AIR DISTRIBUTION DEVICE SCHEDULE

DESIGNATION	Metal-Air MODEL NO.	MAX C.F.M.	MAX NC LEVEL	PANEL SIZE	NECK SIZE	FINISH	CONSTRUCTION	REMARKS
CD-1	5700A	150	25	24"X24"	6"ø	B.O.W.	–	ADJUSTABLE FACE LOUVERED
CD-2	5700A	250	25	24"X24"	8"ø	B.O.W.	–	ADJUSTABLE FACE LOUVERED
CD-3	5700A	350	25	24"X24"	10"ø	B.O.W.	–	ADJUSTABLE FACE LOUVERED
CD-4	5700A	450	25	24"X24"	12"ø	B.O.W.	–	ADJUSTABLE FACE LOUVERED
CD-5	5700A	600	25	24"X24"	14"ø	B.O.W.	–	ADJUSTABLE FACE LOUVERED
CD-6	5700A	400	25	24"X24"	12"ø	B.O.W.	2-WAY	ADJUSTABLE FACE LOUVERED
RG-1	7600R	800	25	12"X24"	10"X22"	B.O.W.	–	REFER TO NOTE 3
RG-2	7600R	1600	25	24"X24"	22"X22"	B.O.W.	–	REFER TO NOTE 3
RG-3	H4002RS	600	25	18"X10"	16"X8"	B.O.W.	STEEL	HORIZONTAL FIXED
RG-4	H4002RS	1000	25	24"X10"	22"X8"	B.O.W.	STEEL	HORIZONTAL FIXED
RG-5	4500	5500	25	38"X62"	36"X60"	B.O.W.	STEEL	PAINT INTERIOR OF DUCT FLAT BLACK
RG-6	4500	3200	15	62"X38"	60"X36"	PRIMED	STEEL	PAINT INTERIOR OF DUCT FLAT BLACK
RG-7	8150-3-1"SLOTS	500	25	48"X8"	46"X6"	B.O.W.	STEEL	SLOT RETURN
EG-1	PRTB	600	25	24"X12"	22"X12"	B.O.W.	ALUMINUM	–
EG-2	PRTB	1200	25	24"X24"	22"X22"	B.O.W.	ALUMINUM	–
EG-3	H4002R	600	25	18"x10"	16"X8"	B.O.W.	–	–
EG-4	H4002R	1000	25	24"X10"	22"X8"	B.O.W.	–	–
SR-1	4004	300	25	16"X8"	14"X6"	B.O.W.	–	PROVIDE AIR EXTRACTOR OR DAMPER AT DUCT TAP. NO OBD.
SR-2	4004	600	25	24"X10"	22"X8"	B.O.W.	–	PROVIDE AIR EXTRACTOR OR DAMPER AT DUCT TAP. NO OBD.
SR-3	51DV-HD	1250	25	24"X16"	22"X14"	B.O.W.	–	PROVIDE DAMPER AT DUCT TAP. NO OBD.
SD-1	LSD-2-1"SLOTS	50	25	4'x4"	6"ø	B.O.W.	–	PROVIDE DAMPER AT TAP. PROVIDE WITH LINED PLENUM AND TRIM TO MATCH CEIL.
SD-2	LSD-4-1"SLOTS	200	25	4'X8"	8"ø OVAL	B.O.W.	–	PROVIDE DAMPER AT TAP. PROVIDE WITH LINED PLENUM AND TRIM TO MATCH CEIL.
SEG-1	LBG 14" 0"-def.	500/LF	–	16"xlength	14"xlength	B.O.W.	–	PROVIDE 12" PLENUM BEHIND AT FULL LOUVER LENGTH.

NOTES:
1) PROVIDE GASKET AT MOUNTING FLANGE FOR EACH DEVICE.
2) PROVIDE CEILING DIFFUSERS WITH INSULATION BLANKET ABOVE.
3) PROVIDE LINED TRANSFER AIR BOOT ABOVE CEILING AT RG-1 (22x6) AND RG-2 (22x10). MINIMUM 12" LONG HORIZONTAL RUN OR AS SHOWN ON PLANS.

DRAWING LIST

M001 MECHANICAL LEGEND, NOTES AND DETAILS
M002 MECHANICAL SCHEDULES
M003 MECHANICAL SCHEDULES
M004 PHASING PLAN

M100 HVAC FLOOR PLAN – OVERALL NEW WORK ZONES
M101A HVAC FLOOR PLAN – AREA A – NEW WORK
M101B HVAC FLOOR PLAN – AREA B – NEW WORK
M101C HVAC FLOOR PLAN – AREA C – NEW WORK
M101D HVAC FLOOR PLAN – AREA D – NEW WORK
M101E HVAC FLOOR PLAN – AREA E – NEW WORK
M101F HVAC FLOOR PLAN – AREA F – NEW WORK
M101G HVAC FLOOR PLAN – AREA G – NEW WORK

M200 PIPING FLOOR PLAN – OVERALL NEW WORK ZONES
M101H PIPING FLOOR PLAN – AREA A – NEW WORK
M101I PIPING FLOOR PLAN – AREA B – NEW WORK
M101J PIPING FLOOR PLAN – AREA C – NEW WORK
M101K PIPING FLOOR PLAN – AREA D – NEW WORK
M101L PIPING FLOOR PLAN – AREA E – NEW WORK
M101M PIPING FLOOR PLAN – AREA F – NEW WORK
M101N PIPING FLOOR PLAN – AREA G – NEW WORK

M101R ROOF PLAN – NEW WORK

MD100 HVAC FLOOR PLAN – OVERALL DEMOLITION ZONES
MD101A HVAC FLOOR PLAN – AREA A – DEMOLITION
MD101B HVAC FLOOR PLAN – AREA B – DEMOLITION
MD101C HVAC FLOOR PLAN – AREA C – DEMOLITION
MD101D HVAC FLOOR PLAN – AREA D – DEMOLITION
MD101E HVAC FLOOR PLAN – AREA E – DEMOLITION
MD101F HVAC FLOOR PLAN – AREA F – DEMOLITION
MD101G HVAC FLOOR PLAN – AREA G – DEMOLITION

MD101H PIPING FLOOR PLAN – AREA A – DEMOLITION
MD101I PIPING FLOOR PLAN – AREA B – DEMOLITION
MD101J PIPING FLOOR PLAN – AREA C – DEMOLITION
MD101K PIPING FLOOR PLAN – AREA D – DEMOLITION
MD101L PIPING FLOOR PLAN – AREA E – DEMOLITION
MD101M PIPING FLOOR PLAN – AREA F – DEMOLITION
MD101N PIPING FLOOR PLAN – AREA G – DEMOLITION

MD101R ROOF PLAN – DEMOLITION

M301 ENLARGED BOILER ROOM PLANS

M501 TEMPERATURE CONTROLS AND SEQUENCES
M502 TEMPERATURE CONTROLS AND SEQUENCES

M601 MECHANICAL DETAILS
M602 MECHANICAL DETAILS

M701 RISER DIAGRAMS
M702 RISER DIAGRAMS
M703 RISER DIAGRAMS

MECHANICAL SYMBOLS SCHEDULE

- AIR FLOW – TOWARD VIEWER
- AIR FLOW – AWAY FROM VIEWER
- VANE TURN ELBOW AND PUSH ROD AIR-SPLIT DAMPER
- RISE IN DIRECTION OF AIR FLOW
- DROP IN DIRECTION OF AIR FLOW
- FLEXIBLE CONNECTION
- VANE ELBOW
- 10"x 6" – DUCT – WIDTH x HEIGHT
- 8"ø – ROUND OR FLAT OVAL DUCT SIZE
- 16x48 – OVAL SUPPLY DUCTWORK
- DUCTWORK
- 20x12 (L) – LINED DUCTWORK
- DP – DIFFERENTIAL PRESSURE SWITCH
- CEILING DIFFUSER
- EXHAUST OR RETURN REGISTER OR GRILLE
- H T – THERMOSTAT OR HUMIDISTAT
- S – WALL MOUNTED LIGHT/FAN SWITCH, COORDINATE WITH E.C.
- THERMOMETER WITH THERMOWELL
- PRESSURE GAUGE WITH PET COCK
- GATE VALVE
- GLOBE VALVE
- CHECK VALVE
- HOSE END VALVE
- TRIPLE DUTY VALVE
- TWO-WAY CONTROL VALVE
- THREE-WAY CONTROL VALVE
- PRESSURE REDUCING VALVE
- BACKFLOW PREVENTER
- SAFETY VALVE OR PRESSURE RELIEF
- AVM – AIR VENT (MANUAL)
- BALANCING COCK OR CIRCUIT SETTER
- BALL VALVE OR PLUG BALANCING VALVE
- ANGLE GATE VALVE
- ANGLE GLOBE VALVE
- PLUG VALVE
- BUTTERFLY VALVE OR BALL VALVE
- SOLENOID
- ROUND DUCTWORK
- PD – PUMPED DISCHARGE
- D – DRAIN LINE
- V – VENT LINE
- TP – TEMPERATURE AND PRESSURE TEST PLUG
- 2-W-B – TWO WAY BLOW ON CEILING DIFFUSER
- 3-W-B – THREE WAY BLOW ON CEILING DIFFUSER
- CF – CHEMICAL FEED
- CS – CONDENSER WATER SUPPLY
- CR – CONDENSER WATER RETURN
- DTS – DUAL TEMP SUPPLY
- DTR – DUAL TEMP RETURN
- DW – DOMESTIC WATER
- SS – SPLIT SYSTEM
- EG – EXHAUST GRILLE
- ER – EXHAUST REGISTER
- CD – CEILING DIFFUSER
- G – GAS PIPE
- GAS COCK
- GAS PRESSURE REGULATOR IN GAS PIPE
- SD – SMOKE DETECTOR IN DUCT OR UNIT
- LD – LOUVERED DOOR BY G.C.
- TAKE-OFF WITH SPLITTER DAMPER
- SPIN-IN FITTING WITH VOLUME DAMPER
- P – POSITIVE PRESSURE SPACE
- E – EQUAL PRESSURE SPACE
- N – NEGATIVE PRESSURE SPACE
- RPP – ROOM PRESSURIZATION PANEL, INSTALL JUST ABOVE CEILING.
- BRANCH-BOTTOM CONNECTION
- FLOW – IN DIRECTION OF ARROW
- ECCENTRIC REDUCER
- CONCENTRIC REDUCER
- FLOW MEASURING DEVICE WITH UNIONS, SEE PLANS FOR GPM OF FLOW.
- MAKE-UP WATER LINE
- UNION
- FLEXIBLE CONNECTION
- DIRECTION OF SLOPE
- STRAINER
- RISER DOWN (ELBOW)
- RISER UP (ELBOW)
- FD/SD – COMBINATION SMOKE / FIRE DAMPER (VERTICAL AIR FLOW)
- FD – FIRE DAMPER (HORIZONTAL AIR FLOW)
- VD – VOLUME DAMPER
- AD – AUTOMATIC DAMPER
- S – SWITCH
- LIGHT FIXTURE TO BE USED FOR RETURN AIR PROVIDED BY ELECTRICAL SUB-CONTRACTOR
- F&T – FLOAT AND THERMOSTAT TRAP
- BUCKET TRAP
- FLEXIBLE DUCT
- S.A. – LOW VELOCITY SUPPLY AIR
- M.P. – MEDIUM PRESSURE
- E.A. – LOW VELOCITY EXHAUST AIR
- O.A. – OUTSIDE AIR
- S.A. – SUPPLY AIR
- R.A. – RETURN AIR
- P.C.A. – PRECONDITIONED OUTSIDE AIR
- AFF – ABOVE FINISHED FLOOR
- UC – 3/4" UNDERCUT DOOR
- M.C. – HVAC CONTRACTOR
- G.C. – GENERAL CONTRACTOR
- P.C. – PLUMBING CONTRACTOR
- E.C. – ELECTRICAL CONTRACTOR
- FMCS/BAS – HVAC & LIGHTING BUILDING AUTOMATION SYSTEM
- O.B.D. – OPPOSED BLADE DAMPER
- B.D.D. – BACK DRAFT DAMPER
- A.D. – ACCESS DOOR OR AUTOMATIC DAMPER
- I.P. – IMPLOSION PANEL
- N.O. – NORMALLY OPEN
- N.C. – NORMALLY CLOSED
- T.A. – TRANSFER AIR
- B.O.W. – BAKED ON – WHITE ENAMEL FINISH
- POINT OF CONNECTION – TO WORK PROVIDED BY OTHERS.
- NTS – NOT TO SCALE
- MCA – MINIMUM CIRCUIT AMPS
- MFS – MAXIMUM FUSE SIZE
- ESP – EXTERNAL STATIC PRESSURE
- EF – EXHAUST FAN
- L.E.F. – EXISTING SCIENCE LAB EXHAUST FAN CONNECT TO BAS
- SR-1 / 400 – DESIGNATION OF GRILLE / CFM

NOTE: NOT ALL SYMBOLS NECESSARILY APPLY TO THIS JOB

GENERAL MECHANICAL NOTES

1. ALL OPENINGS FOR DUCTWORK AND PIPING PENETRATIONS SHALL GENERALLY BE PROVIDED BY THE GENERAL CONTRACTOR. EXCEPTIONS ARE COVERED BY NOTES AND DETAILS. NEVER THE LESS, THE LOCATION AND SIZE OF EACH OPENING SHALL BE FURNISHED TO THE GENERAL CONTRACTOR BY THE CONTRACTOR.
2. PIPE HANGERS AND INSERTS UTILIZED FOR THIS PROJECT SHALL BE PROVIDED BY THE CONTRACTOR. THIS INCLUDES ALL SUPPLEMENTAL STEEL, ETC.
3. UNLESS SPECIFICALLY APPROVED BY THE ARCHITECT, NO BURIED PIPING UNDER THE SLAB SHALL BE INSTALLED WITHIN THE FOOTING BEARING.
4. SLEEVES FOR PIPING PASSING THROUGH BELOW SLAB FOUNDATION WALLS SHALL BE COORDINATED AND PROVIDED BY THE CONTRACTOR.
5. ALL LINTELS REQUIRED IN MASONRY WALLS FOR PIPING AND DUCT PENETRATIONS SHALL BE PROVIDED BY THE M.C.
6. PROVIDE VOLUME DAMPERS FOR ALL BRANCH DUCTS OFF OF MAINS. REMOTE DAMPERS ABOVE HARD
7. ALL DOOR LOUVERS AND UNDERCUTS SHALL BE PROVIDED BY THE CONTRACTOR.
8. ALL WIRING, CONTROL WIRING, AND CONDUIT SHALL BE CONCEALED IN FINISHED SPACES.
9. DUCT DIMENSIONS INDICATED ARE NET FREE AREA DIMENSIONS OF DUCTWORK
10. THE MAXIMUM LENGTH OF FLEXIBLE DUCTWORK SHALL NOT EXCEED 6'-0".
11. ALL OPENINGS THROUGH NON-RATED WALLS SHALL BE PROVIDED WITH SHEETMETAL SLEEVES, PEELED BACK AND SECURED TO WALL AT 6" CENTERS WITH SCREWS. SPACES BETWEEN DUCT OR DUCT INSULATION SHALL BE 1/2".
12. REFER TO PLANS FOR FIRE RATING OF PARTICULAR WALLS, FLOORS, AND FOR NON-RATED WALLS WHICH EXTEND TO STRUCTURE.
13. COORDINATE VERTICAL PIPING AND DUCTWORK WITH EXISTING FIELD CONDITIONS FOR EXACT LOCATION OF RISERS.
14. COORDINATE ALL WORK OUTSIDE OF THE DESIGNATED GENERAL CONSTRUCTION AREA WITH THE ENGINEER.
15. FOR EXACT LOCATION OF GRILLES, DIFFUSERS, ETC., REFER TO REFLECTED CEILING PLAN AND FIELD MEASUREMENTS.
16. THE CONTRACTOR SHALL PROVIDE TRANSITIONS AS REQUIRED TO MAKE DUCT CONNECTIONS FROM FAN COIL UNITS TO DUCTWORK WHERE DUCT SIZES ARE NOT SHOWN.
17. RUN-OUTS TO SUPPLY, RETURN AND EXHAUST DISTRIBUTION DEVICES SHALL BE AS INDICATED IN THE SCHEDULES. WHERE SIZE OF RUN-OUT IS NOT GIVEN, THE RUN-OUT SHALL HAVE AN AREA EQUAL TO THE DISTRIBUTION DEVICE NECK SIZE. NECK SIZE SHALL BE BASED ON NC 20 OR LESS.
18. WHERE DUCT PENETRATES FIRE WALL, AND WHERE FIRE DAMPERS ARE NOT REQUIRED BY CODE, PROVIDE SHEET METAL SLEEVES AS DETAILED. PACK THE SPACE BETWEEN THE SLEEVES AND DUCT WITH FIRE PROOF SAFING.
19. CONTRACTOR SHALL BLANK OFF UNUSED PORTIONS OF LOUVERS WITH INSULATED DUAL WALL INSULATED SHEET METAL PANELS.
20. PROVIDE REMOTE MOUNTED "YOUNG" OR APPROVED EQUIVALENT REGULATORS FOR BALANCING OF ALL VOLUME DAMPERS IN ROOMS WITH DRY WALL CEILINGS.
21. ALL PIPING, CONTROL SYSTEMS AND DUCTWORK EXPOSED IN OCCUPIED SPACES SHALL BE PRIMED BY CONTRACTOR.
22. ALL LOW PRESSURE DUCTWORK ABOVE NON-LAY-IN CEILINGS SHALL BE RIGID SHEET METAL. NO FLEXIBLE DUCTWORK SHALL BE USED.
23. LIGHT FIXTURES ARE NOT USED TO RETURN AIR.
24. AT DUAL TEMPERATURE WATER SUPPLY AND RETURN PIPING HIGH POINTS. PROVIDE MANUAL VENTS. PROVIDE MANUAL GATE VALVES AT BASE OF RISERS.
25. ALL SEISMIC BRACING SHALL COMPLY WITH THE 2018 NC BUILDING CODE. REFER CHAPTERS 16 AND 17 FOR SEISMIC DESIGN AS APPLICABLE.
26. ALL SUPPLY AIR DUCTWORK SHALL BE EXTERNALLY INSULATED WITH AN INSULATION THICKNESS OF 1.5". RETURN AND EXHAUST AIR DUCTWORK SHALL NOT BE INSULATED.
27. ALL EXPOSED DUCTWORK SHALL HAVE AN ARCHITECTURAL FINISH AND LABELING "IMPERFECTIONS REMOVED" BY THE CONTRACTOR.
28. ALL EXPOSED INSULATED DUCTWORK SHALL HAVE A PAINTABLE MASTIC WRAP FOR FINAL PAINT BY THE CONTRACTOR.
29. ROUTE ALL CONTROL CONDUIT, DUCTS AND PIPING IN EXPOSED AREAS TIGHT TO BEAMS, EXTEND PERPENDICULAR TO DEVICE OR EQUIPMENT FROM BEAM. NO EXTENDED RUNS ACROSS EXPOSED CEILINGS WILL BE PERMITTED.
30. THE INTERIOR DUAL TEMPERATURE WATER PIPE SHALL BE INSULATED.
31. MISCELLANEOUS SUPPORTING STEEL FOR ROOF TOP UNITS SHALL BE PROVIDED BY GENERAL CONTRACTOR PER STRUCTURAL ENGINEERS DESIGN.
32. ALL CONTROL AND POWER WIRING EXPOSED IN SPACE FOR HVAC SYSTEM SHALL BE CONCEALED IN WIRE MOLD MOUNTED ON WALL.
33. DUCT DIMENSIONS ARE SHEET METAL DIMENSIONS, ALLOWING FOR 1" THICK LINER. DO NOT INCREASE DUCT DIMENSIONS.
34. EXTERNALLY INSULATE ALL RECTANGULAR CONCEALED S.A. DUCT WITH 2" THICK FIBER GLASS WRAP INSULATION. INSULATION SHALL MEET NFPA-84 REQUIREMENTS.
35. PROVIDE 1" THICK INTERNAL INSULATION LINER WHERE SHOWN ON DRAWINGS. LINER SHALL MEET NFPA-96 REQUIREMENTS.
36. COORDINATE WALL OPENINGS AND ROOF OPENINGS WITH EXISTING CONDITIONS. FIELD MEASURE AND ADJUST TO FIT.
37. BEFORE MAKING WALL OR ROOF OPENINGS, CONSULT WITH FIELD ENGINEER/ARCHITECT.
38. MOUNT THERMOSTAT AND OR SENSOR AT 48" ABOVE FINISHED FLOOR.
39. PROVIDE LOCKABLE CLEAR PLASTIC THERMOSTAT GUARD IN GYMNASIUM.
40. PROVIDE FULL SIZE SCH. 40 CPVC CONDENSATE DRAIN FROM ALL ROOFTOP EQUIPMENT. WITH TRAP. DISCHARGE OF DRAIN SHALL BE 4" ABOVE FIBERGLASS SPLASH BLOCK. SPLASH BLOCK SHALL BE PROVIDED BY THIS CONTRACTOR.
41. PROVIDE SCH. 40 BLACK STEEL GAS PIPE FROM GAS METER TO UNITS AS SHOWN ON PLUMBING DRAWINGS. SUPPORT PIPE AT 6'-0" ON CENTER. M.C. TO PAINT PIPE YELLOW AND MARK PIPE 'G' WITH TAPE MARKER, WRAPPED AROUND PIPE. SUPPORT PIPE ON ROOF USING TREATED WOOD BLOCKS AND STRAPS.
42. CONTRACTOR SHALL PROVIDE OPENINGS IN ROOF FOR THE DUCT PENETRATIONS. PATCHING OF ROOF AFTER CURBS ARE INSTALLED, SHALL BE BY THIS CONTRACTOR.
43. BAS SUBCONTRACTOR TO PROVIDE CONTROLLER AND INTERLOCK TO ALL EXISTING HVAC EQUIPMENT PER POINTS LIST ON MECHANICAL CONTROL PLANS.
44. ALL DUCTWORK ROUTED EXPOSED IN CLASSROOMS SHALL BE HUNG SUSPENDED FROM NEW 1 1/2 x 1 1/2 x 1/4 FRAME ARM MOUNTED TO WALL & BE DUAL WALL WITH PAINT GRIP.

	OUTDOOR	INDOOR
SUMMER	91°F db 74°F wb (2006-I.E.C.)	75°F db +/- 2°F 50% RH +/- 5%RH
WINTER	19°F db	72°F db +/- 2°F (NOTE 1)

NOTES:
1. NO MECHANICAL HUMIDIFICATION IS PROVIDED FOR THIS FACILITY.

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT METHOD OF COMPLIANCE

Prescriptive ☑ Energy Cost Budget ☐

Thermal Zone – 7A (NCSBC ECC 302.1)

Exterior Design Conditions
- winter dry bulb – 18.0°F
- summer dry bulb – 91.0°F

Interior Design Conditions
- winter dry bulb – 72.0°F
- summer dry bulb – 75.0°F
- relative humidity – 50.0% RH

Space Heating Load – Same as Existing

Space Cooling Load – Same as Existing

Mechanical Spacing Conditioning System:
- Unitary
- – description of unit: Water Source Heat Pump
- – heating efficiency : N/A
- – cooling efficiency: N/A
- – heat output of unit: N/A
- – cooling output of unit: N/A
- Boiler: Existing
- –
- Chiller: N/A
- –

List Equipment Efficiencies N/A

Equipment Schedules with Motors (Mechanical Systems) SHEET M001
- motor horsepower – SEE SCHEDULE SHEET M001
- number of phases – 3
- minimum efficiency – 90%
- motor type – Induction
- # of poles – 4 AND 2

DESIGNER STATEMENT:

To the best of my knowledge and belief, the design of this building complies with the mechanical systems, service systems and equipment requirements of the 2018 NC ENERGY CONSERVATION CODE.

NAME: – James Currie, P.E.
TITLE: – Consulting Engineer

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mcmillan pazdan smith ARCHITECTURE
328 W CARSON BLVD
CHARLOTTE, NC 28203

Cleveland County SCHOOLS

Owner:

CLEVELAND COUNTY SCHOOLS
4 HS RENOVATIONS
PHASE 5
HVAC UPGRADES

Central Offices
400 West Marion Street
Shelby, North Carolina 28150

Site:
KINGS MOUNTAIN HIGH SCHOOL

500 Phifer Rd.
Kings Mountain, North Carolina 28086

NORTH CAROLINA PROFESSIONAL SEAL 31418 ENGINEER JAMES C. CURRIE

08/30/2022

COMMISSION NUMBER: 221.014.05

DRAWN BY: JVC
CHECKED BY: JLC
DATE: 08/30/2022

REVISIONS:

Date	Revision Number	Revision Description
7.1.22		Code Review Set
7.13.22		Issue For Permit
8.25.22	1	Update labelling & pipe sizes
9.13.22	2	Addendum 3

DRAWING TITLE:

MECHANICAL LEGEND, NOTES AND DETAILS

DRAWING NUMBER:

M001

Modified: Mar 21, 2011 Modified By: julie Scale: 1/8"=1'-0" Plotted: Sep 13, 2022 - 11:59pm Plotted By: jcurrie, N:\Projects\2021\2014.05 Cleveland CS-Kings Mountain HS MEP Reno\03 - Design\Autocad Drawings\Dw 23 Mech\M001 - Mechanical Legend, Notes and Details.dwg, M001

DEDICATED OUTSIDE AIR UNIT SCHEDULE

		DOAS-1	DOAS-2	DOAS-2	DOAS-4	DOAS-5	DOAS-6
EQUIPMENT NO. (TAG):							
LOCATION:		ROOF	ROOF	ROOF	ROOF	ROOF	ROOF
SERVICE:		GROUND FLOOR BAND AREA AND CLASSROOMS	GROUND FLOOR HOME ECONOMICS AREA	GROUND FLOOR HOME ECONOMICS AREA	LOWER FLOOR CLASSROOM AREAS	GROUND FLOOR AND CLASSROOMS	FIRST & SECOND FLOOR CLASSROOM AREA G
O.A. CFM/EXH. A. CFM		2300/2100	2300/2100	2300/2100	4500/4300	5100/4900	5100/4900
PRE-FILTER	CFM	2300	2300	2300	4500	5100	5100
	TYPE	2" PLEATED	2" PLEATED	2" PLEATED	2" PLEATED	2" PLEATED	2" PLEATED
	EFFICIENCY	MERV 8	MERV 8	MERV 8	MERV 8	MERV 8	MERV 8
	PRESSURE DROP (IN WG)	0.11	0.11	0.11	0.05	0.11	0.11
	DIRTY AIR FILTER ALLOWANCE (IN WG)	--	--	--	--	--	--
FINAL FILTER	CFM	2300	2300	2300	4500	5100	5100
	TYPE	4" PLEATED	4" PLEATED	4" PLEATED	4" PLEATED	4" PLEATED	4" PLEATED
	MERV (EFFICIENCY)	MERV 8	MERV 8	MERV 8	MERV 8	MERV 8	MERV 8
	PRESSURE DROP (IN WG)	0.2	0.2	0.2	0.23	0.55	0.55
	DIRTY AIR FILTER ALLOWANCE (IN WG)	--	--	--	--	--	--
TOTAL ENERGY RECOVERY		OUTDOOR AIR / EXHAUST AIR	OUTDOOR AIR / EXHAUST AIR	OUTDOOR AIR / EXHAUST AIR	OUTDOOR AIR / EXHAUST AIR	OUTDOOR AIR / EXHAUST AIR	OUTDOOR AIR / EXHAUST AIR
	WINTER EAT(°F)/LAT(°F) - DB//DB	18//57.6 72//27.8	18//57.6 72//27.8	18//57.6 72//27.8	18//56.0 72//32.0	18.0//64.8 72//47.3	18.0//64.8 72//47.3
	SUMMER EAT(°F)/LAT(°F) - DB/WB//DB/WB	95.0/78.0/79.9/68.9 75.0/62.5/NA/NA	95.0/78.0/79.9/68.9 75.0/62.5/NA/NA	95.0/78.0/79.9/68.9 75.0/62.5/NA/NA	95.0/78.0/80.5/69.5 75.0/62.5/NA/NA	77.6/68.5/68.5/65.0 75.0/62.5/NA/NA	77.6/68.5/68.5/65.0 75.0/62.5/NA/NA
	ENTHALPY (BTU/LB) - ENTERING/ LEAVING	--/-- --/--	--/-- --/--	--/-- --/--	--/-- --/--	--/-- --/--	--/-- --/--
	AIR QUANTITY - CFM	2300 2100	2300 2100	2300 2100	4500 4300	4900 4900	4900 4900
	MAX. AIR PRES. DROP (IN WG)	0.79	0.79	0.79	0.51	0.53	0.53
	MINIMUM % EFFECTIVENESS	76%	76%	76%	74%	65%	65%
PRECONDITIONED OUTSIDE AIR (PCA) SUPPLY FAN	EXTERNAL STATIC PRESSURE (IN WG)	1.00	1.00	1.00	1.00	1.00	1.00
	TOTAL STATIC PRESSURE (IN WG)	2.18	2.18	2.18	1.78	1.97	1.97
	CFM	2300	2300	2300	4500	4900	4900
	MAXIMUM BHP	1.34	1.34	1.34	1.84	2.25	2.25
	MAXIMUM OUTLET VELOCITY (FT/MIN)	--	--	--	--	--	--
	FAN RPM	1094	1094	1094	1080	1033	1033
	TYPE	DIRECT DRIVE PLUG	DIRECT DRIVE PLUG	DIRECT DRIVE PLUG	DIRECT DRIVE PLUG	DIRECT DRIVE PLUG	DIRECT DRIVE PLUG
	VOLUME CONTROL	VARIABLE SPEED	VARIABLE SPEED	VARIABLE SPEED	VARIABLE SPEED	VARIABLE SPEED	VARIABLE SPEED
	MOTOR HP	6	6	6	3	5	5
	MOTOR RPM	1582	1582	1582	1354	1033	1033
	TYPE	PLUG	PLUG	PLUG	PLUG	PLUG	PLUG
	ELECTRICAL (VOLTS/PHASE/HERTZ)	460/3/60	460/3/60	460/3/60	460/3/60	460/3/60	460/3/60
	FLA	7.0	7.0	7.0	4.0	6.3	6.3
DX HEATING & COOLING GENERAL INFORMATION	COIL AIR QUANTITY (CFM)	2300	2300	2300	4500	4900	4900
	COMPRESSOR TYPE // REFRIGERANT // #CIRCUITS	DIGITAL SCROLL// R410A// 2 Circuits	DIGITAL SCROLL// R410A// 2 Circuits	DIGITAL SCROLL// R410A// 2 Circuits	DIGITAL SCROLL// R410A// 2 Circuits	DIGITAL SCROLL// R410A// 2 Circuits	DIGITAL SCROLL// R410A// 2 Circuits
	MAXIMUM FACE VELOCITY (FT/MIN)	--	--	--	--	--	--
	MAX AIR PRESS DROP (IN WG)	0.26	0.26	0.26	0.15	0.14	0.14
	MIN ROWS	4	4	4	4	4	4
COOLING CYCLE	EAT-DB (°F)/EAT-WB(°F)	79.9/68.8	79.9/68.8	79.9/68.8	80.5/69.5	77.5/68.3	77.5/68.3
	LAT-DB (°F)/LAT-WB(°F)	49.9/49.8	49.9/49.8	49.9/49.8	47.8/47.8	49.4/49.4	49.4/49.4
	TOTAL COOLING MBH	132.4	132.4	132.4	293.7	278.2	278.2
	SENSIBLE MBH	76.3	76.3	76.3	162.9	152.3	152.3
HEATING CYCLE	EAT-DB (°F)	57.6	57.6	57.6	56.0	65	65
	LAT-DB (°F)	98.5	98.5	98.5	104.2	102.9	102.9
	HEAT PUMP CAPACITY (MBH)	106.3	106.3	106.3	241.7	208.9	208.9
	--	--	--	--	--	--	--
ELECTRIC HEATING		SUPPLY SIDE	SUPPLY SIDE	SUPPLY SIDE	SUPPLY SIDE	SUPPLY SIDE	SUPPLY SIDE
	WINTER EAT(°F)/LAT(°F) - DB//DB	-	-	-	-	-	-
	SUMMER EAT(°F)/LAT(°F) - DB//DB	57.6//85.1	57.6//85.1	57.6//85.1	56//75.7	65//85.6	65//85.6
	AIR QUANTITY - CFM	2300	2300	2300	4500	4900	4900
	--	--	--	--	--	--	--
	CAPACITY (KW)	20	20	20	20	20	20
EXHAUST AIR RETURN FAN	EXTERNAL STATIC PRESSURE (IN WG)	1.0	1.0	1.0	1.0	1.0	1.0
	TOTAL STATIC PRESSURE (IN WG)	1.93	1.93	1.93	1.72	2.55	2.55
	CFM	2100	2100	2100	4300	4900	4900
	MAXIMUM BHP	1.19	1.19	1.19	1.89	7.95	7.95
	FAN RPM	1510	1510	1510	1363	2253	2253
	TYPE	DIRECT DRIVE PLUG	DIRECT DRIVE PLUG	DIRECT DRIVE PLUG	DIRECT DRIVE PLUG	DIRECT DRIVE PLUG	DIRECT DRIVE PLUG
	VOLUME CONTROL	VFD	VFD	VFD	VFD	VFD	VFD
	MOTOR HP	6	6	6	3	10	10
	MOTOR RPM	1510	1510	1510	1363	2253	2253
	TYPE	PLUG	PLUG	PLUG	PLUG	PLUG	PLUG
	ELECTRICAL (VOLTS/PHASE/HERTZ)	460/3/60	460/3/60	460/3/60	460/3/60	460/3/60	460/3/60
	FLA	7	7	7	4	12.7	12.7
FLA/MCA/MOP		59.9/68.6/70.0	59.9/68.6/70.0	59.9/68.6/70.0	91.6/106.2/110.0	107.7/123.5/125.0	107.7/123.5/125.0
MINIMUM HEAT PUMP EER / UNIT COMBINED ENERGY RATING							

NOTES:

1. PROVIDE INTEGRAL HEAT PUMP PRE-PIPED/PRE-WIRED AND WITHIN PCU CABINET.
2. UNITS SHALL BE PROVIDED WITH ALL INTERNAL POWER WIRING AND DUAL POINT ELECTRICAL CONNECTION. ALL CONTROLS PROVIDED BY BAS SUB-CONTRACTOR.
3. UNITS TO BE PROVIDED WITH SEISMIC SPRING ISOLATION CURB AND SPRINGS WITH 1" DEFLECTION. ALL INTERNAL FANS SHALL BE PROVIDED WITH 2" SPRING ISOLATORS AND COMPRESSORS WITH NEOPRENE TYPE.
4. UNIT MANUFACTURER SHALL BE VALENT, ANNEXAIR, VENMAR, MUNTERS OR GOVERNAIR.
5. PROVIDE TWO HUMIDITY SENSORS AND TWO CO2 SENSORS PER FLOOR PER UNIT. ONE IN NORTH FACING CLASSROOM AND ONE IN SOUTH FACING CLASSROOM. LOCATE AT THERMOSTAT.

KITCHEN HOOD MAKE UP AIR UNIT SCHEDULE

DESIGNATION	CAPTIVEAIRE MODEL	CFM	E.S.P.	MBH GAS INPUT	MBH OUTPUT	HP	COOLING EAT °F	COOLING LAT °F	HEATING EAT °F	HEATING LAT °F	VOLTS	PHASE	FLA	MCA	MOCP	WEIGHT LBS.	SERVES
MAU-1	V3-D.750-24D-MPU	5750	.350"	482.7	444.1	7.5	93	81.6	18	60	460	3	9.6	12.6	20A	1945	KITCHEN HOOD
MAU-2	V3-D.750-24D-MPU	5750	.350"	482.7	444.1	7.5	93	81.6	18	60	460	3	9.6	12.6	20A	1945	KITCHEN HOOD

NOTES:

1. PROVIDE INSULATED 16" HIGH COMMON CURB FOR MAU-1 & 2, SUPPORT RAIL, ALUMINIZED STEEL HEAT EXCHANGER, CONTROL PANEL INCLUDING STARTER & BAS INTERFACE, GAS PRESSURE REGULATOR, INLET WEATHER HOOD AND MOTOR OPERATED DAMPER, 2" ALUMINUM PERMANENT WASHABLE MEDIA TYPE FILTER WITH METAL FRAME, DISCONNECT. ARRANGEMENT-DB, HINGED ACCESS DOORS.

WATER SOURCE HEAT PUMP SCHEDULE

SYMBOL	CFM	ESP IN.WC	TOTAL MBH	SENS. MBH	GPM	PIPE RUNOUT SIZE	MAX. PRESS. DROP (FT.)	VOLTAGE /PHASE	ELECTRICAL DATA UNIT FLA	ELECTRICAL DATA MIN. CKT. AMP.	ELECTRICAL DATA MAX. FUSE	EER	REFRIG. TYPE	BASIS OF DESIGN
006	237	0.6"	7.7	6.0	1.5	5/8"	2.3	208/1	2.96	3.59	15.0	14.87	R-410A	EXVG
009	314	0.6"	9.1	7.3	2.3	3/4"	4.7	208/1	3.41	4.11	15.0	14.11	R-410A	EXVG
012	418	0.6"	11.8	9.6	3.0	1"	4.6	208/1	5.61	6.86	15.0	15.37	R-410A	EXVG
015	428	0.6"	14.1	10.5	3.8	1"	6.3	208/1	7.23	8.83	15.0	14.77	R-410A	EXVG
018	627	0.6"	18.7	15.0	4.5	1"	4.4	208/1	9.00	10.93	15.0	15.46	R-410A	EXVG
024	760	0.6"	24.5	18.6	6.0	1"	7.8	208/1	10.1	12.35	20.0	16.70	R-410A	EXVG
030	950	0.6"	29.9	23.1	7.5	1 1/4"	10.1	208/1	13.7	16.43	25.0	16.99	R-410A	EXVG
036	1026	0.6"	34.6	25.3	9.0	1 1/4"	7.4	460/3	9.10	10.50	15.0	16.80	R-410A	EXVG
042	1463	0.6"	42.6	33.6	10.5	1 1/4"	10.5	460/3	9.80	11.30	15.0	16.70	R-410A	EXVG
048	1672	0.6"	47.4	37.5	12.0	1 1/2"	9.5	460/3	12.0	12.03	15.0	16.50	R-410A	EXVG
060	2090	0.6"	60.7	47.2	15.0	1 1/2"	8.6	460/3	14.4	16.65	20.0	14.32	R-410A	EXVG
070	2090	0.6"	65.8	48.9	18.0	1 1/2"	9.1	460/3	15.7	18.10	25.0	14.79	R-410A	EXVG
090	3000	0.6"	92.5	68.5	22.5	2"	15.2	460/3	14.3	15.88	20.0	15.10	R-410A	GEVE
120	4000	0.6"	123.2	90.4	30.0	2"	15.9	460/3	18.7	20.65	25.0	14.54	R-410A	GEVE
150	5000	1.0"	163.6	118.5	37.5	2"	14.0	460/3	15.2	27.85	35.0	12.7	R-410A	GEHV
180	6000	1.0"	197.9	183.4	45	2"	19.2	460/3	31	34.05	45.0	12.7	R-410A	GEHV
240	8000	1.2"	267.4	193.9	60	2"	15.2	460/3	43.4	37.58	60.0	15.1	R-410A	GEHV

NOTES:

1. CAPACITIES ARE BASED ON ENTERING AIR - 76°DB/63°WB, ENTERING WATER - 70°.
2. UNITS SHALL BE PROVIDED WITH 12" DEEP LINED RETURN AIR PLENUM, FILTER RACK AND RETURN FLANGE.
3. EACH HEAT PUMP SHALL BE PROVIDED WITH INTERNAL ELECTRIC FLOAT CONTROL SWITCH.
4. PROVIDE HIGH STATIC MOTOR FOR EACH HEAT PUMP AS REQUIRED TO MEET STATIC PRESSURE.
5. PROVIDE SECONDARY DRAIN PAN ON GROUND FLOOR UNITS ABOVE LOWER LEVEL WITH FLOAT SWITCH. ROUTE CONDENSATE TO NEAREST FLOOR DRAIN.
6. UNITS AS MANUFACTURED BY MCQUAY, FHP AND CLIMATE MASTER ARE ACCEPTABLE ALTERNATES. UNITS MUST FIT IN PROVIDED SPACE AND MAINTAIN FULL ACCESSIBILITY PER MANUFACTURER.

CONSOLE WATER SOURCE HEAT PUMP SCHEDULE

SYMBOL	CFM	ESP IN.WC	TOTAL MBH	SENS. MBH	GPM	PIPE RUNOUT SIZE	MAX. PRESS. DROP (FT.)	VOLTAGE /PHASE	ELECTRICAL DATA UNIT FLA	ELECTRICAL DATA MIN. CKT. AMP.	ELECTRICAL DATA MAX. FUSE	EER	REFRIG. TYPE	BASIS OF DESIGN
012	360	0.6"	12.0	9.6	3.0	1/2"	4.6	120/1	0.7	9.8	20.0	13.1	R-410A	McQUAY WMHC1012BALFT01S2
018	475	0.6"	18.0	15.0	4.5	1/2"	4.4	208/1	0.5	6.7	15.0	15.81	R-410A	McQUAY WMHC1018BALFT01S2

NOTES:

1. CAPACITIES ARE BASED ON ENTERING AIR - 76°DB/63°WB, ENTERING WATER - 55° TO 85°.
2. UNITS SHALL BE PROVIDED WITH 12" DEEP LINED RETURN AIR PLENUM, FILTER RACK AND RETURN FLANGE.
3. EACH HEAT PUMP SHALL BE PROVIDED WITH INTERNAL ELECTRIC FLOAT CONTROL SWITCH.
4. PROVIDE HIGH STATIC MOTOR FOR EACH HEAT PUMP AS REQUIRED TO MEET STATIC PRESSURE.
5. PROVIDE SECONDARY DRAIN PAN BELOW SECOND FLOOR UNITS WITH FLOAT SWITCH. ROUTE CONDENSATE OF SECOND FLOOR UNITS TO NEAREST 1ST FLOOR FLOOR DRAIN.
6. UNITS AS MANUFACTURED BY MCQUAY, FHP AND CLIMATE MASTER ARE ACCEPTABLE ALTERNATES. UNITS MUST FIT IN PROVIDED SPACE AND MAINTAIN FULL ACCESSIBILITY PER MANUFACTURER.

ROOFTOP AIR CONDITIONING UNIT SCHEDULE

DESIGNATION	SERVES	LOCATION	SUPPLY AIR CFM	MINIMUM O.A. CFM	EXT. S.P. IN W.G.	MOTOR H.P.	DX COOLING COIL DATA (95° AMB) E.A.T. °F db / wb	DX COOLING COIL DATA (95° AMB) L.A.T. °F db / wb	DX COOLING COIL DATA (95° AMB) SENSIBLE MBH	DX COOLING COIL DATA (95° AMB) TOTAL MBH	ELECTRICAL CONNECTIONS VOLTS/ PHASE	ELECTRICAL CONNECTIONS MCA	ELECTRICAL CONNECTIONS MOCP	UNIT OPERATING WEIGHT WITH CURB LBS	MANUFACTURER	BASIS OF DESIGN	NOTES
RTU-1	BUILDING D	ROOF	2,000	500	0.60"	1.5	80/67	59.0/57.3	45.5	61.1	460/3	14.1	20	852	YORK	YORK SUNLINE SERIES MODEL ZE060H10B4A1AAA1A2	GAS HEAT 100 MBH INPUT (2)(4)(5)(7)(8)(11)(12)
RTU-2	BUILDING D	ROOF	2,000	500	0.60"	1.5	80/67	59.0/57.3	45.5	61.1	460/3	14.1	20	852	YORK		GAS HEAT 100 MBH INPUT (2)(4)(5)(7)(8)(11)(12)
RTU-3	BUILDING D	ROOF	2,000	500	0.60"	1.5	80/67	59.0/57.3	45.5	61.1	460/3	14.1	20	852	YORK	YORK SUNLINE SERIES MODEL **ZE060H10B4A1AAA1A2**	GAS HEAT 100 MBH INPUT (2)(4)(5)(7)(8)(11)(12)
RTU-4	BUILDING D	ROOF	2,000	500	0.60"	1.5	80/67	59.0/57.3	45.5	61.1	460/3	14.1	20	852	YORK	YORK SUNLINE SERIES MODEL ZE060H10B4A1AAA1A2	GAS HEAT 100 MBH INPUT (2)(4)(5)(7)(8)(11)(12)
RTU-5	GYM	ROOF	5,000	800	0.75"	-	78/67	59.3/56.2	139	186	460/3	42	50	2200	TRANE	VOYAGER 15 TON	GAS HEAT, 250 MBH INPUT (1) THROUGH (11)
RTU-6	GYM	ROOF	5,000	800	0.75"	-	78/67	59.3/56.2	139	186	460/3	42	50	2200	TRANE	VOYAGER 15 TON	GAS HEAT, 250 MBH INPUT (1) THROUGH (11)
RTU-7	LOCKERS	ROOF	2,000	500	1.25"	-	78/67	59.3/56.2	139	186	460/3	34	45	1200	TRANE	VOYAGER 6 TON	GAS HEAT 90 MBH INPUT (1) THROUGH (11)
RTU-8	LOCKERS	ROOF	2,000	500	1.25"	-	78/67	59.3/56.2	139	186	460/3	34	45	1200	TRANE	VOYAGER 6 TON	GAS HEAT 90 MBH INPUT (1) THROUGH (11)

NOTES:

1. PROVIDE INSULATED 16" HIGH CURB FOR SLOPED ROOF.
2. SINGLE POINT POWER CONNECTION FOR UNIT. UL OR ETL LISTED.
3. VERIFY SLOPE OF ROOF FOR CURB TO BE LEVEL WITH STRUCTURAL DRAWINGS.
4. EXTERNAL STATIC PRESSURE DOES NOT INCLUDE PRESSURE DROP FOR COOLING COIL, FILTER & FAN SECTIONS.
5. CONTROL'S SUB CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING CONTROL POINTS LISTED ON CONTROL DRAWINGS FOR THE UNIT. DO NOT PROVIDE CONTROL MODULE WITH UNIT.
6. PROVIDE METAL FRAMES WITH REPLACEABLE 2" THICK FILTER MEDIA FOR UNIT.
7. 5-YEAR COMPRESSOR WARRANTY, MINIMUM 2 - COMPRESSORS FOR THE UNIT. R-410A REFRIGERANT.
8. 5 MINUTE TIME DELAY.
9. HIGH EFFICIENCY MOTOR, EER = 10.2.
10. MOTORIZED OUTSIDE AIR DAMPER.
11. PROVIDE WITH CONVENIENCE OUTLET.
12. PROVIDE WITH HORIZONTAL DISCHARGE.

HORIZONTAL ASME DIAPHRAGM EXPANSION TANK SCHEDULE

DESIGNATION	B&G MODEL NO. *	SERVES	VOLUME (GALLONS) TANK	VOLUME (GALLONS) ACCEPTANCE	WEIGHT IN LBS (100% FULL)	REMARKS
ET-01	D-200	CONDENSER WATER	110	34	993	INSTALL BETWEEN JOISTS

* BASIS OF DESIGN

AIR AND DIRT SEPARATOR SCHEDULE

DESIGNATION	SERVES	B&G MODEL NO. *	CAPACITY GPM	MAX. P.D. F.T.	STRAINER	FLOODED WEIGHT (LBS)	REMARKS
AS-1	CONDENSER WATER	CRS-6F-HV-MAG	550	3	YES	500	WITH MAGNETS -

* BASIS OF DESIGN

CLOSED CIRCUIT COOLING UNIT SCHEDULE

DESIG	NOMINAL GPM	WATER SIDE E.W.T. °F	WATER SIDE L.W.T. °F	WATER SIDE P.D. PSI	AIRSIDE FAN HP	AIRSIDE E.A.T. WB°F	UNIT MIN. CAPACITY (MBH)	RECIRC. PUMP HP	SUMP HEATER KW	VOLTS PHASE	MAX UNIT DIMEN. L X W X H	OPERATING WEIGHT LBS.	DESIGN BASED ON MANUFACTURER AND MODEL NO.
CC-1	560	96	86	15	(2)25	78	3,600	(2)3	(2)5	460/1	18'0"X12'0"X16'6"	53,500	EVACPO SERIES ATWB MODEL 17-7L12-ZR ALL STAINLESS STEEL UNIT CASE AND SUMP.

NOTES:

1. MANUFACTURER TO PROVIDE UNIT MOUNTED RECIRCULATING PUMP, VIBRATION SWITCH, GEAR DRIVEN FANS, BASIN HEATER WITH BAS CONTROL, FILL VALVE AND FLOAT, AND POSITIVE CLOSURE DAMPERS WITH CONTROLS. SIDE OUTLET DRAIN/OVERFLOW.
2. PROVIDE ENTIRE UNIT WITH STAINLESS STEEL CONSTRUCTION. THIS INCLUDES CASING, AND BASIN ELEMENTS, COIL SHALL BE STANDARD GALVANIZED.
3. UNIT TO HAVE VFD FAN CONTROL, ONE PER FAN. LOCATE VFD IN BOILER ROOM BELOW UNIT.
4. MC TO PROVIDE SEISMIC SPRING ISOLATION CURB BELOW UNIT WITH 2.5"SPRING DEFLECTION, SIMILAR TO VIBRO ACOUSTICS COOLING-TOWER SPRING ISOLATION PLATFORM. FIELD COORDINATE FINAL UNIT SIZE.
5. FINAL PIPE CONNECTION TO UNIT TO BE COMPLETED USING FLEX. CONNECTIONS.
6. SUPPLY SHUTOFF VALVES, THERMOMETERS AND PRESSURE GAUGES AT SUPPLY AND RETURN PIPING. THESE ARE IN ADDITION TO ALL DDC SENSORS REQUIRED.

PUMP SCHEDULE

DESIGNATION	B&G MODEL NO.	TYPE	GPM	HEAD FT.	MOTOR DATA H.P.	MOTOR DATA VOLTS	MOTOR DATA PHASE	RPM	MIN. PUMP EFF. (%)	REMARKS	SERVICE
CP-1	4030-5 X 4 X 10	2	600	120'	25	460	3	1750	75	2	CONDENSER WATER
CP-2	4030-5 X 4 X 10	2	600	120'	25	460	3	1750	75	2	CONDENSER WATER

TYPE:
1. VERTICAL SPLIT CASE DOUBLE SUCTION.
2. END SUCTION.
3. IN-LINE CENTRIFUGAL.

REMARKS:
1. CONSTANT SPEED PUMP. BOILER PRIMARY PUMP. WIRE TOGETHER, PROVIDE AUX INPUT FOR START/STOP.
2. VARIABLE SPEED PUMP. 100% LEAD/LAG.

2
3

CMTA
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704.376.7072 cmta.com
C-4556

mcmillan pazdan smith ARCHITECTURE
328 W CARSON BLVD
CHARLOTTE, NC 28203

Cleveland County SCHOOLS

Owner:

CLEVELAND COUNTY SCHOOLS
4 HS RENOVATIONS
PHASE 5
HVAC UPGRADES

Central Offices
400 West Marion Street
Shelby, North Carolina 28150

Site:

KINGS MOUNTAIN HIGH SCHOOL

500 Phifer Rd.
Kings Mountain, North Carolina 28086

NORTH CAROLINA PROFESSIONAL SEAL 018762 ENGINEER JAMES L. CURRIE

08/30/2022

COMMISSION NUMBER: 221.014.05

DRAWN BY: JVC
CHECKED BY: JLC
DATE: 08/30/2022
REVISIONS:

Date	Revision Number	Revision Description
7.1.22		Code Review Set
7.13.22		Issue For Permit
8.25.22	2	Update labelling & pipe sizes
9.13.22	3	Addendum 3

DRAWING TITLE:
MECHANICAL SCHEDULES

DRAWING NUMBER:
M002

2

ELECTRIC UNIT HEATER SCHEDULE

DESIGNATION	LOCATION	TYPE	RECESSED MOUNT	CFM	CAPACITY MBH	KW	VOLTS	PHASE	FINISH	BASIS OF DESIGN MANUFACTURER	BASIS OF DESIGN MODEL NUMBER	WEIGHT	REMARKS
EFH-A1	CORRIDOR BUILDING A	WALL MOUNTED VERTICAL CABINET	NO	300	7.69	3.0	208	1	BAKED ENAMEL	TRANE	FFBB030	97 LBS	UNIT MOUNTED CONTROLLER AND THERMOSTAT WITH BACNET INTERFACE
EFH-C1	ENTRY BUILDING B	WALL MOUNTED VERTICAL CABINET	NO	300	7.69	3.0	208	1	BAKED ENAMEL	TRANE	FFBB030	97 LBS	UNIT MOUNTED CONTROLLER AND THERMOSTAT WITH BACNET INTERFACE
EFH-B1	CORRIDOR BUILDING B	WALL MOUNTED VERTICAL CABINET	NO	300	7.69	3.0	208	1	BAKED ENAMEL	TRANE	FFBB030	97 LBS	UNIT MOUNTED CONTROLLER AND THERMOSTAT WITH BACNET INTERFACE
EFH-B2	CORRIDOR BUILDING C	WALL MOUNTED VERTICAL CABINET	NO	300	7.69	3.0	208	1	BAKED ENAMEL	TRANE	FFBB030	97 LBS	UNIT MOUNTED CONTROLLER AND THERMOSTAT WITH BACNET INTERFACE
EFH-D1	CORRIDOR BUILDING B	WALL MOUNTED VERTICAL CABINET	NO	300	7.69	3.0	208	1	BAKED ENAMEL	TRANE	FFBB030	97 LBS	UNIT MOUNTED CONTROLLER AND THERMOSTAT WITH BACNET INTERFACE
EFH-D2	CORRIDOR BUILDING C	WALL MOUNTED VERTICAL CABINET	NO	300	7.69	3.0	208	1	BAKED ENAMEL	TRANE	FFBB030	97 LBS	UNIT MOUNTED CONTROLLER AND THERMOSTAT WITH BACNET INTERFACE
EFH-F1	CORRIDOR BUILDING D	WALL MOUNTED VERTICAL CABINET	NO	300	7.69	3.0	208	1	BAKED ENAMEL	TRANE	FFBB030	97 LBS	UNIT MOUNTED CONTROLLER AND THERMOSTAT WITH BACNET INTERFACE
EFH-F2	CORRIDOR BUILDING D	WALL MOUNTED VERTICAL CABINET	NO	300	7.69	3.0	208	1	BAKED ENAMEL	TRANE	FFBB030	97 LBS	UNIT MOUNTED CONTROLLER AND THERMOSTAT WITH BACNET INTERFACE
EFH-G1	CORRIDOR BUILDING F	WALL MOUNTED VERTICAL CABINET	NO	300	7.69	3.0	208	1	BAKED ENAMEL	TRANE	FFBB030	97 LBS	UNIT MOUNTED CONTROLLER AND THERMOSTAT WITH BACNET INTERFACE
EFH-G2	BOYS BUILDING F	WALL MOUNTED VERTICAL CABINET	NO	300	7.69	3.0	208	1	BAKED ENAMEL	TRANE	FFBB030	97 LBS	UNIT MOUNTED CONTROLLER AND THERMOSTAT WITH BACNET INTERFACE

NOTES:

BAKED

FAN SCHEDULE

DESIGNATION	SERVES	LOCATION	BASIS OF DESIGN	CFM	E.S.P.	TYPE	DRIVE	MOTOR HP	VOLTS/PHASE	WEIGHT LBS	CONTROL	COMMENTS
EF-01	BOYS AND GIRLS LOCKER ROOMS GYM / AREA A	ROOF	GREENHECK MODEL G-160-VG	4090	1.0"	UPBLAST	DIRECT	2	460/3	115	BAS	ORGINALLY NUMBERED VF-19 / NOTE 1 & 3
EF-02	BOYS AND GIRLS TOILETS ROOMS 129A/129B / AREA A	ROOF	GREENHECK MODEL G-099-VG	680	1.0"	UPBLAST	DIRECT	1/4	120/1	59	BAS	ORGINALLY NUMBERED VF-17 / NOTE 1 & 3
EF-03	BAND INSTRUMENTS ROOM 126 / AREA D	ROOF	GREENHECK MODEL G-100HP-VG	300	1.0"	UPBLAST	DIRECT	1/4	115/1	59	BAS	ORGINALLY NUMBERED VF-16 / NOTE 1 & 3
EF-04	STORAGE OFFICE AND TOILET ROOM / CHORUS / AREA D	ROOF	GREENHECK MODEL G-095-VG	400	0.75"	UPBLAST	DIRECT	1/6	115/1	48	BAS	ORGINALLY NUMBERED VF-15 / NOTE 1 & 3
EF-05	KITCHEN TOILETS AREA E	ROOF	GREENHECK MODEL G-097-VG	120	0.50"	UPBLAST	DIRECT	1/4	115/1	59	BAS	ORGINALLY NUMBERED VF-8 / NOTE 1 & 3
EF-06	KITCHEN HOOD AREA E	ROOF	GREENHECK MODEL CUBE 360-30	11,500	0.5"	UPBLAST	DIRECT	3	115/1	361	BAS	ORGINALLY NUMBERED VF-7 / NOTE 1 & 3
EF-07	KITCHEN AREA E	ROOF	GREENHECK MODEL G-080-VG	300	0.5"	UPBLAST	DIRECT	1/10	115/1	52	BAS	ORGINALLY NUMBERED VF-24 / NOTE 1 & 3
EF-08	ADMINISTRATION AREA AREA B	ROOF	GREENHECK MODEL G-097-VG	120	0.5"	UPBLAST	DIRECT	1/4	208/1	59	BAS	ORGINALLY NUMBERED VF-12 / NOTE 1 & 3
EF-09	BOYS AND GIRLS TOILETS ADMINISTRATION / AREA B	ROOF	GREENHECK MODEL G-090-VG	580	0.5"	UPBLAST	DIRECT	1/10	115/1	45	BAS	ORGINALLY NUMBERED VF-11 / NOTE 1 & 3
EF-10	LOWER LEVEL TOILET ROOMS AREA F1	ROOF	GREENHECK MODEL G-120-VG	1590	0.5"	UPBLAST	DIRECT	1/2	115/1	70	BAS	ORGINALLY NUMBERED VF-3 / NOTE 1 & 3
EF-11	STORAGE ROOM CLASSROOM 109/111 AREA C	ROOF	GREENHECK MODEL G-095-VG	300	0.75"	UPBLAST	DIRECT	1/6	115/1	48	BAS	ORGINALLY NUMBERED VF-10 / NOTE 1 & 3
EF-12	STORAGE ROOM/ CLASSROOM 112/113 AREA C	ROOF	GREENHECK MODEL G-095-VG	300	0.75"	UPBLAST	DIRECT	1/6	115/1	48	BAS	ORGINALLY NUMBERED VF-9 / NOTE 1 & 3
EF-13	STORAGE ROOM/ CLASSROOM 114/115 AREA F1	ROOF	GREENHECK MODEL G-095-VG	300	0.75"	UPBLAST	DIRECT	1/6	115/1	48	BAS	ORGINALLY NUMBERED VF-6 / NOTE 1 & 3
EF-14	LOWER LEVEL STORAGE / BOYS AND GIRLS TOILETS AREA F1	ROOF	GREENHECK MODEL G-120-VG	1820	0.75"	UPBLAST	DIRECT	1/2	115/1	70	BAS	ORGINALLY NUMBERED VF-2 / NOTE 1 & 3
EF-15	BOYS AND GIRLS TOILETS AREA E	ROOF	GREENHECK MODEL G-099-VG	700	0.75"	UPBLAST	DIRECT	1/4	115/1	59	BAS	ORGINALLY NUMBERED VF-5 / NOTE 1 & 3
EF-16	STORAGE ROOMS AND TOILET ROOMS 116/117 AREA E	ROOF	GREENHECK MODEL G-120-VG	1180	0.75"	UPBLAST	DIRECT	1/2	115/1	67	BAS	ORGINALLY NUMBERED VF-4 / NOTE 1 & 3
EF-17	LOWER LEVEL ELECTRICAL ROOM / AREA F2	WALL	GREENHECK MODEL AER-20-VG	1400	0.75"	WALL	DIRECT	1/2	115/1	70	THERMOSTAT	ORGINALLY NUMBERED VF-21 / NOTE 2
EF-18	LOWER LEVEL SCIENCE CLASSROOM / AREA F2	WALL	GREENHECK MODEL AER-20-VG	300	0.75"	WALL	DIRECT	1/2	115/1	70	WALL SWITCH	NUMBERED VF-25, NOT SCHEDULED / NOTE 2
EF-19	LOWER LEVEL CLASSROOM 119 AREA F1	ROOF	GREENHECK MODEL G-100-VG	1000	0.75"	UPBLAST	DIRECT	1/4	115/1	59	BAS	ORGINALLY NUMBERED VF-20 / NOTE 1 & 3
EF-20	LOWER LEVEL ELECTRICAL ROOM AREA F1	WALL	GREENHECK MODEL AER-20-VG	300	0.75"	WALL	DIRECT	1/2	115/1	162	THERMOSTAT	NUMBERED VF-26, NOT SCHEDULED / NOTE 2
EF-21	CLASSROOM 132 AREA B	ROOF	GREENHECK MODEL G-120-VG	1180	0.75"	UPBLAST	DIRECT	1/2	115/1	67	BAS	ORGINALLY NUMBERED VF-23 / NOTE 1 & 3
EF-22	CLASSROOM 131 AREA B	ROOF	GREENHECK MODEL G-120-VG	1180	0.75"	UPBLAST	DIRECT	1/2	115/1	67	BAS	ORGINALLY NUMBERED VF-22 / NOTE 1 & 3

NOTES:

1. PROVIDE NEW ROOF CURB WITH BIRDSCREEN.
2. PROVIDE WITH SHORT WALL HOUSING, VERTICAL MOUNT EXHAUST DAMPER GREENHECK MODEL WD-320, DAMPER GUARD & DISCONNECT.
3. PROVIDE WITH HORIZONTAL MOUNT EXHAUST DAMPER, GREENHECK MODEL BD-100 .
4. EXISTING EXHAUST FANS VF-13 (2 FANS), VF-14, AND VF-18 WERE PREVIOUSLY DEMOLISHED. VF-1 IS DEMOLISHED DURING DEMOLITION.

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NORTH CAROLINA PROFESSIONAL SEAL 31480 ENGINEER JAMES L. CURRIE

08/30/2022

COMMISSION NUMBER: 221.014.05

DRAWN BY: JVC

CHECKED BY: JLC

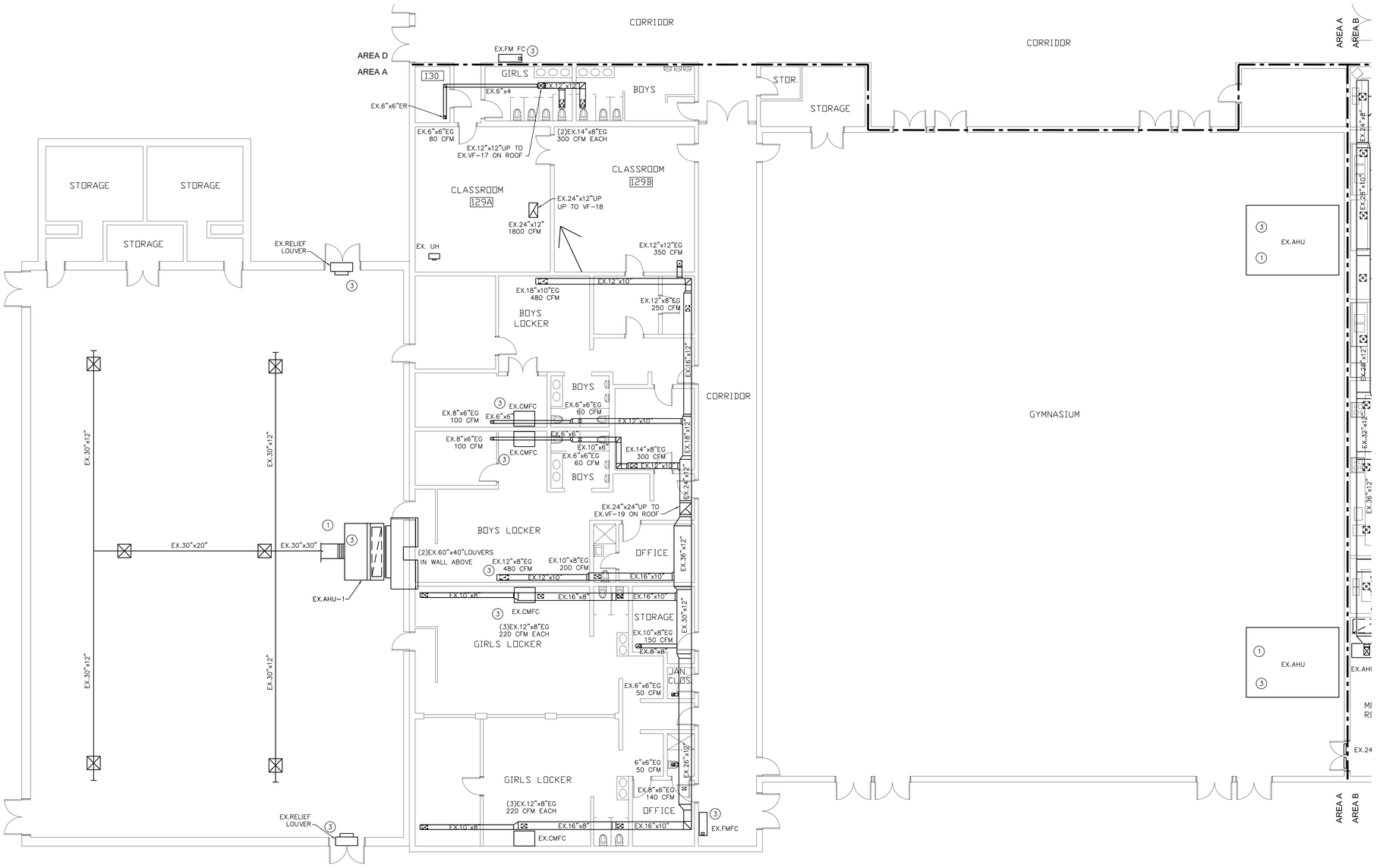
DATE: 08/30/2022

REVISIONS:

Date	Revision Number	Revision Description
7.1.22		Code Review Set
7.13.22		Issue For Permit
8.25.22	1	Update labelling & pipe sizes
9.13.22	2	Addendum 3

DRAWING TITLE:
MECHANICAL SCHEDULES

DRAWING NUMBER:
M003

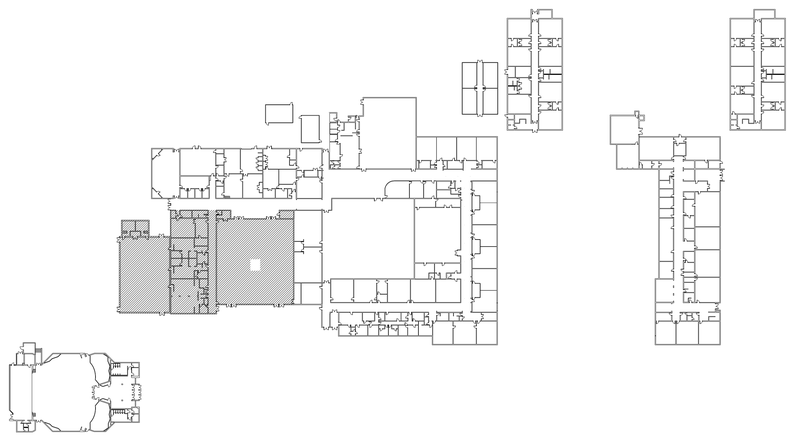


HVAC FLOOR PLAN – AREA A DUCTWORK DEMOLITION

1/M101A SCALE: 1/8"=1'-0"

NORTH

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



KEYED NOTES:

1. REMOVE DUCTWORK ABOVE CEILING.
2. CLOSE RETURN OPENINGS AND ABANDONE BELOW SLAB.
3. REMOVE EXISTING UNIT VENTILATOR / FAN COIL UNIT AND PIPING AND THERMOSTAT/TEMP SENSOR FROM WALL.

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NORTH CAROLINA PROFESSIONAL SEAL ENGINEER JAMES L. CARRIE

08/30/2022

COMMISSION NUMBER: 221.014.05

DRAWN BY: JVC

CHECKED BY: JLC

DATE: 08/30/2022

REVISIONS:

Date	Revision Number	Revision Description
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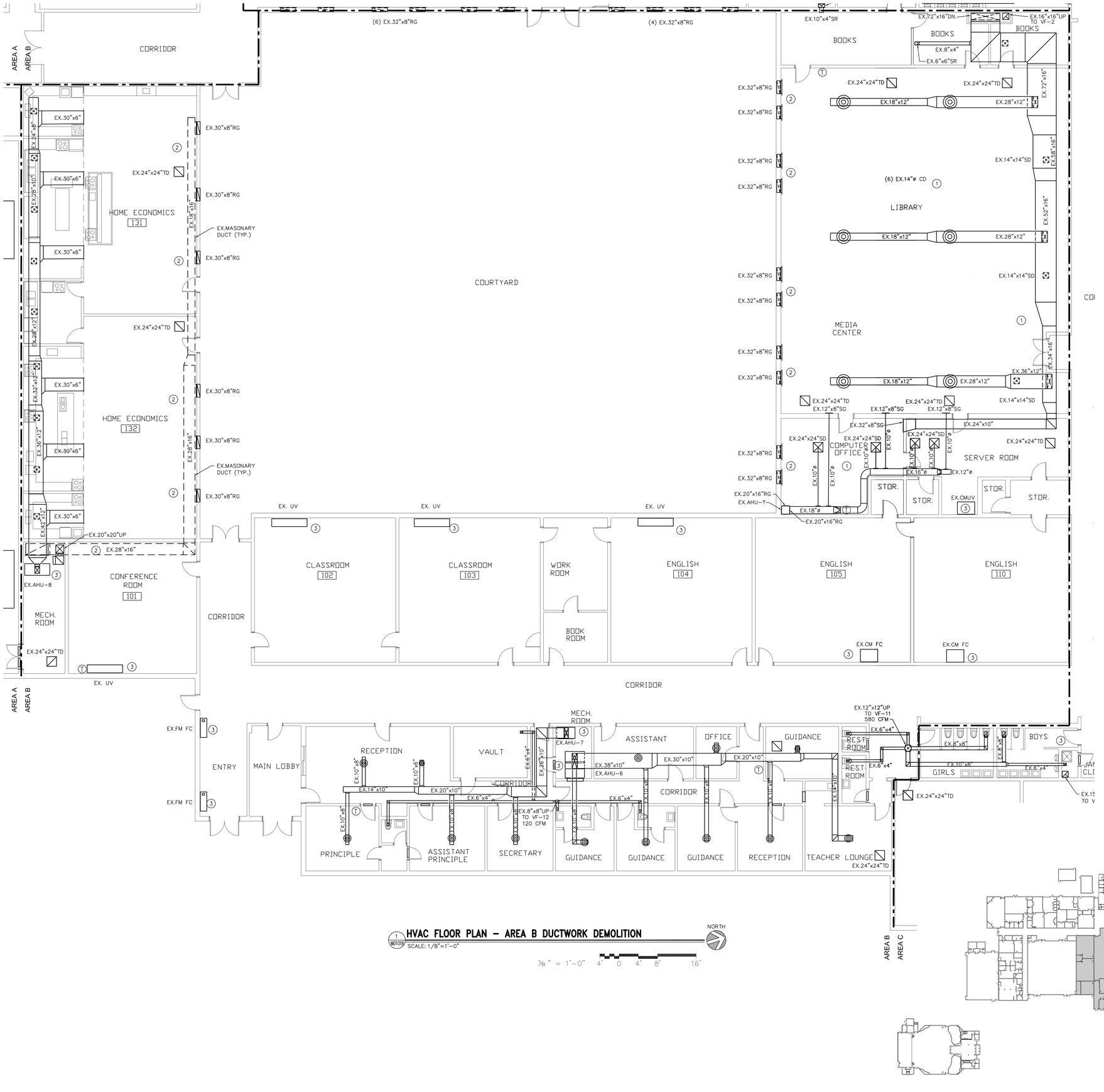
7.13.22		Issue For Permit
8.25.22	1	Update labelling & pipe sizes
9.13.22	2	Addendum 3

DRAWING TITLE:

HVAC FLOOR PLAN - AREA A DUCTWORK DEMOLITION

DRAWING NUMBER:

MD101A



KEYED NOTES:

1. REMOVE DUCTWORK ABOVE CEILING.
2. CLOSE RETURN OPENINGS AND ABANDONE BELOW SLAB.
3. REMOVE EXISTING UNIT VENTILATOR / FAN COIL UNIT AND PIPING AND THERMOSTAT/TEMP SENSOR FROM WALL.

1 MD101B — **HVAC FLOOR PLAN – AREA B DUCTWORK DEMOLITION**

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

NORTH

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

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NORTH CAROLINA PROFESSIONAL SEAL 31478 ENGINEER JAMES L. CURRIE II

08/30/2022

COMMISSION NUMBER: 221.014.05

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CHECKED BY: JLC
DATE: 08/30/2022
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Date	Revision Number	Revision Description
7.1.22		Code Review Set
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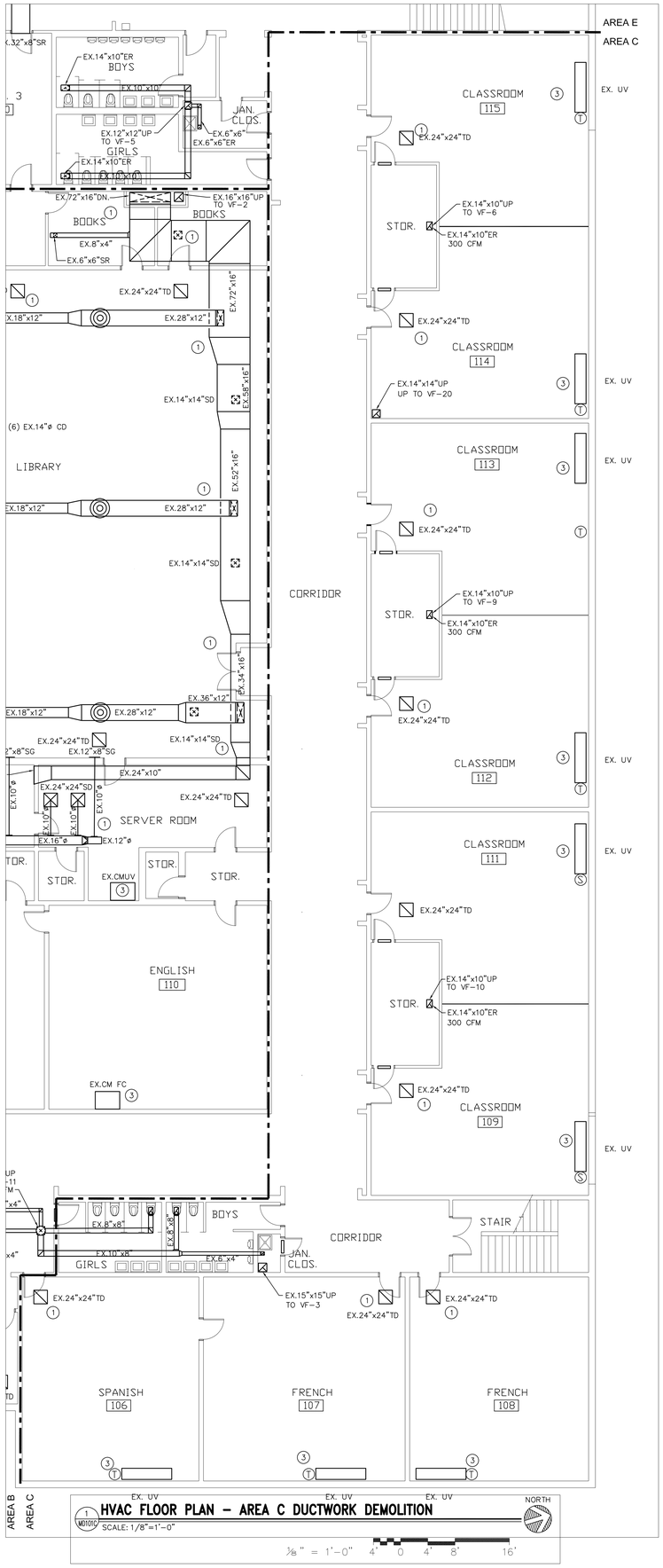
8.25.22	1	Update labelling & pipe sizes
9.13.22	2	Addendum 3

DRAWING TITLE:

HVAC FLOOR PLAN - AREA B DUCTWORK DEMOLITION

DRAWING NUMBER:

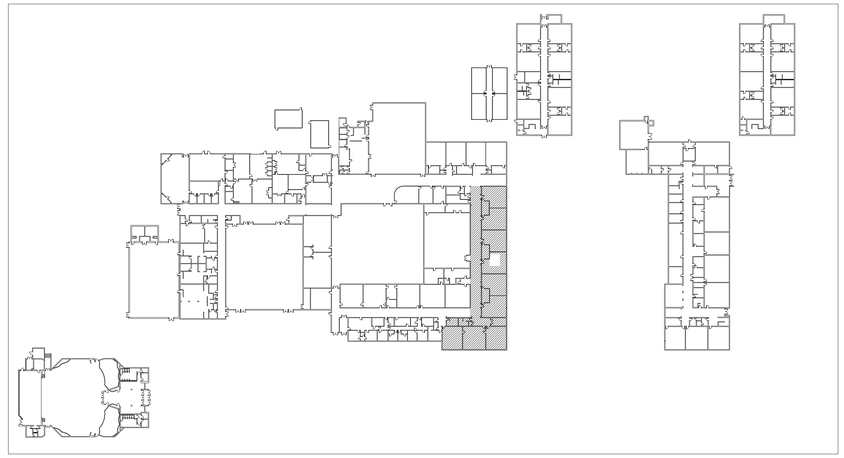
MD101B



1 MD101C **HVAC FLOOR PLAN – AREA C DUCTWORK DEMOLITION**
SCALE: 1/8"=1'-0"

KEYED NOTES:

1. REMOVE DUCTWORK ABOVE CEILING.
2. CLOSE RETURN OPENINGS AND ABANDONE BELOW SLAB.
3. REMOVE EXISTING UNIT VENTILATOR / FAN COIL UNIT AND PIPING AND THERMOSTAT/TEMP SENSOR FROM WALL.



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NORTH CAROLINA PROFESSIONAL SEAL 041472 ENGINEER JAMES L. CLARKE

08/30/2022

COMMISSION NUMBER: 221.014.05

DRAWN BY: JVC
CHECKED BY: JLC
DATE: 08/30/2022

REVISIONS:

Date	Revision Number	Revision Description
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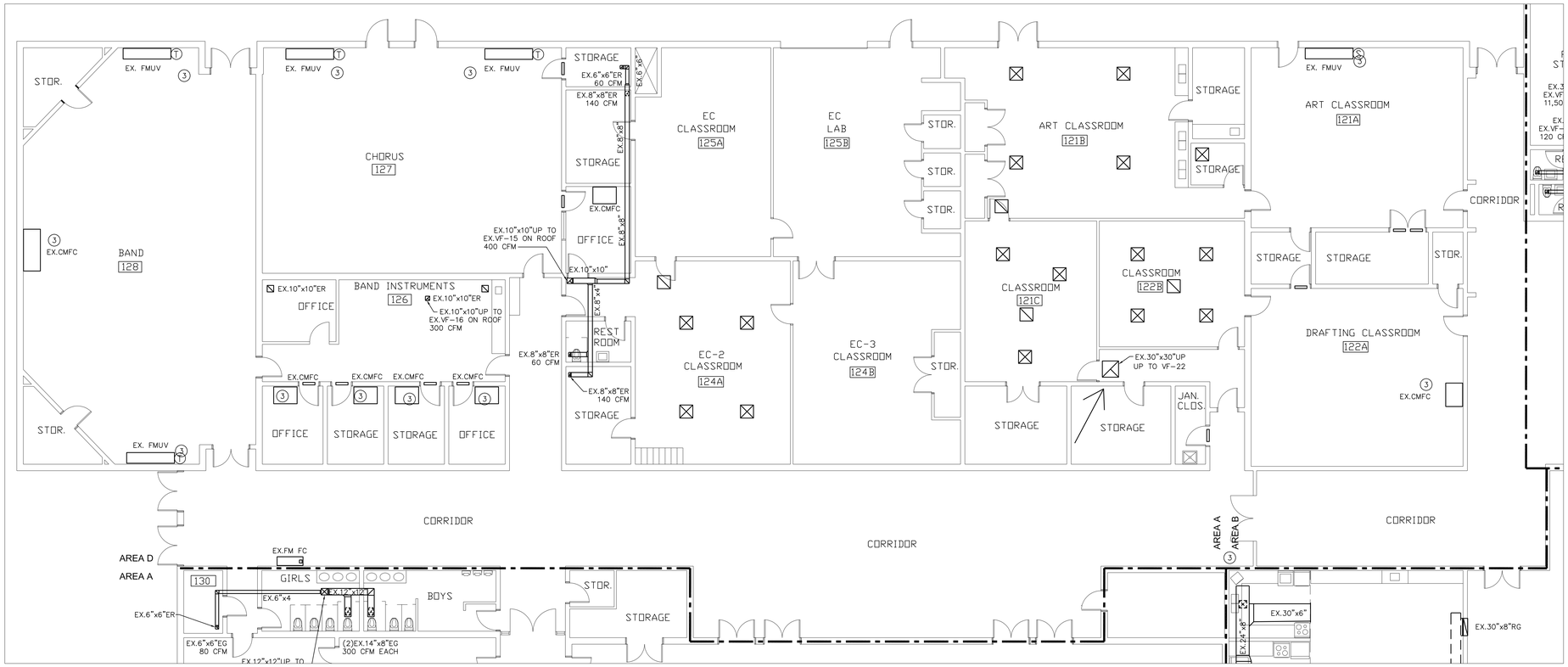
8.25.22	1	Update labelling & pipe sizes
9.13.22	2	Addendum 3

DRAWING TITLE:
HVAC FLOOR PLAN - AREA C DUCTWORK DEMOLITION

DRAWING NUMBER:
MD101C



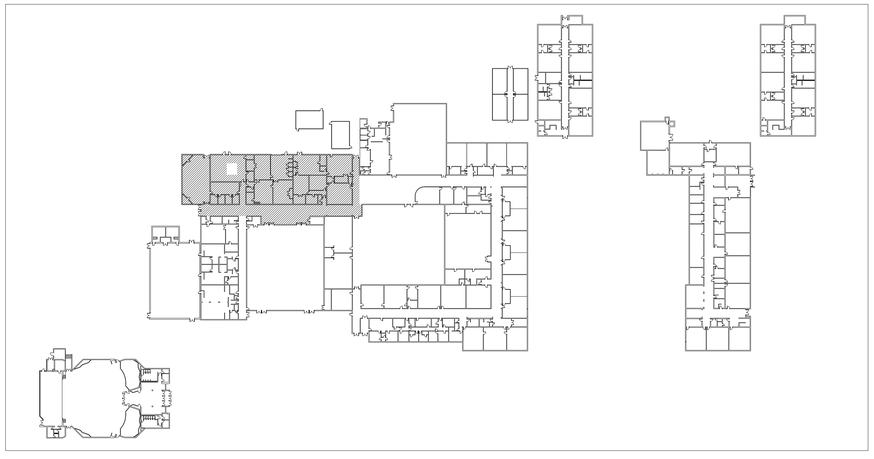
1 MD101D HVAC FLOOR PLAN – AREA D DUCTWORK DEMOLITION
SCALE: 1/8"=1'-0"

NORTH

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

KEYED NOTES:

1. REMOVE DUCTWORK ABOVE CEILING.
2. CLOSE RETURN OPENINGS AND ABANDONE BELOW SLAB.
3. REMOVE EXISTING UNIT VENTILATOR / FAN COIL UNIT AND PIPING AND THERMOSTAT/TEMP SENSOR FROM WALL.



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08/30/2022

COMMISSION NUMBER: 221.014.05

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Date	Revision Number	Revision Description
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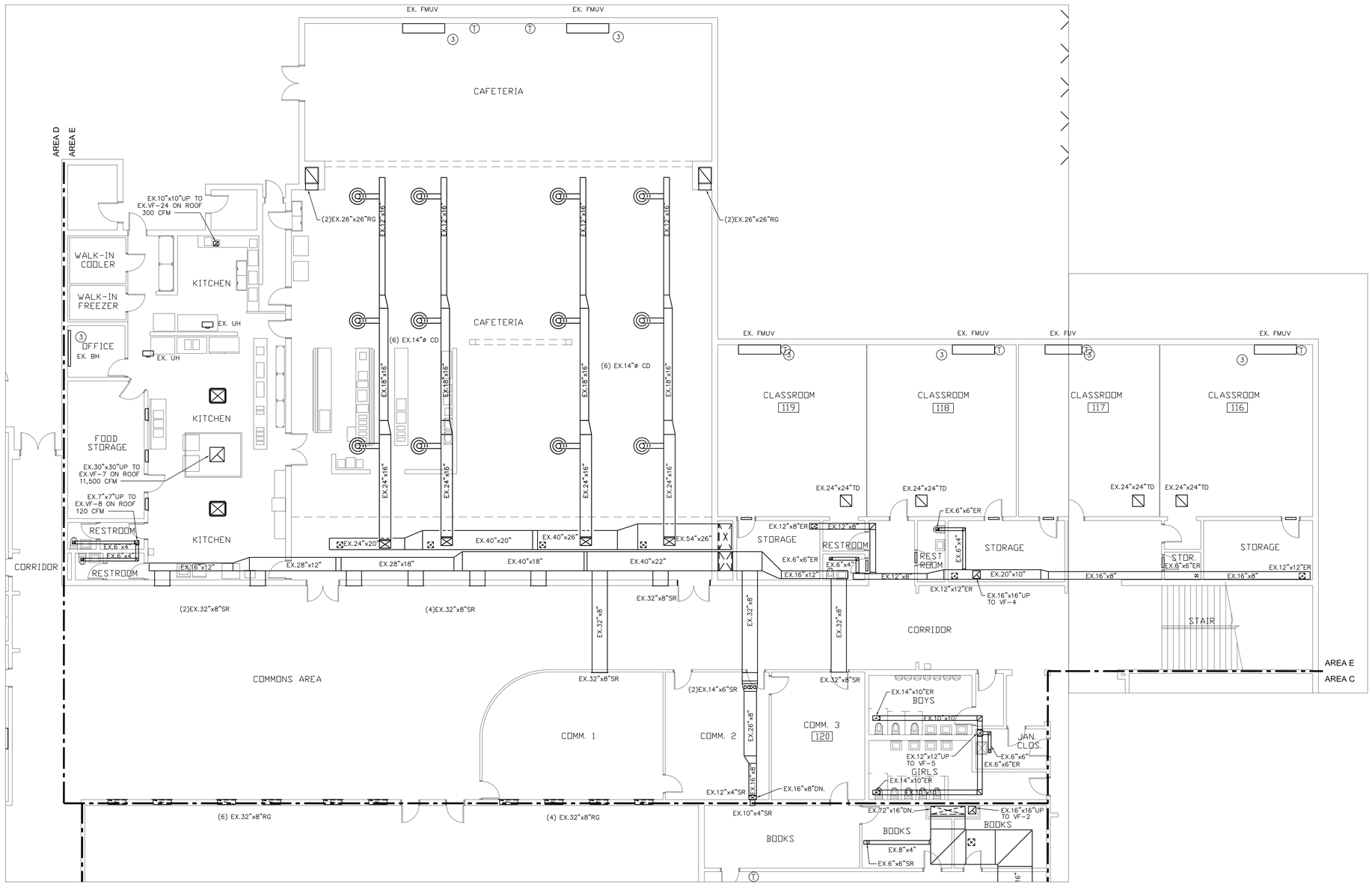
7.13.22		Issue For Permit
8.25.22	1	Update labelling & pipe sizes
9.13.22	2	Addendum 3

DRAWING TITLE:
HVAC FLOOR PLAN - AREA D DUCTWORK DEMOLITION

DRAWING NUMBER:
MD101D

KEYED NOTES:

1. REMOVE DUCTWORK ABOVE CEILING.
2. CLOSE RETURN OPENINGS AND ABANDONE BELOW SLAB.
3. REMOVE EXISTING UNIT VENTILATOR / FAN COIL UNIT AND PIPING AND THERMOSTAT/TEMP SENSOR FROM WALL.

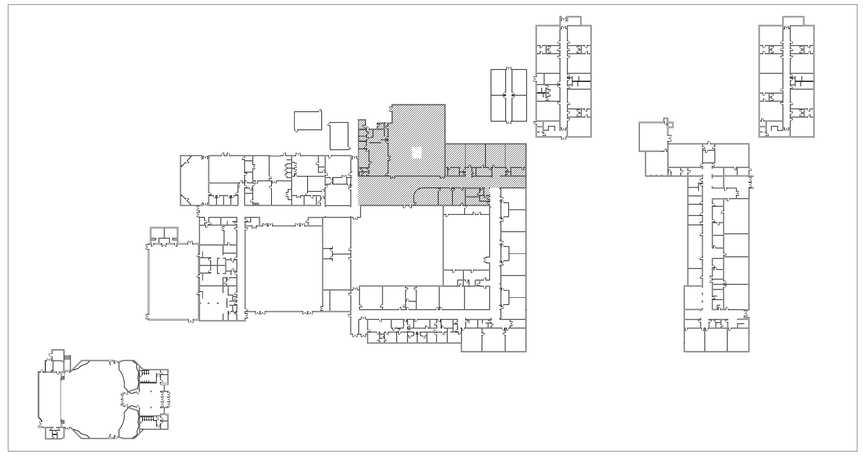


1 MD101E **HVAC FLOOR PLAN – AREA E DUCTWORK DEMOLITION**

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

NORTH

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



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08/30/2022

COMMISSION NUMBER: 221.014.05

DRAWN BY: JVC

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DATE: 08/30/2022

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Date	Revision Number	Revision Description
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7.13.22		Issue For Permit
8.25.22	1	Update labelling & pipe sizes
9.13.22	2	Addendum 3

DRAWING TITLE:

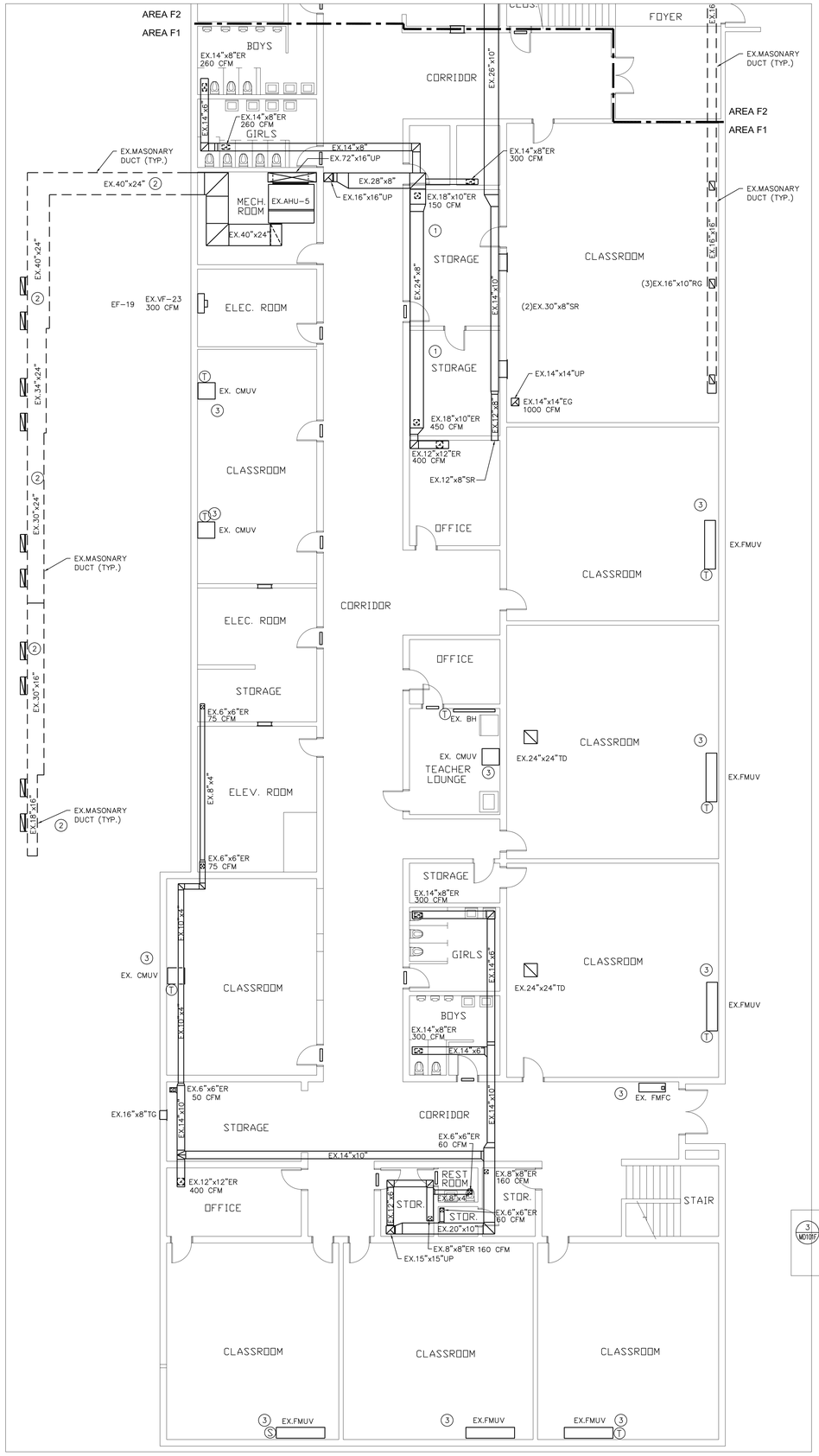
HVAC FLOOR PLAN - AREA E DUCTWORK DEMOLITION

DRAWING NUMBER:

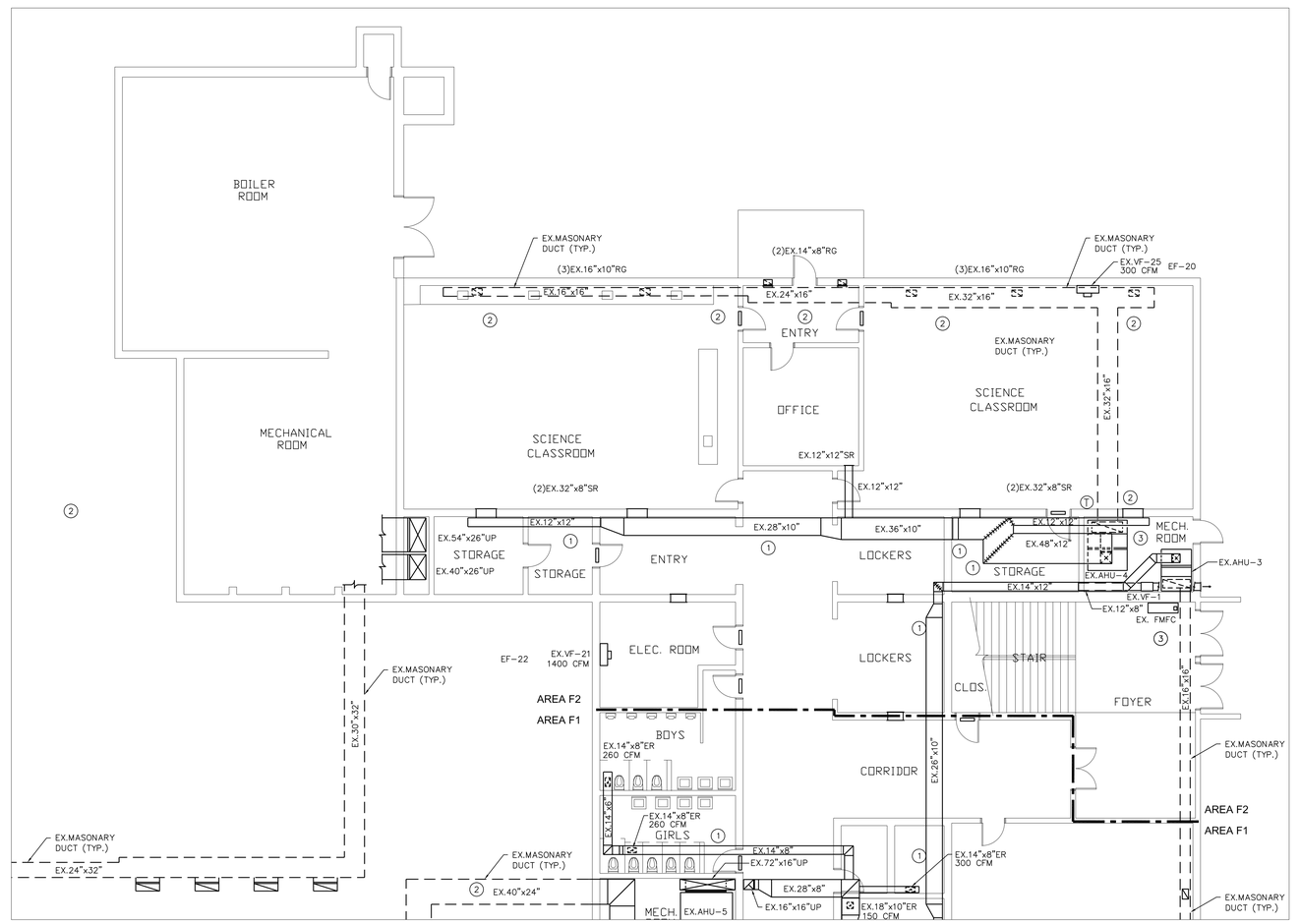
MD101E

KEYED NOTES:

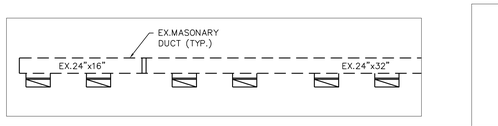
1. REMOVE DUCTWORK ABOVE CEILING.
2. CLOSE RETURN OPENINGS AND ABANDONE BELOW SLAB.
3. REMOVE EXISTING UNIT VENTILATOR / FAN COIL UNIT AND PIPING AND THERMOSTAT/TEMP SENSOR FROM WALL.



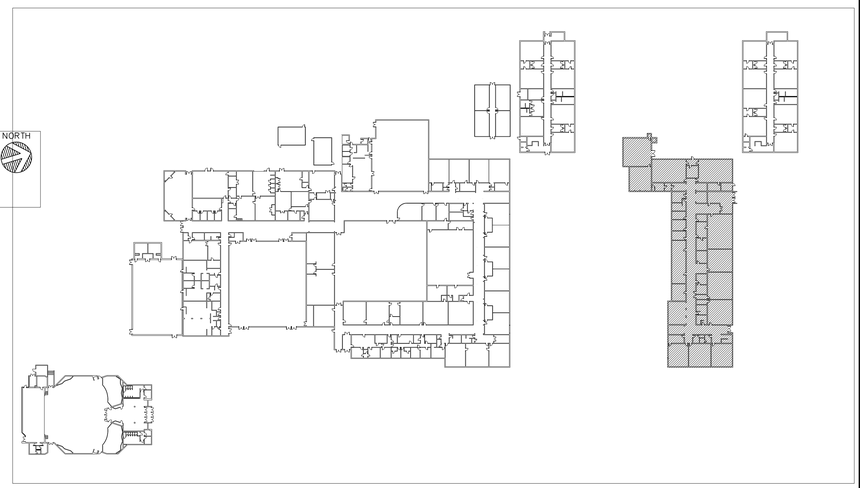
1 M0101F **HVAC FLOOR PLAN – AREA F1 DUCTWORK DEMOLITION**
SCALE: 1/8"=1'-0"



2 M0101F **HVAC FLOOR PLAN – AREA F2 DUCTWORK DEMOLITION**
SCALE: 1/8"=1'-0"



3 M0101F **HVAC FLOOR PLAN – AREA F2 DUCTWORK DEMOLITION CONT.**
SCALE: 1/8"=1'-0"



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NORTH CAROLINA PROFESSIONAL SEAL ENGINEER JAMES L. CARR II
08/30/2022

COMMISSION NUMBER: 221.014.05

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Date	Revision Number	Revision Description
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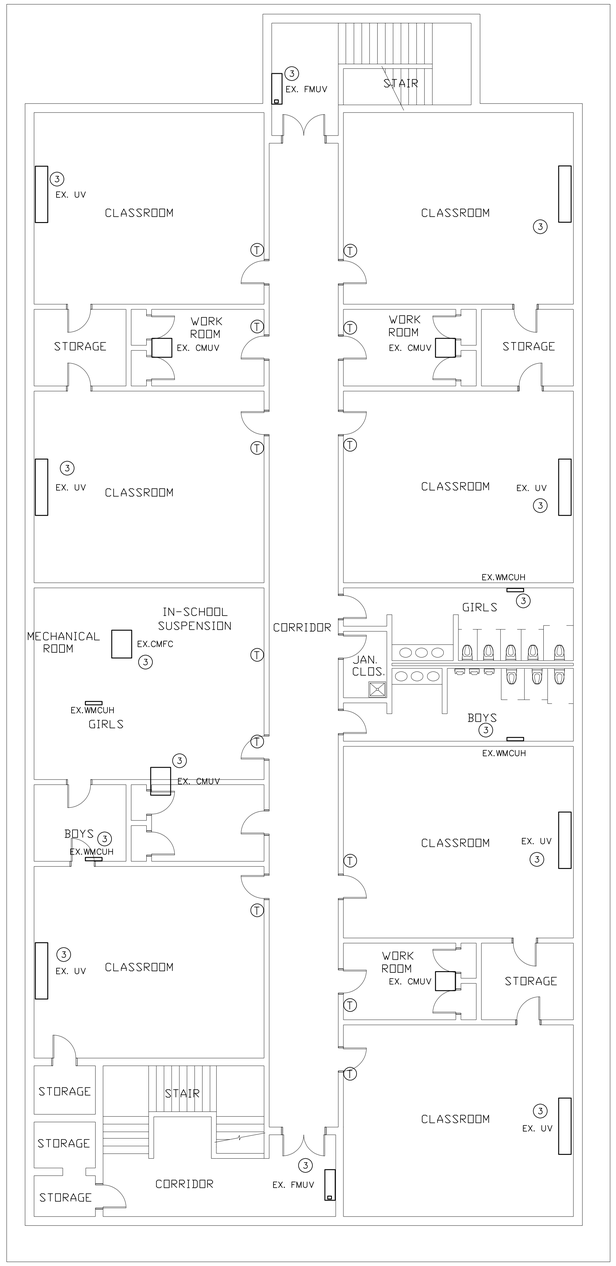
8.25.22	1	Update labelling & plan sizes
9.13.22	2	Addendum 3

DRAWING TITLE:
HVAC FLOOR PLAN - AREA F DUCTWORK DEMOLITION

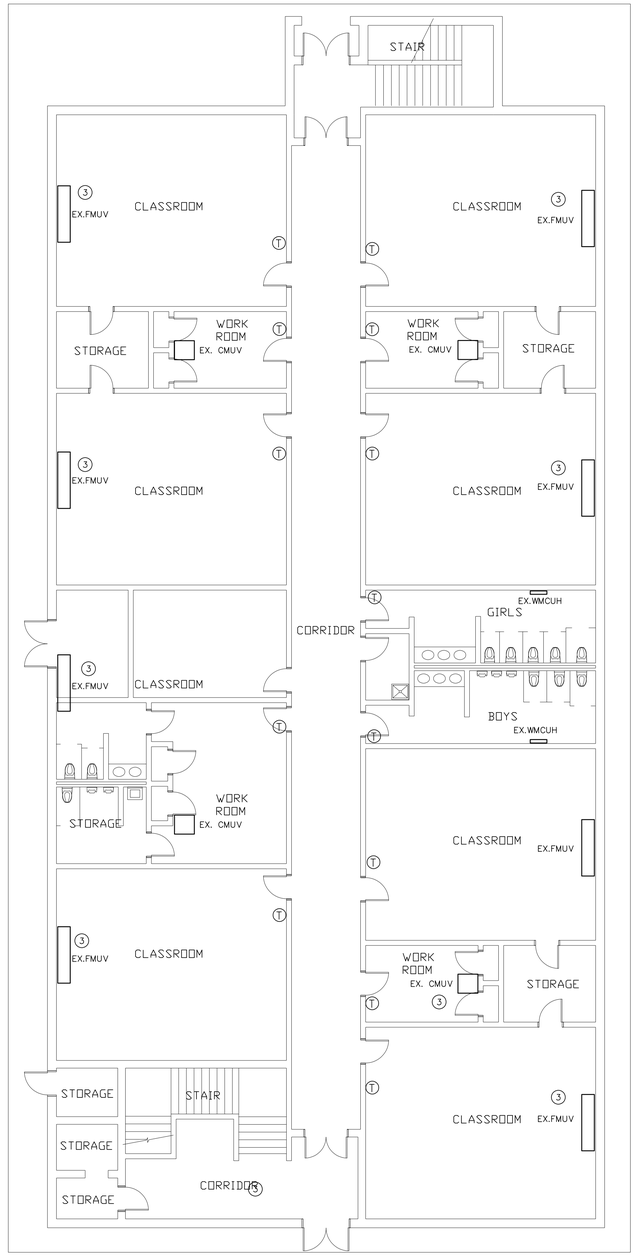
DRAWING NUMBER:
MD101F



2 MD101G **HVAC FLOOR PLAN – AREA G2 DUCTWORK DEMOLITION CONT.**
SCALE: 1/8"=1'-0"

NORTH

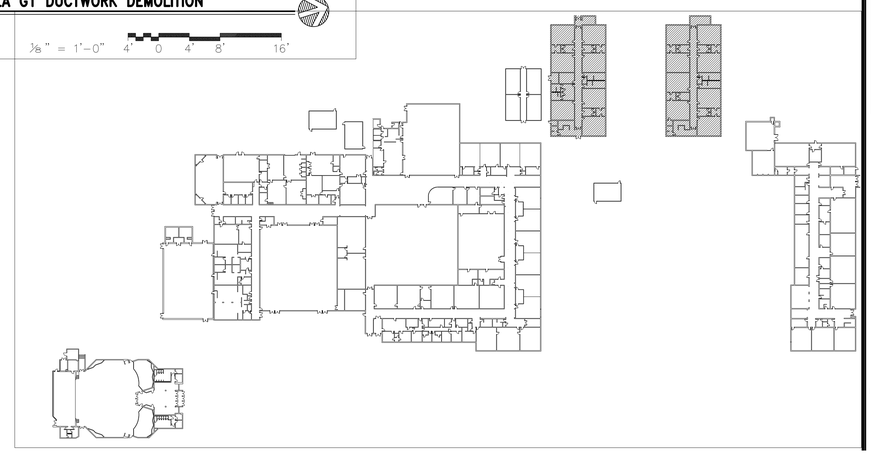
1/8" = 1'-0" 4' 0 4' 8' 16'



1 MD101G **HVAC FLOOR PLAN – AREA G1 DUCTWORK DEMOLITION**
SCALE: 1/8"=1'-0"

NORTH

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



KEYED NOTES:

1. REMOVE DUCTWORK ABOVE CEILING.
2. CLOSE RETURN OPENINGS AND ABANDONE BELOW SLAB.
3. REMOVE EXISTING UNIT VENTILATOR / FAN COIL UNIT AND PIPING AND THERMOSTAT/TEMP SENSOR FROM WALL.

KEYED NOTES:

1. XXXXX.
2. XXCXX.

sheet added 2

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NORTH CAROLINA PROFESSIONAL SEAL 31478 ENGINEER JAMES L. CURRIE

08/30/2022

COMMISSION NUMBER: 221.014.05

DRAWN BY: JVC
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DATE: 08/30/2022

REVISIONS:

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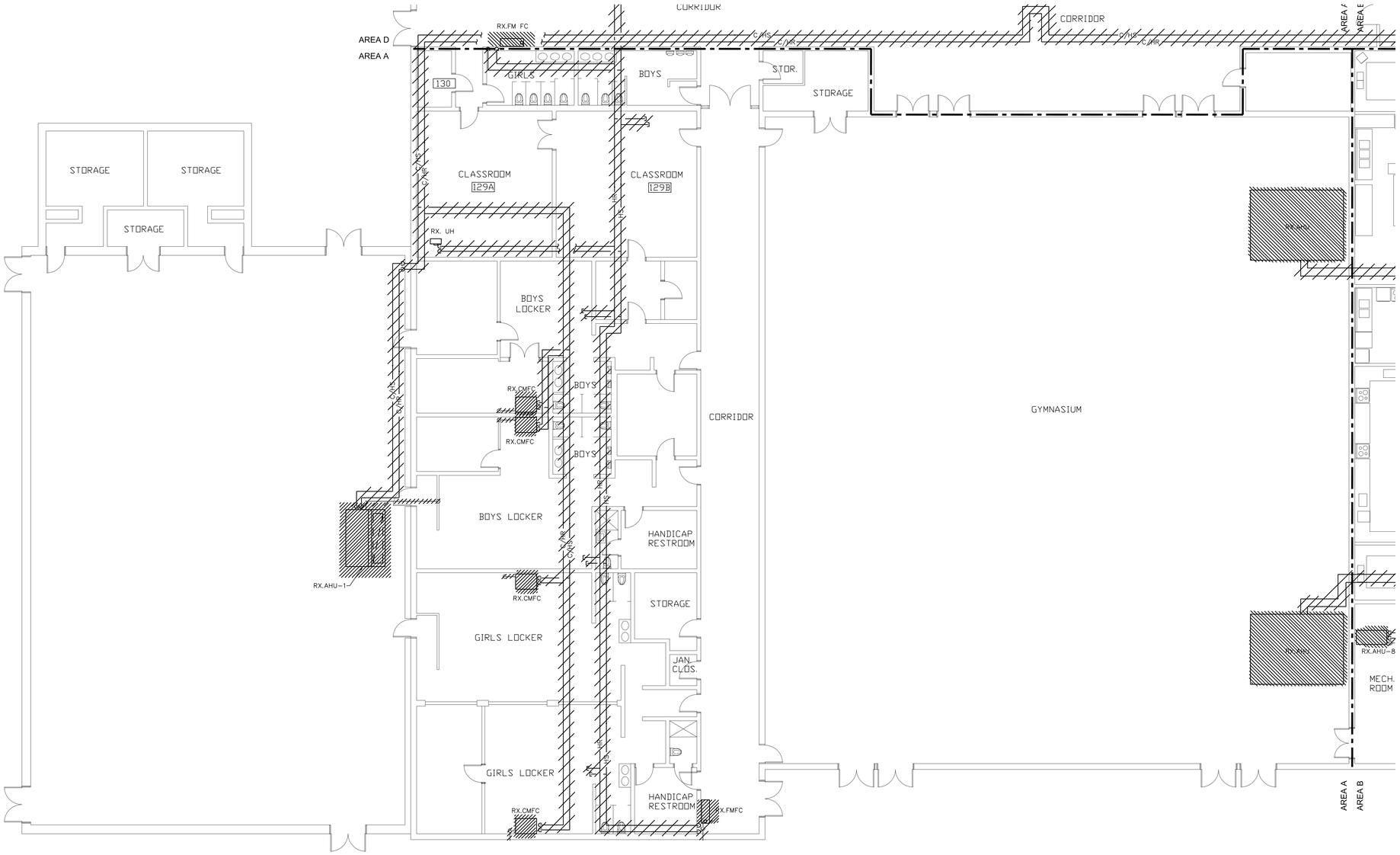
8.25.22	1	Update labelling & pipe sizes
9.13.22	2	Addendum 3

DRAWING TITLE:
HVAC FLOOR PLAN - AREA G DUCTWORK DEMOLITION

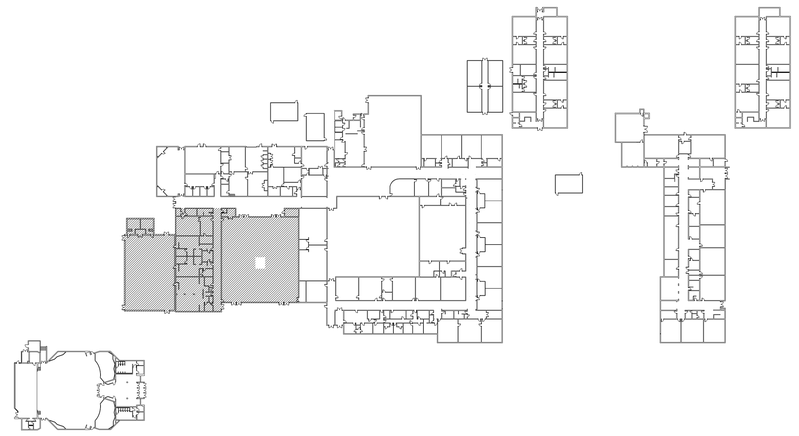
DRAWING NUMBER:
MD101G



1 MD101H **HVAC FLOOR PLAN – AREA A PIPING DEMOLITION**
SCALE: 1/8"=1'-0"

NORTH

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



KEYED NOTES:

1. XXXXX.
2. XXCXX.

2 **sheet renumbered and completely revised**

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08/30/2022

COMMISSION NUMBER: 221.014.05

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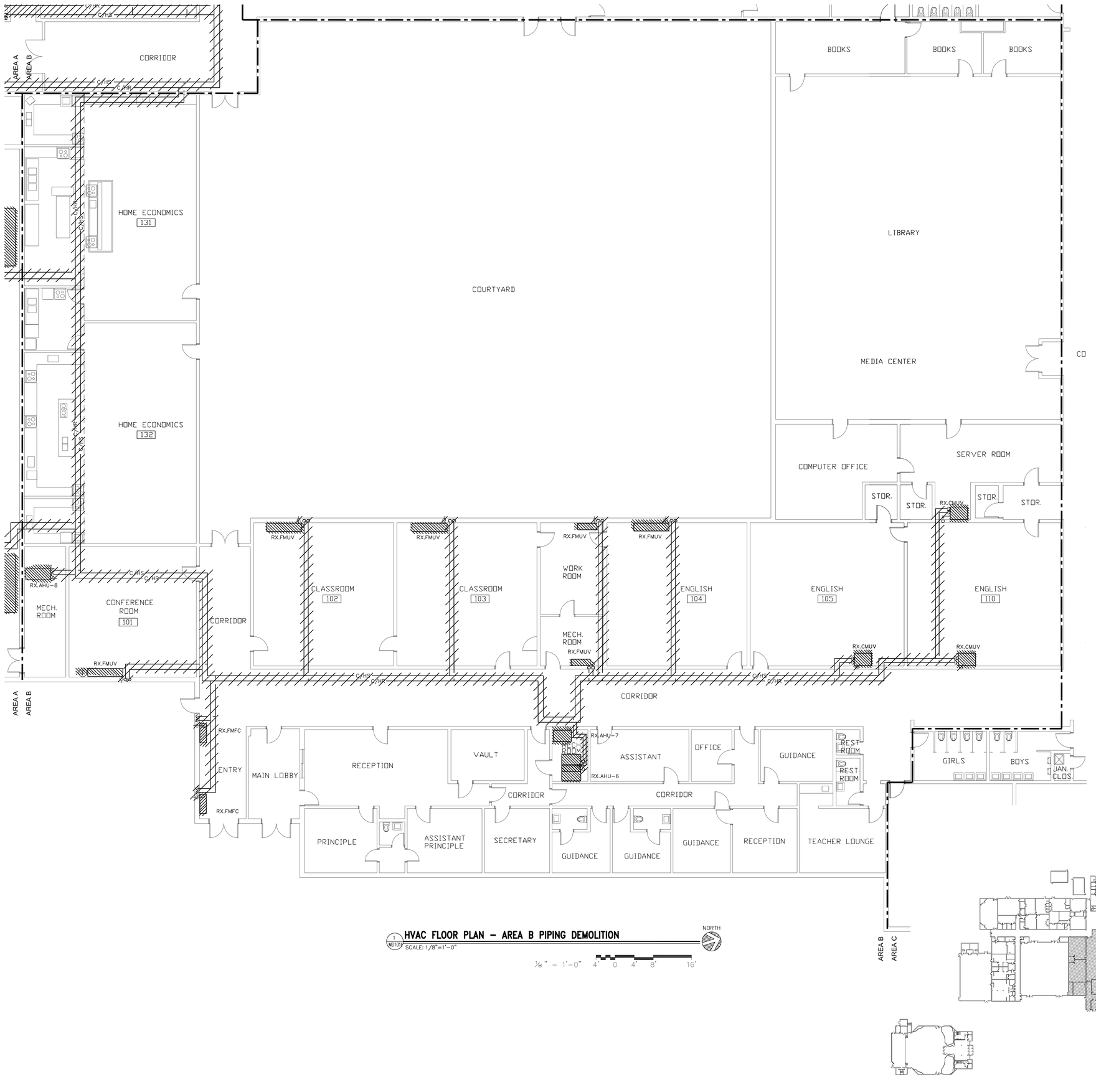
7.13.22		Issue For Permit
8.25.22	1	Update labelling & pipe sizes
9.13.22	2	Addendum 3

DRAWING TITLE:

HVAC FLOOR PLAN - AREA A PIPING DEMOLITION

DRAWING NUMBER:

MD101H



KEYED NOTES:

1. XXXXX.
2. XXCXX.

sheet renumbered and completely revised 2

1 HVAC FLOOR PLAN – AREA B PIPING DEMOLITION

MD101I

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

NORTH

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

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NORTH CAROLINA PROFESSIONAL SEAL 041472 ENGINEER JAMES L. CURRIE

08/30/2022

COMMISSION NUMBER: 221.014.05

DRAWN BY: JVC
CHECKED BY: JLC
DATE: 08/30/2022
REVISIONS:

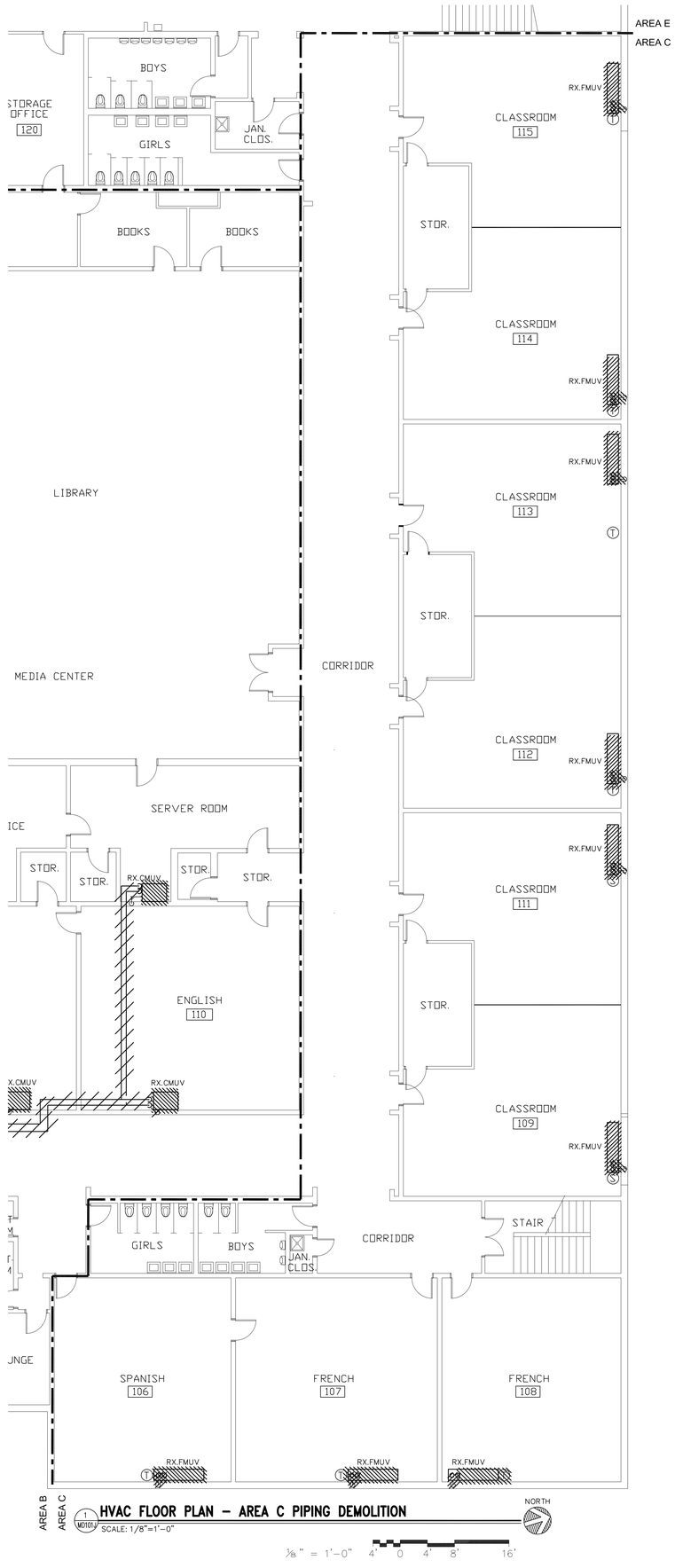
Date	Revision Number	Revision Description
7.1.22		Code Review Set
7.13.22		Issue For Permit
8.25.22	1	Update labelling & pipe sizes
9.13.22	2	Addendum 3

DRAWING TITLE:

HVAC FLOOR PLAN - AREA B PIPING DEMOLITION

DRAWING NUMBER:

MD101I

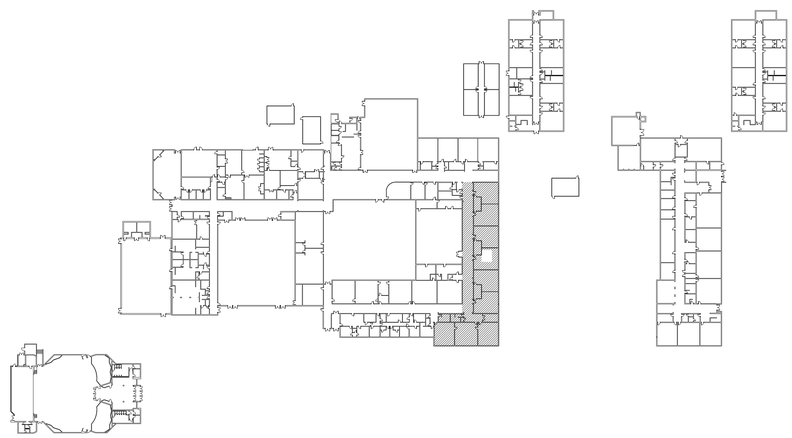


KEYED NOTES:

1. XXXXX.
2. XXCXX.

2

sheet renumbered and completely revised



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NORTH CAROLINA PROFESSIONAL SEAL 040116 ENGINEER JAMES L. CURRIE

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COMMISSION NUMBER: 221.014.05

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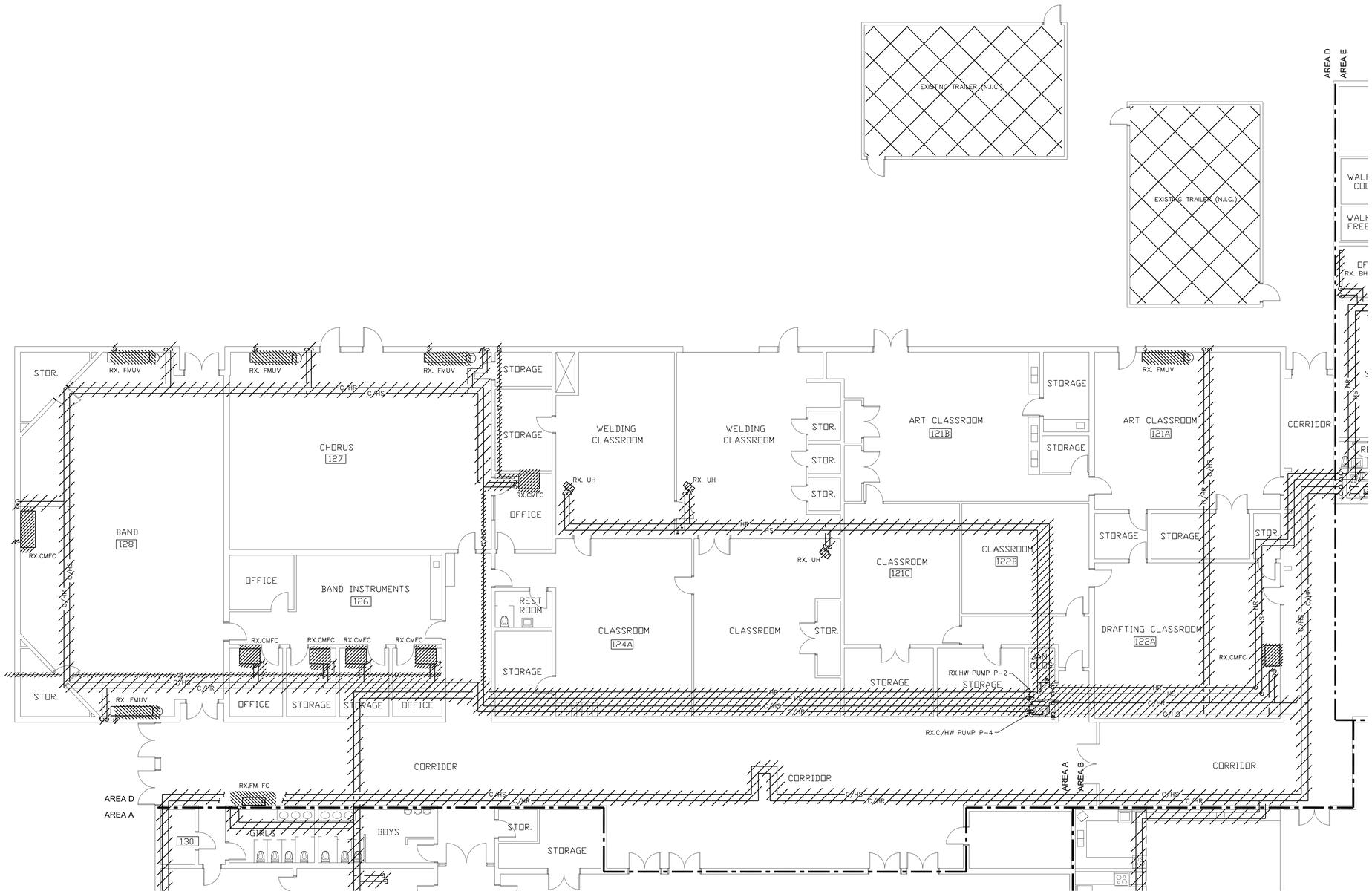
Date	Revision Number	Revision Description
7.1.22		Code Review Set
7.13.22		Issue For Permit
8.25.22	1	Update labelling & pipe sizes
9.13.22	2	Addendum 3

DRAWING TITLE:

HVAC FLOOR PLAN - AREA C PIPING DEMOLITION

DRAWING NUMBER:

MD101J



1 HVAC FLOOR PLAN – AREA D PIPING DEMOLITION
MD101K
SCALE: 1/8"=1'-0"

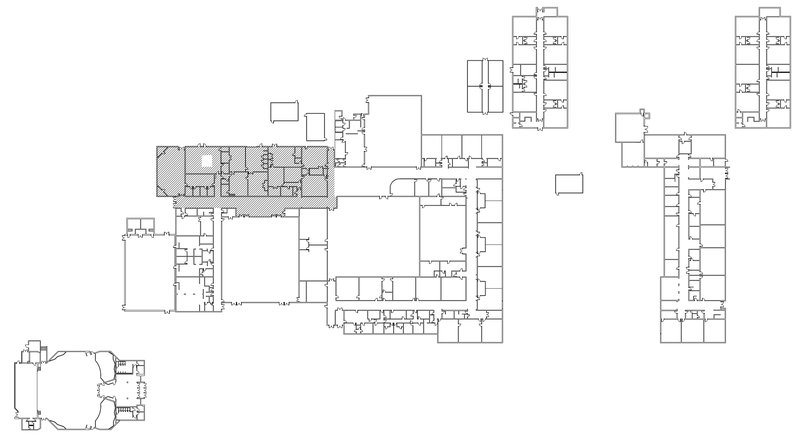
NORTH

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

KEYED NOTES:

1. XXXXX.
2. XXCXX.

sheet renumbered and completely revised 2



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NORTH CAROLINA PROFESSIONAL SEAL 017478 ENGINEER JAMES L. CURRIE

08/30/2022

COMMISSION NUMBER: 221.014.05

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Date	Revision Number	Revision Description
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8.25.22	1	Update labelling & pipe sizes
9.13.22	2	Addendum 3

DRAWING TITLE:
HVAC FLOOR PLAN - AREA D PIPING DEMOLITION

DRAWING NUMBER:
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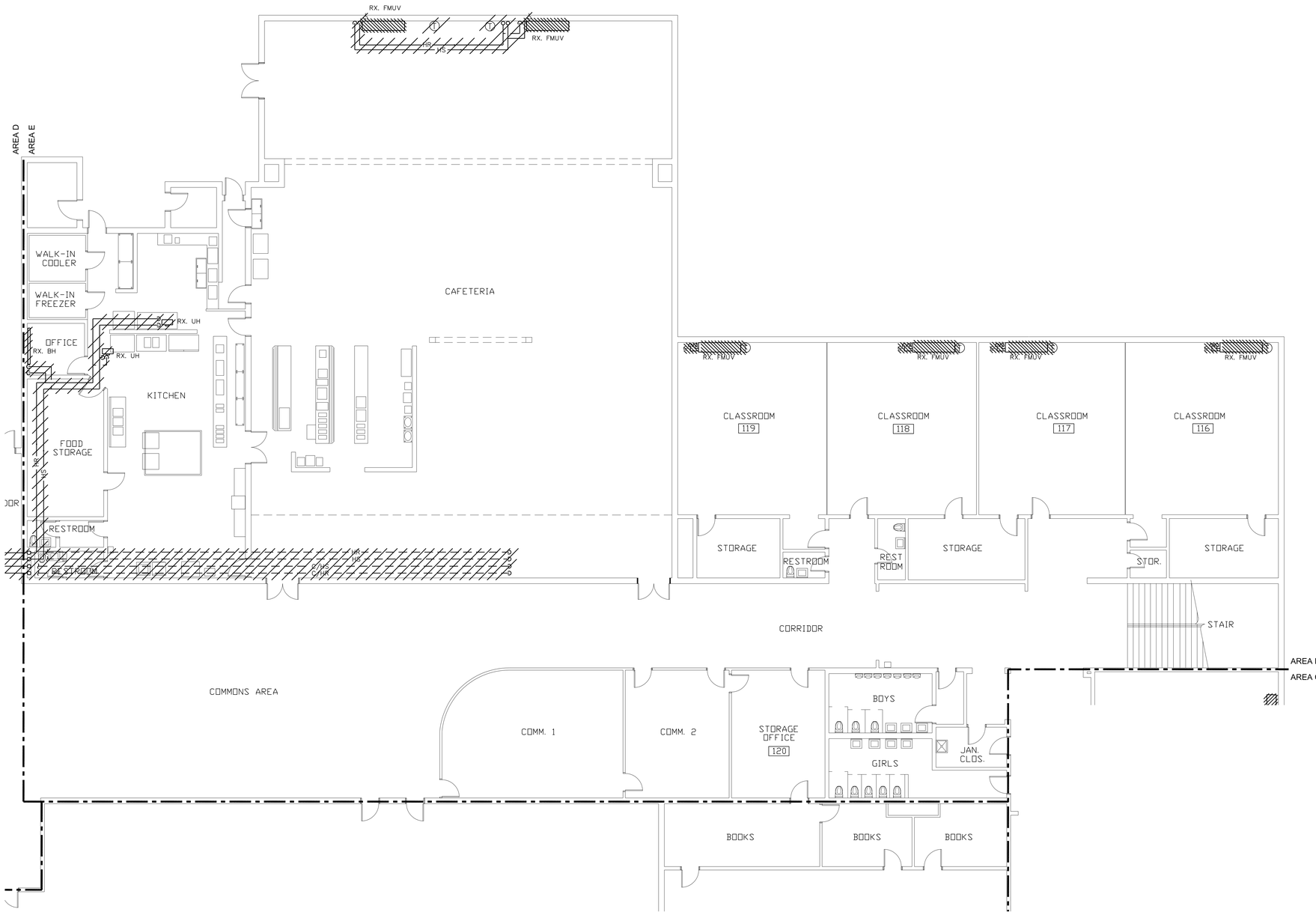


1 MD101L **HVAC FLOOR PLAN – AREA E PIPING DEMOLITION**
SCALE: 1/8"=1'-0"

NORTH

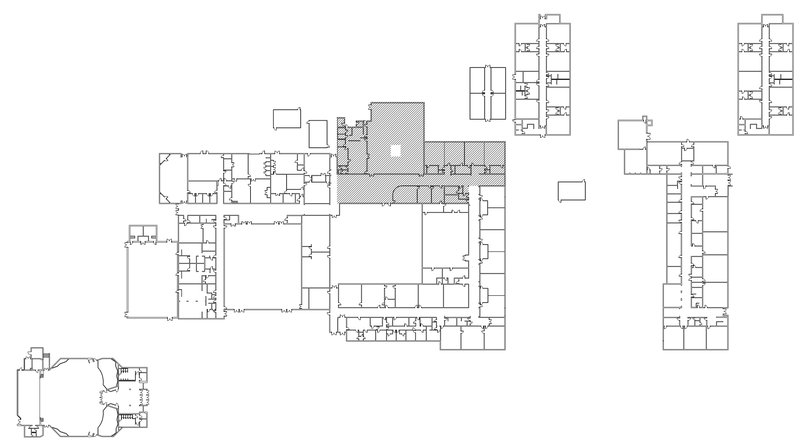
1/8" = 1'-0" 4' 0 4' 8' 16'

KEYED NOTES:

1. XXXXX.
2. XXCXX.

2

sheet renumbered and completely revised



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NORTH CAROLINA PROFESSIONAL SEAL 21412 ENGINEER JAMES L. CLARKE

08/30/2022

COMMISSION NUMBER: 221.014.05

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DATE: 08/30/2022

REVISIONS:

Date	Revision Number	Revision Description
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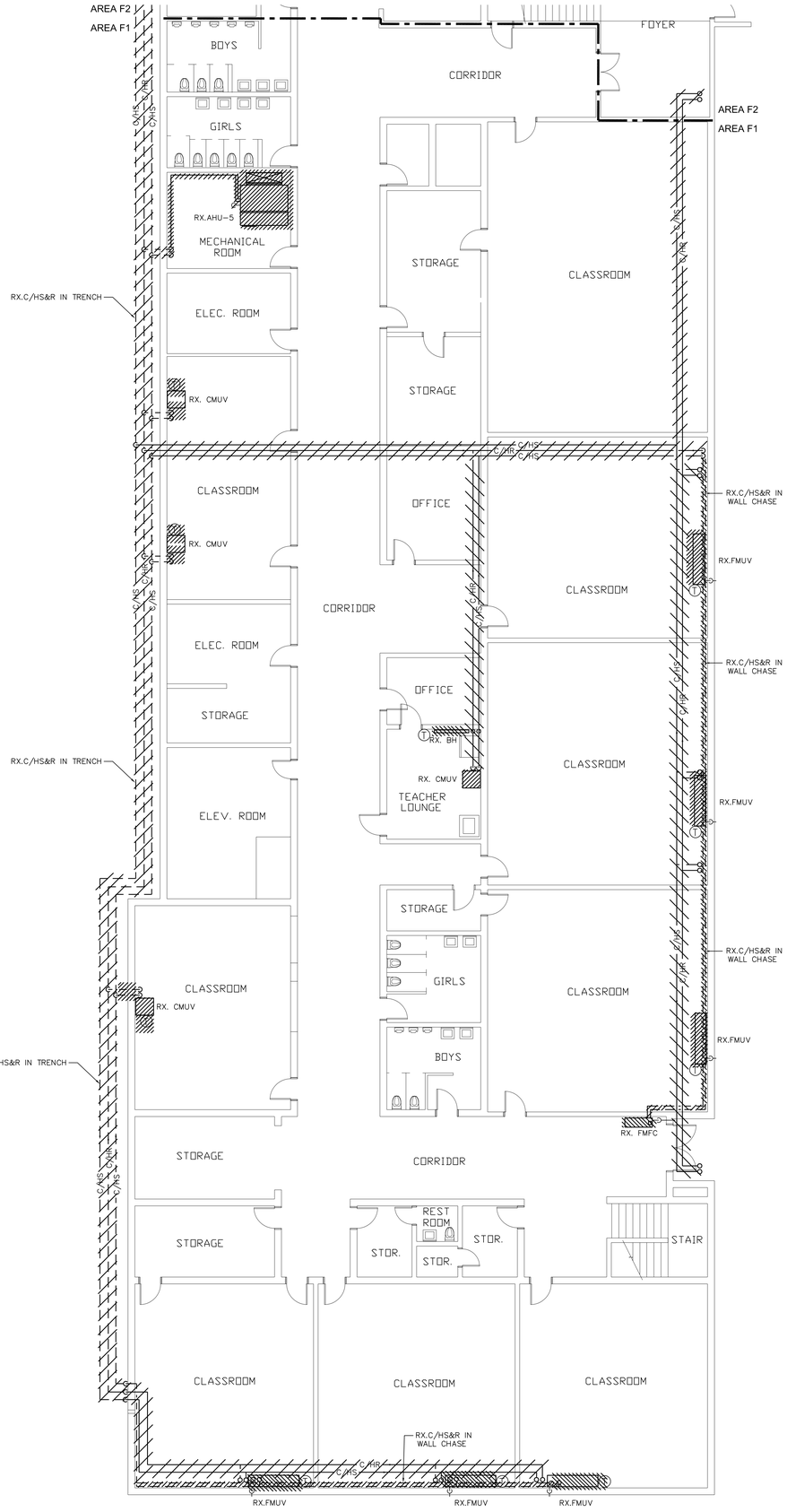
7.13.22		Issue For Permit
8.25.22	1	Update labelling & pipe sizes
9.13.22	2	Addendum 3

DRAWING TITLE:

HVAC FLOOR PLAN - AREA E PIPING DEMOLITION

DRAWING NUMBER:

MD101L

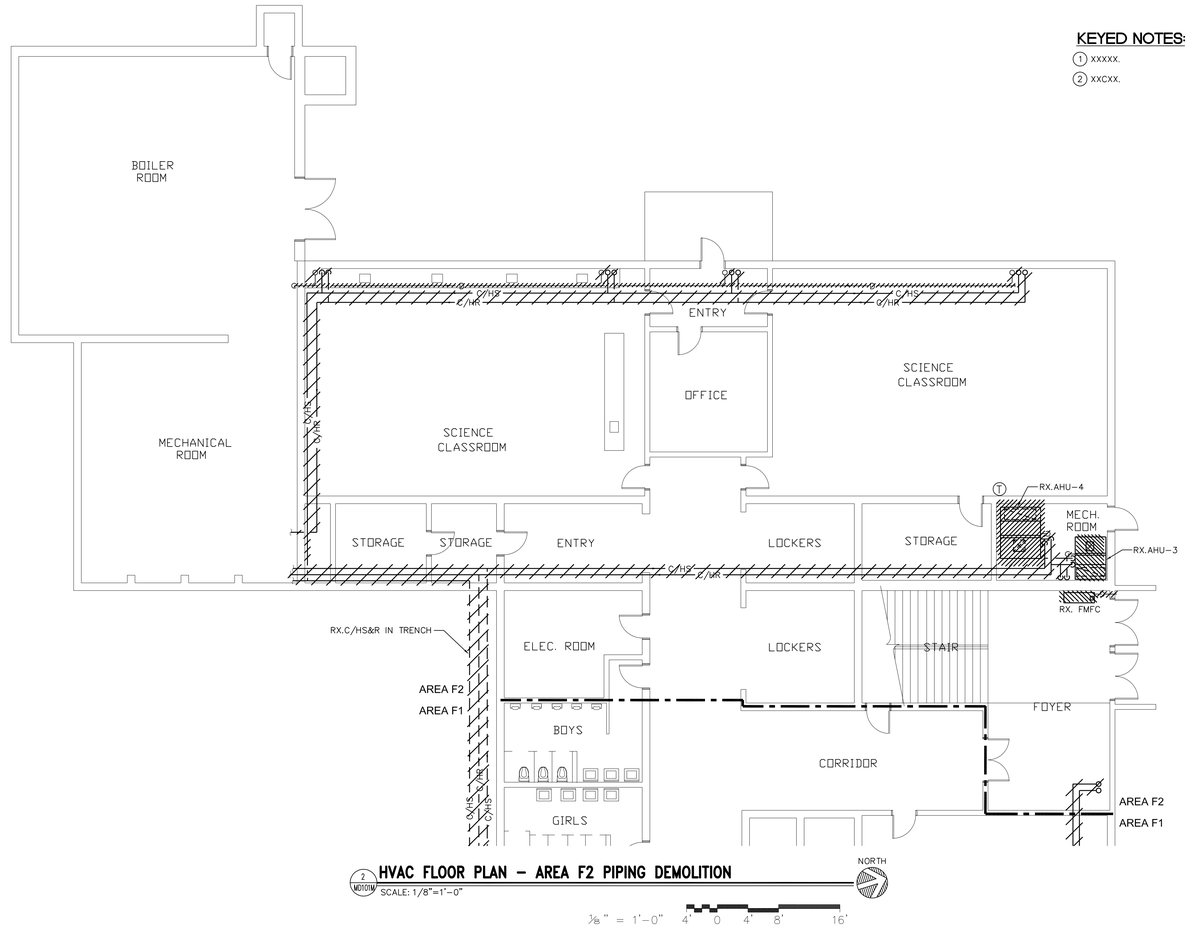


1 MD101M **HVAC FLOOR PLAN – AREA F1 PIPING DEMOLITION**

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

NORTH

⅛" = 1'-0" 4' 0 4' 8' 16'



2 MD101M **HVAC FLOOR PLAN – AREA F2 PIPING DEMOLITION**

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

NORTH

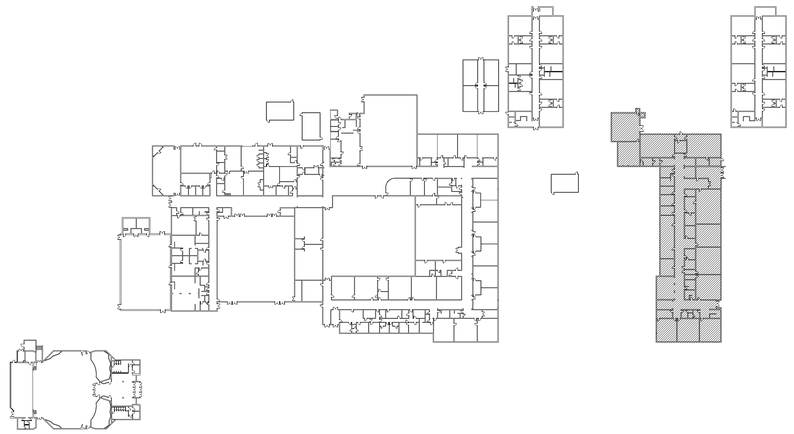
⅛" = 1'-0" 4' 0 4' 8' 16'

KEYED NOTES:

1. XXXXX.
2. XXCXX.

2

sheet renumbered and completely revised



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NORTH CAROLINA PROFESSIONAL SEAL 31478 ENGINEER JAMES L. CURRIE

08/30/2022

COMMISSION NUMBER: 221.014.05

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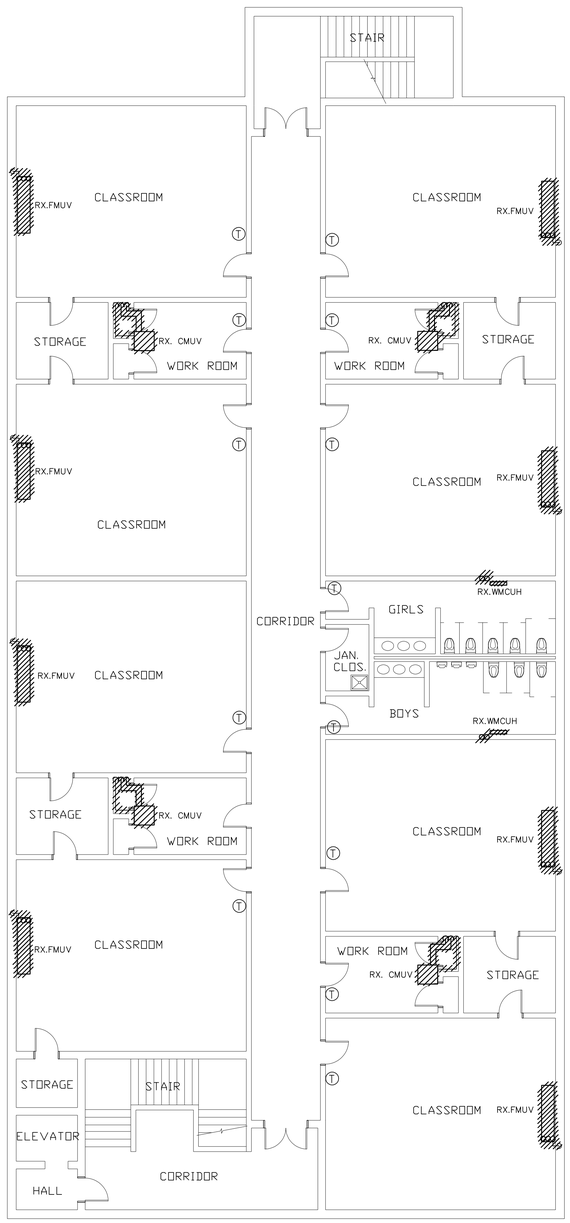
7.13.22		Issue For Permit
8.25.22	1	Update labelling & pipe sizes
9.13.22	2	Addendum 3

DRAWING TITLE:

HVAC FLOOR PLAN - AREA F PIPING DEMOLITION

DRAWING NUMBER:

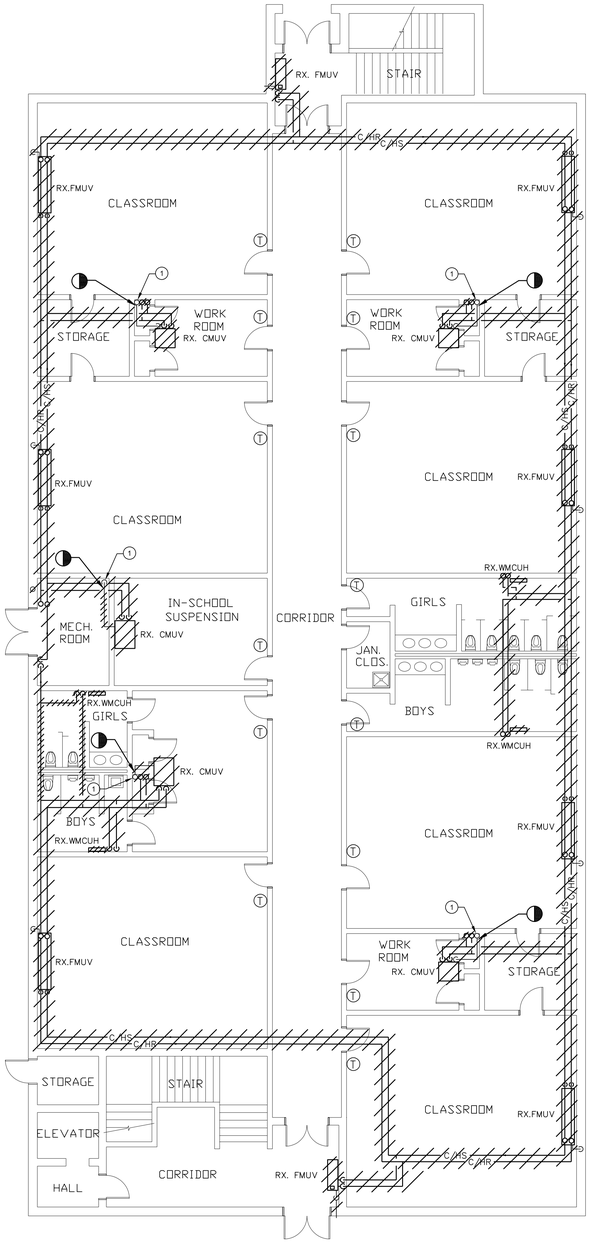
MD101M



2 MD101N **HVAC FLOOR PLAN – AREA G2 PIPING DEMOLITION**
SCALE: 1/8"=1'-0"

NORTH

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



1 MD101N **HVAC FLOOR PLAN – AREA G1 PIPING DEMOLITION**
SCALE: 1/8"=1'-0"

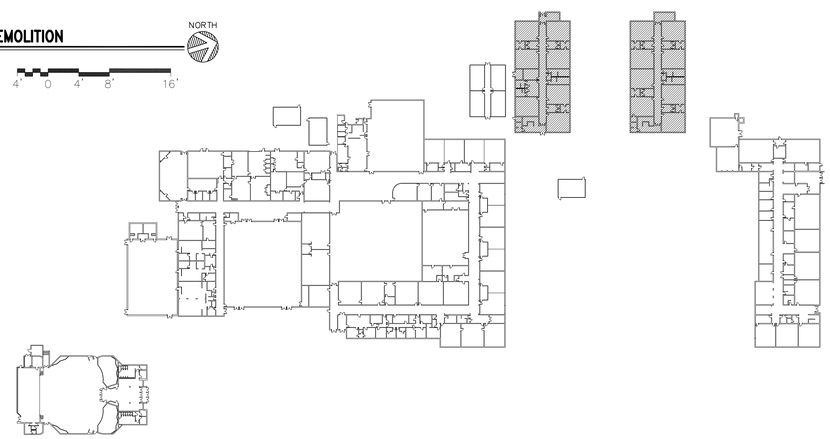
NORTH

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

KEYED NOTES:

1 EXISTING HUB DRAIN TO REMAIN.

sheet renumbered and completely revised 2



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NORTH CAROLINA PROFESSIONAL SEAL 31478 ENGINEER JAMES L. CURRIE

08/30/2022

COMMISSION NUMBER: 221.014.05

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DATE: 08/30/2022
REVISIONS:

Date	Revision Number	Revision Description
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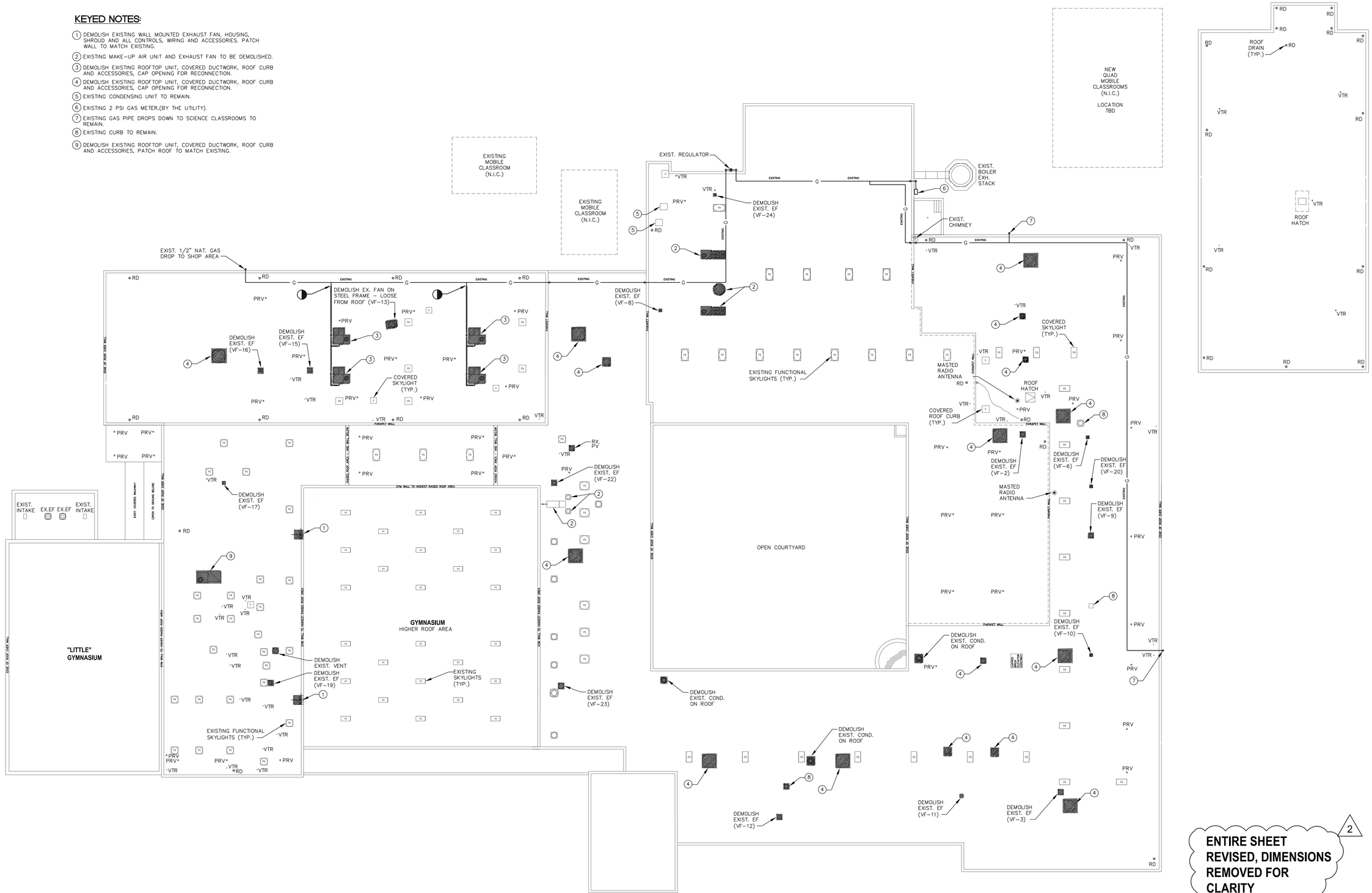
8.25.22	1	Update labelling & pipe sizes
9.13.22	2	Addendum 3

DRAWING TITLE:
HVAC FLOOR PLAN - AREA G PIPING DEMOLITION

DRAWING NUMBER:
MD101N

KEYED NOTES:

1. DEMOLISH EXISTING WALL MOUNTED EXHAUST FAN, HOUSING, SHROUD AND ALL CONTROLS, WIRING AND ACCESSORIES. PATCH WALL TO MATCH EXISTING.
2. EXISTING MAKE-UP AIR UNIT AND EXHAUST FAN TO BE DEMOLISHED.
3. DEMOLISH EXISTING ROOFTOP UNIT, COVERED DUCTWORK, ROOF CURB AND ACCESSORIES, CAP OPENING FOR RECONNECTION.
4. DEMOLISH EXISTING ROOFTOP UNIT, COVERED DUCTWORK, ROOF CURB AND ACCESSORIES, CAP OPENING FOR RECONNECTION.
5. EXISTING CONDENSING UNIT TO REMAIN.
6. EXISTING 2 PSI GAS METER,(BY THE UTILITY).
7. EXISTING GAS PIPE DROPS DOWN TO SCIENCE CLASSROOMS TO REMAIN.
8. EXISTING CURB TO REMAIN.
9. DEMOLISH EXISTING ROOFTOP UNIT, COVERED DUCTWORK, ROOF CURB AND ACCESSORIES, PATCH ROOF TO MATCH EXISTING.



ENTIRE SHEET REVISED, DIMENSIONS REMOVED FOR CLARITY (2)

1 MD100R **ROOF PLAN - DEMOLITION**
SCALE: 1/16"=1'-0"

NORTH

1/16" = 1'-0" 8' 0 8' 16' 32'

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NORTH CAROLINA PROFESSIONAL SEAL 049447 ENGINEER JAMES L. CARRITE

08/30/2022

COMMISSION NUMBER: 221.014.05

DRAWN BY: JVC
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DATE: 08/30/2022
REVISIONS:

Date	Revision Number	Revision Description
7.1.22		Code Review Set
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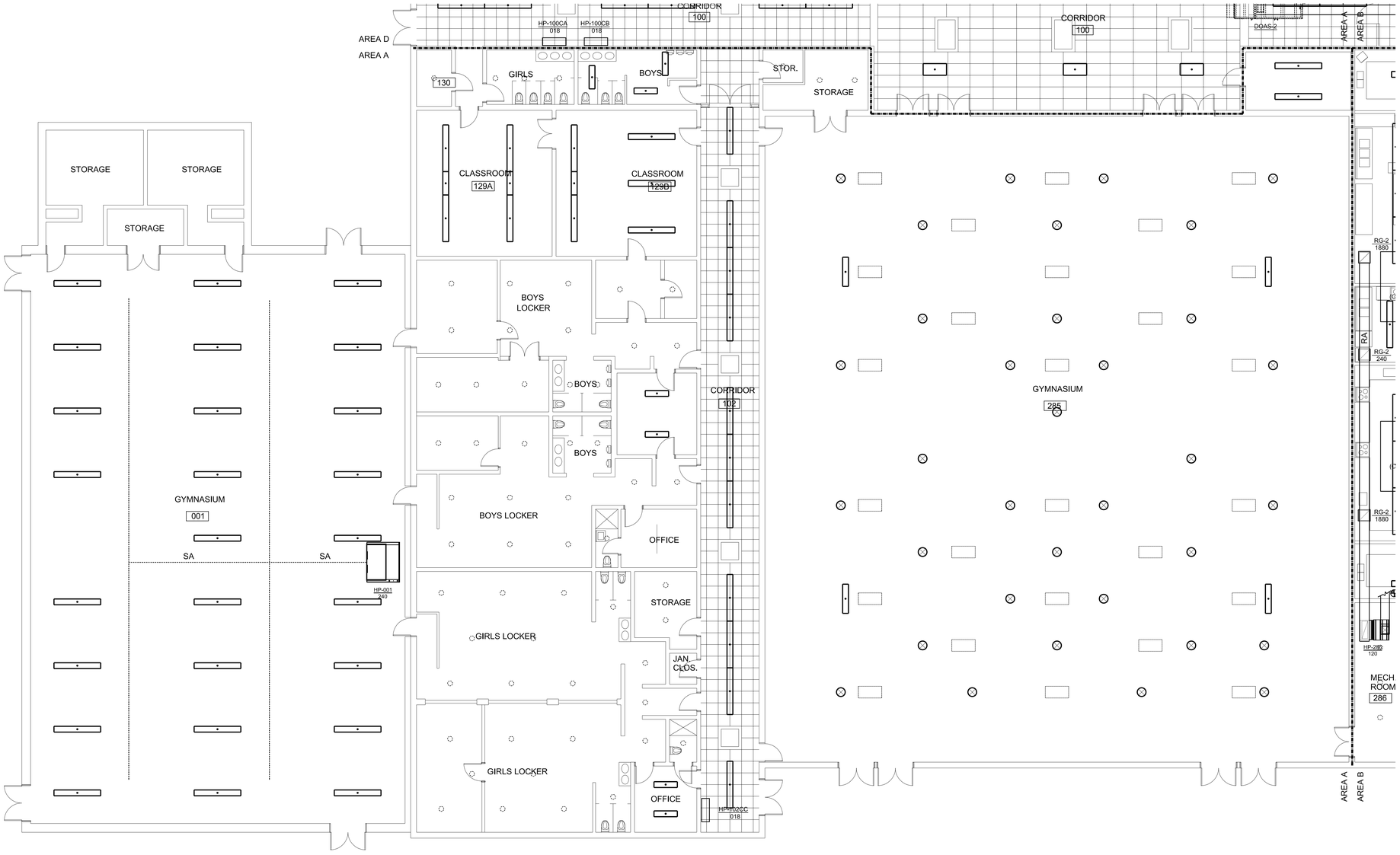
8.25.22	1	Update labelling & plan sizes
9.13.22	2	Addendum 3

DRAWING TITLE:
ROOF PLAN - DEMOLITION

DRAWING NUMBER:
MD101R

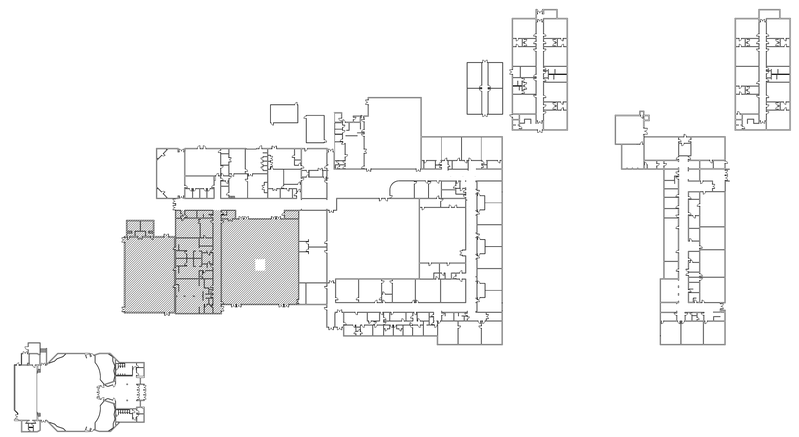


1 M101A HVAC FLOOR PLAN - AREA A NEW WORK

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

NORTH

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



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NORTH CAROLINA PROFESSIONAL SEAL 041187 ENGINEER JAMES L. CURRIE

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COMMISSION NUMBER: 221.014.05

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REVISIONS:

Date	Revision Number	Revision Description
7.1.22		Code Review Set
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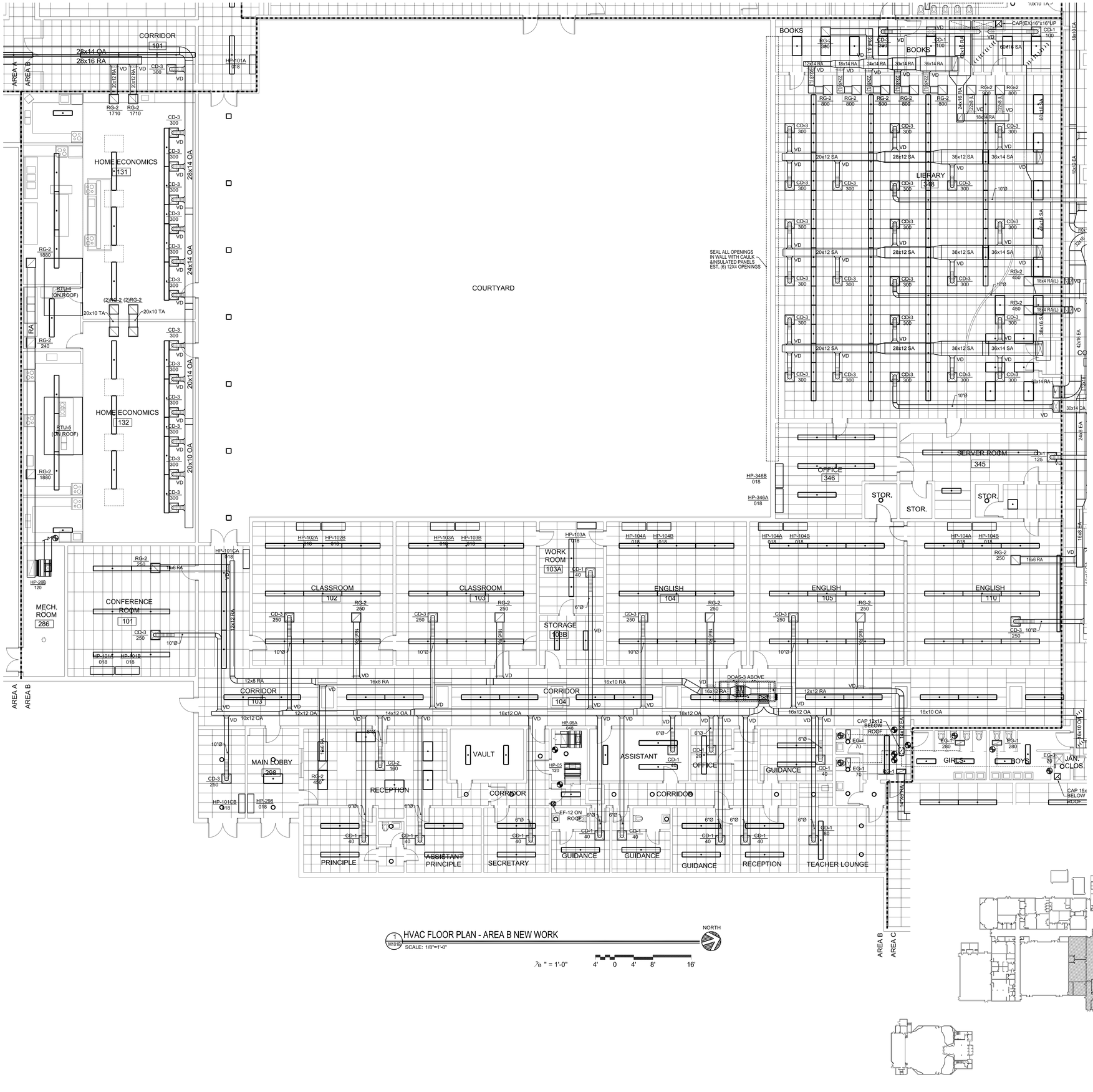
8.25.22	1	Update labelling & pipe sizes
9.13.22	2	Addendum 3

DRAWING TITLE:

HVAC FLOOR PLAN - AREA A NEW WORK

DRAWING NUMBER:

M101A



1 M101B HVAC FLOOR PLAN - AREA B NEW WORK

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

NORTH

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

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NORTH CAROLINA PROFESSIONAL SEAL 21176 ENGINEER JAMES L. CURRIE

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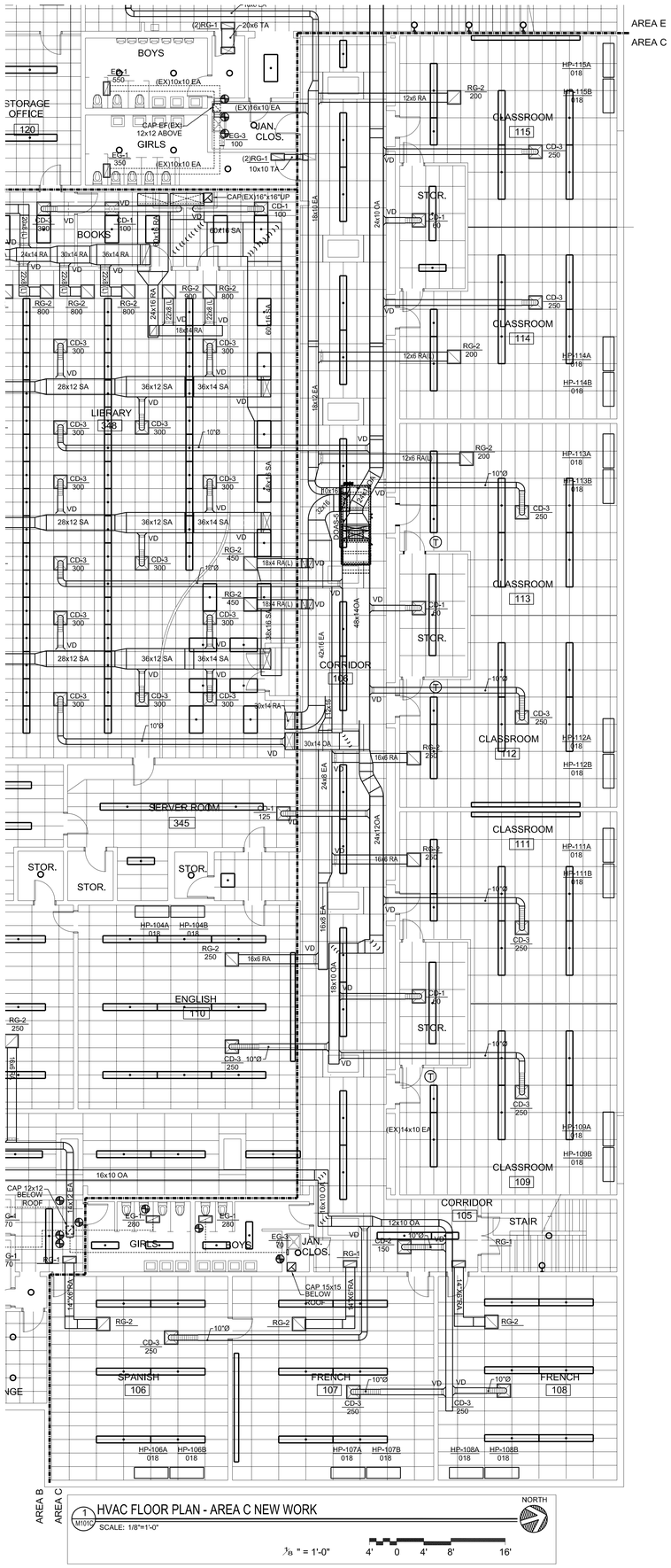
7.13.22		Issue For Permit
8.25.22	1	Update labelling & slpe sizes
9.13.22	2	Addendum 3

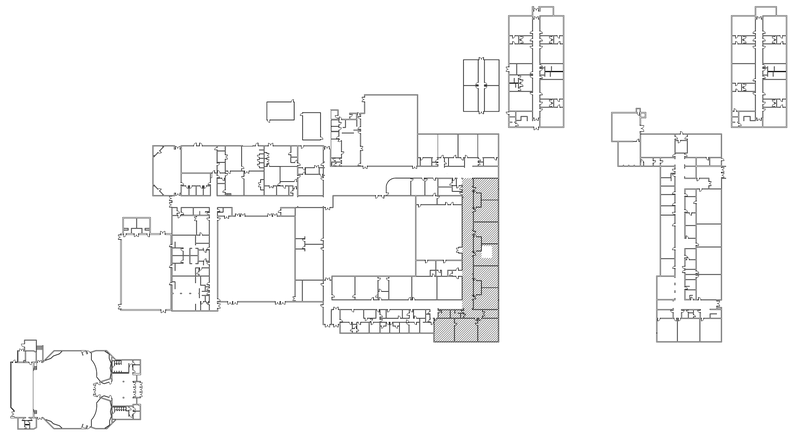
DRAWING TITLE:

HVAC FLOOR PLAN - AREA B NEW WORK

DRAWING NUMBER:

M101B





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NORTH CAROLINA PROFESSIONAL SEAL 31482 ENGINEER JAMES L. CURRIE

08/30/2022

COMMISSION NUMBER: 221.014.05

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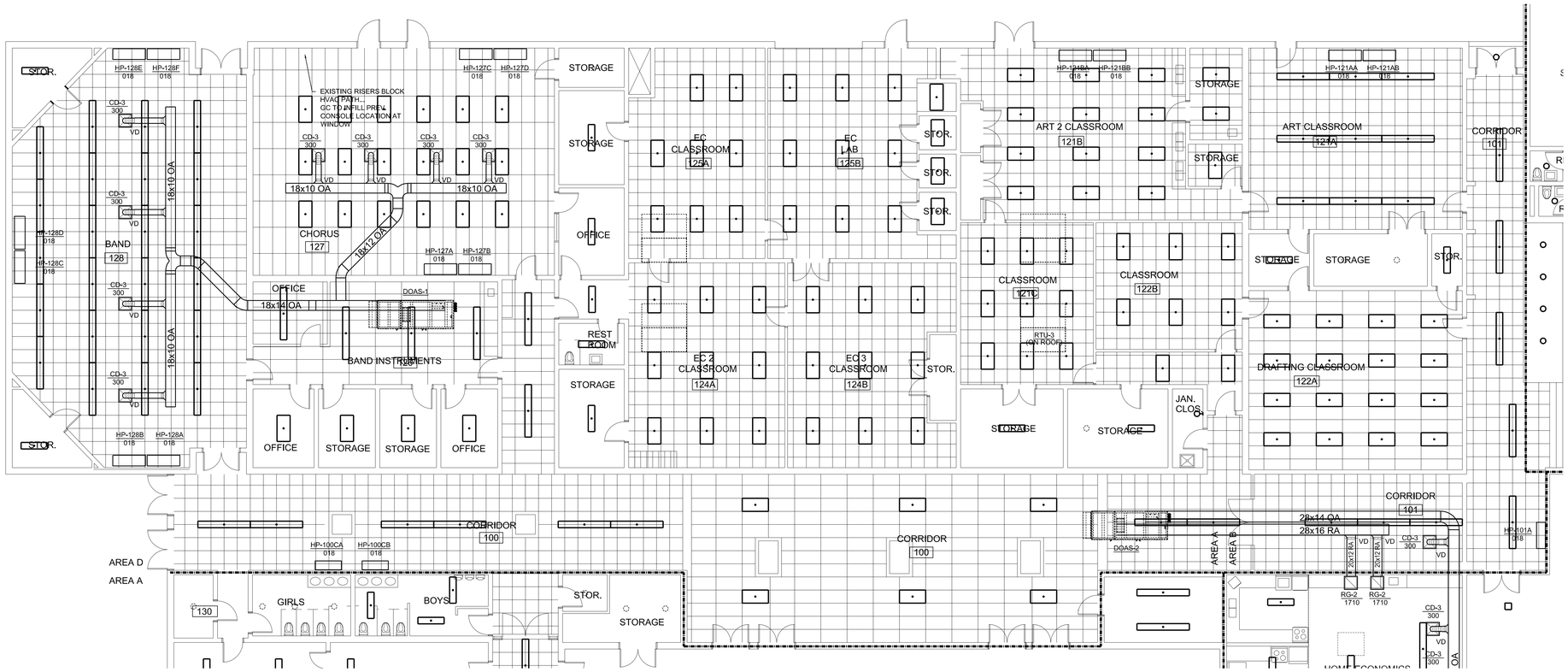
Date	Revision Number	Revision Description
7.1.22		Code Review Set
7.13.22		Issue For Permit
8.25.22	1	Update labelling & pipe sizes
9.13.22	2	Addendum 3

DRAWING TITLE:

HVAC FLOOR PLAN - AREA C NEW WORK

DRAWING NUMBER:

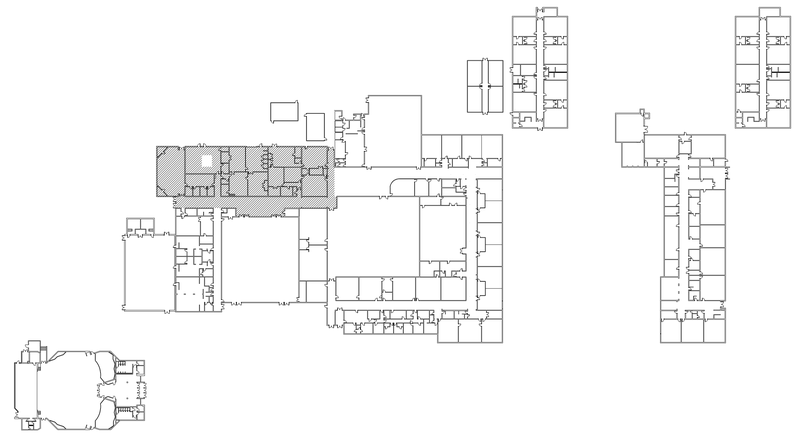
M101C



1 M101D HVAC FLOOR PLAN - AREA D NEW WORK
SCALE: 1/8"=1'-0"

NORTH

3/8 " = 1'-0" 4' 0 4' 8' 16'



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NORTH CAROLINA PROFESSIONAL SEAL 31480 ENGINEER JAMES L. CURRIE

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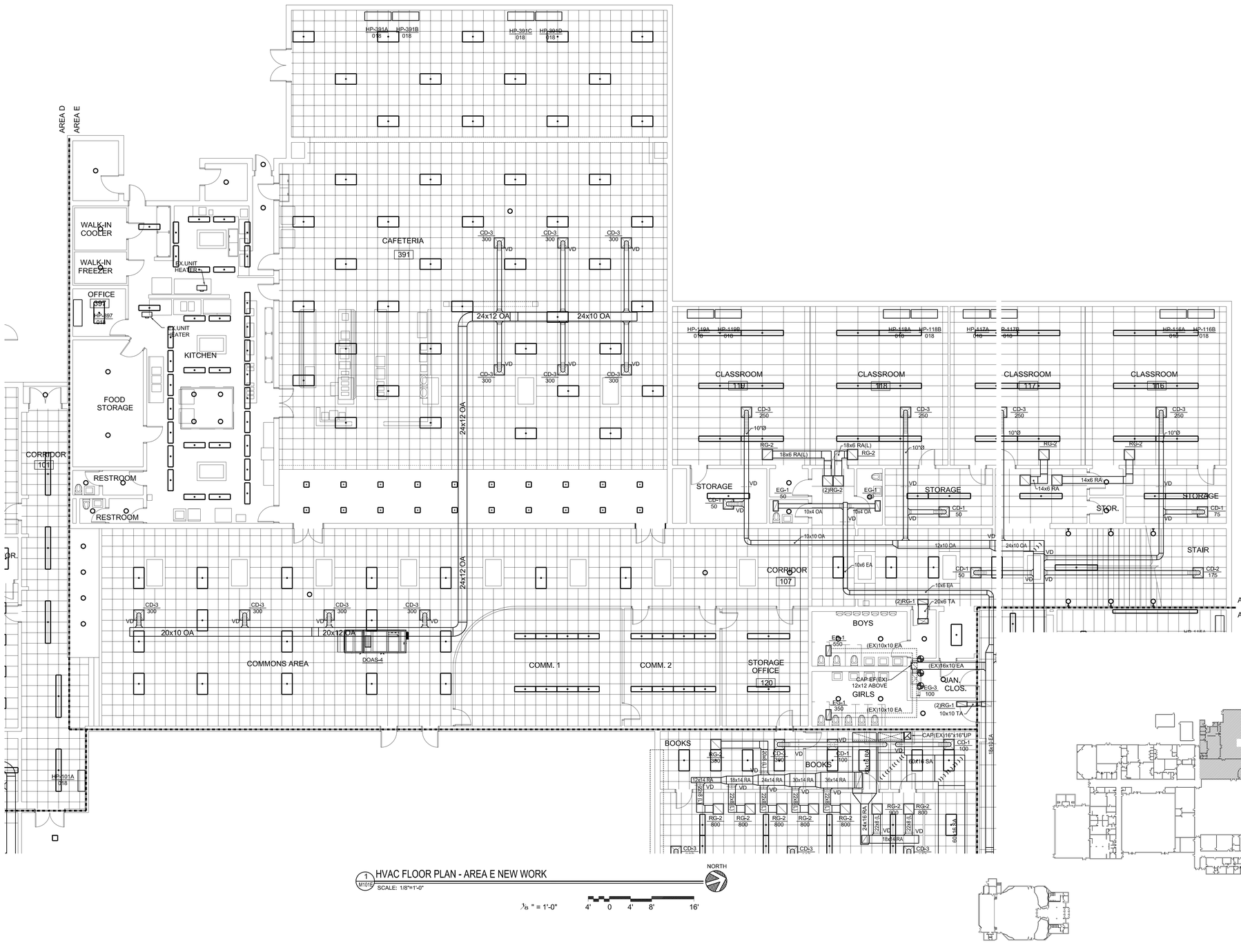
9.13.22	2	Addendum 3

DRAWING TITLE:

HVAC FLOOR PLAN - AREA D NEW WORK

DRAWING NUMBER:

M101D



1 M101E HVAC FLOOR PLAN - AREA E NEW WORK
SCALE: 1/8"=1'-0"

NORTH

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

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CHARLOTTE, NC 28203

Cleveland County Schools

Owner:

CLEVELAND COUNTY SCHOOLS
4 HS RENOVATIONS PHASE 5
HVAC UPGRADES

Central Offices
400 West Marion Street
Shelby, North Carolina 28150

Site:
KINGS MOUNTAIN HIGH SCHOOL

500 Phifer Rd.
Kings Mountain, North Carolina 28086

NORTH CAROLINA PROFESSIONAL SEAL 041472 ENGINEER JAMES L. CLARKE

08/30/2022

COMMISSION NUMBER: 221.014.05

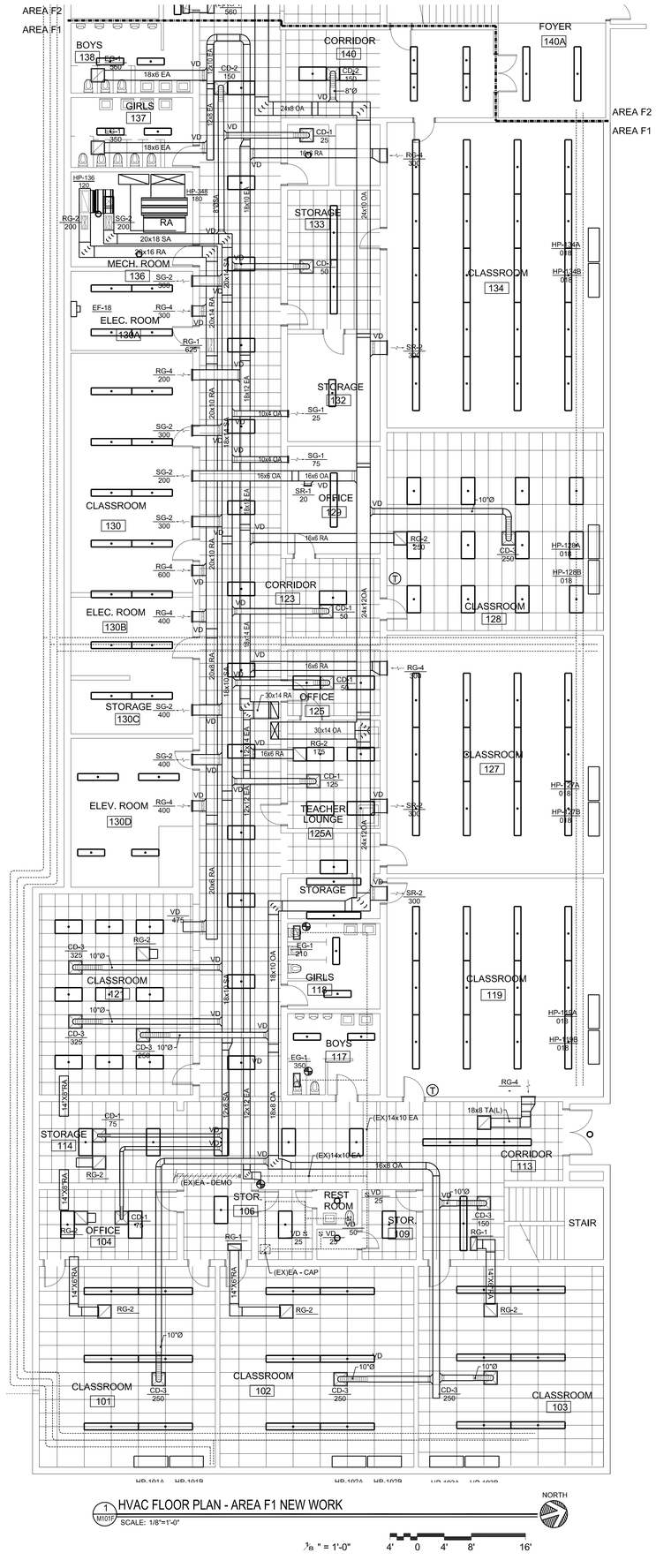
DRAWN BY: JVC
CHECKED BY: JLC
DATE: 08/30/2022

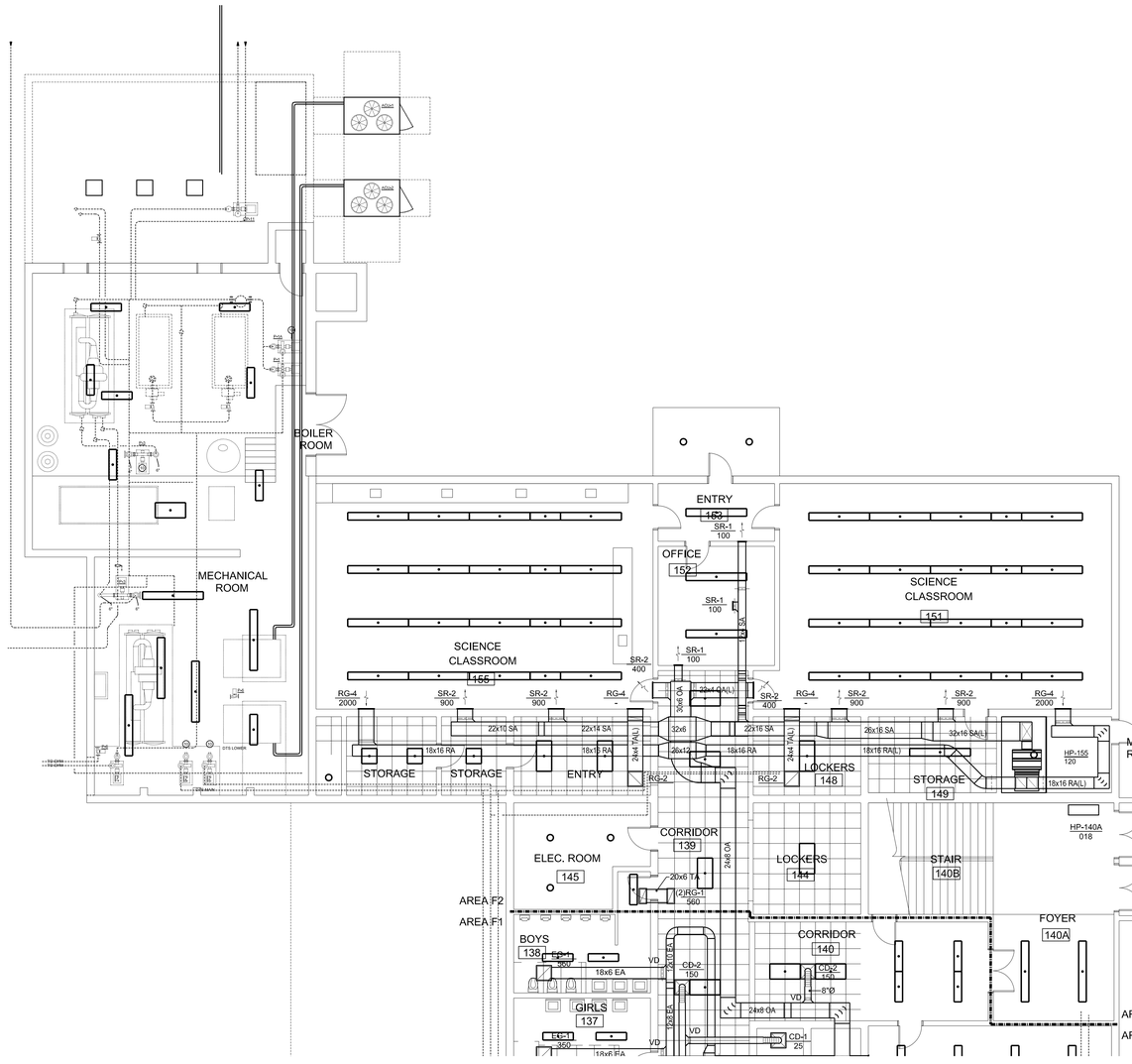
REVISIONS:

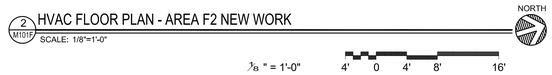
Date	Revision Number	Revision Description
7.1.22		Code Review Set
7.13.22		Issue For Permit
8.25.22	1	Update labelling & pipe sizes
9.13.22	2	Addendum 3

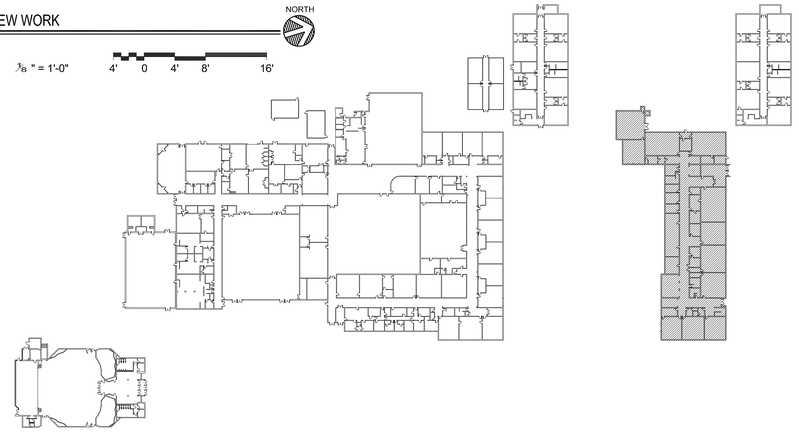
DRAWING TITLE:
HVAC FLOOR PLAN - AREA E NEW WORK

DRAWING NUMBER:
M101E









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mcmillan pazdan smith ARCHITECTURE
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Cleveland County SCHOOLS

Owner:
CLEVELAND COUNTY SCHOOLS
4 HS RENOVATIONS PHASE 5
HVAC UPGRADES

Central Offices
400 West Marion Street
Shelby, North Carolina 28150

Site:
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500 Phifer Rd.
Kings Mountain, North Carolina 28086

NORTH CAROLINA PROFESSIONAL SEAL 31478 ENGINEER JAMES L. CURRIE
08/30/2022

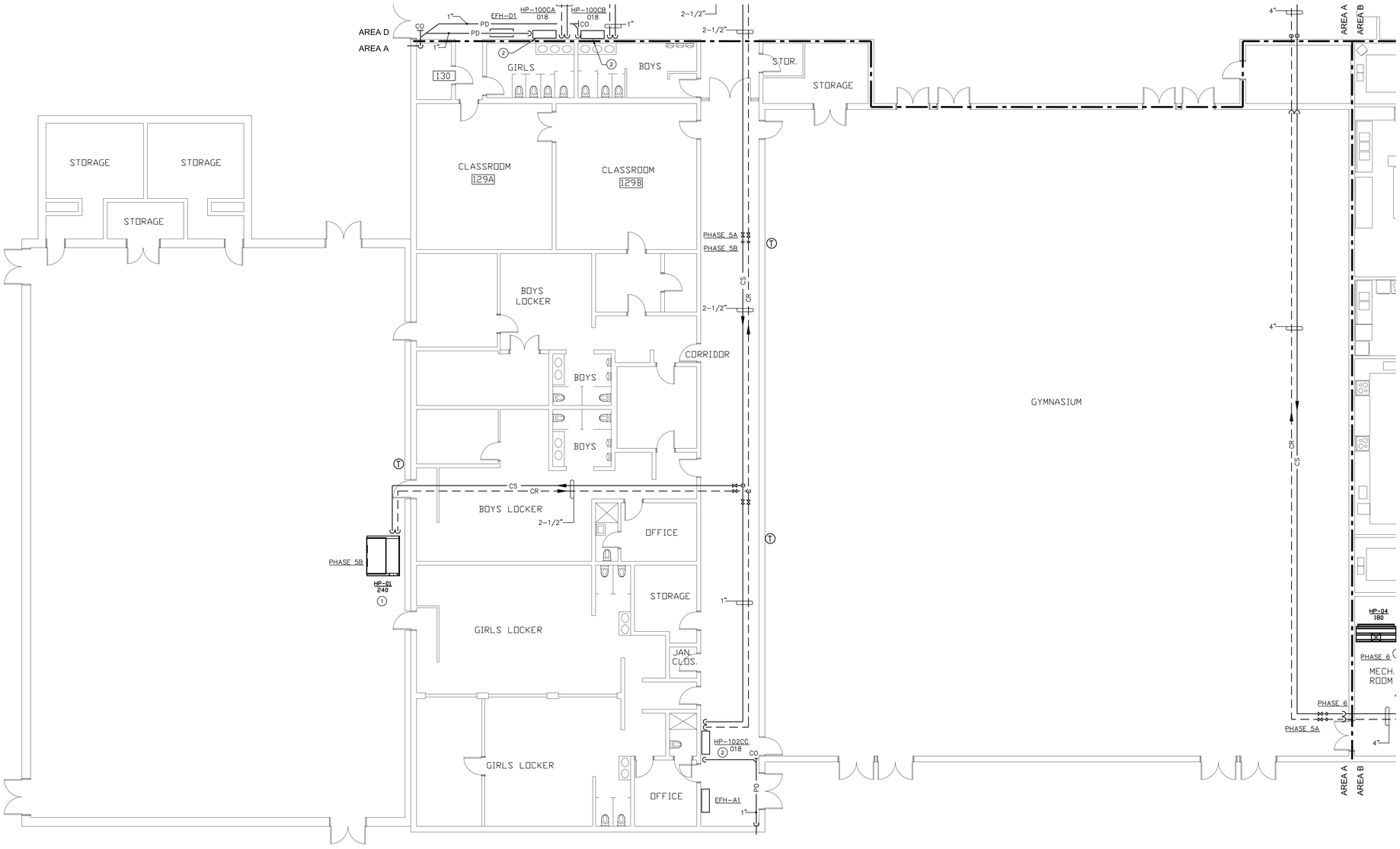
COMMISSION NUMBER: 221.014.05

DRAWN BY: JVC
CHECKED BY: JLC
DATE: 08/30/2022
REVISIONS:

Date	Revision Number	Revision Description
7.1.22		Code Review Set
7.15.22		Issue For Permit
8.25.22	1	Update labelling & pipe sizes
9.13.22	2	Addendum 3

DRAWING TITLE:
HVAC FLOOR PLAN - AREA F NEW WORK

DRAWING NUMBER:
M101F



KEYED NOTES:

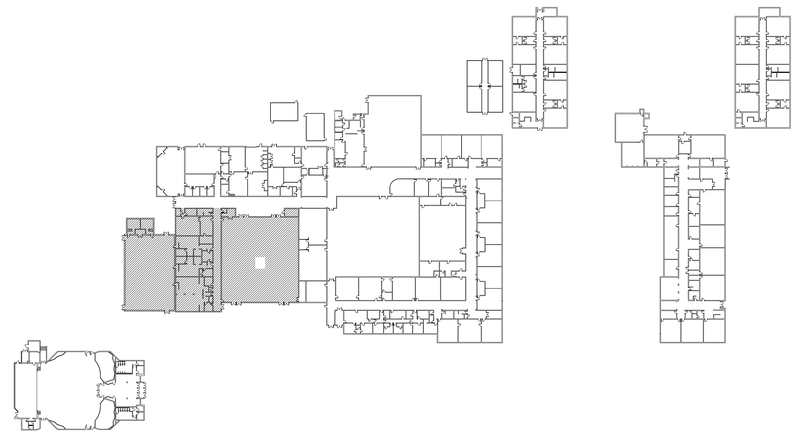
1. ROUTE 1" CONDENSATE DRAIN THRU THE OUTSIDE WALL AND TURN DOWN.
2. PROVIDE UNIT WITH INTERNAL CONDENSATE PUMP.

1 M101H PIPING FLOOR PLAN – AREA A NEW WORK

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

NORTH

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



2

sheet renumbered and completely revised

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400 West Marion Street
Shelby, North Carolina 28150

Site:

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500 Phifer Rd.
Kings Mountain, North Carolina 28086

NORTH CAROLINA PROFESSIONAL SEAL 049911 ENGINEER JAMES L. CLONTZ

08/30/2022

COMMISSION NUMBER: 221.014.05

DRAWN BY: JVC
CHECKED BY: JLC
DATE: 08/30/2022
REVISIONS:

Date	Revision Number	Revision Description
7.1.22		Code Review Set
7.13.22		Issue For Permit
8.25.22	1	Update labelling & plbg sizes
9.13.22	2	Addendum 3

DRAWING TITLE:

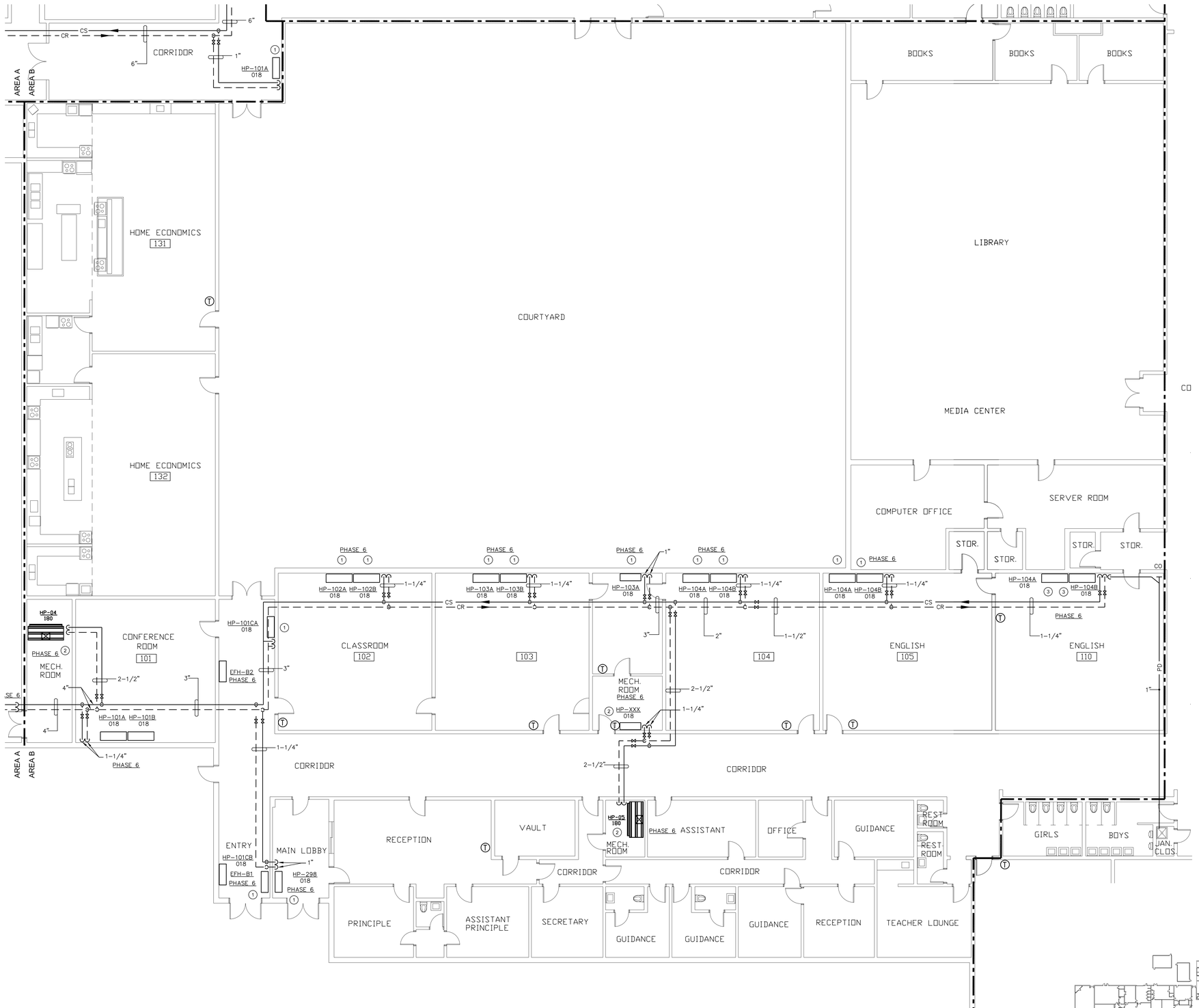
PIPING FLOOR PLAN - AREA A NEW WORK

DRAWING NUMBER:

M101H

KEYED NOTES:

1. ROUTE 1" CONDENSATE DRAIN THRU THE OUTSIDE WALL AND TURN DOWN.
2. CONNECT NEW 1" CONDENSATE PIPING TO EXISTING FLOOR DRAIN.
3. PROVIDE UNIT WITH INTERNAL CONDENSATE PUMP.



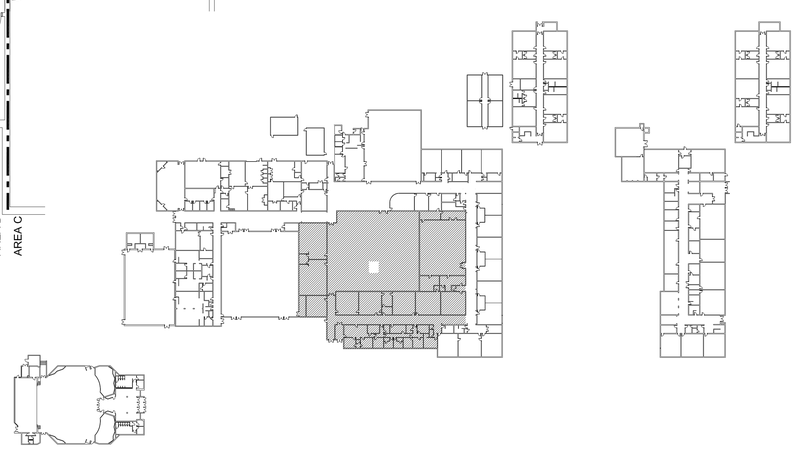
1 M101I **PIPING FLOOR PLAN – AREA B NEW WORK**
SCALE: 1/8"=1'-0"

NORTH

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

2

sheet renumbered and completely revised



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NORTH CAROLINA PROFESSIONAL SEAL 31487 ENGINEER JAMES L. CARR II

08/30/2022

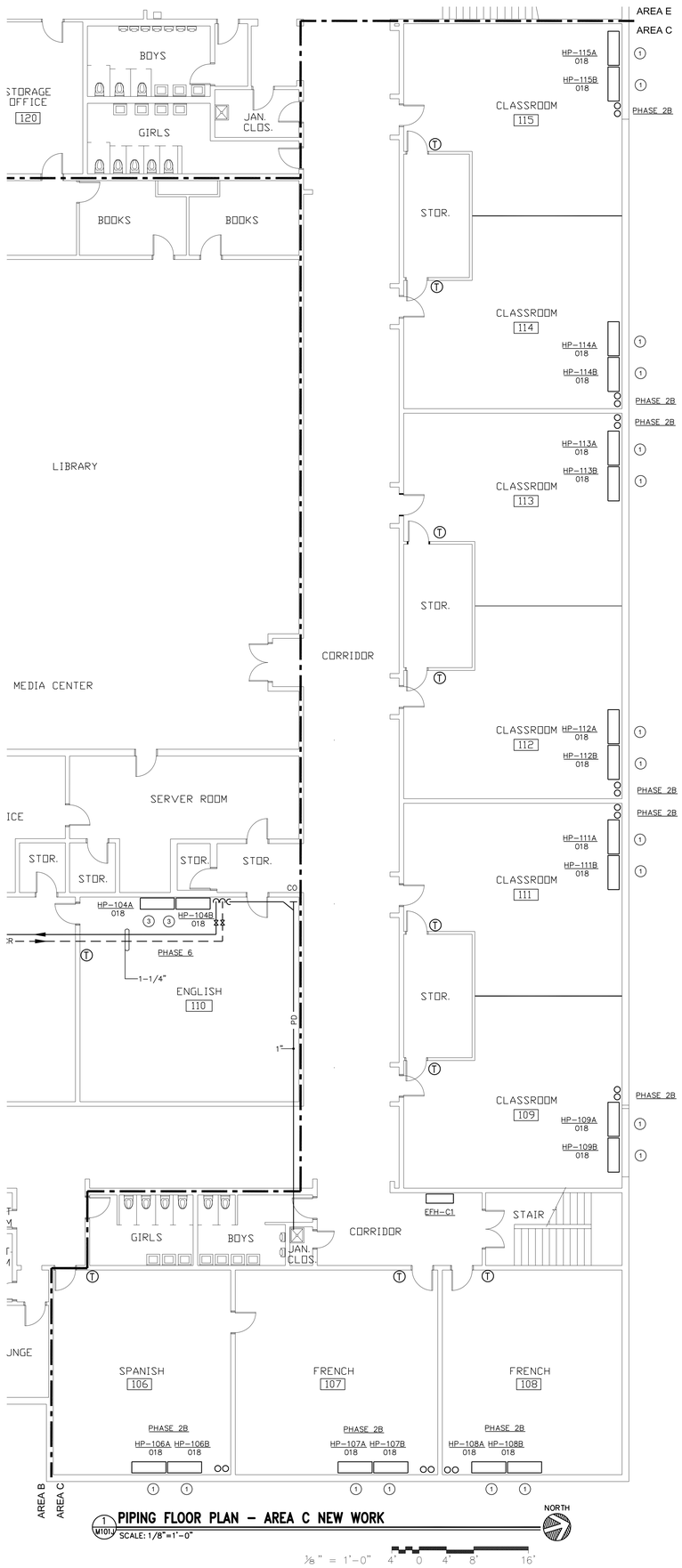
COMMISSION NUMBER: 221.014.05

DRAWN BY: JVC
CHECKED BY: JLC
DATE: 08/30/2022
REVISIONS:

Date	Revision Number	Revision Description
7.1.22		Code Review Set
7.13.22		Issue For Permit
8.25.22	1	Update labelling & pipe sizes
9.13.22	2	Addendum 3

DRAWING TITLE:
PIPING FLOOR PLAN - AREA B NEW WORK

DRAWING NUMBER:
M101I

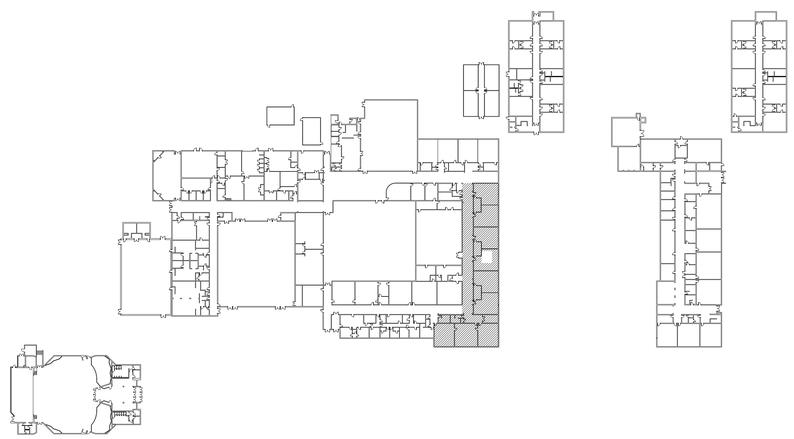


KEYED NOTES:

(1) ROUTE 1" CONDENSATE DRAIN THRU THE OUTSIDE WALL AND TURN DOWN.

sheet renumbered and completely revised

2



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NORTH CAROLINA PROFESSIONAL SEAL 31478 ENGINEER JAMES L. CURRIE

08/30/2022

COMMISSION NUMBER: 221.014.05

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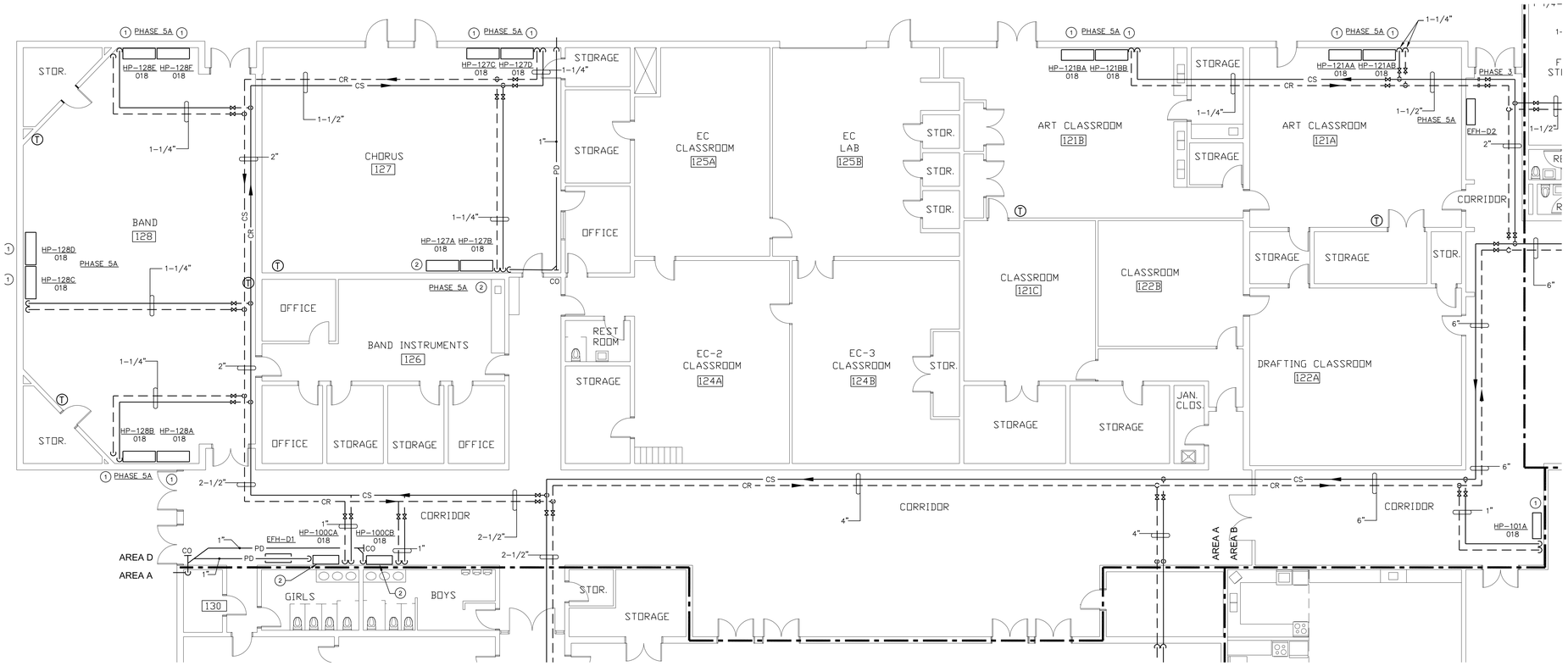
9.13.22	2	Addendum 3

DRAWING TITLE:

PIPING FLOOR PLAN - AREA C NEW WORK

DRAWING NUMBER:

M101J



1 M101K **PIPING FLOOR PLAN – AREA D NEW WORK**
SCALE: 1/8"=1'-0"

NORTH

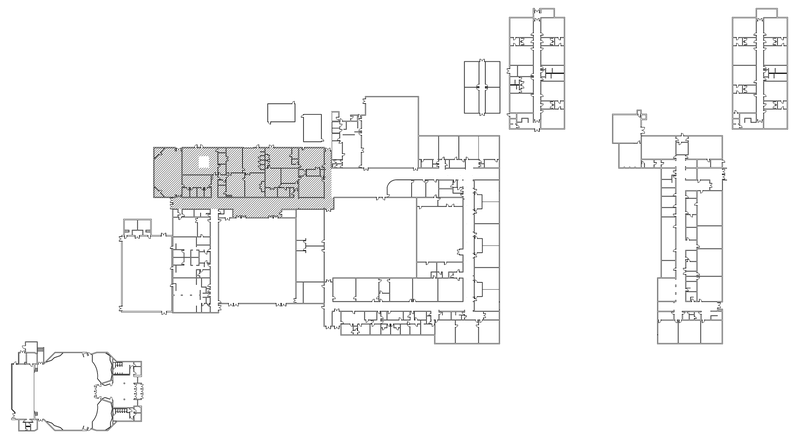
1/8" = 1'-0" 4' 0 4' 8' 16'

KEYED NOTES:

1. ROUTE 1" CONDENSATE DRAIN THRU THE OUTSIDE WALL AND TURN DOWN.
2. PROVIDE UNIT WITH INTERNAL CONDENSATE PUMP.

sheet renumbered and completely revised

2



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Shelby, North Carolina 28150

Site:
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NORTH CAROLINA PROFESSIONAL SEAL 31480 ENGINEER JAMES L. CURRIE

08/30/2022

COMMISSION NUMBER: 221.014.05

DRAWN BY: JVC
CHECKED BY: JLC
DATE: 08/30/2022

REVISIONS:

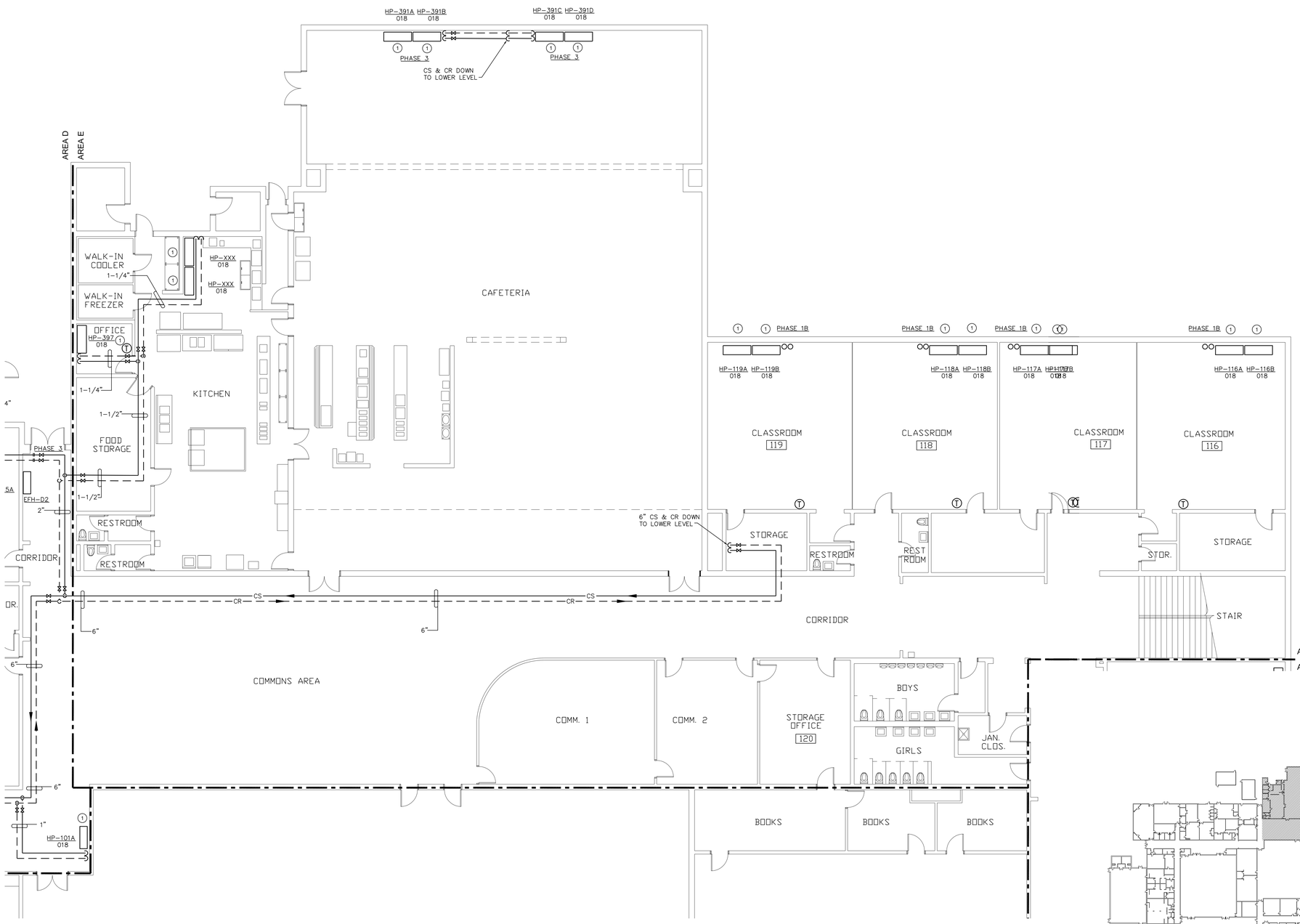
Date	Revision Number	Revision Description
7.1.22		Code Review Set
7.13.22		Issue For Permit
8.25.22	1	Update labelling & pipe sizes
9.13.22	2	Addendum 3

DRAWING TITLE:
PIPING FLOOR PLAN - AREA D NEW WORK

DRAWING NUMBER:
M101K

KEYED NOTES:

(1) ROUTE 1" CONDENSATE DRAIN THRU THE OUTSIDE WALL AND TURN DOWN.



1 M101L **PIPING FLOOR PLAN – AREA E NEW WORK**
SCALE: 1/8"=1'-0"

NORTH

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

2 sheet renumbered and completely revised

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Cleveland County SCHOOLS

Owner:

CLEVELAND COUNTY SCHOOLS
4 HS RENOVATIONS
PHASE 5
HVAC UPGRADES

Central Offices
400 West Marion Street
Shelby, North Carolina 28150

Site:
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500 Phifer Rd.
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NORTH CAROLINA PROFESSIONAL SEAL 31412 ENGINEER JAMES L. CURRIE
08/30/2022

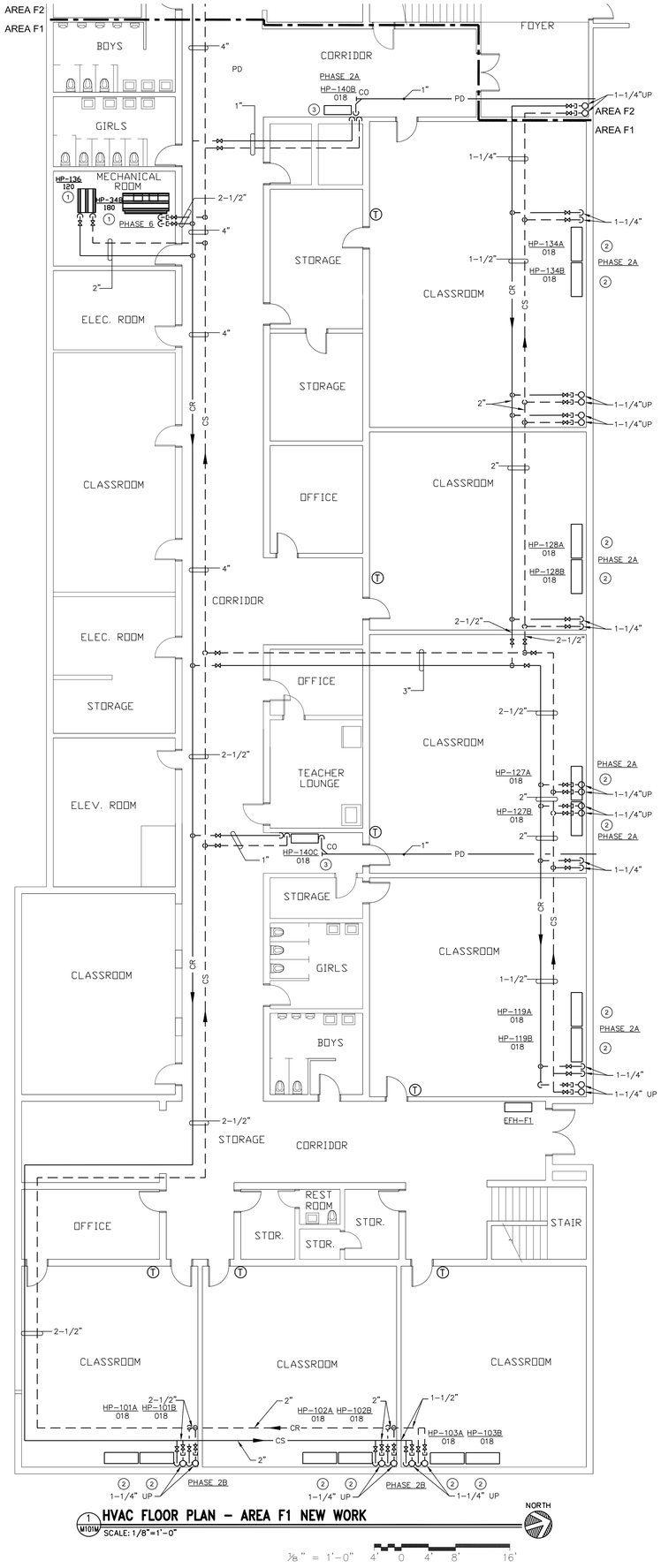
COMMISSION NUMBER: 221.014.05

DRAWN BY: JVC
CHECKED BY: JLC
DATE: 08/30/2022
REVISIONS:

Date	Revision Number	Revision Description
7.1.22		Code Review Set
7.13.22		Issue For Permit
8.25.22	1	Update labelling & pipe sizes
9.13.22	2	Addendum 3

DRAWING TITLE:
PIPING FLOOR PLAN - AREA E NEW WORK

DRAWING NUMBER:
M101L

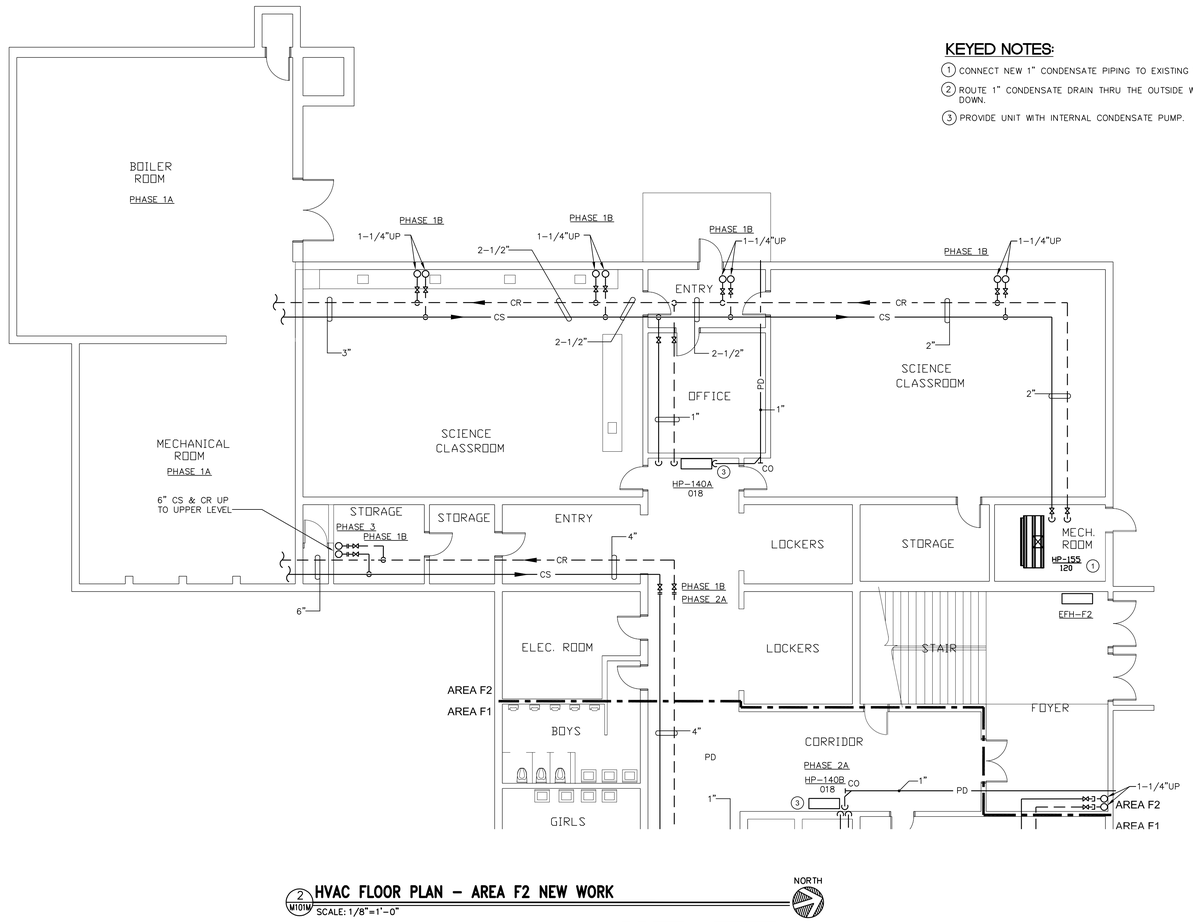


HVAC FLOOR PLAN – AREA F1 NEW WORK

1 M101M SCALE: 1/8"=1'-0"

NORTH

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



KEYED NOTES:

1. CONNECT NEW 1" CONDENSATE PIPING TO EXISTING FLOOR DRAIN.
2. ROUTE 1" CONDENSATE DRAIN THRU THE OUTSIDE WALL AND TURN DOWN.
3. PROVIDE UNIT WITH INTERNAL CONDENSATE PUMP.

HVAC FLOOR PLAN – AREA F2 NEW WORK

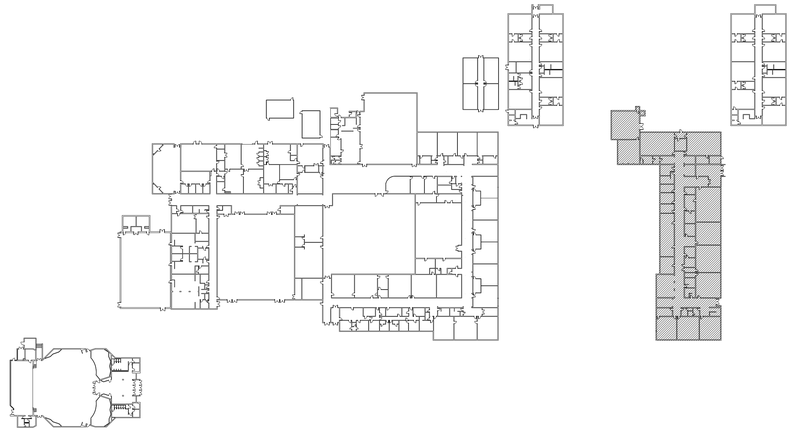
2 M101M SCALE: 1/8"=1'-0"

NORTH

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

2

sheet renumbered and completely revised



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Cleveland County SCHOOLS

Owner:

CLEVELAND COUNTY SCHOOLS
4 HS RENOVATIONS
PHASE 5
HVAC UPGRADES

Central Offices
400 West Marion Street
Shelby, North Carolina 28150

Site:

KINGS MOUNTAIN HIGH SCHOOL

500 Phifer Rd.
Kings Mountain, North Carolina 28086

NORTH CAROLINA PROFESSIONAL SEAL 044187 ENGINEER JAMES L. CURRIE

08/30/2022

COMMISSION NUMBER: 221.014.05

DRAWN BY: JVC
CHECKED BY: JLC
DATE: 08/30/2022
REVISIONS:

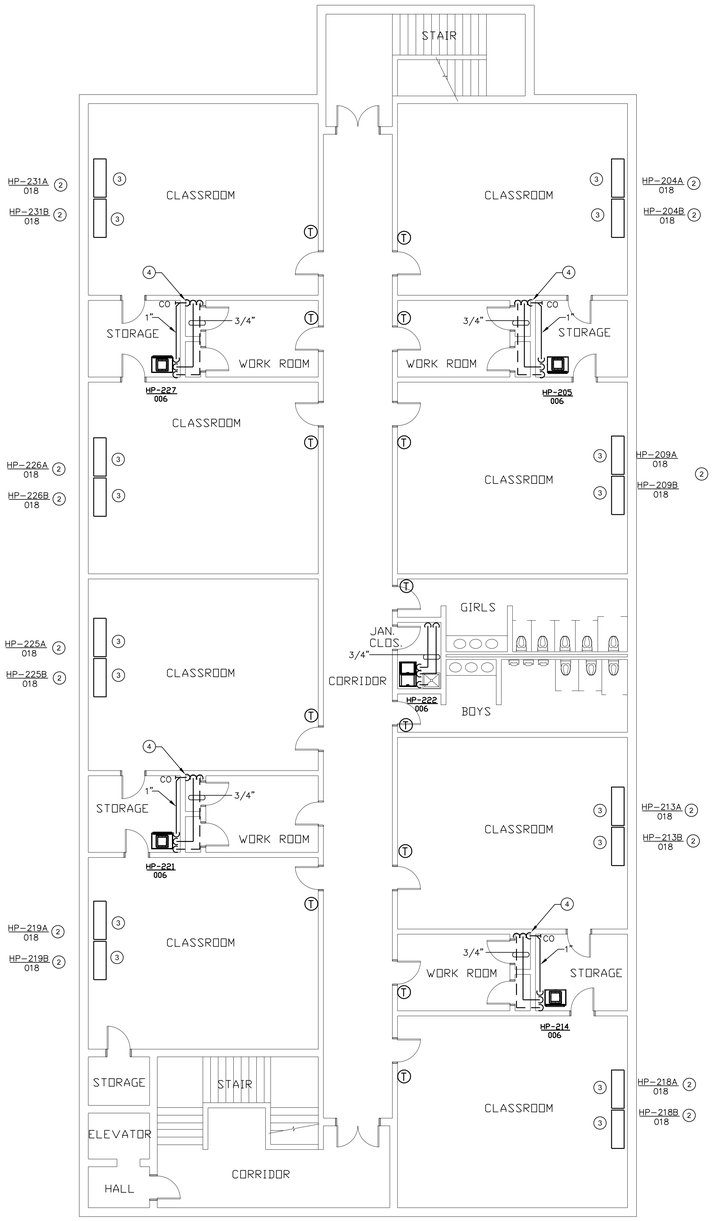
Date	Revision Number	Revision Description
7.1.22		Code Review Set
7.15.22		Issue For Permit
8.25.22	1	Update labelling & pipe sizes
9.13.22	2	Addendum 3

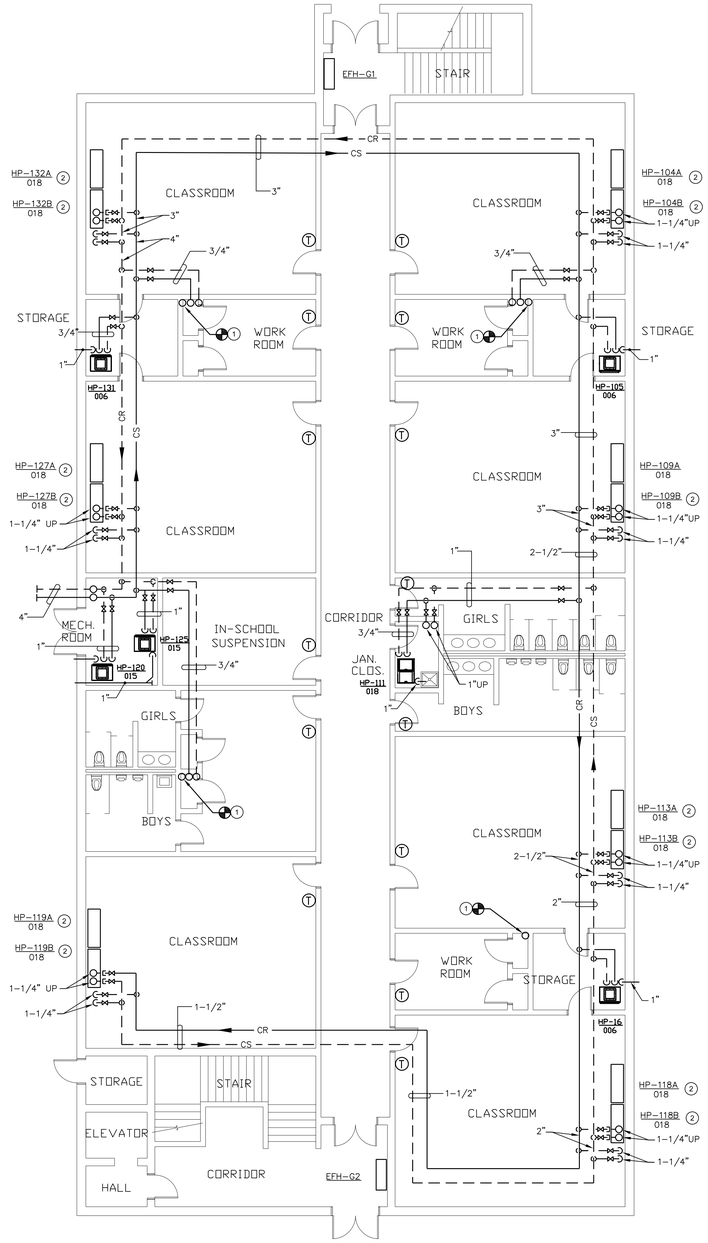
DRAWING TITLE:

PIPING FLOOR PLAN - AREA F NEW WORK

DRAWING NUMBER:

M101M





KEYED NOTES:

1. CONNECT NEW 1" CONDENSATE PIPING TO EXISTING HUB DRAIN.
2. ROUTE 1" CONDENSATE DRAIN THRU THE OUTSIDE WALL AND TURN DOWN.
3. PIPE UNITS FROM FLOOR BELOW, SEE FIRST FLOOR LEVEL G FOR CONTINUATION.
4. 1" CONDENSATE DRAIN DOWN TO HUB DRAIN, SEE FIRST FLOOR LEVEL G FOR CONTINUATION.

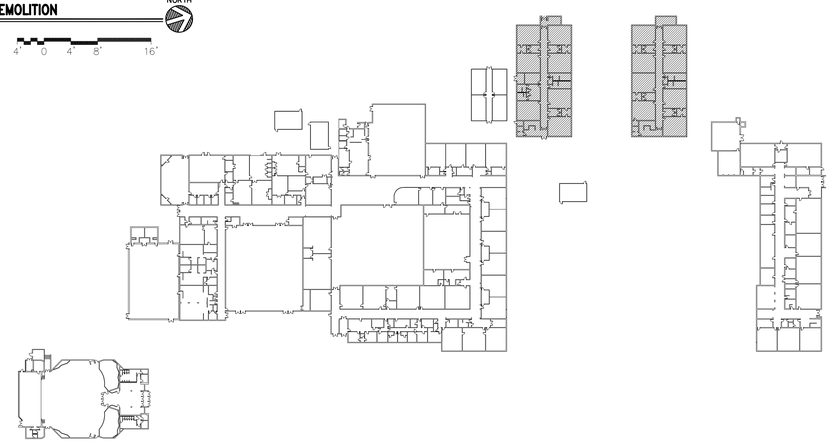
2 M101N **HVAC FLOOR PLAN – AREA G2 PIPING DEMOLITION**
SCALE: 1/8"=1'-0"

1 M101N **HVAC FLOOR PLAN – AREA G1 PIPING DEMOLITION**
SCALE: 1/8"=1'-0"

NORTH

⅛" = 1'-0" 4' 0 4' 8' 16'

sheet renumbered and completely revised 2



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Cleveland County SCHOOLS

Owner:

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NORTH CAROLINA PROFESSIONAL SEAL 31478 ENGINEER JAMES L. CURRIE
08/30/2022

COMMISSION NUMBER: 221.014.05

DRAWN BY: JVC
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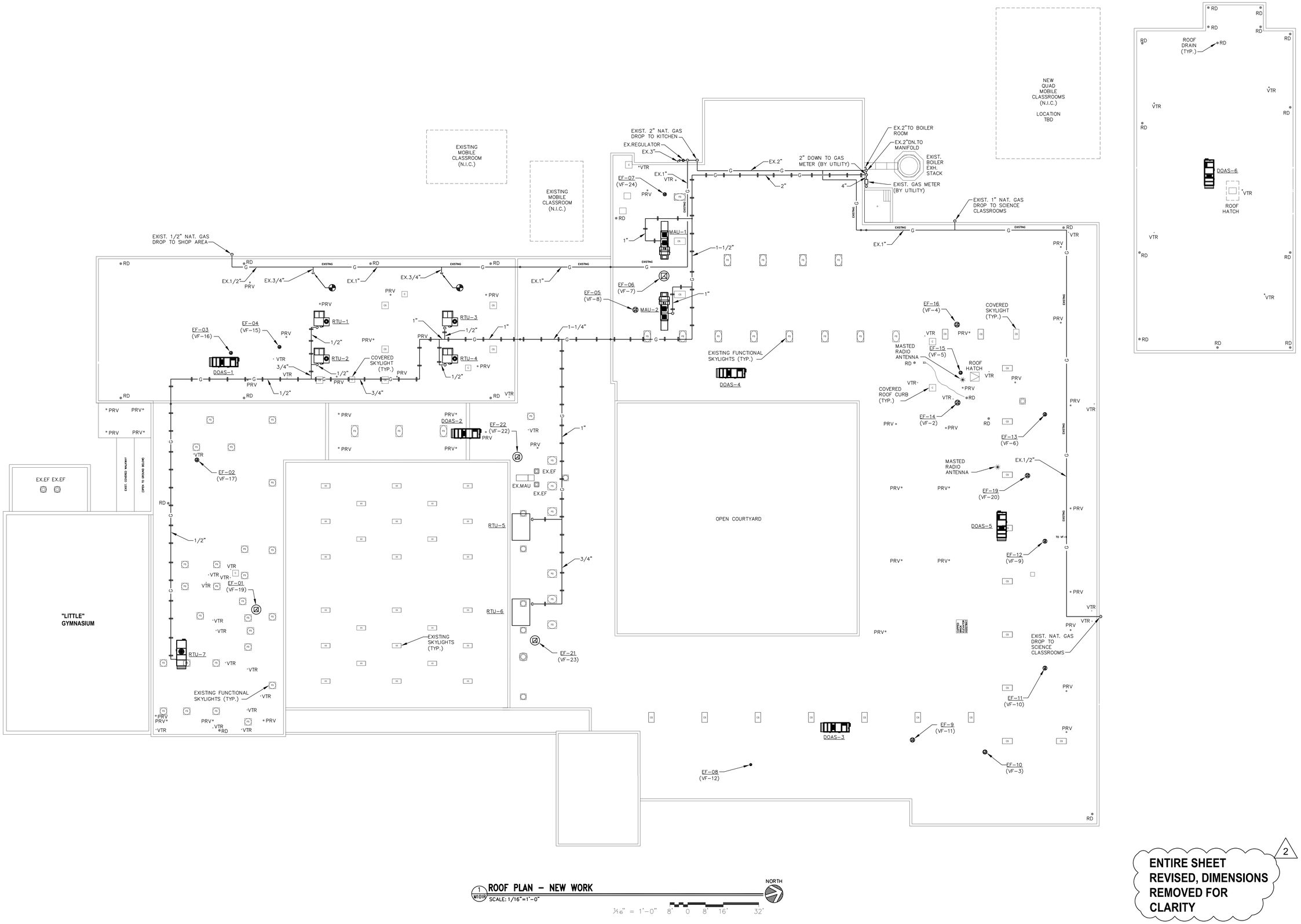
9.13.22	2	Addendum 3

DRAWING TITLE:
PIPING FLOOR PLAN - AREA G NEW WORK

DRAWING NUMBER:
M101N



1 M101R ROOF PLAN - NEW WORK

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

NORTH

1/16" = 1'-0" 8' 0 8' 16' 32'

2 ENTIRE SHEET REVISED, DIMENSIONS REMOVED FOR CLARITY

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500 Phifer Rd.
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NORTH CAROLINA PROFESSIONAL SEAL 049827 ENGINEER JAMES L. CURRIE II

08/30/2022

COMMISSION NUMBER: 221.014.05

DRAWN BY: JVC
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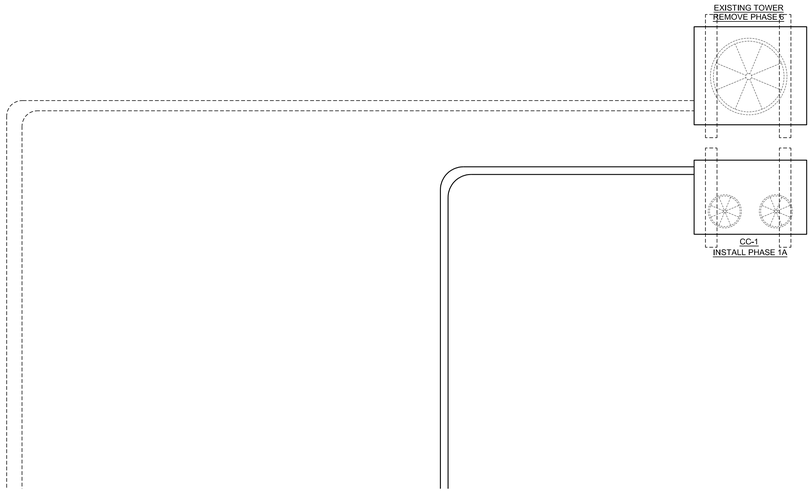
8.25.22	1	Update labelling & plbg labels
9.13.22	2	Addendum 3

DRAWING TITLE:
ROOF PLAN - NEW WORK

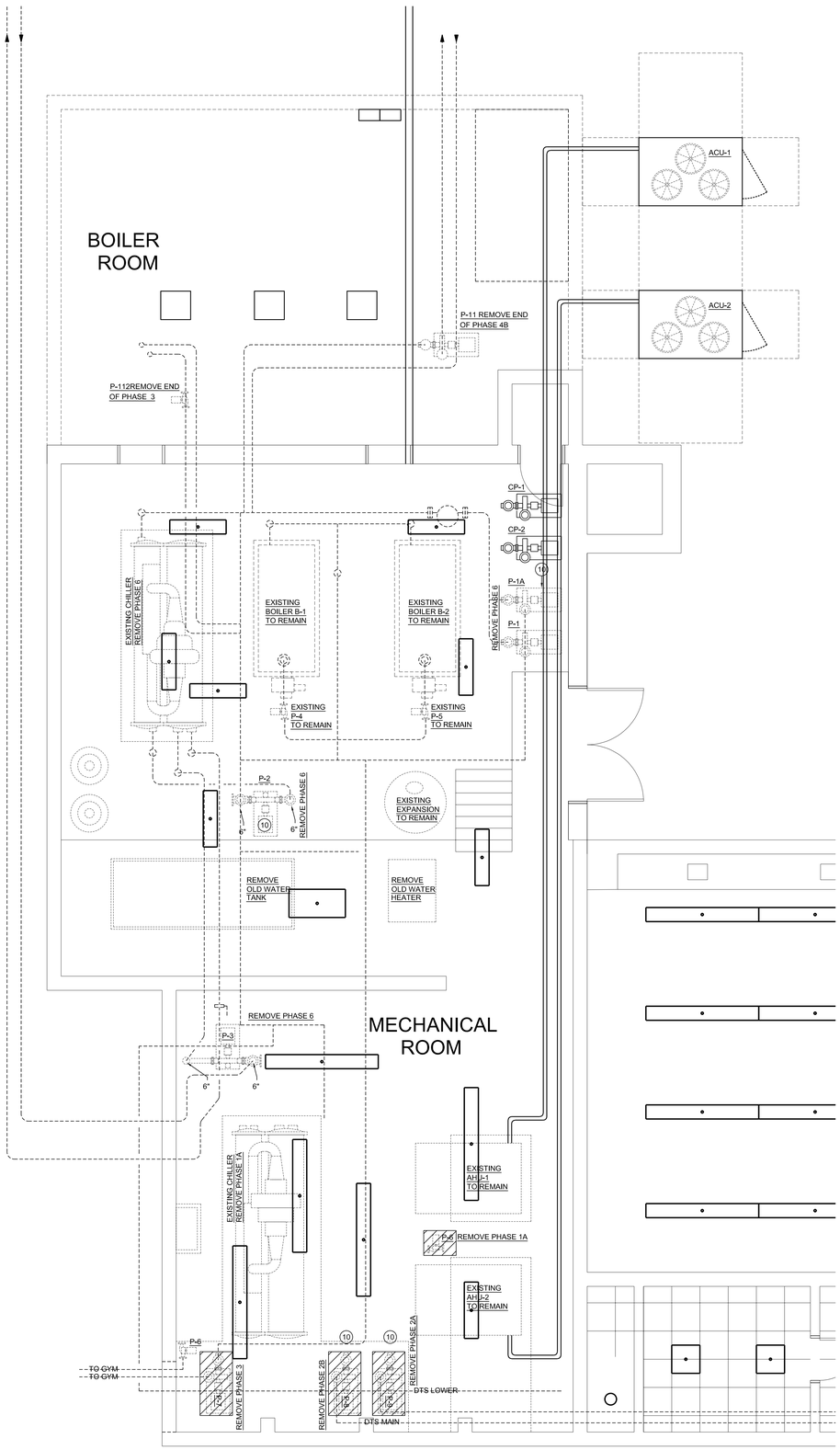
DRAWING NUMBER:
M101R



2 / M301 MECHANICAL BOILER ROOM ENLARGED PLAN - ALL PHASES (CONT)
SCALE: 1/4"=1'-0"

NORTH

1/4" = 1'-0" 2' 0 2' 4' 8'



1 / M301 MECHANICAL BOILER ROOM ENLARGED PLAN - ALL PHASES
SCALE: 1/4"=1'-0"

NORTH

1/4" = 1'-0" 2' 0 2' 4' 8'

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NORTH CAROLINA PROFESSIONAL SEAL 31478 ENGINEER JAMES L CURRIE

08/30/2022

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DRAWING TITLE:

MECHANICAL BOILER ROOM ENLARGED PLAN

DRAWING NUMBER:

M301