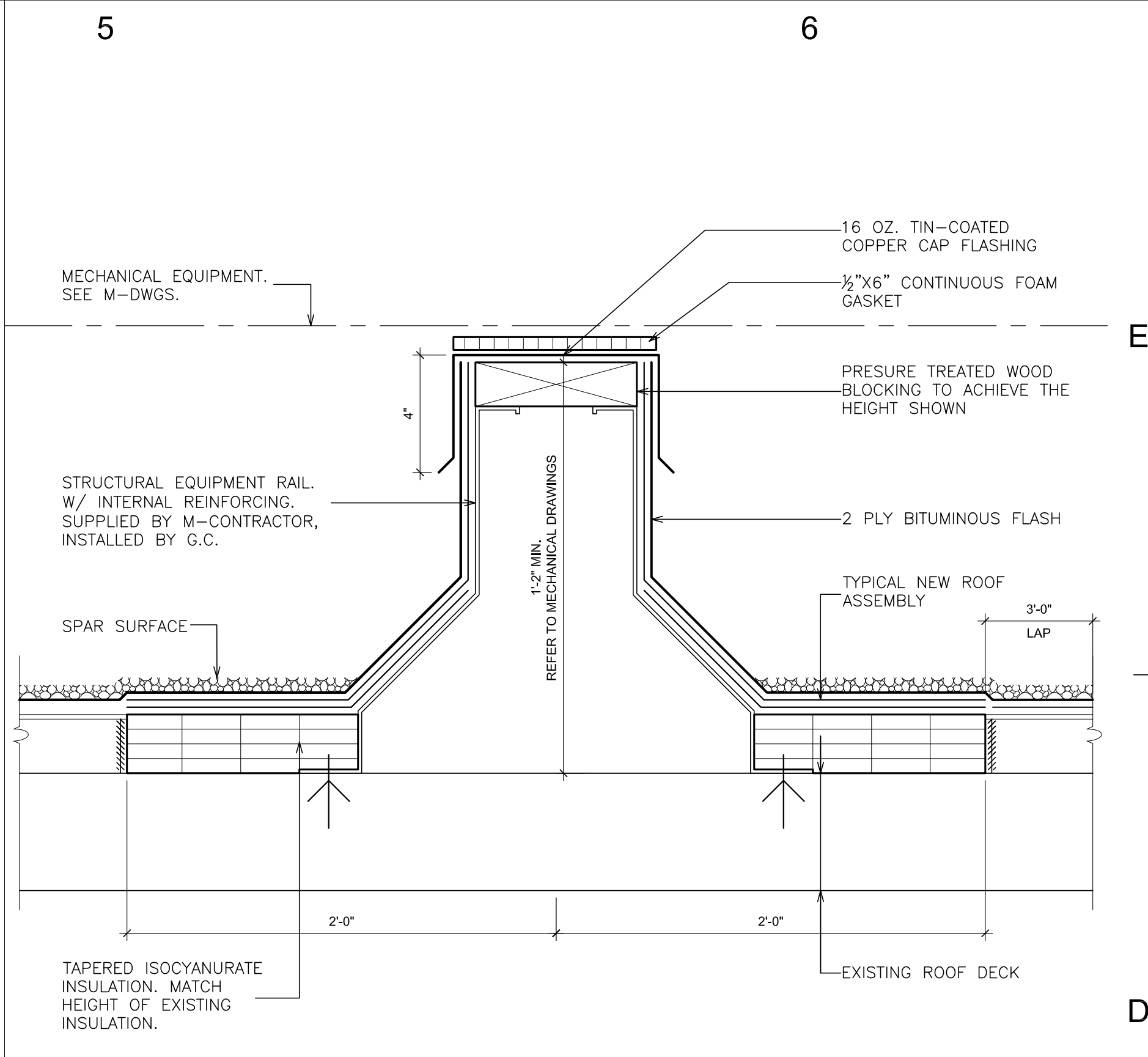
1 DETAIL- TYPICAL DUCT / PIPE SUPPORT  
SCALE: 3" = 1'-0"



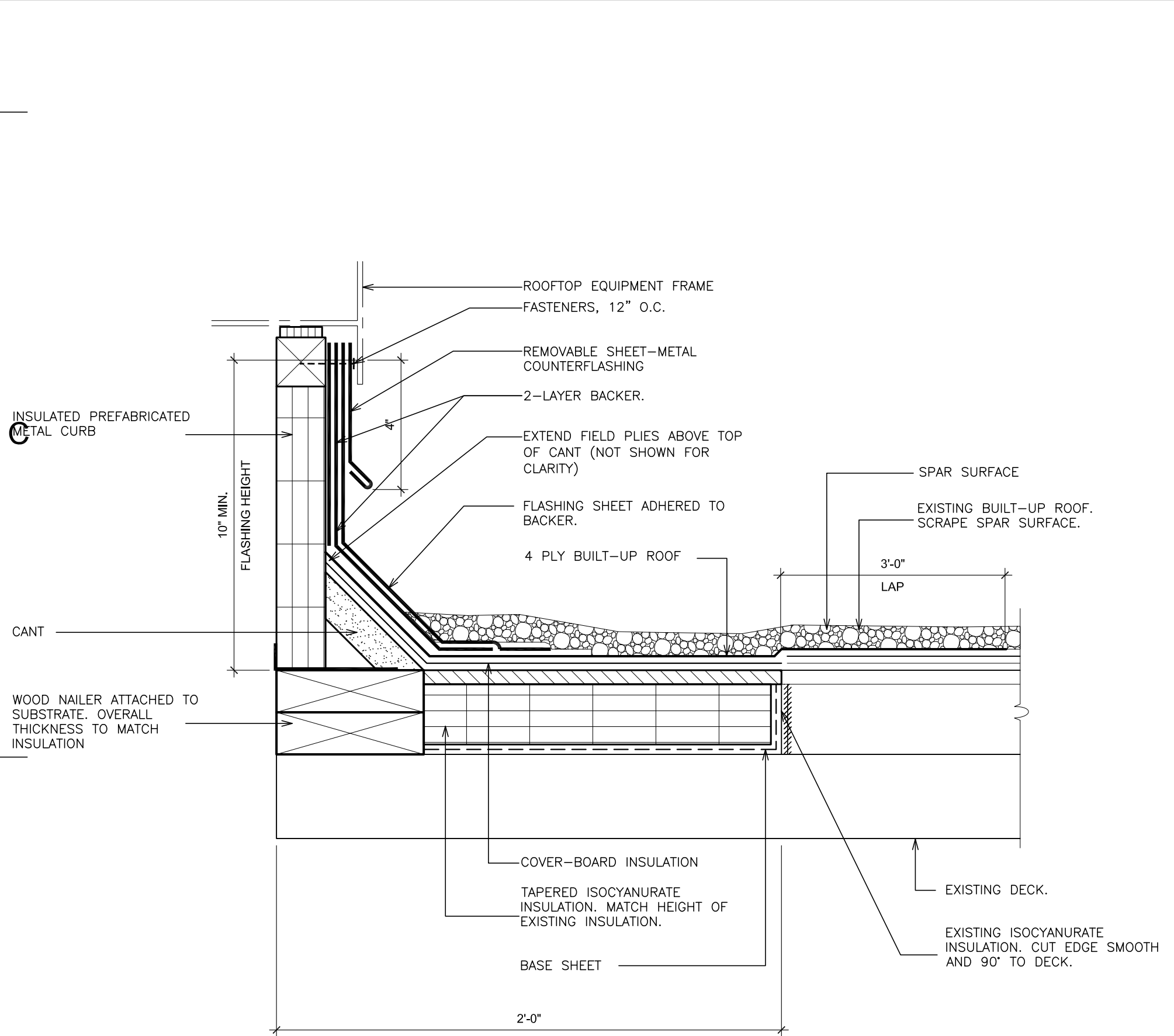
2 DETAIL- PITCH POCKET  
SCALE: N.T.S.



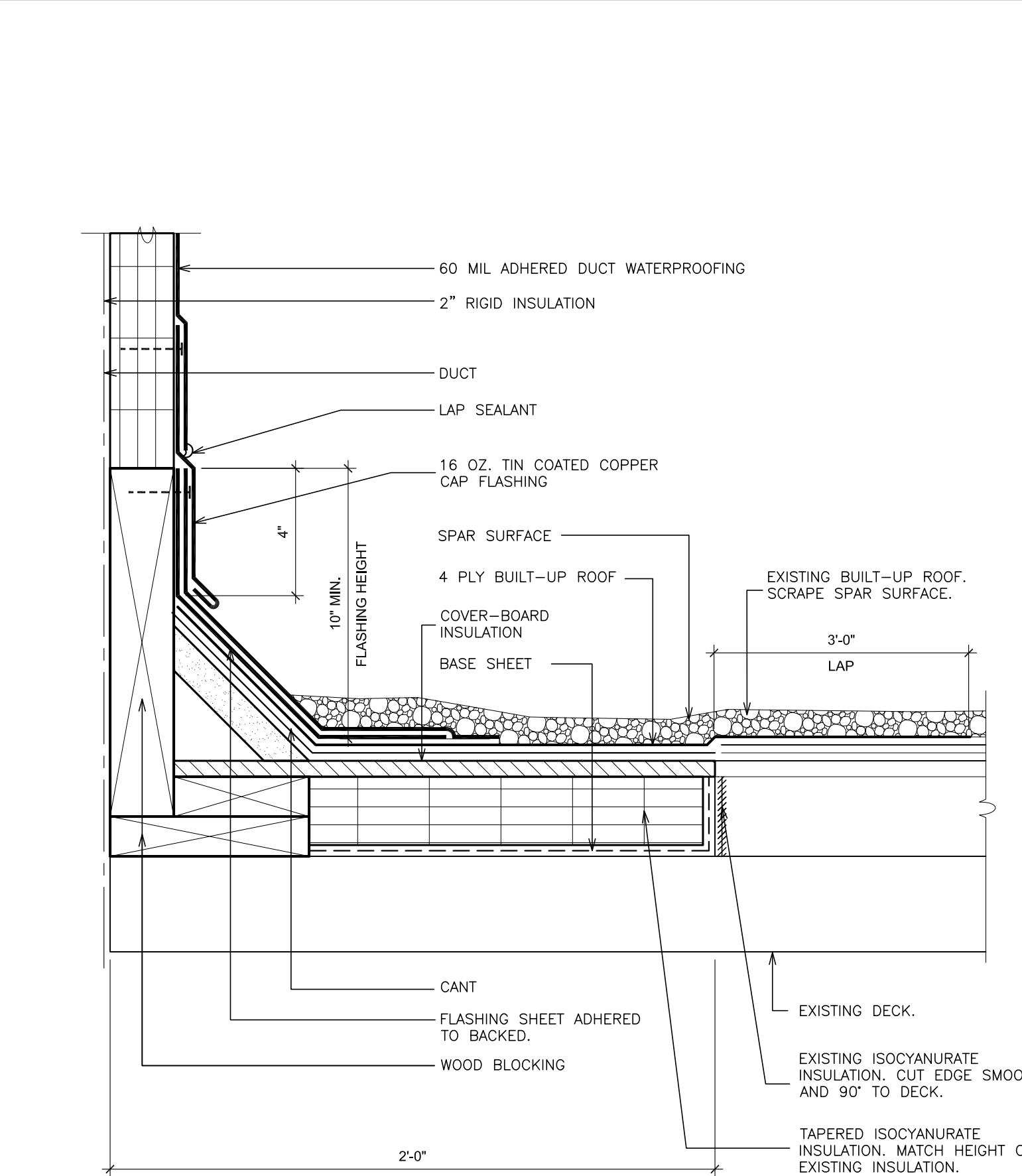
3 DETAIL- PIPING SUPPORT  
SCALE: 3" = 1'-0"



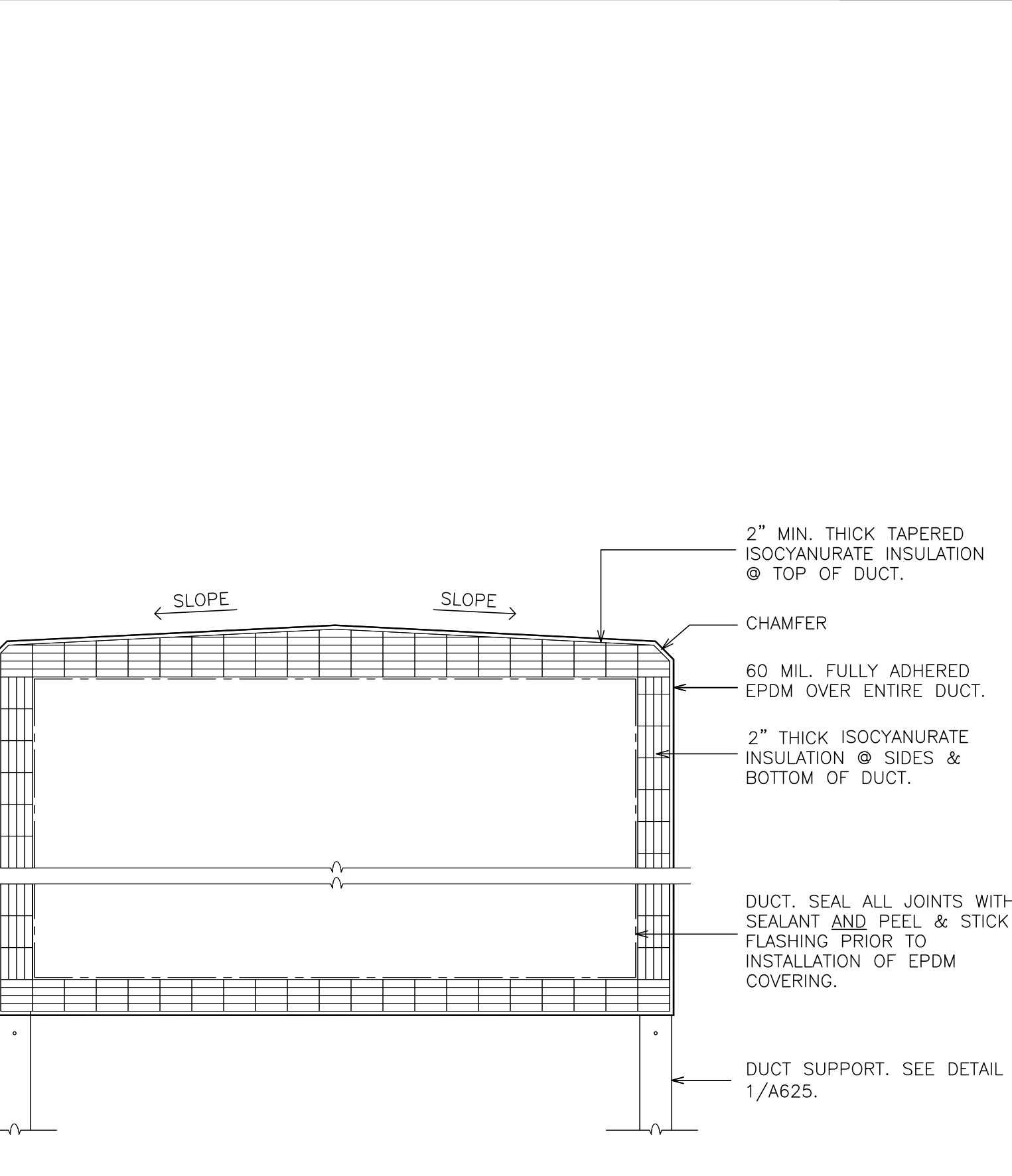
7 DETAIL- EQUIPMENT RAIL  
SCALE: 3" = 1'-0"



4 DETAIL- MECHANICAL CURB  
SCALE: N.T.S.



5 DETAIL- DUCT CURB  
SCALE: N.T.S.



6 DETAIL- DUCT INSULATION  
SCALE: 1 1/2" = 1'-0"

PROJECT TITLE  
**SAUNDERS TRADES  
AND TECHNICAL  
HIGH SCHOOL HVAC  
UPGRADES**

PROJECT ADDRESS  
**183 PALMER RD  
YONKERS, NY 10701**

OWNER  
**YONKERS PUBLIC  
SCHOOLS**

ARCHITECT  
**FULLER AND  
D'ANGELO P.C.**  
45 KNOLLWOOD ROAD  
ELMSFORD, NY 10523  
(T) 914-592-4444

MEP ENGINEER AND ENVIRONMENTAL ENGINEER



KEY PLAN: NOT TO SCALE

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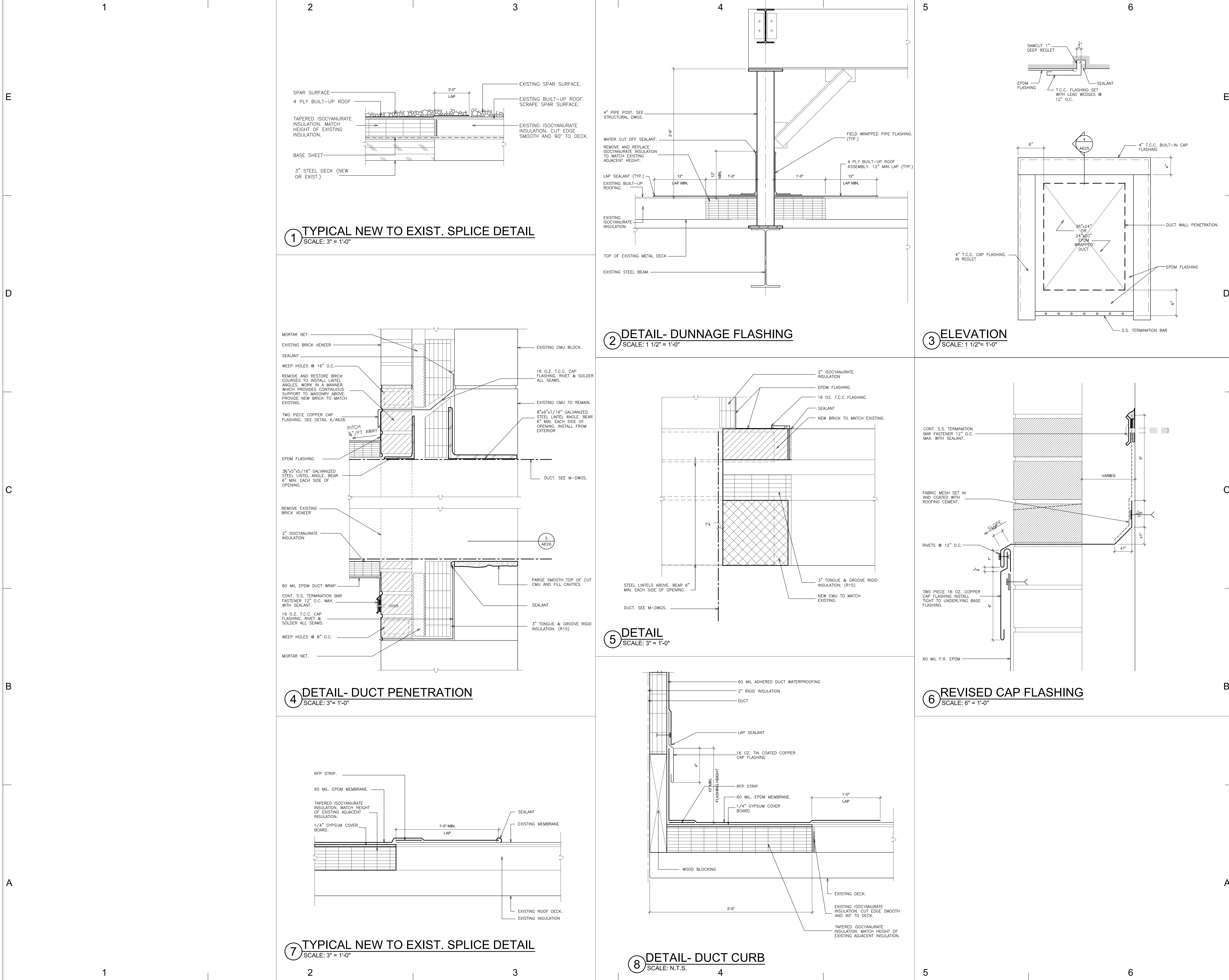


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SHEET TITLE

ROOF DETAILS

A625





PROJECT TITLE

PROJECT ADDRESS

OWNER

ARCHITECT

MEP ENGINEER AND ENVIRONMENTAL ENGINEER

KEY PLAN: NOT TO SCALE

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ROOF DETAILS


A626

SAUNDERS TRADES AND TECHNICAL HIGH SCHOOL HVAC UPGRADES

183 PALMER RD YONKERS, NY 10701

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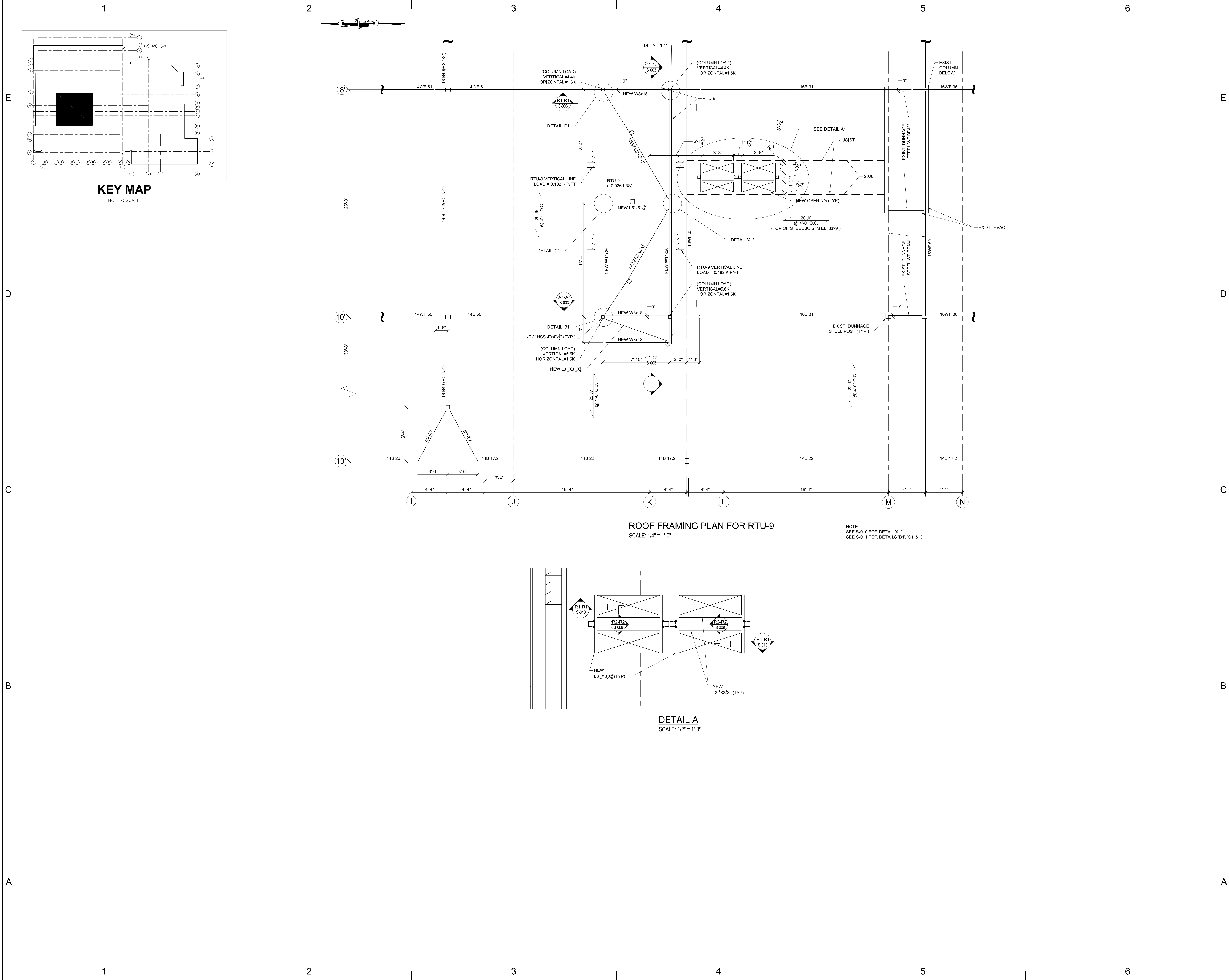
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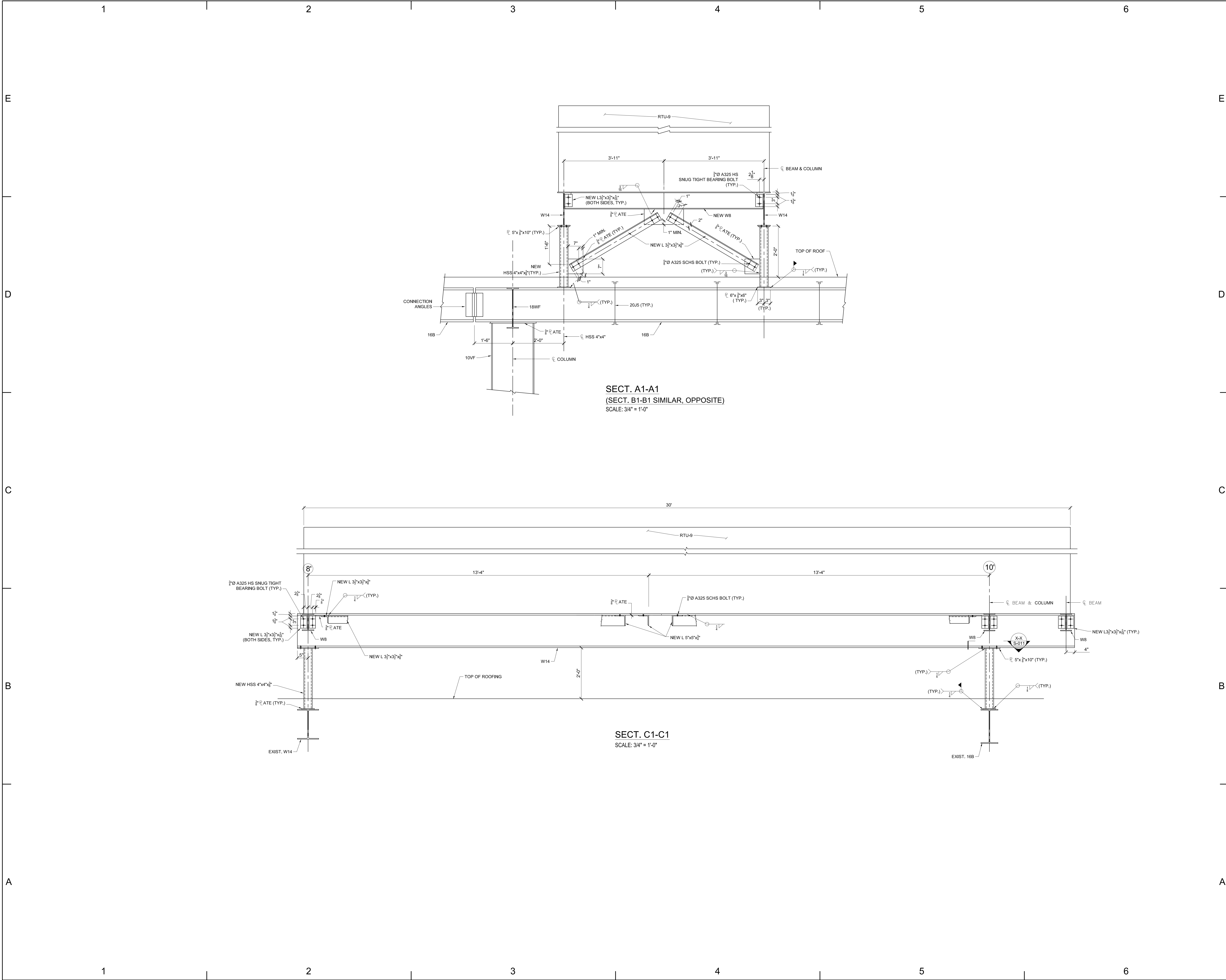












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SHEET TITLE

SECTIONS & DETAILS FOR RTU-9

S-003

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## SAUNDERS TRADES AND TECHNICAL HIGH SCHOOL HVAC UPGRADES

183 PALMER RD  
YONKERS, NY 10701

**YONKERS PUBLIC  
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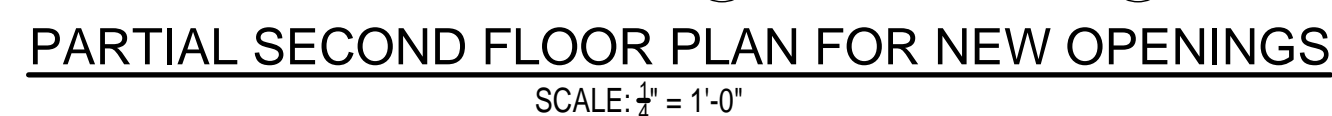


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**PARTIAL PLANS AND  
SECTIONS, OPENINGS FOR  
DUCT WORK SECOND FLOOR  
(PROJECTOR ROOM), THIRD  
FLOOR (MECHANICAL ROOM)**

**S-006**





## SAUNDERS TRADES AND TECHNICAL HIGH SCHOOL HVAC UPGRADES

183 PALMER RD  
YONKERS, NY 10701

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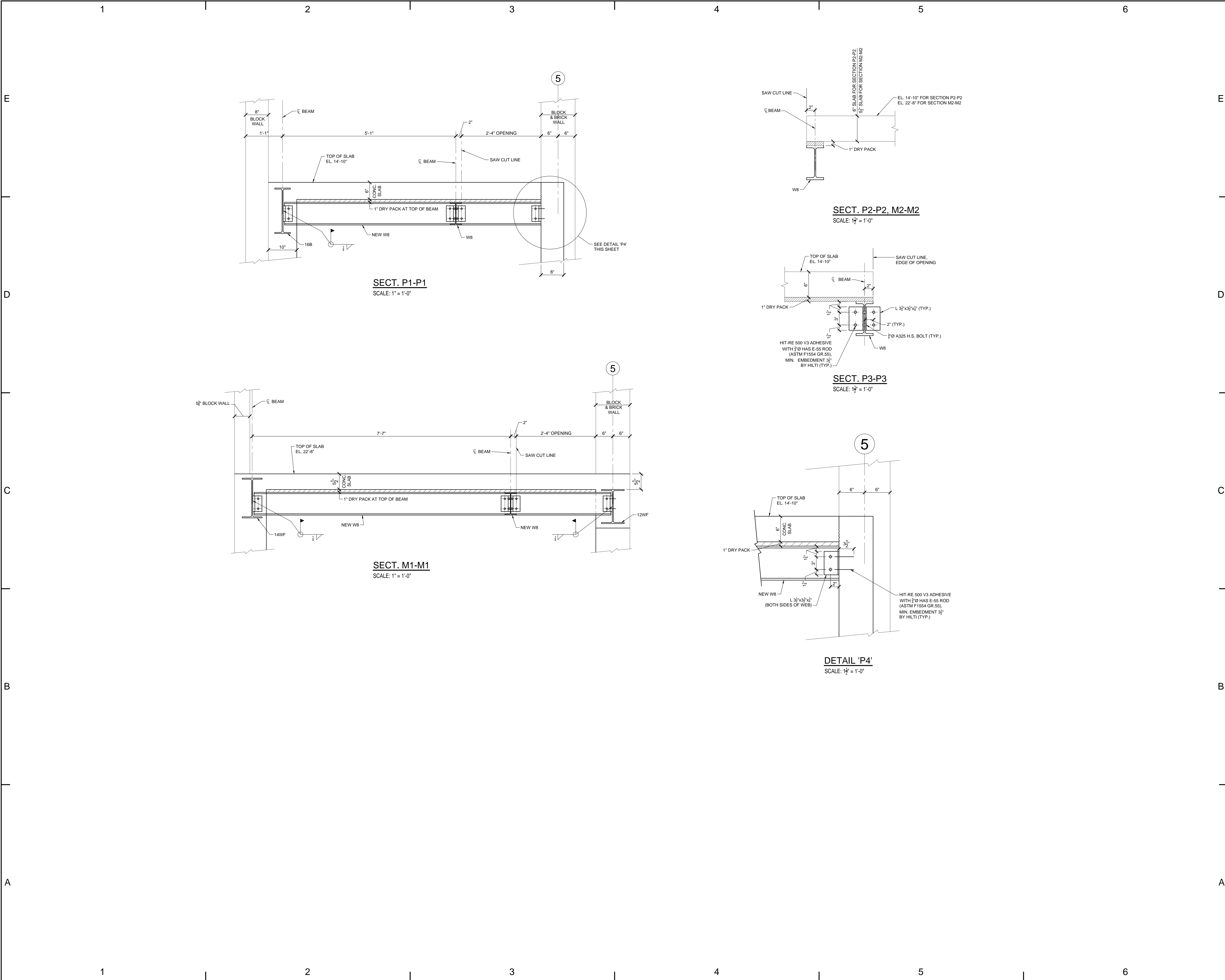


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**PARTIAL FIRST, SECOND,  
THIRD FLOOR PLANS- FLOOR  
OPENINGS FOR DUCT WORK  
EC-9**

**S-007**





PROJECT TITLE

PROJECT ADDRESS

OWNER

ARCHITECT

MEP ENGINEER AND ENVIRONMENTAL ENGINEER

SAUNDERS TRADES AND TECHNICAL HIGH SCHOOL HVAC UPGRADES

183 PALMER RD  
YONKERS, NY 10701

YONKERS PUBLIC SCHOOLS

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LiRo Engineers, Inc.  
A LiRo Group Company  
Syosset, N.Y. 516-214-8157(T)

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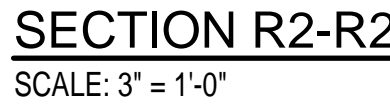
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SECTIONS AND DETAILS

S-008

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## SAUNDERS TRADES AND TECHNICAL HIGH SCHOOL HVAC UPGRADES

183 PALMER RD  
YONKERS, NY 10701

**YONKERS PUBLIC  
SCHOOLS**

**FULLER AND  
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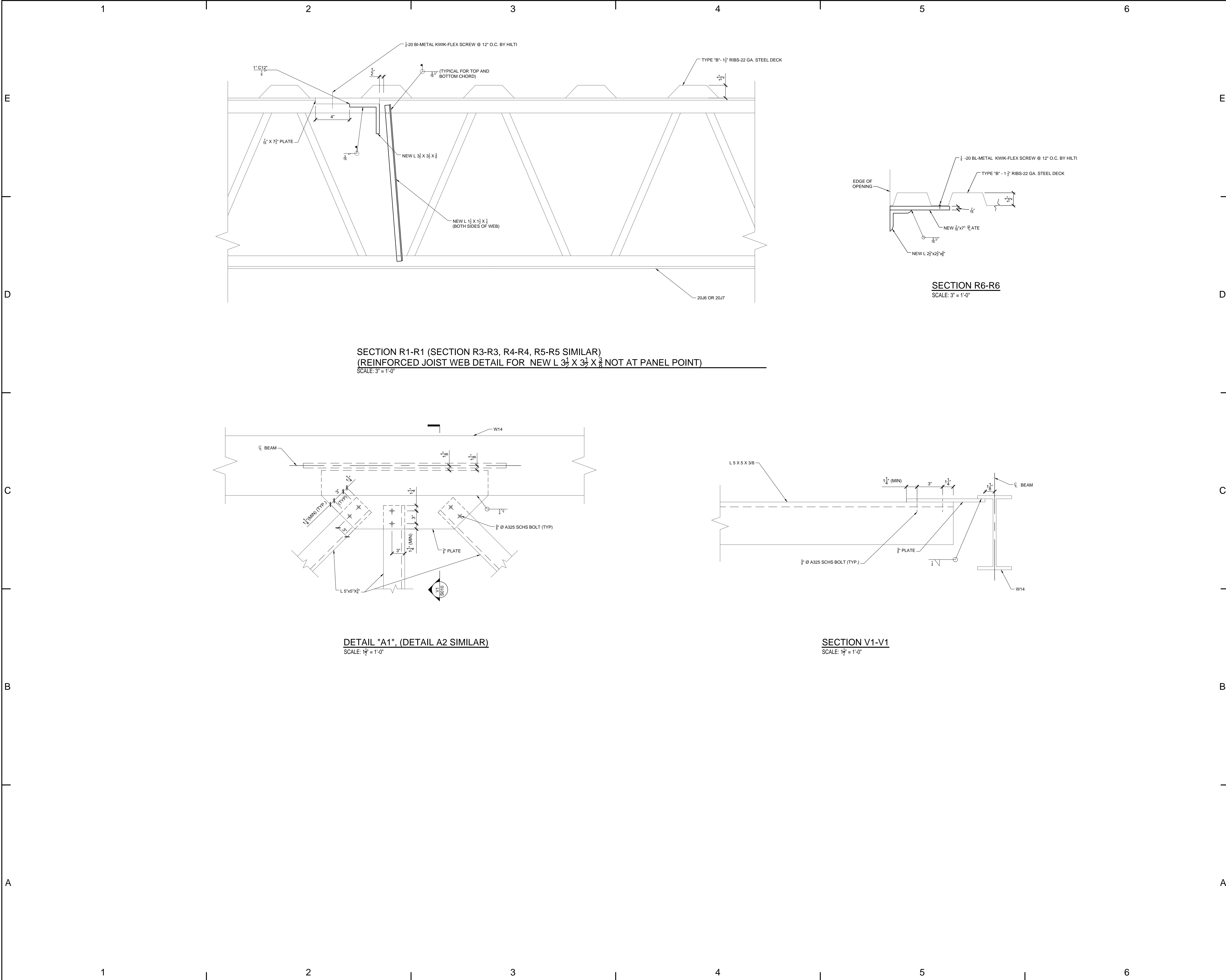
SHEET TITL F

**NEW FAN LOCATION  
AUDITORIUM ROOF  
& SECTION**

**S-009**

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PROJECT TITLE

PROJECT ADDRESS

OWNER

ARCHITECT

MEP ENGINEER AND ENVIRONMENTAL ENGINEER

KEY PLAN: NOT TO SCALE

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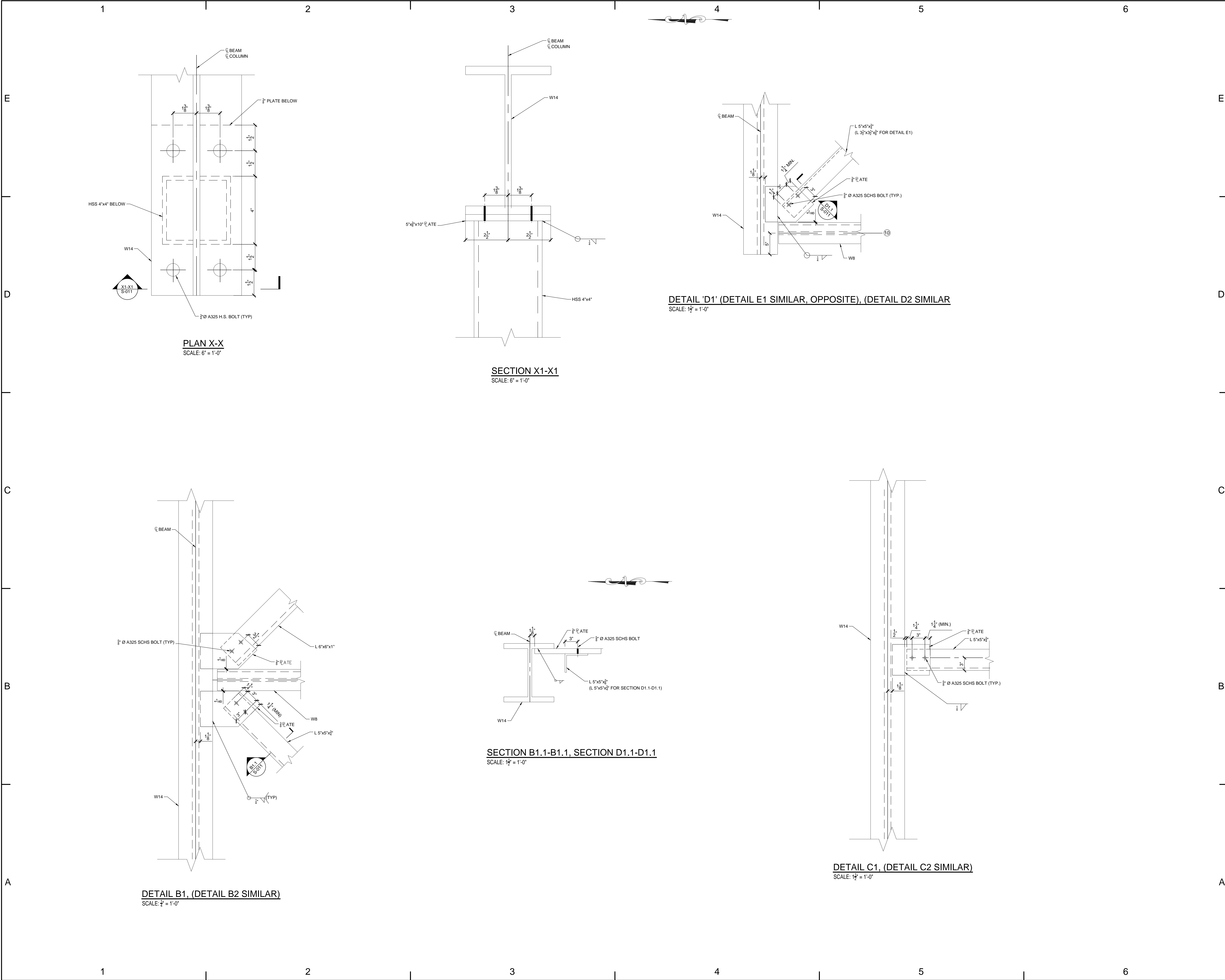
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SECTIONS AND DETAILS

S-010





PROJECT TITLE

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OWNER

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STATE OF NEW YORK

Ken J. Holmstrom

Professional Engineer

No. 08913

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SAUNDERS TRADES AND TECHNICAL HIGH SCHOOL HVAC UPGRADES

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YONKERS, NY 10701

YONKERS PUBLIC SCHOOLS

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LiRo Engineers, Inc.

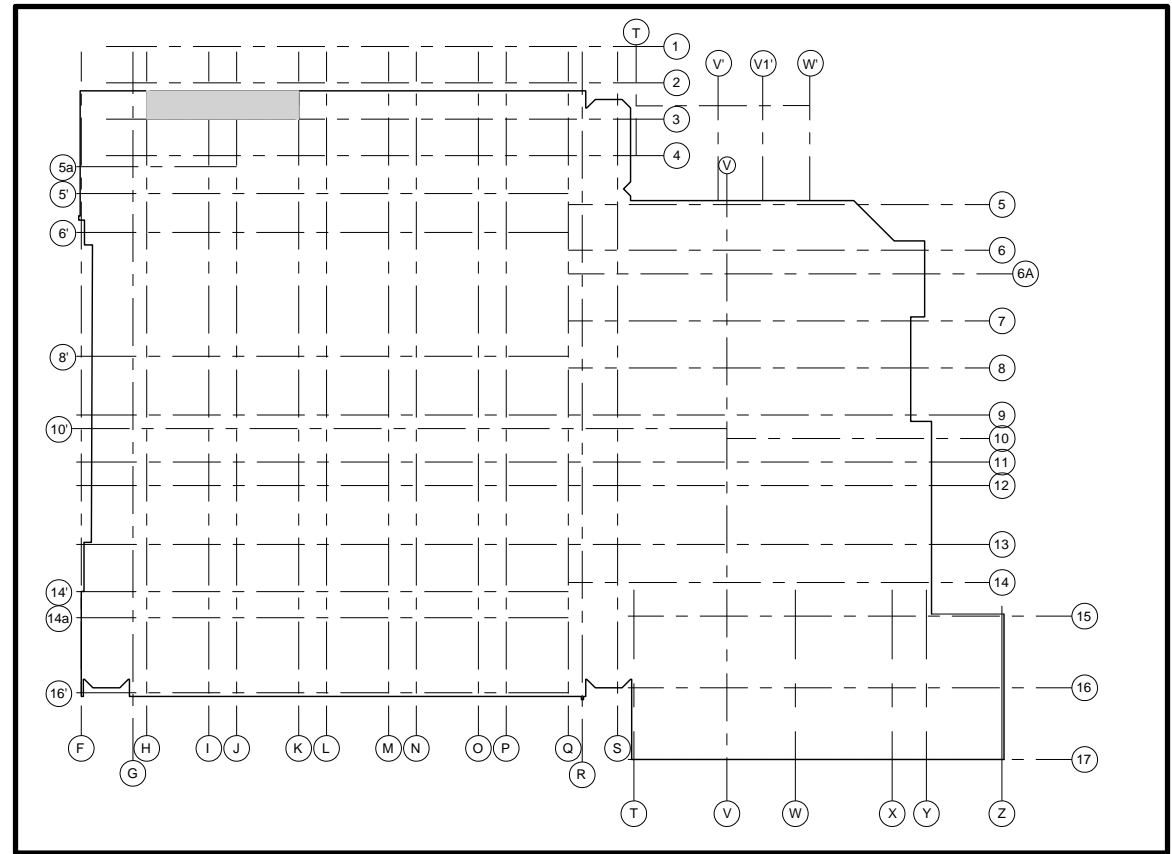
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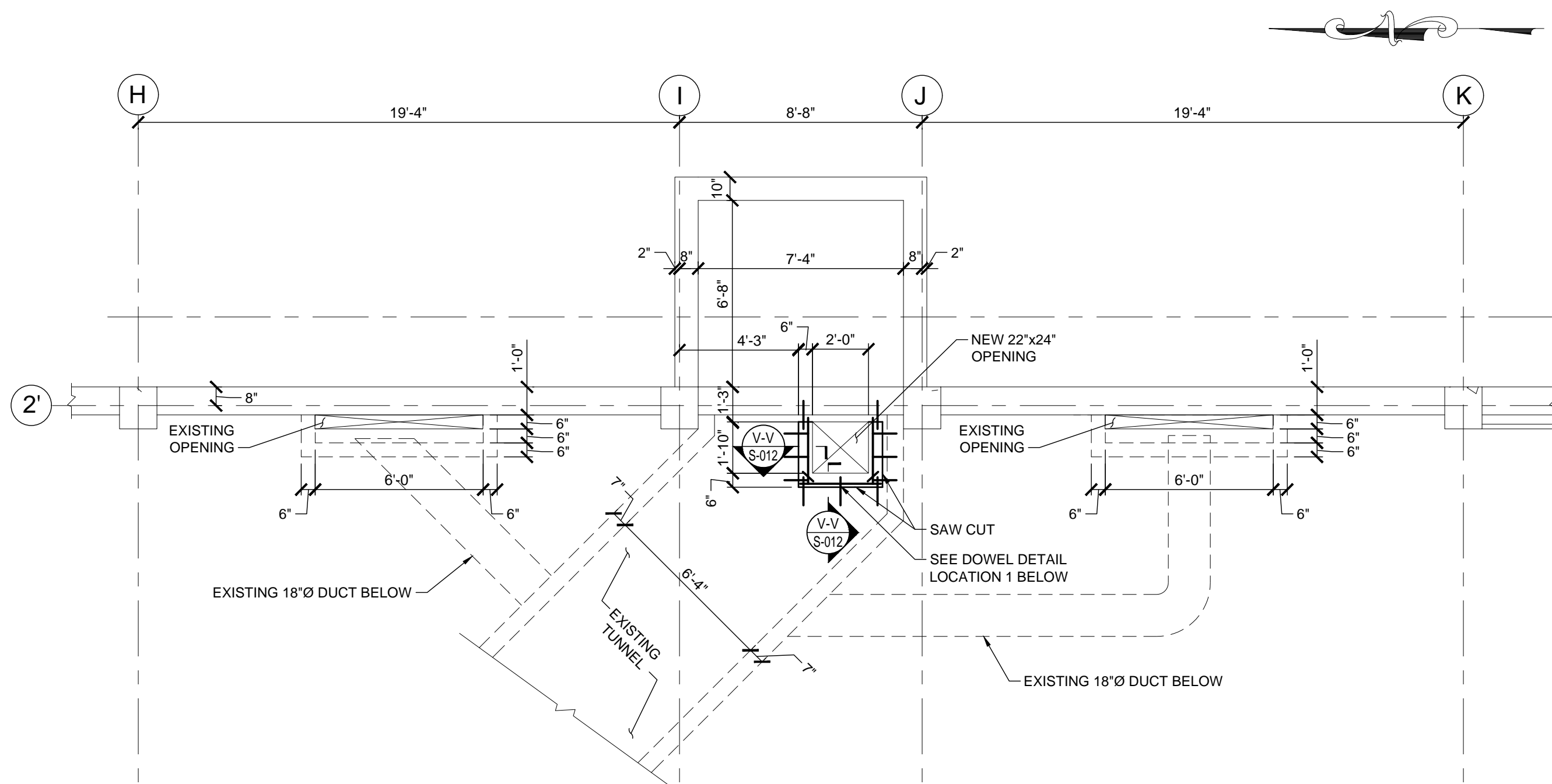
SECTIONS AND DETAILS

S-011

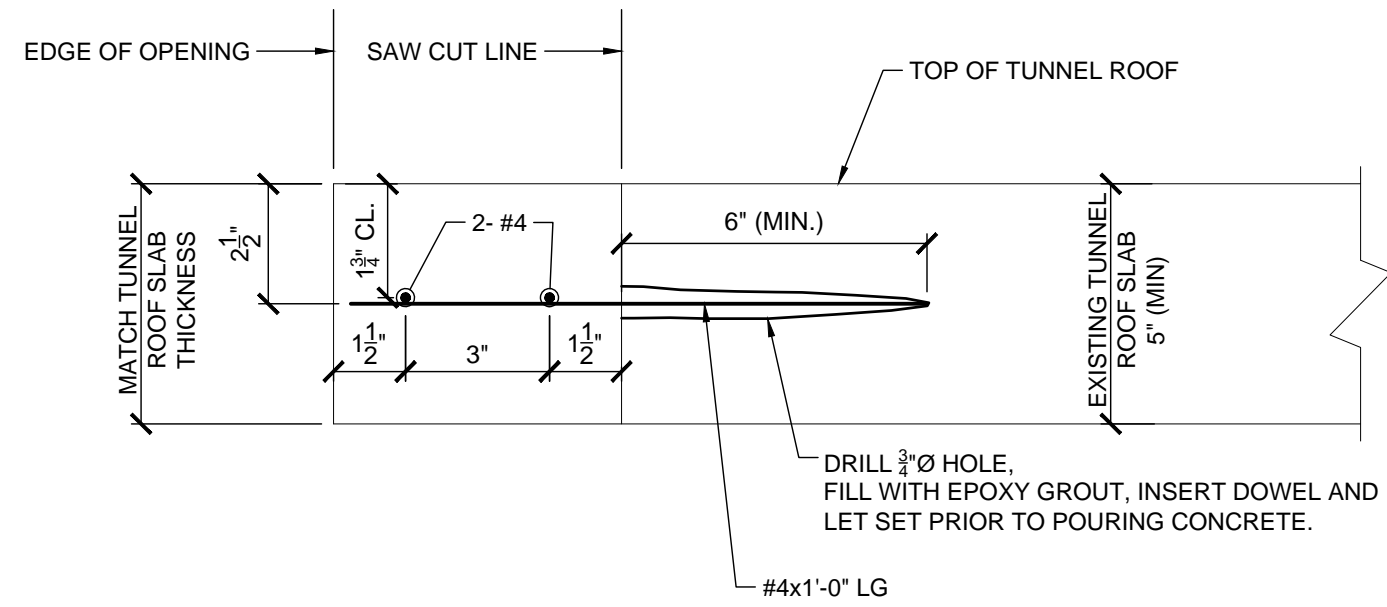




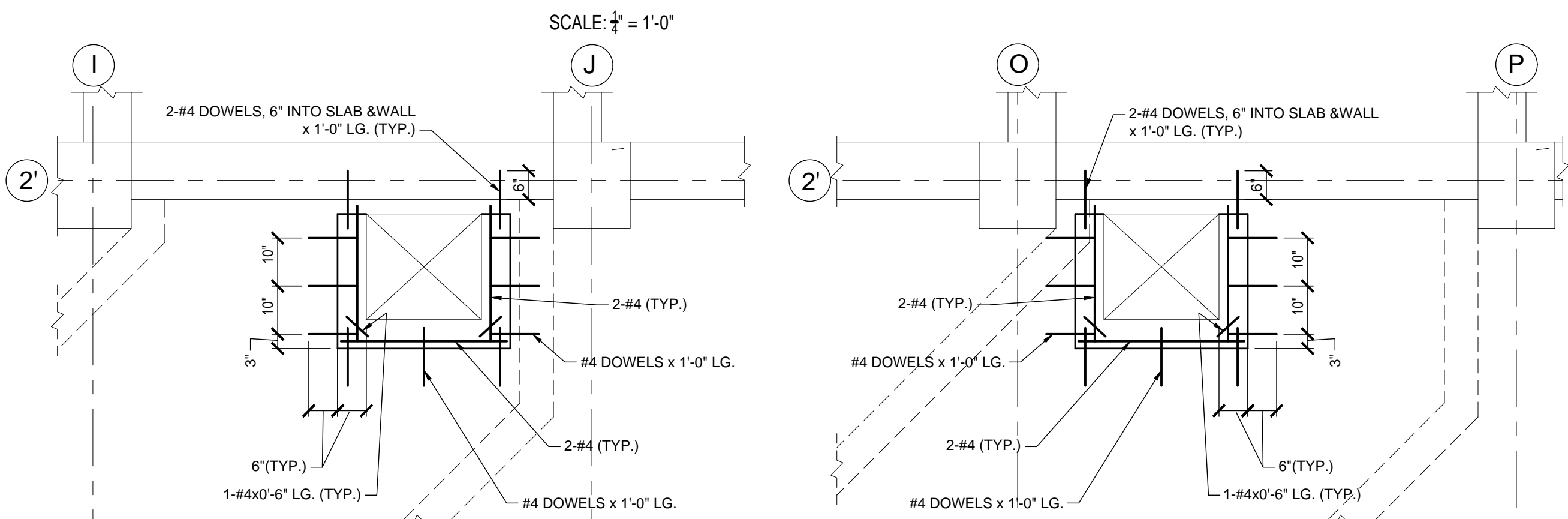
**KEY MAP**  
NOT TO SCALE



**NEW DUCT LOCATION FOUNDATION PLAN**  
SCALE:  $\frac{1}{4}'' = 1'-0''$

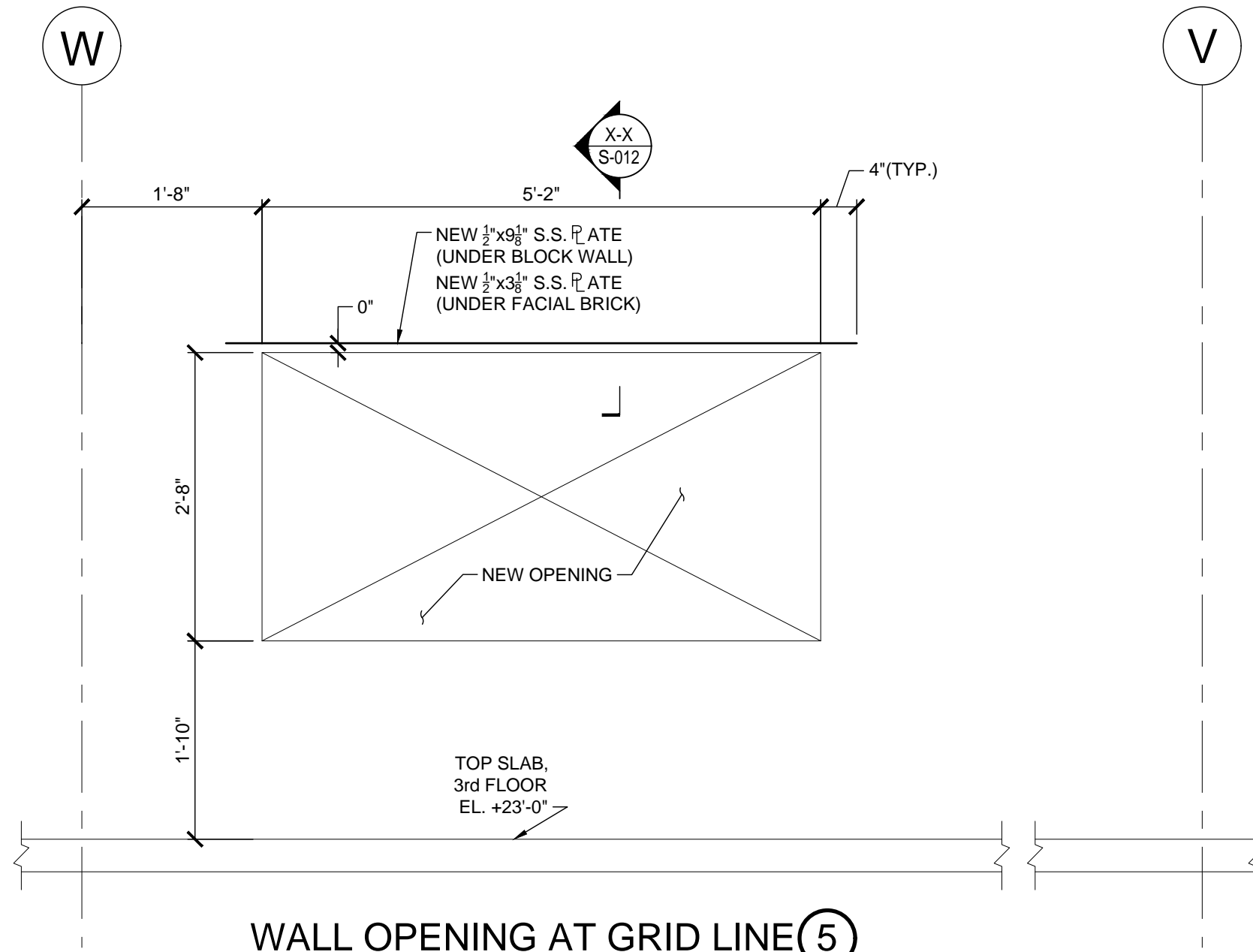


**SECTION V-V**  
SCALE:  $3'' = 1'-0''$

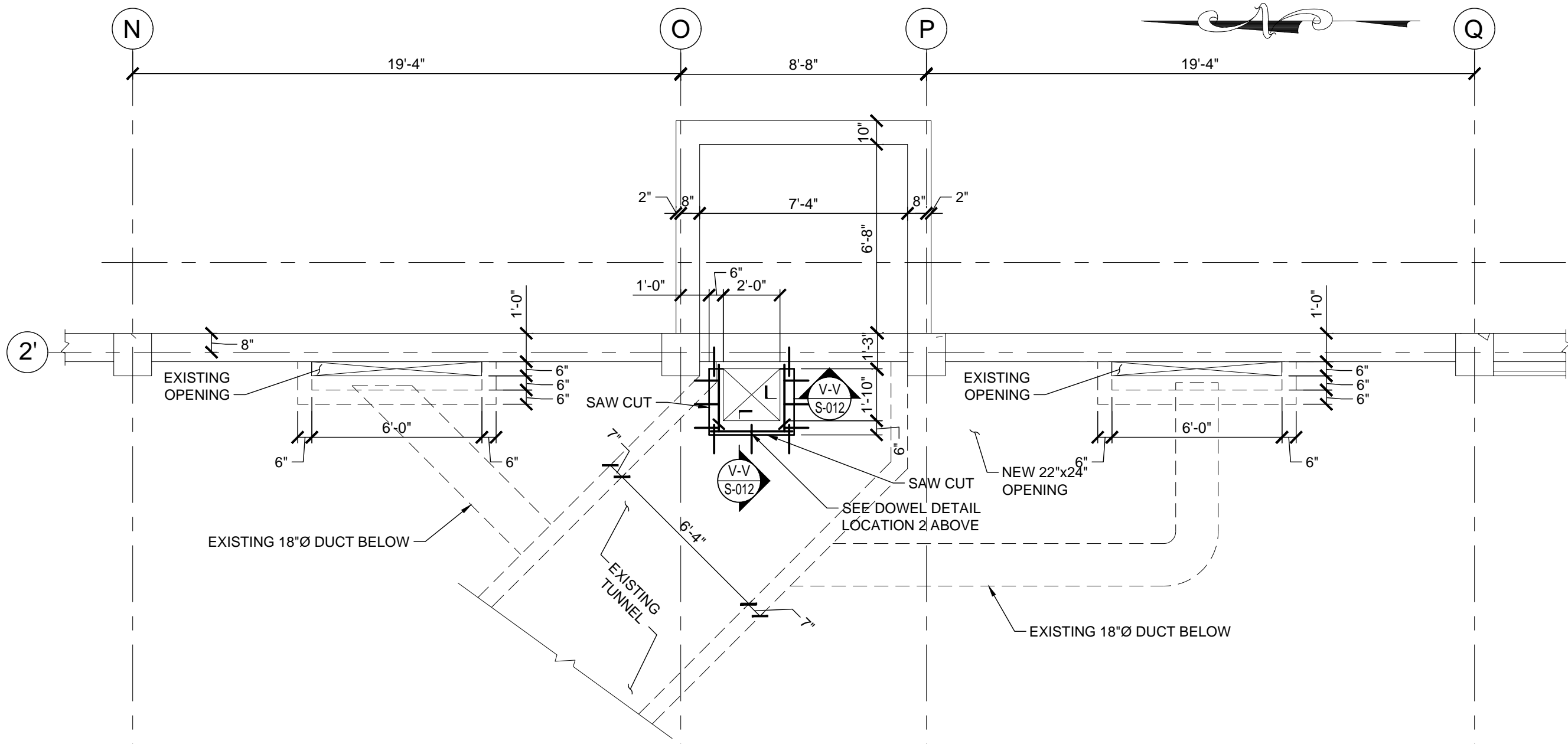


**DOWEL DETAIL LOCATION 1**  
SCALE:  $\frac{1}{4}'' = 1'-0''$

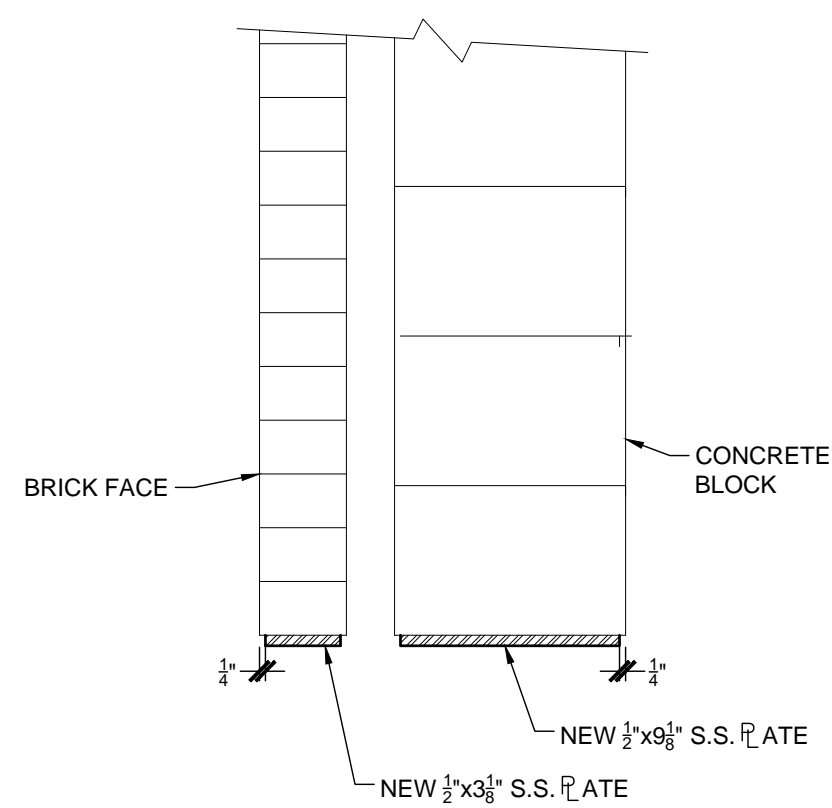
**DOWEL DETAIL LOCATION 2**  
SCALE:  $\frac{1}{4}'' = 1'-0''$



**WALL OPENING AT GRID LINE 5**  
SCALE:  $\frac{1}{4}'' = 1'-0''$



**NEW DUCT LOCATION FOUNDATION PLAN 2**  
SCALE:  $\frac{1}{4}'' = 1'-0''$



**SECT. X-X**  
SCALE:  $\frac{1}{2}'' = 1'-0''$

PROJECT TITLE

**SAUNDERS TRADES AND TECHNICAL HIGH SCHOOL HVAC UPGRADES**

PROJECT ADDRESS

**183 PALMER RD  
YONKERS, NY 10701**


OWNER

**YONKERS PUBLIC SCHOOLS**

ARCHITECT

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MEP ENGINEER AND ENVIRONMENTAL ENGINEER

**LiRo Engineers, Inc.**  
*A LiRo Group Company*  
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NEW DUCT LOCATION FOUNDATION PLANS & SECTION

**S-012**

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**M-001**

IDENTIFIER	DESCRIPTION	IDENTIFIER	DESCRIPTION
	AIR VENT		FLAT, PLEATED FILTER
	PRESSURE GAUGE WITH PETCOCK		CARTRIDGE FILTER
	THERMOMETER		HUMIDIFIER
	PIPE RUNOUT UP THROUGH FINISHED FLOOR ABOVE PIPE DROP ON DIRECTION OF FLOW		COIL - PREHEAT
	PIPE RISER		COIL - COOLING
	PIPE TEE DOWN		COIL - HEATING
	PIPE TEE UP		ELECTRIC HEATER
	TWO WAY AND THREE WAY CONTROL VALVE		XX-DEVICE TYPE YY-SIGNAL TYPE
	BALL-ISOLATION VALVE		PUMP
	GLOBE VALVE		VARIABLE FREQUENCY DRIVE
	EXPANSION/RELIEF VALVE		SPLIT-CASE PUMP
	BALANCING VALVE		END-SUCTION PUMP
	CHECK VALVE		INLINE PUMP
	DRAIN VALVE		EQUIPMENT TAG XXX=XXX
	FLEXIBLE CONNECTION		DETAIL TAG/CALLOUT TAG XXX=XXX
	UNION		TAG - BMS DEVICE XX-DEVICE TYPE YY-SIGNAL TYPE
	STRAINER WITH BLOW OFF VALVE		XX-TAG NUMBER YYY-SYSTEM
	TRIPLE DUTY VALVE		FIELD CONNECT NEW TO EXISTING
	THERMOSTATIC STEAM TRAP		FIELD DISCONNECT
	CAPPED PIPE		DIFFERENTIAL PRESSURE SENSOR
	FLOAT & THERMOSTATIC STEAM TRAP		SUPPLY AIR FLOW
	PIPE ANCHOR		EXHAUST AIR
	PIPE SLEEVE		GAS SENSOR (INDICATE TYPE)
	NEW DUCTWORK OR PIPING		UNDERCUT DOOR
	EXISTING DUCTWORK OR PIPING TO BE REMOVED		THERMOSTAT
	EXISTING DUCTWORK OR PIPING TO REMAIN		DUCT SMOKE DETECTOR
	HEAT TRACE PIPE		TEMPERATURE SENSOR
	DOUBLE-LINE AND SINGLE-LINE RECTANGULAR DUCT, FIRST NUMBER INDICATES SIDE IN VIEW IN INCHES, SECOND NUMBER INDICATES SIZE IN DEPTH IN INCHES		4 WAY CEILING DIFFUSER
	DOUBLE-LINE AND SINGLE-LINE ROUND DUCT, NUMBER INDICATES DIAMETER IN INCHES		3 WAY CEILING DIFFUSER
	FLEXIBLE DUCTWORK		2 WAY CEILING DIFFUSER
	REGULAR SUPPLY AIR DUCT (UP AND DOWN)		EXHAUST FAN
	REGULAR RETURN AIR DUCT (UP AND DOWN)		EXHAUST GRILLE
	REGULAR EXHAUST AIR DUCT (UP AND DOWN)		METER
	REGULAR OUTSIDE AIR DUCT (UP AND DOWN)		REGISTER
	ROUND SUPPLY AIR DUCT (UP AND DOWN)		SUPPLY DIFFUSER - ROUND
	ROUND RETURN AIR DUCT (UP AND DOWN)		RETURN DIFFUSER - ROUND
	ROUND EXHAUST AIR DUCT (UP AND DOWN)		EXHAUST DIFFUSER - ROUND
	ROUND OUTSIDE AIR DUCT (UP AND DOWN)		SIDEWALL GRILLE
	INSULATED FLEXIBLE DUCT		ELECTRONIC TIMECLOCK
	VOLUME DAMPER		REFER TO SUPPLEMENTAL FIGURE INDICATED BY NUMBER (I.E. F2 REFERS TO FIGURE 2)
	BACKDRAFT DAMPER		
	FIRE DAMPER AND ACCESS DOOR		
	SMOKE DAMPER AND ACCESS DOOR		
	MOTOR OPERATED DAMPER		
	CONTROL DAMPER		
	FAN - CENTRIFUGAL		
	AIRFLOW MEASURING STATION		



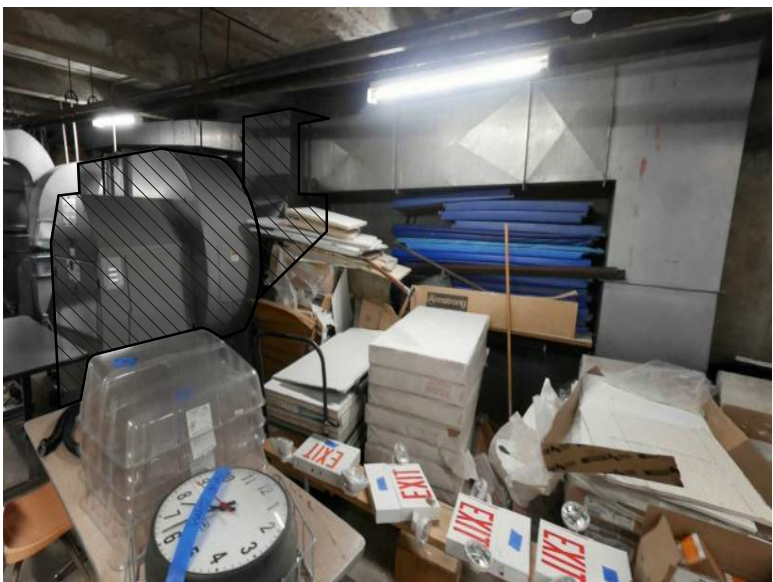
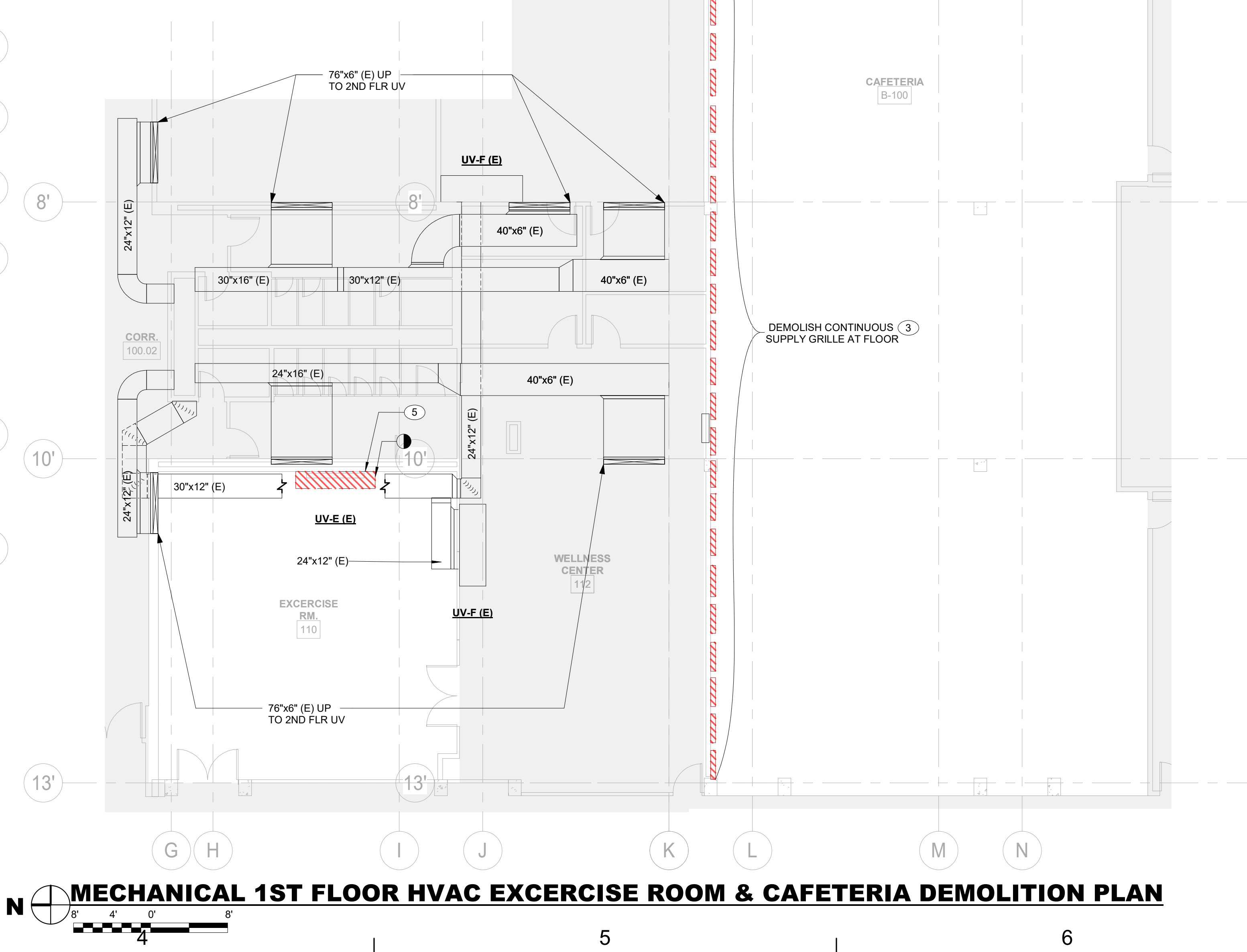
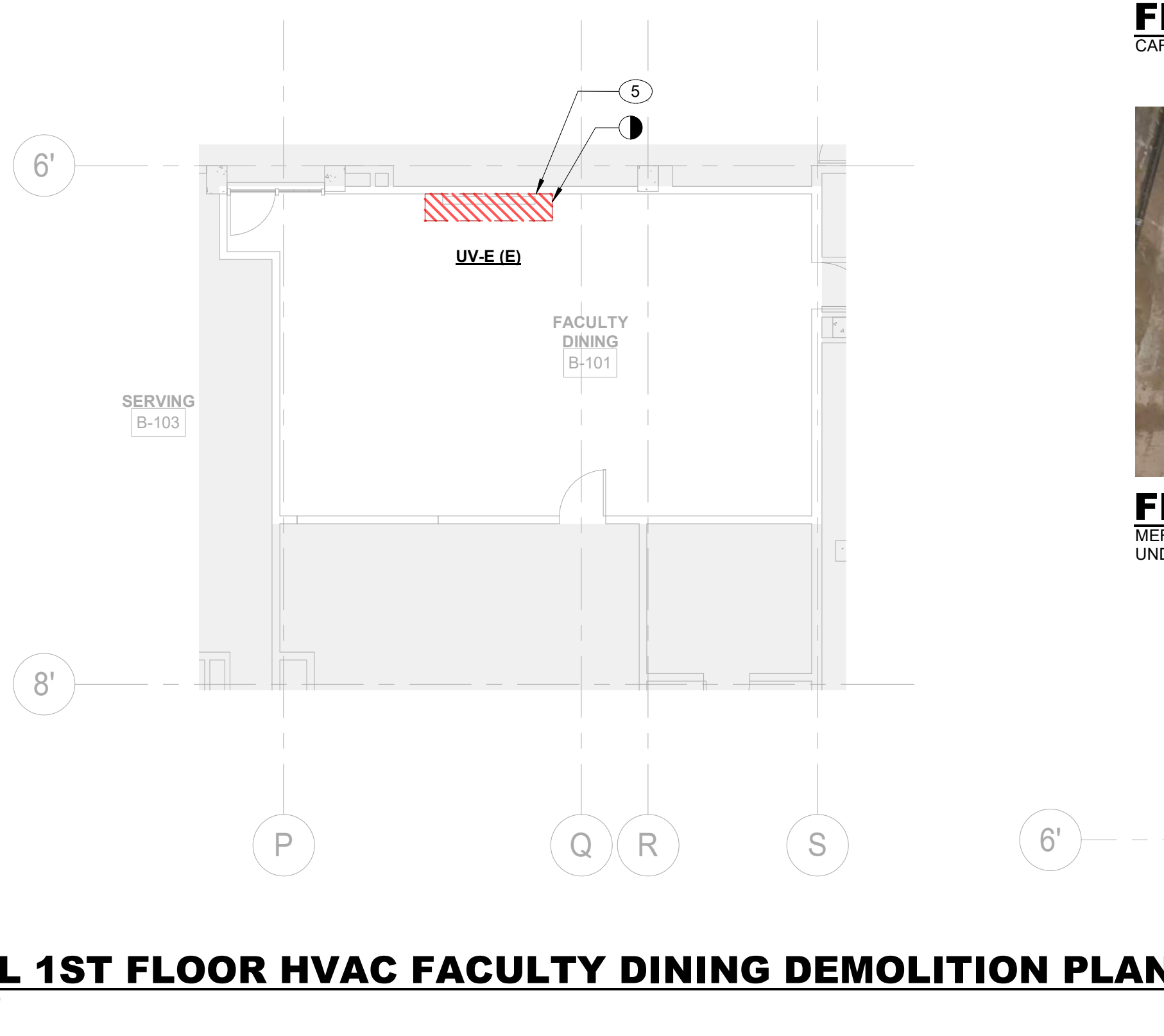
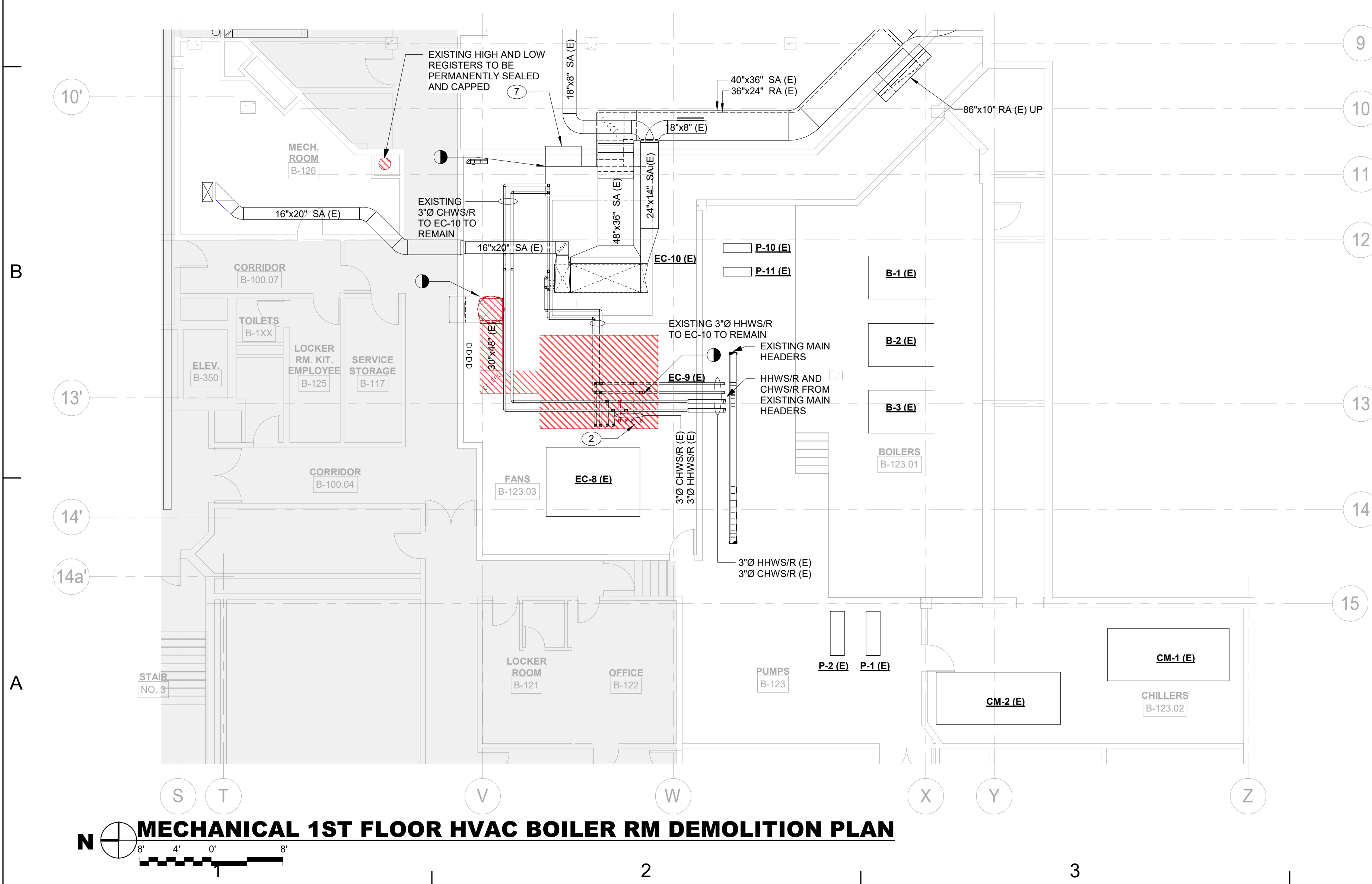
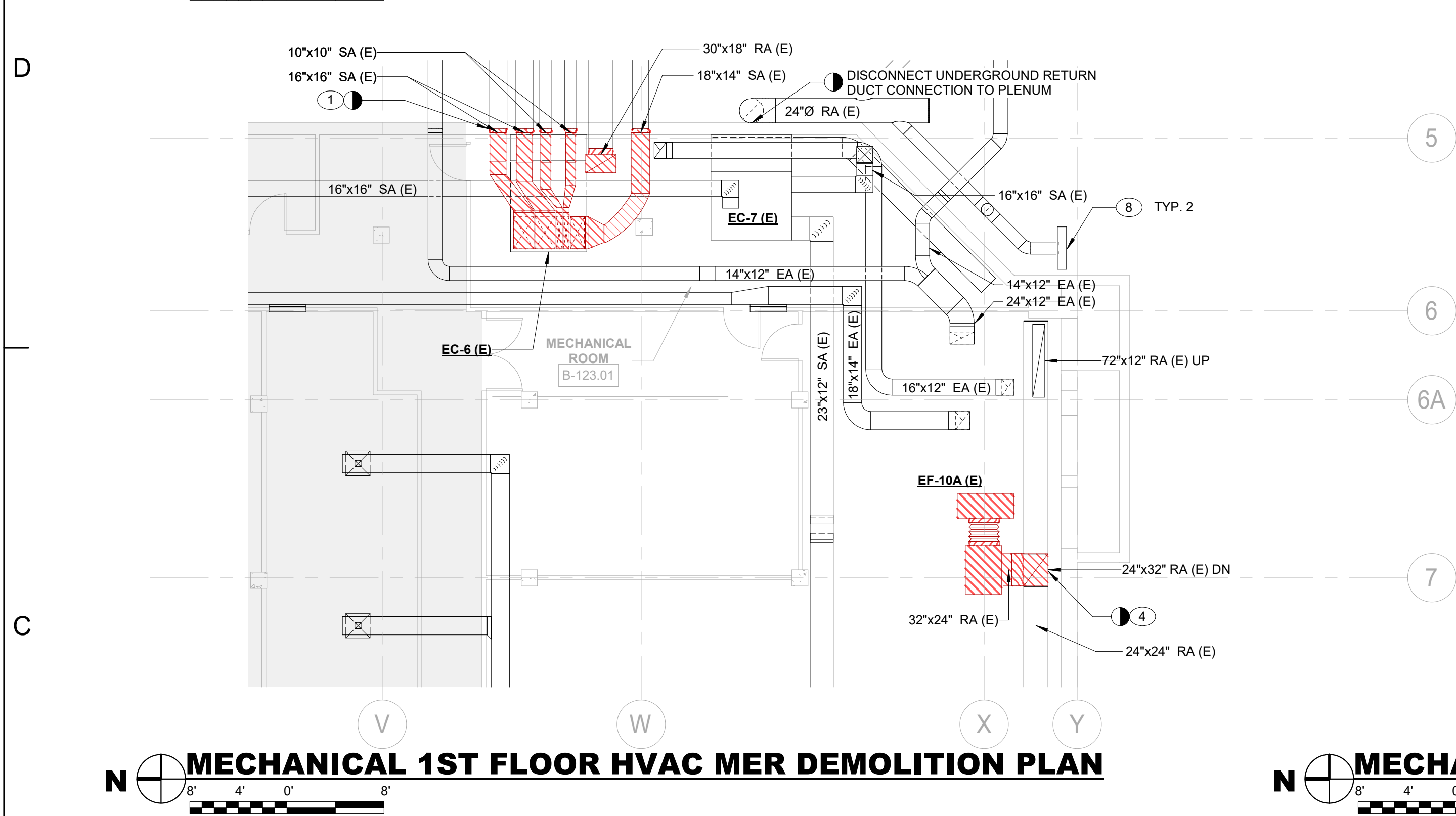
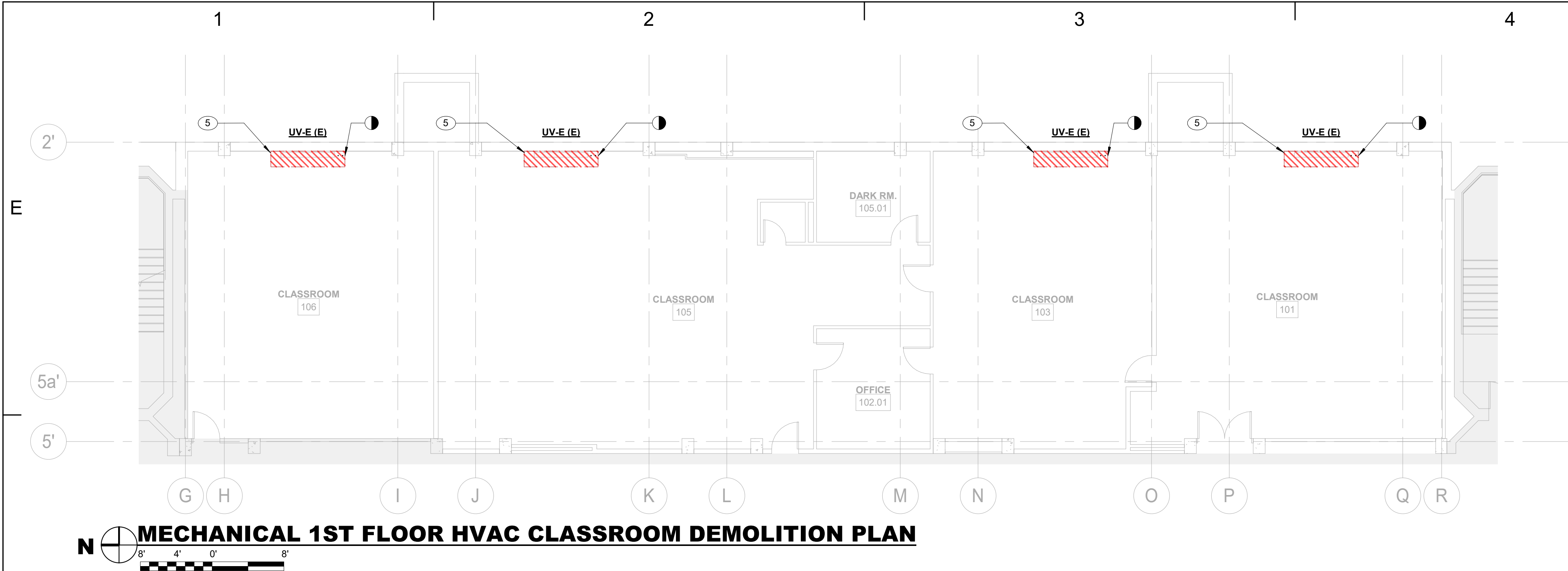


FIGURE 1:  
MECHANICAL ROOM EXHAUST FAN  
EF-10A



FIGURE 2:  
CAFETERIA SUPPLY GRILLE



FIGURE 3:  
MER ROOM DUCT CONNECTION TO  
UNDERGROUND TRANSITE DUCTS

### MECHANICAL NOTES:

- DEMOLISH SUPPLY AND RETURN DUCTWORK FROM UNIT EC-6 TO WALL, WHERE TRANSITION TO TRANSITE DUCT OCCURS. (SEE FIGURE 3 & 4)
- EC-9 TO BE DEMOLISHED. SUPPLY DUCTWORK TO BE DISCONNECTED AT FLOOR SLAB PENETRATION AND SEALED BY ABATEMENT CONTRACTOR. SEAL UP EC-9 CONNECTION TO OUTDOOR AIR PLENUM. DEMOLISH HEATING HOT WATER AND CHILLED WATER PIPES BACK TO HEADER.
- CONTINUOUS SUPPLY GRILLES AND PLENUM (SEE FIGURE 2) ALONG CAFETERIA WALL TO BE REMOVED. SUPPLY AIR INTAKE OPENINGS TO BE FILLED AND COVERED BY ABATEMENT CONTRACTOR.
- DISCONNECT 24x32 EXHAUST FAN CONNECTION FROM 24x24 RETURN MAIN AND PATCH DUCT TO MAINTAIN INTEGRITY OF RETURN DUCT MAIN. EF-10A AND ASSOCIATED 24x32 DUCT TO BE DEMOLISHED. (SEE FIGURE 1)
- UNIT VENTILATORS TO BE REMOVED. OUTSIDE AIR INTAKE TRENCH TO BE FILLED AND COVERED. DISCONNECT EXISTING PIPES.
- CHILLED WATER PUMPS TO BE REPLACED. CUT BACK EXISTING PIPING TO ENABLE NEW PUMPS INSTALLATION. MAINTAIN EXISTING INSTRUMENTATION AS MUCH AS FEASIBLE. SEE PHOTO ON M-301.
- EXISTING 48x24 RETURN DUCT TO EC-10 TO BE DISCONNECTED AND SEALED BY ABATEMENT CONTRACTOR.
- EXISTING GRILLES (ONE SIDEWALL GRILLE AT SECURITY CLOSET WALL AND ONE FLOOR-MOUNTED GRILLE IN LOBBY) TO BE DEMOLISHED BY MC. EXISTING TRANSITE DUCTS TO BE CUT BACK TO SLAB AND SEALED BY ABATEMENT CONTRACTOR. FLOOR TO BE RESTORED BY GC.

### GENERAL NOTES:

- SEE ENVIRONMENTAL DRAWINGS FOR GC AND REMEDIATION CONTRACTOR SCOPE TO CAP AND SEAL ABANDONED DUCTS.
- UNDERGROUND DUCTS CONNECTED TO EC-6,7,9, AND 10 TO BE ABANDONED IN PLACE.



FIGURE 4:  
MER ROOM DUCT TRANSITION FROM  
EC-6

PROJECT TITLE

## SAUNDERS TRADES AND TECHNICAL HIGH SCHOOL HVAC UPGRADES

PROJECT ADDRESS

183 PALMER RD  
YONKERS, NY 10701

OWNER

YONKERS PUBLIC  
SCHOOLS

ARCHITECT

FULLER AND  
D'ANGELO P.C.

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MEP ENGINEER AND ENVIRONMENTAL ENGINEER

**LiRo Engineers, Inc.**  
*A LiRo Group Company*  
Syosset, N.Y. 516-214-8157(TT)

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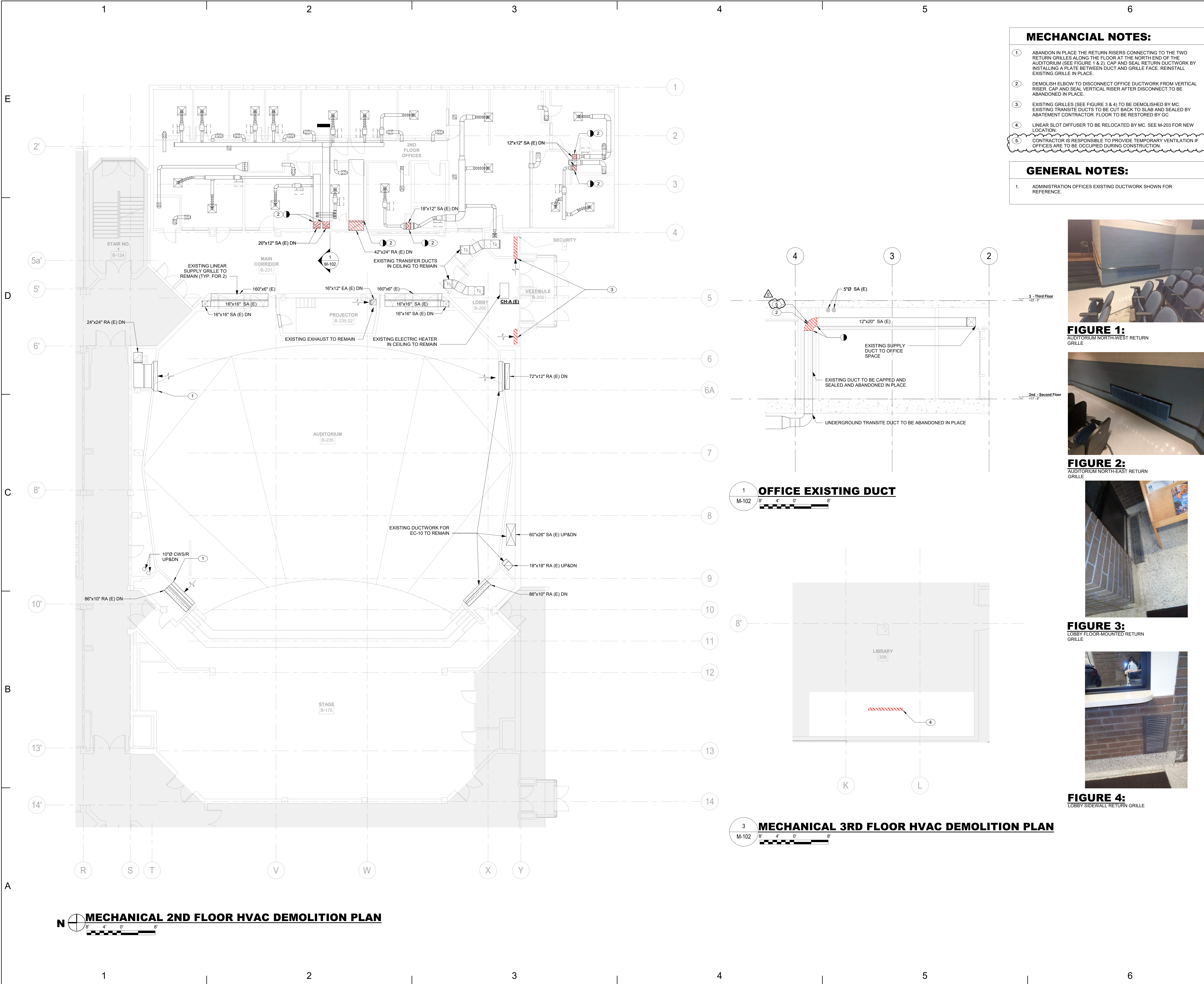
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SHEET TITLE

MECHANICAL 1ST FLOOR  
HVAC DEMOLITION PLAN

M-101





PROJECT TITLE

PROJECT ADDRESS

OWNER

ARCHITECT

MEP ENGINEER AND ENVIRONMENTAL ENGINEER

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MECHANICAL 2ND & 3RD FLOOR HVAC DEMOLITION PART PLAN

M-102

SAUNDERS TRADES AND TECHNICAL HIGH SCHOOL HVAC UPGRADES

183 PALMER RD  
YONKERS, NY 10701

YONKERS PUBLIC SCHOOLS

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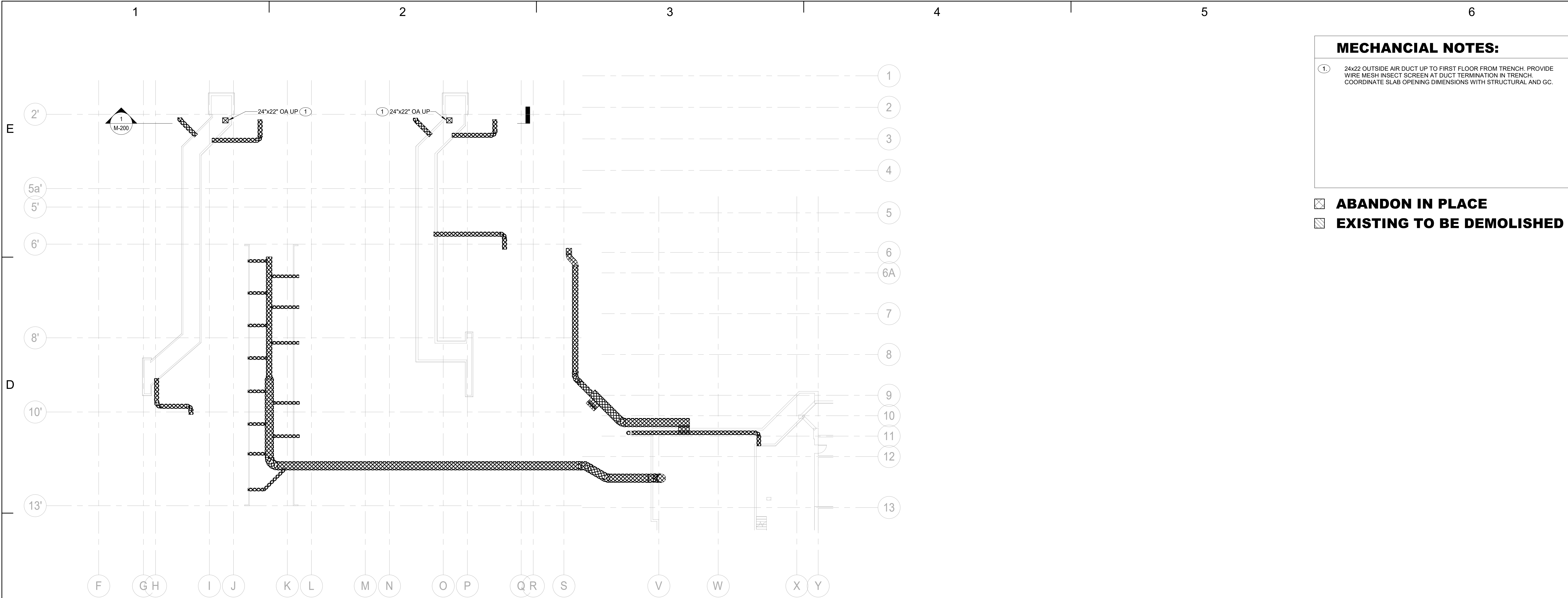
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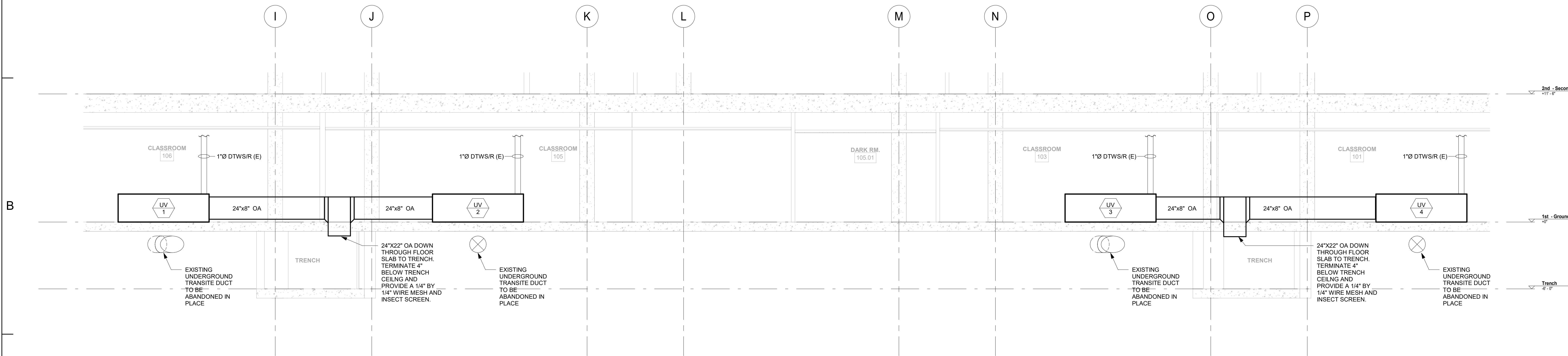
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STATE OF NEW YORK  
JONAH R. ALLARD  
089483  
LICENSED PROFESSIONAL ENGINEER





**MECHANICAL UNDERSLAB HVAC CONSTRUCTION PLAN**



**UNIT VENTILATOR CONNECTION TO UNDERGROUND TRENCH SECTION**

**MECHANICAL NOTES:**

① 24x22 OUTSIDE AIR DUCT UP TO FIRST FLOOR FROM TRENCH. PROVIDE WIRE MESH INSECT SCREEN AT DUCT TERMINATION IN TRENCH. COORDINATE SLAB OPENING DIMENSIONS WITH STRUCTURAL AND GC.

☒ **ABANDON IN PLACE**

☒ **EXISTING TO BE DEMOLISHED**

PROJECT TITLE

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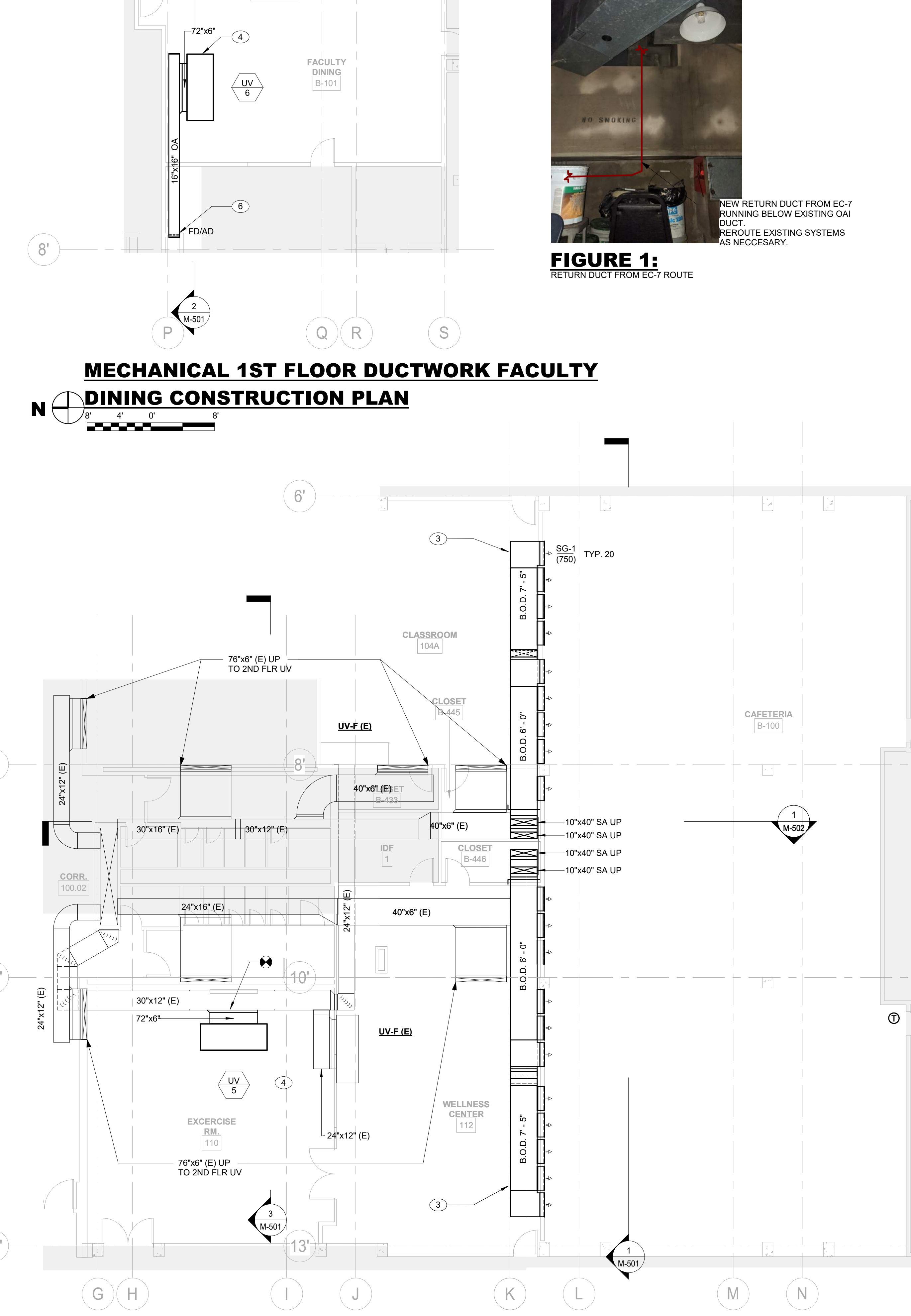
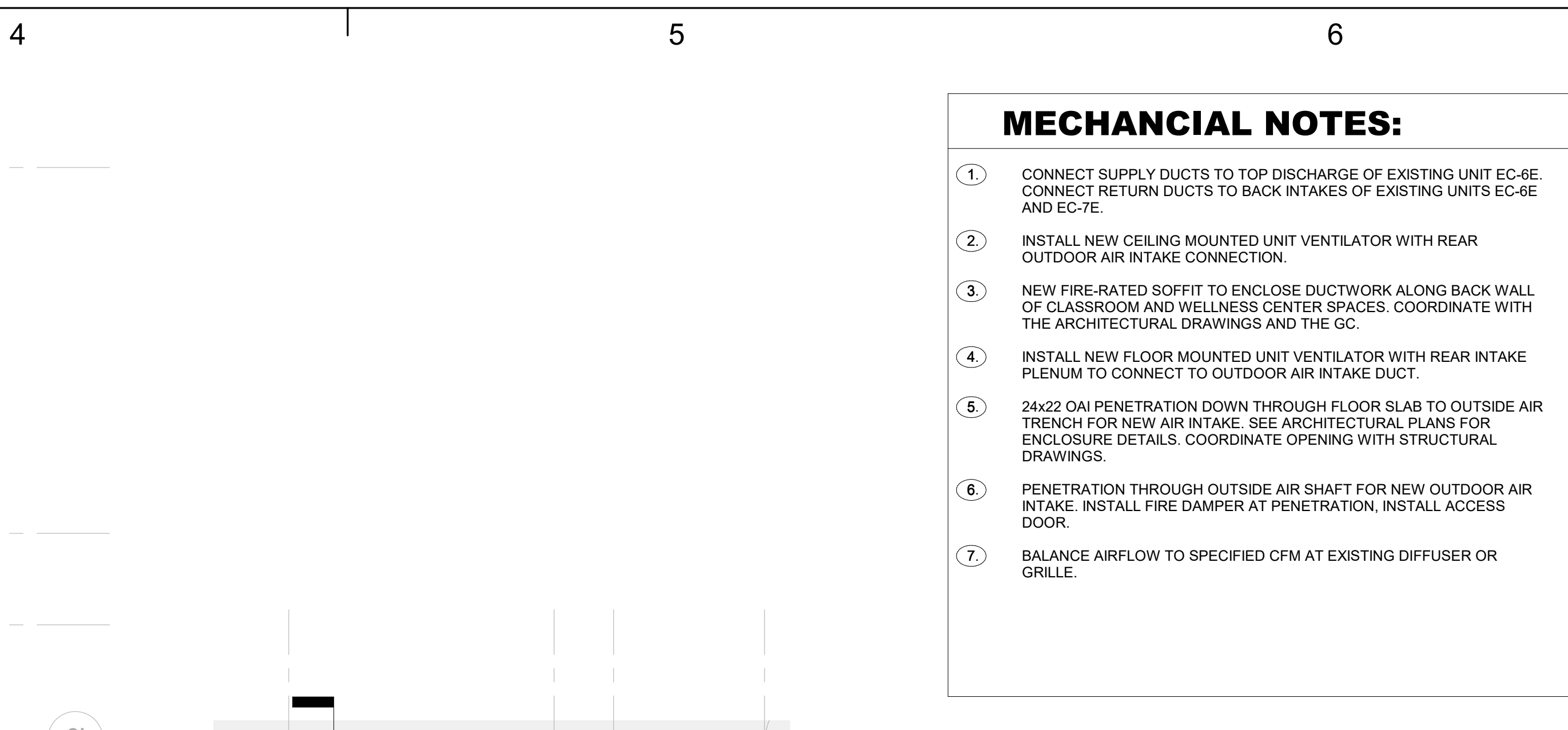


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**MECHANICAL UNDERSLAB HVAC CONSTRUCTION PLAN**

**M-200**





**MECHANICAL 1ST FLOOR DUCTWORK EXCERCISE RM CONSTRUCTION PLAN**

1. CONNECT SUPPLY DUCTS TO TOP DISCHARGE OF EXISTING UNIT EC-6E  
CONNECT RETURN DUCTS TO BACK INTAKES OF EXISTING UNITS EC-6E  
AND EC-7E.
2. INSTALL NEW CEILING MOUNTED UNIT VENTILATOR WITH REAR  
OUTDOOR AIR INTAKE CONNECTION.
3. NEW FIRE-RATED SOFFIT TO ENCLOSE DUCTWORK ALONG BACK WALL  
OF CLASSROOM AND WELLNESS CENTER SPACES. COORDINATE WITH  
THE ARCHITECTURAL DRAWINGS AND THE GC.
4. INSTALL NEW FLOOR MOUNTED UNIT VENTILATOR WITH REAR INTAKE  
PLENUM TO CONNECT TO OUTDOOR AIR INTAKE DUCT.
5. 24x22 OAC PENETRATION DOWN THROUGH FLOOR SLAB TO OUTSIDE AIR  
TRENCH FOR NEW AIR INTAKE. SEE ARCHITECTURAL PLANS FOR  
ENCLOSURE DETAILS. COORDINATE OPENING WITH STRUCTURAL  
DRAWINGS.
6. PENETRATION THROUGH OUTSIDE AIR SHAFT FOR NEW OUTDOOR AIR  
INTAKE. INSTALL FIRE DAMPER AT PENETRATION, INSTALL ACCESS  
DOOR.
7. BALANCE AIRFLOW TO SPECIFIED CFM AT EXISTING DIFFUSER OR  
GRILLE.

**M-201**

**FIGURE 1:**  
RETURN DUCT FROM EC-7 ROUTE

## **MECHANICAL 1ST FLOOR DUCTWORK FACULTY**

### **DINING CONSTRUCTION PLAN**

**N**  **DINING CON**

**N**  **MECHANICA**

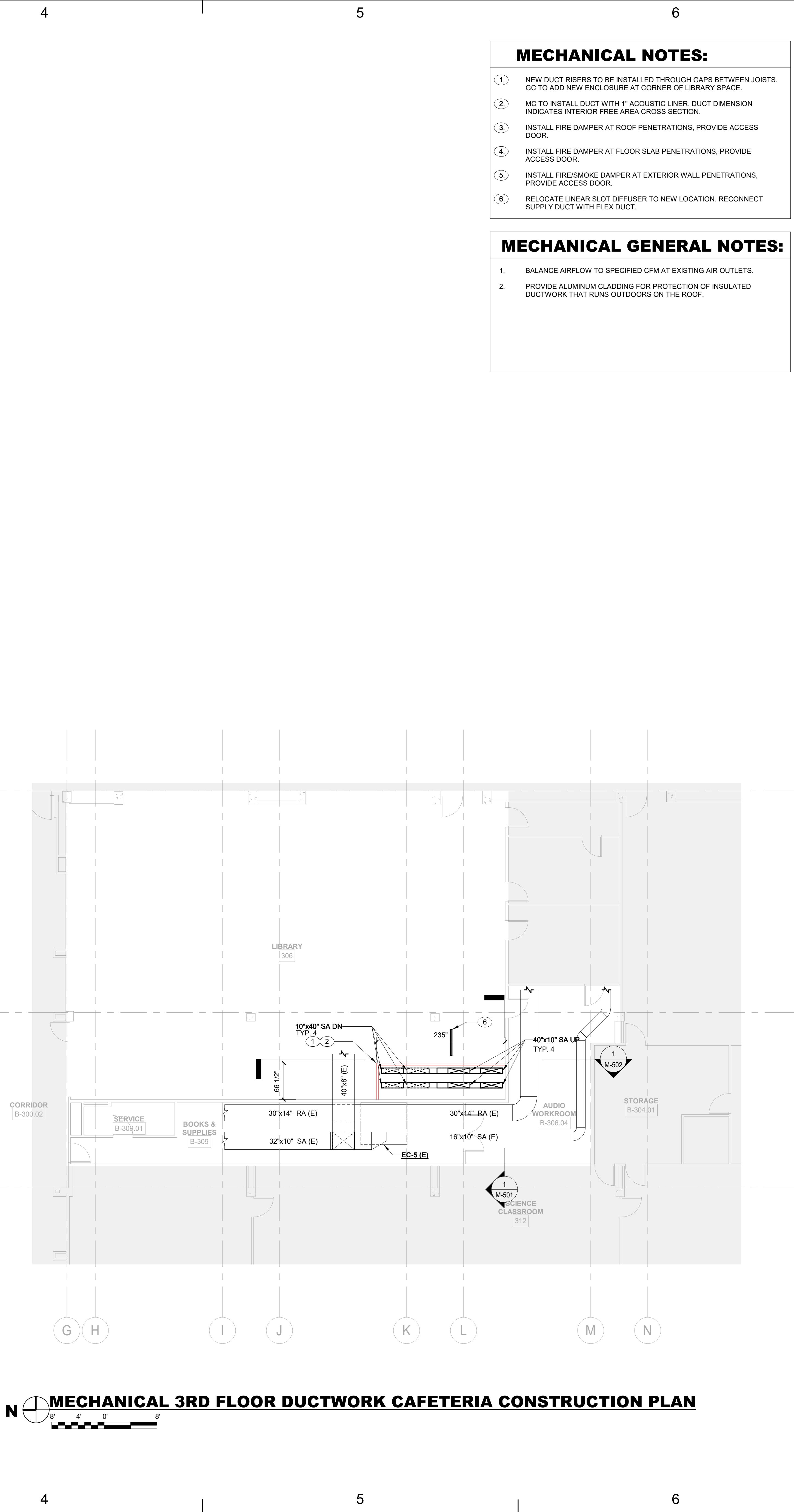
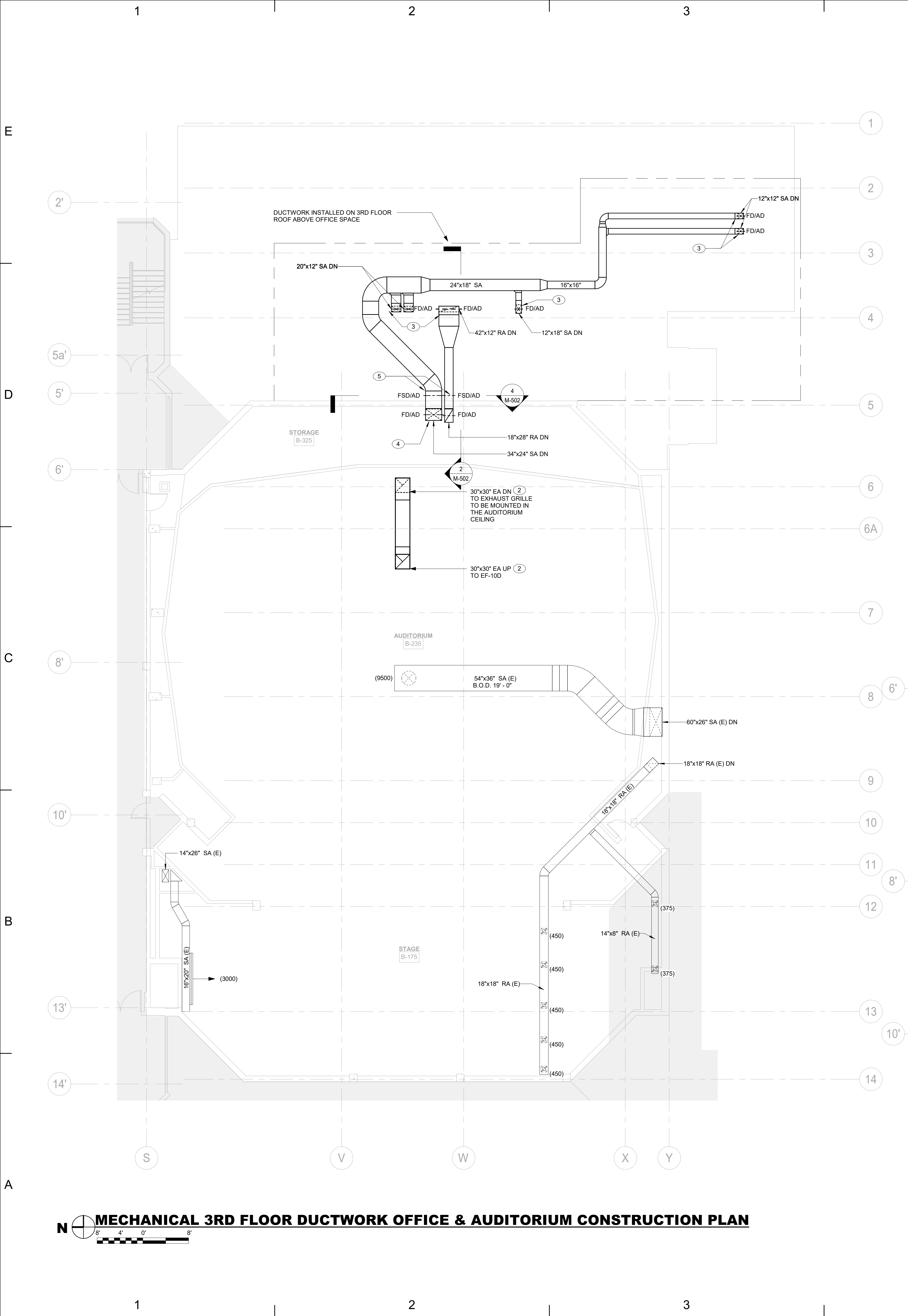




- 6

M-202





- MECHANICAL NOTES:**
1. NEW DUCT RISERS TO BE INSTALLED THROUGH GAPS BETWEEN JOISTS. GC TO ADD NEW ENCLOSURE AT CORNER OF LIBRARY SPACE.
  2. MC TO INSTALL DUCT WITH 1" ACOUSTIC LINER. DUCT DIMENSION INDICATES INTERIOR FREE AREA CROSS SECTION.
  3. INSTALL FIRE DAMPER AT ROOF PENETRATIONS, PROVIDE ACCESS DOOR.
  4. INSTALL FIRE DAMPER AT FLOOR SLAB PENETRATIONS, PROVIDE ACCESS DOOR.
  5. INSTALL FIRE/SMOKE DAMPER AT EXTERIOR WALL PENETRATIONS, PROVIDE ACCESS DOOR.
  6. RELOCATE LINEAR SLOT DIFFUSER TO NEW LOCATION. RECONNECT SUPPLY DUCT WITH FLEX DUCT.
- MECHANICAL GENERAL NOTES:**
1. BALANCE AIRFLOW TO SPECIFIED CFM AT EXISTING AIR OUTLETS.
  2. PROVIDE ALUMINUM CLADDING FOR PROTECTION OF INSULATED DUCTWORK THAT RUNS OUTDOORS ON THE ROOF.

PROJECT TITLE

**SAUNDERS TRADES AND TECHNICAL HIGH SCHOOL HVAC UPGRADES**

PROJECT ADDRESS

**183 PALMER RD  
YONKERS, NY 10701**

OWNER

**YONKERS PUBLIC SCHOOLS**

ARCHITECT

**FULLER AND D'ANGELO P.C.**  
45 KNOLLWOOD ROAD  
ELMSFORD, NY 10523  
(T) 914.582.4444

MEP ENGINEER AND ENVIRONMENTAL ENGINEER

**LiRo Engineers, Inc.**  
A LiRo Group Company  
Syosset, N.Y. 516-214-8157(T)

KEY PLAN: NOT TO SCALE

SHEET SIZE 30X42

MARK DATE DESCRIPTION  
REVISION

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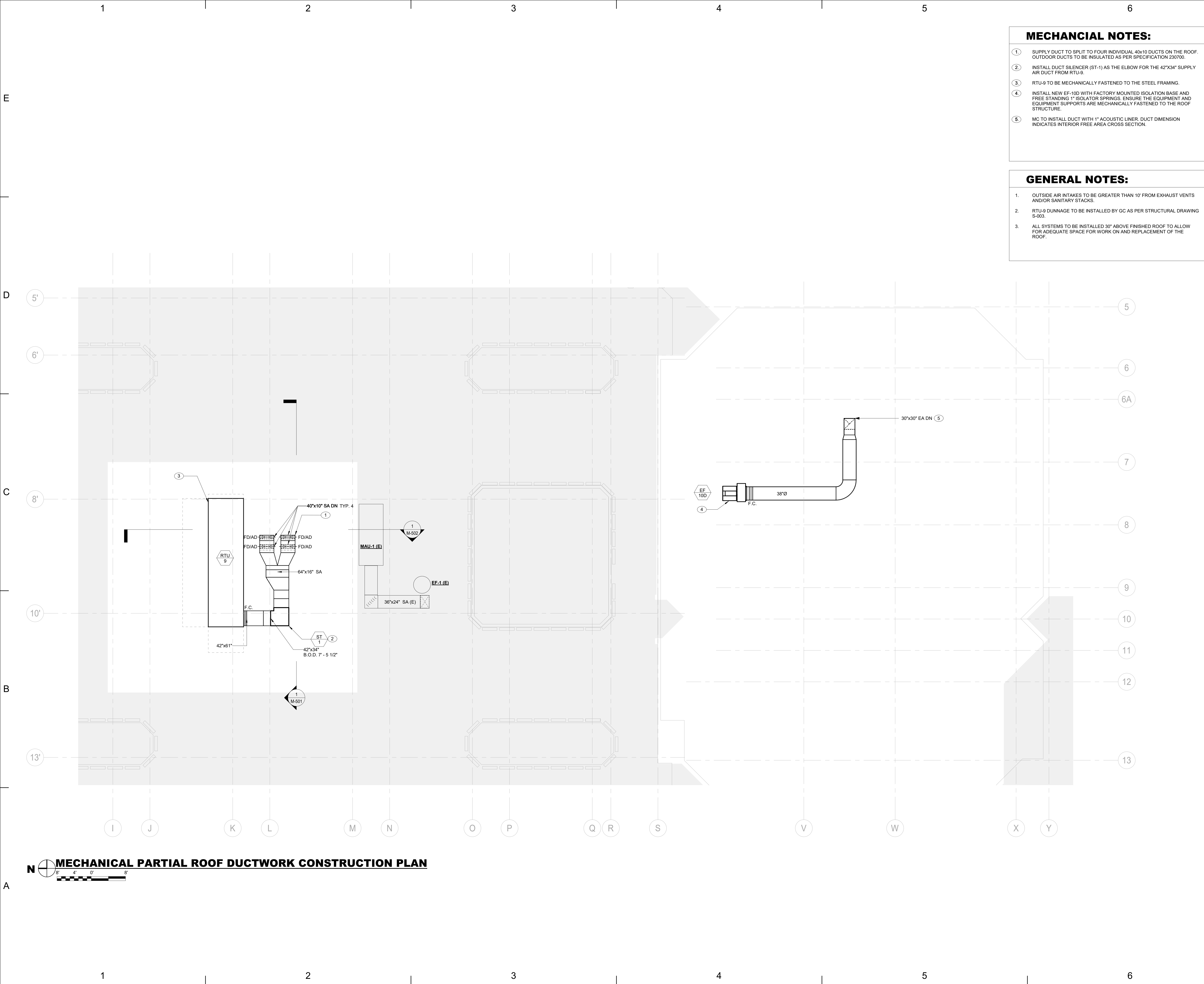
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**MECHANICAL 3RD FLOOR DUCTWORK CONSTRUCTION PLAN**

**M-203**





PROJECT TITLE

PROJECT ADDRESS

OWNER

ARCHITECT

MEP ENGINEER AND ENVIRONMENTAL ENGINEER

KEY PLAN: NOT TO SCALE

SHEET SIZE 30X42

MARK DATE DESCRIPTION

04.17.20 100% CONSTRUCTION DOCUMENTS

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MECHANICAL ROOF HVAC CONSTRUCTION PLAN

M-204

SAUNDERS TRADES AND TECHNICAL HIGH SCHOOL HVAC UPGRADES

183 PALMER RD  
YONKERS, NY 10701

YONKERS PUBLIC SCHOOLS

FULLER AND D'ANGELO P.C.  
45 KNOLLWOOD ROAD  
ELMSFORD, NY 10523  
(716) 914-5524-4444

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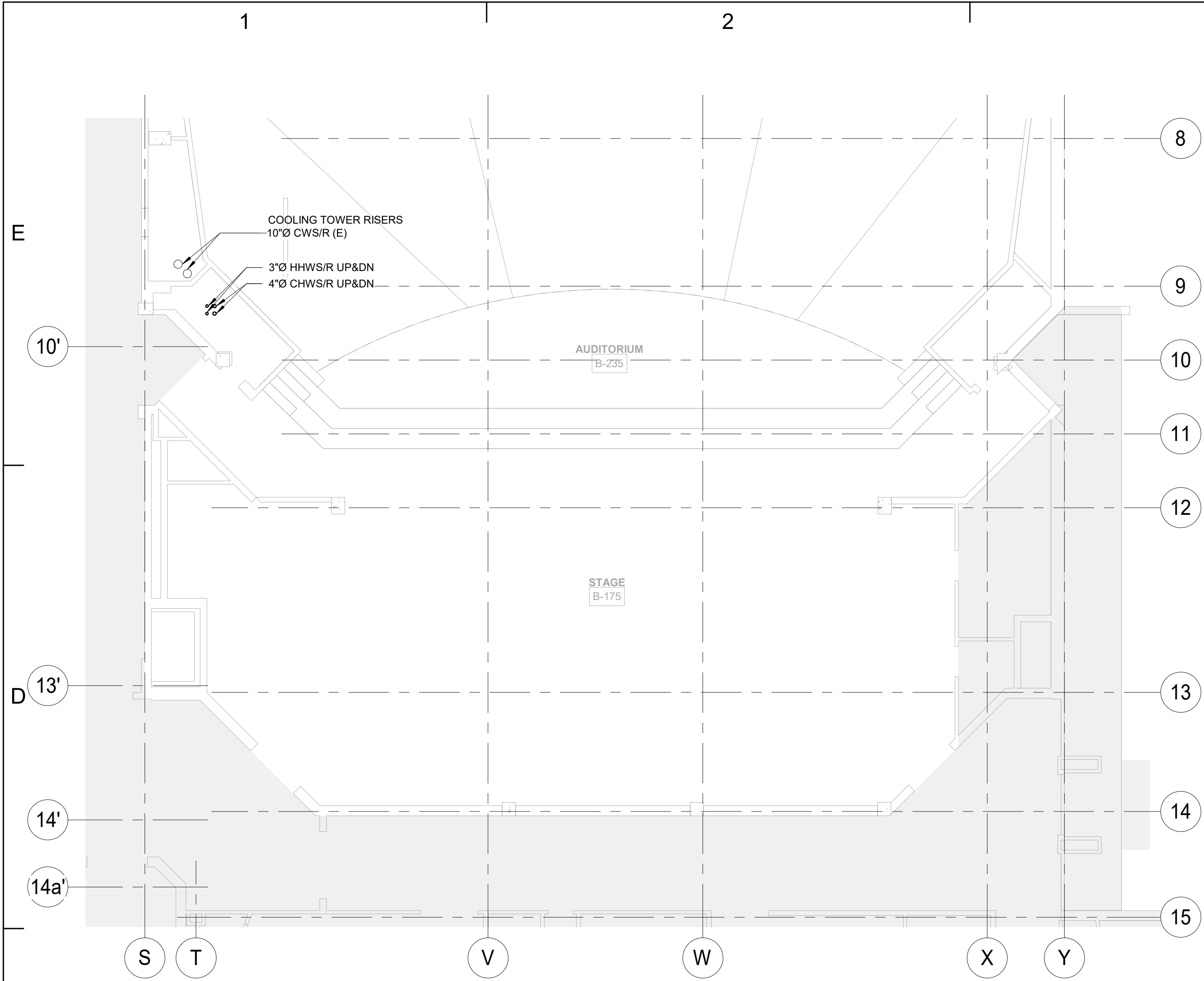
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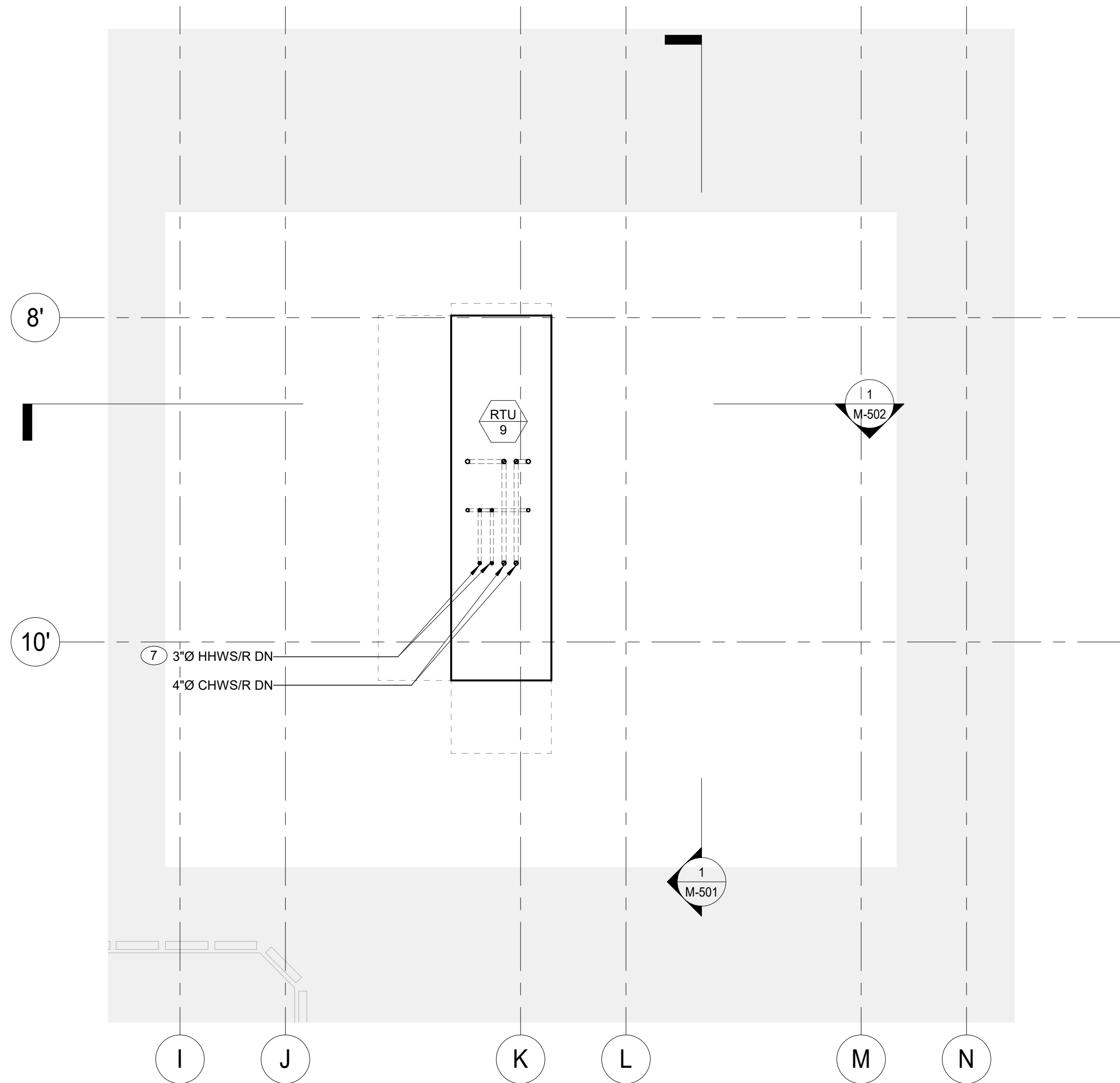




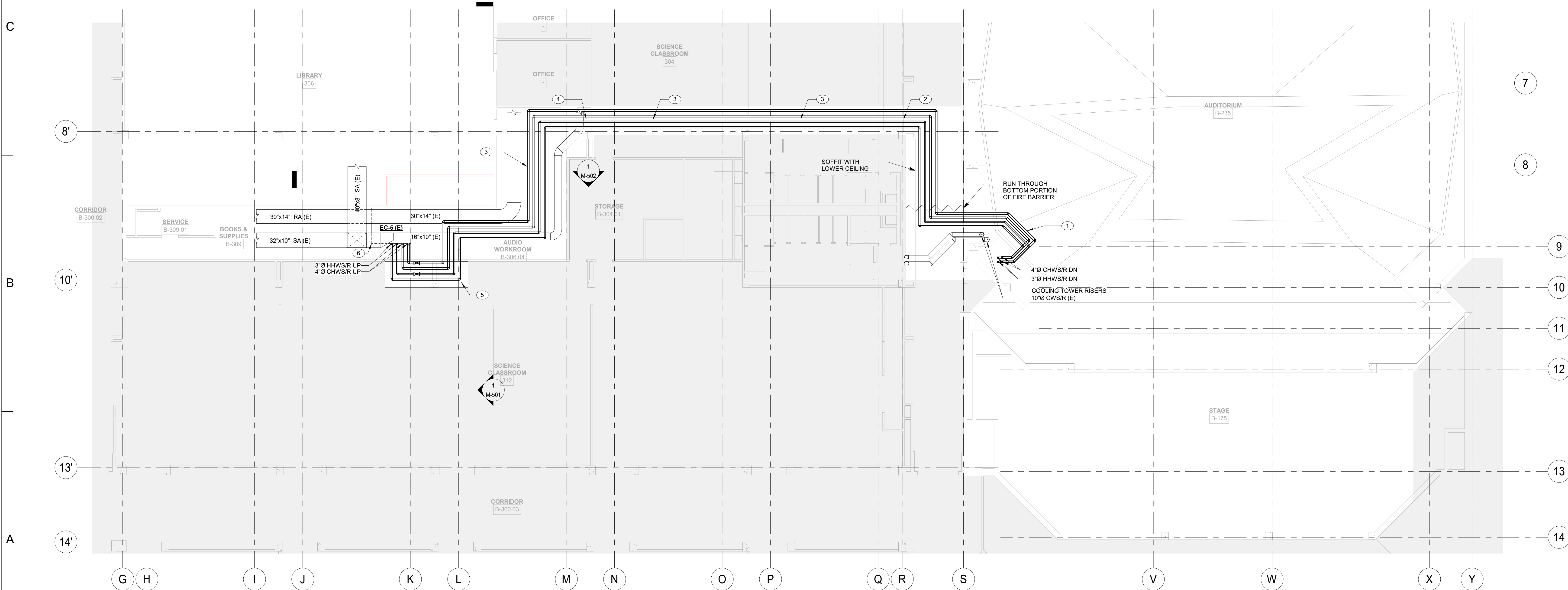




**MECHANICAL PARTIAL 2ND FLOOR PIPING CONSTRUCTION PLAN**



**MECHANICAL ROOF HVAC CONSTRUCTION PLAN**



**MECHANICAL PARTIAL 3RD FLOOR PIPING CONSTRUCTION PLAN**

- MECHANICAL NOTES:**
- ROUTE HEATING HOT WATER AND CHILLED WATER THROUGH AUDITORIUM TO AVOID CROSSING DUCT AND CONDENSER WATER PIPE. ALTERNATIVELY, CROSS PIPE THROUGH CATWALK SPACE AND ROUTE OVER CONDENSER WATER.
  - SOFFIT TO GET UNDER BEAM ABOVE UNIT VENTILATOR AND IN CLOSET.
  - RUN PIPES THROUGH JOISTS ABOVE DUCTS. DROP PIPES BELOW STEEL BEAMS TO CROSS BETWEEN ROOMS.
  - PIPE TO CROSS WALL HIGH ABOVE DUCT IN AUDIO WORKROOM.
  - PIPE NEEDS TO CROSS INTO SCIENCE CLASSROOM TO BYPASS LARGE BEAM AND DUCTS. GO TO PROVIDE ARCHITECTURAL SOFFIT TO CROSS UNDER BEAMS. MC TO PROVIDE AND INSTALL VALVES BELOW JOISTS. COORDINATE AROUND ETHYLENE ACID WASTE PIPE RISER IN CORNER.
  - LARGE AHU LOCATED WITHIN ROOM. CONTROL PANEL TO BE INSTALLED ON THE WALL BY E.C.
  - ALL MECHANICAL PIPING ABOVE ROOF TO BE PROVIDED WITH HEAT TRACING. FOR INSTALLATION INFORMATION SEE SPECIFICATION 230533 AND ELECTRICAL DETAILS E-801/182.

- GENERAL NOTES:**
- ALL SYSTEMS TO BE INSTALLED 30" ABOVE FINISHED ROOF TO ALLOW FOR ADEQUATE SPACE FOR WORK ON AND REPLACEMENT OF THE ROOF.

PROJECT TITLE

**SAUNDERS TRADES AND TECHNICAL HIGH SCHOOL HVAC UPGRADES**

PROJECT ADDRESS

**183 PALMER RD  
YONKERS, NY 10701**

OWNER

**YONKERS PUBLIC SCHOOLS**

ARCHITECT

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MEP ENGINEER AND ENVIRONMENTAL ENGINEER

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A LiRo Group Company  
Syosset, N.Y. 516-214-8157(T)

KEY PLAN: NOT TO SCALE

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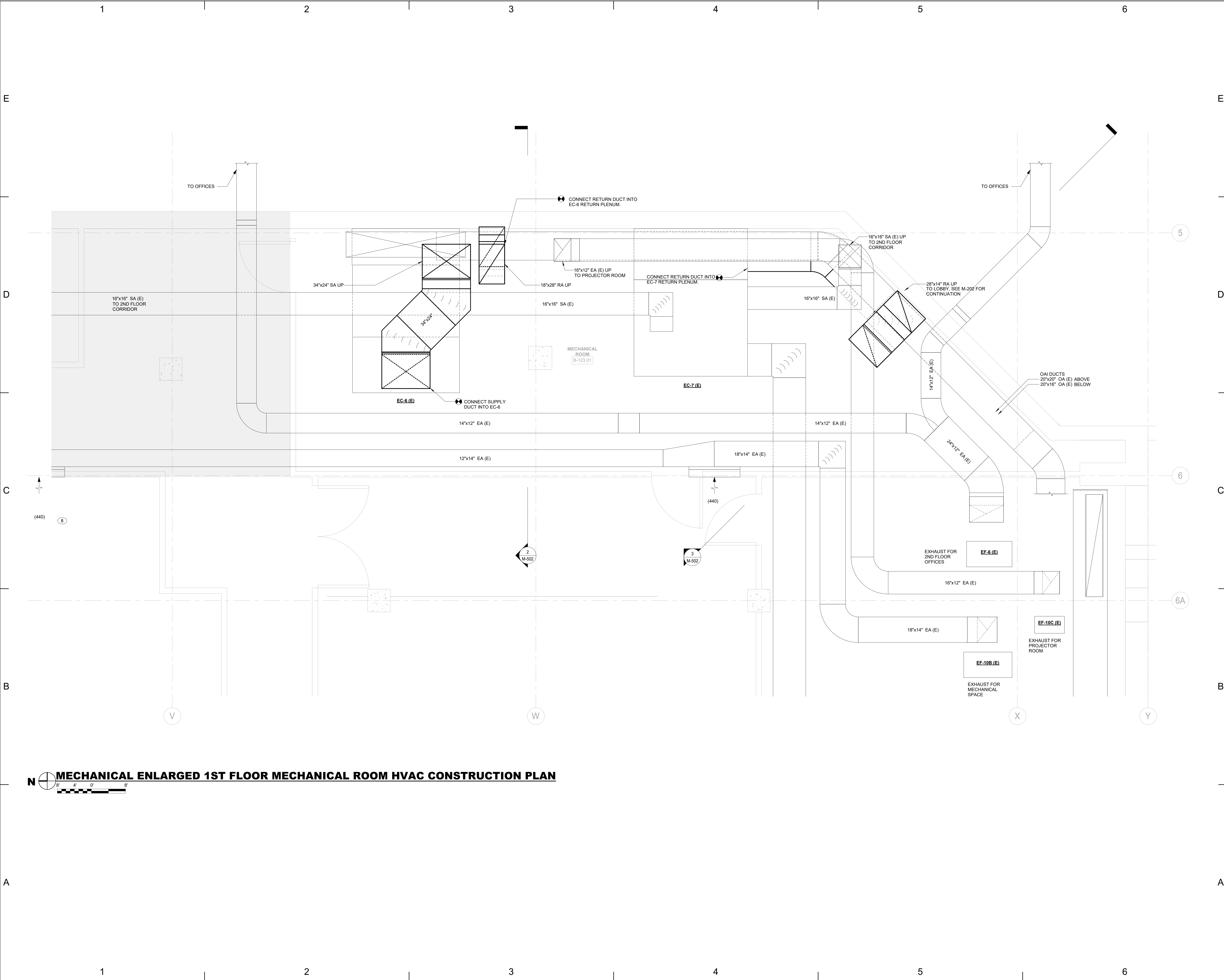
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**MECHANICAL 2ND, 3RD, & ROOF PIPING CONSTRUCTION PLAN**

**M-302**





PROJECT TITLE

PROJECT ADDRESS

OWNER

ARCHITECT

MEP ENGINEER AND ENVIRONMENTAL ENGINEER

KEY PLAN: NOT TO SCALE

SHEET SIZE 30X42

MARK DATE DESCRIPTION

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JONAH R. ALLARD  
089483  
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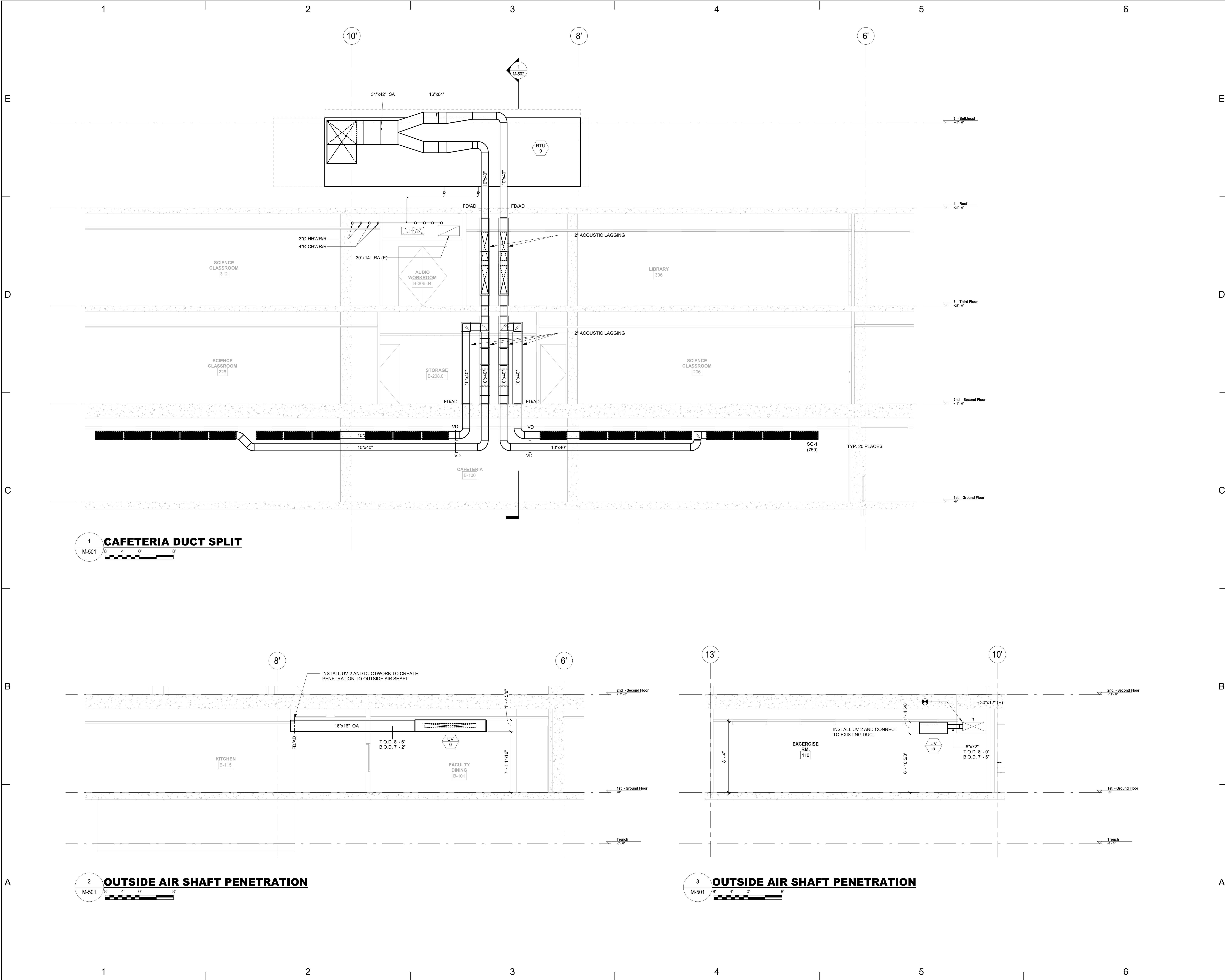
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SHEET TITLE

MECHANICAL ENLARGED HVAC CONSTRUCTION PLANS

M-401





PROJECT TITLE

PROJECT ADDRESS

OWNER

ARCHITECT

MEP ENGINEER AND ENVIRONMENTAL ENGINEER

KEY PLAN: NOT TO SCALE

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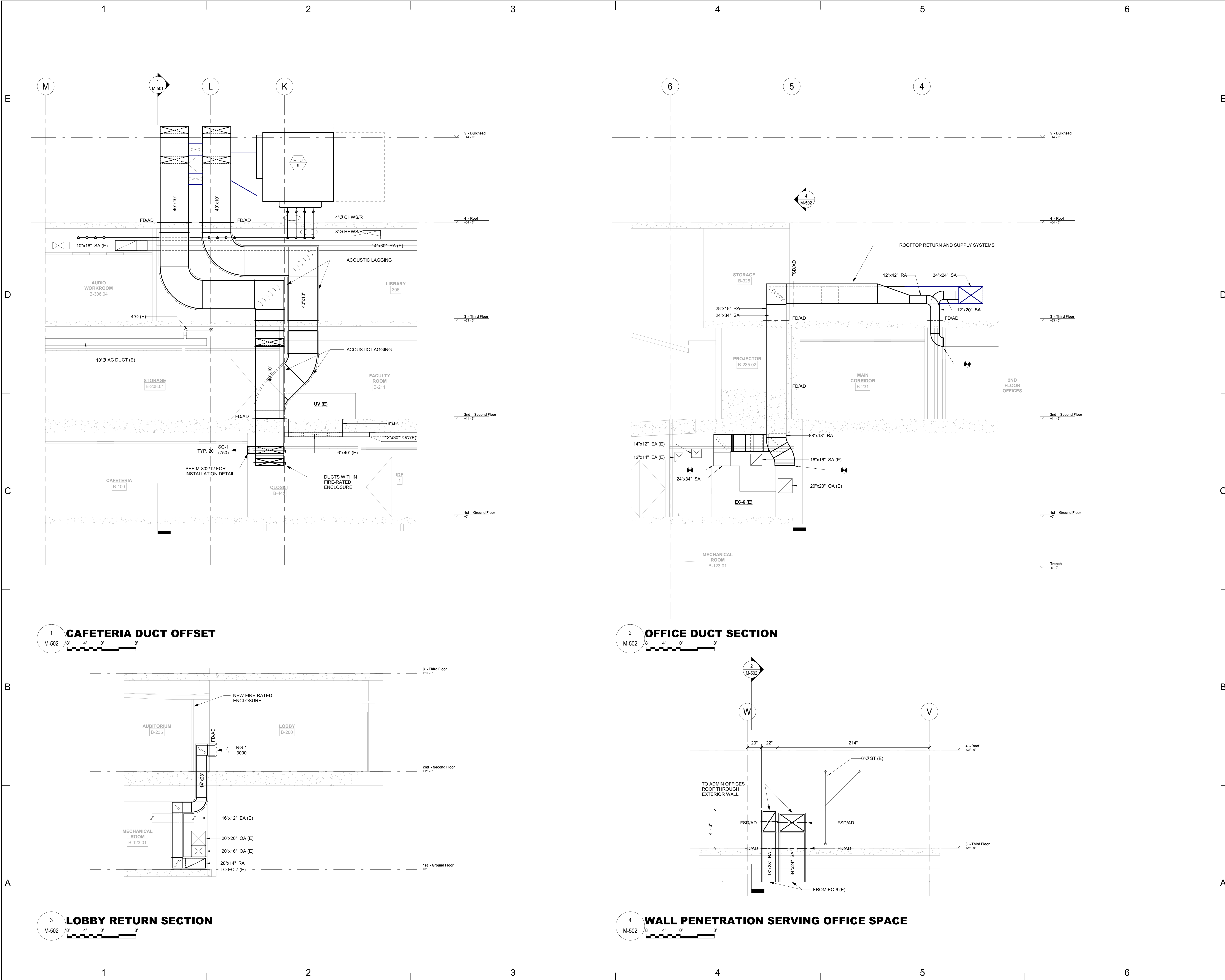
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MECHANICAL SECTIONS

M-501



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PROJECT TITLE

PROJECT ADDRESS

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MEP ENGINEER AND ENVIRONMENTAL ENGINEER

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MECHANICAL SECTIONS

M-502

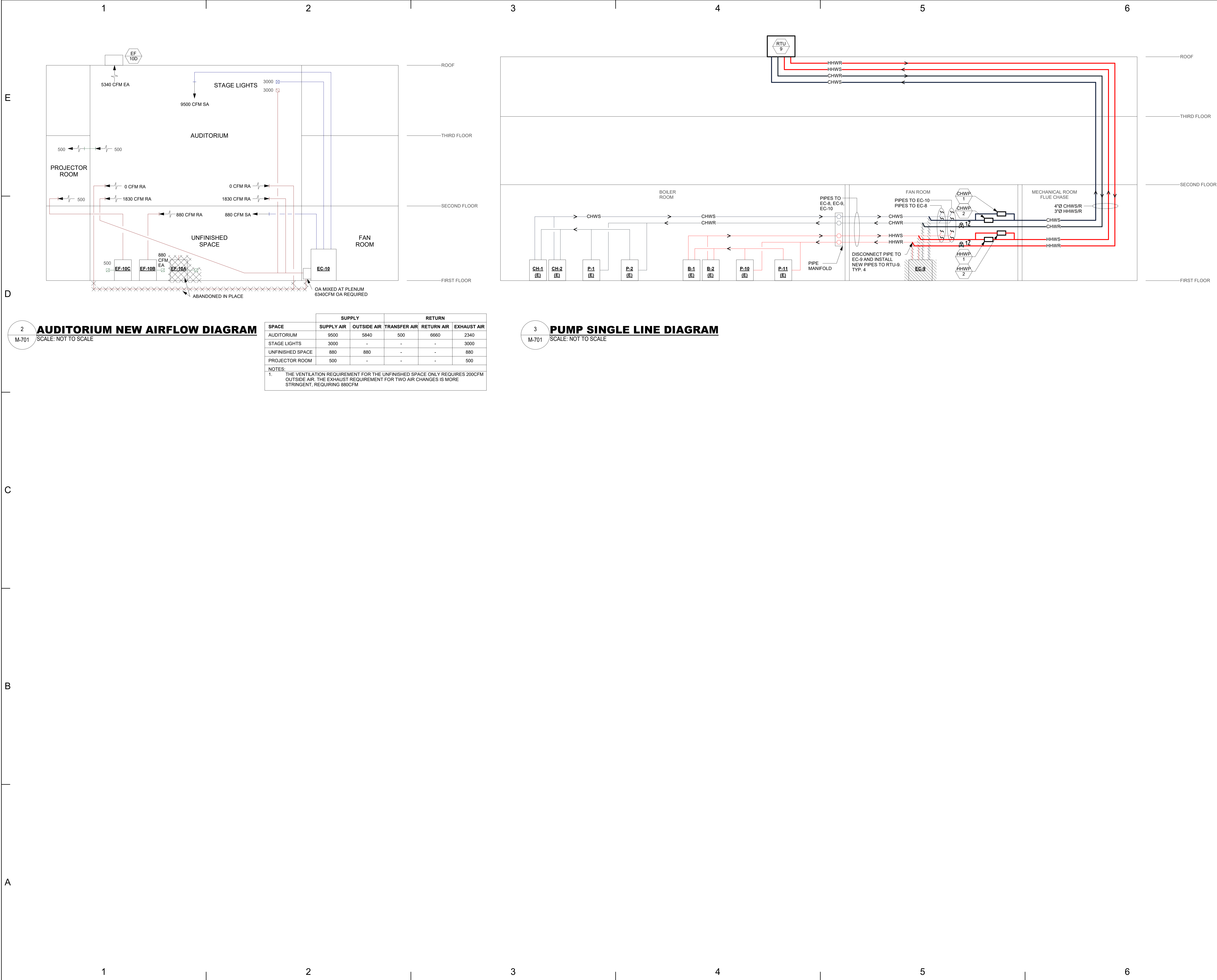












PROJECT TITLE

PROJECT ADDRESS

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ARCHITECT

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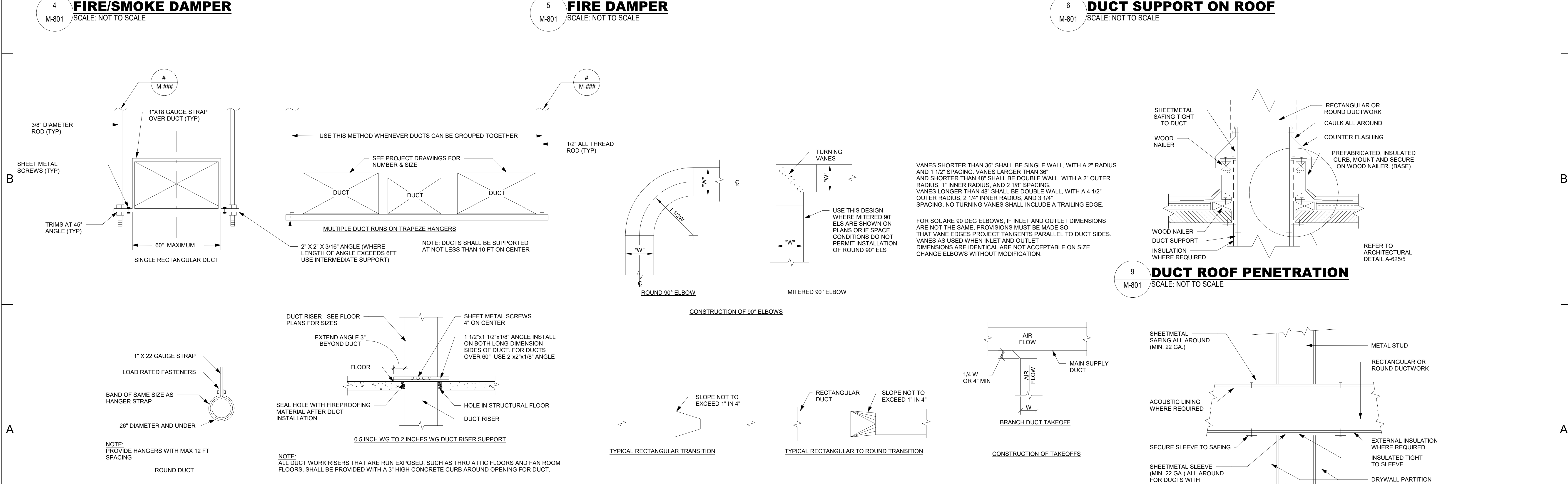
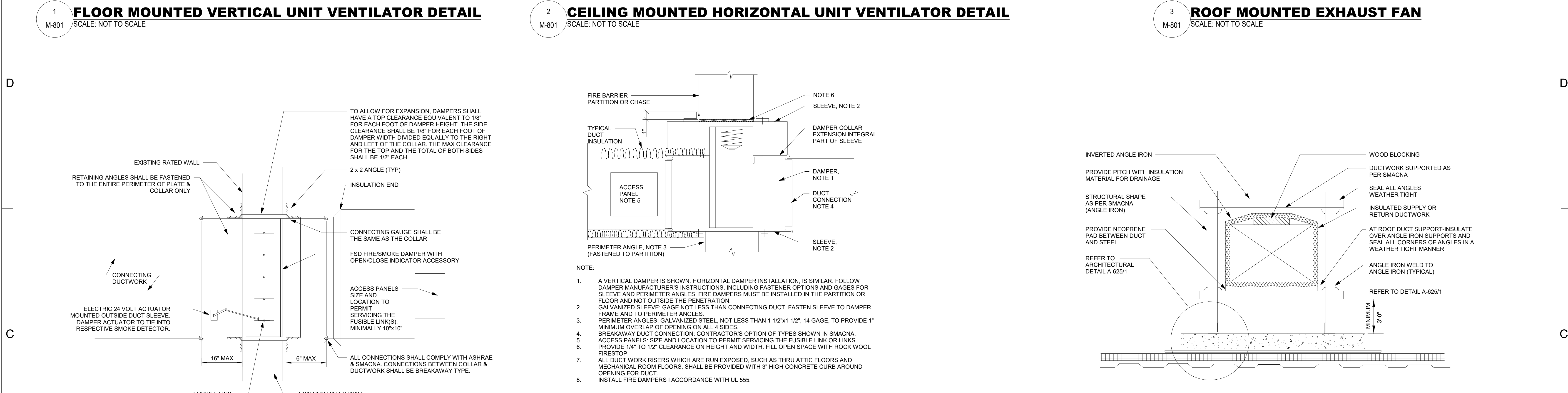
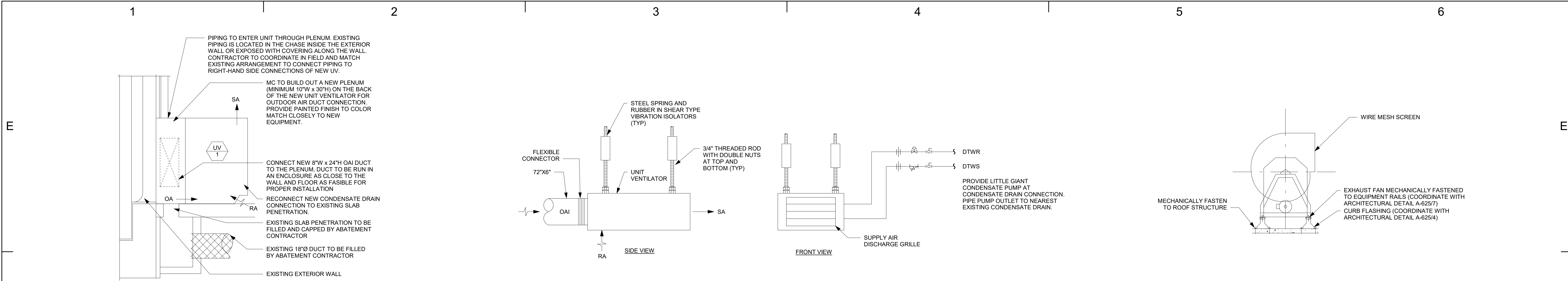
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089483  
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MECHANICAL FLOW DIAGRAMS

M-701





PROJECT TITLE

PROJECT ADDRESS

OWNER

ARCHITECT

MEP ENGINEER AND ENVIRONMENTAL ENGINEER

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SAUNDERS TRADES AND TECHNICAL HIGH SCHOOL HVAC UPGRADES

183 PALMER RD YONKERS, NY 10701

YONKERS PUBLIC SCHOOLS

FULLER AND D'ANGELO P.C.  
45 KNOLLWOOD ROAD  
ELMSFORD, NY 10523  
(T) 914.582.4444

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A LiRo Group Company  
Syosset, N.Y. 516-214-8157(T)

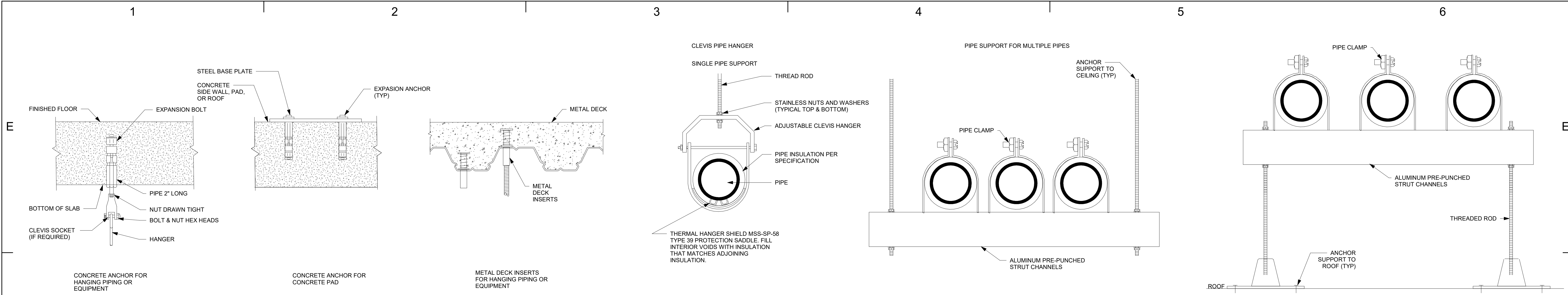
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MECHANICAL DETAILS

M-801

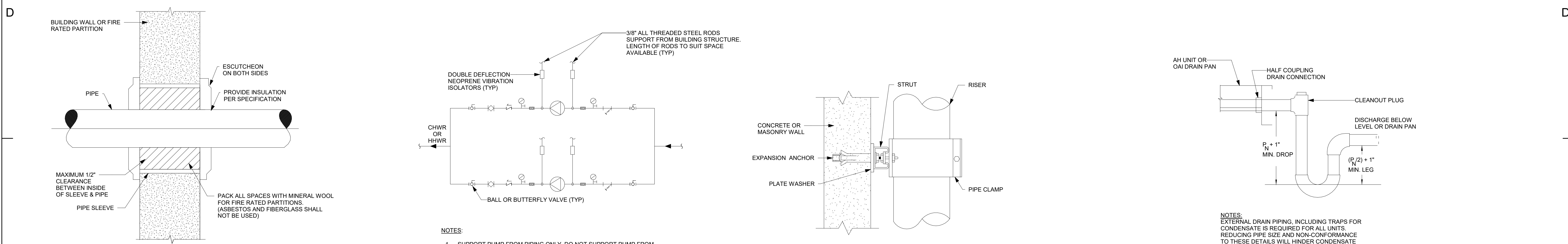




1 **PIPE ANCHOR DETAIL**  
SCALE: NOT TO SCALE

2 **PIPE SUPPORT DETAIL**  
SCALE: NOT TO SCALE

3 **PIPE ROOF SUPPORT**  
SCALE: NOT TO SCALE

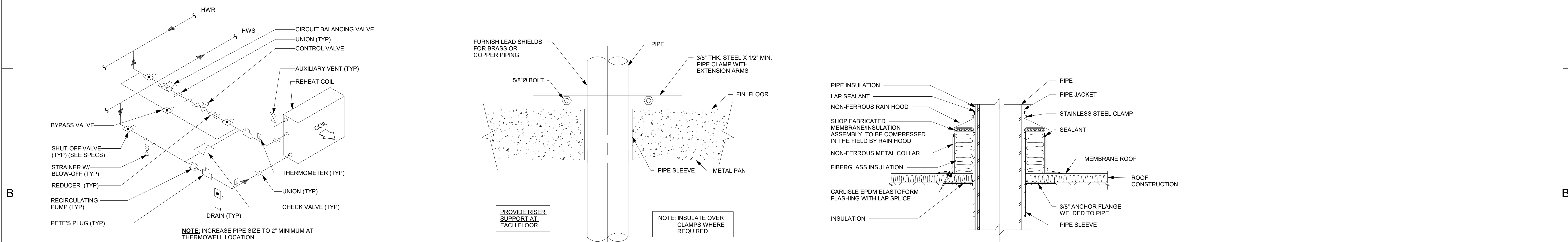


4 **INTERIOR PIPE PENETRATION**  
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5 **INLINE PUMP DETAIL**  
SCALE: NOT TO SCALE

6 **PIPE RISER SUPPORT**  
SCALE: NOT TO SCALE

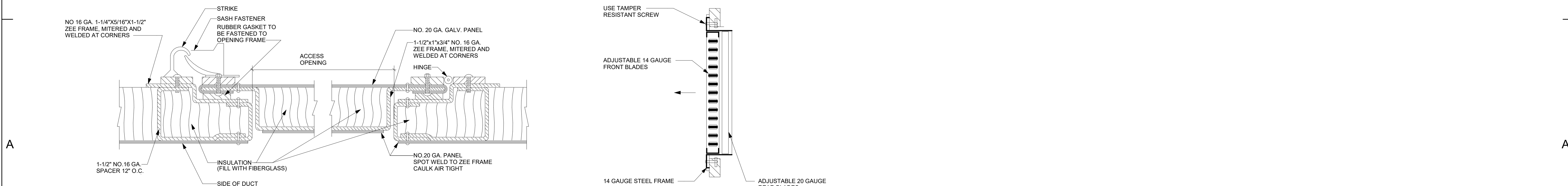
7 **CONDENSATE DRAIN TRAP INSTALLATION NEGATIVE PRESSURE**  
SCALE: NOT TO SCALE



8 **WATER COIL IN AHU PIPING DETAIL**  
SCALE: NOT TO SCALE

9 **PIPE RISER PENETRATION SUPPORT**  
SCALE: NOT TO SCALE

10 **PIPE PENETRATION THROUGH ROOF**  
SCALE: NOT TO SCALE



11 **DUCTWORK ACCESS PANEL INSTALLATION INSULATED DUCTS**  
SCALE: NOT TO SCALE

12 **SIDEWALL DIFFUSER MOUNTING DETAIL**  
SCALE: NOT TO SCALE

PROJECT TITLE

**SAUNDERS TRADES AND TECHNICAL HIGH SCHOOL HVAC UPGRADES**

PROJECT ADDRESS

**183 PALMER RD  
YONKERS, NY 10701**

OWNER

**YONKERS PUBLIC SCHOOLS**

ARCHITECT

**FULLER AND D'ANGELO P.C.**  
45 KNOLLWOOD ROAD  
ELMSFORD, NY 10523  
(T) 914.582.4444

MEP ENGINEER AND ENVIRONMENTAL ENGINEER

**LiRo Engineers, Inc.**  
*A LiRo Group Company*  
Syosset, N.Y. 516-214-8157(T)

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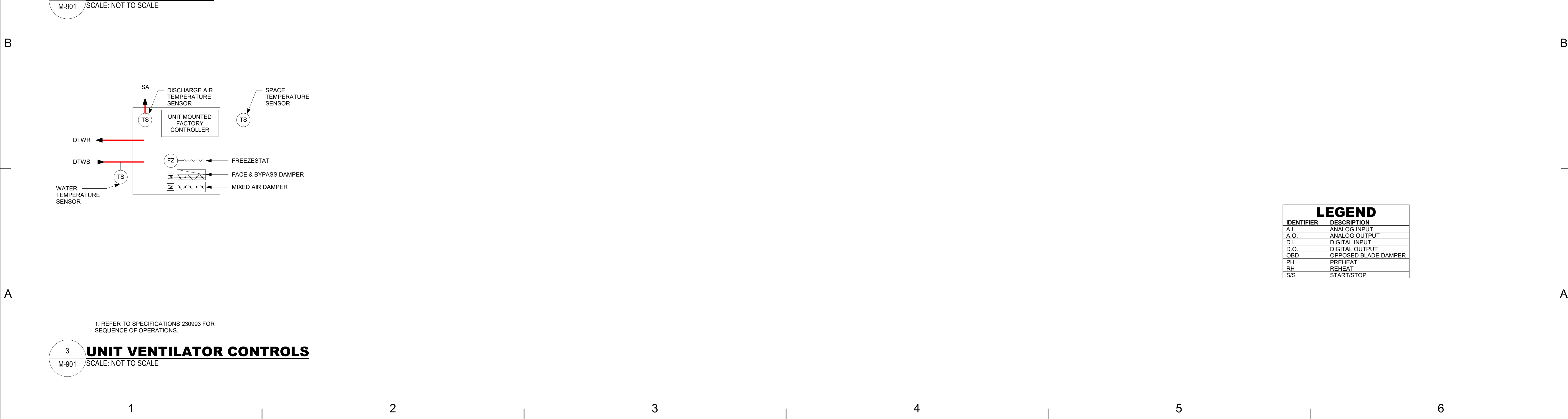
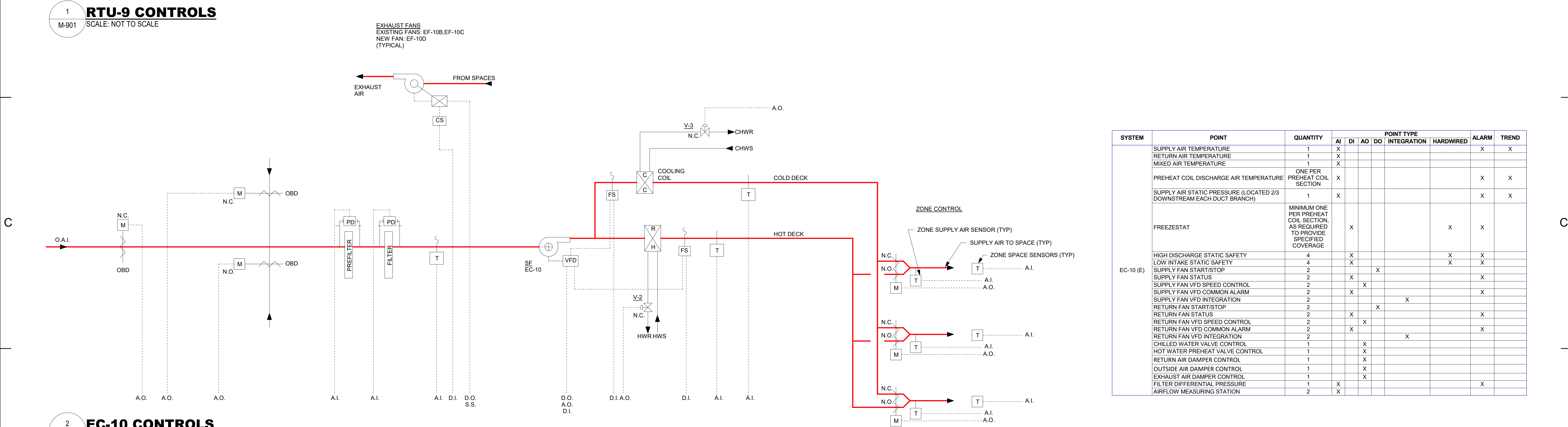
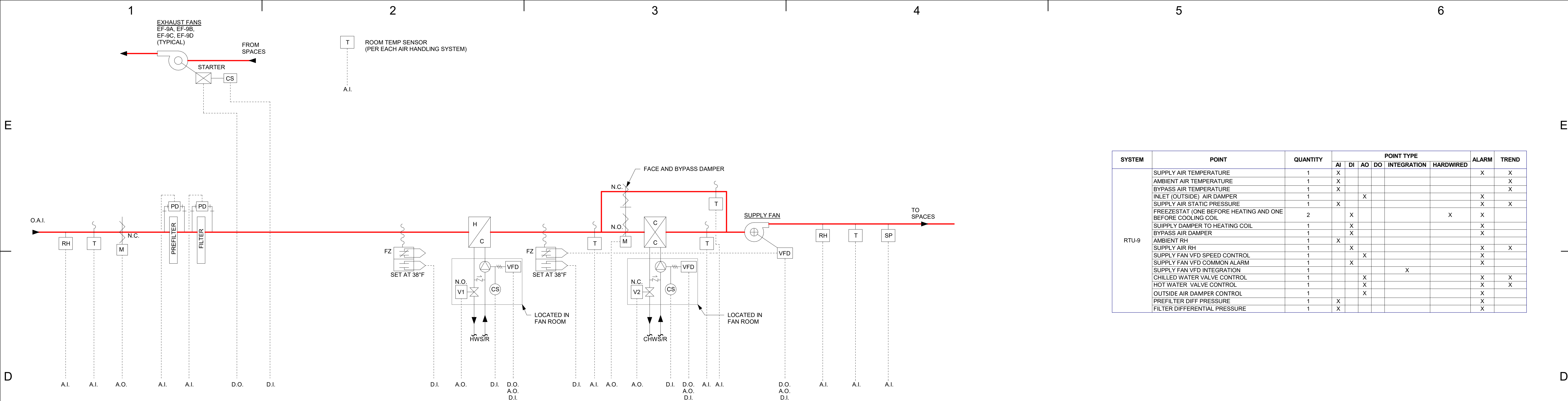
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SHEET TITLE

**MECHANICAL DETAILS**

**M-802**





PROJECT TITLE

**SAUNDERS TRADES AND TECHNICAL HIGH SCHOOL HVAC UPGRADES**

PROJECT ADDRESS

**183 PALMER RD  
YONKERS, NY 10701**

OWNER

**YONKERS PUBLIC SCHOOLS**

ARCHITECT

**FULLER AND D'ANGELO P.C.**  
45 KNOLLWOOD ROAD  
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REGISTERED PROFESSIONAL ENGINEER

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**MECHANICAL CONTROLS**

**M-901**









- 1 EXISTING PANEL PMMB-3 TO REMAIN. MODIFY PER E-201 CONSTRUCTION NOTES.
- 2 EXISTING EC-10 COMBINATION STARTER LABELED "AUDITORIUM / STAGE" TO BE DEMOLISHED AND REPLACED BY EC-10 VFD PER E-201 CONSTRUCTION NOTES.
- 3 EXISTING EC-8 COMBINATION STARTER LABELED "STUDENT DINING" TO BE DEMOLISHED. ALL ASSOCIATED CONDUIT AND WIRING TO BE DEMOLISHED TO THE SOURCE.
- 4 EXISTING EC-6 LOCAL CONTROL PANEL TO REMAIN. DEMOLITION OF EXISTING LOCAL CONTROLS AND ANY PANEL MODIFICATIONS BY OTHERS.
- 5 EXISTING EC-10 LOCAL CONTROL PANEL TO REMAIN. ANY PANEL MODIFICATIONS BY OTHERS.
- 6 EXISTING EF-10A COMBINATION STARTER TO BE DEMOLISHED AND REPLACED BY EF-10 VFD PER E-201 CONSTRUCTION NOTES. EXISTING LOAD SIDE CONDUIT AND WIRING TO BE REMOVED. EXISTING POWER SIDE CONDUIT AND WIRING TO REMAIN.
- 7 EXISTING BMS LOCAL CONTROL PANEL TO REMAIN. ANY PANEL MODIFICATIONS BY OTHERS.
- 8 ALL ELECTRICAL EQUIPMENT REMOVED DURING DEMOLITION SHALL BE RETURNED TO THE OWNER.

**E-101**



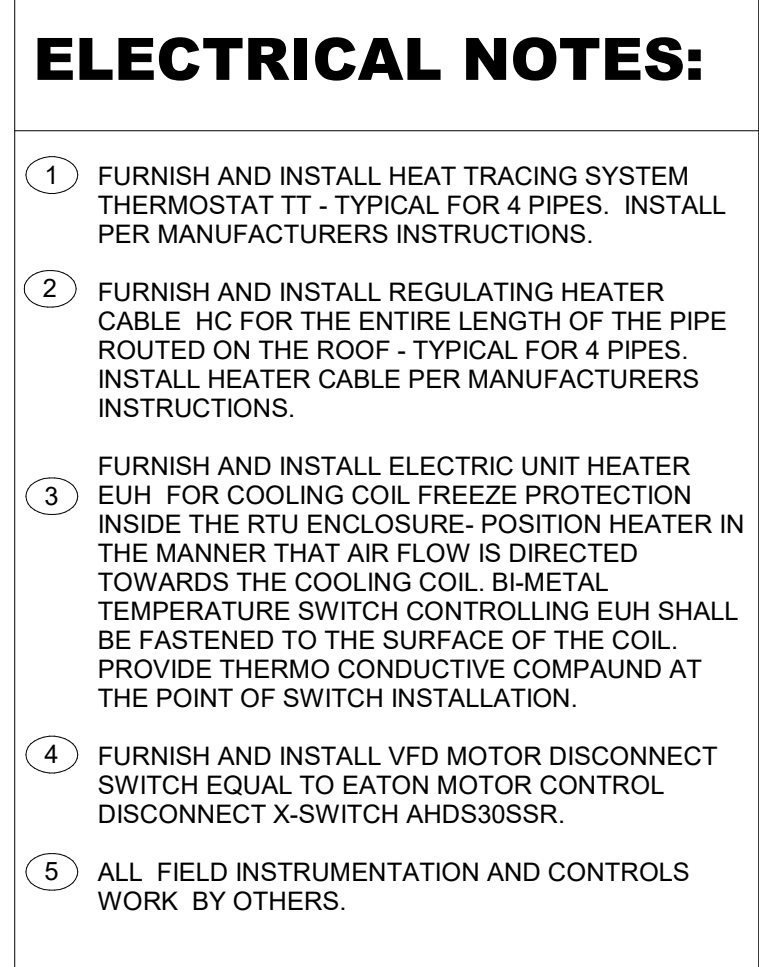


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|            | PROJECT TITLE  | <p style="text-align: center; font-size: 1.2em; font-weight: bold;">SAUNDERS TRADES<br/>AND TECHNICAL<br/>HIGH SCHOOL HVAC<br/>UPGRADES</p>   |  |            |  |       |  |  |  |  |  |  |  |  |  |  |  |  |      |      |             |          |  |  |  |  |  |  |  |  |  |          |                             |  |          |                            |      |      |             |       |  |  |       |                       |  |          |       |  |            |    |  |           |    |  |           |    |  |            |  |  |  |                      |  |  |                 |  |  |  |  |  |  |  |  |  |             |  |  |  |  |  |  |  |       |  |  |
|            | PROJECT ADDRESS  | <p style="text-align: center; font-weight: bold;">183 PALMER RD<br/>YONKERS, NY 10701</p>   |  |            |  |       |  |  |  |  |  |  |  |  |  |  |  |  |      |      |             |          |  |  |  |  |  |  |  |  |  |          |                             |  |          |                            |      |      |             |       |  |  |       |                       |  |          |       |  |            |    |  |           |    |  |           |    |  |            |  |  |  |                      |  |  |                 |  |  |  |  |  |  |  |  |  |             |  |  |  |  |  |  |  |       |  |  |
|            | OWNER  | <p style="text-align: center; font-weight: bold;">YONKERS PUBLIC<br/>SCHOOLS</p>  |  |            |  |       |  |  |  |  |  |  |  |  |  |  |  |  |      |      |             |          |  |  |  |  |  |  |  |  |  |          |                             |  |          |                            |      |      |             |       |  |  |       |                       |  |          |       |  |            |    |  |           |    |  |           |    |  |            |  |  |  |                      |  |  |                 |  |  |  |  |  |  |  |  |  |             |  |  |  |  |  |  |  |       |  |  |
|            | ARCHITECT  | <p style="text-align: center; font-weight: bold;">FULLER AND<br/>D'ANGELO P.C.</p> <p style="text-align: center; font-size: 0.8em;">45 KNOLLWOOD ROAD<br/>ELMSFORD, NY 10523<br/>(T) 914.592.4444</p> |  |            |  |       |  |  |  |  |  |  |  |  |  |  |  |  |      |      |             |          |  |  |  |  |  |  |  |  |  |          |                             |  |          |                            |      |      |             |       |  |  |       |                       |  |          |       |  |            |    |  |           |    |  |           |    |  |            |  |  |  |                      |  |  |                 |  |  |  |  |  |  |  |  |  |             |  |  |  |  |  |  |  |       |  |  |
|            | MEP ENGINEER AND ENVIRONMENTAL ENGINEER  |   |  |            |  |       |  |  |  |  |  |  |  |  |  |  |  |  |      |      |             |          |  |  |  |  |  |  |  |  |  |          |                             |  |          |                            |      |      |             |       |  |  |       |                       |  |          |       |  |            |    |  |           |    |  |           |    |  |            |  |  |  |                      |  |  |                 |  |  |  |  |  |  |  |  |  |             |  |  |  |  |  |  |  |       |  |  |
|            | <div style="display: flex; align-items: center;"> <div> <p style="font-weight: bold; margin: 0;">LiRo Engineers, Inc.</p> <p style="margin: 0;"><i>A LiRo Group Company</i></p> <p style="font-size: 0.8em; margin: 0;">Syosset, N.Y. <span style="float: right;">516-214-8157(T)</span></p> </div> </div>   |   |  |            |  |       |  |  |  |  |  |  |  |  |  |  |  |  |      |      |             |          |  |  |  |  |  |  |  |  |  |          |                             |  |          |                            |      |      |             |       |  |  |       |                       |  |          |       |  |            |    |  |           |    |  |           |    |  |            |  |  |  |                      |  |  |                 |  |  |  |  |  |  |  |  |  |             |  |  |  |  |  |  |  |       |  |  |
|            | KEY PLAN: NOT TO SCALE   |   |  |            |  |       |  |  |  |  |  |  |  |  |  |  |  |  |      |      |             |          |  |  |  |  |  |  |  |  |  |          |                             |  |          |                            |      |      |             |       |  |  |       |                       |  |          |       |  |            |    |  |           |    |  |           |    |  |            |  |  |  |                      |  |  |                 |  |  |  |  |  |  |  |  |  |             |  |  |  |  |  |  |  |       |  |  |
|            | <table border="1" style="width: 100%; border-collapse: collapse; font-size: 0.8em;"> <tr> <td colspan="2">SHEET SIZE</td> <td>30X42</td> </tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr> <td>MARK</td> <td>DATE</td> <td>DESCRIPTION</td> </tr> <tr> <td>REVISION</td> <td></td> <td></td> </tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr> <td></td> <td>04.17.20</td> <td>100% CONSTRUCTION DOCUMENTS</td> </tr> <tr> <td></td> <td>03.27.20</td> <td>90% CONSTRUCTION DOCUMENTS</td> </tr> <tr> <td>MARK</td> <td>DATE</td> <td>DESCRIPTION</td> </tr> <tr> <td>ISSUE</td> <td></td> <td></td> </tr> <tr> <td>SED #</td> <td colspan="2">66-23-00-01-0-206-017</td> </tr> <tr> <td>YPS JOB:</td> <td colspan="2">10881</td> </tr> <tr> <td>DESIGN BY:</td> <td colspan="2">DS</td> </tr> <tr> <td>DRAWN BY:</td> <td colspan="2">EA</td> </tr> <tr> <td>CHK'D BY:</td> <td colspan="2">FU</td> </tr> <tr> <td>COPYRIGHT:</td> <td colspan="2"></td> </tr> <tr> <td></td> <td colspan="2" style="text-align: center; font-weight: bold;">LIRO ENGINEERS, INC.</td> </tr> <tr> <td></td> <td colspan="2">ENGINEER'S SEAL</td> </tr> <tr> <td></td> <td colspan="2" style="text-align: center;"> </td> </tr> <tr> <td></td> <td colspan="3"> <p style="font-size: 0.7em;">IT IS A VIOLATION OF NYS LAW FOR ANY PERSON TO ALTER THIS DOCUMENT IN ANY WAY, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER. IF A DOCUMENT BEARING THE SEAL ON AN ENGINEER IS ALTERED, THE ALTERING ENGINEER SHALL AFFIX TO THE DOCUMENT THEIR SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.</p> </td> </tr> <tr> <td></td> <td colspan="3">SHEET TITLE</td> </tr> <tr> <td></td> <td colspan="3" style="text-align: center; font-weight: bold; font-size: 1.1em;">ELECTRICAL PARTIAL 1ST<br/>FLOOR POWER<br/>CONSTRUCTION PLAN</td> </tr> <tr> <td></td> <td colspan="3" style="text-align: center; font-weight: bold; font-size: 1.2em;">E-201</td> </tr> </table> |   |  | SHEET SIZE |  | 30X42 |  |  |  |  |  |  |  |  |  |  |  |  | MARK | DATE | DESCRIPTION | REVISION |  |  |  |  |  |  |  |  |  | 04.17.20 | 100% CONSTRUCTION DOCUMENTS |  | 03.27.20 | 90% CONSTRUCTION DOCUMENTS | MARK | DATE | DESCRIPTION | ISSUE |  |  | SED # | 66-23-00-01-0-206-017 |  | YPS JOB: | 10881 |  | DESIGN BY: | DS |  | DRAWN BY: | EA |  | CHK'D BY: | FU |  | COPYRIGHT: |  |  |  | LIRO ENGINEERS, INC. |  |  | ENGINEER'S SEAL |  |  |  |  |  | <p style="font-size: 0.7em;">IT IS A VIOLATION OF NYS LAW FOR ANY PERSON TO ALTER THIS DOCUMENT IN ANY WAY, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER. IF A DOCUMENT BEARING THE SEAL ON AN ENGINEER IS ALTERED, THE ALTERING ENGINEER SHALL AFFIX TO THE DOCUMENT THEIR SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.</p> |  |  |  | SHEET TITLE |  |  |  | ELECTRICAL PARTIAL 1ST<br>FLOOR POWER<br>CONSTRUCTION PLAN |  |  |  | E-201 |  |  |
| SHEET SIZE |  | 30X42   |  |            |  |       |  |  |  |  |  |  |  |  |  |  |  |  |      |      |             |          |  |  |  |  |  |  |  |  |  |          |                             |  |          |                            |      |      |             |       |  |  |       |                       |  |          |       |  |            |    |  |           |    |  |           |    |  |            |  |  |  |                      |  |  |                 |  |  |  |  |  |  |  |  |  |             |  |  |  |  |  |  |  |       |  |  |
|            |  |   |  |            |  |       |  |  |  |  |  |  |  |  |  |  |  |  |      |      |             |          |  |  |  |  |  |  |  |  |  |          |                             |  |          |                            |      |      |             |       |  |  |       |                       |  |          |       |  |            |    |  |           |    |  |           |    |  |            |  |  |  |                      |  |  |                 |  |  |  |  |  |  |  |  |  |             |  |  |  |  |  |  |  |       |  |  |
|            |  |   |  |            |  |       |  |  |  |  |  |  |  |  |  |  |  |  |      |      |             |          |  |  |  |  |  |  |  |  |  |          |                             |  |          |                            |      |      |             |       |  |  |       |                       |  |          |       |  |            |    |  |           |    |  |           |    |  |            |  |  |  |                      |  |  |                 |  |  |  |  |  |  |  |  |  |             |  |  |  |  |  |  |  |       |  |  |
|            |  |   |  |            |  |       |  |  |  |  |  |  |  |  |  |  |  |  |      |      |             |          |  |  |  |  |  |  |  |  |  |          |                             |  |          |                            |      |      |             |       |  |  |       |                       |  |          |       |  |            |    |  |           |    |  |           |    |  |            |  |  |  |                      |  |  |                 |  |  |  |  |  |  |  |  |  |             |  |  |  |  |  |  |  |       |  |  |
|            |  |   |  |            |  |       |  |  |  |  |  |  |  |  |  |  |  |  |      |      |             |          |  |  |  |  |  |  |  |  |  |          |                             |  |          |                            |      |      |             |       |  |  |       |                       |  |          |       |  |            |    |  |           |    |  |           |    |  |            |  |  |  |                      |  |  |                 |  |  |  |  |  |  |  |  |  |             |  |  |  |  |  |  |  |       |  |  |
| MARK       | DATE   | DESCRIPTION   |  |            |  |       |  |  |  |  |  |  |  |  |  |  |  |  |      |      |             |          |  |  |  |  |  |  |  |  |  |          |                             |  |          |                            |      |      |             |       |  |  |       |                       |  |          |       |  |            |    |  |           |    |  |           |    |  |            |  |  |  |                      |  |  |                 |  |  |  |  |  |  |  |  |  |             |  |  |  |  |  |  |  |       |  |  |
| REVISION   |  |   |  |            |  |       |  |  |  |  |  |  |  |  |  |  |  |  |      |      |             |          |  |  |  |  |  |  |  |  |  |          |                             |  |          |                            |      |      |             |       |  |  |       |                       |  |          |       |  |            |    |  |           |    |  |           |    |  |            |  |  |  |                      |  |  |                 |  |  |  |  |  |  |  |  |  |             |  |  |  |  |  |  |  |       |  |  |
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|            |  |   |  |            |  |       |  |  |  |  |  |  |  |  |  |  |  |  |      |      |             |          |  |  |  |  |  |  |  |  |  |          |                             |  |          |                            |      |      |             |       |  |  |       |                       |  |          |       |  |            |    |  |           |    |  |           |    |  |            |  |  |  |                      |  |  |                 |  |  |  |  |  |  |  |  |  |             |  |  |  |  |  |  |  |       |  |  |
|            | 04.17.20   | 100% CONSTRUCTION DOCUMENTS   |  |            |  |       |  |  |  |  |  |  |  |  |  |  |  |  |      |      |             |          |  |  |  |  |  |  |  |  |  |          |                             |  |          |                            |      |      |             |       |  |  |       |                       |  |          |       |  |            |    |  |           |    |  |           |    |  |            |  |  |  |                      |  |  |                 |  |  |  |  |  |  |  |  |  |             |  |  |  |  |  |  |  |       |  |  |
|            | 03.27.20   | 90% CONSTRUCTION DOCUMENTS  |  |            |  |       |  |  |  |  |  |  |  |  |  |  |  |  |      |      |             |          |  |  |  |  |  |  |  |  |  |          |                             |  |          |                            |      |      |             |       |  |  |       |                       |  |          |       |  |            |    |  |           |    |  |           |    |  |            |  |  |  |                      |  |  |                 |  |  |  |  |  |  |  |  |  |             |  |  |  |  |  |  |  |       |  |  |
| MARK       | DATE   | DESCRIPTION   |  |            |  |       |  |  |  |  |  |  |  |  |  |  |  |  |      |      |             |          |  |  |  |  |  |  |  |  |  |          |                             |  |          |                            |      |      |             |       |  |  |       |                       |  |          |       |  |            |    |  |           |    |  |           |    |  |            |  |  |  |                      |  |  |                 |  |  |  |  |  |  |  |  |  |             |  |  |  |  |  |  |  |       |  |  |
| ISSUE      |  |   |  |            |  |       |  |  |  |  |  |  |  |  |  |  |  |  |      |      |             |          |  |  |  |  |  |  |  |  |  |          |                             |  |          |                            |      |      |             |       |  |  |       |                       |  |          |       |  |            |    |  |           |    |  |           |    |  |            |  |  |  |                      |  |  |                 |  |  |  |  |  |  |  |  |  |             |  |  |  |  |  |  |  |       |  |  |
| SED #      | 66-23-00-01-0-206-017  |   |  |            |  |       |  |  |  |  |  |  |  |  |  |  |  |  |      |      |             |          |  |  |  |  |  |  |  |  |  |          |                             |  |          |                            |      |      |             |       |  |  |       |                       |  |          |       |  |            |    |  |           |    |  |           |    |  |            |  |  |  |                      |  |  |                 |  |  |  |  |  |  |  |  |  |             |  |  |  |  |  |  |  |       |  |  |
| YPS JOB:   | 10881  |   |  |            |  |       |  |  |  |  |  |  |  |  |  |  |  |  |      |      |             |          |  |  |  |  |  |  |  |  |  |          |                             |  |          |                            |      |      |             |       |  |  |       |                       |  |          |       |  |            |    |  |           |    |  |           |    |  |            |  |  |  |                      |  |  |                 |  |  |  |  |  |  |  |  |  |             |  |  |  |  |  |  |  |       |  |  |
| DESIGN BY: | DS   |   |  |            |  |       |  |  |  |  |  |  |  |  |  |  |  |  |      |      |             |          |  |  |  |  |  |  |  |  |  |          |                             |  |          |                            |      |      |             |       |  |  |       |                       |  |          |       |  |            |    |  |           |    |  |           |    |  |            |  |  |  |                      |  |  |                 |  |  |  |  |  |  |  |  |  |             |  |  |  |  |  |  |  |       |  |  |
| DRAWN BY:  | EA   |   |  |            |  |       |  |  |  |  |  |  |  |  |  |  |  |  |      |      |             |          |  |  |  |  |  |  |  |  |  |          |                             |  |          |                            |      |      |             |       |  |  |       |                       |  |          |       |  |            |    |  |           |    |  |           |    |  |            |  |  |  |                      |  |  |                 |  |  |  |  |  |  |  |  |  |             |  |  |  |  |  |  |  |       |  |  |
| CHK'D BY:  | FU   |   |  |            |  |       |  |  |  |  |  |  |  |  |  |  |  |  |      |      |             |          |  |  |  |  |  |  |  |  |  |          |                             |  |          |                            |      |      |             |       |  |  |       |                       |  |          |       |  |            |    |  |           |    |  |           |    |  |            |  |  |  |                      |  |  |                 |  |  |  |  |  |  |  |  |  |             |  |  |  |  |  |  |  |       |  |  |
| COPYRIGHT: |  |   |  |            |  |       |  |  |  |  |  |  |  |  |  |  |  |  |      |      |             |          |  |  |  |  |  |  |  |  |  |          |                             |  |          |                            |      |      |             |       |  |  |       |                       |  |          |       |  |            |    |  |           |    |  |           |    |  |            |  |  |  |                      |  |  |                 |  |  |  |  |  |  |  |  |  |             |  |  |  |  |  |  |  |       |  |  |
|            | LIRO ENGINEERS, INC.   |   |  |            |  |       |  |  |  |  |  |  |  |  |  |  |  |  |      |      |             |          |  |  |  |  |  |  |  |  |  |          |                             |  |          |                            |      |      |             |       |  |  |       |                       |  |          |       |  |            |    |  |           |    |  |           |    |  |            |  |  |  |                      |  |  |                 |  |  |  |  |  |  |  |  |  |             |  |  |  |  |  |  |  |       |  |  |
|            | ENGINEER'S SEAL  |   |  |            |  |       |  |  |  |  |  |  |  |  |  |  |  |  |      |      |             |          |  |  |  |  |  |  |  |  |  |          |                             |  |          |                            |      |      |             |       |  |  |       |                       |  |          |       |  |            |    |  |           |    |  |           |    |  |            |  |  |  |                      |  |  |                 |  |  |  |  |  |  |  |  |  |             |  |  |  |  |  |  |  |       |  |  |
|            |  |   |  |            |  |       |  |  |  |  |  |  |  |  |  |  |  |  |      |      |             |          |  |  |  |  |  |  |  |  |  |          |                             |  |          |                            |      |      |             |       |  |  |       |                       |  |          |       |  |            |    |  |           |    |  |           |    |  |            |  |  |  |                      |  |  |                 |  |  |  |  |  |  |  |  |  |             |  |  |  |  |  |  |  |       |  |  |
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|            | SHEET TITLE  |   |  |            |  |       |  |  |  |  |  |  |  |  |  |  |  |  |      |      |             |          |  |  |  |  |  |  |  |  |  |          |                             |  |          |                            |      |      |             |       |  |  |       |                       |  |          |       |  |            |    |  |           |    |  |           |    |  |            |  |  |  |                      |  |  |                 |  |  |  |  |  |  |  |  |  |             |  |  |  |  |  |  |  |       |  |  |
|            | ELECTRICAL PARTIAL 1ST<br>FLOOR POWER<br>CONSTRUCTION PLAN   |   |  |            |  |       |  |  |  |  |  |  |  |  |  |  |  |  |      |      |             |          |  |  |  |  |  |  |  |  |  |          |                             |  |          |                            |      |      |             |       |  |  |       |                       |  |          |       |  |            |    |  |           |    |  |           |    |  |            |  |  |  |                      |  |  |                 |  |  |  |  |  |  |  |  |  |             |  |  |  |  |  |  |  |       |  |  |
|            | E-201  |   |  |            |  |       |  |  |  |  |  |  |  |  |  |  |  |  |      |      |             |          |  |  |  |  |  |  |  |  |  |          |                             |  |          |                            |      |      |             |       |  |  |       |                       |  |          |       |  |            |    |  |           |    |  |           |    |  |            |  |  |  |                      |  |  |                 |  |  |  |  |  |  |  |  |  |             |  |  |  |  |  |  |  |       |  |  |









# SAUNDERS TRADES AND TECHNICAL HIGH SCHOOL HVAC UPGRADES

**183 PALMER RD  
YONKERS, NY 10701**

**YONKERS PUBLIC  
SCHOOLS**

**FULLER AND  
D'ANGELO P.C.**

45 KNOLLWOOD ROAD  
ELMSFORD, NY 10523  
(T) 914.592.4444

 **LiRo Engineers, Inc.**  
*A LiRo Group Company*  
Syosset, N.Y. 516-214-8157[T]

SHEET SIZE 30X42

MARK	DATE	DESCRIPTION
REVISION		

	04.17.20	100% CONSTRUCTION DOCUMENTS
MARK	03.27.20	90% CONSTRUCTION DOCUMENTS
ISSUE	DATE	DESCRIPTION
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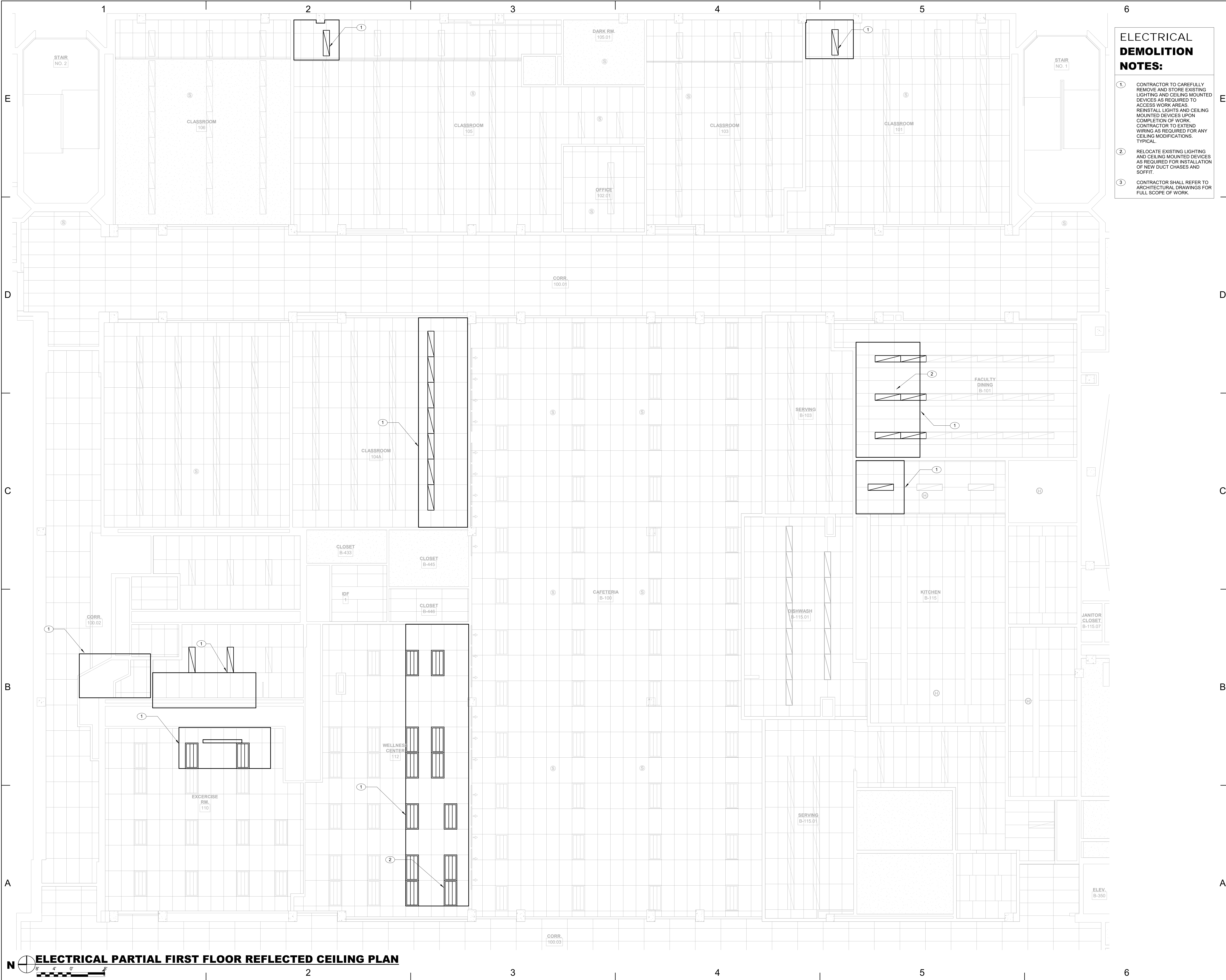
SHEET TITLE

## ELECTRICAL PARTIAL ROOF POWER PLAN

**E-204**



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**ELECTRICAL  
DEMOLITION  
NOTES:**

- 1 CONTRACTOR TO CAREFULLY REMOVE AND STORE EXISTING LIGHTING AND CEILING MOUNTED DEVICES AS REQUIRED TO ACCESS WORK AREAS. REINSTALL LIGHTS AND CEILING MOUNTED DEVICES UPON COMPLETION OF WORK. CONTRACTOR TO EXTEND WIRING AS REQUIRED FOR ANY CEILING MODIFICATIONS. TYPICAL.
- 2 RELOCATE EXISTING LIGHTING AND CEILING MOUNTED DEVICES AS REQUIRED FOR INSTALLATION OF NEW DUCT CHASES AND SOFFIT.
- 3 CONTRACTOR SHALL REFER TO ARCHITECTURAL DRAWINGS FOR FULL SCOPE OF WORK.

PROJECT TITLE

**SAUNDERS TRADES  
AND TECHNICAL  
HIGH SCHOOL HVAC  
UPGRADES**

PROJECT ADDRESS

**183 PALMER RD  
YONKERS, NY 10701**

OWNER

**YONKERS PUBLIC  
SCHOOLS**

ARCHITECT

**FULLER AND  
D'ANGELO P.C.**

45 KNOLLWOOD ROAD  
ELMSFORD, NY 10523  
(T) 914.582.4444

MEP ENGINEER AND ENVIRONMENTAL ENGINEER

**LiRo Engineers, Inc.**  
*A LiRo Group Company*  
Syosset, N.Y. 516-214-8157(T)

KEY PLAN: NOT TO SCALE

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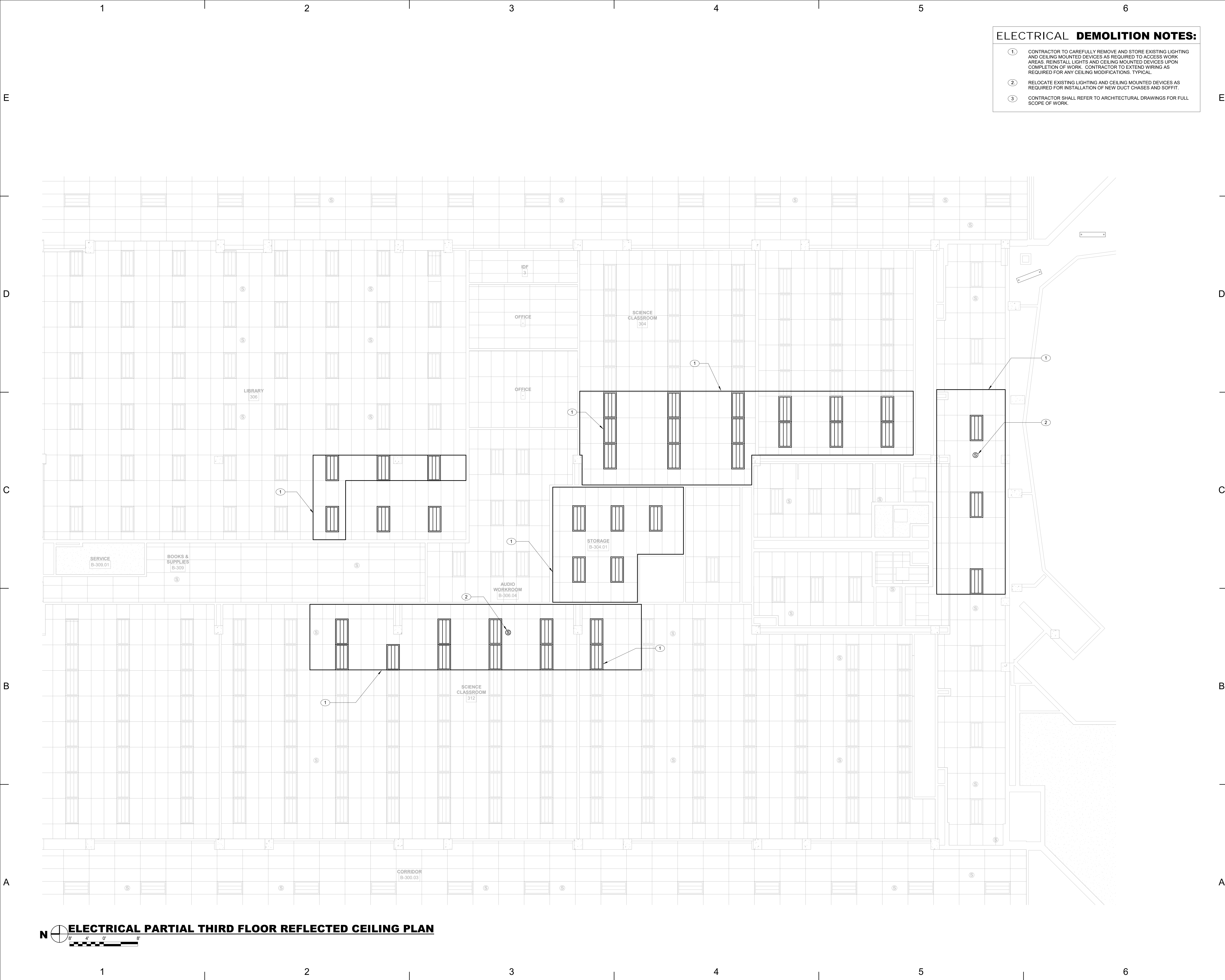
**ELECTRICAL PARTIAL FIRST  
FLOOR REFLECTED CEILING  
PLAN**

**E-301**









- ELECTRICAL DEMOLITION NOTES:**
- 1. CONTRACTOR TO CAREFULLY REMOVE AND STORE EXISTING LIGHTING AND CEILING MOUNTED DEVICES AS REQUIRED TO ACCESS WORK AREAS. REINSTALL LIGHTS AND CEILING MOUNTED DEVICES UPON COMPLETION OF WORK. CONTRACTOR TO EXTEND WIRING AS REQUIRED FOR ANY CEILING MODIFICATIONS. TYPICAL.
  - 2. RELOCATE EXISTING LIGHTING AND CEILING MOUNTED DEVICES AS REQUIRED FOR INSTALLATION OF NEW DUCT CHASES AND SOFFIT.
  - 3. CONTRACTOR SHALL REFER TO ARCHITECTURAL DRAWINGS FOR FULL SCOPE OF WORK.

PROJECT TITLE

PROJECT ADDRESS

OWNER

ARCHITECT

MEP ENGINEER AND ENVIRONMENTAL ENGINEER

KEY PLAN: NOT TO SCALE

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ELECTRICAL THIRD FLOOR REFLECTED CEILING PLAN

E-303



# E

45D

**SC**

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

E

## PROJECT ADDRESS

OWNER

## ARCHITECT

## D

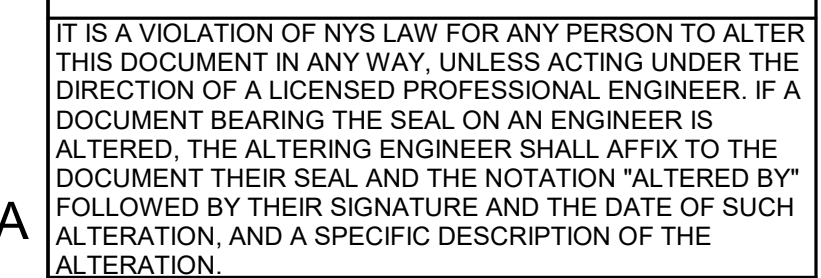
MEP ENGINEER AND ENVIRONMENTAL ENGINEER



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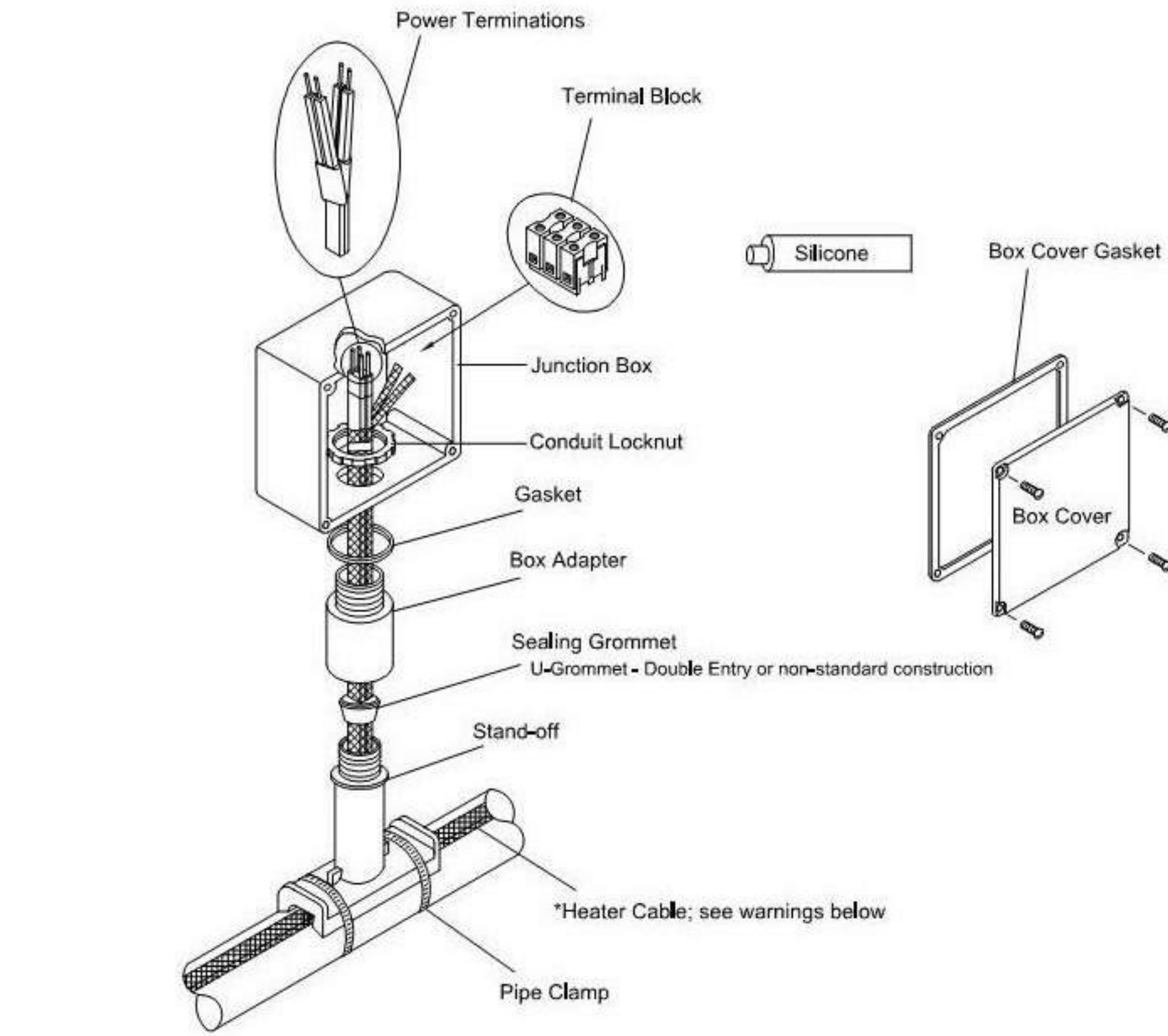
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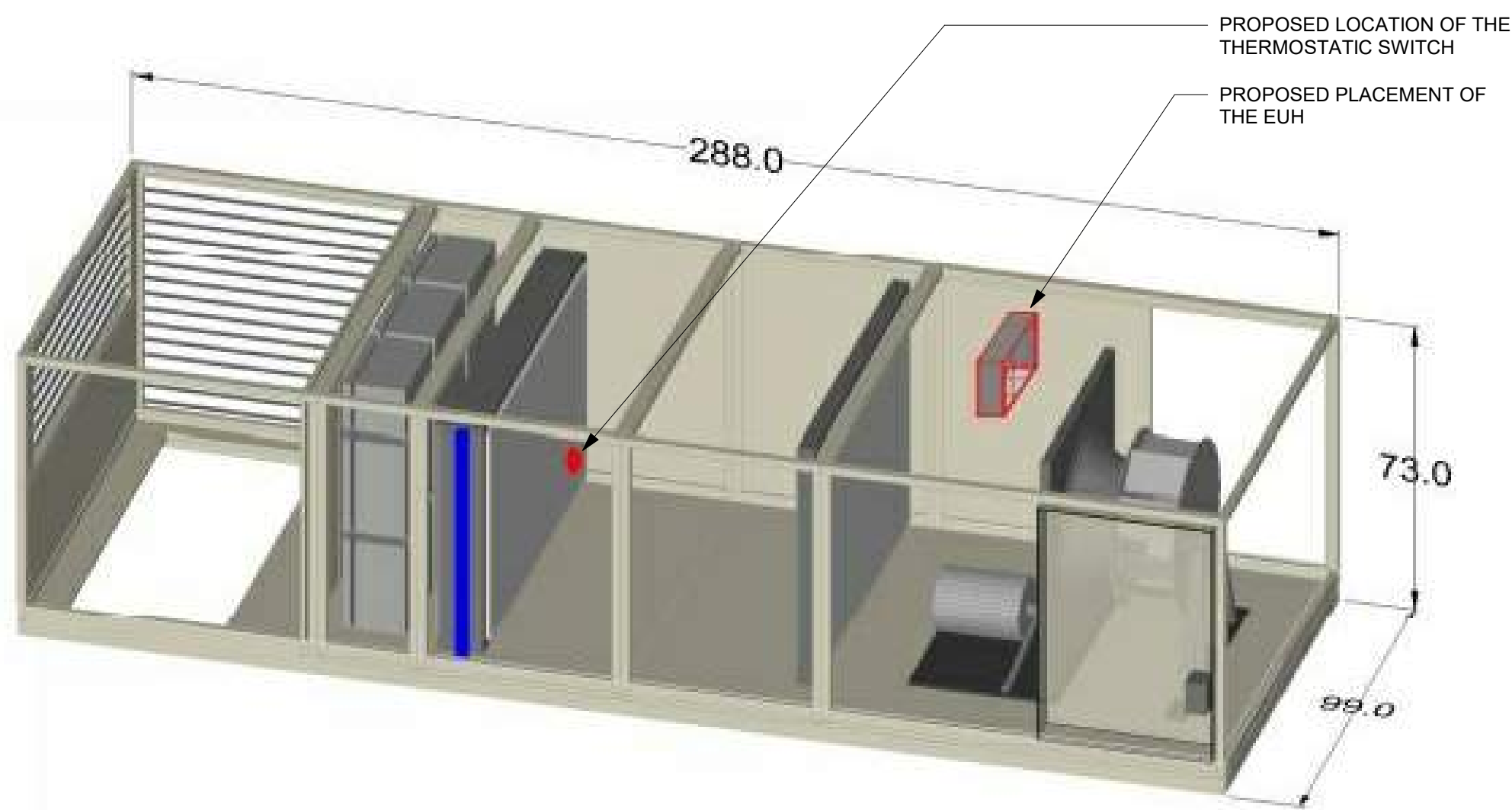
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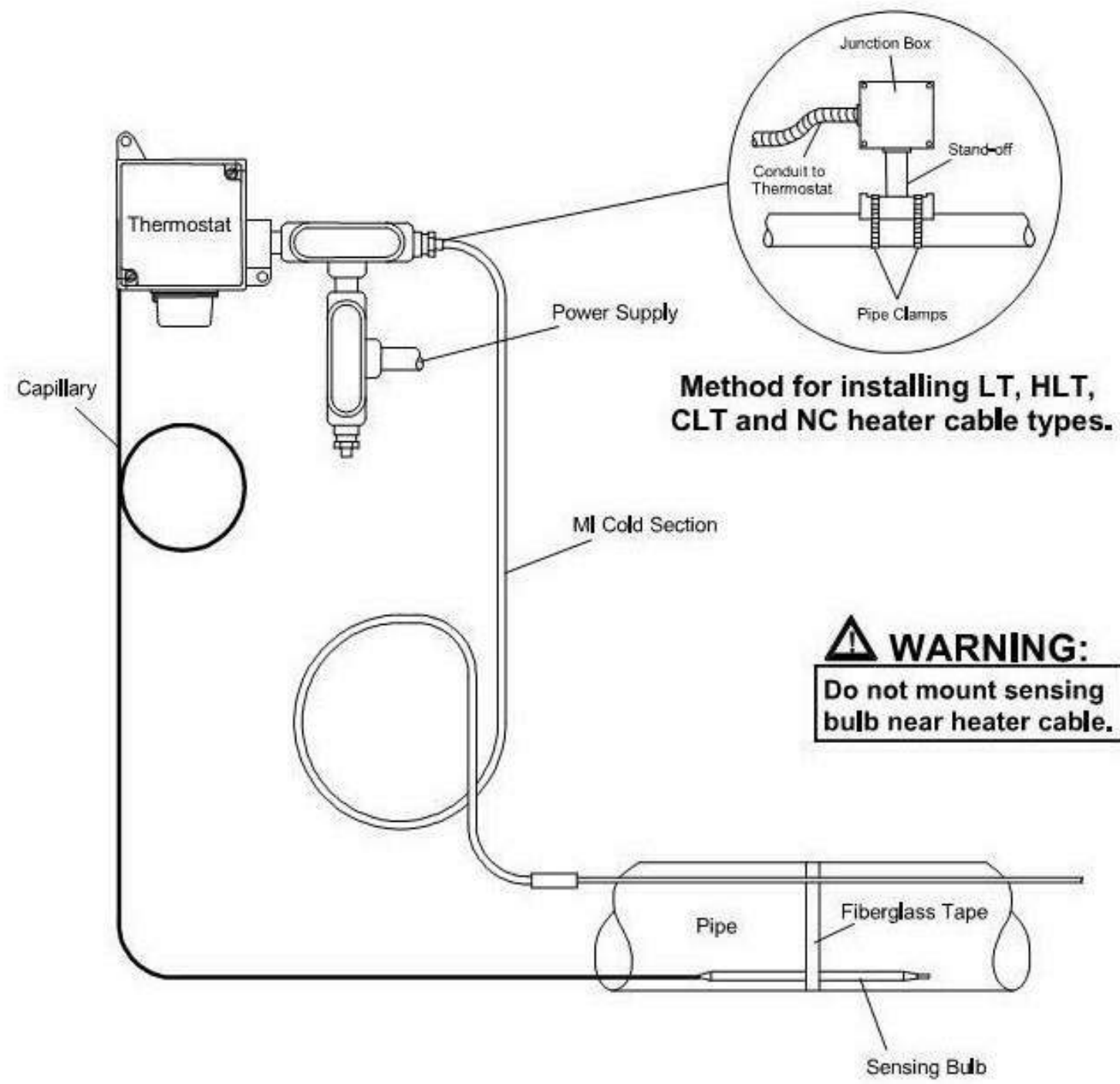




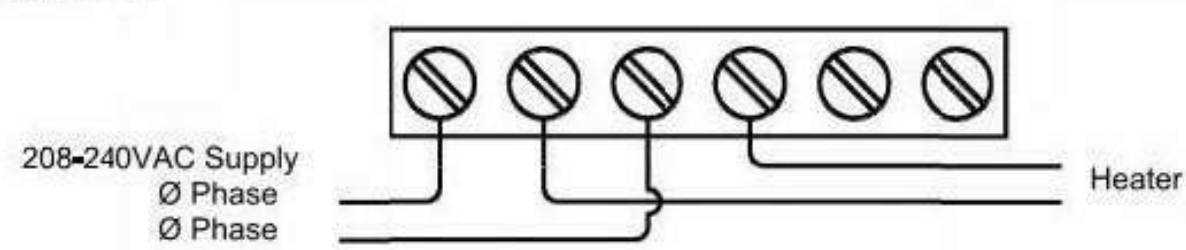
1 **HEAT TRACING PLT-BS SPLICE CONNECTION KIT DETAIL**  
E-801 SCALE: NOT TO SCALE



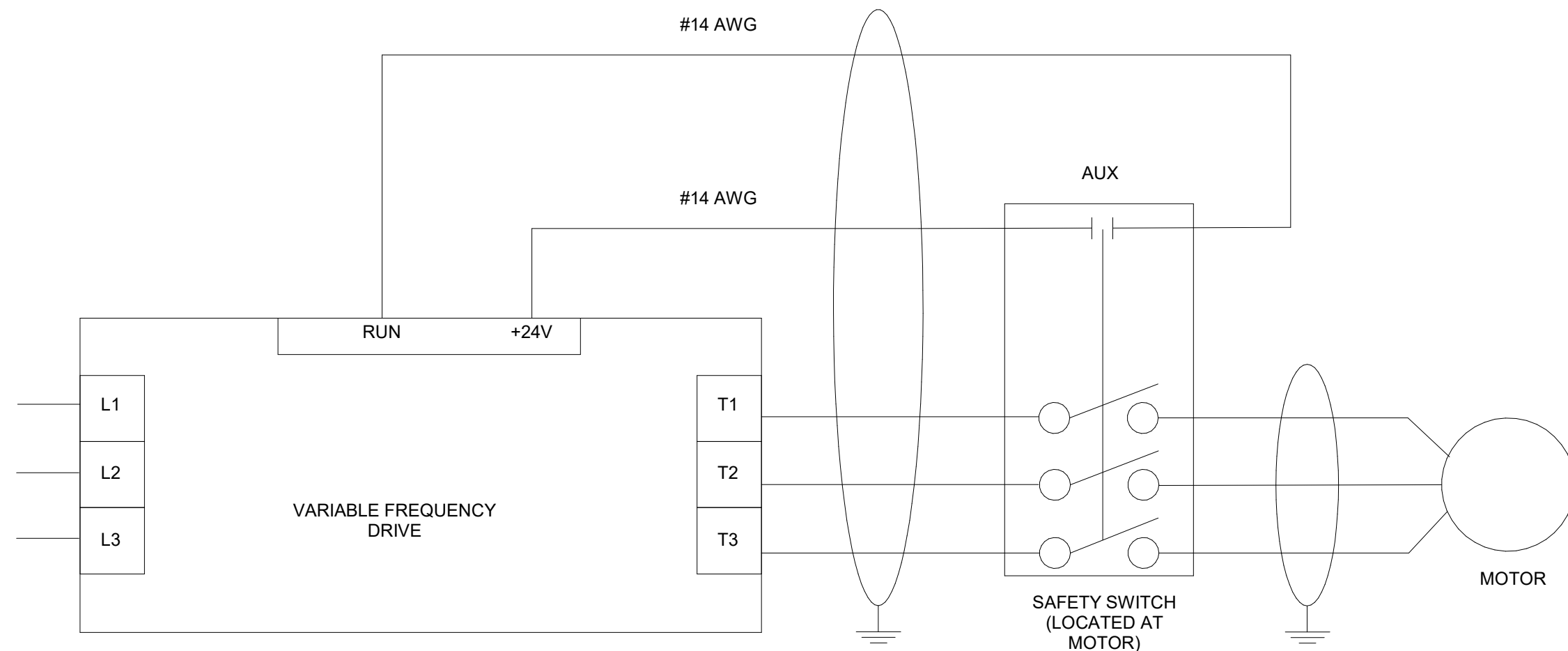
3 **ELECTRIC UNIT HEATER FOR RTU-09 DETAIL**  
E-801 SCALE: NOT TO SCALE



WIRING DIAGRAM



2 **HEAT TRACING TH4X325-2 THERMOSTAT DETAIL**  
E-801 SCALE: NOT TO SCALE



4 **MOTOR SAFETY SWITCH FOR VARIABLE FREQUENCY DRIVES**  
E-801 SCALE: NOT TO SCALE

PROJECT TITLE

**SAUNDERS TRADES  
AND TECHNICAL  
HIGH SCHOOL HVAC  
UPGRADES**

PROJECT ADDRESS

**183 PALMER RD  
YONKERS, NY 10701**

OWNER

**YONKERS PUBLIC  
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ARCHITECT

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MEP ENGINEER AND ENVIRONMENTAL ENGINEER

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*A LiRo Group Company*  
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SHEET TITLE

**ELECTRICAL AND CONTROL  
DETAILS**

**E-801**



## FIRE ALARM GENERAL NOTES






























1. INSTALLATION SHALL BE IN ACCORDANCE WITH 2007 NEW YORK FIRECODE.
2. DEVEAL LAYOUT DRAWINGS INDICATE APPROXIMATE LOCATION OF DEVICES. ACTUAL LOCATION SHALL BE INSTALLED CENTER OF CEILING TILE AND CENTER OF RESPECTIVE ROOM TAKING INTO CONSIDERATION FIELD CONDITIONS (LIGHTS, DUCTWORK, ETC)
3. SUPPORT WIRE FOR CEILINGS MAY NOT BE USED TO SUPPORT ANY ELECTRICAL CONDUIT OR WIRE.
4. FOR EMT AND FLEXIBLE ALUMINUM METALLIC CONDUIT, ONLY THROATED INSULATOR CONNECTOR SHALL BE USED.
5. ALL FLEXIBLE CONDUIT USED WITHIN 12" OF A SPRINKLER RISER SHALL BE INSTALLED IN LIQUID TIGHT FLEXIBLE CONDUIT WITH STEEL COMPRESSION FITTINGS.
6. THE FACP AND FCPS PANELS SHALL BE WIRED TO A 120 VAC 3 WIRE DEDICATED 20 AMP CIRCUIT BREAKER. THIS BREAKER SHALL BE AN EMERGENCY POWER CIRCUIT IF AVAILABLE. IF NOT AVAILABLE THE CIRCUIT SHALL NOT BE AUTOMATICALLY SHUT OFF BY THE CONTROL PANEL SYSTEM OPERATION. WIRING FOR THIS TO BE 12 AWG, WIRING BY OTHERS.
7. FIRE CONTROL PANELS, POWER SUPPLIES AND MODULE ENCLOSURES SHALL BE MOUNTED DIRECTLY TO STUDS USING THE APPROPRIATE SIZED METAL SCREWS IN A MINIMUM OF TWO PLACES. AT LEAST TWO OTHER FASTENERS FOR A TOTAL OF FOUR SHALL BE USED SUCH AS CRWYALL ANCHORS OR ANGLE BOLTS. MINIMUM 4" SNAIL MOUNTING HOLES BE DRILLED. ALL FOUR CORNERS ARE TO BE ANCHORED AT A MINIMUM.
8. ALL J-BOX COVERS USED IN FIRE ALARM AND FIRE SUPPRESSION SYSTEM AND CONTROLS SHALL BE RED.
9. WHEN CUTTING A DEVICE INTO A WALL AFTER DRYWALL IS INSTALLED, FLEXIBLE METAL CONDUIT WITH AN INSULATED SHALL BE USED.
10. NO MORE THAN TWO WIRES SHALL BE TERMINATED ON ANY SCREW TYPE TERMINATION LUG.
11. T-TAPPING OR SUPERVISED CIRCUITS WHICH EMPLOY AN END OF LINE RESISTOR IS SPECIFICALLY EXCLUDED.
12. ALL PENETRATIONS THROUGH FIRE RATED WALLS SHALL BE MADE USING A CONDUIT SLEEVE AS SHOWN. THERE SHALL BE FIRE CAULKED USING UL APPROVED FIRE BARRIER CAULK LISTED FOR THE APPLICATION.

## FIRE ALARM NOTES

1. FIRE ALARM VENDOR MUST PRODUCE A SEPARATE FIXED PRICE TO PERFORM THE SCOPE OF WORK CONTAINED ON THESE DRAWINGS IN CONNECTION WITH THE FIRE ALARM SYSTEM. THE DRAWINGS ARE PROVIDED FOR BID PURPOSES ONLY AND TO ILLUSTRATE THE SCOPE OF WORK INTENT OF THIS PROJECT. PRIOR TO SUBMISSION OF THE FIRE ALARM BID, THE FIRE ALARM SYSTEM, THE DRAWINGS AND THE REVIEW ALL DRAWINGS (I.E. MECHANICAL/HVAC, ELECTRICAL, PLUMBING, ETC.) MUST BE VISUALLY INSPECTED AND THE SUBMISSION OF THE FIRE ALARM BID, THE FIRE ALARM VENDOR CERTIFIES THAT ALL DRAWINGS HAVE BEEN REVIEWED, THE SITE HAS BEEN VISITED/INSPECTED (IF APPLICABLE) AND THE SUBMISSION OF THE FIRE ALARM BIDS ARE FULLY UNDERSTOOD AND INCLUDED IN THE BID PRICE (NO CHANGE ORDERS ALLOWED).
2. FIRE ALARM VENDOR MUST ADHERE TO ALL LOCAL CODES AND AUTHORITIES HAVING JURISDICTION (I.E. BUILDING DEPT, FIRE MARSHAL, ETC.) AND THE CITY OF NEW YORK CITY DEPARTMENT OF RECORDS AND THESE AUTHORITIES HAVING JURISDICTION.
3. FIRE ALARM VENDOR MUST SUBMIT TO THE ENGINEER & OWNER FINAL (AS APPROVED) BY THE LOCAL BUILD. DEPT. & FIRE MARSHAL) SIGNED AND STAMPED APPROVAL OF THE FIRE ALARM SYSTEM. THE DRAWINGS INCLUDING: FIRE ALARM RISER DIAGRAM, LAYOUT, EQUIPMENT LIST & SPECIFICATIONS PRIOR TO START OF INSTALLATION. THE COST OF THE INSTALLATION SHALL BE THE RESPONSIBILITY OF THE VENDOR. THE CONNECTION & TESTING, TROUBLE SHOOTING OF SYSTEM, ATTENDANCE AT THE FIRE ALARM INSPECTION, ETC. ARE TO BE PART OF THE TOTAL BID PRICE. PRIOR TO THE START OF THE FIRE ALARM SYSTEM CAN BEGIN UPON WRITTEN APPROVAL FROM THE ENGINEER.
4. LOCATION OF ALL FIRE ALARM DEVICES (HORN, STROBES, ETC.) INDICATED ON THESE DOCUMENTS ARE TO BE USED ADDITION TO THE LOCAL FIRE MARSHAL'S ORDINANCE. ADDITIONAL DEVICES REQUIRED ABOVE AND BEYOND THE SPECIFICATIONS OF THE TESTING AND THE ENTIRE SYSTEM MUST BE IN ACCORDANCE WITH THE NEW YORK CITY BUILDING DEPARTMENT AND THE FIRE MARSHAL'S REQUIREMENTS. THE REQUEST OF THE FIRE MARSHAL OR BUILDING DEPARTMENT WILL BE REIMBURSED UNDER CONTRACT UNIT PRICING.
5. ALL CABLES AND WIRING MUST BE PLENUM RATED CABLES.

## FIRE ALARM SYMBOLS

THIS SYMBOL LEGEND IS SHOWN FOR GENERAL REFERENCE ONLY. THE PRESENCE OF A SYMBOL ON THIS LEGEND DOES NOT IMPLY ITS USE ON THIS PROJECT. REFER TO DRAWINGS FOR SPECIFIC SYMBOLS USED.

	FIRE ALARM CONTROL PANEL
	FIRE ALARM REMOTE ANNUNCIATOR PANEL
	MANUAL FIRE ALARM PULL STATION
	HEAT DETECTOR
	SMOKE DETECTOR
	SMOKE DETECTOR ABOVE CEILING
	FIRE ALARM WALL MOUNTED HORN STROBE
	CEILING MOUNTED HORN STROBE
	FIRE ALARM STROBE
	DUCT SMOKE DETECTOR - RETURN
	DUCT SMOKE DETECTOR - SUPPLY
	COMBINATION RATE OF RISE AND 135 DEGREES HEAT DETECTOR CONNECTED TO FA SYSTEM
	FLOW SWITCH CONNECTED TO FIRE ALARM SYSTEM
	GATE VALVE TAMPER SWITCH
	FIRE SMOKE DAMPER
	FIRE SMOKE DAMPER
	FAN SHUT DOWN RELAY
	RELAY
	REMOTE TEST SWITCH
	MONITOR MODULE
	ISOLATION MODULE
	INDIVIDUAL ADDRESSABLE MODULE
	END OF THE LINE RESISTOR
	ALARM BELL
	REFER TO SUPPLEMENTAL FIGURE NUMBER (I.E. F2 REFERS TO FIGURE 2)
	EQUIPMENT TAG
	EQUIPMENT NUMBER
	DETAIL TAG CALL OUT TAG
	FIRE ALARM SHEET NUMBER

## ABBREVIATIONS

E.C.	ELECTRICAL CONTRACTOR	F.A.C	FIRE ALARM CONTRACTOR
E.R.	EXISTING DEVICE RELOCATED	F.S.C	FIRE SPRINKLER CONTRACTOR
ETR	EXISTING TO REMAIN	M.C.	MECHANICAL CONTRACTOR

### SEQUENCE OF OPERATIONS MATRIX

**NOTES:**

- A) CENTRAL STATION ALARM SERVICE TO RECEIVE SEPARATE & DISTINCT SIGNALS AS FOLLOWS :
  - A) FIRE ALARM (SEE MATRIX)
  - B) TROUBLE SIGNALS (SEE MATRIX)
  - C) SUPERVISORY SIGNALS FOR SPRINKLER TAMPER SW.'
- D) SUPERVISORY SIGNALS FOR RESIDENTIAL UNITS SD/CO
- E) SUPERVISORY SIGNALS FOR GENERATOR RUN/FAIL
- F) SIGNALS TO BE TRANSMITTED AS CONTACT ID
- G) TROUBLE SIGNALS FOR TAMPERING OR REMOVAL OF RESIDENT SMOKE S OR SMOKE/CO DETECTORS
- H) HVAC RESET SHALL BE INDEPENDENT OF FACP RESET FUNCTION
- I) DEPENDS ON HOW ELEVATOR SHAFT IS BUILT & IF PROTECTED BY SPRINKLER SYSTEM

ACTIVATION OF AREA HEAT DETECTOR	X			X	X	X				X		X	X	X
ACTIVATION OF AREA SMOKE DETECTOR				X	X	X				X	X		X	X
ACTIVATION OF MANUAL PULL STATION	X			X	X	X				X	X		X	X
ACTIVATION OF BEAM DETECTOR				X	X	X	X						X	X
ACTIVATION OF COMMON AREA SMOKE/CO DET	X			X	X	X				X	X	X	X	X
ACTIVATION OF CO DET		X										X		
ACTIVATION OF ABOVE HUNG CEILING SMOKE DET	X			X	X	X				X	X		X	X
ACTIVATION OF ELEV. LOBBY SMOKE DET.							X				X	X	X	
ACTIVATION OF ELEV. HOISTWAY HEAT DET.	X			X	X	X		X			X		X	X
ACTIVATION OF ELEV. HOISTWAY SMOKE DET.				X	X	X					X	X	X	X
ACTIVATION OF ELEV. MACH. RM HEAT DET.				X	X	X				X	X		X	X
ACTIVATION OF ELEV. MACH. RM SMOKE DET.	X			X	X	X		X			X		X	X
ACTIVATION OF DUCT SMOKE DETECTOR								X						
ACTIVATION OF SPRINKLER WATERFLOW/PRESSURE SW.	X			X	X	X			X	X		X	X	X
ACTIVATION OF SPRINKLER TAMPER SW.		X												
ACTIVATION OF SPRINKLER HI/LO PRESSURE SW.												X		
ACTIVATION OF FIRE PUMP RUN/FAIL	X												X	
ACTIVATION OF FIRE PUMP PHASE REVERSAL		X												
ACTIVATION OF FIRE PUMP PHASE LOSS		X											X	
ACTIVATION OF GROUND FAULT ON FACP			X											
ACTIVATION OF NOTIFICATION APPLIANCE CIR. SHORT			X											
ACTIVATION OF OPEN CIRCUIT ON FACP				X										
ACTIVATION OF LOW BATTERY ON FACP				X										
ACTIVATION OF AC POWER LOSS TO FACP			X											
ACTIVATION OF GENERATOR RUN/FAIL			X										X	
ACTIVATION OF GENERATOR TROUBLE			X										X	
ACTIVATION OF GENERATOR SELECTOR SWITCH NOT IN AUTO			X											
ACTIVATION OF AUTOMATIC EXTINGUISHING SYSTEM (A.E.S.)										X	X	X	X	

PROJECT TITLE

# SAUNDERS TRADES AND TECHNICAL HIGH SCHOOL HVAC UPGRADES

PROJECT ADDRESS

**183 PALMER RD  
YONKERS, NY 10701**

OWNER

**YONKERS PUBLIC  
SCHOOLS**

ARCHITECT

D

**FULLER AND  
D'ANGELO P.C.**

45 KNOLLWOOD ROAD  
ELMSFORD, NY 10523  
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MEP ENGINEER AND ENVIRONMENTAL ENGINEER



**LiRo Engineers, Inc.**  
*A LiRo Group Company*  
Syosset, N.Y. 516-214-8157[T]

KEY PLAN: NOT TO SCALE

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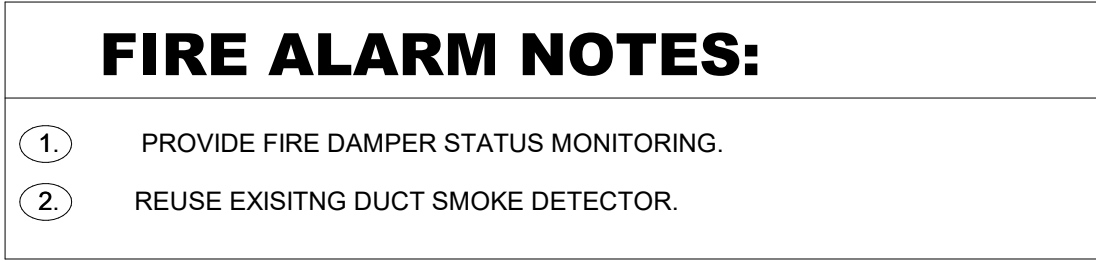
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SHEET TITLE

## FIRE ALARM NOTES, SYMBOLS & LEGEND

**FA-001**





FA-201

**N**  **FIRE ALARM 1ST FLOOR CONSTRUCTION PLAN**  
SCALE: 3/32" = 1'-0"



183 PALMER RD  
YONKERS, NY 10701

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 **LiRo Engineers, Inc.**  
*A LiRo Group Company*  
Syosset, N.Y. 516-214-8157[T]

**FIRE ALARM 2ND FLOOR  
CONSTRUCTION PLAN**

1. PROVIDE FIRE DAMPER STATUS MONITORING.
2. PROVIDE SMOKE DAMPER CONTROL FROM THE EXISTING EC-7 DUCT SMOKE DETECTOR.
3. PROVIDE REMOTE TEST SWITCH FOR SMOKE DAMPER.

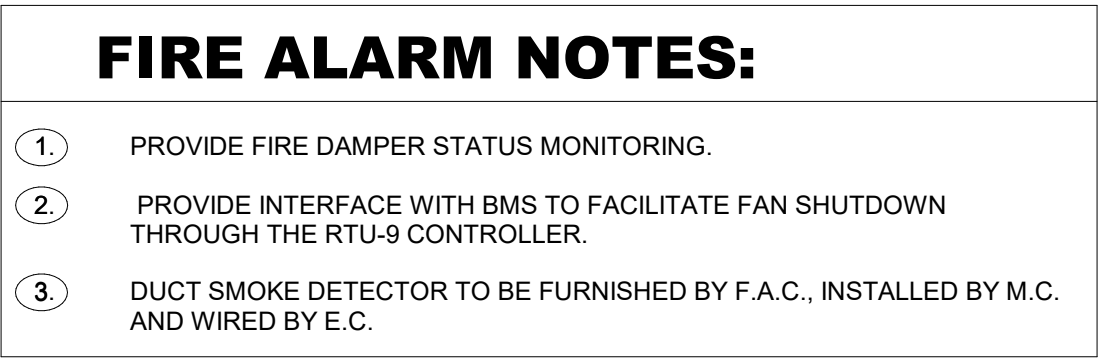




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E	<b>PROJECT TITLE</b>	<h1 style="margin: 0;">SAUNDERS TRADES AND TECHNICAL HIGH SCHOOL HVAC UPGRADES</h1>							
	<b>PROJECT ADDRESS</b>	<b>183 PALMER RD YONKERS, NY 10701</b>							
D	<b>OWNER</b>	<b>YONKERS PUBLIC SCHOOLS</b>							
	<b>ARCHITECT</b>	<b>FULLER AND D'ANGELO P.C.</b>  45 KNOLLWOOD ROAD ELMSTOWN, NY 10523 (T) 914.592.4444							
C	<b>MEP ENGINEER AND ENVIRONMENTAL ENGINEER</b>	<div style="display: flex; align-items: center; justify-content: center;"> <div> <b>LiRo Engineers, Inc.</b>  <i>A LiRo Group Company</i>  <small>Syosset, N.Y.                      516-214-8157(T)</small> </div> </div>							
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<h2 style="margin: 0;">FIRE ALARM 3RD FLOOR CONSTRUCTION PLAN</h2>									
<h1 style="margin: 0;">FA-203</h1>									





# SAUNDERS TRADES AND TECHNICAL HIGH SCHOOL HVAC UPGRADES

**183 PALMER RD  
YONKERS, NY 10701**

**YONKERS PUBLIC  
SCHOOLS**

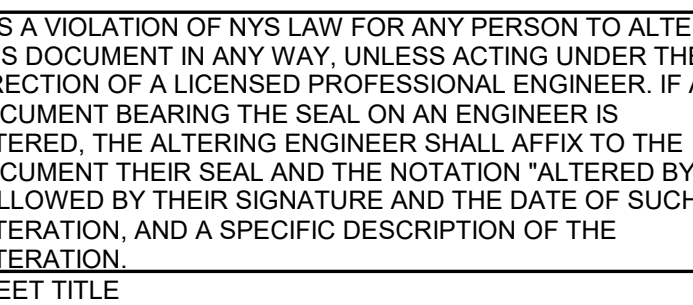
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## FIRE ALARM ROOF CONSTRUCTION PLAN

FA-204