NOTES:

1. EXISTING AIR HANDLER AHU TO BE REPLACED COMPLETE. M.C. TO RECOVER EXISTING R410A REFRIGERANT AS REQUIRED BEFORE OPENING SYSTEMS. M.C. TO USE EXISTING ISOLATION VALVES EVERYWHERE POSSIBLE TO KEEP THE REFRIGERANT PIPING SYSTEM AS CLEAN AS POSSIBLE. M.C. TO FLUSH EXISTING REFRIGERANT PIPING AS REQUIRED TO REUSE IN R32 NEW EQUIPMENT. M.C. TO REPLACE ANY REMOVED OR DAMAGED REFRIGERANT PIPING AND REFRIGERANT PIPING INSULATION AS REQUIRED. M.C. TO REPAINT ANY REPLACED PIPING INSULATION TO MATCH EXISTING AS REQUIRED.

2. EXISTING BRANCH CONTROLLER BC TO BE REPLACED COMPLETE. M.C. TO RECOVER EXISTING R410A REFRIGERANT AS REQUIRED BEFORE OPENING SYSTEMS. M.C. TO USE EXISTING ISOLATION VALVES EVERYWHERE POSSIBLE TO KEEP THE REFRIGERANT PIPING SYSTEM AS CLEAN AS POSSIBLE. M.C. TO FLUSH EXISTING REFRIGERANT PIPING AS REQUIRED TO REUSE IN R32 NEW EQUIPMENT. M.C. TO REPLACE ANY REMOVED OR DAMAGED REFRIGERANT PIPING AND REFRIGERANT PIPING INSULATION AS REQUIRED. M.C. TO REPAINT ANY REPLACED PIPING INSULATION TO MATCH EXISTING AS REQUIRED.

3. EXISTING HEAT PUMP HP ON EXISTING ROOF TO BE REPLACED COMPLETE. M.C. TO RECOVER EXISTING R410A REFRIGERANT AS REQUIRED BEFORE OPENING SYSTEMS. M.C. TO USE EXISTING ISOLATION VALVES EVERYWHERE POSSIBLE TO KEEP THE REFRIGERANT PIPING SYSTEM AS CLEAN AS POSSIBLE. M.C. TO FLUSH EXISTING REFRIGERANT PIPING AS REQUIRED TO REUSE IN R32 NEW EQUIPMENT. M.C. TO REPLACE ANY REMOVED OR DAMAGED REFRIGERANT PIPING, REFRIGERANT PIPING EXTERIOR JACKET AND REFRIGERANT PIPING INSULATION AS REQUIRED. M.C. TO REPAINT ANY REPLACED PIPING INSULATION TO MATCH EXISTING AS REQUIRED.

4. NEW BRANCH CONTROLLER BC-2B TO BE MOUNTED AS CLOSE TO BC-2A AS POSSIBLE. M.C. TO INTERCEPT EXISTING REFRIGERANT PIPING FOR EXISTING AIR HANDLERS AND EXTEND TO NEW BC-2B AS REQUIRED. M.C. TO REPLACE ANY REMOVED OR DAMAGED REFRIGERANT PIPING, REFRIGERANT PIPING EXTERIOR JACKET AND REFRIGERANT PIPING INSULATION AS REQUIRED. M.C. TO REPAINT ANY REPLACED PIPING INSULATION TO MATCH EXISTING AS REQUIRED.

5. EXISTING AHU-24 IS A DUCTED AIR HANDLER, AND TO BE REPLACED WITH A DUCTED AIR HANDLER. M.C. TO DISCONNECT EXISTING SUPPLY AND RETURN DUCTWORK AS REQUIRED, REPLACE AIR HANDLER AND THEN RECONNECT DUCTWORK.

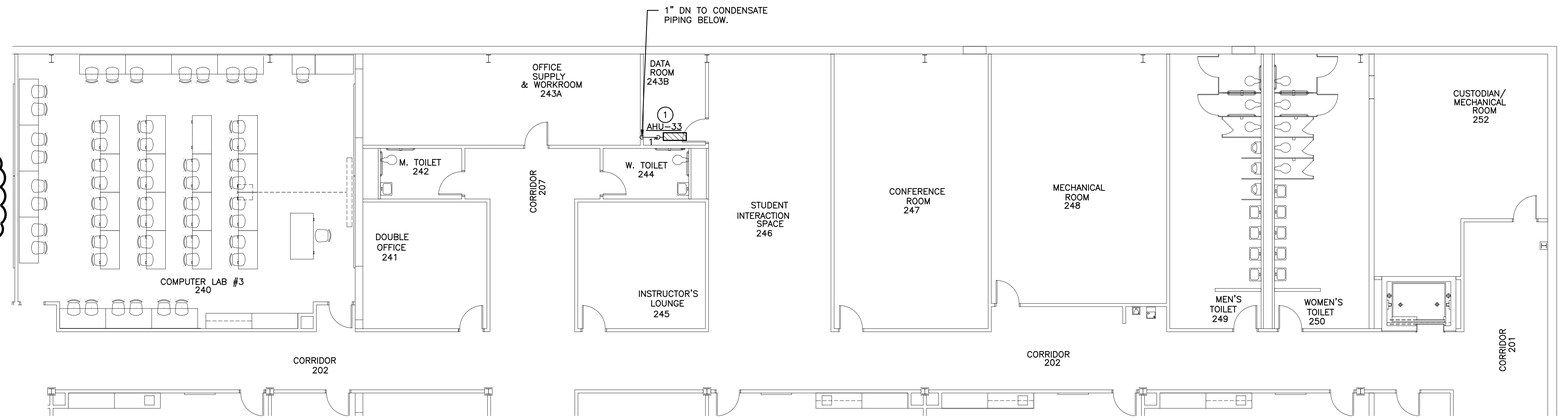
6. EXISTING AHU-23 IS A CONSOLE AIR HANDLER, AND TO BE REPLACED WITH A DUCTED AIR HANDLER FOR FUTURE DENTAL LAB UPFIT. M.C. TO RELOCATE THE NEW AHU-23 OFF THE CORRIDOR WALL TO MATCH AHU-24 AS REQUIRED, APPROX. 3', AND EXTEND REFRIGERANT AND CONDENSATE PIPING TO RECONNECT TO EXISTING PIPING. DUCTWORK TO BE INSTALLED IN UPFIT RENOVATION AT A LATER DATE.

OUTSIDE AIR CALCULATIONS:

PER 2018 NORTH CAROLINA MECHANICAL CODE:

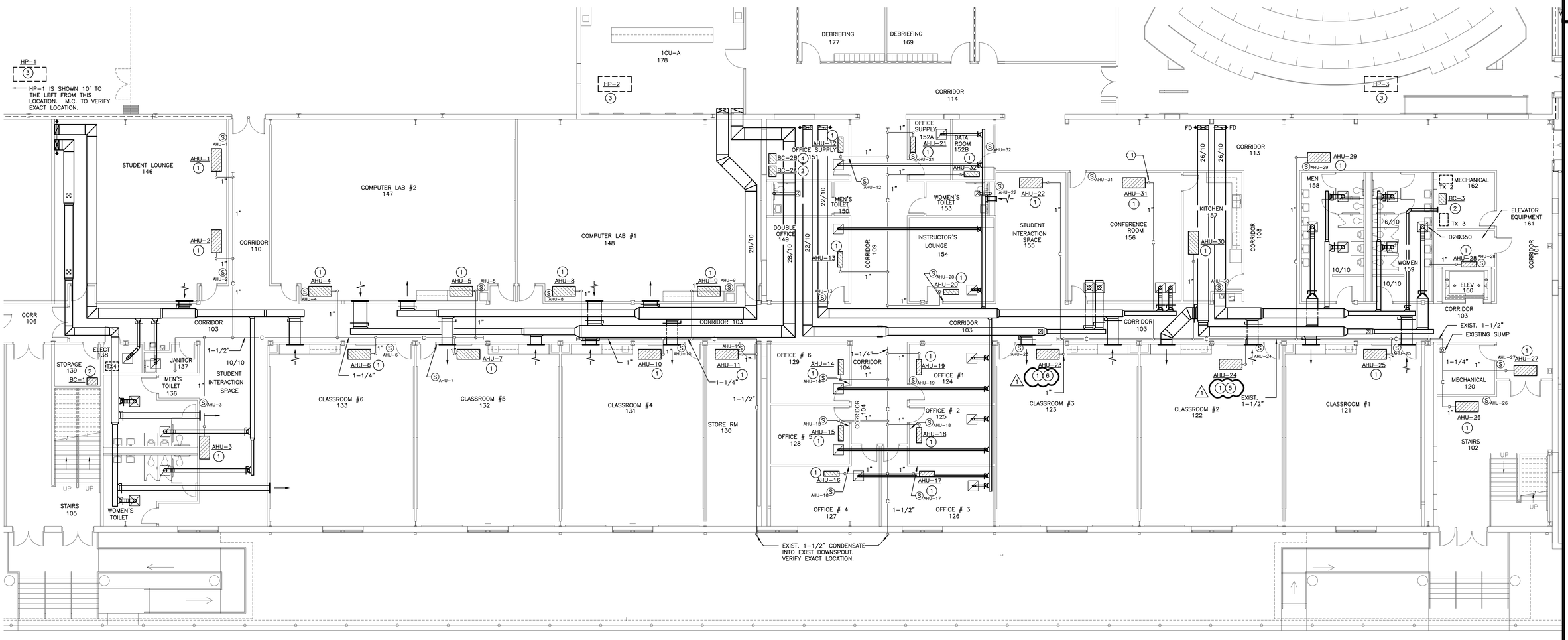
Vbz = Rp*Pz +Ra*Az
Vbz = OUTDOOR AIR RATE IN BREATHING ZONE
Az = FLOOR AREA OF SPACE
Pz = # PEOPLE IN SPACE
Rp = PEOPLE OUTDOOR AIR RATE
Ra = AREA OUTDOOR AIR RATE

EXISTING OUTSIDE AIR PROVIDED VIA EXISTING ROOFTOP UNITS AND ENERGY RECOVERY UNITS TO REMAIN AS IS. THIS PROJECT IS FOR REPLACEMENT OF EXISTING VRF INDOOR AIR HANDLERS, BRANCH CONTROLLERS AND OUTDOOR HEAT PUMPS.



PARTIAL SECOND FLOOR PLAN - HVAC

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



PARTIAL LOWER FLOOR PLAN - HVAC

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

1 ADDENDUM #1 05/27/26

041626RB

NORTH CAROLINA PROFESSIONAL SEAL 7883 ENGINEER DONALD R. BRITTAIN 05/13/26

BRITTAIN ENGINEERING, INC.
CONSULTING MECHANICAL AND ELECTRICAL ENGINEERS
PO BOX 939
HICKORY, NC 28603
(828) 328-1813

HVAC REPLACEMENT FOR:
BURKE COUNTY
FOOTHILLS HIGHER EDUCATION CENTER
2128 S. STERLING ST., MORGANTON, NC 28655

JOB NO.	222150
DWN BY:	RNB
DATE:	05/13/26
SCALE:	AS SHOWN
SHEET	M-1

AIR HANDLING UNIT & HEAT PUMP SCHEDULE

UNIT NO.	FAN TYPE	FAN TOTAL CFM	FAN EXT. SP IN H2O	FAN MOTOR WATTS	DX COOLING CAP. BTUH TOTAL	HEATING CAP. BTUH TOTAL	O.A CFM	REFRIGERANT TYPE	REFRIGERANT LINE SIZES	ELECTRICAL VOLTAGE	ELECTRICAL MCA	ELECTRICAL MOP	WEIGHT LBS.	MANUFACTURER AND MODEL NUMBER	ACCESSORIES/ REMARKS
AHU-1	SIROCCO	990	–	160	30,000	34,000	0	R32	3/8" & 5/8"	208V/1ø	1.04	15.0	79	MITSUBISHI TPCFYP030KM1MOA	(1),(2),(3),(4)
AHU-2	SIROCCO	990	–	160	30,000	34,000	0	R32	3/8" & 5/8"	208V/1ø	1.04	15.0	79	MITSUBISHI TPCFYP030KM1MOA	(1),(2),(3),(4)
AHU-3	SIROCCO	990	–	160	30,000	34,000	0	R32	3/8" & 5/8"	208V/1ø	1.04	15.0	79	MITSUBISHI TPCFYP030KM1MOA	(1),(2),(3),(4)
AHU-4	SIROCCO	990	–	160	30,000	34,000	0	R32	3/8" & 5/8"	208V/1ø	1.04	15.0	79	MITSUBISHI TPCFYP030KM1MOA	(1),(2),(3),(4)
AHU-5	SIROCCO	990	–	160	30,000	34,000	0	R32	3/8" & 5/8"	208V/1ø	1.04	15.0	79	MITSUBISHI TPCFYP030KM1MOA	(1),(2),(3),(4)
AHU-6	SIROCCO	990	–	160	30,000	34,000	0	R32	3/8" & 5/8"	208V/1ø	1.04	15.0	79	MITSUBISHI TPCFYP030KM1MOA	(1),(2),(3),(4)
AHU-7	SIROCCO	990	–	160	30,000	34,000	0	R32	3/8" & 5/8"	208V/1ø	1.04	15.0	79	MITSUBISHI TPCFYP030KM1MOA	(1),(2),(3),(4)
AHU-8	SIROCCO	990	–	160	30,000	34,000	0	R32	3/8" & 5/8"	208V/1ø	1.04	15.0	79	MITSUBISHI TPCFYP030KM1MOA	(1),(2),(3),(4)
AHU-9	SIROCCO	990	–	160	30,000	34,000	0	R32	3/8" & 5/8"	208V/1ø	1.04	15.0	79	MITSUBISHI TPCFYP030KM1MOA	(1),(2),(3),(4)
AHU-10	SIROCCO	990	–	160	30,000	34,000	0	R32	3/8" & 5/8"	208V/1ø	1.04	15.0	79	MITSUBISHI TPCFYP030KM1MOA	(1),(2),(3),(4)
AHU-11	SIROCCO	990	–	160	30,000	34,000	0	R32	3/8" & 5/8"	208V/1ø	1.04	15.0	79	MITSUBISHI TPCFYP030KM1MOA	(1),(2),(3),(4)
AHU-12	LINE FLOW	285	–	30	8,000	9,000	0	R32	1/4" & 1/2"	208V/1ø	0.40	15.0	35	MITSUBISHI TPMFYP008CM1MOA	(1),(2),(3),(4)
AHU-13	LINE FLOW	285	–	30	8,000	9,000	0	R32	1/4" & 1/2"	208V/1ø	0.40	15.0	35	MITSUBISHI TPMFYP008CM1MOA	(1),(2),(3),(4)
AHU-14	LINE FLOW	285	–	30	8,000	9,000	0	R32	1/4" & 1/2"	208V/1ø	0.40	15.0	35	MITSUBISHI TPMFYP008CM1MOA	(1),(2),(3),(4)
AHU-15	LINE FLOW	285	–	30	8,000	9,000	0	R32	1/4" & 1/2"	208V/1ø	0.40	15.0	35	MITSUBISHI TPMFYP008CM1MOA	(1),(2),(3),(4)
AHU-16	LINE FLOW	310	–	30	12,000	13,500	0	R32	1/4" & 1/2"	208V/1ø	0.40	15.0	36	MITSUBISHI TPMFYP012CM1MOA	(1),(2),(3),(4)
AHU-17	LINE FLOW	310	–	30	12,000	13,500	0	R32	1/4" & 1/2"	208V/1ø	0.40	15.0	36	MITSUBISHI TPMFYP012CM1MOA	(1),(2),(3),(4)
AHU-18	LINE FLOW	285	–	30	8,000	9,000	0	R32	1/4" & 1/2"	208V/1ø	0.40	15.0	35	MITSUBISHI TPMFYP008CM1MOA	(1),(2),(3),(4)
AHU-19	LINE FLOW	285	–	30	8,000	9,000	0	R32	1/4" & 1/2"	208V/1ø	0.40	15.0	35	MITSUBISHI TPMFYP008CM1MOA	(1),(2),(3),(4)
AHU-20	LINE FLOW	285	–	30	8,000	9,000	0	R32	1/4" & 1/2"	208V/1ø	0.40	15.0	35	MITSUBISHI TPMFYP008CM1MOA	(1),(2),(3),(4)
AHU-21	LINE FLOW	225	–	30	6,000	6,700	0	R32	1/4" & 1/2"	208V/1ø	0.40	15.0	35	MITSUBISHI TPMFYP006CM1MOA	(1),(2),(3),(4)
AHU-32	LINE FLOW	285	–	30	8,000	9,000	0	R32	1/4" & 1/2"	208V/1ø	0.40	15.0	35	MITSUBISHI TPMFYP008CM1MOA	(1),(2),(3),(4)
AHU-33	LINE FLOW	285	–	30	8,000	9,000	0	R32	1/4" & 1/2"	208V/1ø	0.40	15.0	35	MITSUBISHI TPMFYP008CM1MOA	(1),(2),(3),(4)
AHU-22	SIROCCO	990	–	160	30,000	34,000	0	R32	3/8" & 5/8"	208V/1ø	1.04	15.0	79	MITSUBISHI TPCFYP030KM1MOA	(1),(2),(3),(4)
AHU-23	SIROCCO	990	–	160	30,000	34,000	0	R32	3/8" & 5/8"	208V/1ø	1.04	15.0	84	MITSUBISHI TPEFYP030MA1MOA	(1),(2),(3),(4)
AHU-24	SIROCCO	990	–	160	30,000	34,000	0	R32	3/8" & 5/8"	208V/1ø	1.04	15.0	84	MITSUBISHI TPEFYP030MA1MOA	(1),(2),(3),(4)
AHU-25	SIROCCO	990	–	160	30,000	34,000	0	R32	3/8" & 5/8"	208V/1ø	1.04	15.0	1 79	MITSUBISHI TPCFYP030KM1MOA	(1),(2),(3),(4)
AHU-26	SIROCCO	640	–	95	24,000	27,000	0	R32	3/8" & 5/8"	208V/1ø	0.51	15.0	71	MITSUBISHI TPCFYP024KM1MOA	(1),(2),(3),(4)
AHU-27	SIROCCO	640	–	95	24,000	27,000	0	R32	3/8" & 5/8"	208V/1ø	0.51	15.0	71	MITSUBISHI TPCFYP024KM1MOA	(1),(2),(3),(4)
AHU-28	LINE FLOW	310	–	30	12,000	13,500	0	R32	1/4" & 1/2"	208V/1ø	0.40	15.0	36	MITSUBISHI TPMFYP012CM1MOA	(1),(2),(3),(4)
AHU-29	SIROCCO	640	–	95	24,000	27,000	0	R32	3/8" & 5/8"	208V/1ø	0.51	15.0	71	MITSUBISHI TPCFYP024KM1MOA	(1),(2),(3),(4)
AHU-30	SIROCCO	460	–	90	15,000	17,000	0	R32	1/4" & 1/2"	208V/1ø	0.44	15.0	53	MITSUBISHI TPCFYP015KM1MOA	(1),(2),(3),(4)
AHU-31	SIROCCO	640	–	95	24,000	27,000	0	R32	3/8" & 5/8"	208V/1ø	0.51	15.0	71	MITSUBISHI TPCFYP024KM1MOA	(1),(2),(3),(4)

AHU-32 & 33 ADDED TO HP-2.

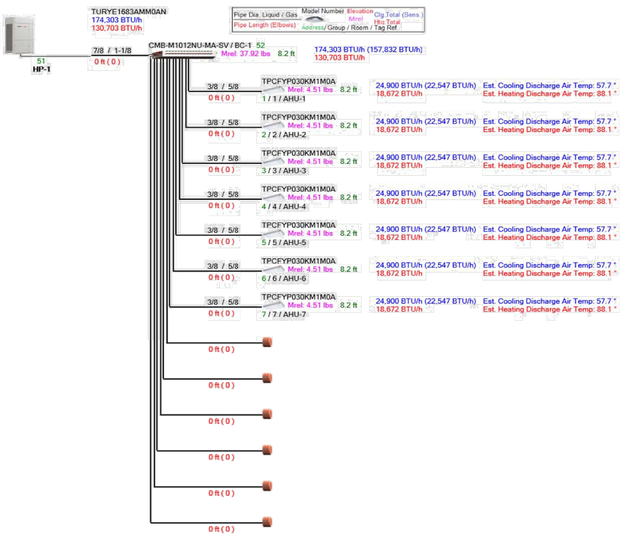
UNIT NO.	ENERGY RECOVERY HEAT PUMP CAP. MBTUH TOTAL	ENT. AIR °F. DB	ENT. AIR °F. WB	HEATING CAP. MBTUH TOTAL	ELECTRICAL VOLTAGE	ELECTRICAL MCA	ELECTRICAL MOP	REFRIGERANT PIPE SIZE	REFRIGERANT FIELD CHARGE	WEIGHT LBS.	MANUFACTURER AND MODEL NUMBER
HP-1	168,000	80	67	188,000	208V/3ø	60.0	70.0	7/8" & 1-1/8"	–	1090	MITSUBISHI TURYE1683AMMOAN
BC-1	210,000				208V/1ø	0.13	15.0	MAIN	–	37.92	MITSUBISHI CMB-M1012NU-MA-SV
HP-2	168,000	80	67	188,000	208V/3ø	60.0	70.0	7/8" & 1-1/8"	–	1090	MITSUBISHI TURYE1683AMMOAN
BC-2A	222,000				208V/1ø	0.13	15.0	MAIN	–	41.01	MITSUBISHI CMB-M1012NU-MA-SV
BC-2B	30,000				208V/1ø	0.13	15.0	SUB	–	41.01	MITSUBISHI CMB-M108NU-MB-SV
HP-3	192,000	80	67	192,000	208V/3ø	60.0	70.0	7/8" & 1-1/8"	–	1090	MITSUBISHI TURYE1923AMMOAN
BC-3	243,000				208V/1ø	0.13	15.0	MAIN	–	40.57	MITSUBISHI CMB-M1012NU-MA-SV

NOTE: ADDITIONAL REFRIGERANT CHARGE BASED ON SCHEMATIC LENGTHS. M.C. SHALL FIELD VERIFY ALL LENGTHS AND VERIFY ADDITIONAL REFRIGERANT CHARGE. EXISTING MITSUBISHI CONTROLLER MUST BE UPGRADED TO NEW TE-C400A DUE TO REFRIGERANT CHANGE.

(1) INDIVIDUAL REFRIGERANT LINE ISOLATION VALVES
(2) FACTORY BUILT-IN DRAIN PUMP KIT.
(3) FULL FACTORY ASSISTED START-UP
(4) TAR-43MAAUB MA REMOTE CONTROLLER

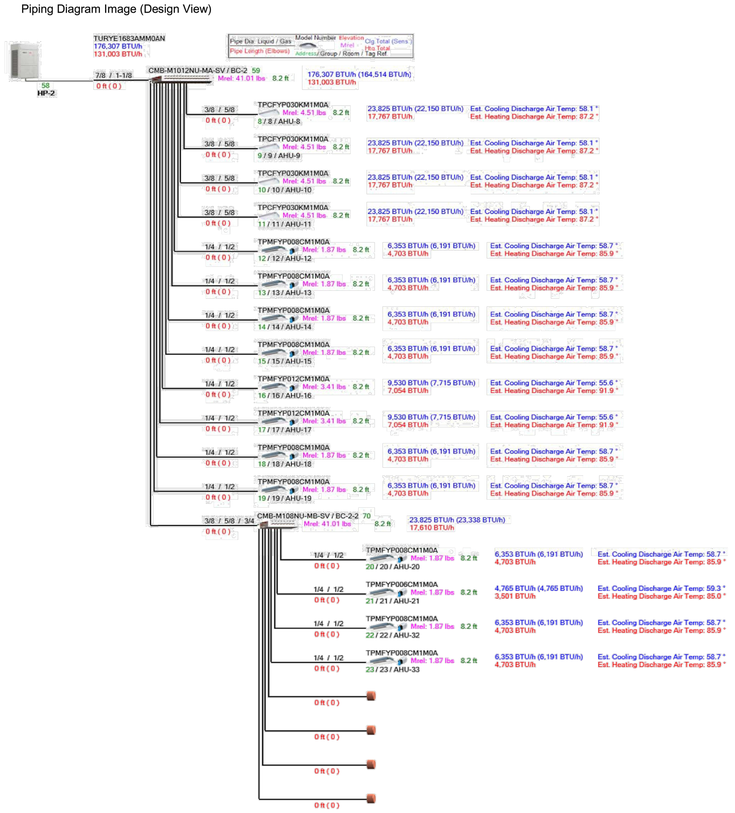
Centralized System - 1 : HP-1

Piping Diagram Image (Design View)



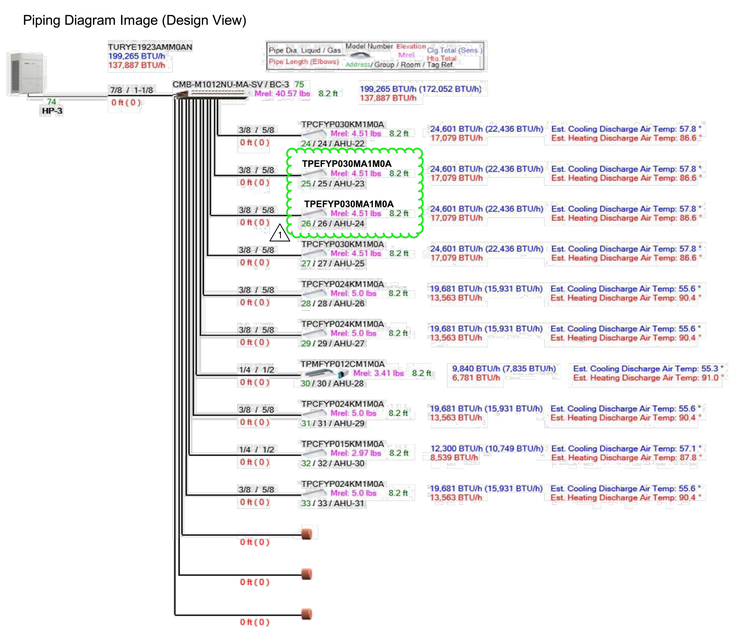
Centralized System - 1 : HP-2

Piping Diagram Image (Design View)



Centralized System - 1 : HP-3

Piping Diagram Image (Design View)



1 ADDENDUM #1 05/27/26

052726RB

BRITTAIN ENGINEERING, INC.
CONSULTING MECHANICAL AND ELECTRICAL ENGINEERS
PO BOX 939
HICKORY, NC 28603
(828) 328-1813

NORTH CAROLINA PROFESSIONAL SEAL 7883 ENGINEER DANIEL BRITTAIN 05/27/2026

HVAC REPLACEMENT FOR:
BURKE COUNTY PUBLIC SCHOOLS
FOOTHILLS HIGHER EDUCATION CENTER
2128 S. STERLING ST., MORGANTON, NC 28655

JOB NO. 222150
DWN BY: RNB
DATE: 05/13/26
SCALE: AS SHOWN

SHEET
M-2