

Trask HVAC Replacement

FOR
UNCW

601 South College Road
Wilmington, NC 28403
STATE ID#: 20-22523-01A



CBHF
Engineers, PLLC

2246 Yaupon Drive
Wilmington, NC 28401

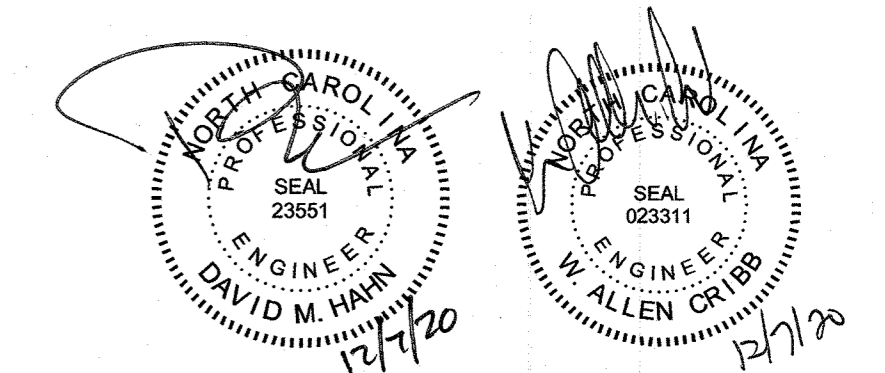
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DRAWING INDEX

GENERAL

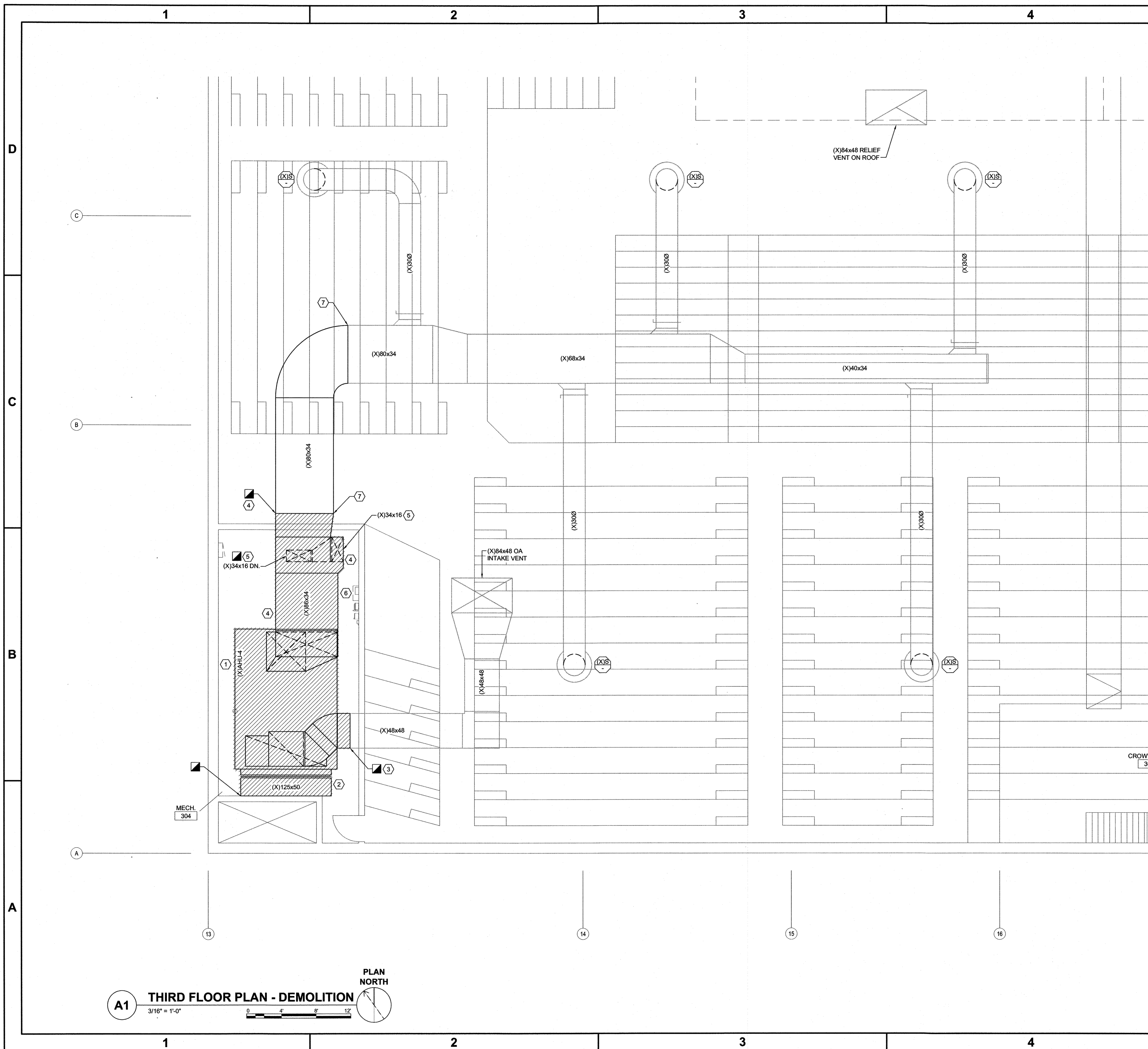
COVER SHEET

MECHANICAL

M-001 MECHANICAL LEGENDS, ABBREVIATIONS, GENERAL AND DEMOLITION NOTES
MD101 MECHANICAL THIRD FLOOR PLAN HVAC - DEMOLITION
MD102 MECHANICAL THIRD FLOOR PLAN HYDRONIC PIPING - DEMOLITION
MD103 MECHANICAL ROOF PLAN - DEMOLITION
MH101 MECHANICAL THIRD FLOOR PLAN HVAC
MH102 MECHANICAL ROOF PLAN HVAC
MP101 MECHANICAL PARTIAL FIRST FLOOR PLAN PIPING
MP102 MECHANICAL PARTIAL FIRST FLOOR PLAN PIPING
MP103 MECHANICAL THIRD FLOOR PLAN PIPING
MP401 MECHANICAL ENLARGED PLAN PIPING
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M-502 MECHANICAL DETAILS
M-601 MECHANICAL SCHEDULES
M-602 MECHANICAL CONTROL DIAGRAM, SEQUENCE OF OPERATIONS AND POINTS LIST

ELECTRICAL

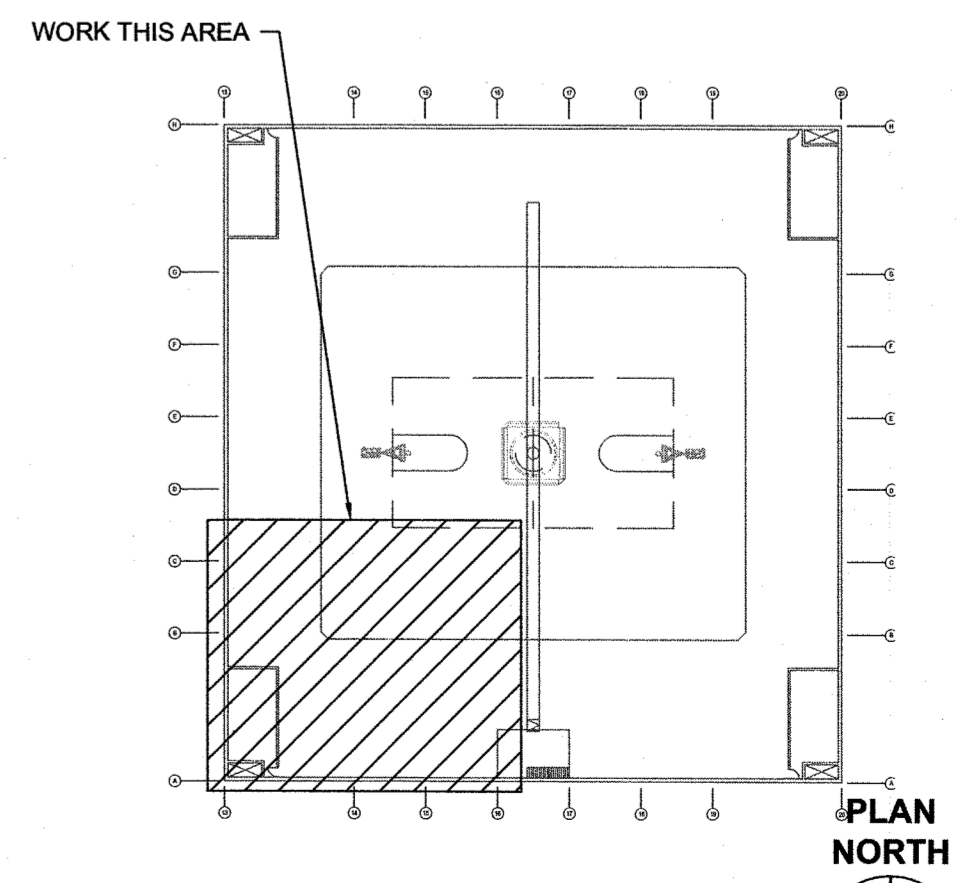
E-001 ELECTRICAL LEGEND, NOTES AND ABBREVIATIONS
ED101 ELECTRICAL THIRD FLOOR PLAN POWER - DEMOLITION
E-101 ELECTRICAL THIRD FLOOR PLAN POWER
E-501 ELECTRICAL DETAILS



GENERAL NOTES

DEMOLITION KEYED NOTES

- ① REMOVE/DISPOSE EXISTING AIR HANDLER INCLUDING BUT NOT LIMITED TO AIR HANDLER, HANGERS, SUPPORTS, CONTROLS, ETC. TO EXTENT SHOWN ON PLANS.
- ② REMOVE/DISPOSE EXISTING RETURN DUCT INCLUDING BUT NOT LIMITED TO RETURN DUCT, HANGERS, SUPPORTS, INSULATION, ETC. TO EXTENT SHOWN ON PLANS.
- ③ REMOVE/DISPOSE EXISTING OUTSIDE AIR DUCT INCLUDING BUT NOT LIMITED TO OUTSIDE AIR DUCT, HANGERS, SUPPORTS, INSULATION, ETC. TO EXTENT SHOWN ON PLANS.
- ④ REMOVE/DISPOSE EXISTING SUPPLY DUCT INCLUDING BUT NOT LIMITED TO SUPPLY DUCT, HANGERS, SUPPORTS, INSULATION, ETC. TO EXTENT SHOWN ON PLAN.
- ⑤ REMOVE/DISPOSE EXISTING 34x16 SUPPLY DUCT APPROXIMATELY 12' A.F.F TO CONNECTION INTO MAIN SUPPLY DUCT, INCLUDING BUT NOT LIMITED TO SUPPLY DUCT, HANGERS, SUPPORTS, INSULATION, ETC.
- ⑥ EXISTING DDC CONTROLLER/CABINET. REMOVE AND PROTECT FOR OWNER. CONTRACTOR SHALL CLEAN, TAG AND PROVIDE INVENTORY LISTING MANUFACTURER NAME AND MODEL NUMBER, SPECIFICATION DATA AND ELECTRICAL RATING OF DDC CONTROLLER/CABINET. REFER TO MH101 FOR DDC CABINET RELOCATION.
- ⑦ EXISTING SUPPLY DUCT TO BE DISASSEMBLED TO APPROXIMATE LOCATION SHOWN TO ALLOW FOR INSTALLATION OF NEW AIR HANDLER. MECHANICAL CONTRACTOR TO DETERMINE AMOUNT OF DUCT TO DISASSEMBLE PRIOR TO START OF DEMOLITION.

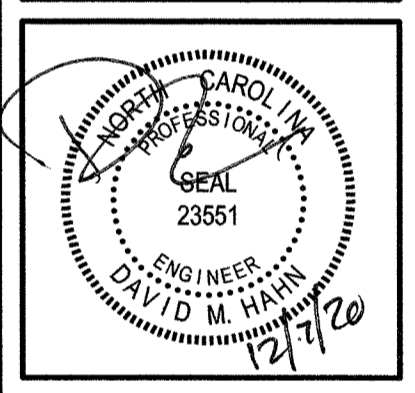


A1 THIRD FLOOR PLAN - DEMOLITION
 3/16" = 1'-0"
 0 4 8 12
 PLAN NORTH

A5 KEYPLAN
 NOT TO SCALE
 PLAN NORTH

12.07.20	Date:
0	Revision No:
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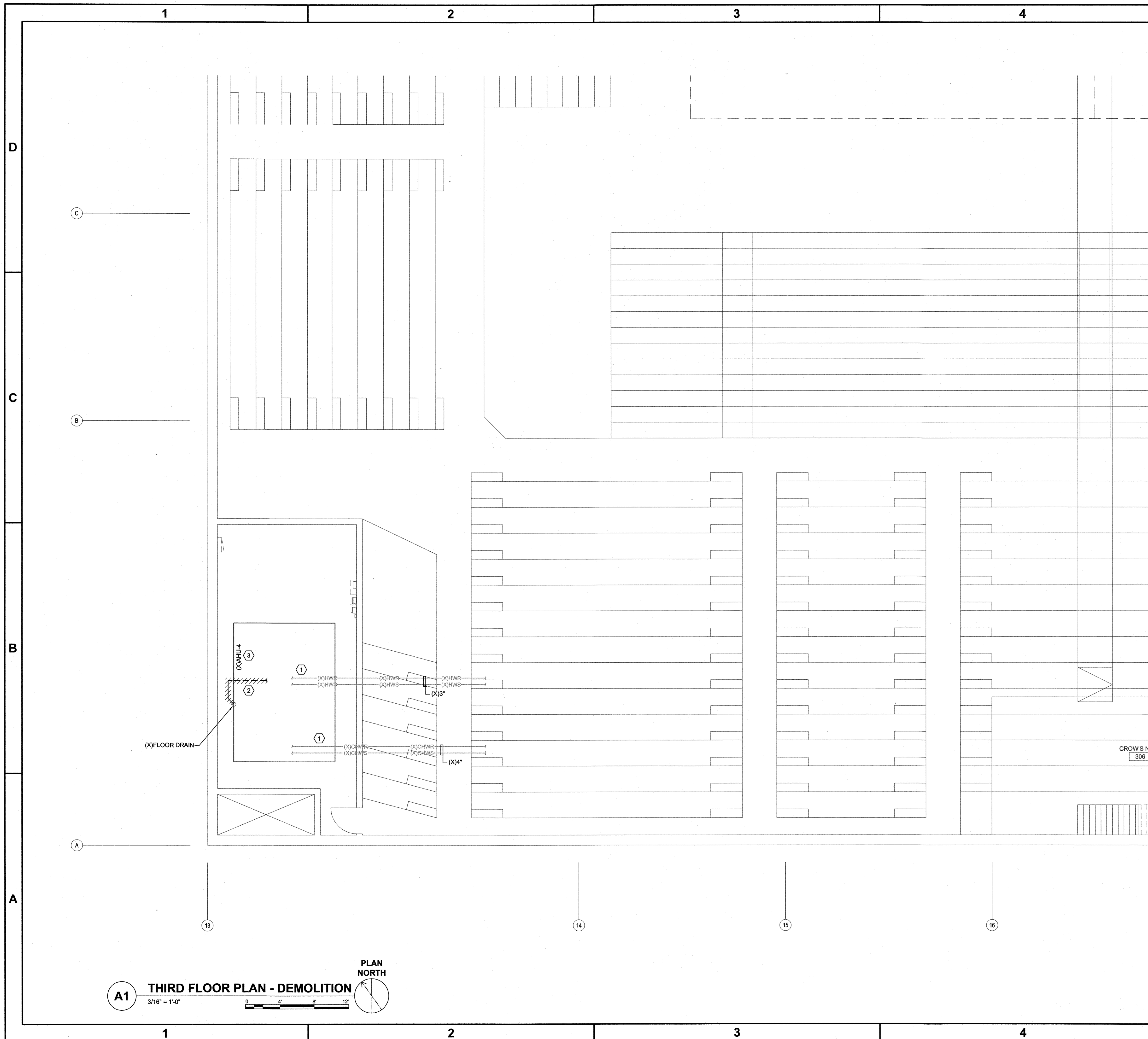


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TRASK HVAC REPLACEMENT
 601 S. COLLEGE ROAD, WILMINGTON, NORTH CAROLINA 28403
 STATE ID#20-22525-07A
THIRD FLOOR PLAN
HVAC - DEMOLITION

JOB NO.:	20138
DRAWN:	GRM
DESIGNED:	GRM
CHECKED:	DMH

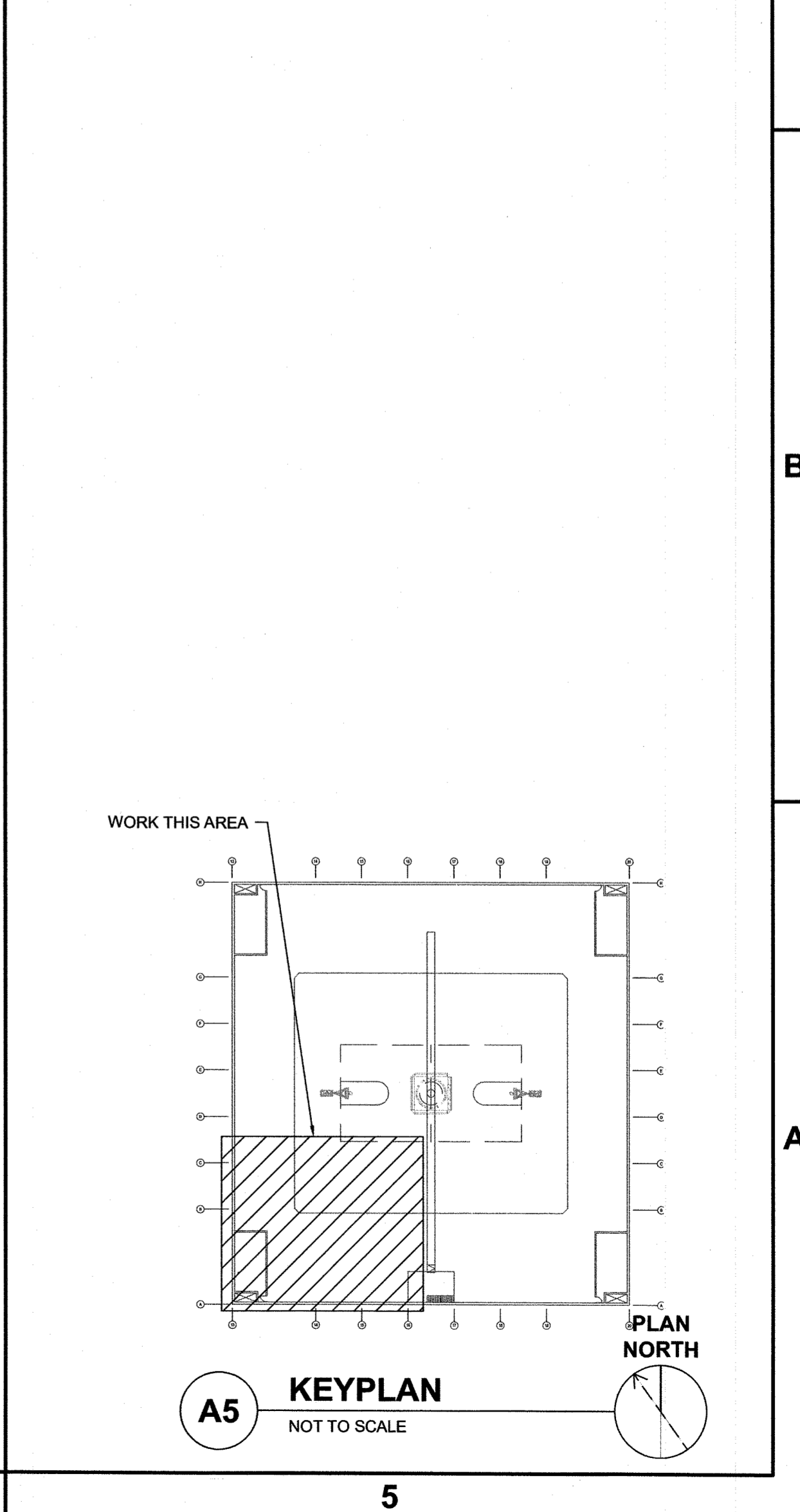
DRAWING NO:
MD101

REVISION:	0
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GENERAL NOTES

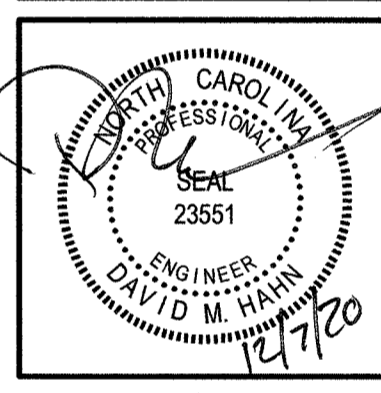
- DEMOLITION KEYED NOTES**
- ① PIPING AND CONTROL VALVES TO BE DISASSEMBLED AS REQUIRED TO ALLOW FOR INSTALLATION OF NEW AIR HANDLER. MECHANICAL CONTRACTOR TO PROTECT PIPING AND CONTROL VALVES. COORDINATE RE-INSTALLATION WITH CONTROLS CONTRACTOR.
 - ② REMOVE/DISPOSE OF EXISTING CONDENSATE PIPING INCLUDING BUT NOT LIMITED TO CONDENSATE PIPING, HANGERS, SUPPORTS, ETC.
 - ③ REFER TO MD101 FOR AIR HANDLER DEMOLITION INSTRUCTIONS.



A1 THIRD FLOOR PLAN - DEMOLITION
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 0 4 8 12
 PLAN NORTH

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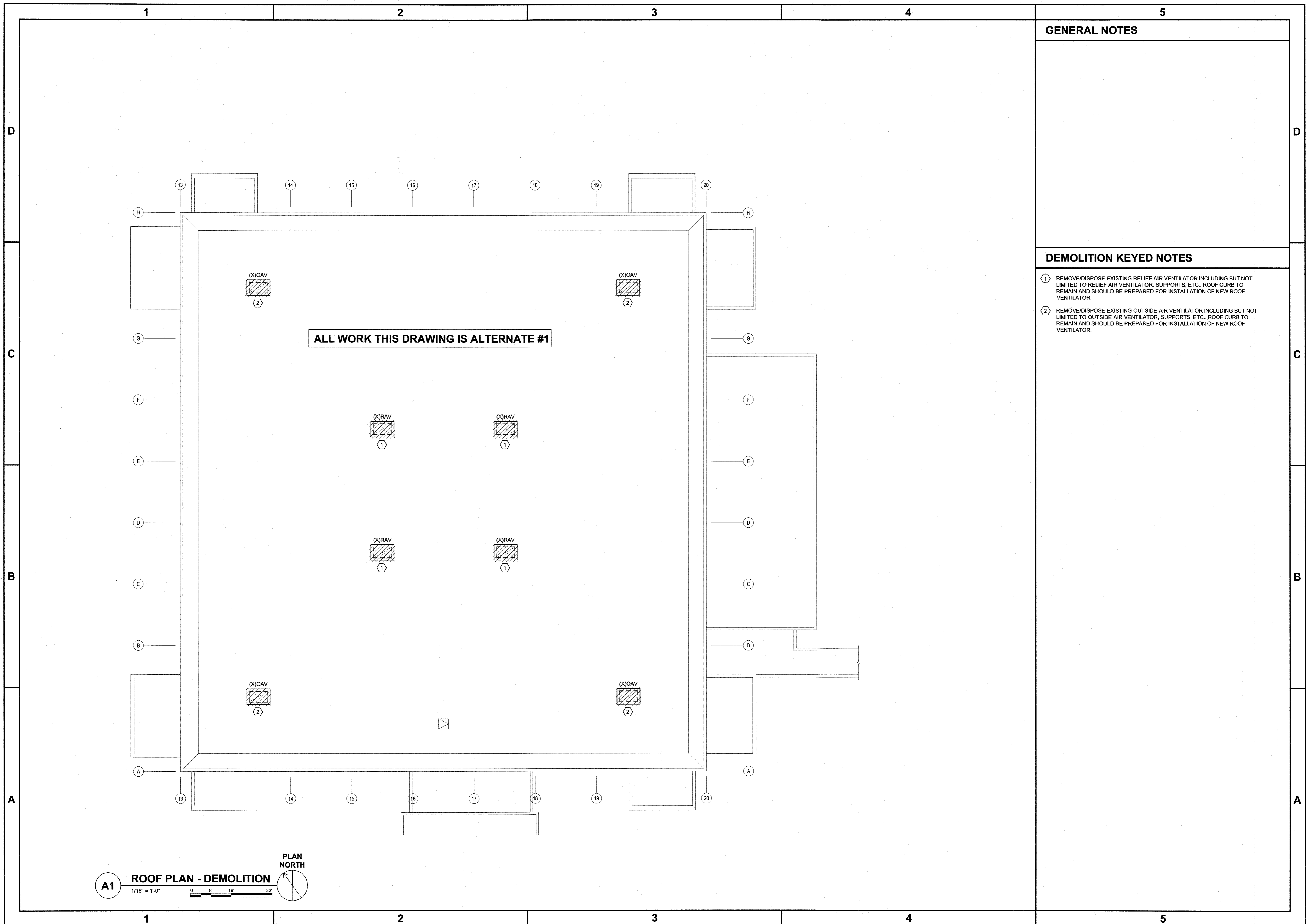


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 STATE ID# 20-22825-01A
THIRD FLOOR PLAN
HYDRONIC PIPING - DEMOLITION

JOB NO.:	20138
DRAWN:	GRM
DESIGNED:	GRM
CHECKED:	DMH

DRAWING NO. **MD102**

REVISION: 0



GENERAL NOTES

DEMOLITION KEYED NOTES

- ① REMOVE/DISPOSE EXISTING RELIEF AIR VENTILATOR INCLUDING BUT NOT LIMITED TO RELIEF AIR VENTILATOR, SUPPORTS, ETC.. ROOF CURB TO REMAIN AND SHOULD BE PREPARED FOR INSTALLATION OF NEW ROOF VENTILATOR.
- ② REMOVE/DISPOSE EXISTING OUTSIDE AIR VENTILATOR INCLUDING BUT NOT LIMITED TO OUTSIDE AIR VENTILATOR, SUPPORTS, ETC.. ROOF CURB TO REMAIN AND SHOULD BE PREPARED FOR INSTALLATION OF NEW ROOF VENTILATOR.

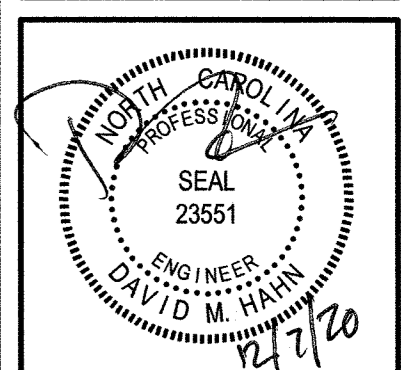
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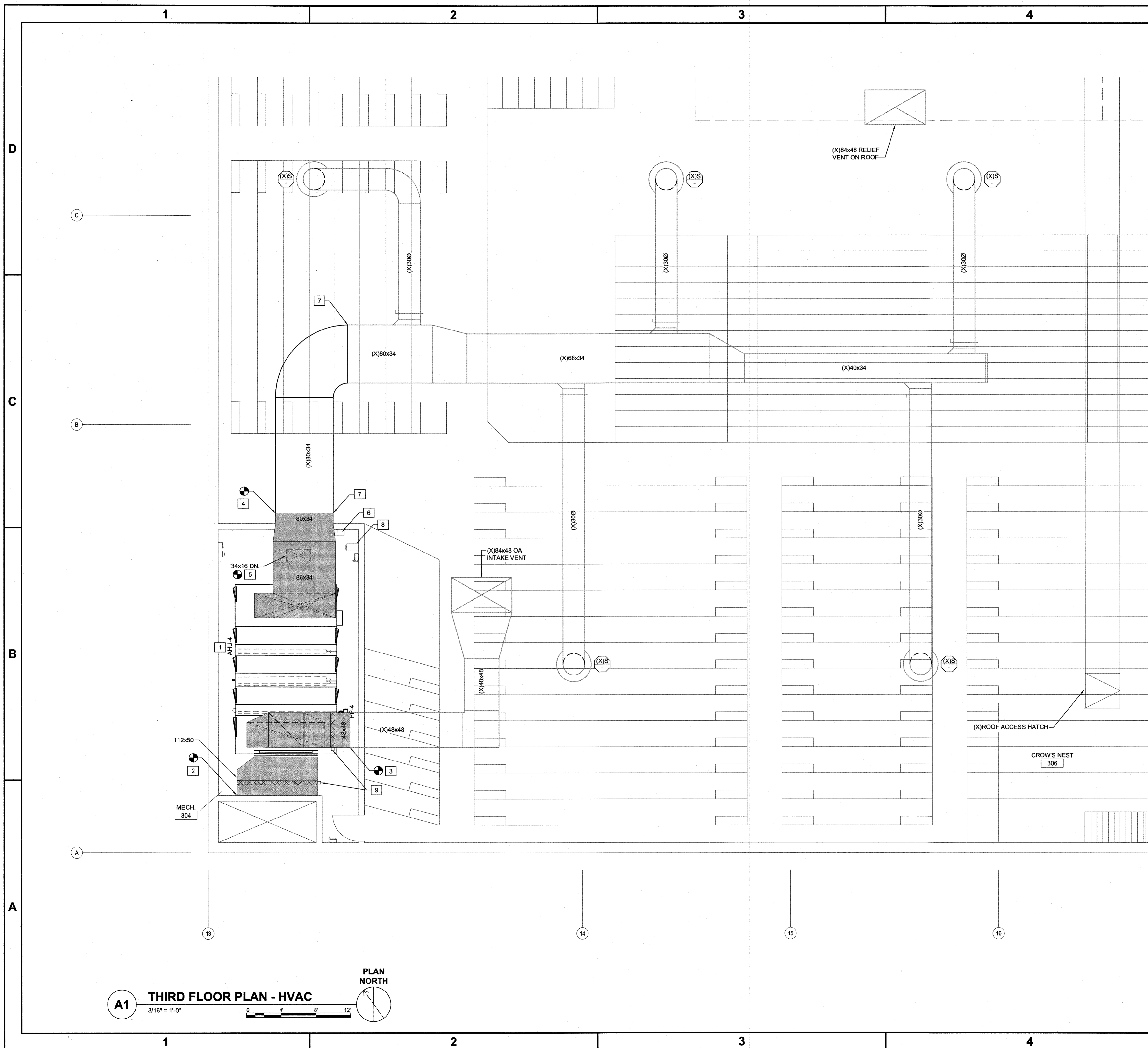
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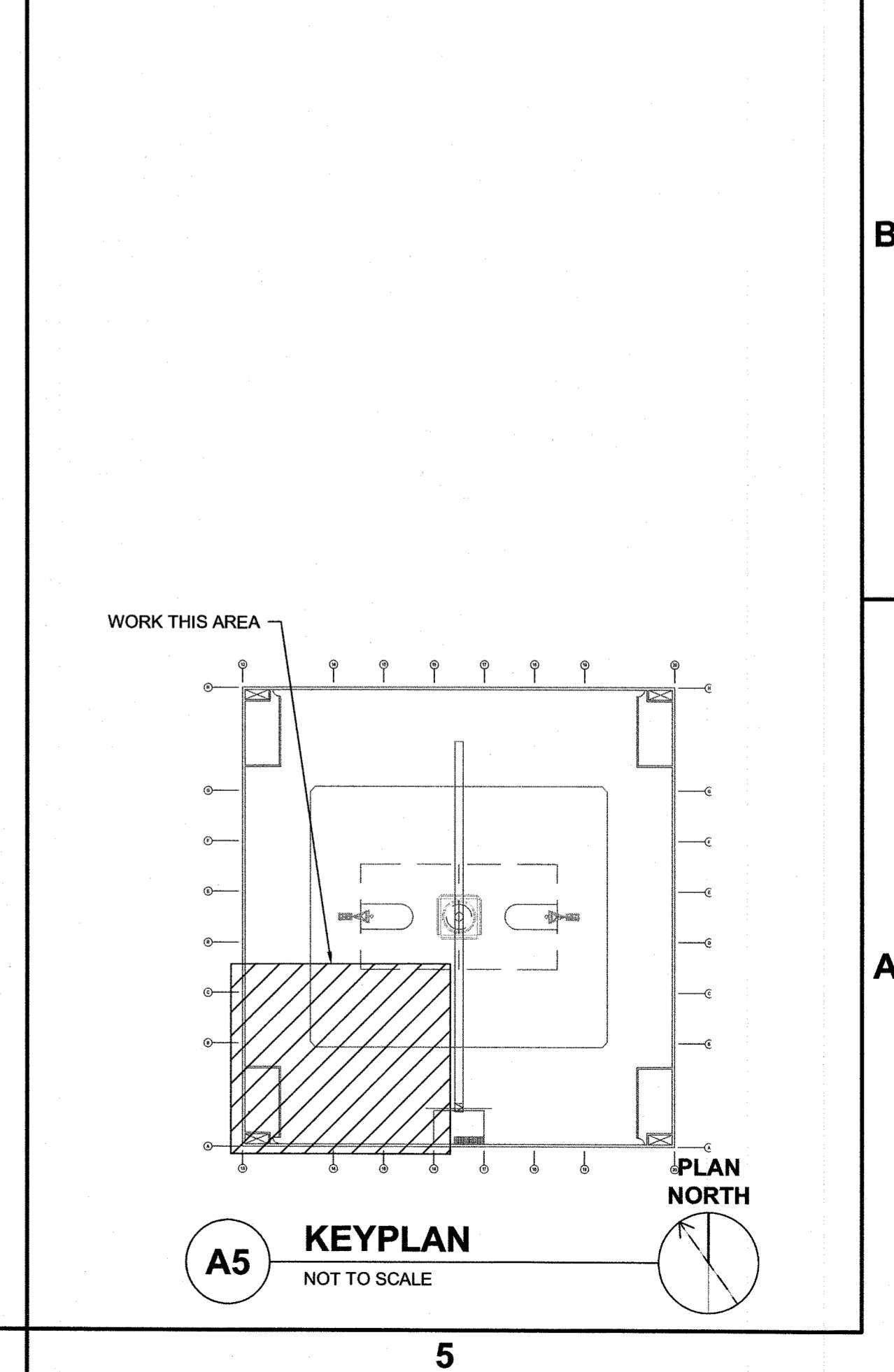
ROOF PLAN
HVAC - DEMOLITION

JOB NO.:	20138
DRAWN:	GRM
DESIGNED:	GRM
CHECKED:	DMH
DRAWING NO.:	MD103
REVISION:	0



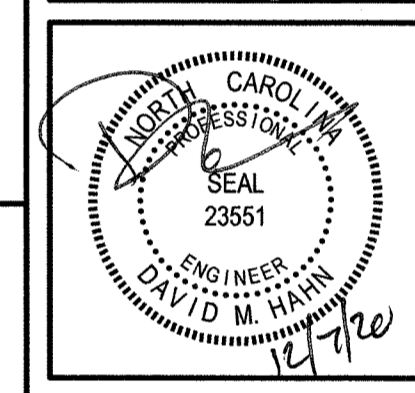
GENERAL NOTES

- KEYED NOTES**
- 1 PROVIDE NEW AIR HANDLER INCLUDING BUT NOT LIMITED TO AIR HANDLER, HANGERS, SUPPORTS, CONTROLS, ETC. TO PROVIDE A FULLY OPERATIONAL SYSTEM.
 - 2 PROVIDE RETURN DUCT INCLUDING BUT NOT LIMITED TO RETURN DUCT, HANGERS, SUPPORTS, INSULATION, ETC. TO EXTENT SHOWN ON PLANS.
 - 3 PROVIDE OUTSIDE AIR DUCT INCLUDING BUT NOT LIMITED TO OUTSIDE AIR DUCT, HANGERS, SUPPORTS, INSULATION, ETC. TO EXTENT SHOWN ON PLANS.
 - 4 PROVIDE SUPPLY DUCT INCLUDING BUT NOT LIMITED TO SUPPLY DUCT, HANGERS, SUPPORTS, INSULATION, ETC. TO EXTENT SHOWN ON PLAN.
 - 5 TRANSITION FROM EXISTING 34x16 SUPPLY DUCT APPROXIMATELY 12" A.F.F AND CONNECT INTO BOTTOM OF MAIN SUPPLY DUCT.
 - 6 RELOCATE EXISTING DDC CONTROLLER/CABINET AS SHOWN ON PLANS.
 - 7 EXISTING SUPPLY DUCT TO BE RE-ASSEMBLED TO EXTENT SHOWN TO ALLOW FOR A SEALED AIR-TIGHT DUCT.
 - 8 AHU-4 VFD: COORDINATE PLACEMENT OF VFD. VFD PROVIDED BY DDC CONTRACTOR, INSTALLED AND WIRED BY ELECTRICAL CONTRACTOR.
 - 9 PROVIDE TAMCO SERIES 1000 CONTROL DAMPER (120V) WITH SALT WATER RESISTANCE OPTION.



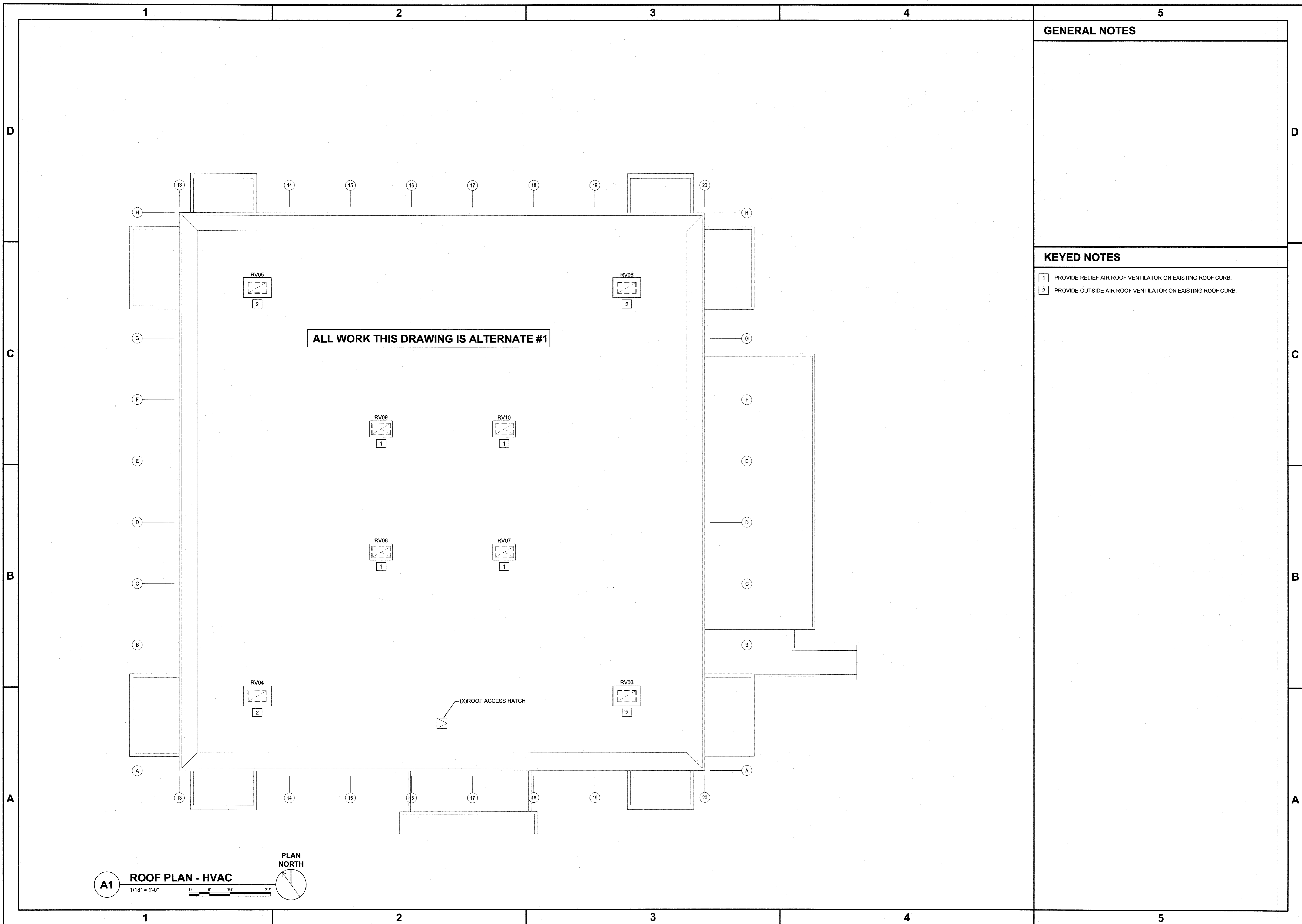
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TRASK HVAC REPLACEMENT
 601 S. COLLEGE ROAD, WILMINGTON, NORTH CAROLINA 28403
 STATE ID#20-22523-01A
THIRD FLOOR PLAN
HVAC

JOB NO.:	20136
DRAWN:	GRM
DESIGNED:	GRM
CHECKED:	DMH
DRAWING NO.:	MH101
REVISION:	0



GENERAL NOTES

KEYED NOTES

- 1 PROVIDE RELIEF AIR ROOF VENTILATOR ON EXISTING ROOF CURB.
- 2 PROVIDE OUTSIDE AIR ROOF VENTILATOR ON EXISTING ROOF CURB.

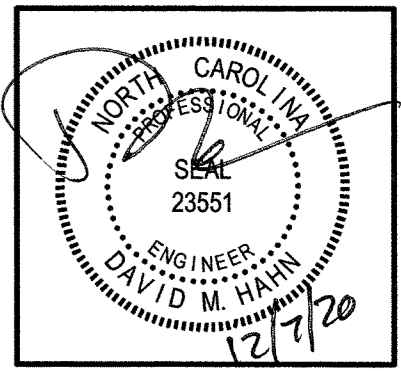
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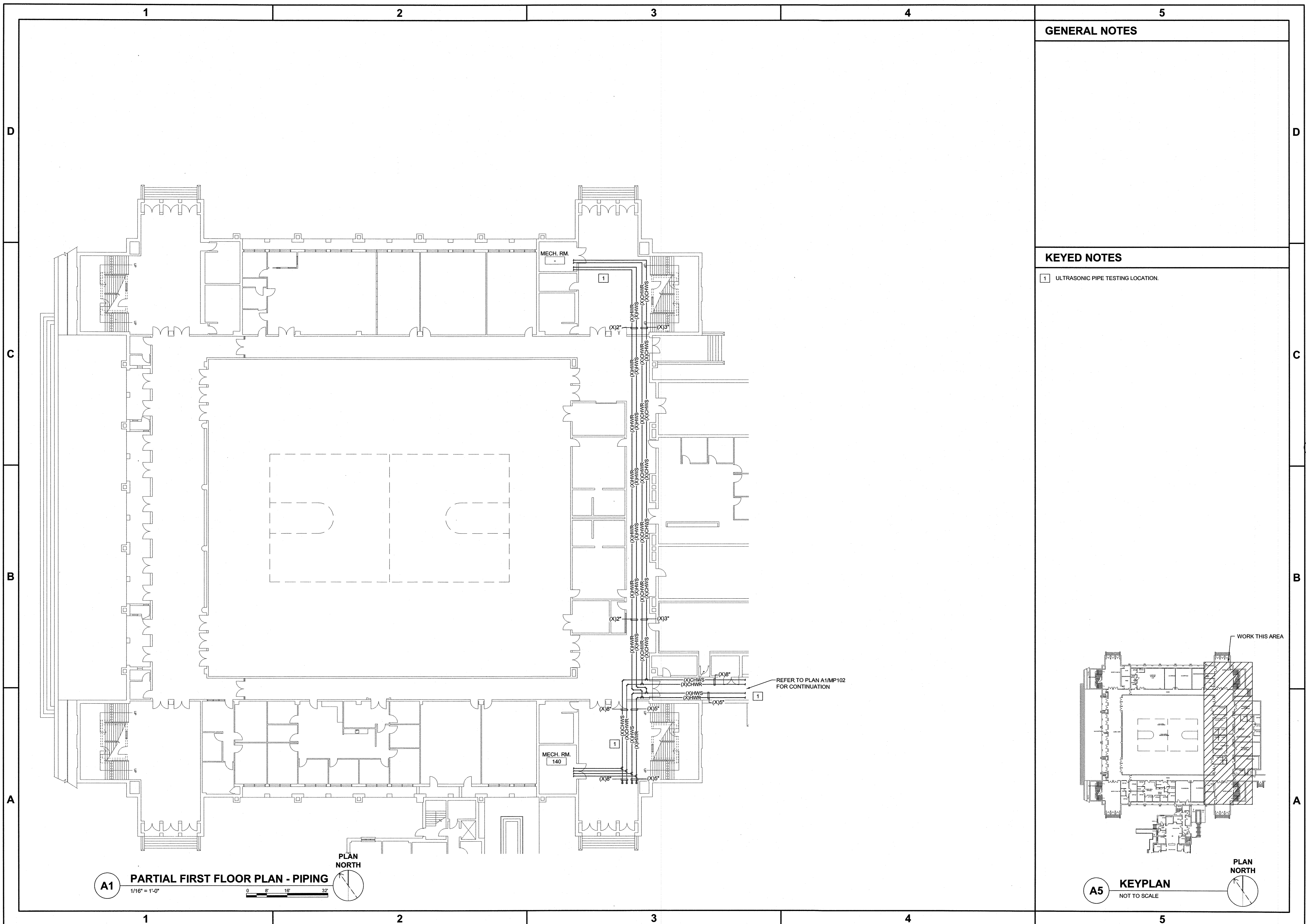
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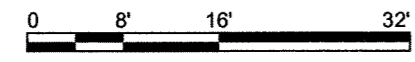
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601 S. COLLEGE ROAD, WILMINGTON, NORTH CAROLINA 28403
STATE ID# 20-2523-01A

**ROOF PLAN
HVAC**

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DRAWN:	GRM
DESIGNED:	GRM
CHECKED:	DMH
DRAWING NO.:	MH102
REVISION:	0



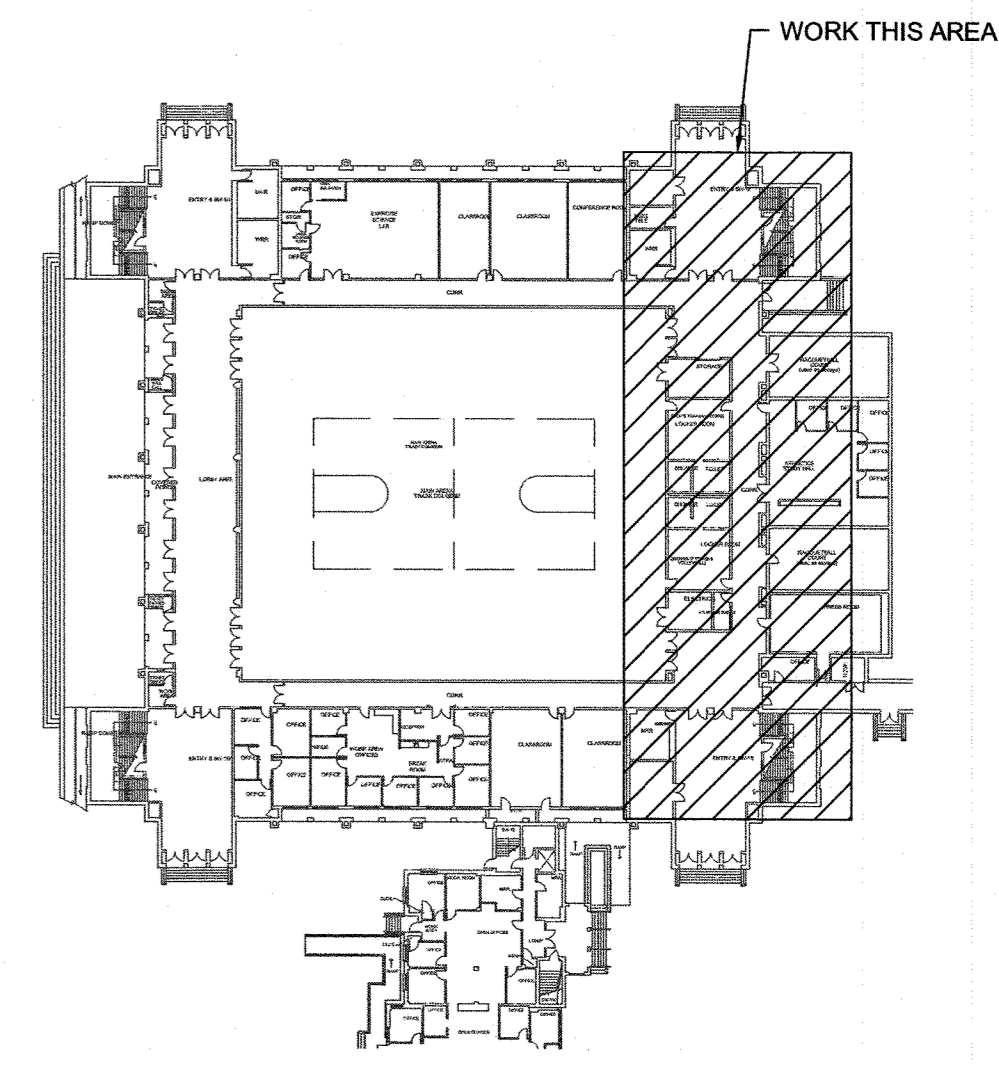
A1 PARTIAL FIRST FLOOR PLAN - PIPING
 1/16" = 1'-0"



GENERAL NOTES

KEYED NOTES

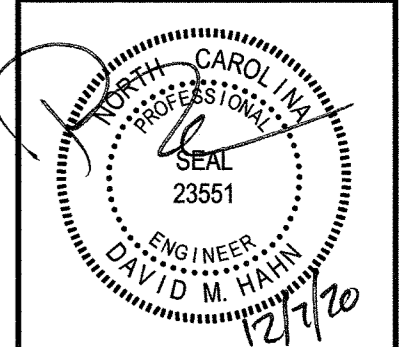
- 1 ULTRASONIC PIPE TESTING LOCATION.



A5 KEYPLAN
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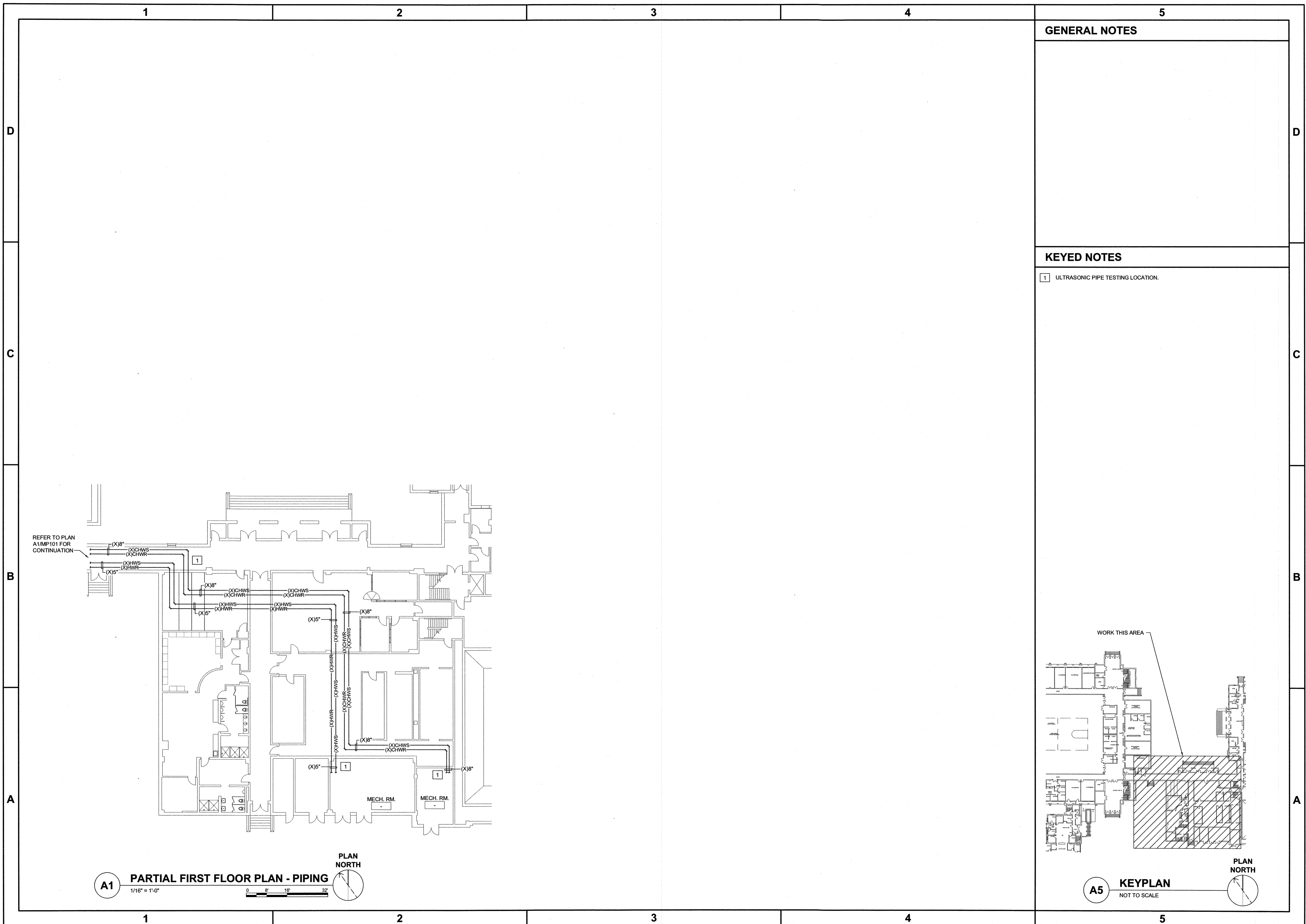


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 STATE ID# 20-2323-01A
PARTIAL FIRST FLOOR PLAN
PIPING

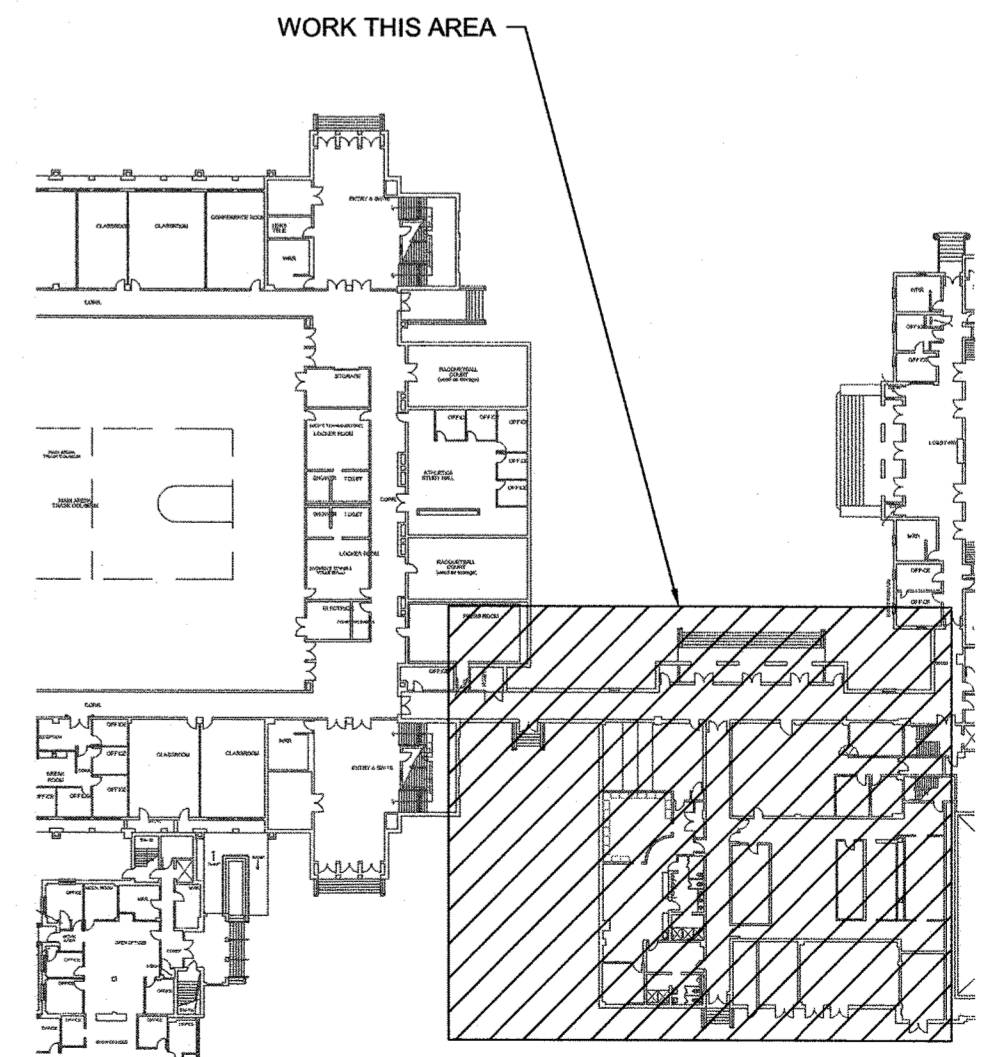
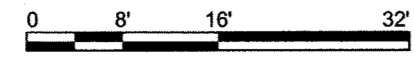
JOB NO.:	20138
DRAWN:	GRM
DESIGNED:	GRM
CHECKED:	DMH

DRAWING NO.
MP101

REVISION:
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A1 PARTIAL FIRST FLOOR PLAN - PIPING
 1/16" = 1'-0"



A5 KEYPLAN
 NOT TO SCALE



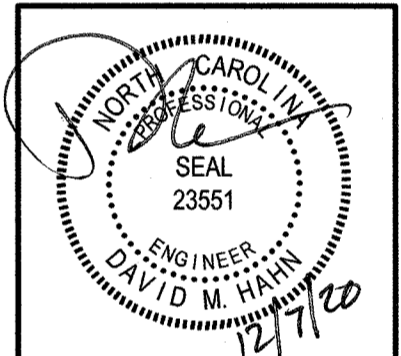
GENERAL NOTES

KEYED NOTES

1 ULTRASONIC PIPE TESTING LOCATION.

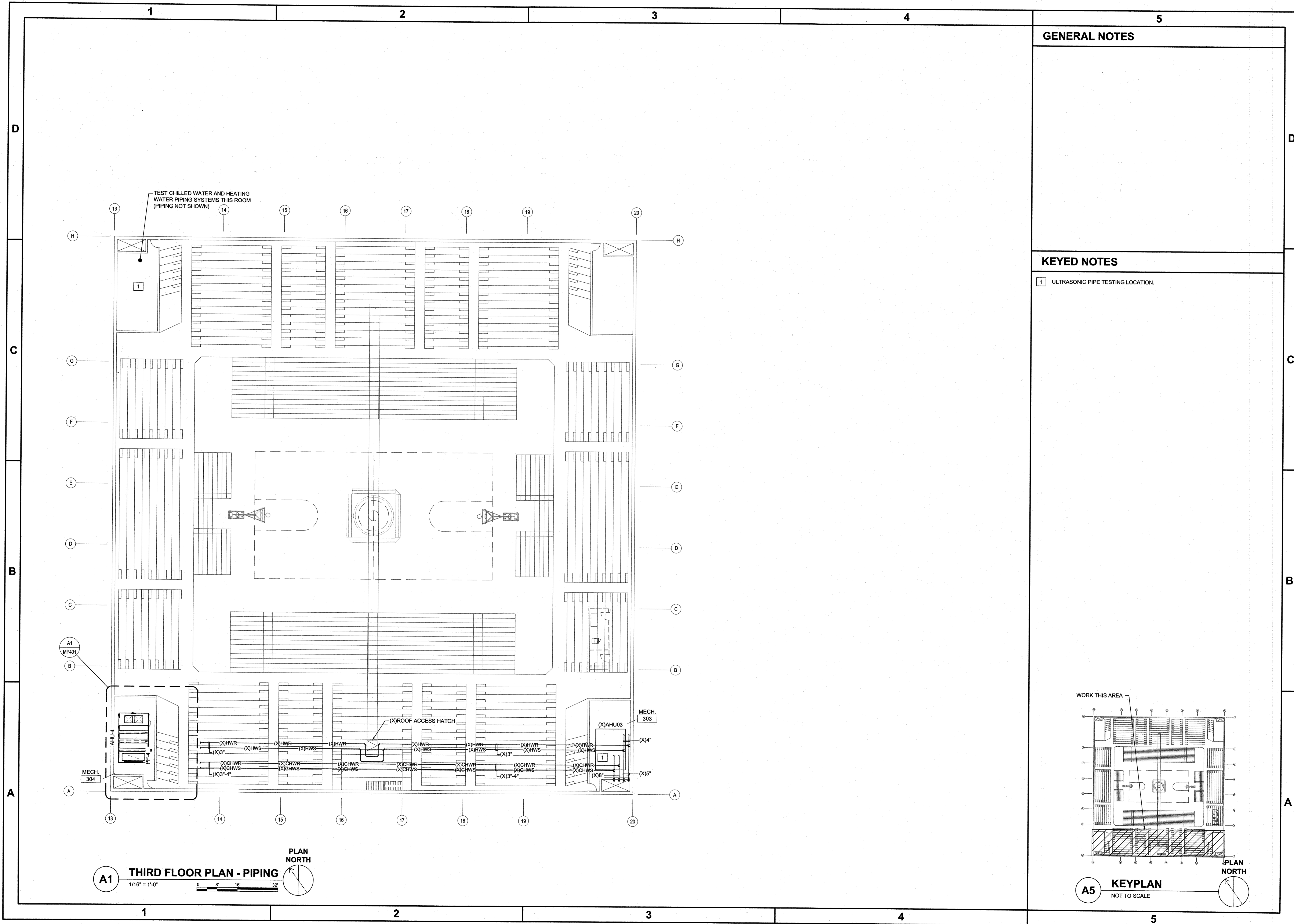
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 STATE ID# 20-22523-01A
PARTIAL FIRST FLOOR PLAN
PIPING

JOB NO.	20136
DRAWN:	GRM
DESIGNED:	GRM
CHECKED:	DMH
DRAWING NO.	MP102
REVISION:	0

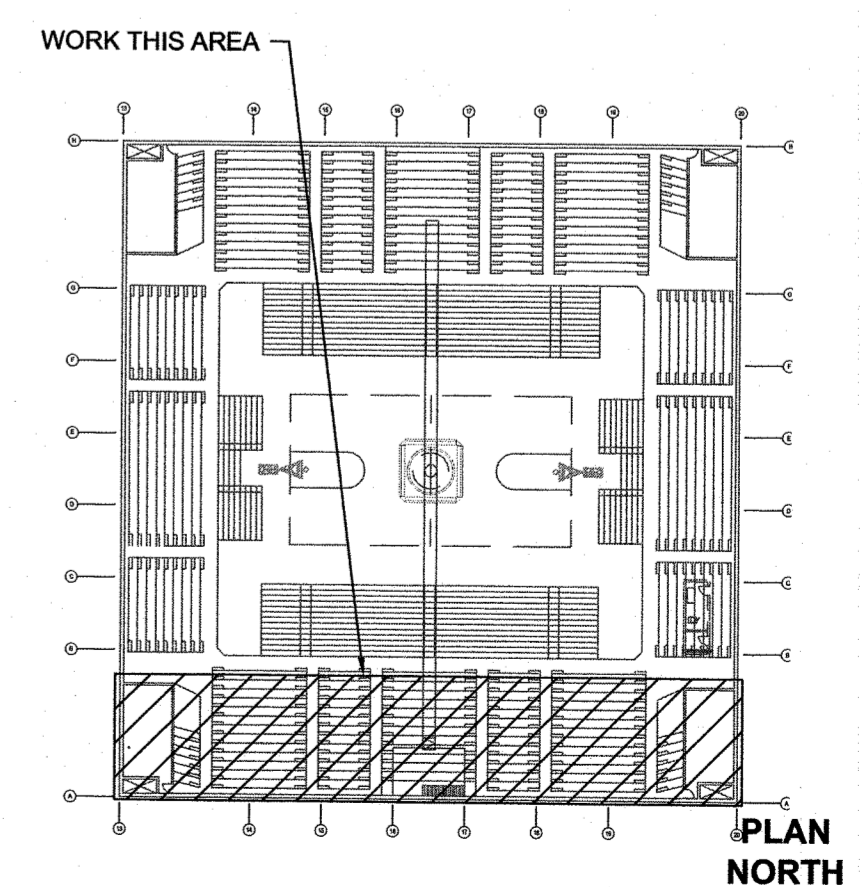


A1 THIRD FLOOR PLAN - PIPING
 1/16" = 1'-0"
 0 8 16 32
 PLAN NORTH

GENERAL NOTES

KEYED NOTES

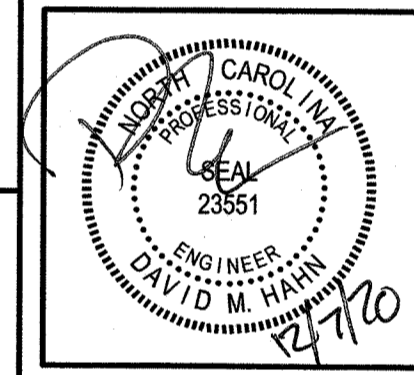
- 1 ULTRASONIC PIPE TESTING LOCATION.



A5 KEYPLAN
 NOT TO SCALE
 PLAN NORTH

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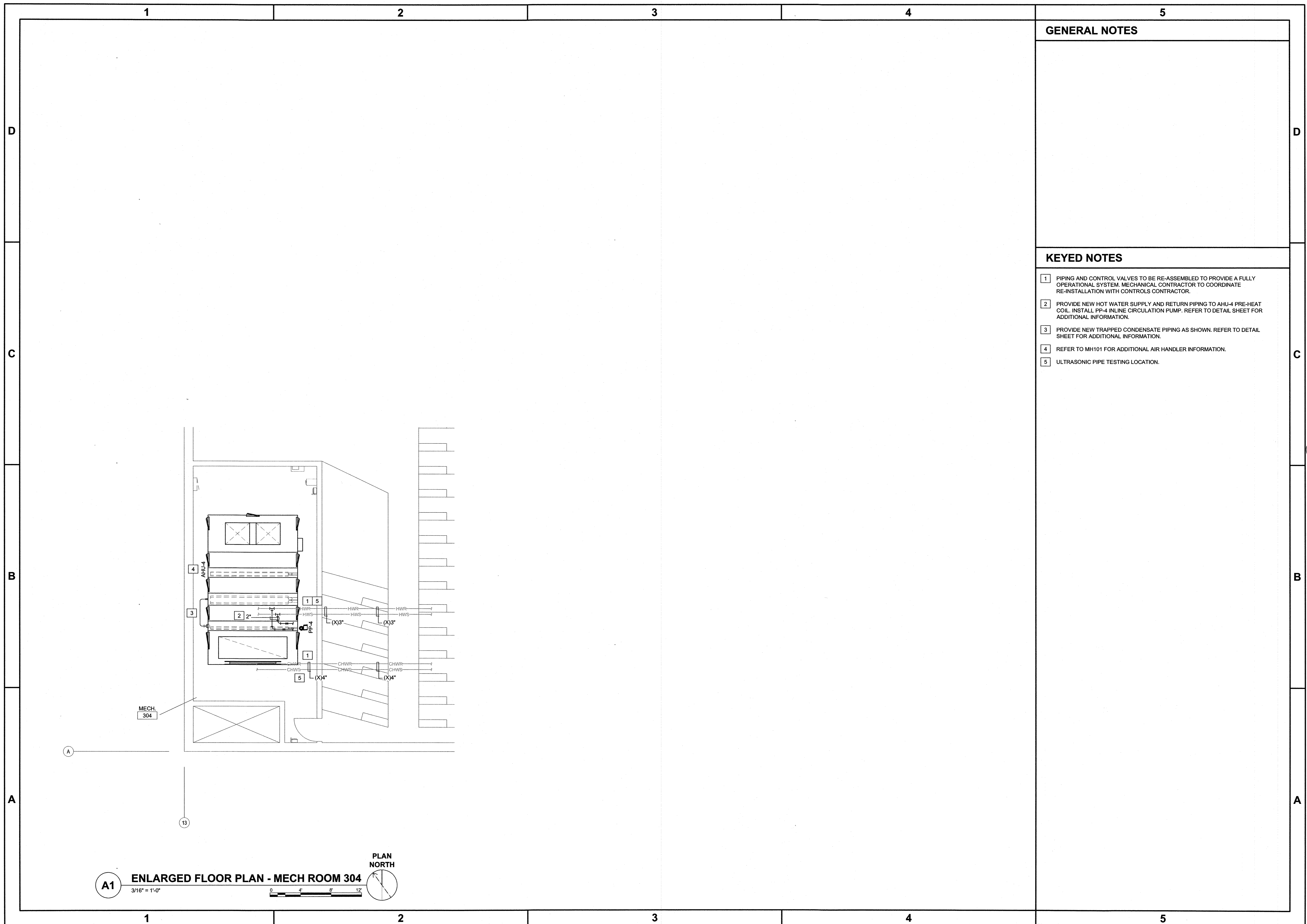


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TRASK HVAC REPLACEMENT
 601 S. COLLEGE ROAD, WILMINGTON, NORTH CAROLINA 28403
 STATE ID# 20-22523-01A
THIRD FLOOR PLAN
PIPING

JOB NO.:	20136
DRAWN:	GRM
DESIGNED:	GRM
CHECKED:	DMH

DRAWING NO:
MP103

REVISION:	0
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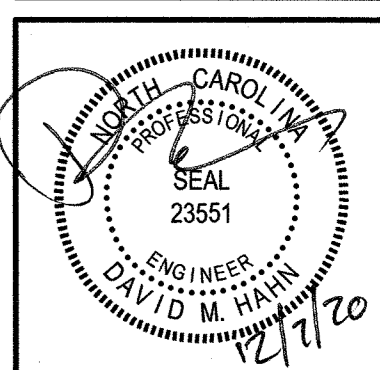
GENERAL NOTES

KEYED NOTES

- 1 PIPING AND CONTROL VALVES TO BE RE-ASSEMBLED TO PROVIDE A FULLY OPERATIONAL SYSTEM. MECHANICAL CONTRACTOR TO COORDINATE RE-INSTALLATION WITH CONTROLS CONTRACTOR.
- 2 PROVIDE NEW HOT WATER SUPPLY AND RETURN PIPING TO AHU-4 PRE-HEAT COIL. INSTALL PP-4 INLINE CIRCULATION PUMP. REFER TO DETAIL SHEET FOR ADDITIONAL INFORMATION.
- 3 PROVIDE NEW TRAPPED CONDENSATE PIPING AS SHOWN. REFER TO DETAIL SHEET FOR ADDITIONAL INFORMATION.
- 4 REFER TO MH101 FOR ADDITIONAL AIR HANDLER INFORMATION.
- 5 ULTRASONIC PIPE TESTING LOCATION.

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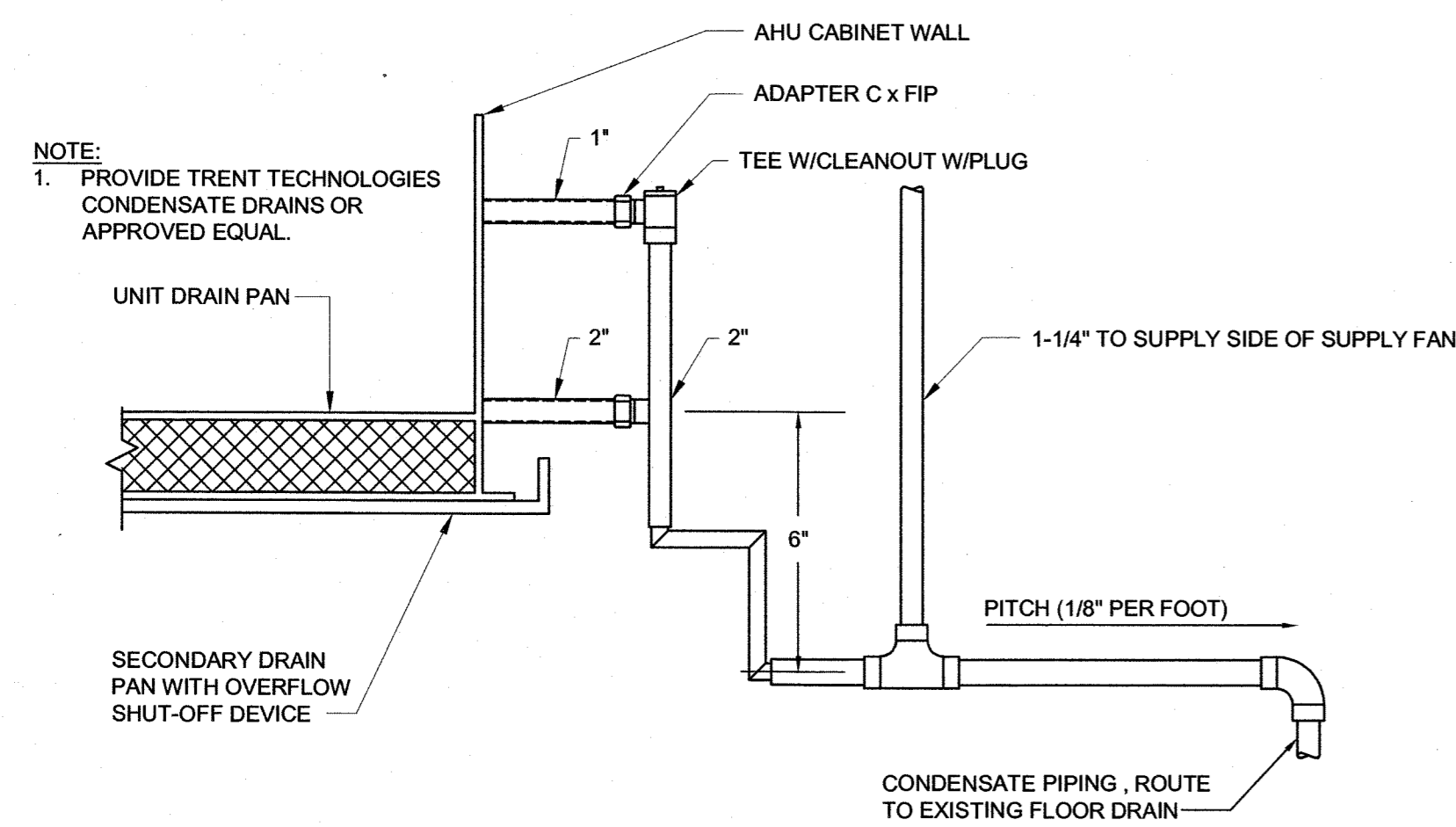


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TRASK HVAC REPLACEMENT
 601 S. COLLEGE ROAD, WILMINGTON, NORTH CAROLINA 28403
 STATE ID# 20-22523-01A
ENLARGED PLAN PIPING

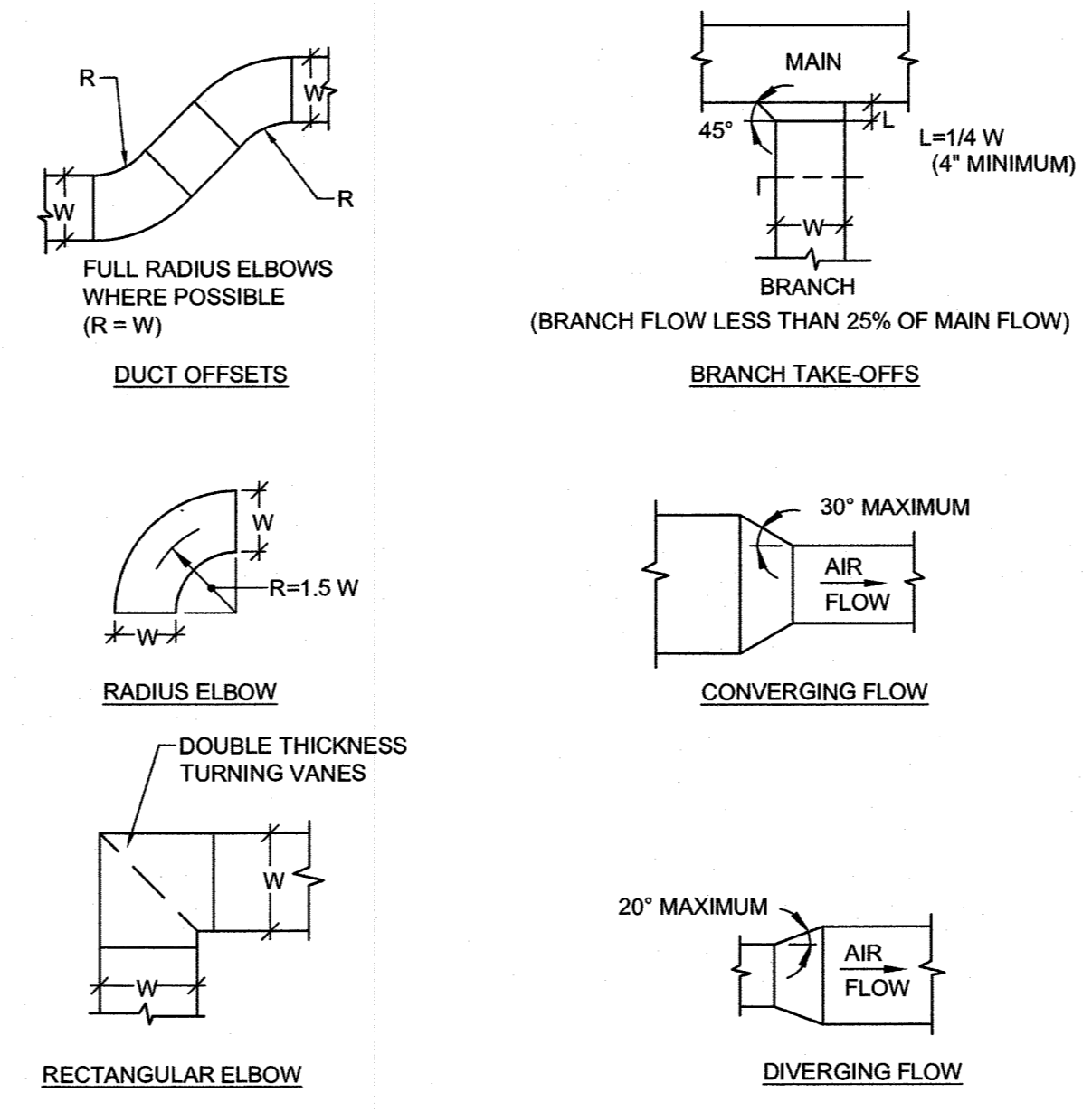
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MP401

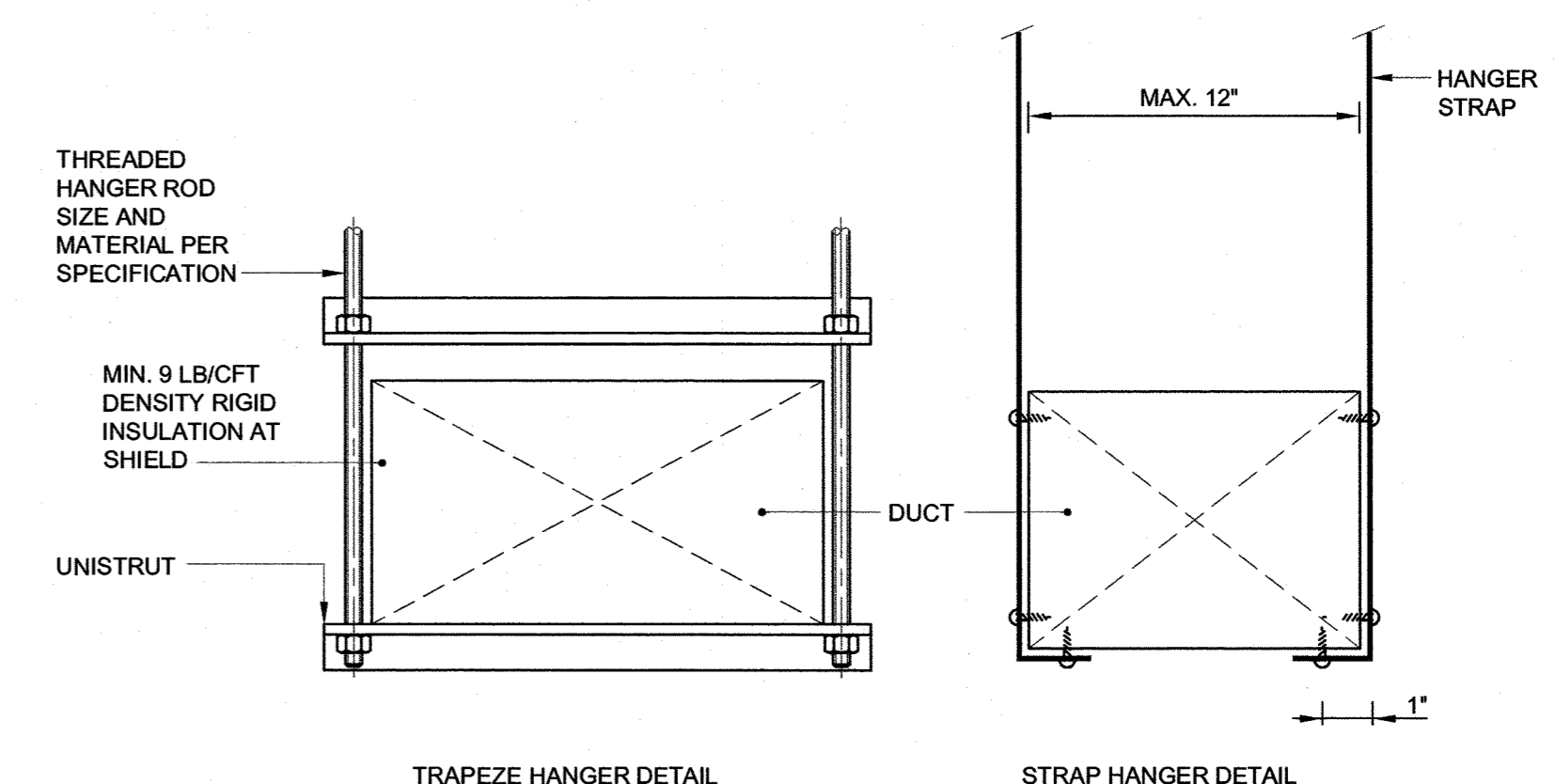
REVISION:
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C1 CONDENSATE DRAIN TRAP DETAIL
NOT TO SCALE

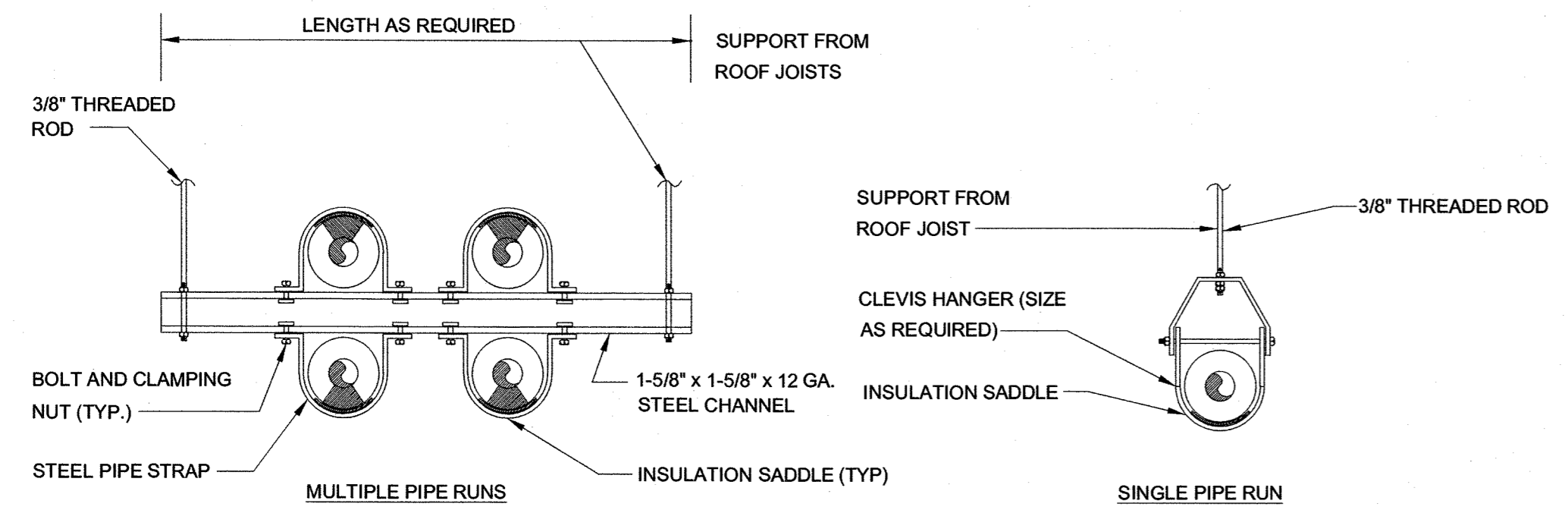


C3 RECTANGULAR DUCT FITTINGS DETAIL
NOT TO SCALE

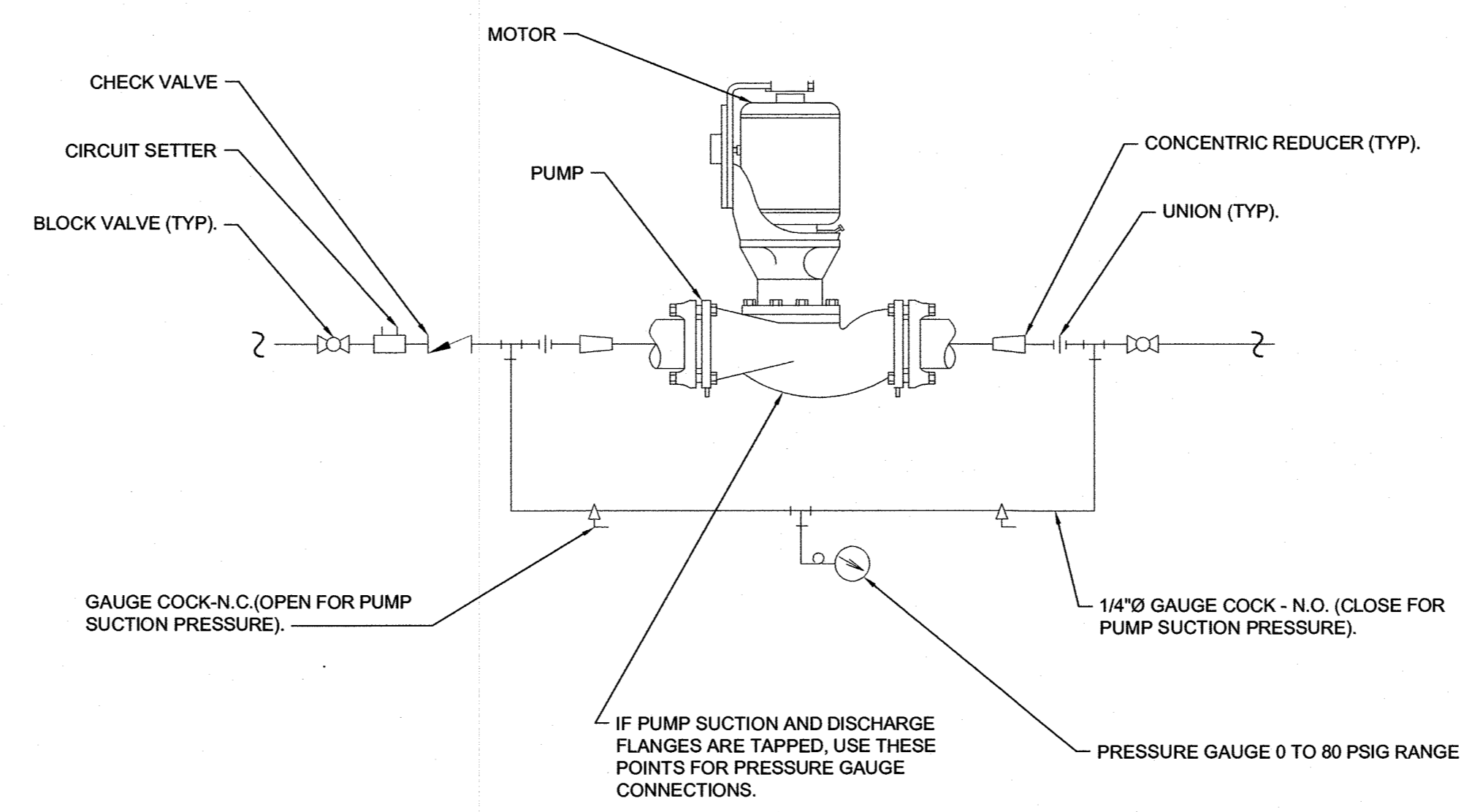


- NOTES:**
1. TRAPEZE HANGERS SHALL BE PROVIDED FOR ALL DUCT WORK. TRAPEZE HANGERS CANNOT BE USED FOR BRANCH DUCT WORK 12" IN WIDTH AND SHORTER REFER TO STRAP HANGER DETAIL.
 2. SUPPORTS SHALL BE SPACED AND SIZED AS PER SPECIFICATIONS.
 3. RIGID INSULATION SHALL EXTEND MINIMUM OF 3" BEYOND STRUT ON BOTH SIDES. MAINTAIN VAPOR BARRIER ACROSS STRUT.

C4 DUCT HANGER SUPPORT DETAIL
NOT TO SCALE



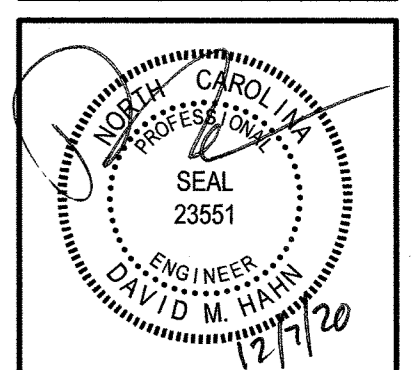
B1 PIPE SUPPORT DETAIL
NOT TO SCALE



B3 INLINE SYSTEM PUMP DETAIL
NOT TO SCALE

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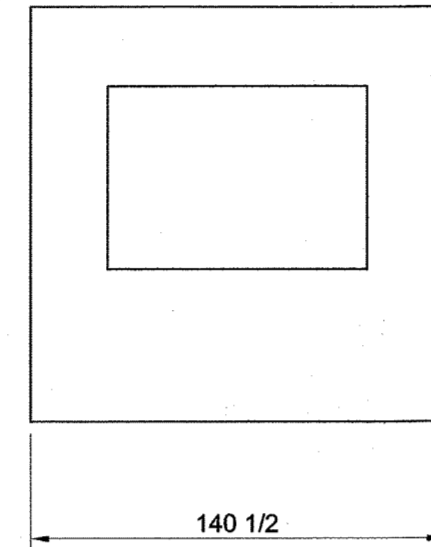
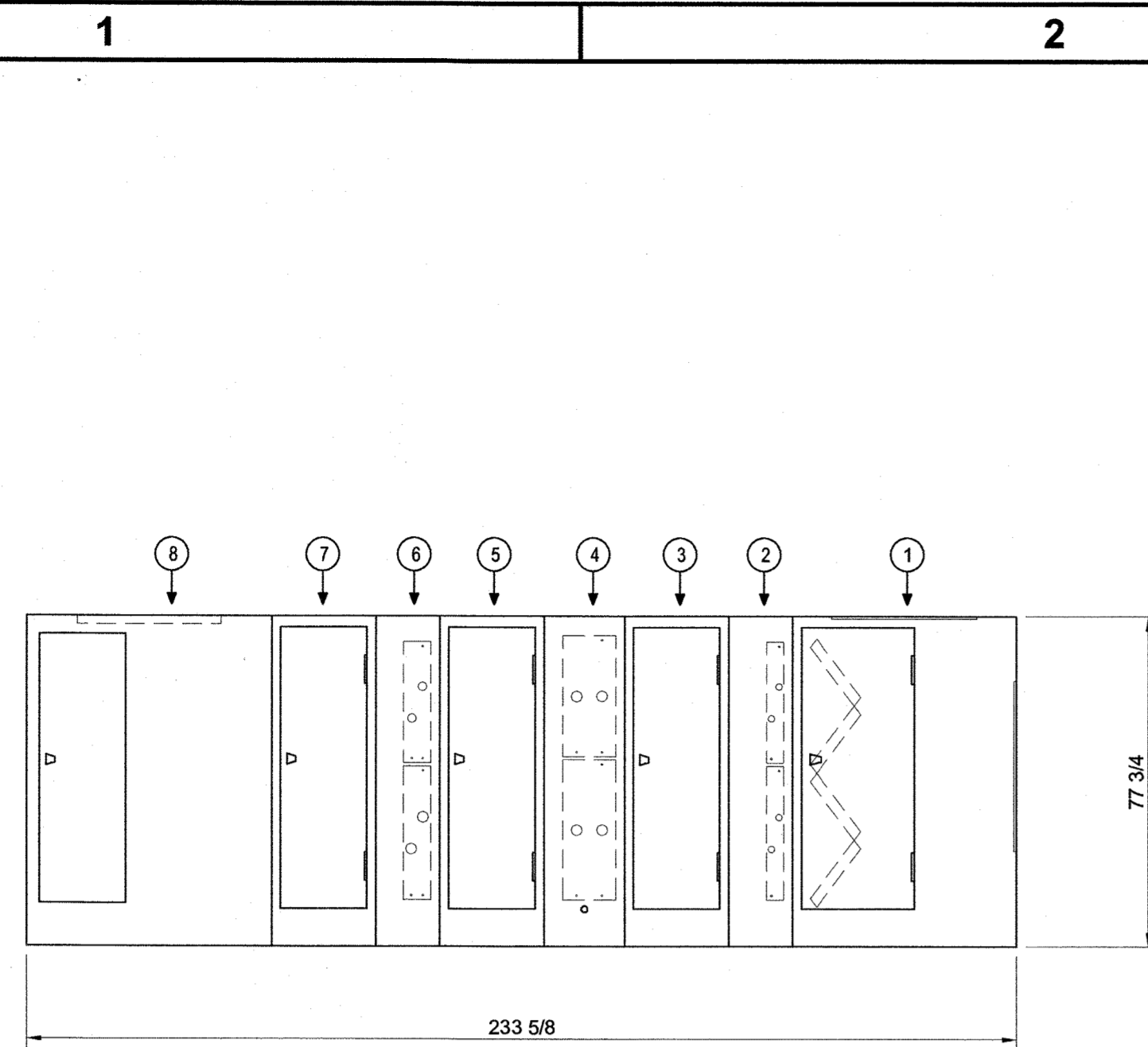


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TRASK HVAC REPLACEMENT
 601 S. COLLEGE ROAD, WILMINGTON, NORTH CAROLINA 28403
 STATE ID# 20-22823-01A
HVAC DETAILS

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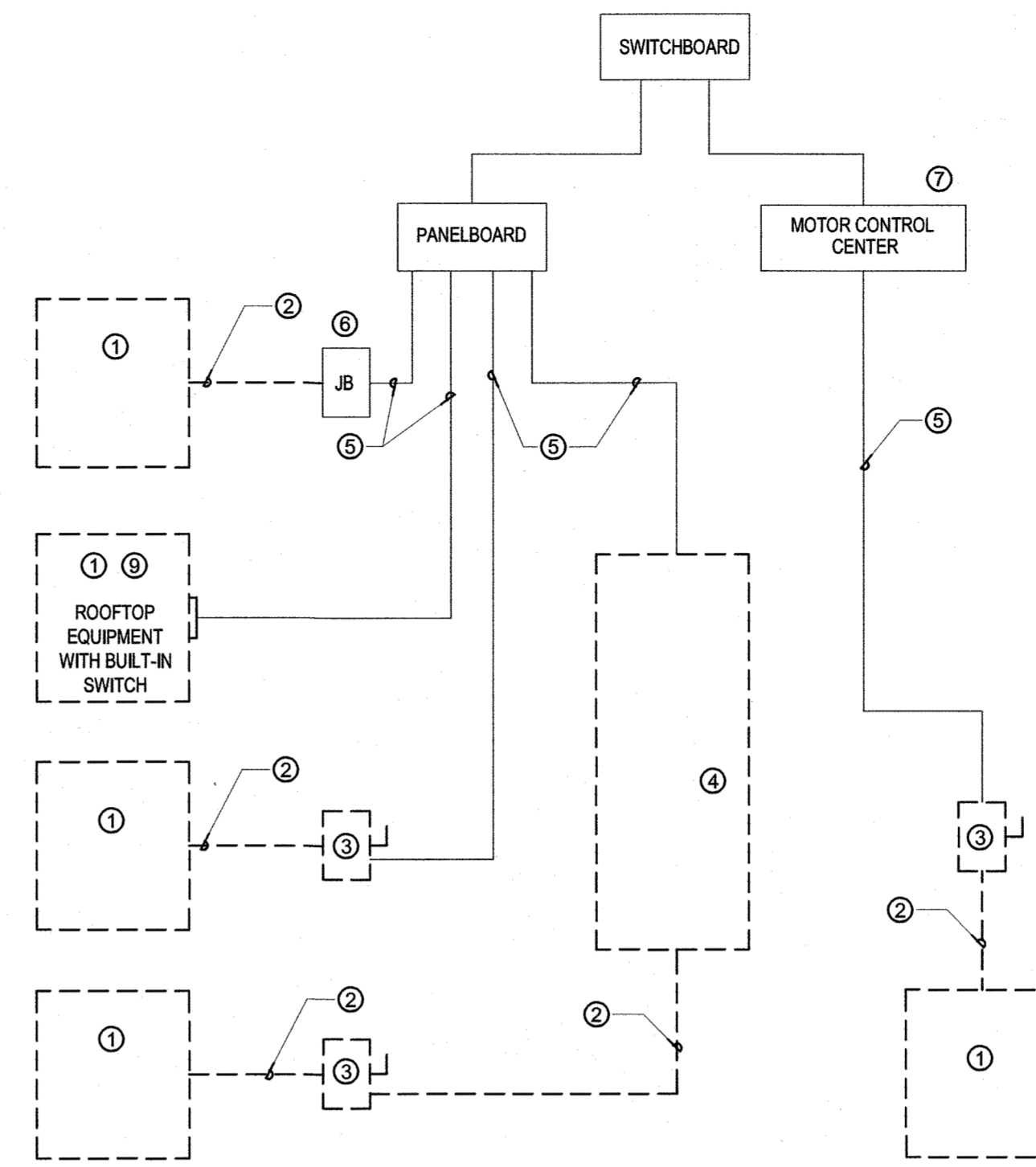
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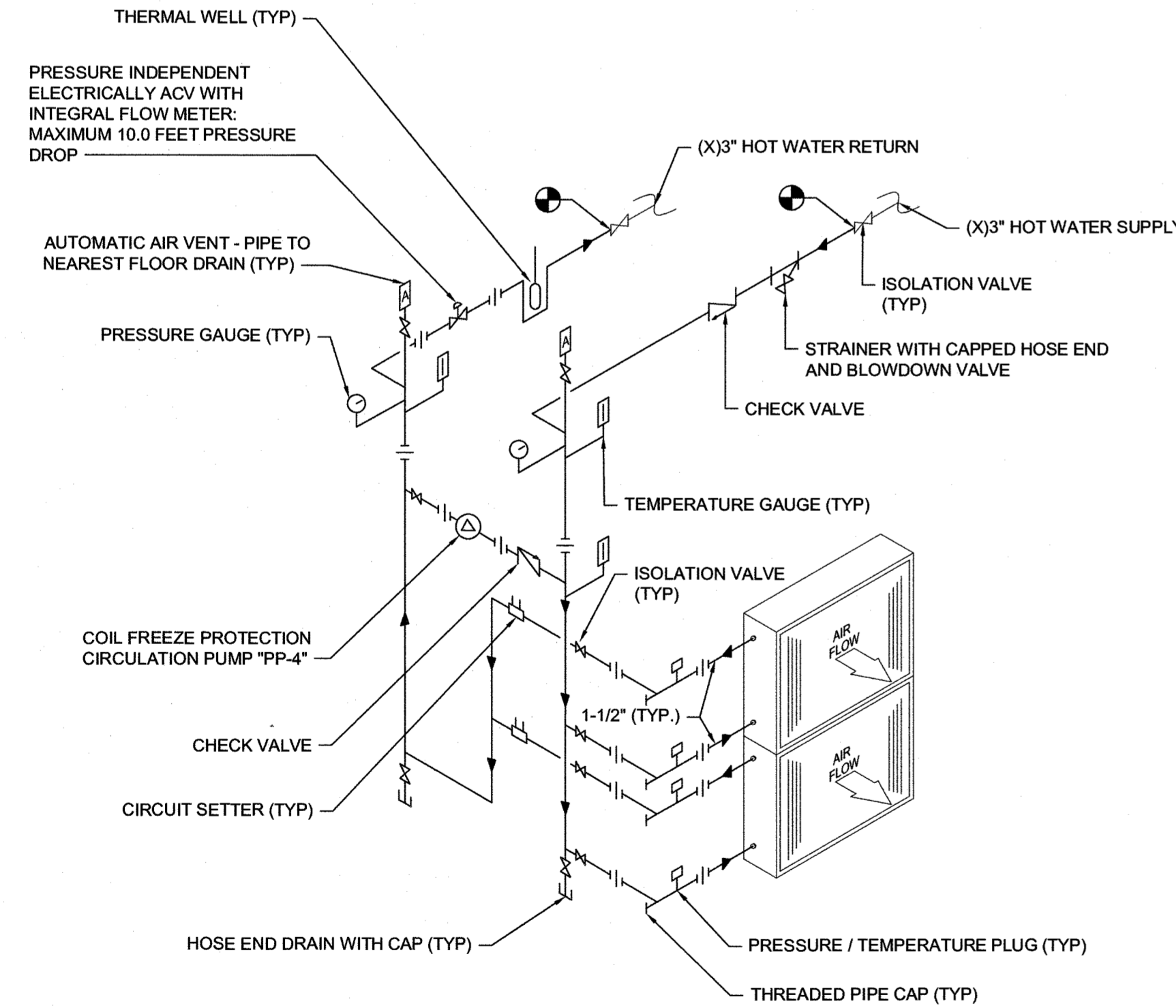
- MODULE:
- 1) AIR MIXING SECTION
 - 2) PRE-HEAT COIL SECTION
 - 3) ACCESS SECTION
 - 4) COOLING COIL SECTION
 - 5) ACCESS SECTION
 - 6) HEATING COIL SECTION
 - 7) ACCESS SECTION
 - 8) FAN SECTION

C1 AIR HANDLER UNIT ELEVATION AND DETAIL (AHU-4)
NOT TO SCALE



- MECHANICAL NOTES**
- ① EQUIPMENT OF TRADES OTHER THAN ELECTRICAL.
 - ② CONDUIT AND WIRING BY HVAC, PLUMBING CONTRACTOR OR OTHER TRADES.
 - ③ IF AN ADDITIONAL DISCONNECT IS REQUIRED BY NEG, IT SHALL BE PROVIDED AND INSTALLED BY THE EQUIPMENT CONTRACTOR.
 - ④ A COMBINATION STARTER OR VFD MAY BE USED IN LIEU OF A SEPARATE DISCONNECT SWITCH AND STARTER. LOCATE ADJACENT TO EQUIPMENT.
 - ⑤ FEEDER CIRCUIT WIRING AND CONDUIT IN ELECTRICAL WORK. SEE PANELBOARD SCHEDULES FOR WIRE AND BREAKER SIZES.
 - ⑥ JUNCTION BOX MAY BE SHOWN ON ELECTRICAL PLANS FOR SOME EQUIPMENT. IF NO STARTER OR DISCONNECT IS SUPPLIED, A JUNCTION BOX SHALL BE INSTALLED ADJACENT TO EQUIPMENT. THE ELECTRICAL CONTRACTOR SHALL PROVIDE LINE SIDE WIRING TO THE JUNCTION BOX. LOAD SIDE WIRING WILL BE PROVIDED BY MECHANICAL CONTRACTOR OR OTHER TRADES.
 - ⑦ PROJECTS UTILIZING AN MCC, THE STARTER CB, OR VFD IN THE MCC ARE PROVIDED BY THE ELECTRICAL CONTRACTOR.
 - ⑧ IN ALL CASES THE EQUIPMENT CONTRACTOR SHALL MAKE FINAL CONNECTIONS, START UP AND TEST EQUIPMENT.
 - ⑨ IF THE ROOF TOP FAN IS NOT PROVIDED WITH BUILT IN SWITCH, THE ELECTRICAL CONTRACTOR SHALL PROVIDE A DISCONNECT SWITCH.
 - ⑩ IN A SINGLE PRIME CONTRACT, IT IS THE RESPONSIBILITY OF THE PRIME CONTRACTOR TO COORDINATE BETWEEN THE ELECTRICAL AND OTHER TRADES.

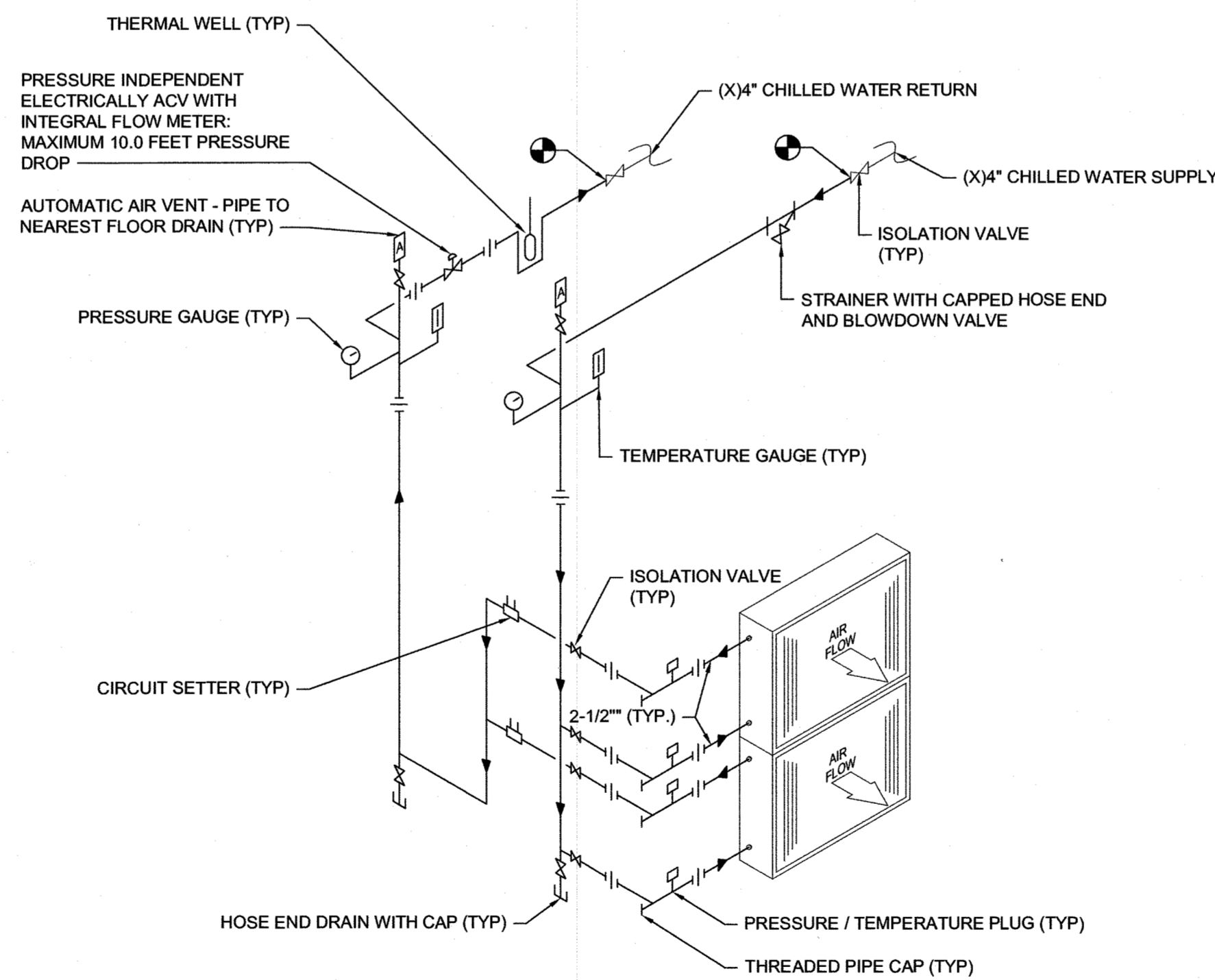
C4 MECHANICAL EQUIPMENT CONNECTION DETAIL
NOT TO SCALE



NOTES:

1. INSTALL PIPING TO ALLOW COIL REMOVAL CLEARANCE WITHOUT CUTTING ANY PIPING AS SCHEDULED
2. CONTRACTOR TO TEST ALL COIL ISOLATION VALVES PRIOR TO DEMOLITION. PROVIDE UNIT COST FOR INSTALLATION OF MANUAL SHUTOFF VALVES SHOULD EXISTING VALVES FAIL TO ISOLATE PIPING.
3. PIPING FOR SINGLE COILS MUST BE SIMILAR.

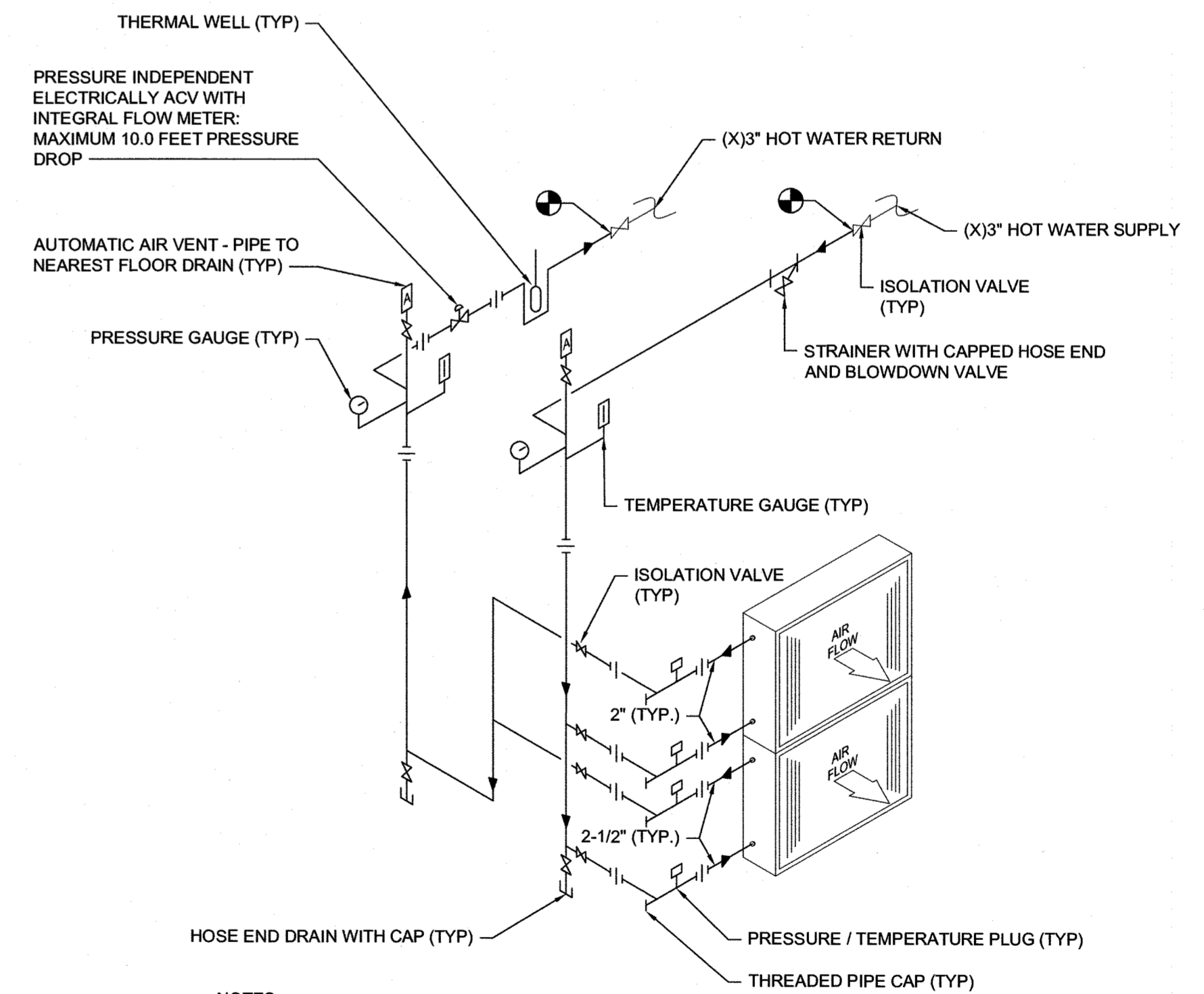
A1 AHU PREHEAT CONTROL VALVE DETAIL
NOT TO SCALE



NOTES:

1. INSTALL PIPING TO ALLOW COIL REMOVAL CLEARANCE WITHOUT CUTTING ANY PIPING AS SCHEDULED
2. CONTRACTOR TO TEST ALL COIL ISOLATION VALVES PRIOR TO DEMOLITION. PROVIDE UNIT COST FOR INSTALLATION OF MANUAL SHUTOFF VALVES SHOULD EXISTING VALVES FAIL TO ISOLATE PIPING.
3. PIPING FOR SINGLE COILS MUST BE SIMILAR.

A3 AHU CHILLED WATER CONTROL VALVE DETAIL
NOT TO SCALE



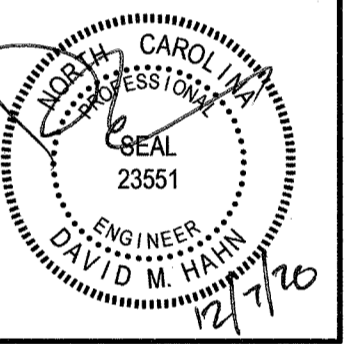
NOTES:

1. INSTALL PIPING TO ALLOW COIL REMOVAL CLEARANCE WITHOUT CUTTING ANY PIPING AS SCHEDULED
2. CONTRACTOR TO TEST ALL COIL ISOLATION VALVES PRIOR TO DEMOLITION. PROVIDE UNIT COST FOR INSTALLATION OF MANUAL SHUTOFF VALVES SHOULD EXISTING VALVES FAIL TO ISOLATE PIPING.

A4 AHU REHEAT CONTROL VALVE DETAIL
NOT TO SCALE

12.07.20	REVISIONS
0	ISSUED FOR CONSTRUCTION
0	DESCRIPTION:

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NC P-6503



UNIVERSITY OF NORTH CAROLINA WILMINGTON
TRASK HVAC REPLACEMENT
601 S. COLLEGE ROAD, WILMINGTON, NORTH CAROLINA 28403
STATE ID# 20-23232-01A
HVAC
DETAILS

JOB NO.:	20136
DRAWN:	GRM
DESIGNED:	GRM
CHECKED:	DMH

DRAWING NO:
M-502

REVISION:
0

AIR HANDLING UNIT SCHEDULE

DRAWING CODE	LOCATION	DESIGN BASIS MFR	MODEL	SYSTEM TYPE	SUPPLY FAN											PREHEAT HOT WATER COIL											CHILLED WATER COIL											REHEAT HOT WATER COIL											ELECTRICAL			WEIGHT (LBS)	NOTES	ACCESSORIES
					AIRFLOW (CFM)	OA (CFM)	MIN	MAX	TSP (IN WG)	FAN QTY	HP PER FAN	BHP TOTAL	RPM	MOTOR RPM	MOTOR TYPE	AIRFLOW (CFM)	VELOCITY (FPM)	EAT (°F)	LAT (°F)	MBH	WATER FLOW (GPM)	EWT (°F)	LWT (°F)	WATER PD (FT)	AIRFLOW (CFM)	VELOCITY (FPM)	EAT (DB/WB) (°F)	LAT (DB/WB) (°F)	COOLING (MBH)	TOTAL	SENSIBLE	WATER FLOW (GPM)	EWT (°F)	LWT (°F)	WATER PD (FT)	AIRFLOW (CFM)	VELOCITY (FPM)	EAT (°F)	LAT (°F)	MBH	WATER FLOW (GPM)	EWT (°F)	LWT (°F)	WATER PD (FT)	VOLTAGE (V/PH/Hz)	MCA	MOP							
AHU-4	304 MECH ROOM	TRANE	PSCA 54	FOUR PIPE	27,620	2,760	11,000	3.75	4	7.5	30.0	2,211	1,800	ECM	13,810	277	23.0	53.4	455.0	45.61	130.0	110.0	2.5	27,620	540	80.0/70.1	52.8/52.7	1,516.0	830.8	215.0	44.0	58.0	7.2	27,620	554	56	85	865	87	130	110	1.79	460/3/60	40.0	45	8,952	1-5	A-M						

NOTES:

- REFER TO SPECIFICATION SECTION 23 73 33 - HEATING, VENTILATING, AND COOLING SYSTEM FOR FURTHER INFORMATION.
- COIL, DRAIN AND MOTOR SIDE ACCESS TO BE FIELD CONFIRMED PRIOR TO SUBMITTING FOR APPROVAL.
- MAXIMUM COIL FACE VELOCITY SHALL NOT EXCEED SCHEDULED VALUES.
- ALL CONTROLS SENSORS, ACTUATORS, WIRING AND VFD PROVIDED AND INSTALLED BY DDC CONTRACTOR.
- REFER TO PLANS AND SECTION FOR UNIT ARRANGEMENTS.

ACCESSORIES:

- COOLING COIL SECTION SHALL BE PROVIDED WITH AN INSULATED, DOUBLE WALL, 201 STAINLESS STEEL DRAIN PAN WITH POSITIVE DRAINAGE MEETING INDOOR AIR QUALITY (IAQ) IN ACCORDANCE WITH ASHRAE 62.1.
- COPPER COIL, ALUMINUM FIN, GALVANIZED STEEL COIL CASING.
- UNIT PANELS SHALL BE MINIMUM 2" DOUBLE WALL FOAM R-13 CONSTRUCTION WITH ASHRAE 111 CLASS 6 CASING LEAKAGE.
- AHU PANELS SHALL BE PROVIDED WITH A MID-SPAN, NO-THRU-METAL, INTERNAL THERMAL BREAK. ENTIRE UNIT SHALL BE MADE OF GALVANIZED STEEL.
- PROVIDE 2" MERV 8 PLEATED MEDIA FILTERS, THREE SETS OF EACH TYPE. PROVIDE ONE SET IN UNIT, PROVIDE ONE SET FOR INSTALLATION AFTER SYSTEM IS BALANCED AND BUILDING IS CLEANED, AND ONE SET FOR TURN OVER TO OWNER.
- OPEN SPRING-FLEX ISOLATORS WITH 1-INCH DEFLECTION.
- HINGED ACCESS DOORS, MOTOR SIDE ONLY.
- 2 INCH ANGLE FILTER MIXING BOX.
- FAN SHALL BE DIRECT DRIVE ECM TYPE. SEE EQUIPMENT SCHEDULE FOR SIZES AND QUANTITIES.
- PROVIDE ELECTRICAL CIRCUIT FOR MARINE LIGHTS WITH SWITCH.
- PROVIDE ELECTRICAL CIRCUIT FOR RECEPTACLE.
- PROVIDE ELECTRICAL CIRCUIT FOR UV LIGHT IN COOLING COIL SECTION.
- MINIMUM COOLING COIL AND HEATING COIL TUBE VELOCITY 2.8 FPS.

PUMP SCHEDULE

DRAWING CODE	BASIS OF DESIGN MANUFACTURER	BASIS OF DESIGN MODEL	APPROVED MANUFACTURERS	PUMP TYPE	SERVICE	FLUID	CAPACITY (GPM)	TOTAL DYNAMIC HEAD (FT)	EFFICIENCY (%)	INLET AND OUTLET SIZE (IN.)	MOTOR		SPEED (RPM)	HP	ELECTRICAL V/PH/Hz	NOTES	ACCESSORIES
											ENCLOSURE TYPE	MATERIALS					
PP-4	B&G	20-140	TACO, ARMSTRONG, PATTERSON	WET ROTOR	HEATING HOT WATER	WATER	45	10	56	1.5	ODP	CAST IRON	2,348	0.5	208-230/1/60	1	A,B

NOTES:

- REFER TO SPECIFICATION SECTION 232123 - HYDRONIC PUMPS FOR FURTHER INFORMATION.

ACCESSORIES:

- MODBUS PROTOCOL.
- ECM MOTOR.

ROOF HOOD SCHEDULE (ALTERNATE #1)

DRAWING CODE	LOCATION	BASIS OF DESIGN MANUFACTURER	BASIS OF DESIGN MODEL	APPROVED MANUFACTURERS	TYPE	CONSTRUCTION MATERIAL	ROOF CURB		SCREENING		FINISH	CAPACITIES AND CHARACTERISTICS					NOTES	ACCESSORIES	
							CONFIGURATION	HEIGHT (IN.)	TYPE	MATERIAL		HEIGHT (IN.)	WIDTH (IN.)	DEPTH (IN.)	FREE AREA (SQ. FT.)	AIR VELOCITY (FPM)			PRESSURE DROP (IN. WG.)
RV03	ROOF	GREENHECK	FGI-49x84	TWIN CITY, PENNBARRY	INTAKE	ALUMINUM	-	-	INSECT	GALVANIZED	ANODIZED	26	94	132	28.58	966	0.159	1,2,3	-
RV04	ROOF	GREENHECK	FGI-49x84	TWIN CITY, PENNBARRY	INTAKE	ALUMINUM	-	-	INSECT	GALVANIZED	ANODIZED	26	94	132	28.58	966	0.159	1,2,3	-
RV05	ROOF	GREENHECK	FGI-49x84	TWIN CITY, PENNBARRY	INTAKE	ALUMINUM	-	-	INSECT	GALVANIZED	ANODIZED	26	94	132	28.58	966	0.159	1,2,3	-
RV06	ROOF	GREENHECK	FGI-49x84	TWIN CITY, PENNBARRY	INTAKE	ALUMINUM	-	-	INSECT	GALVANIZED	ANODIZED	26	94	132	28.58	966	0.159	1,2,3	-
RV07	ROOF	GREENHECK	FGR-49x84	TWIN CITY, PENNBARRY	RELIEF	ALUMINUM	-	-	NONE	-	ANODIZED	26	94	132	28.58	966	0.159	1,2,3	A
RV08	ROOF	GREENHECK	FGR-49x84	TWIN CITY, PENNBARRY	RELIEF	ALUMINUM	-	-	NONE	-	ANODIZED	26	94	132	28.58	966	0.159	1,2,3	A
RV09	ROOF	GREENHECK	FGR-49x84	TWIN CITY, PENNBARRY	RELIEF	ALUMINUM	-	-	NONE	-	ANODIZED	26	94	132	28.58	966	0.159	1,2,3	A
RV10	ROOF	GREENHECK	FGR-49x84	TWIN CITY, PENNBARRY	RELIEF	ALUMINUM	-	-	NONE	-	ANODIZED	26	94	132	28.58	966	0.159	1,2,3	A

NOTES:

- REFER TO SPECIFICATION SECTION 233723 - HVAC GRAVITY VENTILATORS FOR FURTHER INFORMATION.
- CONTRACTOR TO HAVE A 3RD PARTY ENGINEER PROVIDE CALCULATIONS TO MEET 146MPH WIND RATING.
- ROOF CURB IS EXISTING.

ACCESSORIES:

- TAMCO SERIES 7000CW BACKDRAFT DAMPER WITH SALT WATER RESISTANCE.

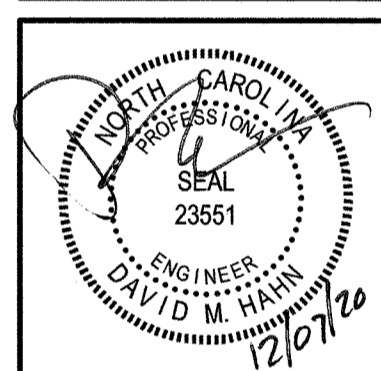
12.07.20	Date
0	Revision No.
ISSUED FOR CONSTRUCTION	DESCRIPTION
	REVISIONS

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UNIVERSITY OF NORTH CAROLINA WILMINGTON
TRASK HVAC REPLACEMENT
601 S. COLLEGE ROAD, WILMINGTON, NORTH CAROLINA 28403
STATE ID#ZD-22823-01A

HVAC SCHEDULES

JOB NO.:	20136
DRAWN:	GRM
DESIGNED:	GRM
CHECKED:	DMH

DRAWING NO:
M-601

REVISION:	0
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ELECTRICAL NOTES

- 1. 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.
2. ALL EQUIPMENT PROVIDED BY THE CONTRACTOR SHALL BE LISTED AND LABELED BY A NATIONALLY-RECOGNIZED TESTING AGENCY, ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION, FOR THE CONDITIONS OF INSTALLATION. ALL MATERIAL, EQUIPMENT AND DEVICES SHALL BE NEW CURRENT PRODUCTS OF MANUFACTURERS REGULARLY ENGAGED IN THE PRODUCTION OF SUCH PRODUCTS.
3. THE CONTRACTOR SHALL REVIEW ALL DRAWINGS AND SPECIFICATIONS FOR WORK REQUIREMENTS, THE AMOUNT OF SPACE AVAILABLE FOR ELECTRICAL EQUIPMENT, AND LAYOUT HIS WORK IN A COMPATIBLE AND COMPLEMENTARY MANNER.
4. 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.
5. 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 BY THE CONTRACTOR AND INCLUDED IN THE BID. ADDITIONAL CIRCUITS SHALL BE INSTALLED WHEREVER NEEDED TO CONFORM TO THE SPECIFIC REQUIREMENTS OF EQUIPMENT.
6. TEMPORARY POWER CONNECTIONS AS REQUIRED SHALL BE PROVIDED BY THE CONTRACTOR AND INCLUDED IN THE BID. ALL TEMPORARY EQUIPMENT WIRING SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE. THE CONTRACTOR SHALL PROVIDE DETAILS, METHODS, MATERIALS, ETC. FOR REVIEW 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.
7. 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.
8. 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.
9. DO NOT SCALE ELECTRICAL DRAWINGS. FIELD VERIFY ALL DIMENSIONS.
10. 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.
11. 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.
12. 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.
13. BRANCH CIRCUIT HOMERUNS SHOWN ON DRAWINGS INDICATE PHASE CONDUCTORS, NEUTRAL, EQUIPMENT GROUND CONDUCTORS AS REQUIRED. ADDITIONAL CONDUCTORS REQUIRED FOR CONTROL SHALL BE INCLUDED EVEN IF NOT EXPLICITLY SHOWN.
14. SEAL ALL CONDUIT OPENINGS THROUGH EXTERIOR BUILDING WALLS WATERTIGHT.
15. IN WET LOCATIONS AND EXTERIOR, ALL WIRING DEVICES SHALL BE WEATHER-RESISTANT LISTED WITH WEATHERPROOF WHILE IN USE COVER.
16. RACEWAYS PENETRATING FLOORS, CEILINGS OR WALLS SHALL BE PROPERLY SEALED SMOKE TIGHT.
17. 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.
18. 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.
19. SURFACE MOUNTED DISCONNECT SWITCHES, VFD'S, JUNCTION, OUTLET AND PULL BOXES, RACEWAYS, ETC., INSTALLED ON EXTERIOR SURFACES OR INSIDE ON EXTERIOR WALLS SHALL BE SUPPORTED BY SPACERS TO PROVIDE A 1/4" MINIMUM CLEARANCE BETWEEN THE WALL AND EQUIPMENT.
20. 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.
21. 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 FEEDINGS 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 ENGINEER IMMEDIATELY FOR EVALUATION/CORRECTION.
22. 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.
23. 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 1/2" MINIMUM RACEWAY.
24. 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.
25. DO NOT SPLICE BRANCH CIRCUIT HOMERUNS WITHOUT THE PERMISSION OF THE ENGINEER. HOMERUNS SHALL BE CONTINUOUS FROM THE LAST OUTLET BOX TO THE SERVING PANELBOARD.
26. DO NOT COMBINE BRANCH CIRCUIT HOMERUNS UNLESS SPECIFICALLY INDICATED ON THE DRAWINGS.
27. DO NOT CHANGE CIRCUITING SHOWN WITHOUT PERMISSION OF THE ENGINEER.
28. TROUGH TAPS SHALL BE AT SWITCH AMPACITY, UNLESS NOTED OTHERWISE.
29. INSTALL WIRING DEVICES AT HEIGHTS AS SHOWN ON THE DRAWINGS.
30. 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.
31. UNLESS SPECIFICALLY NOTED OTHERWISE, THE CONTRACTOR PROVIDING THE EQUIPMENT SHALL MAKE FINAL CONNECTIONS TO HIS EQUIPMENT. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE MECHANICAL 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.
32. THE MECHANICAL CONTRACTOR SHALL FURNISH ALL STARTERS AND CONTROLS FOR THEIR EQUIPMENT. THE ELECTRICAL CONTRACTOR SHALL PROVIDE SAFETY SWITCHES AND CIRCUIT BREAKERS AND PROVIDE WIRING AND CONNECTIONS TO THE LINE SIDE OF SAFETY SWITCHES AND/OR CIRCUIT BREAKERS. THE CONTRACTOR PROVIDING THE EQUIPMENT SHALL PROVIDE LOAD SIDE WIRING AND CONNECTIONS TO EQUIPMENT. THE MECHANICAL AND PLUMBING CONTRACTORS SHALL PROVIDE ALL CONTROL WIRING AND CONNECTIONS AND DEVICES FOR THEIR EQUIPMENT.
33. ENERGIZE EQUIPMENT ONLY AFTER OBTAINING PERMISSION FROM THE CONTRACTOR PROVIDING THE EQUIPMENT.
34. 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.
35. THE LAYOUT AND PLACEMENT OF ELECTRICAL DISTRIBUTION EQUIPMENT IN ELECTRICAL AND MECHANICAL EQUIPMENT ROOMS IS BASED ON PUBLISHED EQUIPMENT SIZES AND SHALL BE FOLLOWED AS CLOSELY AS POSSIBLE. DEVIATIONS FROM CONFIGURATIONS SHOWN IS THE RESPONSIBILITY OF THE CONTRACTOR. PROVIDE NATIONAL ELECTRICAL CODE REQUIRED CLEARANCES FOR ALL ELECTRICAL EQUIPMENT, PANELBOARDS, TRANSFORMERS, SAFETY SWITCHES, SWITCHBOARDS, ETC. COORDINATE RESOLUTION OF CONFLICTS WITH OTHER TRADES. ADVISE THE ENGINEER OF CONFLICTS BEFORE ROUGH-IN.
36. 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 IS REQUIRED. ALL CUTTING AND PATCHING SHALL BE DONE IN A THOROUGHLY WORKSMANSHIP 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 ENGINEER.
37. CORE DRILL HOLES IN EXISTING CONCRETE WALLS AS REQUIRED.
38. INSTALL WORK AT SUCH TIME AS TO REQUIRE THE MINIMUM AMOUNT TO CUTTING AND PATCHING.
39. CUT OPENINGS ONLY LARGE ENOUGH TO ALLOW EASY INSTALLATION OF THE CONDUIT.
40. MAINTAIN CONTINUITY OF ALL EXISTING CIRCUITS TO REMAIN OR PORTIONS THEREOF AFFECTED BY THIS WORK.
41. 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.
42. 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.
43. INsofar AS POSSIBLE, MATCH EXISTING EXPOSED DEVICES IN FINISHED AREAS IN TYPE, COLOR AND FINISH.
44. 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.
45. 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.
46. ALL UNUSED OUTLET BOXES SHALL BE REMOVED OR, WITH SPECIFIC APPROVAL OF THE 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.
47. PROVIDE ALL ELECTRICAL RELOCATION WORK ASSOCIATED WITH THE RELOCATING OF EQUIPMENT FOR THE EXISTING FACILITIES, INCLUDING DISCONNECTING ALL EXISTING WIRING AND CONDUITS AND PROVIDING NEW WIRING AND CONDUITS TO THE RELOCATED EQUIPMENT.
48. SEE "SELECTIVE DEMOLITION NOTES" FOR ADDITIONAL REQUIREMENTS.
49. SAFETY: COMPLY WITH OSHA AND NEC ARC FLASH PROTECTION REQUIREMENTS.
50. SAFETY
A. COMPLY WITH OSHA AND NEC ARC FLASH PROTECTION REQUIREMENTS.
B. FOR EQUIPMENT BEING REMOVED AND REPLACED, THE CONTRACTOR SHALL DE-ENERGIZE THE EQUIPMENT AND MAKE IT SAFE PRIOR TO REMOVAL AND COMPLY WITH OSHA REQUIREMENTS FOR LOCKING-OUT AND TAGGING EQUIPMENT TO PREVENT INADVERTENT RE-ENERGIZING.
C. WHERE EQUIPMENT IS BEING REMOVED, BUT NOT REPLACED, REMOVE THE CONDUCTORS FEEDING THE EQUIPMENT BACK TO THE POINT WHERE THEY RECEIVE POWER. REMOVE ACCESSIBLE CONDUITS, ABANDON IN PLACE INACCESSIBLE CONDUITS. AFTER REMOVAL OF EQUIPMENT, REPAIR ANY OPENING LEFT TO MATCH SURROUNDING WALLS, CEILINGS, OR FLOORS TO THE ENGINEER'S SATISFACTION.
D. COORDINATE WITH THE OTHER TRADES, PRIOR TO BID, AND INCLUDE IN THE BASE BID THE ELECTRICAL DISCONNECTING OF ANY EQUIPMENT BEING DEMOLISHED, EVEN IF NOT EXPLICITLY SHOWN. UNLESS NOTED OTHERWISE, REMOVE ALL DEMOLISHED EQUIPMENT FROM THE PROPERTY.

TYPICAL ABBREVIATIONS:

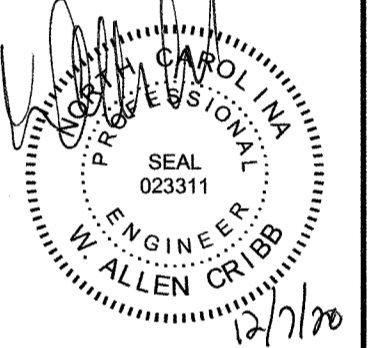
Table with 2 columns: Abbreviation and Description. Includes items like AMP, AFF, AFG, AHU, AIC, ATS, AFG, BOF, BRKR, C, CND, CAB, CAT, CL, CLB, CB, CCTV, CKT, CLG, OP, CR, CS, CV, CT, CU, EF, EMER, EMT, ENCL, EQUIP, EWC, EWH, EPRF, FA, FAAP, FACP, FBO, FLA, FLUOR, FLOOR, FWE, GEN, G, GND, GFCI, HH, HD, HOA, HP, HPP, HPS, HTR, HV, Hz, IMC, INCAND, JB, K, KCMIL, KVA, KW, KWH, LP, LTG, MCB, MCC, MCP, MDP, MFR, MH, MLO, MTD, MTG, MTS, MV, N, NEUT, NA, NC, NEC, NIC, NL, NO, NTS, P, PA, PB, PF, PH, PIM, PLC, PNL, PP, PT, PWR, RECPT, REQD, RGS, RM, RTU, SCR, SH, SM, SPEC, SS, SST, SW, SWBD, SWGR, TEL, TPS, TVSS, TYP, UGND, UH, UON, UTIL, V, VFD, W, WH, WP, XFMR, (X).

ELECTRICAL LEGEND

Table with 2 columns: SYMBOL and DESCRIPTION. Includes symbols for 208/120V, 480/277V, 60A/3/3R, WI 45AF, 208V 480V, (X)DISCONNECT SWITCH, FUSED, VARIABLE FREQUENCY DRIVE (VFD), EXISTING RECEPTACLE, CONDUIT, HOME RUN TO PANEL BOARD, KEYED NOTE - DEMOLITION WORK THIS PROJECT, KEYED NOTE - WORK THIS PROJECT, EXISTING EQUIPMENT/DEVICE, and HATCHING INDICATES ITEMS TO BE DEMOLISHED.

REVISIONS table with columns for Revision No., Issued For Construction Description, and Date. Revision 0 is dated 12.07.20.

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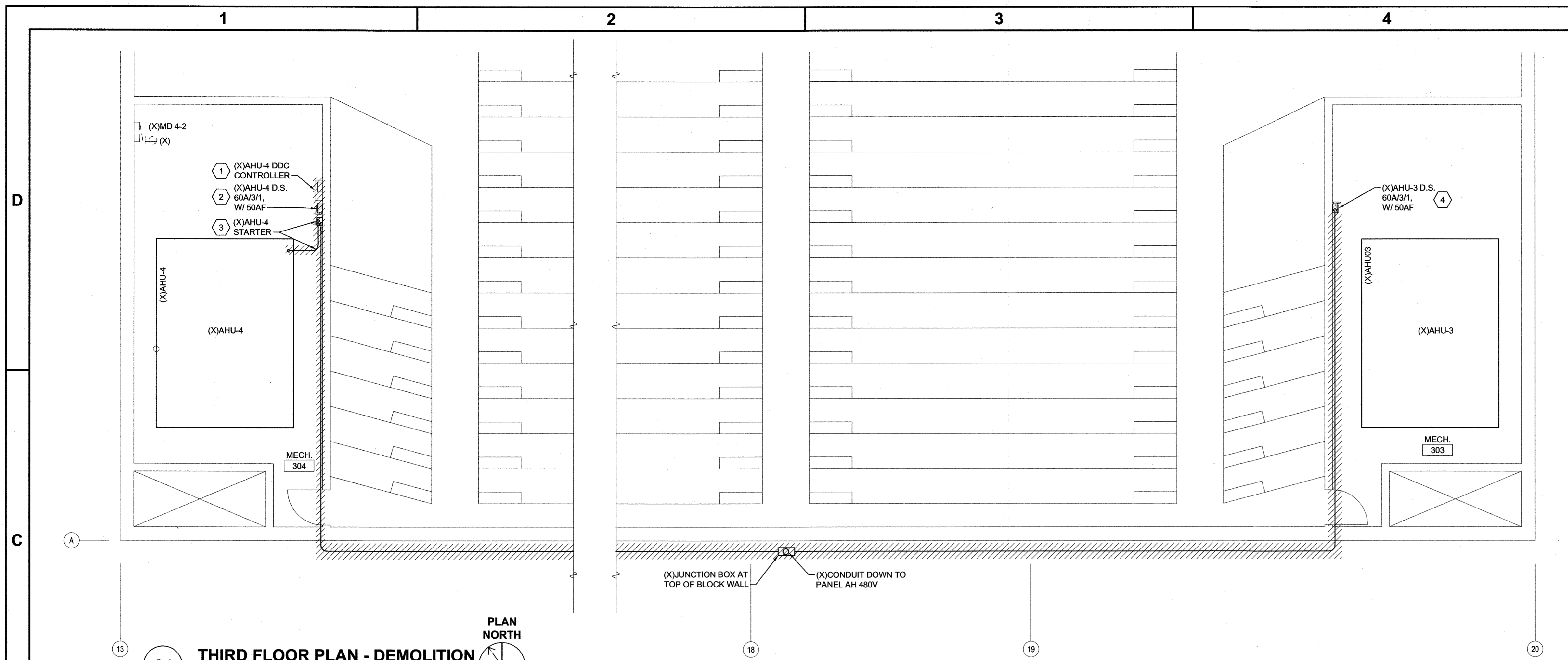


UNIVERSITY OF NORTH CAROLINA WILMINGTON TRASK HVAC REPLACEMENT. 601 S. COLLEGE ROAD, WILMINGTON, NORTH CAROLINA 28403. STATE ID# 20-22825-01A. LEGEND, NOTES AND ABBREVIATIONS.

JOB NO.: 20138. DRAWN: HGH. DESIGNED: HGH. CHECKED: WAC.

DRAWING NO.: E-001

REVISION: 0



C1 THIRD FLOOR PLAN - DEMOLITION
3/16" = 1'-0"

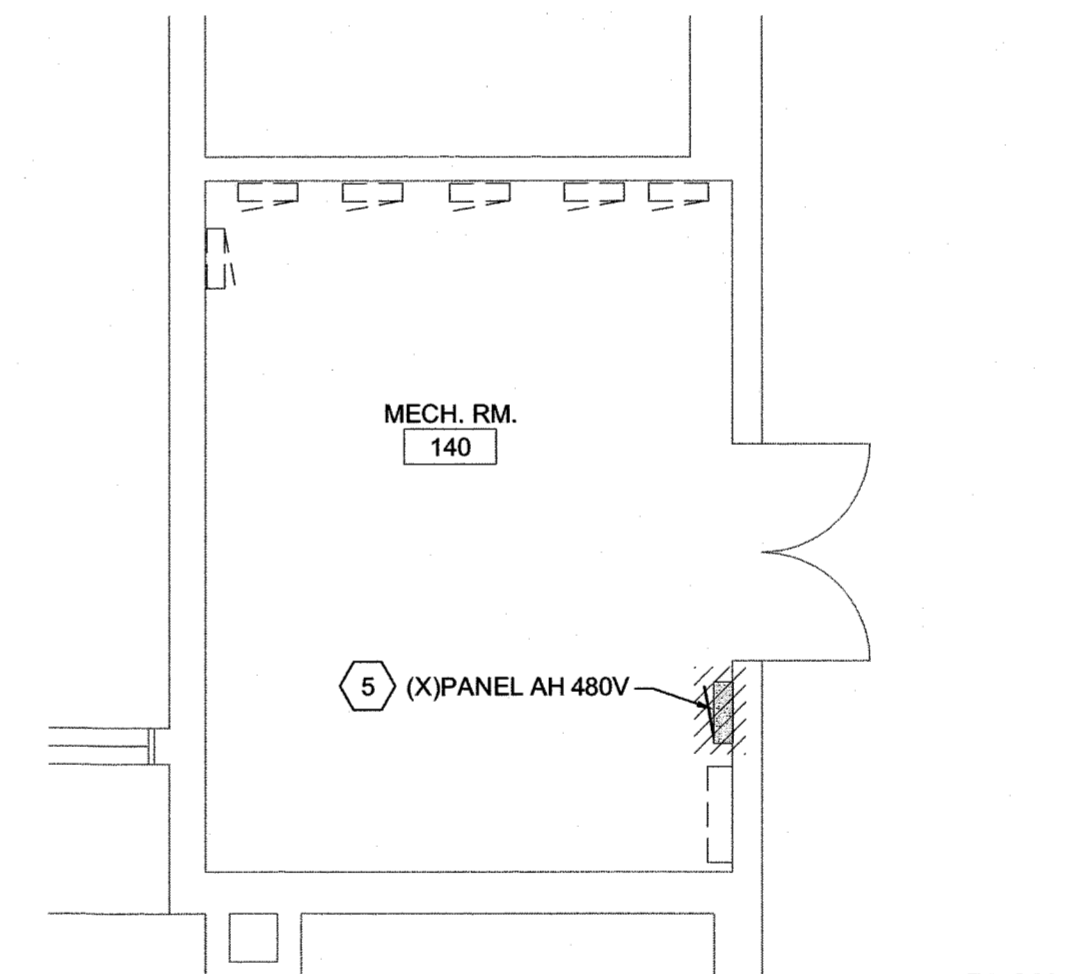
GENERAL NOTES

KEYED NOTES

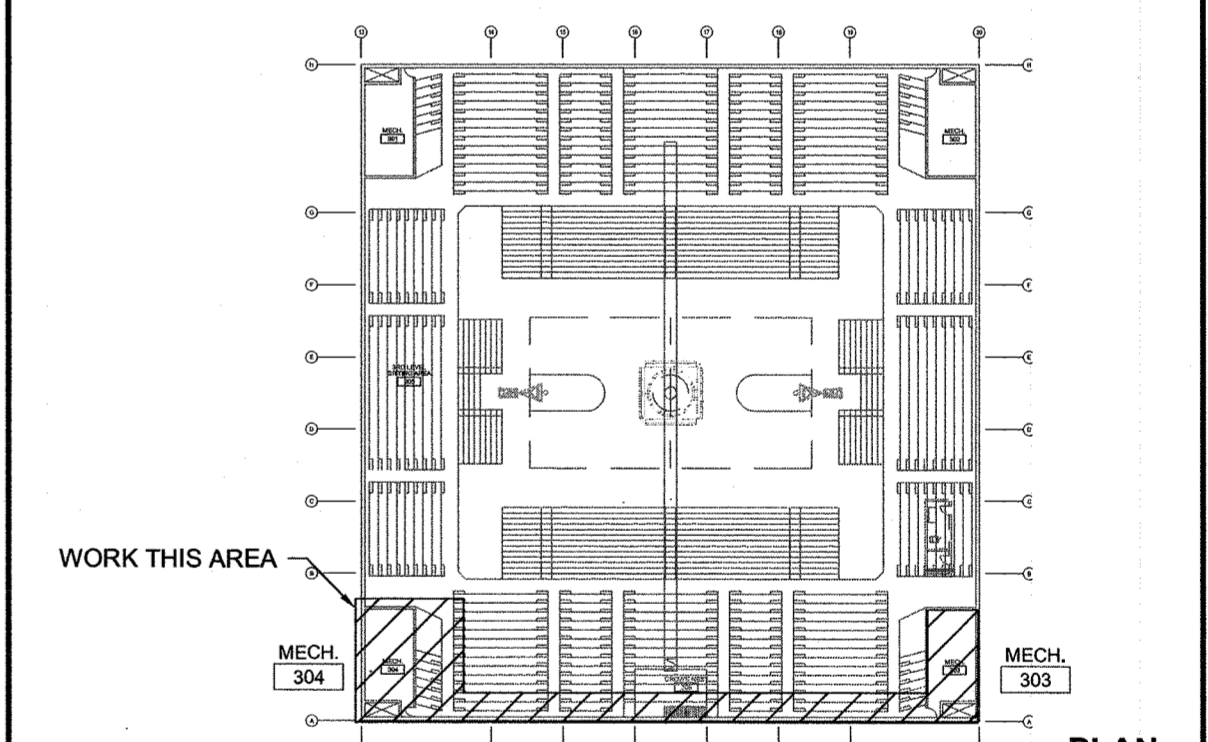
- 1 EXISTING DDC CONTROLLER/CABINET. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION. REMOVE CONDUCTORS, CABLING AND CONDUIT TO JUNCTION POINT AT TOP OF WALL AND PROTECT FOR RECONNECTION.
- 2 (X)AHU-4 D.S.: REMOVE AND PROTECT DISCONNECT SWITCH DURING DEMOLITION FOR REINSTALLATION. REMOVE CONDUIT TO JUNCTION POINT AT TOP OF WALL AND PROTECT FOR RECONNECTION. REMOVE CONDUCTOR COMPLETE FROM D.S. TO (X)125A BREAKER IN (X)PANEL AH 480V. CIRCUIT 1.3.5, (X)PANEL AH 480V IS LOCATED ON 1ST FLOOR IN MECH. RM [140]. CONDUIT TO (X)PANEL AH 480V MUST REMAIN.
- 3 (X)AHU-4 STARTER: DISCONNECT STARTER AND REMOVE. REMOVE CONDUIT AND CONDUCTORS FROM STARTER TO (X)AHU-4 DISCONNECT SWITCH AND FROM STARTER TO (X)AHU-4.
- 4 (X)AHU-3 D.S.: PROTECT DISCONNECT SWITCH AND CONDUIT DURING DEMOLITION. REMOVE CONDUCTOR COMPLETE FROM D.S. TO (X)125A BREAKER IN (X)PANEL AH 480V, CIRCUIT 1.3.5, (X)PANEL AH 480V IS LOCATED ON 1ST FLOOR IN MECH. RM [140].
- 5 (X)PANEL AH 480V: REMOVE PANEL. SEE DEMOLITION RISER, 1C/E-501 FOR ADDITIONAL INFORMATION.

ELECTRICAL DEMOLITION NOTES

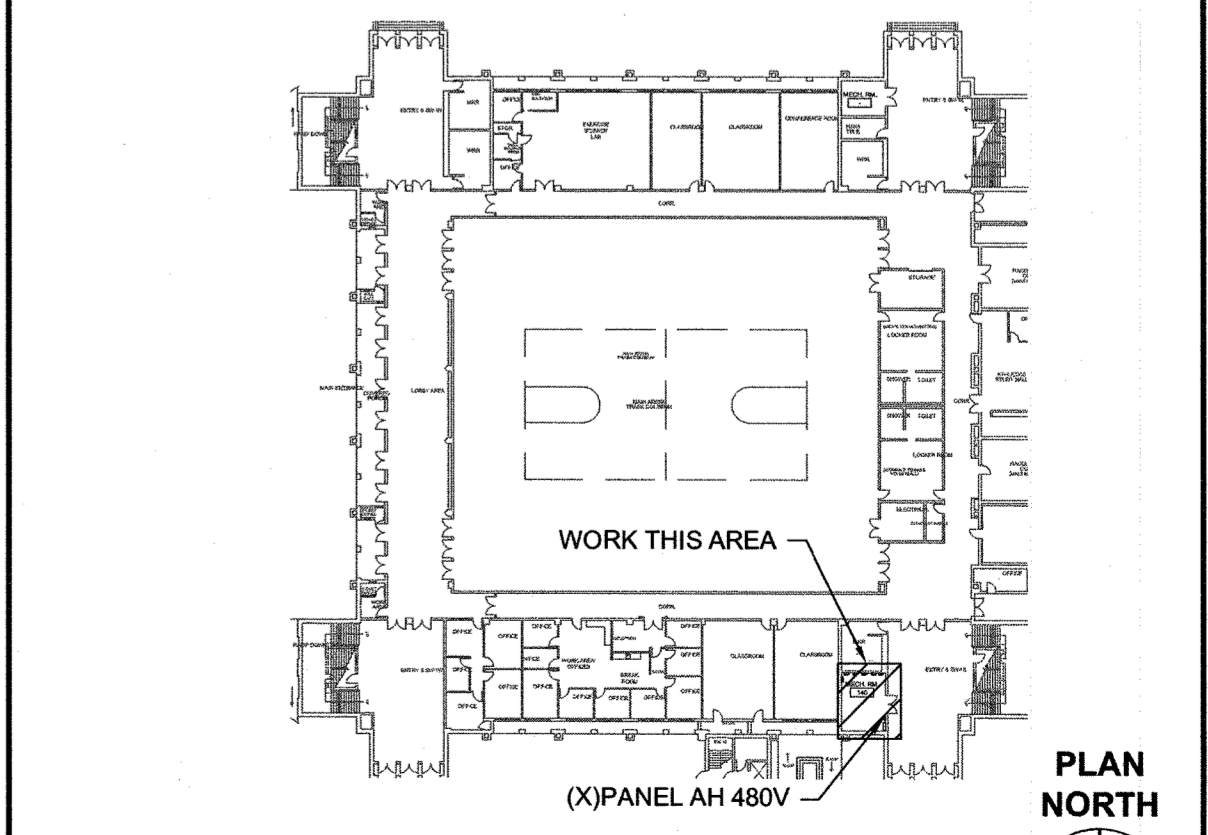
1. SELECTIVE ELECTRICAL DEMOLITION SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR AS DESCRIBED HEREIN AND AS SHOWN ON THE CONTRACT DRAWINGS. GROSS DEMOLITION WILL BE PROVIDED BY THE GENERAL CONTRACTOR. IDENTIFY ACTIVE UTILITIES, AND AT THE APPROPRIATE TIME, DISCONNECT AND CAP OFF SUCH UTILITIES AND PROVIDE EXPERIENCED PERSONNEL ON SITE DURING GENERAL CONTRACTOR DEMOLITION OPERATIONS TO PERFORM SUCH OPERATIONS AND RESOLVE ISSUES. REMOVE MATERIALS NOTED FOR SALVAGE AND REUSE. IDENTIFY AND MARK WIRING AND DEVICES TO REMAIN FOR THE GENERAL CONTRACTOR.
2. THE ELECTRICAL CONTRACTOR SHALL REVIEW THE MECHANICAL AND ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR DEMOLITION REQUIREMENTS AND CARRY OUT HIS WORK IN A COMPATIBLE AND COMPLEMENTARY MANNER. REMOVE ALL WIRING DEVICES, BOXES, FIXTURES, EXPOSED ABANDONED RACEWAYS, HANGARS, ETC., AND THOSE MADE OBSOLETE BY THESE ALTERATIONS AND AS SHOWN ON THE ELECTRICAL DRAWINGS. ALL ITEMS TO BE REMOVED OR MODIFIED MAY NOT BE SHOWN, HOWEVER, THIS CONTRACTOR SHALL REMOVE ANY ELECTRICAL WORK AS REQUIRED BY THE CONSTRUCTION OR AS DIRECTED BY THE OWNER OR ENGINEER. SURVEY THE AFFECTED AREAS BEFORE SUBMITTING A BID AS ALL EXISTING CONDITIONS CANNOT BE COMPLETELY DEPICTED ON THE DRAWINGS AND SOME UNUSUAL CONDITIONS MAY EXIST.
3. REMOVE, RELOCATE, AND EXTEND EXISTING INSTALLATIONS TO ACCOMMODATE NEW CONSTRUCTION.
4. ALL EXISTING ELECTRICAL EQUIPMENT AND DEVICES SHALL REMAIN UNLESS SPECIFICALLY NOTED TO BE REMOVED.
5. VERIFY FIELD MEASUREMENTS AND CIRCUITING ARRANGEMENTS ARE AS SHOWN ON DRAWINGS.
6. VERIFY THAT ABANDONED WIRING AND EQUIPMENT SERVE ONLY ABANDONED FACILITIES.
7. DISCONNECT AND/OR DE-ENERGIZE ELECTRICAL SYSTEMS IN WALLS, FLOORS, AND CEILINGS SCHEDULED FOR REMOVAL.
8. PROVIDE TEMPORARY AND/OR PERMANENT WIRING AND CONNECTIONS AS SHOWN AND/OR AS REQUIRED BY CONDITIONS TO MAINTAIN EXISTING SYSTEMS IN SERVICE DURING CONSTRUCTION. WHEN WORK MUST BE PERFORMED ON ENERGIZED EQUIPMENT OR CIRCUITS, AND WHEN SUCH WORK IS SPECIFICALLY APPROVED BY THE OWNER AND PERMITTED BY REGULATORY AUTHORITIES, USE PERSONNEL EXPERIENCED IN SUCH OPERATIONS.
9. EXISTING ELECTRICAL SERVICE: COORDINATE POWER OUTAGES WITH THE OWNER. MAINTAIN EXISTING SYSTEMS IN SERVICE. DISABLE SYSTEMS ONLY TO MAKE SWITCHOVERS AND CONNECTIONS. OBTAIN PERMISSION FROM THE OWNER AT LEAST 24 HOURS BEFORE PARTIALLY OR COMPLETELY DISABLING SYSTEM. MINIMIZE OUTAGE DURATION. MAKE TEMPORARY CONNECTIONS TO MAINTAIN SERVICE IN AREAS ADJACENT TO WORK AREA.
10. CONTINUOUS SERVICE IS REQUIRED ON ALL CIRCUITS AND OUTLETS AFFECTED BY THESE CHANGES, EXCEPT WHERE THE OWNER WILL PERMIT AN OUTAGE FOR A SPECIFIC TIME. OBTAIN OWNER'S CONSENT BEFORE REMOVING ANY CIRCUIT FROM CONTINUOUS SERVICE.
11. PROTECT ALL EXISTING TELEPHONE, DATA, LIFE SAFETY SYSTEMS, FIRE ALARM, SECURITY, ACCESS CONTROL AND PUBLIC ADDRESS SYSTEMS AND MAINTAIN THEM IN OPERATION THROUGHOUT THE PROGRESS OF THE WORK. NOTIFY THE OWNER AND ENGINEER IN WRITING 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.
12. WHERE ELECTRICAL SYSTEMS PASS THROUGH THE DEMOLITION AREAS TO SERVE OTHER PORTIONS OF THE PREMISES, THEY SHALL BE PROTECTED FROM DAMAGE AND REMAIN OR BE SUITABLY RELOCATED UTILIZING MATCHING SIZE AND TYPE MATERIALS AND THE SYSTEM RESTORED TO NORMAL OPERATION. ADVISE THE ENGINEER IMMEDIATELY IF SUCH CONDITIONS ARE UNCOVERED BEFORE PROCEEDING WITH ADDITIONAL WORK.
13. MAINTAIN ACCESS TO EXISTING ELECTRICAL INSTALLATIONS WHICH REMAIN ACTIVE. MODIFY INSTALLATION OR PROVIDE ACCESS PANEL AS APPROPRIATE.
14. ENDS OF ALL CONDUITS TO REMAIN SHALL BE TIGHTLY PLUGGED TO EXCLUDE DUST AND MOISTURE WHILE THE BUILDING IS UNDER RENOVATION.
15. PROTECT EXISTING CIRCUITS TO REMAIN AND EXTEND AS REQUIRED UTILIZING MATCHING CONDUCTORS AND CONDUIT SIZE AND TYPE.
16. SECURE ALL CIRCUITS, RACEWAYS, CABLE AND CONDUCTORS THAT, AS A RESULT FROM THIS CONSTRUCTION, ARE ABANDONED OR UNUSED. REMOVE UNUSED EXPOSED CONDUIT AND WIRING BACK TO POINT OF CONCEALMENT INCLUDING ABANDONED CONDUIT ABOVE ACCESSIBLE CEILINGS. REMOVE UNUSED WIRING IN CONCEALED CONDUITS BACK TO SOURCE OR NEAREST POINT OF USAGE. BLANK ABANDONED KNOCKOUTS IN REMAINING BOXES. INSTALL BLANK PLATES FOR ALL UNUSED OUTLETS THAT WILL REMAIN AS A RESULT OF THIS CONSTRUCTION. ALL SUCH WORK SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES AND ORDINANCES.
17. 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.
18. RECONNECT EXISTING CIRCUITS SEPARATED AS A RESULT OF THIS CONSTRUCTION.
19. DO NOT DISTURB EXISTING DATA, TELEPHONE, SECURITY/INTRUSION AND ENERGY MANAGEMENT SYSTEMS, DEVICES OR CABLES UNLESS SPECIFICALLY NOTED OTHERWISE.
20. COORDINATE WITH THE OTHER TRADES, PRIOR TO BID, AND INCLUDE IN THE BASE BID THE ELECTRICAL DISCONNECTION OF ANY EQUIPMENT BEING DEMOLISHED, EVEN IF NOT EXPLICITLY SHOWN. UNLESS NOTED OTHERWISE, REMOVE ALL DEMOLISHED EQUIPMENT FROM THE PROPERTY AND IDENTIFIED IN THE ELECTRICAL DRAWINGS.
21. THESE DRAWINGS ARE COMPILED BY THE ENGINEER FROM THE OWNER'S 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 CIRCUITS, WIRING, CONDUIT, DIMENSIONS, POINTS OF ACCESS AND ALL FIELD CONDITIONS AFFECTING HIS WORK. BEGINNING OF DEMOLITION MEANS THE CONTRACTOR ACCEPTS EXISTING CONDITIONS.
22. SEE ELECTRICAL NOTES FOR ADDITIONAL REQUIREMENTS.



B4 1ST FLOOR MECHANICAL RM
3/16" = 1'-0"



B5 KEYPLAN - THIRD FLOOR
NOT TO SCALE



A5 KEYPLAN - FIRST FLOOR
NOT TO SCALE

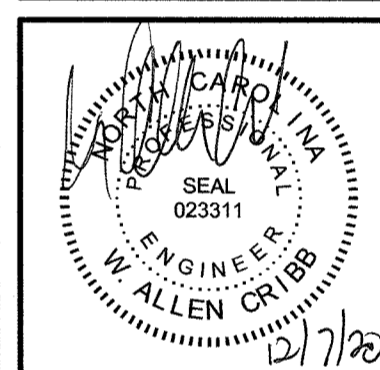
ISSUED FOR CONSTRUCTION	12.07.20
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DESCRIPTION	
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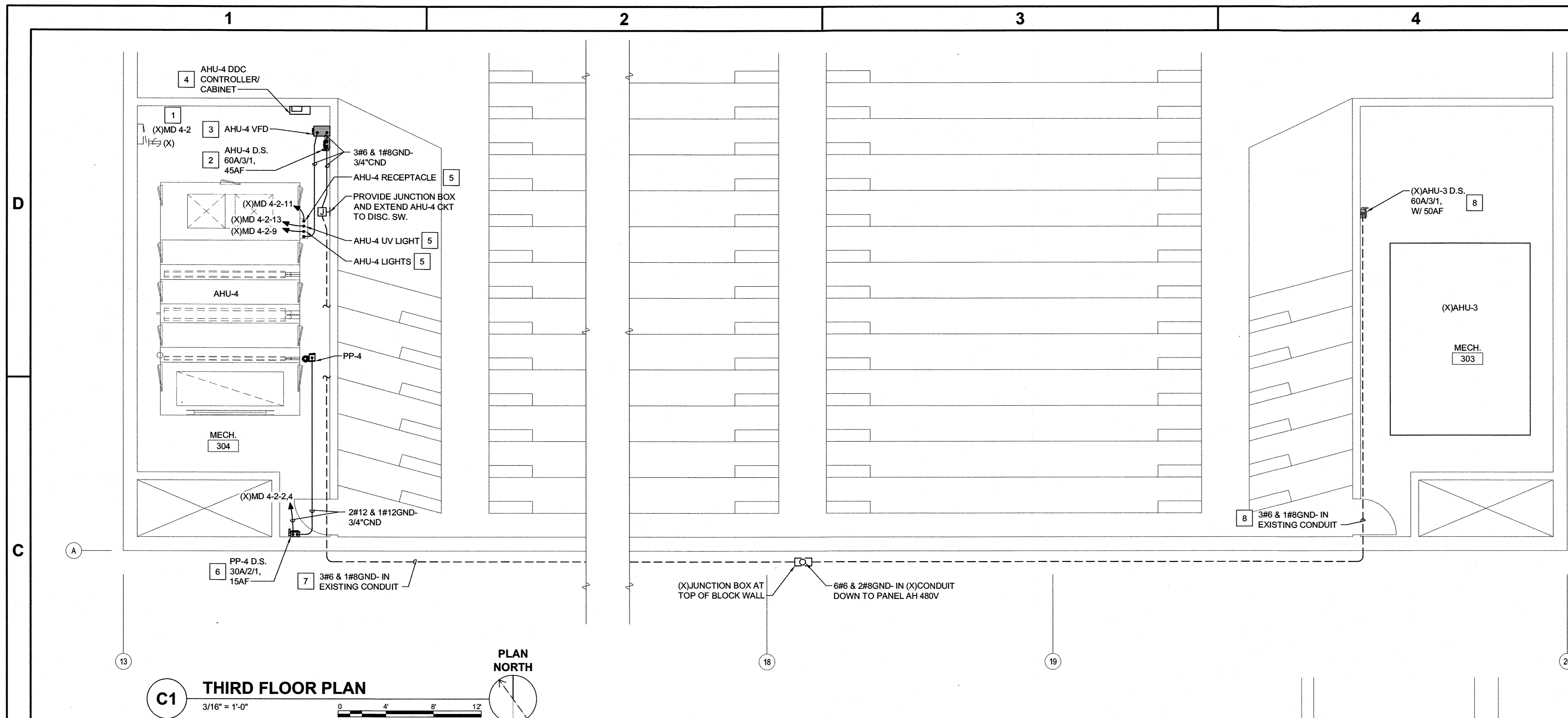
UNIVERSITY OF NORTH CAROLINA WILMINGTON
TRASK HVAC REPLACEMENT
601 S. COLLEGE ROAD, WILMINGTON, NORTH CAROLINA 28403
STATE ID# 2D-22825-01A

**PARTIAL FIRST FLOOR AND THIRD FLOOR PLANS
POWER - DEMOLITION**

JOB NO.:	20138
DRAWN:	HGH
DESIGNED:	HGH
CHECKED:	WAC

DRAWING NO:
ED101

REVISION:
0



C1 THIRD FLOOR PLAN
3/16" = 1'-0"
PLAN NORTH

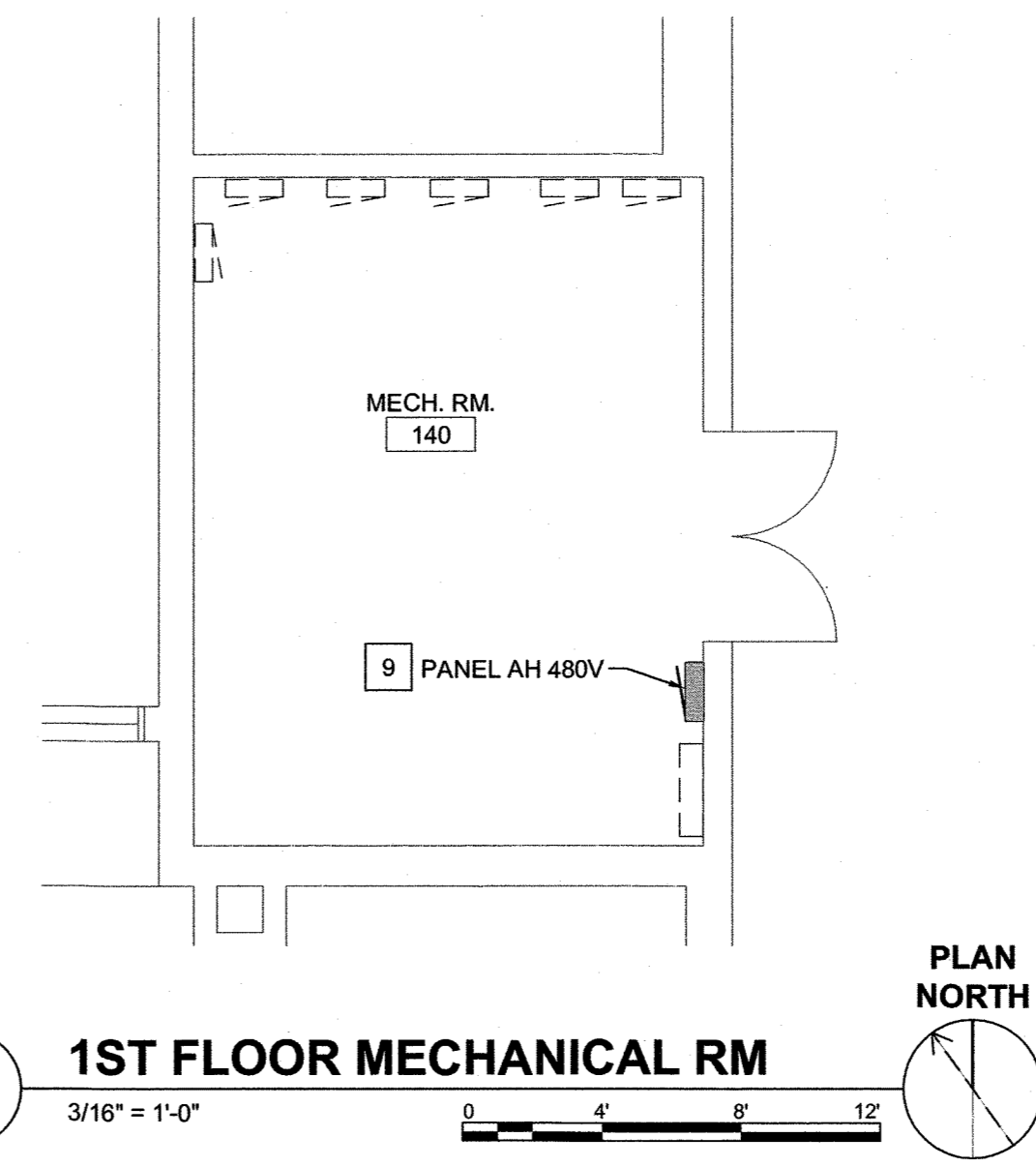
LOAD SUMMARY	
VOLTAGE	PHASE
480	3
LOADS REMOVED THIS PROJECT	
TOTAL HVAC EQUIPMENT REMOVED THIS PROJECT	28,267 VA
TOTAL HVAC EQUIPMENT REMOVED THIS PROJECT	34 AMPS
TOTAL LOAD REMOVED THIS PROJECT	34 AMPS
TOTAL LOAD REMOVED THIS PROJECT	28,267 VA
LOADS ADDED THIS PROJECT	
HVAC EQUIPMENT	
AHU-4	26,572 VA
PP-4	1,123 VA
SUB-TOTAL HVAC DEMAND	27,695 VA
SUB-TOTAL HVAC DEMAND	33 AMPS
LIGHTING	
LIGHTS (INTERIOR)	713 VA
TOTAL LIGHTING LOAD	713 VA
LIGHTING LOAD x 1.25	891 VA
TOTAL DEMAND FOR LIGHTING	1.1 AMPS
RECEPTACLES	
TOTAL DEMAND FOR RECEPTACLE/POWER PANELS	960 VA
TOTAL DEMAND FOR RECEPTACLE/POWER PANELS	1 AMPS
TOTAL LOAD ADDED THIS PROJECT	36 AMPS
TOTAL LOAD ADDED THIS PROJECT	29,546 VA
NET LOAD CHANGED THIS PROJECT	2 AMPS
NET LOAD CHANGED THIS PROJECT	1,279 VA

(X)PANEL MD 4-2 REVISED												
TYPE:	208	120	V.	3	PH.	4	WIRE	PROVIDE IF CHECKED:	EQUIP. GND BUS	NEUTRAL BUS	GUTTER TAPS	SUB-FEED LUGS
	MOUNT:		SURFACE									
LOAD SERVED	LOAD VA	CKT #	CKT #	LOAD VA	CKT #	CKT #	LOAD VA	LOAD SERVED				
(X)SIGN	19/1	1	3	562	2	15/2	562	PP-4 (NOTE 2)				
(X)SIGN	15/1	3	5	562	4	1	562					
(X)SIGN	19/1	5	7		6			SPACE				
(X)20A RECEPTACLE	20/1	7	9		8			SPACE				
AHU-4 LIGHTS (NOTE 2)	313	15/1	9	313	10			SPACE				
AHU-4 RECEPTACLE (NOTE 2)	960	15/1	11		12			SPACE				
AHU-4 UV LIGHT (NOTE 2)	400	15/1	13	400	14			SPACE				
SPACE			15		16			SPACE				
SPACE			17		18			SPACE				
SPACE			19		20			SPACE				
SPACE			21		22			SPACE				
SPACE			23		24			SPACE				
MAIN BREAKER	50/3	25	27		26			SPACE				
		27	29		28			SPACE				
		29			30			SPACE				
				962	875	960	TOTAL V. AMPS	50 A. BUS (COPPER)				
				8	7	8	CONN. AMPS	50 A. MAIN CIRCUIT BREAKER				

NOTES:
1. HVAC & REFRIG. EQUIP. SHALL USE TYPE HACR BREAKERS.
2. PROVIDE BREAKER INDICATED, BREAKER MUST MATCH PANEL AIC RATING.

PANEL AH 480V												
TYPE:	480	277	V.	3	PH.	4	WIRE	PROVIDE IF CHECKED:	EQUIP. GND BUS	NEUTRAL BUS	GUTTER TAPS	SUB-FEED LUGS
	MOUNT:		SURFACE									
LOAD SERVED	LOAD VA	CKT #	CKT #	LOAD VA	CKT #	CKT #	LOAD VA	LOAD SERVED				
AHU #3	9,423	60/3	1	9,423	2	125/3		AHU'S #5 & #6				
	9,423		3	9,423	4							
	9,423		5		6							
AHU-1		40/3	7		8	40/3		AHU-2				
			9		10							
			11		12							
AHU-12		30/3	13		14	20/3		SPARE				
			15		16							
			17		18							
AHU-4	8,857	60/3	19	8,857	20	60/3		MARQ. SIGN				
	8,857		21	8,857	22							
	8,857		23		24							
SPACE			25		26			SPACE				
SPACE			27		28			SPACE				
SPACE			29		30			SPACE				
				18,280	18,280	18,280	TOTAL V. AMPS	400 A. BUS (COPPER)				
				66	66	66	CONN. AMPS	300 A. MAIN LUGS				

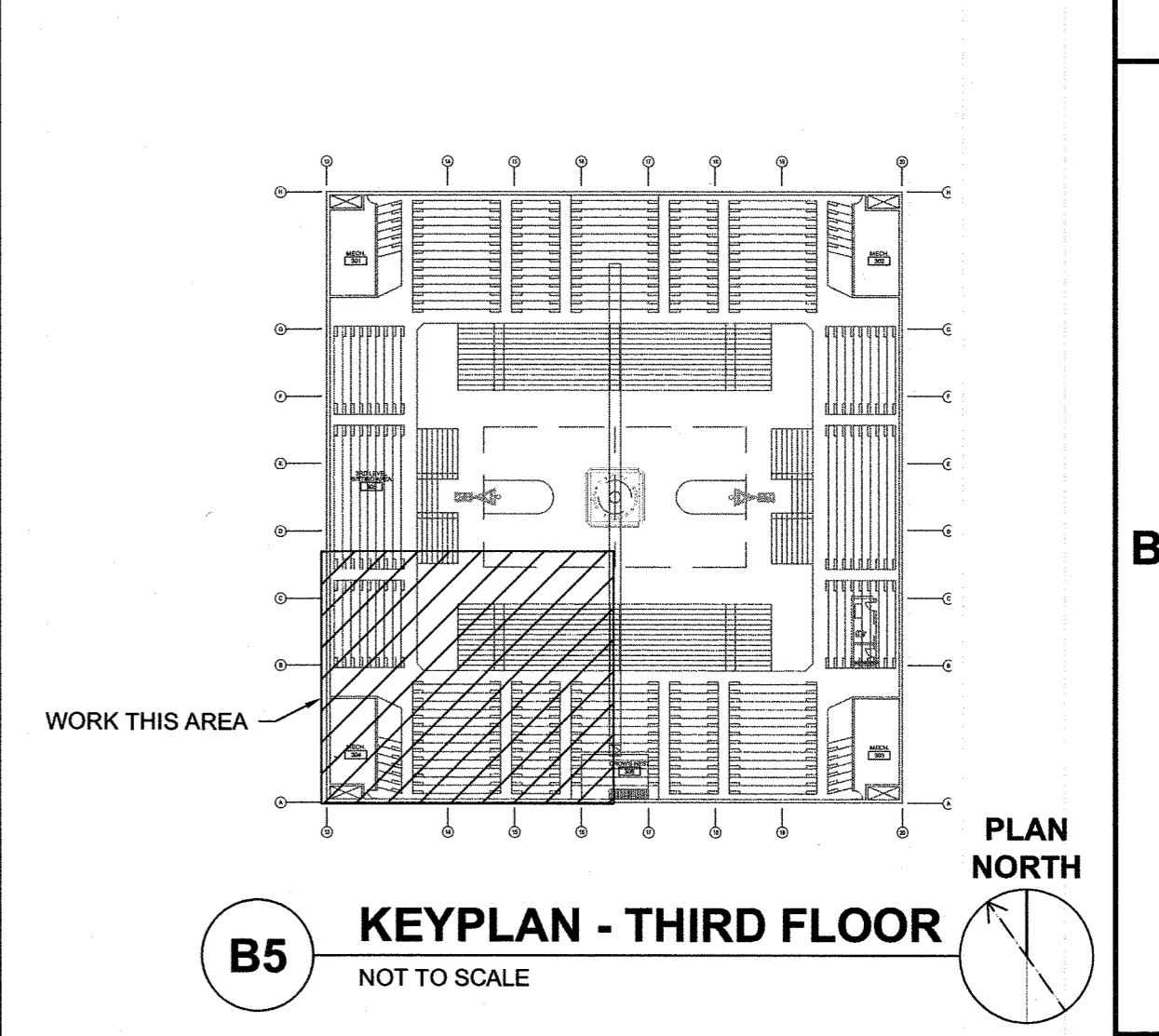
NOTES:
1. HVAC & REFRIG. EQUIP. SHALL USE TYPE HACR BREAKERS.



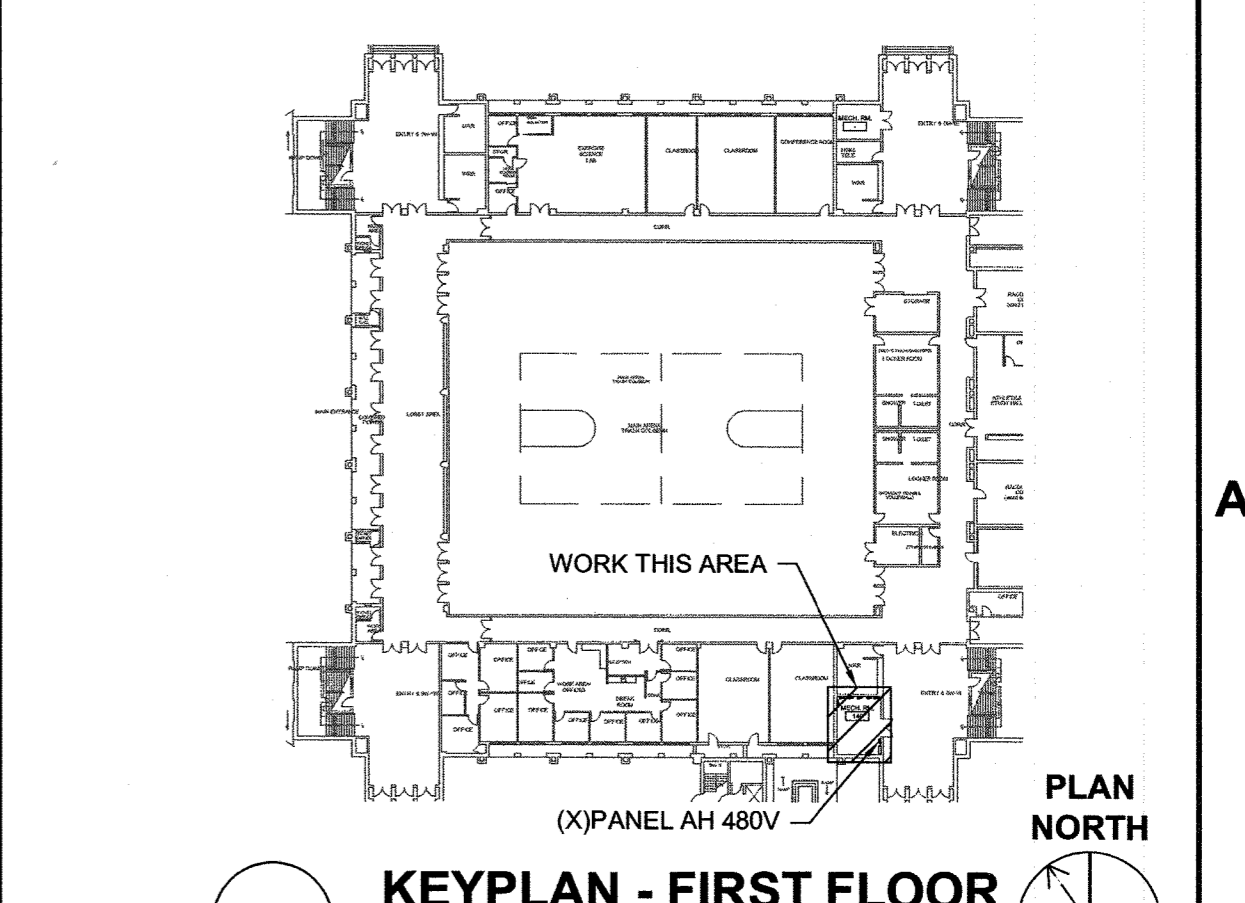
B4 1ST FLOOR MECHANICAL RM
3/16" = 1'-0"
PLAN NORTH

GENERAL NOTES

- KEYED NOTES**
- (X)PANEL MD 4-2: PROVIDE BREAKERS INDICATED IN PANEL SCHEDULE FOR FEED TO AHU-4 LIGHTS AND RECEPTACLE.
 - AHU-4 D.S.: COORDINATE EXACT LOCATION WITH HVAC CONTROLS AND VFD.
 - AHU-4 VFD: COORDINATE PLACEMENT OF VFD WITH DISC. SW. WITH HVAC CONTROLS VENDOR. VFD PROVIDED BY DDC CONTRACTOR, INSTALLED AND WIRED BY ELECTRICAL CONTRACTOR.
 - HVAC DDC CONTROLLER/CABINET: COORDINATE PLACEMENT OF HVAC CONTROLLER/CABINET WITH CONTROL REMOVED AND PROTECTED DURING DEMOLITION WITH HVAC CONTROL VENDOR. EXTEND EXISTING CABLE AND POWER CIRCUIT TO CABINET USING LIKE CONDUIT AND CONDUCTORS.
 - AHU-4 LIGHTS / SWITCH / RECEPTACLE: PROVIDE CONDUIT AND CONDUCTORS AS INDICATED, FEED FROM CIRCUIT INDICATED.
 - PP-4: CONTRACTOR MUST COORDINATE FINAL LOCATION OF DISCONNECT SWITCH WITH PUMP AND MECHANICAL CONTRACTOR PRIOR TO INSTALLATION OF DISC. SW. PROVIDE CODE REQUIRED CLEARANCE.
 - (X)AHU-4: UTILIZE (X)CONDUIT REMAINING AFTER DEMOLITION AND PROVIDE CONDUCTORS INDICATED.
 - (X)AHU-3: RECONNECT (X)AHU-3 D.S. UTILIZING (X)CONDUIT REMAINING AFTER DEMOLITION, PROVIDE CONDUCTORS INDICATED, AND FEED FROM PANEL AH 480V.
 - PANEL AH 480V: MOUNT PANEL IN LOCATION LEFT OPEN AFTER DEMOLITION. SEE RISER DIAGRAM 1B/E-501 FOR ADDITIONAL INFORMATION.

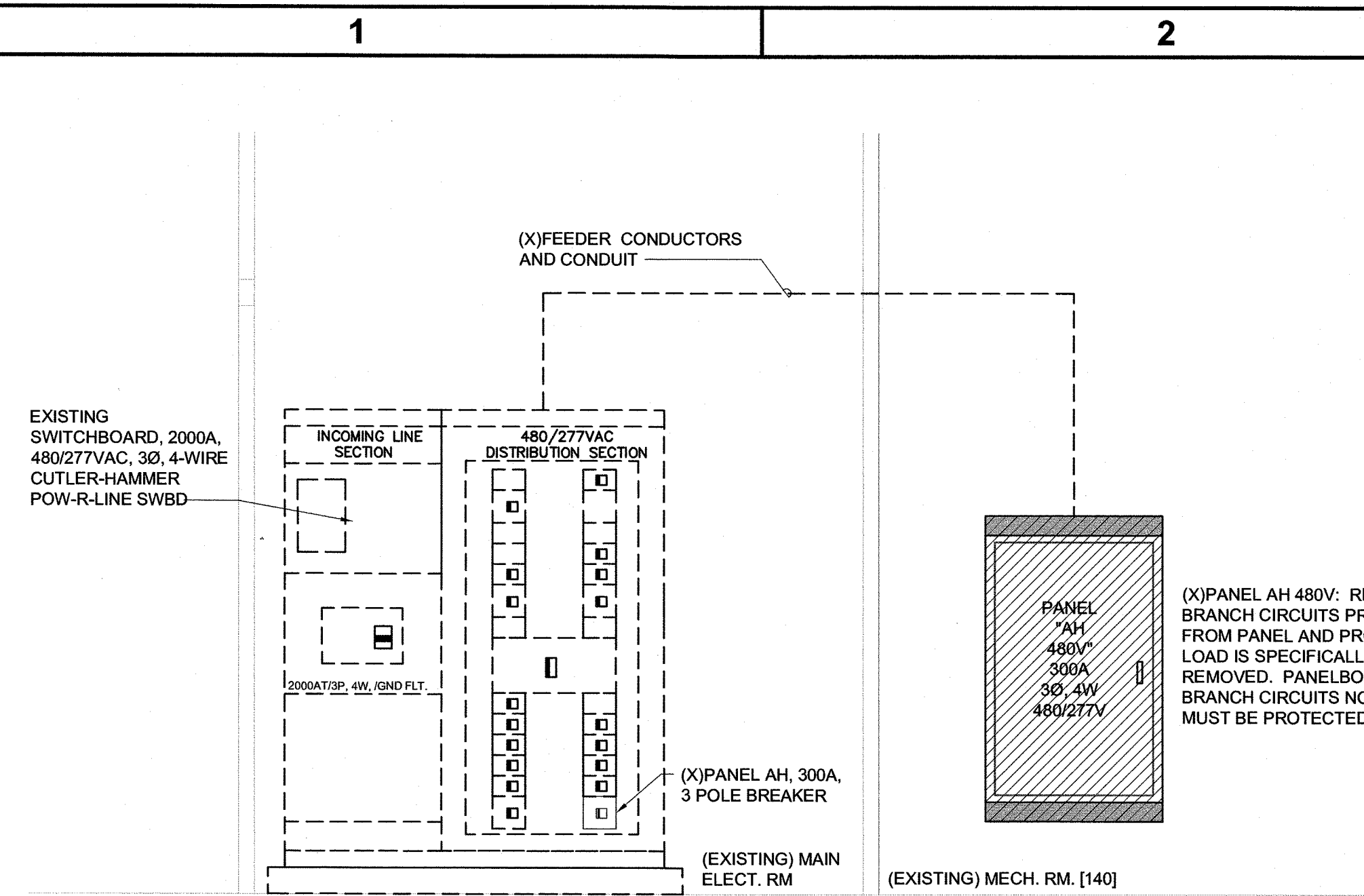


B5 KEYPLAN - THIRD FLOOR
NOT TO SCALE
PLAN NORTH

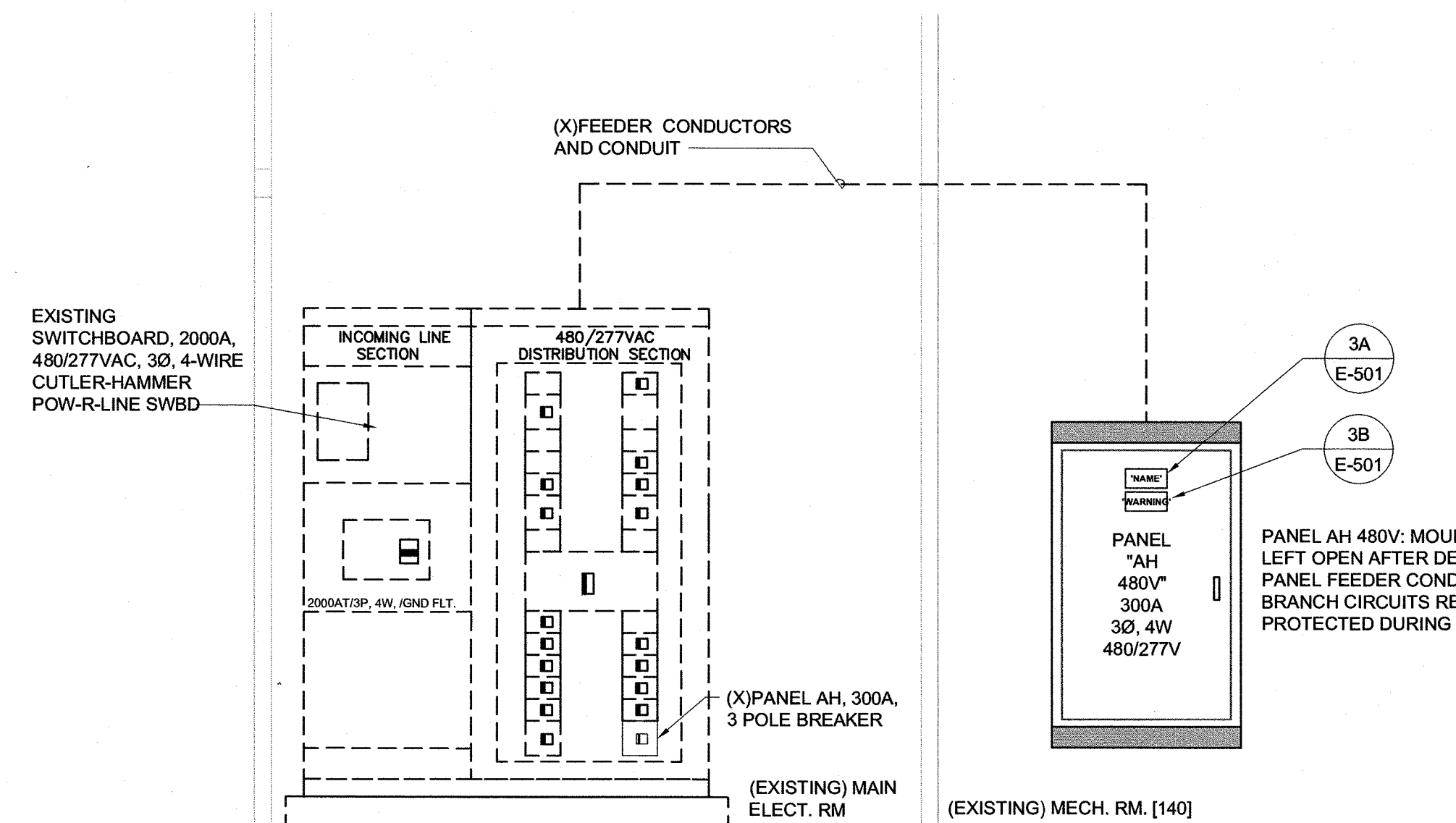


A5 KEYPLAN - FIRST FLOOR
NOT TO SCALE
PLAN NORTH

ISSUED FOR CONSTRUCTION	REVISIONS
0	12.07.20
1	Date:
2	Revision No:
3	Description:
CBHF Engineers, PLLC	
2246 Yaupon Drive Wilmington, NC 28401 Phone: 910.791.4000 Fax: 910.791.5266 www.cbhfindesign.com © Copyright 2020 CBHF Engineers, PLLC NC P-6583	
UNIVERSITY OF NORTH CAROLINA WILMINGTON TRASK HVAC REPLACEMENT 601 S. COLLEGE ROAD, WILMINGTON, NORTH CAROLINA 28403 STATE ID# 20-25252-01A PARTIAL 1ST FLOOR AND THIRD FLOOR PLANS POWER	
JOB NO.:	20136
DRAWN:	HGH
DESIGNED:	HGH
CHECKED:	WAC
DRAWING NO. E-101	
REVISION:	0

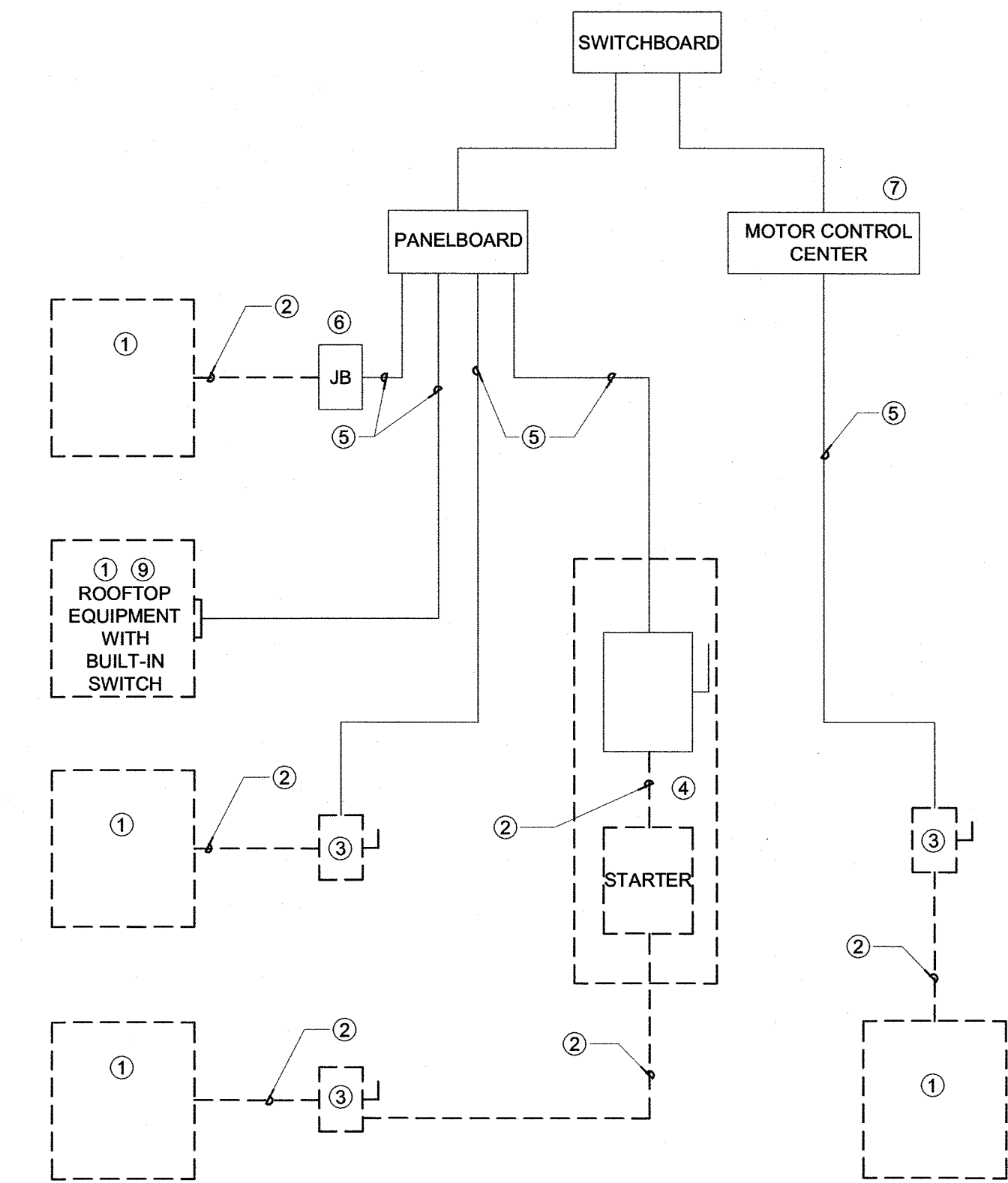


1C PARTIAL RISER DIAGRAM - DEMOLITION
NOT TO SCALE

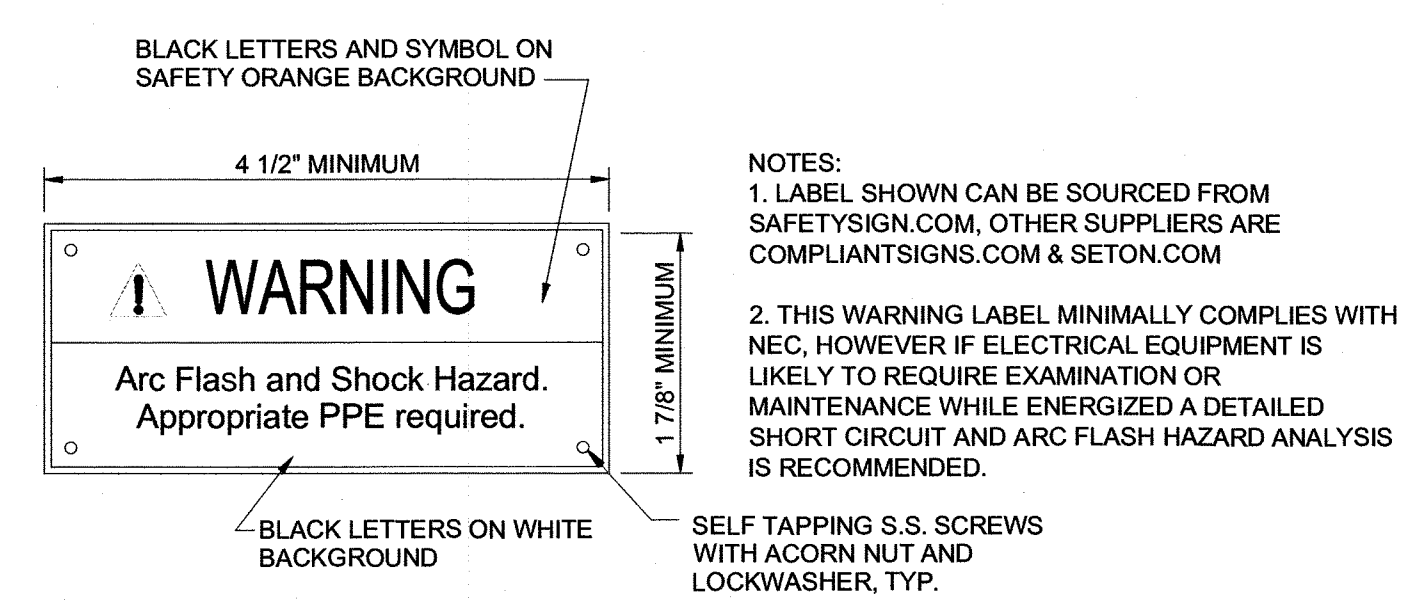


1B PARTIAL RISER DIAGRAM
NOT TO SCALE

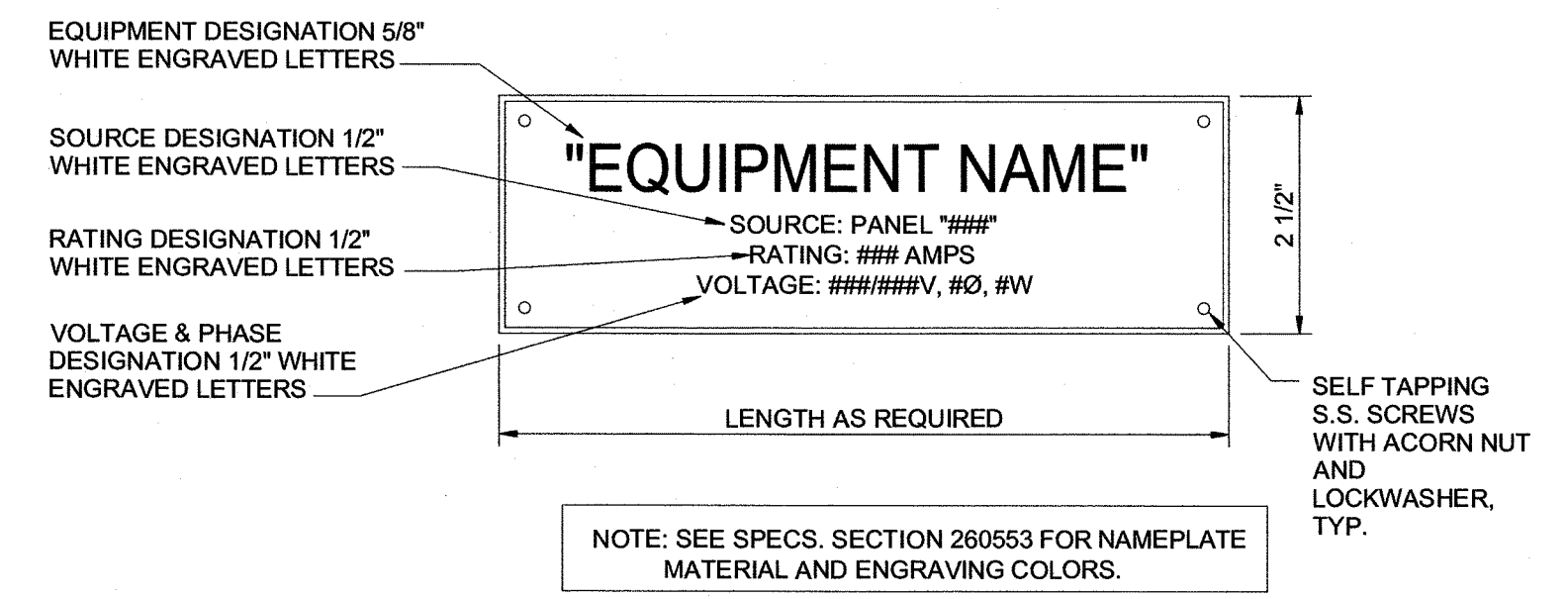
- ### ELECTRICAL NOTES
- EQUIPMENT OF TRADES OTHER THAN ELECTRICAL.
 - CONDUIT AND WIRING BY HVAC, PLUMBING CONTRACTOR OR OTHER TRADES.
 - IF AN ADDITIONAL DISCONNECT IS REQUIRED BY NEC, IT SHALL BE PROVIDED AND INSTALLED BY THE EQUIPMENT CONTRACTOR.
 - A COMBINATION STARTER OR VFD MAY BE USED IN LIEU OF A SEPARATE DISCONNECT SWITCH AND STARTER. LOCATE ADJACENT TO EQUIPMENT.
 - FEEDER CIRCUIT WIRING AND CONDUIT IN ELECTRICAL WORK. SEE PANELBOARD SCHEDULES FOR WIRE AND BREAKER SIZES.
 - JUNCTION BOX MAY BE SHOWN ON ELECTRICAL PLANS FOR SOME EQUIPMENT. IF NO STARTER OR DISCONNECT IS SUPPLIED, A JUNCTION BOX SHALL BE INSTALLED ADJACENT TO EQUIPMENT. THE ELECTRICAL CONTRACTOR SHALL PROVIDE LINE SIDE WIRING TO THE JUNCTION BOX. LOAD SIDE WIRING WILL BE PROVIDED BY MECHANICAL CONTRACTOR OR OTHER TRADES.
 - PROJECTS UTILIZING AN MCC, THE STARTER CB, OR VFD IN THE MCC ARE PROVIDED BY THE ELECTRICAL CONTRACTOR.
 - IN ALL CASES THE EQUIPMENT CONTRACTOR SHALL MAKE FINAL CONNECTIONS, START UP AND TEST EQUIPMENT.
 - IF THE ROOF TOP FAN IS NOT PROVIDED WITH BUILT IN SWITCH, THE ELECTRICAL CONTRACTOR SHALL PROVIDE A DISCONNECT SWITCH.
 - IN A SINGLE PRIME CONTRACT, IT IS THE RESPONSIBILITY OF THE PRIMARY CONTRACTOR TO COORDINATE BETWEEN THE ELECTRICAL AND OTHER TRADES.



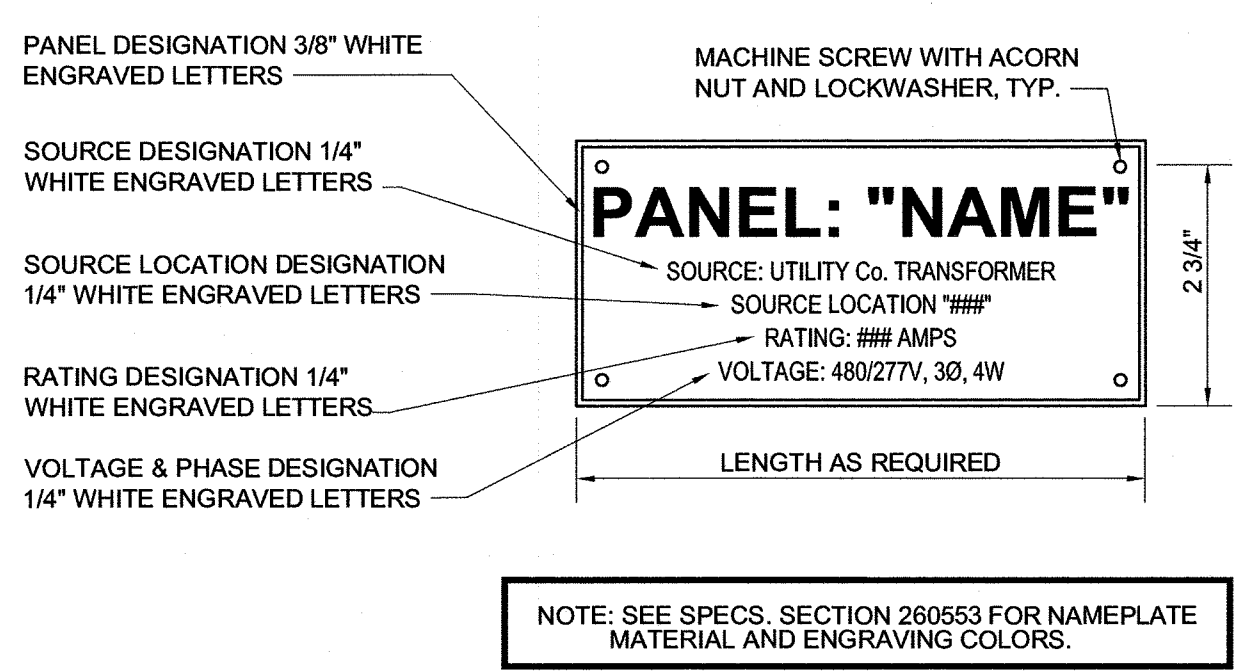
3C EQUIPMENT CONNECTION DETAIL
NOT TO SCALE



3B ELECTRICAL EQUIPMENT WARNING LABEL DETAIL
NOT TO SCALE



4B TYPICAL EQUIPMENT NAMEPLATE DETAIL
NOT TO SCALE



3A TYPICAL PANELBOARD NAMEPLATE DETAIL
NOT TO SCALE

12.07.20 Date

ISSUED FOR CONSTRUCTION

REVISION NO. 0

DESCRIPTION:

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UNIVERSITY OF NORTH CAROLINA WILMINGTON
TRASK HVAC REPLACEMENT
601 S. COLLEGE ROAD, WILMINGTON, NORTH CAROLINA 28403
STATE ID# 20-25223-01A

ELECTRICAL
RISER DIAGRAMS AND DETAILS

JOB NO.: 20138
DRAWN: HGH
DESIGNED: HGH
CHECKED: WAC

DRAWING NO:
E-501

REVISION:
0