

# ALDERMAN HALL REPLACE VRF

FOR  
**UNIVERSITY OF NORTH CAROLINA**

5150 LIONFISH DRIVE,  
Wilmington, NC 28403  
STATE ID#: 25-30023-01A



**CBHF**  
Engineers, PLLC

2246 Yaupon Drive  
Wilmington, NC 28401

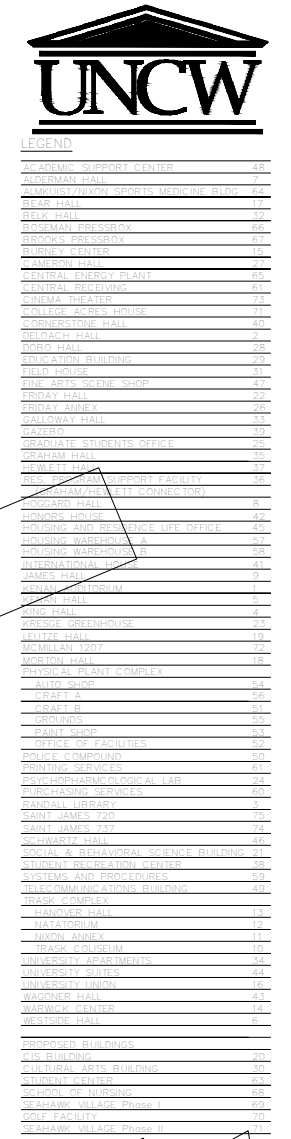
Phone: 910.791.4000

Fax: 910.791.5266

www.cbhfengineers.com

NC# P-0506

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### GENERAL

#### COVER SHEET

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### MECHANICAL SUMMARY

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

CLIMATE ZONE 3A - WARM/HUMID  
 WINTER DRY BULB: 23 °F  
 SUMMER DRY BULB 93 °F

INTERIOR DESIGN CONDITIONS  
 WINTER DRY BULB 70 °F  
 SUMMER DRY BULB 75 °F  
 RELATIVE HUMIDITY 60% RH\*

\*DESIGN- NOT CONTROLLED

BUILDING HEATING LOAD: 17.4 MBH  
 BUILDING COOLING LOAD: 28.7 MBH

MECHANICAL SPACING CONDITIONING SYSTEM

UNITARY  
 DESCRIPTION OF UNIT: SEE SCHEDULES  
 HEATING EFFICIENCY: SEE SCHEDULES  
 COOLING EFFICIENCY: SEE SCHEDULES  
 SIZE CATEGORY OF UNIT: SEE SCHEDULES

BOILER  
 SIZE CATEGORY, IF OVERSIZED STATE REASON: N/A  
 CHILLER  
 SIZE CATEGORY, IF OVERSIZED STATE REASON: N/A

LIST EQUIPMENT EFFICIENCIES: SEE SCHEDULES

### MECHANICAL LEGEND

	TEMPERATURE SENSOR
	TEMPERATURE/HUMIDITY SENSOR
	DUCT SMOKE DETECTOR
	INDICATES TO DEMOLISH
	GAS METER
	GAS SHUTOFF VALVE
	EXTENT OF DEMOLITION
	POINT OF CONNECTION
	DIFFUSER/ REGISTER/ GRILLE NO. AS SHOWN ON PLAN AND SCHEDULE
	SG, RG, TG, EG
	AIRFLOW, CFM

NOTE: ALL ITEMS MAY NOT BE USED IN PROJECT.

### MECHANICAL DUCTWORK LEGEND

	BD BALANCING DAMPER
	CEILING RETURN OR TRANSFER REGISTER/GRILLES
	EXHAUST GRILLES
	CEILING SUPPLY DIFFUSERS
	CONICAL TEE
	HORIZONTAL FIRE DAMPER
	VERTICAL FIRE DAMPER
	VERTICAL SMOKE DAMPER
	VERTICAL FIRE/SMOKE DAMPER
	FLEXIBLE DUCT CONNECTION
	DECLINED DROP WITH RESPECT TO AIRFLOW
	INCLINED RISE WITH RESPECT TO AIRFLOW
	INDICATES ROUND DUCTWORK
	MITERED ELBOW WITH TURNING VANES
	MOTORIZED CONTROL DAMPER
	RADIUS ELBOW
	SUPPLY DUCT TURNING UP (ROUND OR RECTANGULAR)
	RETURN DUCT TURNING UP (ROUND OR RECTANGULAR)
	EXHAUST DUCT TURNING UP (ROUND OR RECTANGULAR)
	OUTSIDE AIR DUCT TURNING UP (ROUND OR RECTANGULAR)
	SUPPLY DUCT TURNING DOWN (ROUND OR RECTANGULAR)
	RETURN DUCT TURNING DOWN (ROUND OR RECTANGULAR)
	EXHAUST DUCT TURNING DOWN (ROUND OR RECTANGULAR)
	OUTSIDE AIR DUCT TURNING DOWN (ROUND OR RECTANGULAR)
	SQUARE OR RECTANGULAR DUCTWORK
	VOLUME DAMPER
	TAKEOFF WITH 45° THROAT
	RETURN, EXHAUST OR TRANSFER AIR FLOW
	SUPPLY AIR FLOW
	DUCT CROSSING
	RECTANGULAR DUCT TURNING DOWN WITH CHANGE OF DIRECTION
	ROUND DUCT TURNING DOWN WITH CHANGE OF DIRECTION
	TERMINATION OF DUCT WITH BRANCH CONNECTIONS
	RECTANGULAR TO ROUND DUCT TRANSITION
	SUPPLY AIR DUCTWORK
	RETURN AIR DUCTWORK
	EXHAUST AIR DUCTWORK
	OUTSIDE AIR DUCTWORK
	MAKEUP AIR DUCTWORK
	DUCT SMOKE DETECTOR
	STATIC PRESSURE SENSOR
	DIFFERENTIAL PRESSURE TRANSDUCER

NOTE: ALL ITEMS MAY NOT BE USED IN PROJECT.

### DEMOLITION GENERAL NOTES:

- THE MECHANICAL CONTRACTOR SHALL REVIEW THE DRAWINGS AND SPECIFICATIONS FOR DEMOLITION REQUIREMENTS AND LAYOUT HIS WORK IN A COMPATIBLE AND COMPLEMENTARY MANNER. REMOVE ALL EQUIPMENT, DUCTWORK, SUPPORTS, CONTROLS, ACCESSORIES, ETC., AND MECHANICAL ITEMS MADE OBSOLETE BY THESE ALTERATIONS AS SHOWN IN THE MECHANICAL DRAWINGS. ALL ITEMS TO BE REMOVED OR MODIFIED MAY NOT BE SHOWN, HOWEVER, THIS CONTRACTOR SHALL REMOVE ANY MECHANICAL WORK AS REQUIRED BY THE CONSTRUCTION OR AS DIRECTED BY THE OWNER OR THE ENGINEER. SURVEY THE AFFECTED AREAS BEFORE SUBMITTING A BID.
- SCHEDULING OF DEMOLITION - COORDINATE SCHEDULING OF MECHANICAL DEMOLITION WORK WITH THE OWNER AND GENERAL CONTRACTOR SO AS TO MINIMIZE DISRUPTION OF THE OWNER'S USE OF THE FACILITIES AND MAINTAIN THE CONSTRUCTION SEQUENCE OF THE GENERAL CONTRACTOR. SEE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INSTRUCTIONS CONCERNING PHASING AND SEQUENCE OF WORK.
- EXISTING MECHANICAL SYSTEMS - VERIFY CONDITION OF EXISTING MECHANICAL SYSTEMS TO BE REUSED SO THAT COMPLETE, FULLY OPERATIONAL AND RELIABLE SYSTEMS ARE OBTAINED AT THE COMPLETION OF THE WORK. NOTIFY ARCHITECT/ENGINEER OF ANY SYSTEMS FOUND TO BE OF QUESTIONABLE CONDITION.
- ALL EXISTING MECHANICAL EQUIPMENT AND DEVICES SHALL REMAIN UNLESS SPECIFICALLY NOTED TO BE REMOVED.
- DEMOLISHED MATERIALS - UNLESS SPECIFICALLY REQUESTED BY THE OWNER, ALL DEMOLISHED MECHANICAL MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE AND DISPOSED OF PROPERLY.
- CUTTING AND PATCHING - PERFORM CUTTING AND PATCHING FOR MECHANICAL WORK SO AS TO MINIMIZE DAMAGE TO CEILINGS, FLOORS AND WALLS. REFER TO ARCHITECTURAL DRAWINGS AND GENERAL SPECIFICATIONS SECTIONS FOR SPECIFIC RESPONSIBILITIES REGARDING CUTTING AND PATCHING.
- THESE DRAWINGS ARE COMPILED BY THE ARCHITECT/ENGINEER FROM THE OWNER'S AS-BUILT RECORD DRAWINGS AND LIMITED FIELD VERIFICATION OF EXISTING CONDITIONS FOR THE PURPOSE OF INDICATING THE WORK REQUIRED AND ARE BELIEVED TO BE CORRECT. NOTWITHSTANDING, THE CONTRACTOR SHALL VERIFY ALL DUCTWORK, EQUIPMENT LOCATIONS, DIMENSIONS AND ALL FIELD CONDITIONS AFFECTING HIS WORK.
- WHERE MECHANICAL SYSTEMS PASS THROUGH THE DEMOLITION AREAS TO SERVE OTHER PORTIONS OF THE PREMISES, THEY SHALL REMAIN OR BE SUITABLY RELOCATED AND THE SYSTEM RESTORED TO NORMAL OPERATION. ADVISE THE ARCHITECT/ENGINEER IMMEDIATELY IF SUCH CONDITIONS ARE UNCOVERED BEFORE PROCEEDING WITH ADDITIONAL WORK.
- PROTECT ALL EXISTING LIFE SAFETY SYSTEMS, FIRE ALARM AND PUBLIC ADDRESS SYSTEMS AND MAINTAIN THEM IN OPERATION THROUGHOUT THE PROGRESS OF THE WORK. NOTIFY THE OWNER AND ARCHITECT/ENGINEER IN WRITING OF SHUTDOWNS ARE REQUIRED PRIOR TO ANY OUTAGE OF SERVICE. WHERE THE DURATION OF A PROPOSED OUTAGE CANNOT BE TOLERATED BY THE OWNER, PROVIDE TEMPORARY CONNECTIONS AS REQUIRED MAINTAINING SERVICE.
- SURVEY THE EFFECTED AREAS BEFORE SUBMITTING A BID AS ALL EXISTING CONDITIONS CANNOT BE COMPLETELY DEPICTED ON THE DRAWINGS AND SOME UNUSUAL CONDITIONS EXIST.
- IF ANY UNUSUAL STRUCTURAL OR ARCHITECTURAL CONDITIONS ARE ENCOUNTERED DURING DEMOLITION, CONTACT THE ARCHITECT/ENGINEER.
- REMOVE AIR CONDITIONING, REFRIGERATION, AND OTHER EQUIPMENT CONTAINING REFRIGERANTS WITHOUT RELEASING CHLOROFLUOROCARBON REFRIGERANTS TO THE ATMOSPHERE IN ACCORDANCE WITH THE CLEAN AIR ACT AMENDMENT OF 1990. RECOVER ALL REFRIGERANTS PRIOR TO REMOVING AIR CONDITIONING, REFRIGERATION, AND OTHER EQUIPMENT CONTAINING REFRIGERANTS AND DISPOSE OF IN ACCORDANCE WITH THE PARAGRAPH ENTITLED "DISPOSAL OF OZONE DEPLETING SUBSTANCE (ODS)." TURN IN SALVAGED CLASS 1 ODS REFRIGERANTS AS SPECIFIED IN PARAGRAPH, "SALVAGED MATERIALS AND EQUIPMENT."

### MECHANICAL GENERAL NOTES:

- ALL MECHANICAL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH APPLICABLE FEDERAL, STATE, AND LOCAL CODES, ORDINANCES, AND INDUSTRY STANDARDS.
- ALL DIMENSIONS AND ELEVATIONS FOR NEW EQUIPMENT, DUCTWORK, PIPING, AND RELATED SYSTEMS ARE APPROXIMATE AND PROVIDED FOR GENERAL GUIDANCE ONLY. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS IN THE FIELD AND INCLUDE ACTUAL CONDITIONS IN THE SHOP DRAWINGS. DUCTWORK AND PIPING LAYOUTS SHOWN ON THE DRAWINGS (PLANS, SECTIONS, PERSPECTIVES) ARE DIAGRAMMATIC IN NATURE. FINAL ROUTING AND COORDINATION ARE THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR.
- ALL DUCT DIMENSIONS SHOWN ON THE DRAWINGS ARE CLEAR INSIDE DIMENSIONS. THE CONTRACTOR SHALL ACCOUNT FOR THE THICKNESS OF EXTERIOR DUCT INSULATION WHEN DETERMINING REQUIRED INSTALLATION CLEARANCES AND COORDINATION WITH ADJACENT SYSTEMS.
- DURING CONSTRUCTION, THE CONTRACTOR SHALL TEMPORARILY SEAL ALL OPEN DUCT AND PIPE ENDS USING A NON-COMBUSTIBLE, AIRTIGHT MATERIAL TO PREVENT CONTAMINATION OF HVAC AND PIPING SYSTEMS.
- THE CONTRACTOR SHALL SAFELY REMOVE AND LEGALLY DISPOSE OF ALL DEMOLISHED MECHANICAL MATERIALS OFF-SITE. WORK AREAS SHALL BE MAINTAINED IN A CLEAN, ORGANIZED, AND HAZARD-FREE CONDITION AT ALL TIMES. NON-WORK AREAS SHALL BE PROTECTED AND KEPT FREE OF DEBRIS.
- ANY EXISTING EQUIPMENT, DUCTWORK, OR PIPING REQUIRING TEMPORARY REMOVAL TO FACILITATE RIGGING OR INSTALLATION SHALL BE CAREFULLY DISMANTLED, PROTECTED, AND FULLY RESTORED TO ITS ORIGINAL CONDITION FOLLOWING COMPLETION OF THE REQUIRED WORK.
- ALL MECHANICAL EQUIPMENT AND COMPONENTS SHALL BE INSTALLED WITH ADEQUATE CLEARANCE FOR OPERATION, MAINTENANCE, AND REPAIR. MINOR DEVIATIONS FROM THE DRAWINGS TO ACHIEVE THIS ARE ACCEPTABLE; HOWEVER, NO MODIFICATIONS THAT RESULT IN ADDITIONAL COST SHALL BE MADE WITHOUT PRIOR WRITTEN APPROVAL.

### MECHANICAL ABBREVIATIONS

ABBREVIATION	TERM
ADJ	ADJUSTABLE
AMCA	AIR MOVEMENT AND CONTROL ASSOCIATION
AMP	AMPERE (AMP, AMPS)
ASTM	AMERICAN SOCIETY OF TESTING AND MATERIALS
CFM	CUBIC FEET PER MINUTE
CIP	CAST IN PLACE
CMU	CONCRETE MASONRY UNIT
COP	COEFFICIENT OF PERFORMANCE
DB	DRY BULB
DEG OR °	DEGREE
EA	EXHAUST AIR
EG	EXHAUST GRILLE
EAT	ENTERING AIR TEMPERATURE
ECM	ELECTRONICALLY COMMUTATED MOTOR
EER	ENERGY EFFICIENCY RATIO
ESP	EXTERNAL STATIC PRESSURE
F	FAN
°F	FAHRENHEIT
FLA	FULL LOAD AMPS
FT	FEET
HC	HOT WATER COIL
HGT OR H	HEIGHT
HP	HORSEPOWER
HR	HOUR(S)
IN.	INCH
IN.-WG	INCHES WATER GAUGE
KW	KILOWATT
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
L	LOUVER
MAX	MAXIMUM
MBH	1000 BTUH
MCA	MINIMUM CIRCUIT AMPACITY
MCWB	MEAN COINCIDENT WET BULB
MIN.	MINIMUM
MOC	MAXIMUM OVER CURRENT PROTECTION
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
OZ	OUNCE
OA	OUTSIDE AIR
%	PERCENT
RA	RETURN AIR
RG	RETURN GRILLE
RPM	REVOLUTIONS PER MINUTE
RTU	ROOF TOP UNIT
SA	SUPPLY AIR
SF	SQUARE-FEET
SG	SUPPLY GRILLE
SQ	SQUARE
TG	TRANSFER GRILLE
TYP	TYPICAL
UH	UNIT HEATER
V/PH/Hz	VOLT/PHASE/HERTZ
VTR	VENT THROUGH ROOF
W	WIDTH
WB	WET BULB

NOTE: ALL ABBREVIATIONS MAY NOT BE USED IN PROJECT.

DATE	07.16.25
ISSUED FOR OWNER REVIEW	07.24.25
ISSUED FOR OWNER REVIEW	07.24.25
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REVISION NO.	A
DESCRIPTION	

**CBHF**  
 Engineers, PLLC  
 2246 Yaupon Drive  
 Wilmington, NC 28401  
 Phone: 910.791.4000  
 Fax: 910.791.5266  
 www.cbhfc.com  
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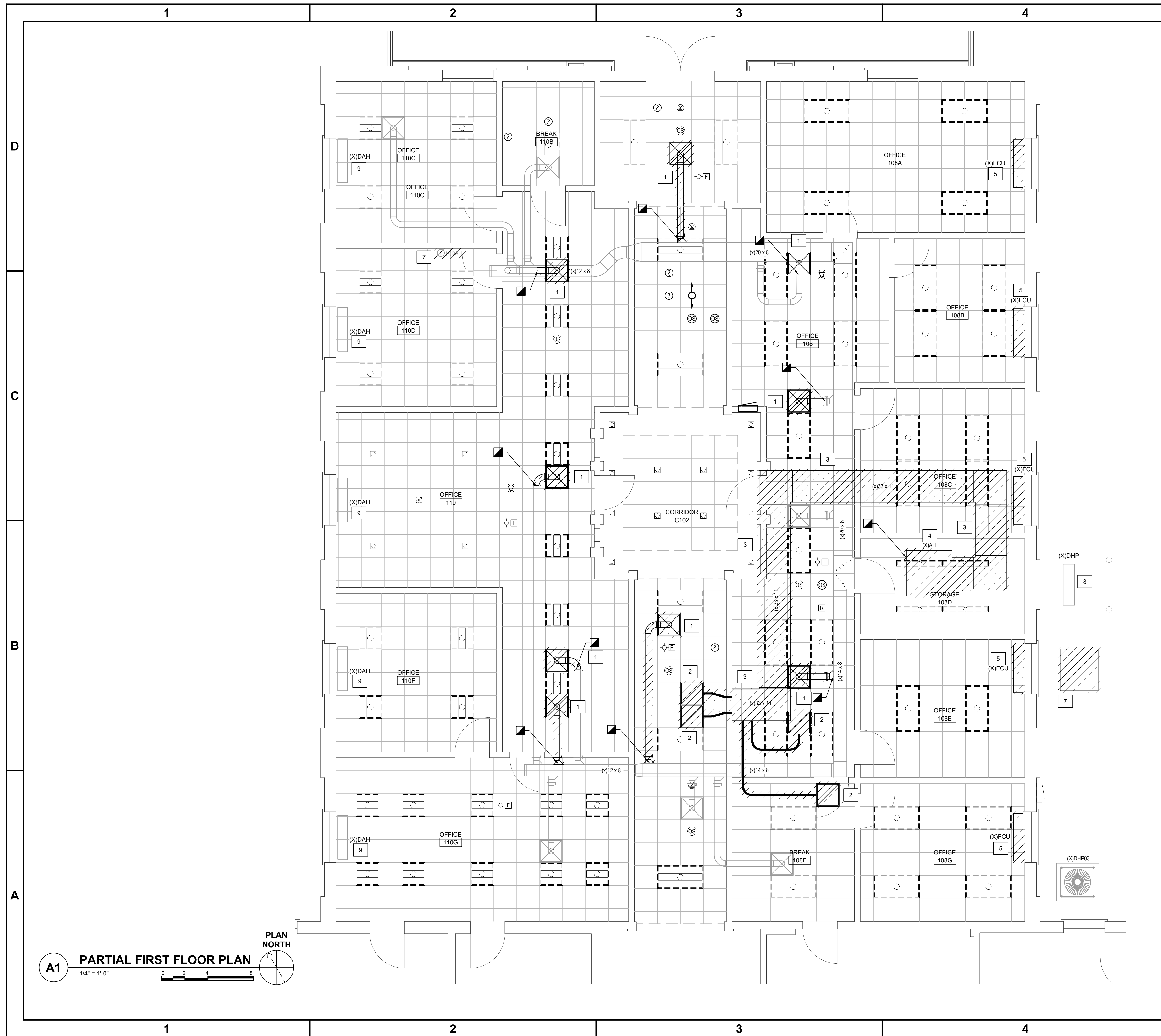


UNIVERSITY OF NORTH CAROLINA WILMINGTON  
 ALDERMAN HALL REPLACE VRF  
 5150 LONFISH DRIVE, WILMINGTON, NORTH CAROLINA 28403  
 STATE ID#: 25-30023-01A  
**MECHANICAL**  
**SPECIFICATIONS, LEGEND, ABBREVIATIONS**  
**AND CODE SUMMARIES**

JOB NO.:	25079
DRAWN:	WTB
DESIGNED:	WTB
CHECKED:	TOG

DRAWING NO:  
**M-001**

REVISION:  
 C



**GENERAL NOTES**

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- MECHANICAL CONTRACTOR TO COORDINATE WITH OTHER TRADES BEFORE BEGINNING ANY WORK.
- THE ELECTRICAL AND MECHANICAL CONTRACTORS MUST COORDINATE THE PLACEMENT OF DAH UNITS WITHIN THE EXISTING CEILING GRID PRIOR TO THE START OF CONSTRUCTION. THE ELECTRICAL CONTRACTOR MUST ADJUST ANY EXISTING CONDUITS ABOVE THE LAY-IN CEILING AS REQUIRED TO AVOID CONFLICTS WITH THE DAH UNIT INSTALLATION.
- CONTRACTOR TO PATCH AND REPAIR DUCT AND PIPING INSULATION AND VAPOR BARRIER VOIDS THAT RESULT FROM THIS PROJECTS DEMOLITION.

**KEYED NOTES**

- REMOVE AND DISPOSE OF EXISTING SUPPLY DIFFUSER AND EXISTING SUPPLY DUCTWORK TO EXTENT SHOWN, INCLUDING BUT NOT LIMITED TO, DIFFUSER, DUCTWORK, INSULATION, AND HANGERS. PATCH AND/OR PREPARE REMAINING DUCTWORK AS REQUIRED FOR RECONNECTION.
- REMOVE AND DISPOSE OF EXISTING RETURN DIFFUSER AND EXISTING RETURN BRANCH DUCTWORK TO EXTENT SHOWN, INCLUDING BUT NOT LIMITED TO, DIFFUSER, DUCTWORK, INSULATION, AND HANGERS.
- REMOVE AND DISPOSE OF EXISTING RETURN DUCTWORK TO EXTENT SHOWN, INCLUDING BUT NOT LIMITED TO, DUCTWORK, INSULATION, AND HANGERS. DEMOLISH HYDRONIC PIPING BACK TO MAIN AND CAP.
- REMOVE AND DISPOSE OF THE EXISTING AIR HANDLING UNIT, INCLUDING, BUT NOT LIMITED TO, ASSOCIATED PIPING, INSULATION, HANGERS, CONTROLS, SUPPORTS, AND ACCESSORIES.
- REMOVE AND DISPOSE OF TWO PIPE FAN COIL UNIT, REMOVE PIPING BACK TO MAIN AND CAP. SEAL OUTSIDE AIR OPENINGS WEATHER TIGHT.
- REMOVE AND DISPOSE OF EXISTING TEMPERATURE CONTROL. PATCH AND PAINT TO MATCH EXISTING.
- REMOVE AND DISPOSE OF EXISTING CONCRETE EQUIPMENT PAD.
- ONCE NEW HVAC SYSTEM HAS BEEN INSTALLED AND IS FULLY FUNCTIONAL, RECOVER REFRIGERANT AND DEMOLISH EXTERIOR DUCTLESS HEAT PUMP AND EXTERIOR REFRIGERANT PIPING.
- ONCE NEW HVAC SYSTEM HAS BEEN INSTALLED AND IS FULLY FUNCTIONAL, RECOVER REFRIGERANT AND INTERIOR DUCTLESS AIR HANDLERS ARE TO BE ABANDONED IN PLACE.

**WORK THIS AREA**

**A5 KEY PLAN**  
NOT TO SCALE

**UNIVERSITY OF NORTH CAROLINA WILMINGTON**  
ALDERMAN HALL REPLACE VRF  
5150 LIONFISH DRIVE, WILMINGTON, NORTH CAROLINA 28403  
STATE ID#: 25-30023-01A

**MECHANICAL DEMOLITION**  
**FIRST FLOOR PLAN**

**MD101**

REVISION: C

JOB NO.: 25079  
DRAWN: WTB  
DESIGNED: WTB  
CHECKED: TOG

DRAWING NO.:  
**MD101**

**CBHF**  
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2246 Yaupon Drive  
Wilmington, NC 28401

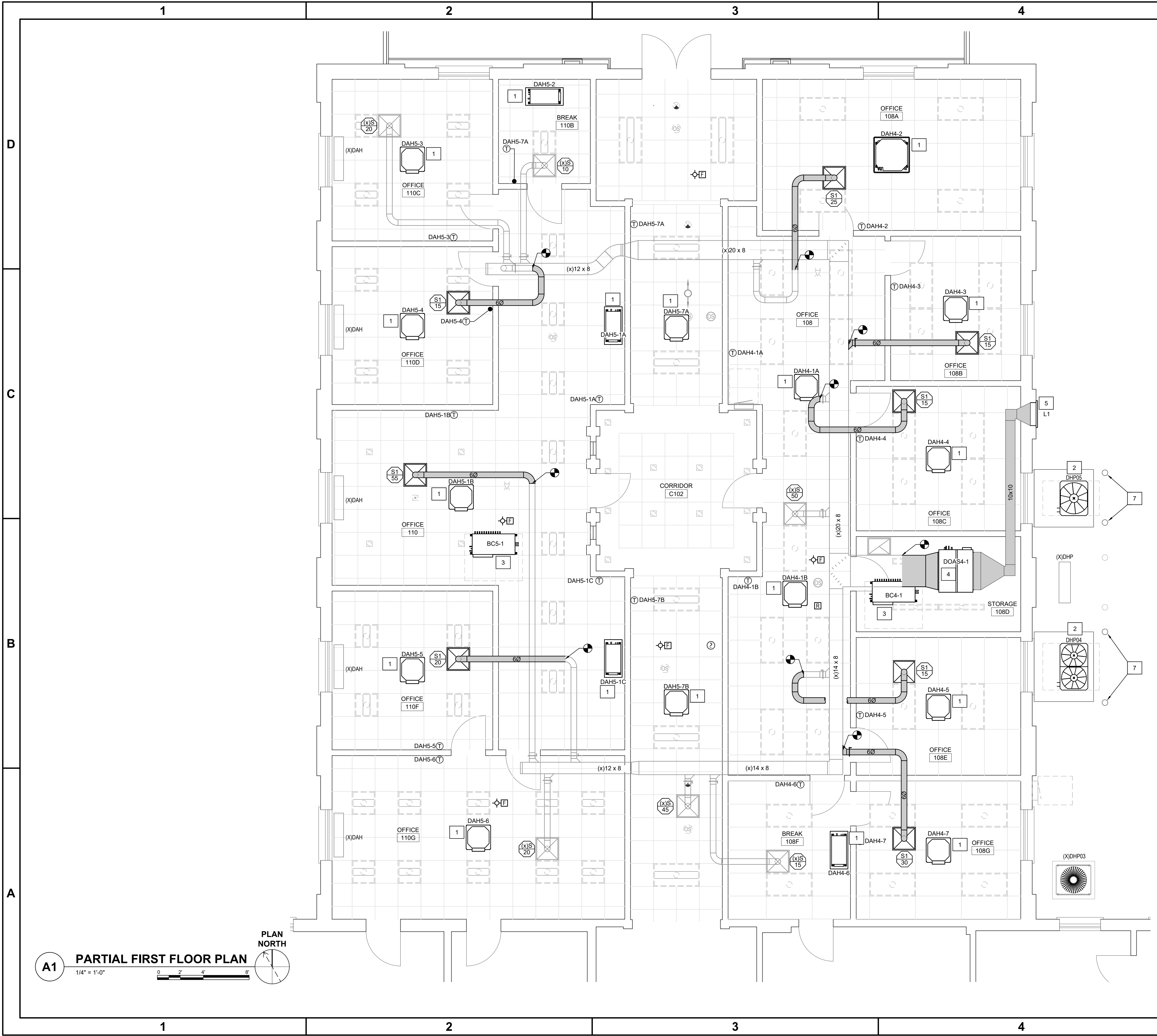
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Fax: 910.791.5266  
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**FINAL DRAWING**  
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DATE: 07.24.25  
ISSUED FOR OWNER REVIEW: 07.24.25  
ISSUED FOR OWNER REVIEW: 07.16.25

REVISION NO. DESCRIPTION:



**A1 PARTIAL FIRST FLOOR PLAN**  
 1/4" = 1'-0"  
 0 2' 4' 8'

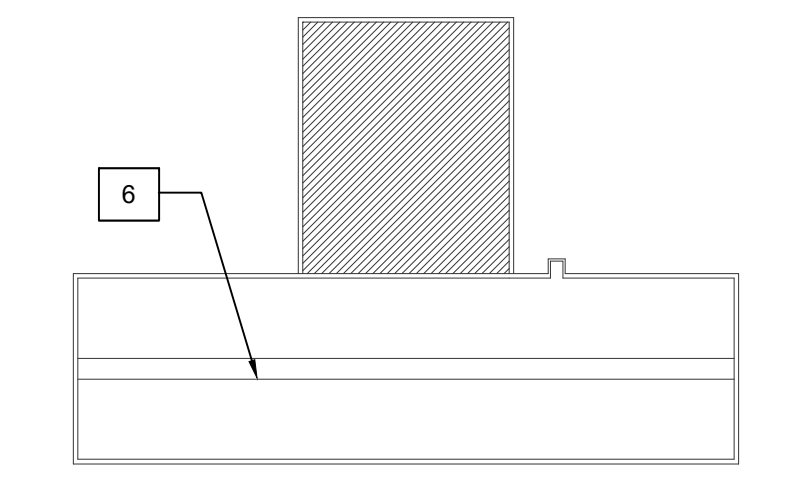


**GENERAL NOTES**

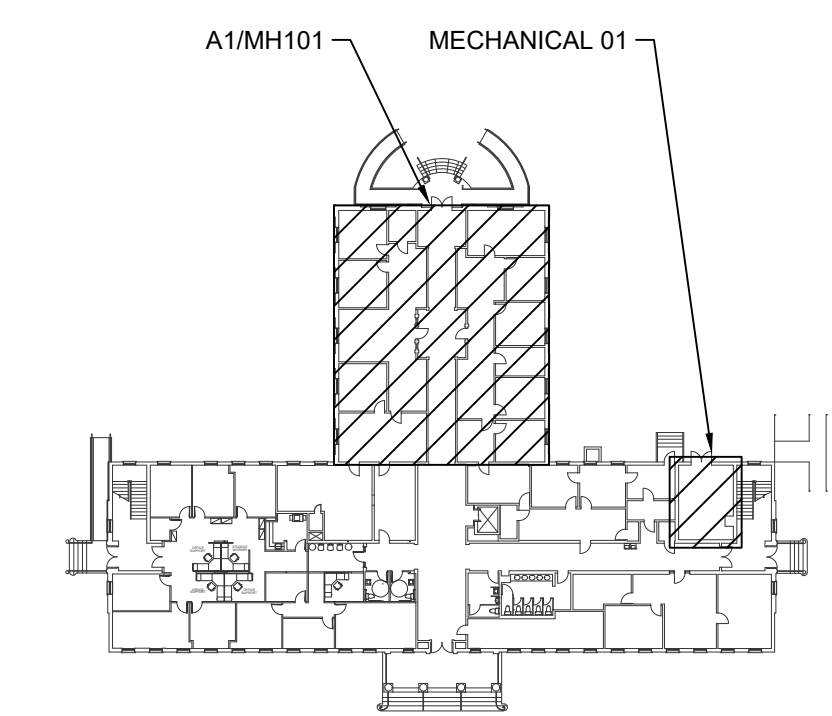
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- MECHANICAL CONTRACTOR TO COORDINATE WITH OTHER TRADES BEFORE BEGINNING ANY WORK.
- THE ELECTRICAL AND MECHANICAL CONTRACTORS MUST COORDINATE THE PLACEMENT OF DAH UNITS WITHIN THE EXISTING CEILING GRID PRIOR TO THE START OF CONSTRUCTION. THE ELECTRICAL CONTRACTOR MUST ADJUST ANY EXISTING CONDUITS ABOVE THE LAY-IN CEILING AS REQUIRED TO AVOID CONFLICTS WITH THE DAH UNIT INSTALLATION.

**KEYED NOTES**

- SUSPEND INDOOR DUCTLESS AIR HANDLER FROM STRUCTURE ABOVE. FIELD ROUTE REFRIGERANT PIPING FROM INDOOR UNIT TO BRANCH CIRCUIT CONTROLLER. FIELD ROUTE 3/4" CONDENSATE PIPE TO MECHANICAL ROOM 108D. SEE MP-101 FOR FURTHER INFORMATION.
- INSTALL NEW VRF OUTDOOR UNIT ON A NEW CONCRETE PAD WHILE MAINTAINING ALL OF THE MANUFACTURER'S RECOMMENDED CLEARANCES. MAINTAIN REQUIRED SEPARATION FROM EXISTING ELECTRICAL COMPONENTS MOUNTED ON THE STRUCTURE. INCLUDING BUT NOT LIMITED TO RECEPTACLES, JUNCTION BOXES, AND CONDUIT. FIELD-ROUTE REFRIGERANT PIPING FROM THE NEW OUTDOOR UNIT TO THE ASSOCIATED BRANCH CIRCUIT CONTROLLER IN ACCORDANCE WITH THE MANUFACTURER'S GUIDELINES AND APPLICABLE CODE REQUIREMENTS.
- SUSPEND BRANCH CONTROLLER FROM STRUCTURE ABOVE. COORDINATE EXACT LOCATION WITH CURRENT FIELD CONDITIONS. EXTEND BRANCH CIRCUIT INSULATED REFRIGERANT PIPING TO ASSOCIATED DAH'S. FIELD ROUTE 3/4" CONDENSATE PIPE TO MECHANICAL ROOM 108D. SEE MP-101 FOR FURTHER INFORMATION.
- INSTALL NEW DOAS UNIT IN LOCATION SHOWN. WHILE MAINTAINING ALL OF THE MANUFACTURER'S RECOMMENDED CLEARANCES. FIELD ROUTE REFRIGERANT LINES TO ASSOCIATED BRANCH CONTROLLER. FIELD ROUTE 3/4" CONDENSATE PIPE TO MECHANICAL ROOM 108D. SEE MP-101 FOR FURTHER INFORMATION. ROUTE SUPPLY AIR DUCTWORK AND CONNECT TO EXISTING SUPPLY AIR DUCTWORK AT POINT OF CONNECTION SHOWN. FIELD ROUTE OUTSIDE AIR DUCT TO WALL LOUVER, L1, IN LOCATION SHOWN.
- INSTALL OUTSIDE AIR LOUVER IN EXTERIOR WALL AT LOCATION SHOWN. MAINTAINING ALL MANUFACTURER'S RECOMMENDED CLEARANCES.
- REMOVE AND PROTECT VRF SYSTEM CENTRAL CONTROLLER FROM ATTIC AND REINSTALL IN MECHANICAL 01 ROOM.
- INSTALL NEW BOLLARDS. SEE B3M-501 FOR FURTHER INFORMATION.



**B5 ATTIC PLAN**  
 NOT TO SCALE



**A5 KEY PLAN**  
 NOT TO SCALE

DATE	07.22.25
ISSUED FOR OWNER REVIEW	07.24.25
ISSUED FOR OWNER REVIEW	07.16.25
REVISION NO.	A
DESCRIPTION	

**CBHF**  
 Engineers, PLLC  
 Phone: 910.791.4000  
 Fax: 910.791.5266  
 www.cbhfengineers.com  
 2246 Yaupon Drive  
 Wilmington, NC 28401  
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 5150 LONFISH DRIVE, WILMINGTON, NORTH CAROLINA 28403  
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**MECHANICAL HVAC**  
**FIRST FLOOR PLAN**

JOB NO.:	25079
DRAWN:	WTB
DESIGNED:	WTB
CHECKED:	TOG

DRAWING NO.:  
**MH101**

REVISION:  
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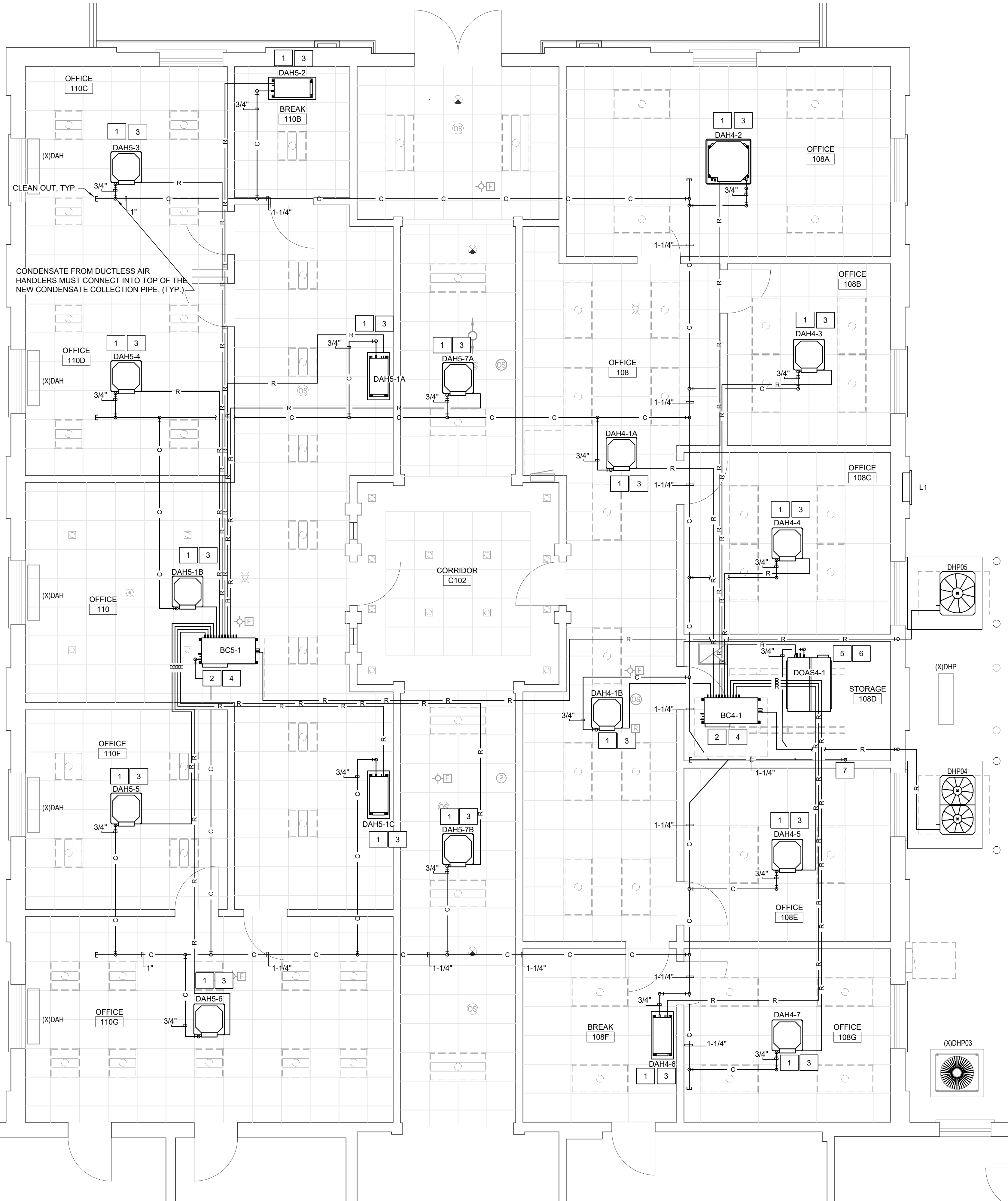
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### GENERAL NOTES

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- MECHANICAL CONTRACTOR TO COORDINATE WITH OTHER TRADES BEFORE BEGINNING ANY WORK.
- THE ELECTRICAL AND MECHANICAL CONTRACTORS MUST COORDINATE THE PLACEMENT OF DAH UNITS WITHIN THE EXISTING CEILING GRID PRIOR TO THE START OF CONSTRUCTION. THE ELECTRICAL CONTRACTOR MUST ADJUST ANY EXISTING CONDUITS ABOVE THE LAY-IN CEILING AS REQUIRED TO AVOID CONFLICTS WITH THE DAH UNIT INSTALLATION.

### KEYED NOTES

- PROVIDE CONDENSATE DRAIN LINE FROM CEILING CASSETTE AIR HANDLING UNIT TO EXISTING CONDENSATE COLLECTION PIPE. ENSURE DRAIN IS SLOPED 1/4" PER FOOT, PER CODE AND PROPERLY TRAPPED PER MANUFACTURER'S REQUIREMENTS. COORDINATE ROUTING WITH ARCHITECTURAL AND STRUCTURAL ELEMENTS.
- PROVIDE CONDENSATE DRAIN LINE FROM BRANCH CONTROLLER TO EXISTING CONDENSATE DISPOSAL PIT. ENSURE DRAIN IS SLOPED 1/4" PER FOOT, PER CODE AND PROPERLY TRAPPED PER MANUFACTURER'S REQUIREMENTS. COORDINATE ROUTING WITH ARCHITECTURAL AND STRUCTURAL ELEMENTS.
- ROUTE REFRIGERANT PIPING FROM CEILING CASSETTE AIR HANDLING UNIT TO ASSOCIATED BRANCH CONTROLLER. VERIFY LINE SIZES, ELEVATION CHANGES, AND TOTAL LENGTH WITH MANUFACTURER'S REQUIREMENTS.
- ROUTE REFRIGERANT PIPING FROM BRANCH CONTROLLER TO ASSOCIATED OUTDOOR UNIT. VERIFY LINE SIZES, ELEVATION CHANGES, AND TOTAL LENGTH WITH MANUFACTURER'S REQUIREMENTS.
- PROVIDE CONDENSATE DRAIN LINE FROM DOAS UNIT TO EXISTING CONDENSATE COLLECTION PIPE. ENSURE DRAIN IS SLOPED 1/4" PER FOOT, PER CODE AND PROPERLY TRAPPED PER MANUFACTURER'S REQUIREMENTS. COORDINATE ROUTING WITH ARCHITECTURAL AND STRUCTURAL ELEMENTS.
- ROUTE REFRIGERANT PIPING FROM DOAS UNIT TO ASSOCIATED BRANCH CONTROLLER. VERIFY LINE SIZES, ELEVATION CHANGES, AND TOTAL LENGTH WITH MANUFACTURER'S REQUIREMENTS.
- COLLECT CONDENSATE PIPING TOGETHER AND DISCHARGE INTO THE EXISTING PIT. IF THE EXISTING PIT DOES NOT HAVE SUFFICIENT CAPACITY TO ACCOMMODATE THE TOTAL CONDENSATE LOAD, THE MECHANICAL CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR TO PROVIDE A MEANS TO SPILL EXCESS CONDENSATE TO GRADE OUTSIDE OF THE BUILDING.



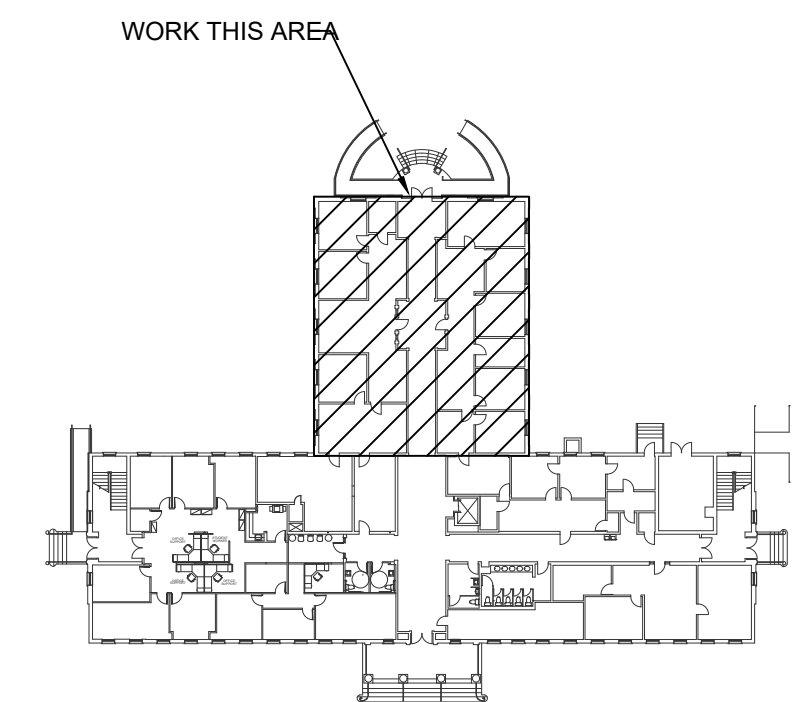
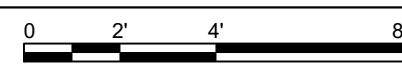
CLEAN OUT, TYP.

CONDENSATE FROM DUCTLESS AIR HANDLERS MUST CONNECT INTO TOP OF THE NEW CONDENSATE COLLECTION PIPE. (TYP.)

PLAN NORTH

### A1 PARTIAL FIRST FLOOR PLAN

1/4" = 1'-0"



### A5 KEY PLAN

NOT TO SCALE

DATE	07.22.25
ISSUED FOR	OWNER REVIEW
ISSUED FOR	OWNER REVIEW
ISSUED FOR	OWNER REVIEW
REVISION NO.	A
DESCRIPTION	

**CBHF**  
Engineers, PLLC

2246 Yaupon Drive  
Wilmington, NC 28401

Phone: 910.791.4000  
Fax: 910.791.5266  
www.cbhfcnc.com  
NC# P-0506

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UNIVERSITY OF NORTH CAROLINA WILMINGTON  
ALDERMAN HALL REPLACE VRF  
5150 LIONFISH DRIVE, WILMINGTON, NORTH CAROLINA 28403  
STATE ID#: 25-30023-01A

**MECHANICAL HVAC**  
**FIRST FLOOR PIPING PLAN**

JOB NO.:	25079
DRAWN:	WTB
DESIGNED:	WTB
CHECKED:	TOG

DRAWING NO.:

# MP101

REVISION:

C

1

2

3

4

5

D

D

C

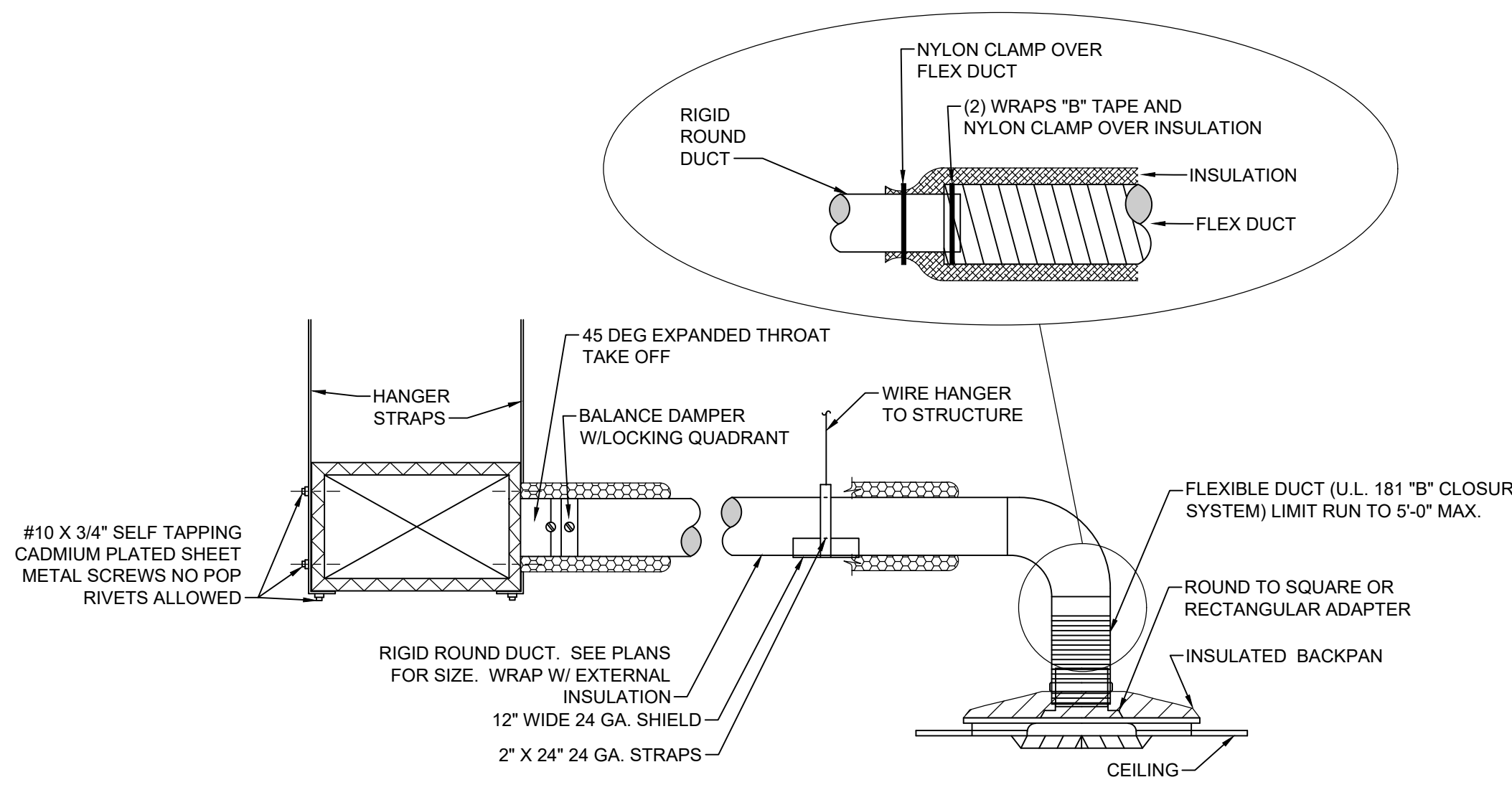
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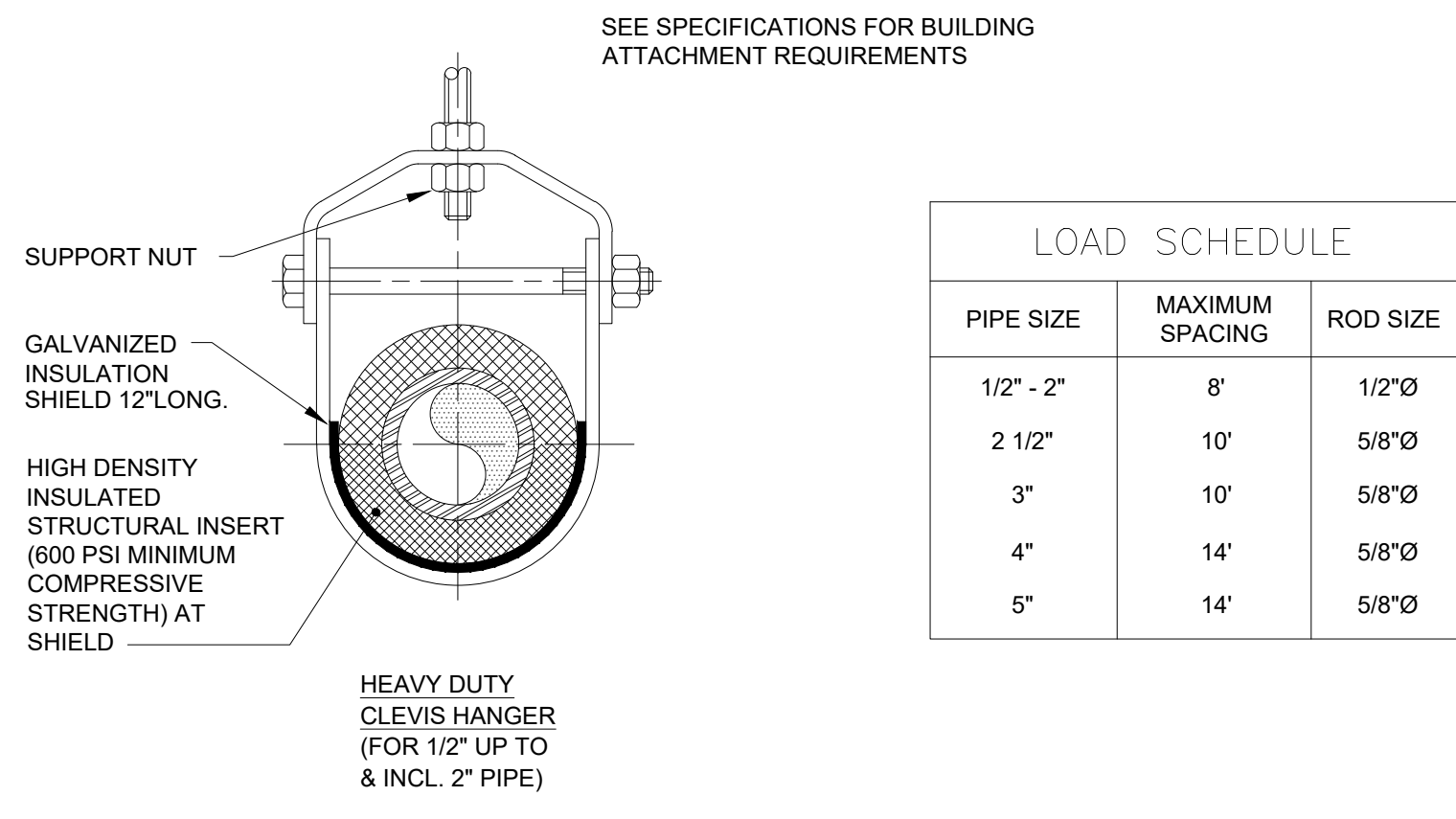
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A

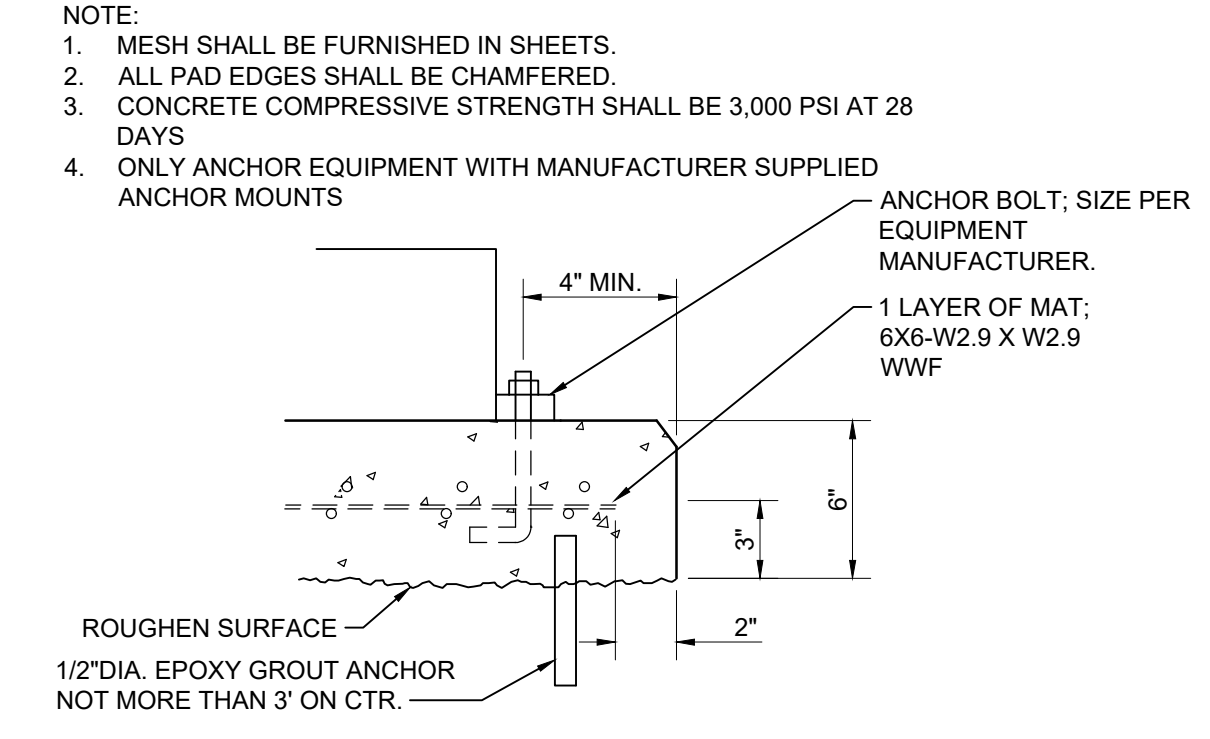


**C1 TYPICAL DIFFUSER CONNECTION DETAIL**  
NOT TO SCALE

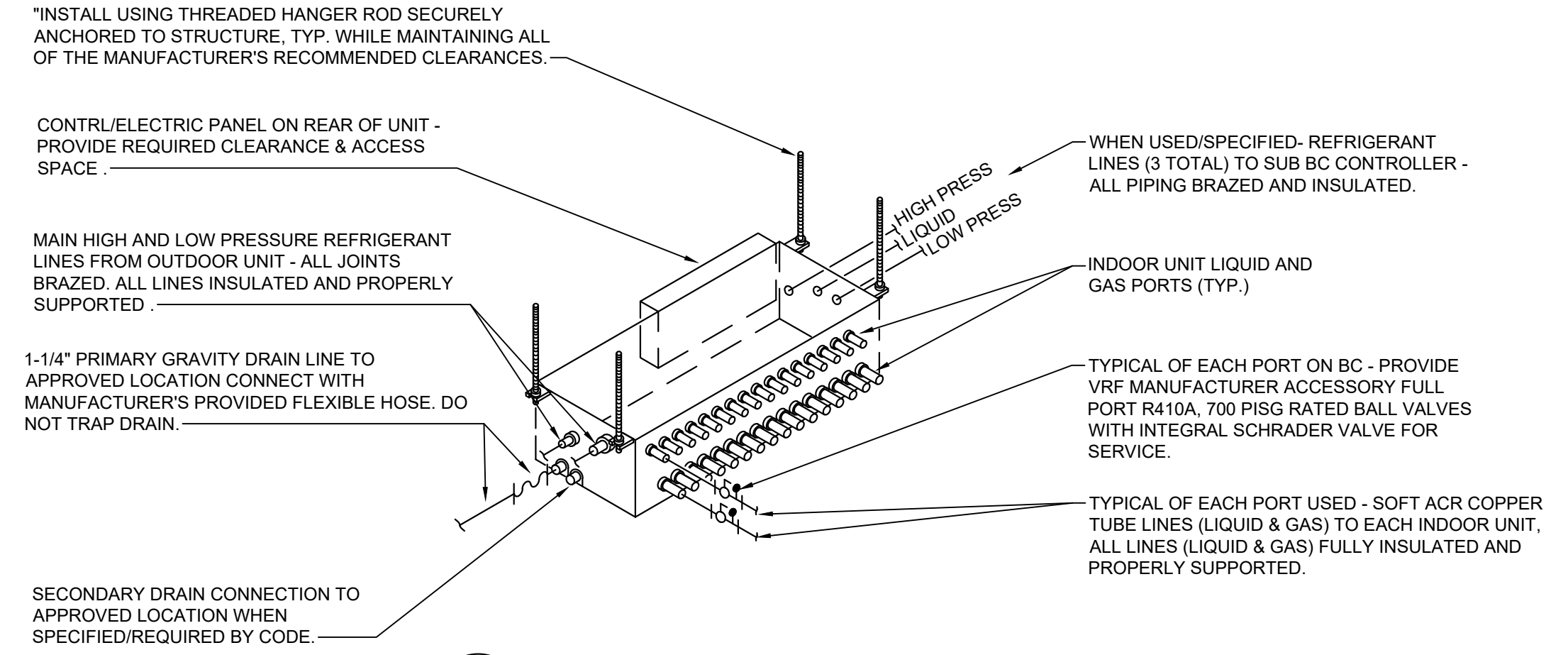


**C3 PIPE HANGER SUPPORT DETAIL**  
NOT TO SCALE

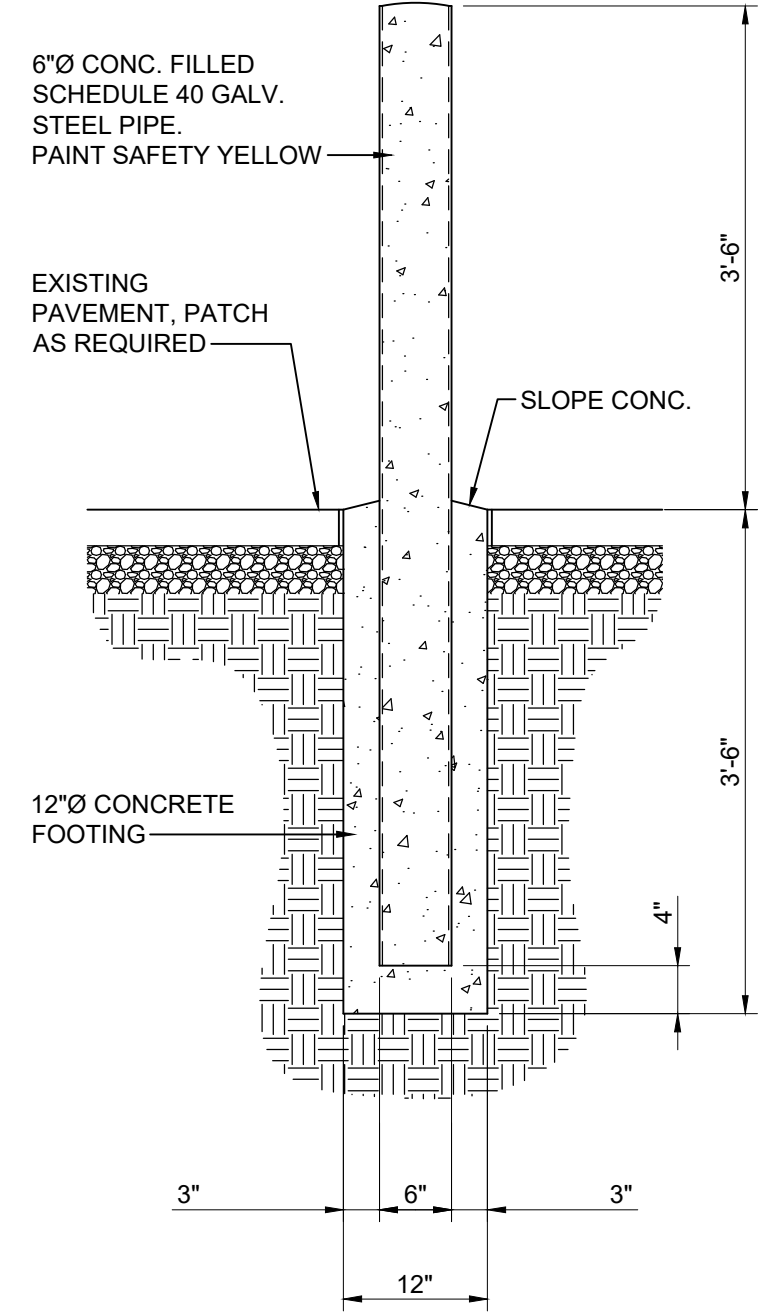
NOTES:  
 1. THIS DETAIL SHALL BE USED AS A GUIDE. ALL HANGERS SHALL MEET THE REQUIREMENTS OF THE SPECIFICATIONS.  
 2. PIPE 6" AND LARGER SHALL HAVE ROLLER SUPPORTED WITH DUAL RODS.  
 3. FOR CHW SERVICE OVER 3" REPLACE SADDLE WITH 12" LONG 14 GA SHIELD WITH RIGID INSULATION BETWEEN PIPE AND SHIELD.  
 4. WHERE TRAPEZE HANGERS ARE USED FOR HEATING HOT WATER PROVIDE ROLLERS.



**C4 EQUIPMENT PAD DETAIL**  
NOT TO SCALE



**B1 EQUIPMENT PAD DETAIL**  
NOT TO SCALE



**B3 BOLLARD DETAIL**  
NOT TO SCALE

REVISION NO.	DESCRIPTION	DATE
1	ISSUED FOR DIS.	07.24.25
2	ISSUED FOR OWNER REVIEW	07.24.25
3	ISSUED FOR OWNER REVIEW	07.16.25

**CBHF**  
Engineers, PLLC

2246 Yaupon Drive  
Wilmington, NC 28401

Phone: 910.791.4000  
Fax: 910.791.5266  
www.cbhfenr.com

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UNIVERSITY OF NORTH CAROLINA WILMINGTON  
ALDERMAN HALL REPLACE VRF  
5150 LIONFISH DRIVE, WILMINGTON, NORTH CAROLINA 28403  
STATE ID#: 25-30023-01A

**MECHANICAL  
DETAILS**

JOB NO.:	25079
DRAWN:	WTB
DESIGNED:	WTB
CHECKED:	TOG

DRAWING NO:  
**M-501**

REVISION:  
C



DIAGRAM DISPLAY	SYMBOL DESCRIPTION
---	POWER WIRE
---	CONTROL WIRE
---	REF. PIPE

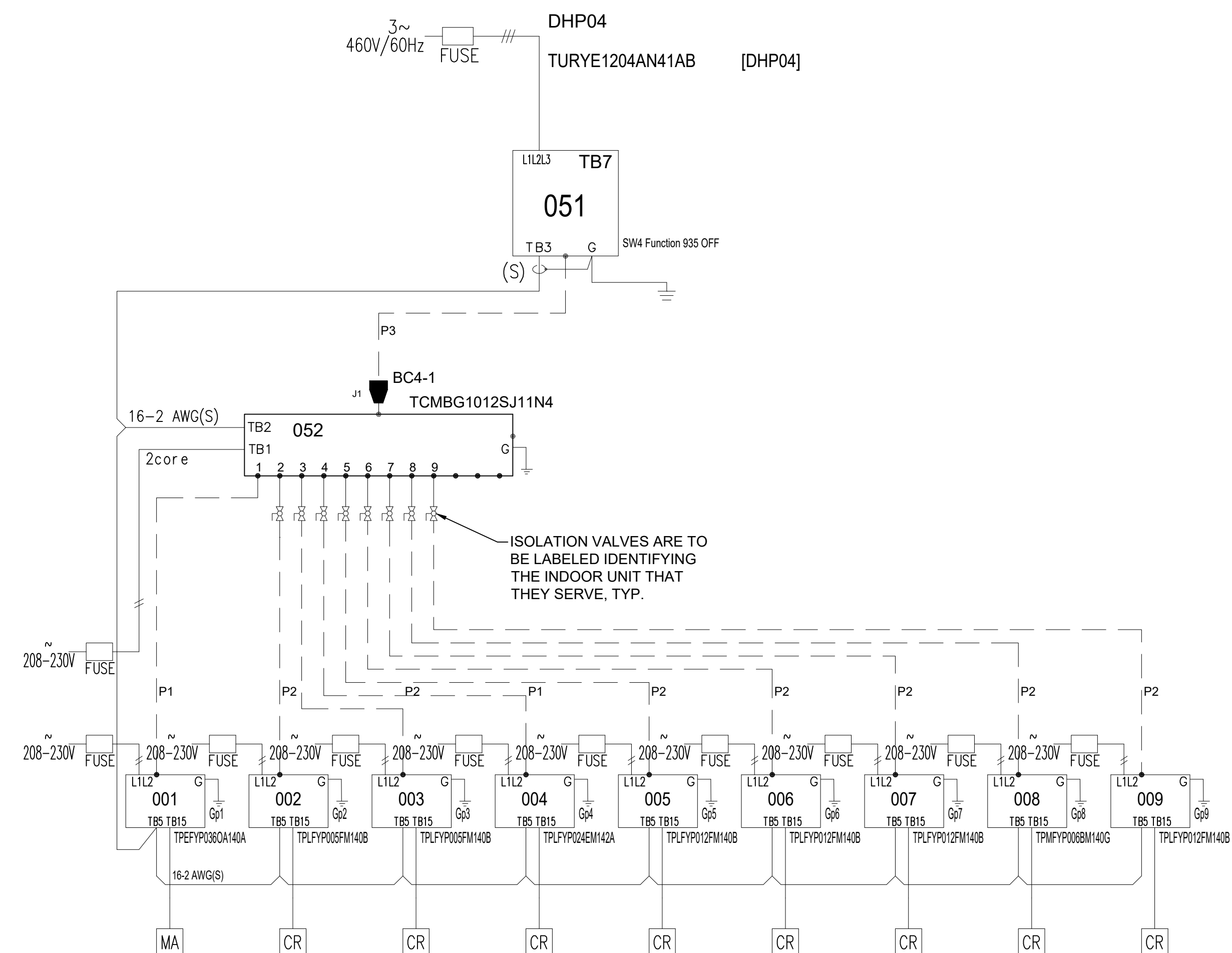
PIPING AND CONTROLS	
SYMBOL	BRANCH PIPE MODEL NAME
J1	CMY-R301S-G
SYMBOL	LIQUID PIPE/GAS PIPE SIZE
P1	3/8 / 5/8
P2	1/4 / 1/2
P3	3/4 / 1-1/8
P4	5/8 / 3/4
SYMBOL	MODEL NUMBER
MA	TAR-30M40A-J
CR	TAC-YT33CRAL-J

ADDITIONAL REFRIGERANT CHARGE IS NEEDED DEPENDING ON THE SIZE OF AND LENGTH OF EXTENDED PIPING. PLEASE REFER THE TO THE AMOUNT OF PRE-CHARGE AND THE FORMULA OF CALCULATION WHICH IS MENTIONED ON THE DATA BOOK.

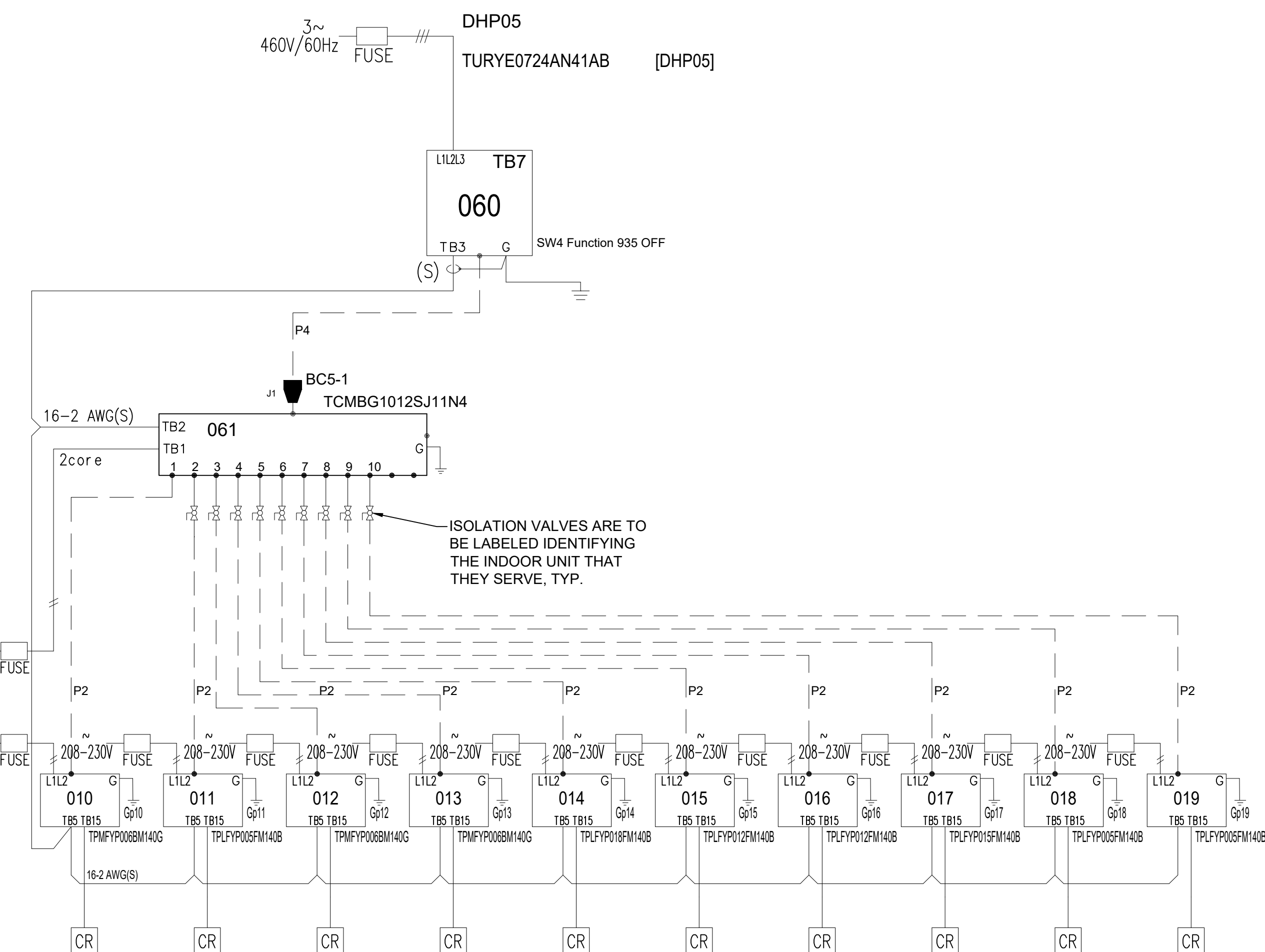
1.25MM<sup>2</sup> (16 AWG) : 1.25MM<sup>2</sup> (16 AWG) OR MORE. 0.75MM<sup>2</sup> (20 AWG) : BETWEEN 0.5MM<sup>2</sup> (24 AWG) AND 0.75MM<sup>2</sup> (20 AWG)

NOTE: VRF SYSTEM SCHEMATIC SHOWN IS FOR REFERENCE ONLY AND IS FOR BASIS OF DESIGN MANUFACTURER. IF APPROVED ALTERNATE MANUFACTURER IS USED THE SYSTEM SCHEMATIC AND RECOMMENDED INSTALLATION REQUIREMENTS SHOULD BE FOLLOWED AND APPROVED BY GENERAL CONTRACTOR AND ENGINEER. APPROVED ALTERNATE MANUFACTURERS CAN BE FOUND IN EQUIPMENT SCHEDULES.

NOTE: PIPING LENGTHS NOT SHOWN ON THESE DIAGRAMS. MECHANICAL CONTRACTOR IS RESPONSIBLE FOR DETERMINING PIPING LENGTHS USING MOST DIRECT ROUTING WHILE MAINTAINING ACCEPTABLE CONCEALMENT. PIPE ROUTING SHALL BE APPROVED BY GENERAL CONTRACTOR AND ENGINEER.



108 DOAS4-1, 108 DAH4-1A, 108A DAH4-1B, 108B DAH4-2, 108C DAH4-3, 108E DAH4-4, 108F DAH4-5, 108G DAH4-6, 108H DAH4-7



110 DAH5-1A, 110 DAH5-1B, 110 DAH5-1C, 110B DAH5-2, 110C DAH5-3, 110D DAH5-4, 110F DAH5-05, 110G DAH5-6, C102 DAH5-7A, C102 DAH5-7B

**A1** VRF SYSTEM SCHEMATIC  
NOT TO SCALE

REVISION NO.	DESCRIPTION	DATE
C	ISSUED FOR BIDDING	07.24.25
B	ISSUED FOR OWNER REVIEW	07.24.25
A	ISSUED FOR OWNER REVIEW	07.16.25

**CBHF**  
Engineers, PLLC

2246 Yaupon Drive  
Wilmington, NC 28401

Phone: 910.791.4000  
Fax: 910.791.5266  
www.cbhf.com

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FINAL DRAWING  
NOT TO BE RELEASED FOR CONSTRUCTION

UNIVERSITY OF NORTH CAROLINA WILMINGTON  
ALDERMAN HALL REPLACE VRF  
5150 LIONFISH DRIVE, WILMINGTON, NORTH CAROLINA 28403  
STATE ID#: 25-30023-01A

MECHANICAL  
VRF SYSTEM SCHEMATIC

JOB NO.:	25079
DRAWN:	WTB
DESIGNED:	WTB
CHECKED:	TOG

DRAWING NO.:  
**M-602**

REVISION:  
C

ELECTRICAL GENERAL NOTES:

- ALL ELECTRICAL WORK SHALL BE IN FULL COMPLIANCE WITH NFPA 70, THE NORTH CAROLINA STATE BUILDING CODE, ALL LOCAL CODES AND ORDINANCES AND IN ACCORDANCE WITH THE REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION.
- ALL EQUIPMENT PROVIDED BY THE CONTRACTOR SHALL BE LISTED AND LABELED BY A THIRD PARTY AGENCIES SHALL BE AMONGST THOSE ACCREDITED BY THE NCBCC (NORTH CAROLINA BUILDING CODE COUNCIL) TO LABEL ELECTRICAL AND MECHANICAL. ALL MATERIAL, EQUIPMENT AND DEVICES SHALL BE NEW CURRENT PRODUCTS OF MANUFACTURERS REGULARLY ENGAGED IN THE PRODUCTION OF SUCH PRODUCTS. EQUIPMENT SHALL BE SUITABLE FOR ITS APPLICATION (E.G. WHEN INSTALLED OUTDOORS, IT SHALL BE WEATHERPROOF, ETC.)
- THE CONTRACTOR SHALL REVIEW THE MECHANICAL AND ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR WORK REQUIREMENTS, THE AMOUNT OF SPACE AVAILABLE FOR ELECTRICAL EQUIPMENT, AND LAYOUT HIS WORK IN A COMPATIBLE AND COMPLEMENTARY MANNER.
- THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THOROUGHLY FAMILIARIZING HIMSELF WITH ANY CONTRACTUAL REQUIREMENTS AS MAY BE SET FORTH IN THE OTHER DIVISIONS OF THE PROJECT SPECIFICATIONS.
- UNLESS SPECIFICALLY NOTED OTHERWISE, SYSTEMS PROVIDED OR INSTALLED BY THE ELECTRICAL CONTRACTOR SHALL BE COMPLETE AND FULLY-FUNCTIONING AFTER INSTALLATION. INCIDENTAL COMPONENTS MAY NOT BE SHOWN, AND ALL WORK WHICH MAY BE REASONABLY IMPLIED AS BEING INCIDENTAL TO THIS WORK, BUT REQUIRED FOR THE PROPER OPERATION OF THE EQUIPMENT OR SYSTEM, SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER. ADDITIONAL CIRCUITS SHALL BE INSTALLED WHEREVER NEEDED TO CONFORM TO THE SPECIFIC REQUIREMENTS OF EQUIPMENT.
- TEMPORARY POWER CONNECTIONS AS REQUIRED SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER. ALL TEMPORARY EQUIPMENT WIRING SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE. THE CONTRACTOR SHALL PROVIDE DETAILS, METHODS, MATERIALS, ETC. TO THE ARCHITECT/ENGINEER PRIOR TO MAKING TEMPORARY CONNECTIONS. FURNISH AND INSTALL ALL EQUIPMENT AND MATERIALS INCLUDING CONTROL EQUIPMENT, MOTOR STARTERS, BRANCH AND FEEDER CIRCUIT BREAKERS, PANELBOARDS, TRANSFORMERS, ETC. FOR TEMPORARY POWER. COORDINATE WITH THE ELECTRICAL UTILITY COMPANY AS REQUIRED.
- THE WORK SHALL INCLUDE COMPLETE TESTING OF ALL EQUIPMENT AND WIRING AT THE COMPLETION OF WORK AND ANY MINOR CORRECTIONS, CHANGES OR ADJUSTMENTS NECESSARY FOR THE PROPER FUNCTIONING OF THE SYSTEM AND EQUIPMENT.
- ALL ELECTRICAL EQUIPMENT SHALL, AT ALL TIMES DURING CONSTRUCTION, BE ADEQUATELY PROTECTED AGAINST MECHANICAL INJURY, OR DAMAGE BY WATER AND/OR THE ELEMENTS. ELECTRICAL EQUIPMENT SHALL NOT BE STORED OUT OF DOORS, BUT SHALL BE STORED IN DRY PERMANENT SHELTERS. IF AN APPARATUS HAS BEEN DAMAGED, OR HAS BEEN SUBJECT TO POSSIBLE INJURY BY WATER OR THE ELEMENTS, SUCH DAMAGE SHALL BE REPLACED AT NO ADDITIONAL COST TO THE OWNER.
- DO NOT SCALE ELECTRICAL DRAWINGS. FIELD VERIFY ALL DIMENSIONS.
- CIRCUIT LAYOUTS ARE NOT INTENDED TO SHOW THE NUMBER OF FITTINGS, OR OTHER INSTALLATION DETAILS. UNLESS NOTED OTHERWISE, THE EXACT ROUTING OF FEEDER AND BRANCH CIRCUIT RACEWAYS AND CABLES IS THE RESPONSIBILITY OF THE CONTRACTOR. RISER AND GENERAL CIRCUIT ARRANGEMENTS ARE SHOWN SCHEMATICALLY/DIAGRAMMATICALLY ONLY. THE CONTRACTOR SHALL ROUTE CONDUITS AS REQUIRED BY THE CONDITIONS OF THE INSTALLATION.
- UNLESS DIMENSIONED, DEVICE LOCATIONS SHOWN ON THE DRAWINGS ARE APPROXIMATE. ADJUST EXACT LOCATIONS AS REQUIRED TO SERVE THE INTENDED PURPOSE AND TO AVOID CONFLICTS AND INTERFERENCES WITH OTHER TRADES. EXACT DEVICE LOCATIONS SHALL BE AS INDICATED ON THE ARCHITECTURAL DRAWINGS OR AS DIMENSIONED. IF NOT SHOWN ON THE ARCHITECTURAL DRAWINGS OR DIMENSIONED ON THE ELECTRICAL DRAWINGS, VERIFY EXACT LOCATION WITH THE ARCHITECT/ENGINEER PRIOR TO ROUGH-IN.
- CONDUIT TERMINATING IN PRESSED STEEL BOXES SHALL HAVE DOUBLE LOCKNUTS AND INSULATED BUSHINGS. CONDUITS TERMINATING IN GASKETED ENCLOSURES SHALL BE TERMINATED WITH GROUNDING TYPE CONDUIT HUBS.
- THE DRAWINGS INDICATE BRANCH CIRCUIT HOMERUN CONDUCTORS VIA ARROWHEADS. PROVIDE NEUTRAL, EQUIPMENT GROUND CONDUCTORS AS REQUIRED. ADDITIONAL CONDUCTORS REQUIRED FOR CONTROL SHALL BE INCLUDED EVEN IF NOT EXPLICITLY SHOWN.
- SEAL ALL CONDUIT OPENINGS THROUGH EXTERIOR BUILDING WALLS WATERTIGHT.
- RACEWAYS PENETRATING FLOORS, CEILINGS OR WALLS SHALL BE PROPERLY SEALED SMOKE/TIGHT.
- ALL RACEWAYS SHALL BE CONCEALED WHERE POSSIBLE. IF APPLICABLE, MATCH EXISTING RACEWAY INSTALLATION METHODS AND ROUTINGS AT OR NEAR EXISTING FACILITIES.
- INSTALL EXPOSED RACEWAYS PARALLEL TO OR AT RIGHT ANGLES TO NEARBY SURFACES OR STRUCTURAL MEMBERS, AND FOLLOW THE SURFACE CONTOURS AS MUCH AS POSSIBLE. NO DIAGONAL RUNS WILL BE ALLOWED. ALL CONDUITS SHALL BE RUN STRAIGHT AND TRUE. RUN PARALLEL OR BANKED RACEWAYS TOGETHER ON COMMON SUPPORTS WHERE PRACTICAL. MAKE BENDS IN PARALLEL OR BANKED RUNS FROM SAME CENTERLINE TO MAKE BENDS PARALLEL.
- PATCHING OF WATERPROOFED SURFACES SHALL RENDER THE AREA OF THE PATCHING COMPLETELY WATERPROOF.
- ALL MOTORS AND OTHER VIBRATING EQUIPMENT SHALL BE CONNECTED TO THE CONDUIT SYSTEM BY MEANS OF A SHORT SECTION (18 INCH MINIMUM) OF FLEXIBLE CONDUIT UNLESS OTHERWISE INDICATED. AN EQUIPMENT GROUNDING CONDUCTOR SHALL BE INSTALLED INSIDE THE FLEXIBLE CONDUIT AND TERMINATE AT THE LOAD END WITH AN APPROVED GROUNDING CLAMP OR LUG.
- CEILING MOUNTED DEVICES INSTALLED IN ACOUSTICAL TILE CEILING AREAS SHALL BE SUPPORTED FROM THE STRUCTURE ABOVE WITH RODS OF SUFFICIENT SIZE TO PREVENT VERTICAL MOVEMENT OF THE OUTLET BOX. BRIDGES ALONE ARE NOT ADEQUATE UNLESS SPECIFICALLY APPROVED. CEILING MOUNTED EXIT LIGHT FIXTURES SHALL BE INSTALLED LEVEL. DO NOT SUPPORT DEVICES FROM ACOUSTICAL CEILING TILE.
- PROVIDE ADHESIVE BACKED DEVICE PLATE LABELS IDENTIFYING THE CIRCUIT FEEDING MANUAL MOTOR STARTERS. LABELS SHALL INDICATE PANEL AND CIRCUIT NUMBER.
- FINAL TYPED PANELBOARD DIRECTORIES INSTALLED IN THE PANELBOARD DOOR POCKET SHALL INCLUDE FINAL ACTUAL ROOM NAMES AND NUMBERS IN ADDITION TO THE GENERAL DESCRIPTION SHOWN ON THE PANEL SCHEDULES ON THE DRAWINGS.
- CONDUCTOR SIZING IS BASED ON 75 DEGREE C. COPPER NEC RATINGS, UNLESS NOTED OTHERWISE. THE CONTRACTOR SHALL VERIFY, PRIOR TO INSTALLATION OF CONDUCTORS OR CONDUIT FEEDING ANY EQUIPMENT, THE ELECTRICAL EQUIPMENT IS RATED FOR USE WITH 75 DEGREE C. WIRING. IF ANY EQUIPMENT IS RATED FOR USE WITH LESS THAN 75 DEGREE C. CONDUCTORS, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER IMMEDIATELY FOR EVALUATION/CORRECTION.
- DO NOT PULL CONDUCTORS UNTIL THE CONDUIT SYSTEM IS COMPLETE IN EVERY DETAIL. IN THE CASE OF CONCEALED WORK, "COMPLETE" MEANS UNTIL ALL ROUGH PLASTERING OR MASONRY HAS BEEN COMPLETED.
- WHERE SIZE IS NOT SHOWN ON THE DRAWINGS, BRANCH CIRCUITS SHALL CONSIST OF #12 OR #10 AWG MINIMUM PHASE, NEUTRAL AND EQUIPMENT GROUND CONDUCTORS IN 3/4" MINIMUM RACEWAY.
- USE #10 AWG CONDUCTORS FOR 20 AMPERE, 120 VOLT BRANCH CIRCUITS WITH A TOTAL INSTALLED LENGTH GREATER THAN 75 FEET AND/OR BRANCH CIRCUIT HOMERUNS LONGER THAN 50 FEET, I.E.; #12 AWG INCREASED TO #10 AWG FOR RECEPTACLE BRANCH CIRCUITS OVER 75 FEET TOTAL LENGTH (INCLUDING THE HOMERUN SEGMENT) AND HOMERUNS OVER 50 FEET.
- KEEP CONDUCTOR SPLICES TO A MINIMUM. INSTALL SPLICES AND TAPES THAT POSSESS EQUIVALENT OR BETTER MECHANICAL STRENGTH AND INSULATION RATINGS THAN CONDUCTORS BEING SPLICED. USE SPLICE AND TAP CONNECTORS COMPATIBLE WITH CONDUCTOR MATERIAL. INSTALL CONDUCTORS AT EACH OUTLET WITH AT LEAST 6 INCHES OF SLACK. CONNECT OUTLETS AND COMPONENTS TO WIRING AND TO GROUND AS INDICATED AND INSTRUCTED BY THE MANUFACTURER.
- DO NOT SPLICE BRANCH CIRCUIT HOMERUNS WITHOUT THE PERMISSION OF THE ARCHITECT/ENGINEER. HOMERUNS SHALL BE CONTINUOUS FROM THE LAST OUTLET BOX TO THE SERVING PANELBOARD.
- DO NOT COMBINE BRANCH CIRCUIT HOMERUNS UNLESS SPECIFICALLY INDICATED ON THE DRAWINGS.
- DO NOT CHANGE CIRCUITING SHOWN WITHOUT PERMISSION OF THE ARCHITECT/ENGINEER.
- TROUGH TAPS SHALL BE AT SWITCH AMPACITY, UNLESS NOTED OTHERWISE.
- INSTALL WIRING DEVICES AS SHOWN ON THE DRAWINGS. ALSO COORDINATE MOUNTING HEIGHTS WITH EXISTING CONDITIONS.
- COORDINATE LOCATIONS OF MECHANICAL EQUIPMENT WITH THE MECHANICAL CONTRACTOR AND THE OWNER BEFORE ROUGH-IN. ADJUST CEILING MOUNTED DEVICES AS INDICATED ON DRAWINGS TO ACCOMMODATE THIS EQUIPMENT. ADVISE THE ENGINEER OF CONFLICTS BEFORE ROUGH-IN.
- BEFORE COMMENCING WORK OR ORDERING MATERIALS, THE CONTRACTOR SHALL COORDINATE WITH OTHER TRADES AND VERIFY THE NAMEPLATE RATINGS OF ALL EQUIPMENT (MOTORS, HEATERS, COMPRESSORS, ETC.) AND ADJUST THE RATINGS OF THE ELECTRICAL EQUIPMENT (SWITCHES, FUSES, CIRCUIT BREAKERS, FEEDERS, ETC.) AS APPROPRIATE TO SERVE THIS EQUIPMENT.
- ENERGIZE EQUIPMENT ONLY AFTER OBTAINING PERMISSION FROM THE CONTRACTOR PROVIDING THE EQUIPMENT.
- UNLESS SPECIFICALLY NOTED OTHERWISE, THE CONTRACTOR PROVIDING THE EQUIPMENT SHALL MAKE FINAL CONNECTIONS TO HIS EQUIPMENT. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE MECHANICAL, PLUMBING AND GENERAL CONTRACTORS, PRIOR TO ORDERING OR INSTALLATION OF ANY EQUIPMENT, TO VERIFY MECHANICAL, PLUMBING AND GENERAL CONTRACTOR PROVIDED EQUIPMENT REQUIREMENTS ARE PROVIDED IN THE ELECTRICAL DESIGN. IF ELECTRICAL REQUIREMENTS DIFFER FROM THOSE SHOWN ON THE DRAWINGS, THE CONTRACTOR PROVIDING THE EQUIPMENT SHALL BE RESPONSIBLE FOR DESIGN AND CONSTRUCTION COSTS ASSOCIATED WITH CHANGING THE ELECTRICAL SYSTEM TO MATCH UTILIZATION EQUIPMENT.
- UNLESS SPECIFICALLY NOTED OTHERWISE, THE ELECTRICAL CONTRACTOR MUST MAKE FINAL CONNECTIONS TO ALL UTILIZATION EQUIPMENT SHOWN ON THE DRAWINGS. VERIFY THE TYPE OF FINAL CONNECTION AND PROVIDE APPROPRIATE WIRING METHOD. THE ELECTRICAL CONTRACTOR MUST COORDINATE WITH THE MECHANICAL, PLUMBING AND GENERAL CONTRACTORS, PRIOR TO ORDERING OR INSTALLATION OF ANY EQUIPMENT, TO VERIFY MECHANICAL AND PLUMBING EQUIPMENT REQUIREMENTS ARE PROVIDED IN THE ELECTRICAL DESIGN. THE CONTRACTOR WILL NOT BE COMPENSATED FOR COSTS ASSOCIATED WITH CHANGING THE ELECTRICAL SYSTEMS TO MATCH UTILIZATION EQUIPMENT, EVEN IF THE ELECTRICAL WORK IS INSTALLED PER THE ELECTRICAL DRAWINGS.
- THE ELECTRICAL CONTRACTOR SHALL COORDINATE ALL EQUIPMENT TERMINATIONS, PLUGS AND CORDSETS WITH VENDOR EQUIPMENT AND VERIFY ALL DEVICE LOCATIONS FOR SPECIALTY EQUIPMENT WITH CASEWORK PRIOR TO ROUGH-IN.
- PROTECT ALL EXISTING POWER, COMMUNICATIONS, DATA, LIFE SAFETY SYSTEMS, FIRE ALARM AND PUBLIC ADDRESS SYSTEMS AND MAINTAIN THEM IN OPERATION THROUGHOUT THE PROGRESS OF THE WORK. NOTIFY THE OWNER AND ENGINEER IF SHUTDOWNS ARE REQUIRED PRIOR TO ANY OUTAGE OF SERVICE. WHERE THE DURATION OF A PROPOSED OUTAGE CANNOT BE TOLERATED BY THE OWNER, PROVIDE TEMPORARY CONNECTIONS AS REQUIRED TO MAINTAIN SERVICE.
- THE CONTRACTOR SHALL PERFORM ALL CUTTING AND PATCHING NECESSARY TO INSTALL ALL EQUIPMENT AS REQUIRED AND SHALL REESTABLISH ALL FINISHES TO THEIR ORIGINAL CONDITION WHERE CUTTING AND PATCHING OCCUR. ALL CUTTING AND PATCHING SHALL BE DONE IN A THOROUGHLY WORKMANSHIP MANNER. SAW CUT CONCRETE AND MASONRY PRIOR TO BREAKING OUT SECTIONS. ALL PATCHING MATERIALS AND WORKMANSHIP SHALL BE PERFORMED BY TRADESMEN EXPERIENCED IN THAT WORK. ALL WORK SHALL BE SUBJECT TO THE APPROVAL OF THE ARCHITECT/ENGINEER.
- CORE DRILL HOLES IN EXISTING CONCRETE WALLS AS REQUIRED.
- INSTALL WORK AT SUCH TIME AS TO REQUIRE THE MINIMUM AMOUNT TO CUTTING AND PATCHING.
- CUT OPENINGS ONLY LARGE ENOUGH TO ALLOW EASY INSTALLATION OF THE CONDUIT.
- ABANDONED POWER WIRING, RACEWAYS AND CONDUCTORS, SHALL BE REMOVED BACK TO THEIR SOURCE. THE ACCESSIBLE PORTIONS OF ABANDONED CABLES (VOICE, DATA, VIDEO, ALARM, ETC.) SHALL BE REMOVED.
- TRACE OUT EXISTING WIRING THAT IS TO BE RELOCATED, OR REMOVED AND PERFORM THE RELOCATION OR REMOVAL WORK AS REQUIRED FOR A COMPLETE OPERATING AND SAFE SYSTEM.
- THE EXISTING ELECTRICAL SYSTEMS DEPICTED ON THESE DRAWINGS HAVE BEEN COMPILED BY THE ENGINEER FROM THE OWNER'S RECORD DRAWINGS AND LIMITED FIELD VERIFICATION OF THE EXISTING CONDITIONS FOR THE PURPOSE OF INDICATING THE WORK REQUIRED AND ARE BELIEVED TO BE CORRECT. NOTWITHSTANDING, THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, POINTS OF ACCESS AND FIELD CONDITIONS AFFECTING HIS WORK.
- THE CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH THE EXISTING ELECTRICAL SYSTEMS AND THE EXISTING BUILDING. THE SUBMISSION OF THE PROPOSAL BY THE CONTRACTOR SHALL BE CONSIDERED EVIDENCE THAT HE OR HIS REPRESENTATIVE HAS VISITED THE SITE AND BUILDINGS AND NOTED THE LOCATION AND CONDITIONS UNDER WHICH THE WORK WILL BE PERFORMED AND THAT HE TAKES FULL RESPONSIBILITY OF ALL FACTORS GOVERNING HIS WORK. NO EXTRAS WILL BE CONSIDERED BECAUSE OF ADDITIONAL WORK NECESSITATED BY EXISTING JOB CONDITIONS THAT ARE NOT INDICATED ON THE DRAWINGS.
- SOME EXISTING RECEPTACLE, LIGHTING OR OTHER LOADS MAY BE SERVED BY CIRCUITS INDICATED TO BE REMOVED. IF SUCH CONDITIONS ARE DISCOVERED, REQUEST THE ARCHITECT/ENGINEER PROVIDE NEW CIRCUIT NUMBER FOR THE LOAD. DO NOT INDISCRIMINATELY CONNECT TO THE NEAREST CIRCUIT.
- ALL UNUSED OUTLET BOXES SHALL BE REMOVED OR, WITH SPECIFIC APPROVAL OF THE ARCHITECT/ENGINEER, SHALL BE BLANKED WITH STAINLESS STEEL PLATES. ALL OPENINGS IN EXISTING WALLS AND CEILINGS MADE BY THIS CONTRACTOR SHALL BE REPAIRED TO AN EQUAL FINISH AS ADJACENT SURFACES.
- THE SURROUNDING FACILITIES WILL REMAIN OCCUPIED BY THE OWNER'S STAFF THROUGHOUT THE PROJECT. AS SUCH, WORK WILL REQUIRE SPECIAL EFFORT BY THIS CONTRACTOR TO ALLOW THE WORK TO PROCEED IN A TIMELY MANNER. ALL ELECTRICAL WORK SHALL BE COORDINATED WITH THE OWNER TO MINIMIZE DISRUPTION OF THE OWNER'S USE OF THE FACILITIES AND MAINTAIN THE APPROVED CONSTRUCTION SEQUENCE.
- SEE "SELECTIVE DEMOLITION NOTES" FOR ADDITIONAL REQUIREMENTS.
- SAFETY: COMPLY WITH OSHA AND NEC ARC FLASH PROTECTION REQUIREMENTS.

TYPICAL ABBREVIATIONS:

A, AMP	AMPERE	LTG	LIGHTING
AFB	ABOVE FINISHED FLOOR	MCB	MAIN CIRCUIT BREAKER
AFG	ABOVE FINISHED GRADE	MCC	MOTOR CONTROL CENTER
AHU	AIR HANDLING UNIT	MCP	MOTOR CIRCUIT PROTECTOR
AIC	AMPERE INTERRUPTING CAPACITY	MDP	MAIN DISTRIBUTION PANEL
ATS	AUTOMATIC TRANSFER SWITCH	MFR	MANUFACTURER
AWG	AMERICAN WIRE GAUGE	MH	MANHOLE
BOP	BOTTOM OF FIXTURE	MLO	MAIN LUGS ONLY
BRKR	BREAKER	MTD	MOUNTED
C, CND	CONDUIT	MTG	MOUNTING
CAB	CABINET	MTS	MANUAL TRANSFER SWITCH
CAT	CATALOG	MV	MEDIUM VOLTAGE
CL	CHLORINE	N, NEUT	NEUTRAL
CB	CIRCUIT BREAKER	N/A	NOT APPLICABLE
CCTV	CLOSED CIRCUIT TELEVISION	NC	NORMALLY CLOSED
CKT	CIRCUIT	NEC	NATIONAL ELECTRIC CODE
CLG	CEILING	NIC	NOT IN CONTRACT
CP	CONTROL PANEL	NL	NIGHT LIGHT
CR	CONTROL RELAY, CORROSION RESISTANT	NO	NORMALLY OPEN
CS	CONTROL SWITCH	NTS	NOT TO SCALE
CV	CONTROL VALVE	P	POLE
CT	CURRENT TRANSFORMER	PA	PUBLIC ADDRESS
CU	COPPER	PB	PULL BOX, PUSH-BUTTON
EF	EXHAUST FAN	PF	POWER FACTOR
EM	EMERGENCY	PH,φ	PHASE
EMT	ELECTRICAL METALLIC TUBING	PLC	PROGRAMMABLE LOGIC CONTROLLER
ENCL	ENCLOSURE	PNL	PANEL
EQ, EQUIP	EQUIPMENT	PP	POWER PANEL, POWER POLE
EWC	ELECTRIC WATER COOLER	PT	POTENTIAL TRANSFORMER
EWV	ELECTRIC WATER HEATER	PWR	POWER
EPRF	EXPLOSION PROOF	RECPT,RCPT	RECEPTACLE
FA	FIRE ALARM	REQD	REQUIRED
FAAP	FIRE ALARM ANNUNCIATOR PANEL	RGS	RIGID GALVANIZED STEEL CONDUIT
FACP	FIRE ALARM CONTROL PANEL	RM	ROOM
FBO	FURNISHED BY OTHERS	RTU	REMOTE TELEMETRY UNIT
FLA	FULL LOAD AMPS	SCR	DC MOTOR DRIVE
FLUOR	FLUORESCENT	SH	SHEET
FLR	FLOOR	SM	SURFACE MOUNTED
FVE	FURNISHED WITH EQUIPMENT	SPEC	SPECIFICATION
GEN	GENERATOR	SS	SELECTOR SWITCH
G, GND	GROUND	SST	STAINLESS STEEL
GFI, GFCI	GROUND FAULT CIRCUIT INTERRUPTER	SW	SWITCH
HH	HANDHOLE	SWBD	SWITCHBOARD
HID	HIGH INTENSITY DISCHARGE	SWGR	SWITCH GEAR
HOA	HAND-OFF-AUTO	TEL	TELEPHONE
HP	HORSE POWER	TPS	TWISTED PAIR SHIELDED
HPF	HIGH POWER FACTOR	TVSS, SPD	TRANSIENT VOLTAGE SURGE SUPPRESSOR
HPS	HIGH PRESSURE SODIUM	TYP	TYPICAL
HTR	HEATER	UG, UGND	UNDERGROUND
HV	HIGH VOLTAGE	UH	UNIT HEATER
HZ	HERTZ	UON	UNLESS OTHERWISE NOTED
IMC	INTERMEDIATE METALLIC CONDUIT	UTIL	UTILITY
INCAND	INCANDESCENT	V	VOLTS
JB	JUNCTION BOX	VFD	VARIABLE FREQUENCY DRIVE
K	THOUSAND	W	WIRE, WATT
Komil	THOUSAND CIRCULAR MILLS	WH	WATT-HOUR
KVA	KILOVOLT AMPERE	WP	WEATHERPROOF
KW	KILOWATTS	XFMR	TRANSFORMER
KWH	KILOWATT-HOURS	(X)	EXISTING
LP	LIGHTING PANEL, LIGHT POLE		

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION
	EXISTING 2x4 LIGHT FIXTURE, RECESSED OR SURFACE MOUNTED
	EXISTING 2x2 LIGHT FIXTURE, RECESSED OR SURFACE MOUNTED
	EXISTING 4FT OR 8FT CHANNEL LIGHT FIXTURE, SUSPENDED OR SURFACE MOUNTED
	EXISTING RECESSED LIGHT FIXTURE
	EXIT SIGN, SINGLE FACE, CEILING, CHEVRON INDICATES DIRECTION.
	EXISTING CEILING MOUNTED OCCUPANCY SENSOR
	CEILING MOUNTED CAMERA
	RECEPTACLE, DUPLEX, 120VAC, 20A, MOUNTED 16" AFF, UNLESS OTHERWISE NOTED. (SEE ELECTRICAL MOUNTING HEIGHT DETAIL)
	EXISTING PANELBOARD, SURFACE OR RECESSED MOUNTED AS SHOWN. SIZE, RATINGS, AND MOUNTING AS INDICATED ON PANEL SCHEDULE.
	EXISTING WIRELESS ACCESS POINT, CEILING MOUNTED
	DISCONNECT SWITCH, FUSED, HEAVY DUTY, SIZE AS INDICATED ON DRAWINGS ##A = DISCONNECT SIZE / # = NUMBER OF POLES / # = NEMA RATING, / ##AF = FUSE SIZE
	MANUAL MOTOR STARTER, ELECTRICAL CONTRACTOR SHALL COORDINATE POLES AND SIZE WITH EQUIPMENT ## = AMPERAGE RATING WHEN INDICATED ON DRAWING
	CONDUIT, HOME RUN TO PANEL BOARD
	HATCHING INDICATES EXISTING ITEMS TO BE DEMOLISHED. REMOVE DEVICE, EQUIPMENT, FIXTURE INDICATED, CIRCUIT, AND CONDUIT BACK TO SOURCE UNLESS OTHERWISE NOTED.

DATE	07/24/25
ISSUED FOR	OWNER REVIEW
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REVISION NO.	A
DESCRIPTION	

**CBHF**  
Engineers, PLLC

2246 Yaucon Drive  
Wilmington, NC 28401

Phone: 910.791.4000  
Fax: 910.791.5266  
www.cbhfe.com

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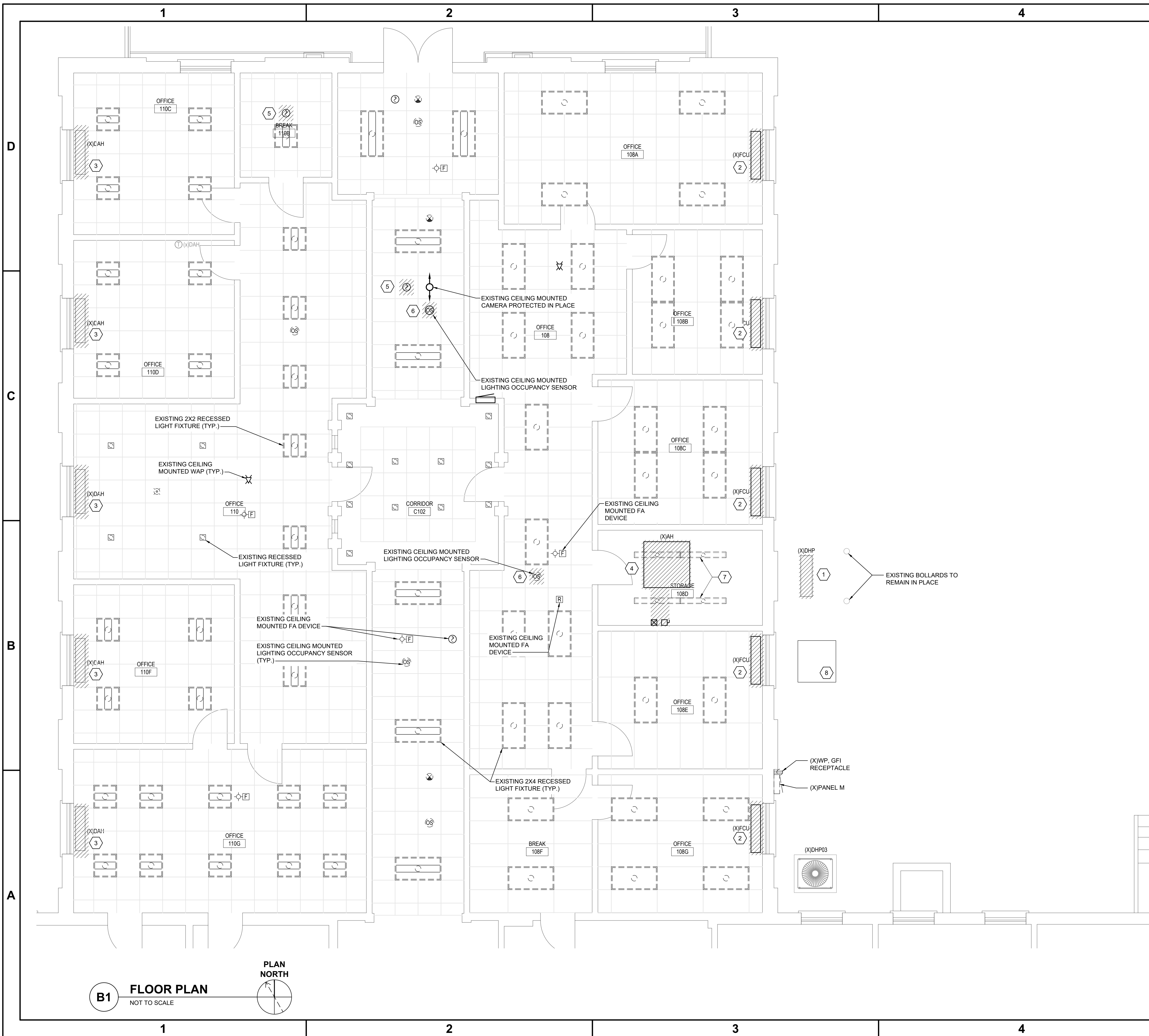
UNIVERSITY OF NORTH CAROLINA WILMINGTON  
ALDERMAN HALL REPLACE VRF  
5150 LONFISH DRIVE, WILMINGTON, NORTH CAROLINA 28403  
STATE ID#: 25-30023-01A

ELECTRICAL  
LEGEND, ABBREVIATIONS, AND  
GENERAL NOTES

JOB NO.:	25079
DRAWN:	HGH
DESIGNED:	HGH
CHECKED:	WAC

DRAWING NO:  
**E-001**

REVISION:  
C



**GENERAL NOTES**

1. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR REPAIRING, PATCHING AND PAINTING OF WALLS, BRICK FACADE, CEILING AND ETC. MODIFIED, CHANGED OR DAMAGED DUE TO WORK IN THIS CONTRACT. ALL REPAIRS SHALL MATCH ADJACENT SURFACES.
2. DEVICES NOT INDICATED BY HATCHING ARE TO REMAIN IN PLACE INCLUDING BUT NOT LIMITED TO FIXTURES, SWITCHES AND SENSORS. THESE DEVICES MUST BE PROTECTED IN PLACE DURING DEMOLITION AND MUST BE OPERATIONAL AFTER CONSTRUCTION IS COMPLETE.
3. THE ELECTRICAL CONTRACTOR MUST VERIFY ALL CIRCUITING BEING DEMOLISHED OR REVISED FOR THIS PROJECT PRIOR TO START OF DEMOLITION WORK.
4. THE ELECTRICAL AND MECHANICAL CONTRACTORS MUST COORDINATE THE PLACEMENT OF DAH UNITS WITHIN THE EXISTING CEILING GRID PRIOR TO THE START OF CONSTRUCTION. THE ELECTRICAL CONTRACTOR MUST ADJUST ANY EXISTING CONDUITS ABOVE THE LAY-IN CEILING AS REQUIRED TO AVOID CONFLICTS WITH THE DAH UNIT INSTALLATION.

**DEMOLITION KEYED NOTES**

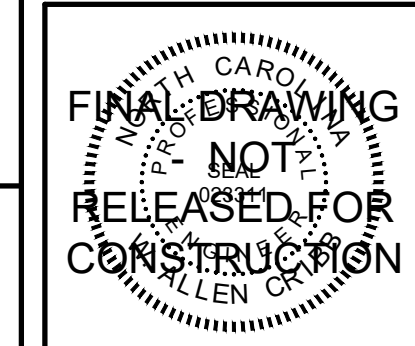
1. HEAT PUMP (DHP): REMOVE CONDUIT AND CONDUCTORS COMPLETE FROM HEAT PUMP TO SOURCE. LABEL BREAKER AS SPARE. THIS UNIT MUST NOT BE REMOVED UNTIL DHP04 AND DHP05 ARE OPERATIONAL AND COMMISSIONED
2. FAN COIL UNIT (FCU): REMOVE CONDUIT AND CONDUCTORS COMPLETE FROM FAN COIL UNIT TO NEAREST POINT OF USE NOT BEING DEMOLISHED. REMOVE DISCONNECT AND ALL SUPPORTING DEVICES. IF NO OTHER EQUIPMENT IS FED FROM CIRCUIT REMOVE CONDUIT AND CONDUCTORS COMPLETE TO SOURCE AND LABEL BREAKER SPARE.
3. DUCTLESS AIR HANDLER (DAH): REMOVE CONDUIT AND CONDUCTORS TO NEAREST POINT OF USE NOT BEING DEMOLISHED. IF NO OTHER EQUIPMENT IS FED FROM THIS CIRCUIT REMOVE CONDUIT AND CONDUCTORS COMPLETE TO SOURCE AND LABEL BREAKER SPARE.
4. AIR HANDLER (AH): DISCONNECT REMOVE CONDUIT AND CONDUCTORS COMPLETE FROM AH TO SOURCE, REMOVE STARTER AND DISCONNECT AND ALL SUPPORTING DEVICES. LABEL BREAKER AS SPARE.
5. FIRE ALARM SMOKE DETECTOR: PROTECT THE EXISTING FIRE ALARM DEVICE. CONDUIT AND CONDUCTORS IN PLACE SO THAT IT REMAINS OPERATIONAL DURING DEMOLITION AND CONSTRUCTION AS NECESSARY FOR RELOCATION. SEE EP101 FOR NEW LOCATION.
6. LIGHTING OCCUPANCY SENSOR: PROTECT THE EXISTING LIGHTING OCCUPANCY SENSOR CONDUIT AND CONDUCTORS IN PLACE DURING DEMOLITION AND CONSTRUCTION AS NECESSARY FOR RELOCATION. SEE EP101 FOR NEW LOCATION.
7. LIGHT FIXTURES: REMOVE FIXTURES AS REQUIRED FOR DEMOLITION OF (X)AH. PROTECT FIXTURES AND LIGHTING CIRCUIT FOR RE-INSTALLATION OF LIGHT FIXTURES AFTER MECHANICAL EQUIPMENT IS INSTALLED. ALL UPSTREAM AND DOWNSTREAM FIXTURES MUST REMAIN OPERATIONAL AFTER DEMOLITION AND CONSTRUCTION IS COMPLETE.
8. EXISTING CONDUIT: REMOVE EXISTING EMPTY CONDUIT TO BELOW GROUND AND OUTSIDE OF FOOTPRINT OF EQUIPMENT INSTALLED DURING THIS PROJECT.

DATE FOR THIS	07/27/23
ISSUED FOR OWNER REVIEW	07/27/23
ISSUED FOR OWNER REVIEW	07/16/23
REVISION NO.	A
DESCRIPTION	

**CBHF**  
Engineers, PLLC

2246 Yaupon Drive  
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Phone: 910.791.4000  
Fax: 910.791.5266  
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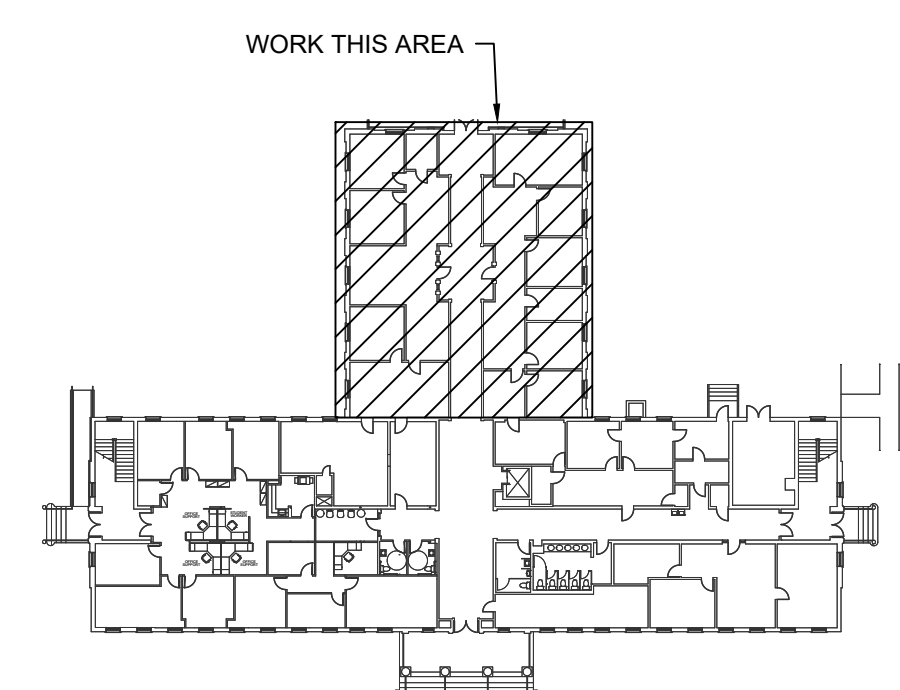
UNIVERSITY OF NORTH CAROLINA WILMINGTON  
ALDERMAN HALL REPLACE VRF  
5150 LIONFISH DRIVE, WILMINGTON, NORTH CAROLINA 28403  
STATE ID#: 25-30023-01A

**ELECTRICAL HVAC POWER  
FIRST FLOOR PLAN - DEMOLITION**

JOB NO.:	25079
DRAWN:	HGH
DESIGNED:	HGH
CHECKED:	WAC

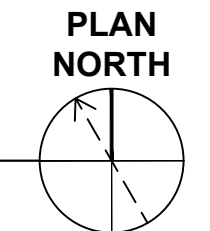
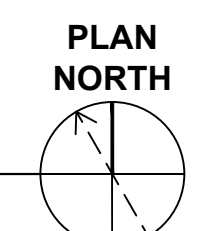
DRAWING NO:  
**ED101**

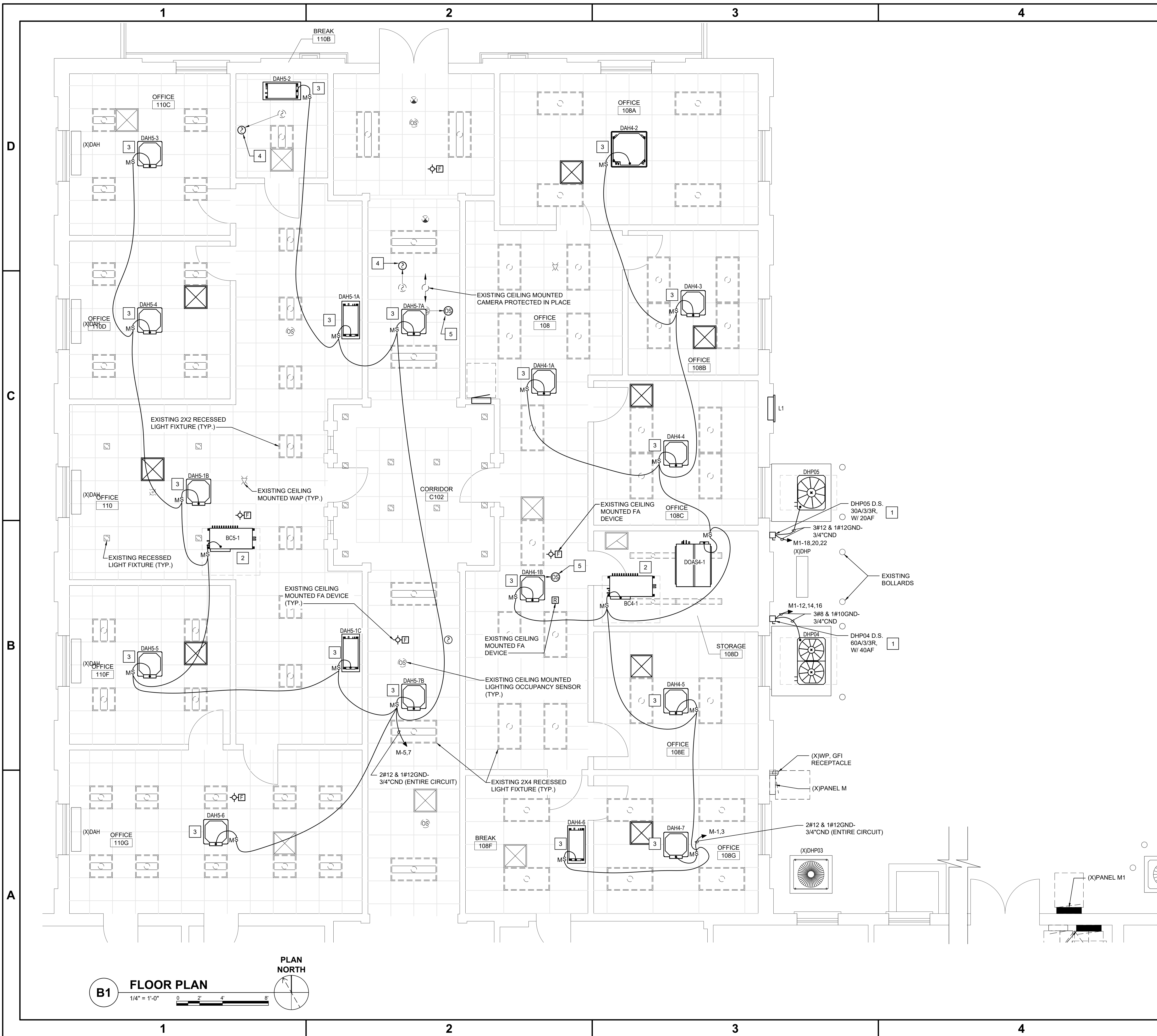
REVISION:  
C



**A5 KEY PLAN**  
NOT TO SCALE

**B1 FLOOR PLAN**  
NOT TO SCALE





**GENERAL NOTES**

1. THE ELECTRICAL AND MECHANICAL CONTRACTORS MUST COORDINATE THE PLACEMENT OF DAH UNITS WITHIN THE EXISTING CEILING GRID PRIOR TO THE START OF CONSTRUCTION. THE ELECTRICAL CONTRACTOR MUST ADJUST ANY EXISTING CONDUITS ABOVE THE LAY-IN CEILING AS REQUIRED TO AVOID CONFLICTS WITH THE DAH UNIT INSTALLATION.

**KEYED NOTES**

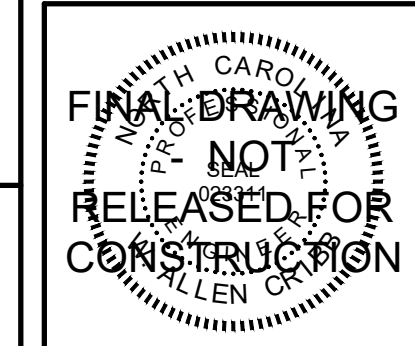
- 1 DHP04 & DHP05: COORDINATE LOCATION OF DISCONNECT SWITCH WITH EXISTING STRUCTURE AND EQUIPMENT. CONDUIT SHALL NOT BE ROUTED ALONG THE FACE OF THE BUILDING TO PANEL.
- 2 BRANCH CONTROLLER: PROVIDE MANUAL MOTOR STARTER AND MOUNT ABOVE CEILING AT BRANCH CONTROLLER. COORDINATE LOCATION OF DISCONNECT SWITCH WITH EXISTING STRUCTURES AND EQUIPMENT.
- 3 DUCTLESS AIR HANDLER (DAH##): PROVIDE MANUAL MOTOR STARTER AND MOUNT ABOVE CEILING AT DAH. COORDINATE LOCATION OF DISCONNECT SWITCH WITH EXISTING STRUCTURES AND EQUIPMENT.
- 4 EXISTING FIRE ALARM CEILING MOUNTED SMOKE DETECTOR: THE CONTRACTOR MUST RELOCATE AS INDICATED THE EXISTING FIRE ALARM DEVICE IN LOCATION INDICATED. THE CONTRACTOR MUST COORDINATE WITH THE UNIVERSITY FIRE ALARM DEPARTMENT TO PUT THE SYSTEM IN TEST AND RE-INSTALL THE FIRE ALARM DEVICE IN A NEW CEILING TILE USING THE EXISTING BOX, CONDUIT AND CONDUCTORS. COORDINATE WITH THE UNIVERSITY FIRE ALARM DEPARTMENT TO TEST THE DEVICES SO THEY ARE FULLY OPERATIONAL AFTER RE-INSTALLATION.
- 5 EXISTING CEILING MOUNTED LIGHTING OCCUPANCY SENSOR: THE CONTRACTOR MUST DISCONNECT AND RE-INSTALL THE CEILING MOUNTED LIGHTING OCCUPANCY SENSOR TO LOCATION INDICATED. EXTEND EXISTING CONDUIT AND CONDUCTORS PROTECTED DURING DEMOLITION AS REQUIRED TO RE-FEED THE EXISTING CEILING MOUNTED LIGHTING OCCUPANCY SENSOR.

DATE	07/27/25
ISSUED FOR OWNER REVIEW	07/24/25
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REVISION NO.	
DESCRIPTION:	

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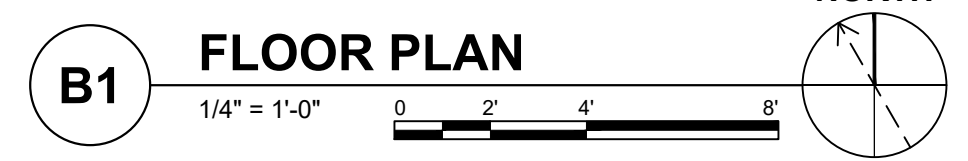
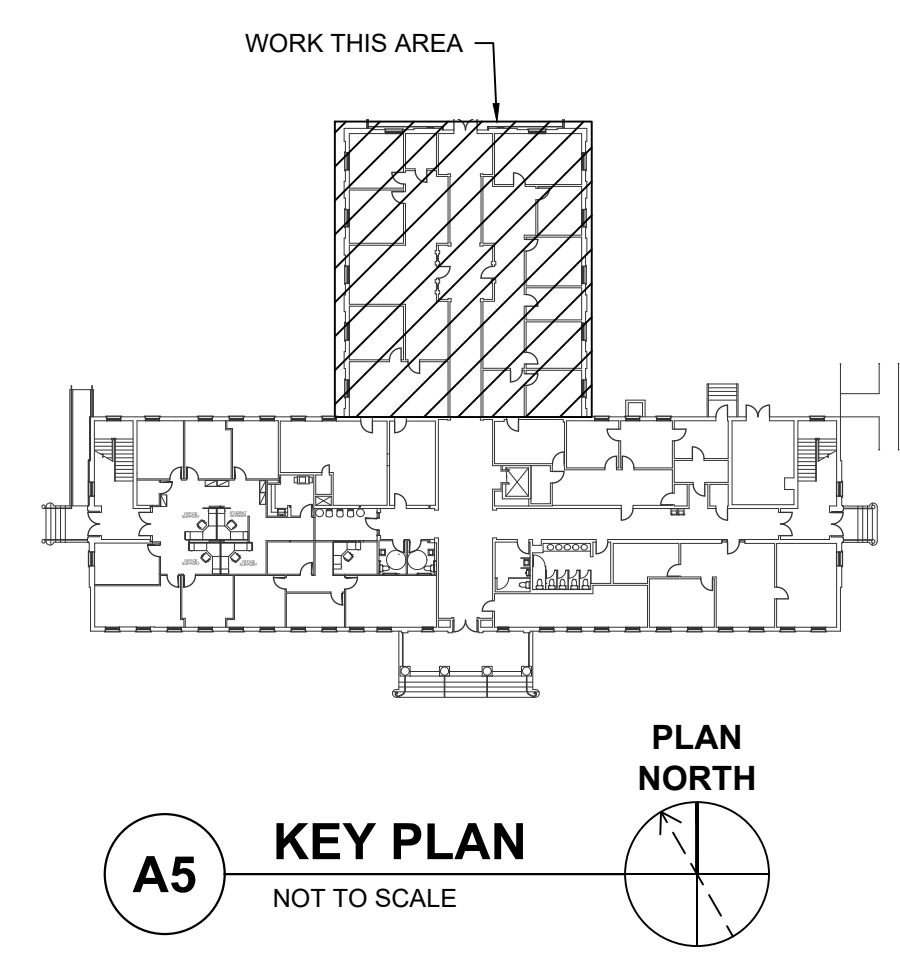
UNIVERSITY OF NORTH CAROLINA WILMINGTON  
ALDERMAN HALL REPLACE VRF  
5150 LIONFISH DRIVE, WILMINGTON, NORTH CAROLINA 28403  
STATE ID#: 25-30023-01A

**ELECTRICAL HVAC POWER  
FIRST FLOOR PLAN**

JOB NO.:	25079
DRAWN:	HGH
DESIGNED:	HGH
CHECKED:	WAC

DRAWING NO. **EP101**

REVISION: C



EXISTING PANEL M1 REVISED													
TYPE: NEMA 3R BOLT-ON	480 V.		277 V.		3 PH.		4 WIRE		PROVIDE IF CHECKED:	XX		EQUIP. GROUND BUS NEUTRAL BUS GUTTER TAPS SUB-FEED LUGS	
	LOAD VA	CRKT #	LOAD VA	CRKT #	A	B	C	CRKT #		CRKT #	LOAD VA	LOAD SERVED	
(X)DHP02 D.S.	4,212	303	1	4,212	4	201							
	4,212		3	4,212	4	201							
SPARE		201	5		4,212	8	201						
SPARE		201	9			10	201						
SPARE		201	11		5,764	12	403		5,764	DHP04 D.S. (NOTE 1 & 2)			
(X)DHP03 D.S.	2,439	153	13	8,203	14				5,764				
	2,439		15	8,203	16				5,764				
	2,439		17		5,543	18	203		3,104	DHP05 D.S. (NOTE 1 & 2)			
SPACE		-	19	3,104	20				3,104				
SPACE		-	21		3,104	22			3,104				
SPACE		-	23			24	-			SPACE			
SPACE		-	25			26	-			SPACE			
SPACE		-	27			28	-			SPACE			
SPACE		-	29			30	-			SPACE			
SPACE		-	31			32	-			SPACE			
SPACE		-	33			34	-			SPACE			
SPACE		-	35			36	-			SPACE			
SPACE		-	37			38	-			SPACE			
SPACE		-	39			40	-			SPACE			
SPACE		-	41			42	-			SPACE			
					15,520	15,520	15,520			225	A. BUS (COPPER)		
					55	55	55			225	A. MAIN CIRCUIT BREAKER		

EXISTING PANEL M REVISED													
TYPE: NEMA 3R BOLT-ON	208 V.		120 V.		3 PH.		4 WIRE		PROVIDE IF CHECKED:	XX		EQUIP. GROUND BUS NEUTRAL BUS GUTTER TAPS SUB-FEED LUGS	
	LOAD VA	CRKT #	LOAD VA	CRKT #	A	B	C	CRKT #		CRKT #	LOAD VA	LOAD SERVED	
DOAS4-01, DAH4-1A THRU DAH4-7 (NOTE 1)	568	152	1	568	2	302					(X)SPARE		
	568		3	568	4								
DAH5-1A THRU DAH5-7B (NOTE 1)	320	152	5			320	6	302			(X)SPARE		
	320		7	320	8								
SPARE (NOTE 2)		152	9			10	201				(X)RECEPTACLE HEX NUTS		
			11			12	201				(X)SPARE		
SPARE (NOTE 2)		202	13			14	201				(X)GOLF CART		
			15			16	201						
SPARE (NOTE 2)		152	17			18	201				(X)SPARE		
			19			20	603				(X)HP-1 TALL HENRY		
(X)A/C CONDENSOR		302	21			22							
			23			24							
(X)MINI SPLIT		152	25			26	201				(X)GFCI RECEPTACLE (SERVICE)		
			27			28	-				SPACE		
SPACE		-	29			30	-				SPACE		
SPACE		-	31			32	-				SPACE		
SPACE		-	33			34	-				SPACE		
SPACE		-	35			36	-				SPACE		
SPACE		-	37			38	-				SPACE		
SPACE		-	39			40	-				SPACE		
SPACE		-	41			42	-				SPACE		
					889	568	320				200	A. BUS (COPPER)	
					7	5	3				200	A. MAIN CIRCUIT BREAKER	

LOAD SUMMARY PANEL M1	
VOLTAGE	PHASE
480	3
<b>LOADS ADDED THIS PROJECT</b>	
<b>HVAC EQUIPMENT</b>	
DHP04 & DHP05	26,605 VA
TOTAL EQUIPMENT DEMAND	26,605 VA
TOTAL EQUIPMENT DEMAND	32 AMPS
<b>LOADS REMOVED THIS PROJECT</b>	
<b>HVAC EQUIPMENT</b>	
FANS	9,152 VA
ODU	4,992 VA
TOTAL EQUIPMENT REMOVED THIS PROJECT	14,144 VA
TOTAL EQUIPMENT REMOVED THIS PROJECT	17 AMPS
<b>LOAD ADDED THIS PROJECT</b>	
<b>HVAC EQUIPMENT</b>	
BC4-01 & BC4-02	366 VA
DOAS4-01	549 VA
DAH4'S (QTY 8)	404 VA
DAH5'S (QTY 10)	458 VA
DHP04 & DHP05	26,605 VA
TOTAL EQUIPMENT DEMAND	28,382 VA
TOTAL EQUIPMENT DEMAND	34 AMPS
<b>LOADS REMOVED THIS PROJECT</b>	
<b>HVAC EQUIPMENT</b>	
BC4-01 & BC4-02	366 VA
DOAS4-01	549 VA
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<b>HVAC EQUIPMENT</b>	
BC4-01 & BC4-02	366 VA
DOAS4-01	549 VA
DAH4'S (QTY 8)	404 VA
DAH5'S (QTY 10)	458 VA
DHP04 & DHP05	26,605 VA
TOTAL EQUIPMENT DEMAND	28,382 VA
TOTAL EQUIPMENT DEMAND	34 AMPS
<b>LOAD ADDED THIS PROJECT</b>	
<b>HVAC EQUIPMENT</b>	
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DOAS4-01	549 VA
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