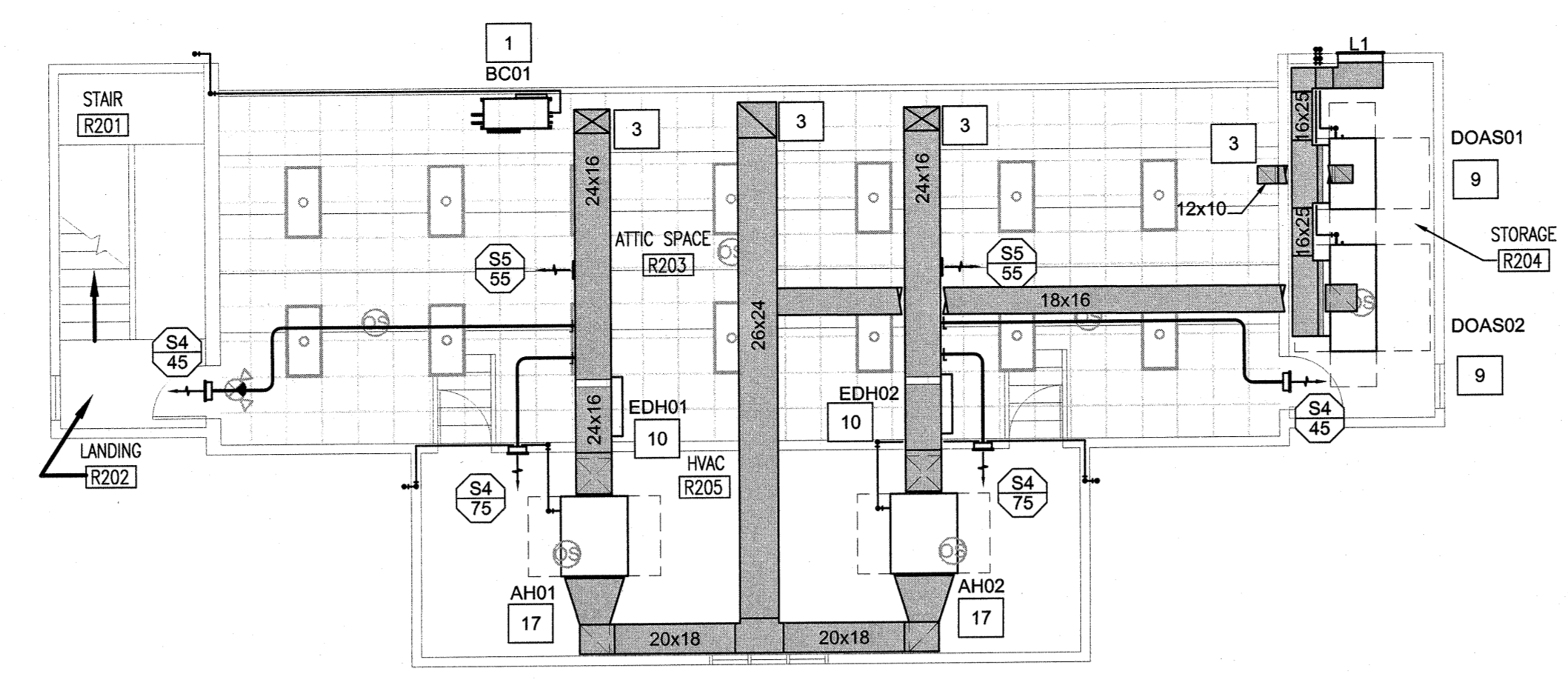
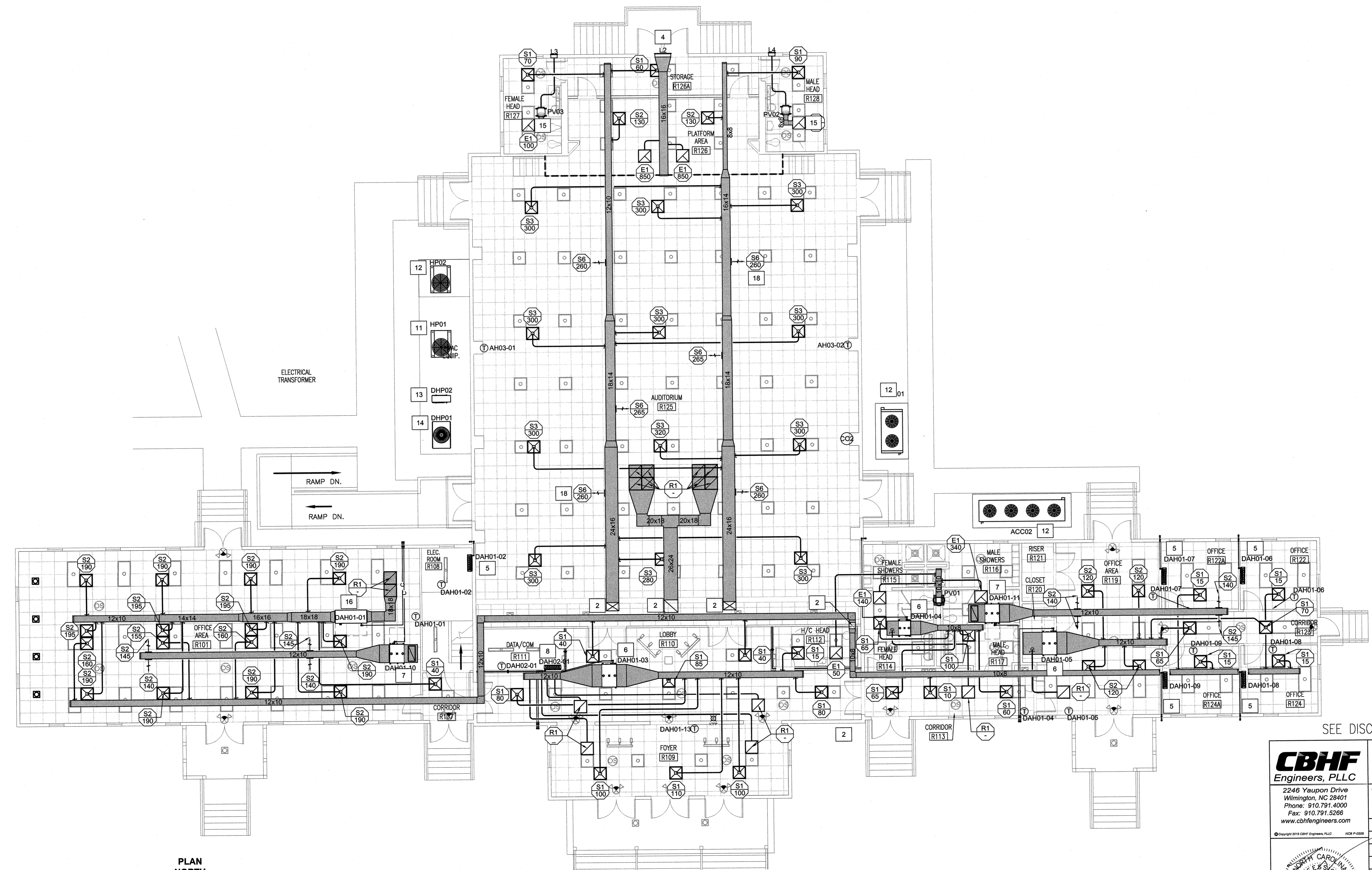


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**2 MECHANICAL MEZZANINE FLOOR PLAN**  
1/8" = 1'-0"



**1 MECHANICAL FLOOR PLAN**  
1/8" = 1'-0"

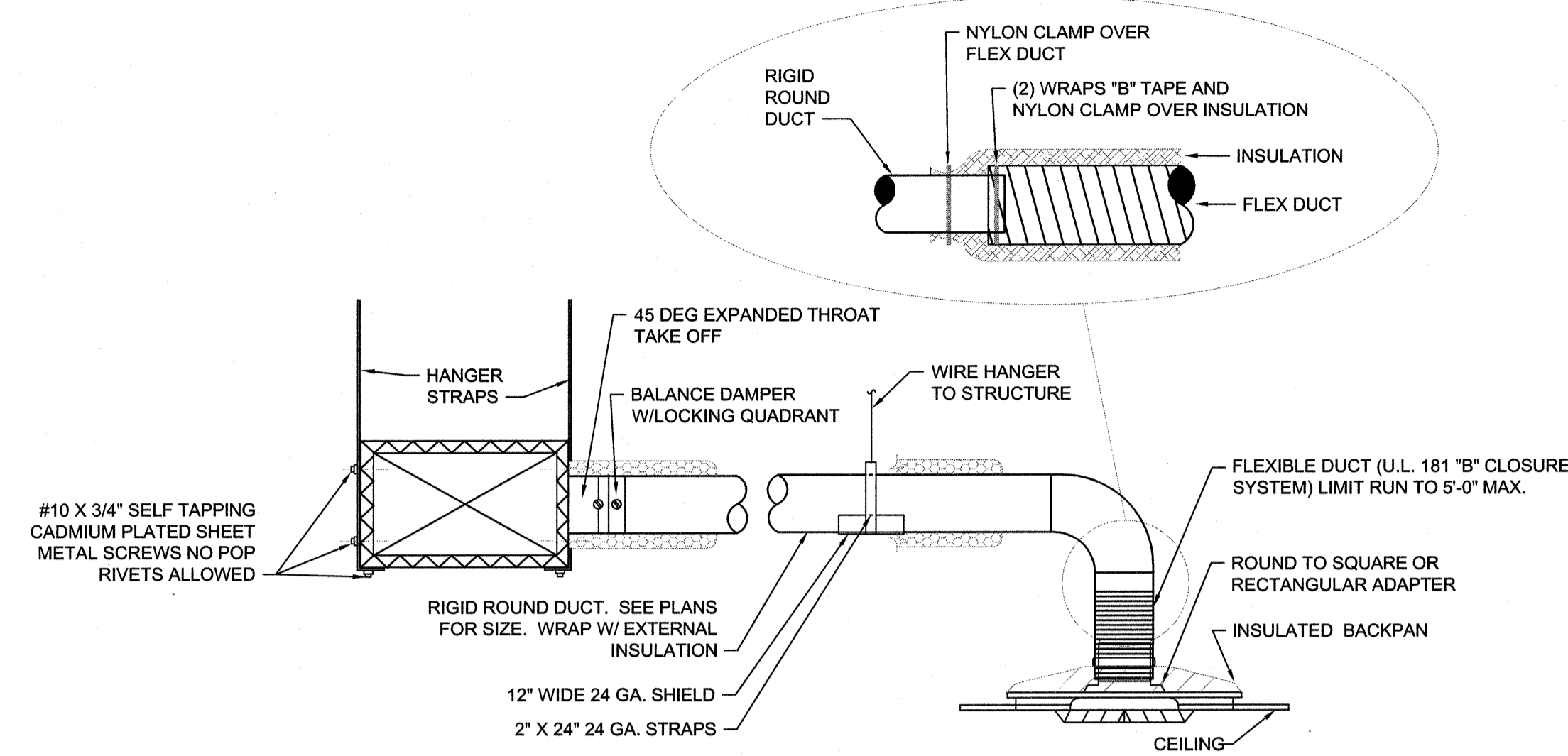
- MECHANICAL KEYED NOTES**
- INSTALL BRANCH CONTROLLER WHILE MAINTAINING MANUFACTURERS RECOMMENDED CLEARANCES. ROUTE REFRIGERANT PIPING TO ASSOCIATED AIR HANDLING UNITS. ROUTE CONDENSATE PIPING TO EXTERIOR OF BUILDING AND SPILL TO GRADE.
  - ROUTE DUCTWORK UP TO MEZZANINE ABOVE. REFER TO 2M-3 FOR CONTINUATION.
  - ROUTE DUCTWORK DOWN TO ABOVE AUDITORIUM CEILING. REFER TO 1M-3 FOR CONTINUATION.
  - INSTALL LOUVER WITH RELIEF DAMPER IN EXTERIOR WALL.
  - INSTALL AIR HANDLER HIGH ON WALL WHILE MAINTAINING MANUFACTURERS RECOMMENDED CLEARANCES. ROUTE REFRIGERANT PIPING TO BRANCH CONTROLLER BC01. ROUTE CONDENSATE TO EXTERIOR OF BUILDING AND SPILL TO GRADE.
  - SUSPEND AIR HANDLER FROM STRUCTURE IN ATTIC WHILE MAINTAINING MANUFACTURERS RECOMMENDED CLEARANCES. ROUTE REFRIGERANT PIPING TO BRANCH CONTROLLER BC01. ROUTE CONDENSATE TO EXTERIOR OF BUILDING AND SPILL TO GRADE.
  - SUSPEND AIR HANDLER FROM STRUCTURE IN ATTIC WHILE MAINTAINING MANUFACTURERS RECOMMENDED CLEARANCES. ATTACH TEMPERATURE SENSOR TO AIR HANDLING UNIT. ROUTE REFRIGERANT PIPING TO BRANCH CONTROLLER BC01. ROUTE CONDENSATE TO EXTERIOR OF BUILDING AND SPILL TO GRADE. UNIT SHALL CONDITION ATTIC SPACE.
  - INSTALL INDOOR MINI-SPLIT UNIT HIGH ON WALL WHILE MAINTAINING MANUFACTURERS RECOMMENDED CLEARANCES. ROUTE REFRIGERANT PIPING TO ASSOCIATED OUTDOOR UNIT. ROUTE CONDENSATE PIPING TO EXTERIOR OF BUILDING AND SPILL TO GRADE.
  - INSTALL NEW DOAS UNIT ACCORDING TO MANUFACTURERS RECOMMENDATIONS AND MAINTAIN SERVICE CLEARANCES. ROUTE REFRIGERANT PIPING TO ASSOCIATED OUTDOOR UNIT.
  - INSTALL NEW ELECTRIC DUCT HEATER ACCORDING TO MANUFACTURERS RECOMMENDATIONS.
  - INSTALL OUTDOOR UNIT ON EXISTING CONCRETE PAD IN THE GENERAL LOCATION SHOWN ON PLANS WHILE MAINTAINING MANUFACTURERS RECOMMENDED CLEARANCES. ROUTE REFRIGERANT PIPING TO ASSOCIATED INDOOR UNIT.
  - INSTALL OUTDOOR UNIT ON NEW CONCRETE PAD IN THE GENERAL LOCATION SHOWN ON PLANS WHILE MAINTAINING MANUFACTURERS RECOMMENDED CLEARANCES. ROUTE REFRIGERANT PIPING TO ASSOCIATED INDOOR UNIT.
  - INSTALL OUTDOOR MINI-SPLIT UNIT ON EXISTING CONCRETE PAD IN GENERAL LOCATION SHOWN ON PLANS WHILE MAINTAINING MANUFACTURERS RECOMMENDED CLEARANCES. ROUTE REFRIGERANT PIPING TO ASSOCIATED INDOOR UNIT.
  - INSTALL OUTDOOR UNIT ON EXISTING CONCRETE PAD IN THE GENERAL LOCATION SHOWN ON PLANS WHILE MAINTAINING MANUFACTURERS RECOMMENDED CLEARANCES. ROUTE REFRIGERANT PIPING TO BC01.
  - SUSPEND POWER VENTILATOR FROM STRUCTURE IN ATTIC WHILE MAINTAINING MANUFACTURERS RECOMMENDED CLEARANCES.
  - INSTALL AIR HANDLER IN HORIZONTAL POSITION WHILE MAINTAINING MANUFACTURERS RECOMMENDED CLEARANCES. ROUTE REFRIGERANT PIPING TO BRANCH CONTROLLER BC01. ROUTE CONDENSATE TO EXTERIOR OF BUILDING AND SPILL TO GRADE.
  - INSTALL AIR HANDLER WHILE MAINTAINING MANUFACTURERS RECOMMENDED CLEARANCES. ROUTE CONDENSATE TO EXTERIOR OF BUILDING AND SPILL TO GRADE.
  - SIDE WALL DIFFUSER FOR CONDITIONING ATTIC SPACE. (TYP)

SEE DISCLOSURE OF INFORMATION STATEMENT ON SHEET T-1

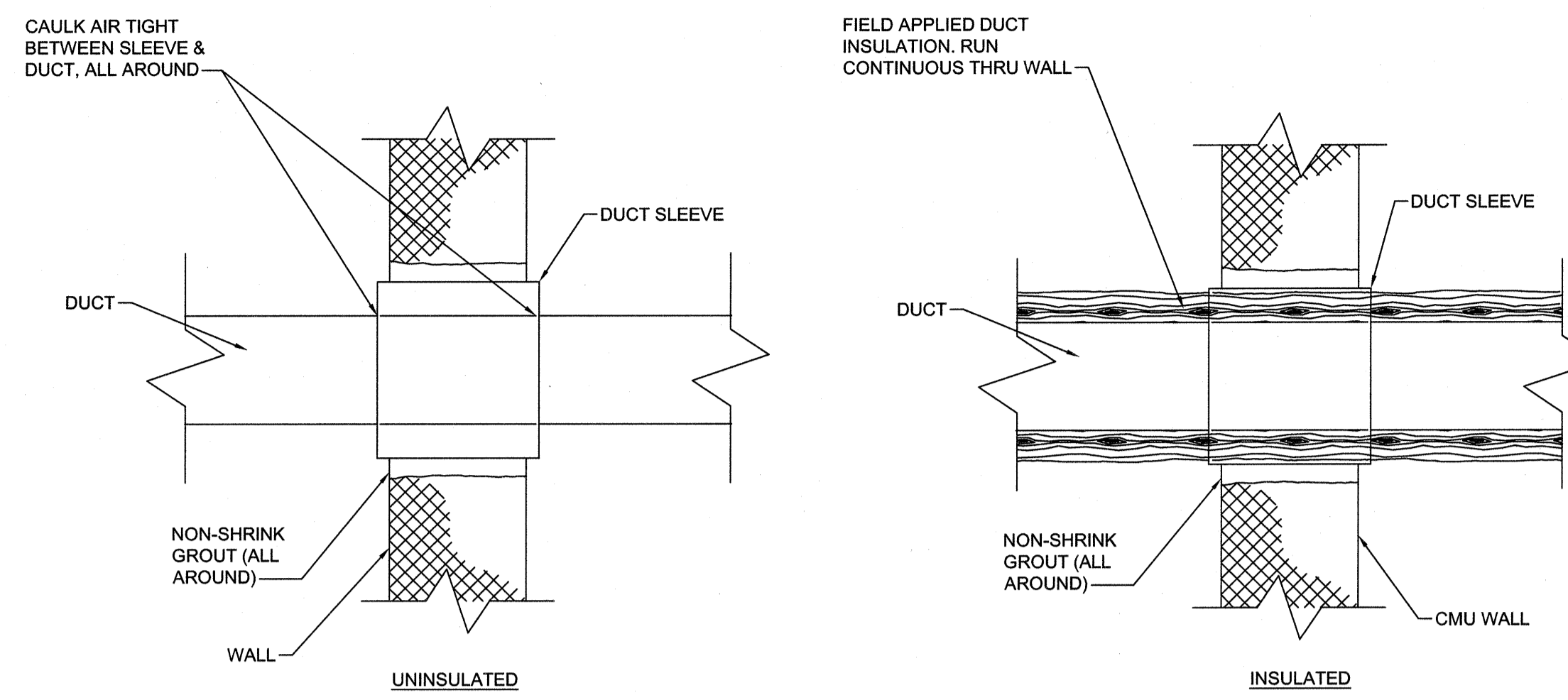
<b>CBHF</b> Engineers, PLLC 2248 Yaupon Drive Wilmington, NC 28401 Phone: 910.791.4000 Fax: 910.791.5266 www.cbhfindesign.com	SHEET TITLE: <b>MECHANICAL FLOOR PLAN</b>		<b>M-3</b> RENOVATION BLDG. M-104 CAMP LEJUNE, NORTH CAROLINA
	TALLEY & SMITH ARCHITECTURE INC. P.O. BOX 518 SHELBY, NC 28151-0518 409 EAST MARION ST. SHELBY, NC 28150		
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND <b>MARINE CORPS BASE</b> CAMP LEJUNE, NORTH CAROLINA	DES. WTB DR. WTB CHK. TOG SUBMITTED BY: DESIGN DIR. T. H. BURTON, PE	DATE: 06/28/2019 SIZE: F CODE IDENT. NO.: 80091 NAVFAC DRAWING NO.: 60025137 CONST. CONTR. NO.: NA0085-19-B-0034	SCALE: NOTED SPEC: 05-19-0034 SHEET 39 OF 57



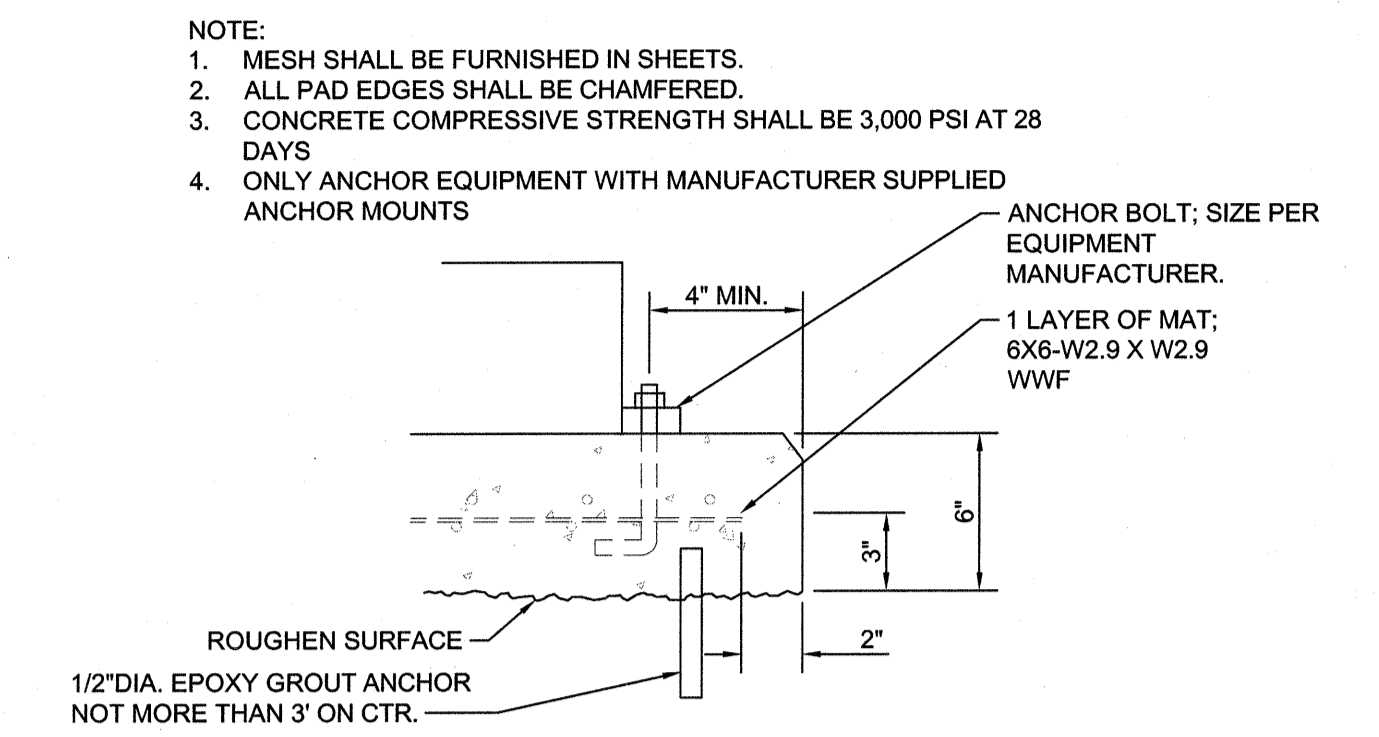
REVISIONS		
SYM.	DATE	APPROVED



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



**2** DUCT PENETRATION DETAIL (TYPICAL)  
NOT TO SCALE



**3** EQUIPMENT PAD DETAIL  
NOT TO SCALE

SEE DISCLOSURE OF INFORMATION STATEMENT ON SHEET T-1

<b>CBHF</b> Engineers, PLLC 2248 Yeupon Drive Wilmington, NC 28401 Phone: 910.791.4000 Fax: 910.791.5288 www.cbhfindesigners.com	SHEET TITLE: MECHANICAL DETAILS		M-4
	TALLEY & SMITH ARCHITECTURE INC. P.O. BOX 518 SHELBY, NC 28151-0518 409 EAST MARION ST. SHELBY, NC 28150		
	DES. WTB DR. WTB CHK. TOG SUBMITTED BY: DESIGN DIR. T H BURTON, PE APPROVED:		DEPARTMENT OF THE NAVY <b>MARINE CORPS BASE</b> CAMP LEJEUNE, NORTH CAROLINA RENOVATION BLDG. M-104 CAMP LEJEUNE, NORTH CAROLINA
	SATISFACTORY TO:	DATE: 06/28/2019	SIZE: F CODE IDENT. NO.: 80091 NAVFAC DRAWING NO.: 60025138 CONST. CONTR. NO.: N40085-19-9-0034 SPEC.: 05-19-0034

REVISIONS		
SYM.	DATE	APPROVED

### SPLIT SYSTEM DEDICATED OUTSIDE AIR UNIT SCHEDULE

DRAWING CODE (IDU / ODU)	SYSTEM TYPE	OUTSIDE AIR FAN		DX COOLING		HOT GAS REHEAT		ELECTRICAL		NOTES	ACCESSORIES										
		OUTSIDE AIR (CFM)	ESP (IN H2O)	TOT CAP (MBH)	SENS CAP (MBH)	LAT (°F DB)	LAT (°F WB)	CAP (MBH)	EAT (°F)			LAT (°F)	ELECTRIC HEAT (KW)	INDOOR UNIT (V/PHHZ)	MCA (AMPS)	MOC (AMPS)	WEIGHT (LBS)	INDOOR UNIT (V/PHHZ)	MCA (AMPS)	MOC (AMPS)	WEIGHT (LBS)
DOAS01 / ACC01	HEAT PUMP	715	0.75	65.7	33	48.8	48.8	15.4	49.8	69.8	12.5	208/3/60	42.6	45	777	208/3/60	6.3	15	400	1.2,3,4,8	A,B,C,D,E,F,G,H
DOAS02 / ACC02	HEAT PUMP	1360	1.50	173.6	87.7	59.8	59.8	42.8	59.7	70.7	35.0	208/3/60	121.9	125.0	1256.0	208/3/60	11.9	15.0	935	1.2,3,5,6	A,B,C,D,E,F,G,H

NOTES:  
1. REFER TO SPECIFICATION SECTION 23 73 33 - HEATING, VENTILATION, AND COOLING SYSTEM FOR FURTHER REQUIREMENTS.  
2. OUTDOOR DESIGN CONDITIONS: 91.0F / 77.0F 1%DBM/CWB AND 140 GRAINSLB WITH AN 84.0F MCOB COOLING/DEHUMIDIFYING CONDITIONS. 26.0F 99% AND 22.0F 99.6% HEATING CONDITIONS. EQUIPMENT SELECTION SHALL MEET ALL CONDITIONS.  
3. EFFICIENCY RATED IN ACCORDANCE WITH ANSI/AHRI STANDARD 340/360.  
4. CONTROLS CONTRACTOR SHALL PROVIDE ON/OFF SIGNAL TO UNIT BASED ON OCCUPANCY SCHEDULE.  
5. CONTROLS CONTRACTOR SHALL PROVIDE ON/OFF SIGNAL TO UNIT BASED DEMAND CONTROL VENTILATION.  
6. FIELD INSTALL THE FOLLOWING MONITORING SENSORS: OUTSIDE AIR TEMPERATURE AND HUMIDITY, SUPPLY AIR TEMPERATURE AND HUMIDITY, RETURN AIR TEMPERATURE, SUPPLY FAN STATUS AND EXHAUST FAN STATUS. SENSORS SHALL BE SUPPLIED AND INSTALLED BY CONTROLS CONTRACTOR.  
7. SCR CONTROLLED ELECTRIC HEAT.

ACCESSORIES:  
A. INSULATED FLOOR AND DRAIN PAN.  
B. OA DAMPER WITH MOTOR ACTUATOR.  
C. SINGLE POINT ELECTRICAL CONNECTION.  
D. MODULATING HOT GAS REHEAT.  
E. FILTERS: OUTDOOR INTAKE-2" MERV 8  
F. HOT GAS BYPASS WITH MANUAL SHUTOFF VALVE.  
G. SCR CONTROLLED ELECTRIC HEAT.  
H. INTERFACE FOR CONNECTION TO EXISTING CFCC BMS.

### VRF SPLIT SYSTEM SCHEDULE

DRAWING CODE (INDOOR)	DRAWING CODE (OUTDOOR)	BRANCH CONTROLLER	DEDICATED OUTDOOR AIR SYSTEM	CONFIGURATION	INDOOR UNIT		OUTDOOR UNIT		INDOOR UNIT		OUTDOOR UNIT		NOTES	ACCESSORIES	
					NOMINAL COOLING CAPACITY (MBH)	NOMINAL HEATING CAPACITY (MBH)	NOMINAL COOLING CAPACITY (MBH)	NOMINAL HEATING CAPACITY (MBH)	FAN SA MIN-MAX (CFM)	ELECTRICAL VOLTAGE (V/PHHZ)	MCA (AMPS)	MOC (AMPS)			WEIGHT (LBS)
DAH01-01				MULTI-POSITION AIR HANDLER	54.0	60.0			1040-1485	208/1/60	5.63	15	172	1.2,3,4,5	A,B,C,D,E
DAH01-02				WALL MOUNT	6.0	6.7			170-210	208/1/60	0.19	15	22	1.2,3,4,5	A,B,C,D,E,H
DAH01-03				HORIZONTAL DUCTED - MEDIUM STATIC	18.0	20.0			424-600	208/1/60	1.56	15	58	1.2,3,4,5	A,B,C,D,E,F,G
DAH01-04				HORIZONTAL DUCTED - MEDIUM STATIC	12.0	13.5			265-371	208/1/60	1.2	15	49	1.2,3,4,5	A,B,C,D,E,F,G
DAH01-05				HORIZONTAL DUCTED - MEDIUM STATIC	18.0	20.0			424-600	208/1/60	1.56	15	58	1.2,3,4,5	A,B,C,D,E,F,G
DAH01-06	DHP01	BCC01	DOAS01	WALL MOUNT	6.0	6.7	144.0	160.0	170-210	208/1/60	0.19	15	22	1.2,3,4,5	A,B,C,D,E,H
DAH01-07				WALL MOUNT	6.0	6.7			170-210	208/1/60	0.19	15	22	1.2,3,4,5	A,B,C,D,E,H
DAH01-08				WALL MOUNT	6.0	6.7			170-210	208/1/60	0.19	15	22	1.2,3,4,5	A,B,C,D,E,H
DAH01-09				WALL MOUNT	6.0	6.7			170-210	208/1/60	0.19	15	22	1.2,3,4,5	A,B,C,D,E,H
DAH01-10				HORIZONTAL DUCTED - MEDIUM STATIC	15.0	17.0			353-494	208/1/60	1.45	15	58	1.2,3,4,5	A,B,C,D,E,F,G
DAH01-11				HORIZONTAL DUCTED - MEDIUM STATIC	15.0	17.0			353-494	208/1/60	1.45	15	58	1.2,3,4,5	A,B,C,D,E,F,G

NOTES:  
1. REFER TO SPECIFICATION SECTION 23 81 28.00 22 VARIABLE REFRIGERANT FLOW (VRF) AIR CONDITIONING AND HEAT PUMP EQUIPMENT FOR FURTHER INFORMATION.  
2. MAXIMUM COOLING CAPACITIES ARE BASED ON INDOOR COIL EAT OF 30/67°F (DB), OUTDOOR OF 95°F (WB)  
3. MAXIMUM HEATING CAPACITIES ARE BASED ON INDOOR COIL EAT OF 70°F (DB), OUTDOOR OF 23°F (WB)  
4. PROVIDE CENTRAL CONTROLLER AND DDC SYSTEM INTERFACE  
5. REFER TO SCHEMATIC PIPING/CONTROL DIAGRAM ON MECHANICAL DRAWINGS FOR INDICATION OF REQUIRED INDOOR UNIT REMOTE CONTROLLERS, SYSTEM CONTROLLERS, AND INTEGRATION DEVICES.

ACCESSORIES:  
A. BUILT-IN CONDENSATE LIFT MECHANISM  
B. MANUFACTURER'S SEACOAST PROTECTION PASSING ASTM B117 90 3000 HOUR SALT SPRAY RESISTANCE TEST AS INSTALLED.  
C. CONCRETE MOUNTING PAD.  
D. HAIL GUARD ON OUTDOOR UNIT.  
E. WIRED WALL-MOUNTED REMOTE CONTROLLER WITH VANDAL PROOF ENCLOSURE.  
F. PROVIDE BLUE DIAMOND MAXIBLUE CONDENSATE PUMP AND RESERVOIR OR EQUAL WITH CAPACITY OF 3.7 GAL/HR AT 16.5 FT OF HEAD. INTERLOCK TO SHUTDOWN UNIT.  
G. PROVIDE FILTER BOX FOR HORIZONTAL DUCTED UNITS.  
H. PROVIDE ASPEN MINI WHITE CONDENSATE PUMP AND RESERVOIR OR EQUAL WITH CAPACITY OF 1.6 GAL/HR AT 33 FT OF HEAD. INTERLOCK TO SHUTDOWN UNIT.

### BRANCH CIRCUIT CONTROLLER SCHEDULE

DRAWING CODE	POWER INPUT (RATED) COOLING (kw)	POWER INPUT (RATED) HEATING (kw)	ELECTRICAL		WEIGHT (LBS)	NOTES	ACCESSORIES
			VOLTAGE (V/PHHZ)	MCA (A)			
BC01	0.198	0.106	208/1/60	1.57	15	1.2	A

NOTES:  
1. REFER TO SPECIFICATION 23 81 28.00 22 VARIABLE REFRIGERANT FLOW (VRF) AIR CONDITIONING AND HEAT PUMP EQUIPMENT FOR FURTHER INFORMATION.  
2. PROVIDE GRAVITY DRAIN CONDENSATE PIPING AS INDICATED.

ACCESSORIES:  
A. SUCTION AND LIQUID LINES SERVICE ISOLATION VALVES FOR ALL PORTS.

### ELECTRIC DUCT HEATER SCHEDULE

DRAWING CODE	KW	HEATER DIMENSIONS		STEPS	AIR SIDE FLOW RATE (CFM)	STATIC PRESSURE DROP (IN. WG.)	ELECTRICAL		NOTES	ACCESSORIES	
		HEIGHT (IN)	WIDTH (IN)				VOLTAGE (V/PHHZ)	MCA (AMPS)			
EDH01	33.4	16.0	24.0	SCR	3,000	-	230/3/60	104.8	130	1.2,3	A - K
EDH02	33.4	16.0	24.0	SCR	3,000	-	230/3/60	104.8	130	1.2,3	A - K

NOTES:  
1. REFER TO SPECIFICATION SECTION 23 73 33 - HEATING, VENTILATION, AND COOLING SYSTEM FOR FURTHER REQUIREMENTS.  
2. OPEN COIL SLIP-IN DUCT SIZE.  
3. POSITIVE PRESSURE SYSTEM.

ACCESSORIES:  
A. SCR CONTROL WITH DUCT MOUNTED DISCHARGE AIR TEMPERATURE SENSOR.  
B. CONTROL TRANSFORMER CLASS 2 - 24V.  
C. DISCONNECTING CONTACTOR.  
D. MAGNETIC CONTACTOR.  
E. UNFUSED DOOR INTERLOCKING DISCONNECT.  
F. 100% SCR CONTROLLER.  
G. INSULATED CONTROL PANEL.  
H. STAINLESS STEEL TERMINALS.  
I. HINGED COVER.  
J. AIRFLOW SWITCH.  
K. UL LISTED.

### DIFFUSERS, REGISTERS AND GRILLES SCHEDULE

DRAWING CODE	TYPE	SERVICE	NECK SIZE (IN.)	MODULE SIZE (IN.)	MATERIAL	FINISH	MOUNTING	NOTES	ACCESSORIES
S1	SQUARE CEILING DIFFUSER	SUPPLY	60	24 X 24	ALUMINUM	WHITE	T-BAR	1.2	A
S2	SQUARE CEILING DIFFUSER	SUPPLY	80	24 X 24	ALUMINUM	WHITE	T-BAR	1.2	A
S3	SQUARE CEILING DIFFUSER	SUPPLY	100	24 X 24	ALUMINUM	WHITE	T-BAR	1.2	A
S4	FIXED FACE GRILLE	SUPPLY	60	8 X 12	ALUMINUM	WHITE	WALL SURFACE	1.2	A,B
S5	FIXED FACE GRILLE	SUPPLY	-	10 X 4	ALUMINUM	WHITE	DUCT SURFACE	1.2	A,B
S6	FIXED FACE GRILLE	SUPPLY	-	12 X 6	ALUMINUM	WHITE	DUCT SURFACE	1.2	A,B
R1	SQUARE CEILING DIFFUSER	RETURN	20 X 20	24 X 24	ALUMINUM	WHITE	T-BAR	1.2	
R2	FIXED FACE GRILLE	RETURN	-	30 X 14	ALUMINUM	WHITE	DUCT SURFACE	1.2	
E1	FIXED FACE GRILLE	EXHAUST	20 X 20	24 X 24	ALUMINUM	WHITE	T-BAR	1.2	

NOTES:  
1. REFER TO SPECIFICATION SECTION 23 73 33 - HEATING, VENTILATION, AND COOLING SYSTEM FOR FURTHER REQUIREMENTS.  
2. DUCT BRANCH CONNECTION SIZE TO BE EQUAL TO THE NECK SIZE OF DIFFUSER UNLESS NOTED OTHERWISE ON PLANS.

ACCESSORIES:  
A. VOLUME DAMPER.  
B. CONCEALED MOUNTING BRACKET.

### SPLIT SYSTEM SCHEDULE

DRAWING CODE (IDU/ODU)	SYSTEM TYPE	COOLING (AHRI STANDARD)		HEATING (AHRI STANDARD)		INDOOR UNIT		ELECTRICAL		NOTES	ACCESSORIES								
		TOTAL SENSIBLE (MBH)	EFFICIENCY (EER)	TOTAL (MBH)	EFFICIENCY (COP)	SUPPLY AIRFLOW (CFM)	ESP (IN. WG.)	AUX HEAT CAP (KW)	N/A			INDOOR UNIT (V/PHHZ)	MCA (AMPS)	MOC (AMPS)	WEIGHT (LBS)	INDOOR UNIT (V/PHHZ)	MCA (AMPS)	MOC (AMPS)	WEIGHT (LBS)
AH01/HP01	HEAT PUMP	91.0	82.4	11.2	82.0	3.3	3000	0.75	N/A	208/3/60	7.0	15	208/3/60	33.0	45	360	470	1.2,3,4,5	A,B,C,D,F,G,H
AH02/HP02	HEAT PUMP	91.0	82.3	11.2	82.0	3.3	3000	0.75	N/A	208/3/60	7.0	15	208/3/60	33.0	45	360	470	1.2,3,4,5	A,B,C,D,E,F,G,H

NOTES:  
1. REFER TO SPECIFICATION SECTION 23 73 33 - HEATING, VENTILATION, AND COOLING SYSTEM FOR FURTHER REQUIREMENTS.  
2. 2-STAGE/DUAL CIRCUIT UNIT.  
3. FILTER VELOCITY NOT TO EXCEED 350 FPM.  
4. HEAT PUMP COILS TO BE COATED FOR EXPOSURE TO ASTM B117-90 3000 HOUR SALT SPRAY RESISTANCE TEST WITH NO DEGRADATION.  
5. MECHANICAL CONTRACTOR SHALL INSTALL DUCT SMOKE DETECTOR PROVIDED BY FIRE ALARM CONTRACTOR.

ACCESSORIES:  
A. HAIL-VANDAL-PROOF COIL GUARD FOR OUTDOOR UNIT  
B. BACNET MSTP DDC SYSTEM INTERFACE  
C. RETURN AIR PLENUM WITH INTEGRAL FILTER RACK  
D. REMOVABLE DRAIN PAN WITH FLOAT SWITCH INTERLOCKED WITH POWER SUPPLY  
E. CONCRETE SUPPORT PAD FOR OUTDOOR UNIT  
F. SINGLE POINT POWER SUPPLY  
G. PHASE MONITOR FOR 3-PHASE EQUIPMENT  
H. SINGLE ZONE VAV WITH VARIABLE FREQUENCY DRIVE ON MOTOR

### LOUVER SCHEDULE

DRAWING CODE	TYPE	FRAME	DESCRIPTION	MATERIAL	LOUVER DEPTH (IN.)	SIZE (W x H) (IN.)	SERVICE	AIRFLOW (CFM)	PERFORMANCE RATINGS		NOTES	ACCESSORIES
									FREE AREA (SF)	S.P. LOSS (IN.H2O)		
L1	FIXED	CHANNEL	HORIZONTAL, DRAINABLE-BLADE	ALUMINUM	6	30 X 30	INTAKE	2500	3.18	0.1	1.2	A
L2	FIXED	CHANNEL	HORIZONTAL, DRAINABLE-BLADE	ALUMINUM	6	30 X 30	EXHAUST	1700	3.18	0.1	1.2	A
L3	FIXED	CHANNEL	HORIZONTAL, DRAINABLE-BLADE	ALUMINUM	6	12 X 12	EXHAUST	100	0.31	0.1	1.2	A
L4	FIXED	CHANNEL	HORIZONTAL, DRAINABLE-BLADE	ALUMINUM	6	12 X 12	EXHAUST	100	0.31	0.1	1.2	A

NOTES:  
1. REFER TO SPECIFICATION SECTION 23 73 33 - HEATING, VENTILATION, AND COOLING SYSTEM FOR FURTHER REQUIREMENTS.  
2. FINISH AS SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL RANGE OF COLOR AND GLOSS.

ACCESSORIES:  
A. BIRD SCREEN

### POWER VENTILATOR SCHEDULE

DRAWING CODE	FAN TYPE	SERVICE	CAPACITIES		DRIVE ARRANGEMENT		FAN RPM	MOTOR RPM	MOTOR TYPE	MOTOR SIZE (HP)	V/PHHZ	MCA	MOC	SONES	WEIGHT (LBS.)	NOTES	ACCESSORIES
			AIRFLOW (CFM)	ESP (IN. WG.)	DIRECT	INDIRECT											
PV01	CENTRIFUGAL ROOF VENTILATORS	EXHAUST	530	0.25	DIRECT	1725	1725	ECM	0.10	115/1/60	2	15	6	34	1	A,B,C	
PV02	IN-LINE CENTRIFUGAL FANS	EXHAUST	100	0.25	DIRECT	1725	1725	ECM	0.066	115/1/60	1	15	2.8	43	1	A,B	
PV03	IN-LINE CENTRIFUGAL FANS	EXHAUST	100	0.25	DIRECT	1725	1725	ECM	0.066	115/1/60	1	15	2.8	43	1	A,B	

NOTES:  
1. REFER TO SPECIFICATION SECTION 23 73 33 - HEATING, VENTILATION, AND COOLING SYSTEM FOR FURTHER REQUIREMENTS.

ACCESSORIES:  
A. BIRDSCREEN.  
B. MOTORIZED DAMPER.  
C. ROOF CURB AND SEAL

### DUCTLESS SPLIT SYSTEM SCHEDULE

DRAWING CODE (IDU / ODU)	ARI COOLING 806/795	ARI HEATING 70/47	MIN SEER	MIN HSPF	INDOOR UNIT		OUTDOOR UNIT		REFRIGERANT PIPING		NOTES	ACCESSORIES					
					FAN	ELECTRICAL	WEIGHT (LBS)	ELECTRICAL	WEIGHT (LBS)	MAXIMUM LENGTH (FT.)			MAXIMUM HEIGHT DIFFERENTIAL (FT.)				
DAH02-01 / DHP02	12.0	1.5	14.4	23.1	12.5	145-399	208/1/60	1	22	208/1/60	9	15	81	65	40	1	A,B,C,D

NOTES:  
1. REFER TO SPECIFICATION SECTION 23 73 33 - HEATING, VENTILATION, AND COOLING SYSTEM FOR FURTHER REQUIREMENTS.

ACCESSORIES:  
A. ELECTRICAL CONTRACTOR TO PROVIDE CONDUIT AND CONDUCTOR FROM OUTDOOR UNIT TO INDOOR UNIT.  
B. HEAT PUMP COILS TO BE COATED FOR EXPOSURE TO ASTM B117-90 3000 HOUR SALT SPRAY RESISTANCE TEST WITH NO DEGRADATION.  
C. PROVIDE BACNET DDC CONTROL SYSTEM INTERFACE  
D. PROVIDE ASPEN MINI WHITE CONDENSATE PUMP AND RESERVOIR OR EQUAL WITH CAPACITY OF 1.6 GAL/HR AT 33 FT OF HEAD. INTERLOCK TO SHUTDOWN UNIT.

SEE DISCLOSURE OF INFORMATION STATEMENT ON SHEET T-1

2348 Yaupon Drive  
Wilmington, NC 28401  
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www.cbhfengineers.com

SHEET TITLE: **MECHANICAL SCHEDULES**

M-5

DEPARTMENT OF THE NAVY  
**MARINE CORPS BASE**  
CAMP LEJEUNE, NORTH CAROLINA

RENOVATION  
BLDG. M-104  
CAMP LEJEUNE, NORTH CAROLINA

DES. WTB  
DR. WTB  
CHK. TOG  
SUBMITTED BY:  
DESIGN DR. T H BURTON, PE  
APPROVED: \_\_\_\_\_ DATE: \_\_\_\_\_

SATISFACTORY TO: \_\_\_\_\_ DATE: \_\_\_\_\_

SIZE: **F** CODE IDENT. NO.: **80091** NAVAC DRAWING NO. 60025139  
CONST. CONTR. NO. N40085-19-8-0034

SCALE: NOTED SPEC. 05-19-0034 SHEET 41 OF 57

06/28/2019

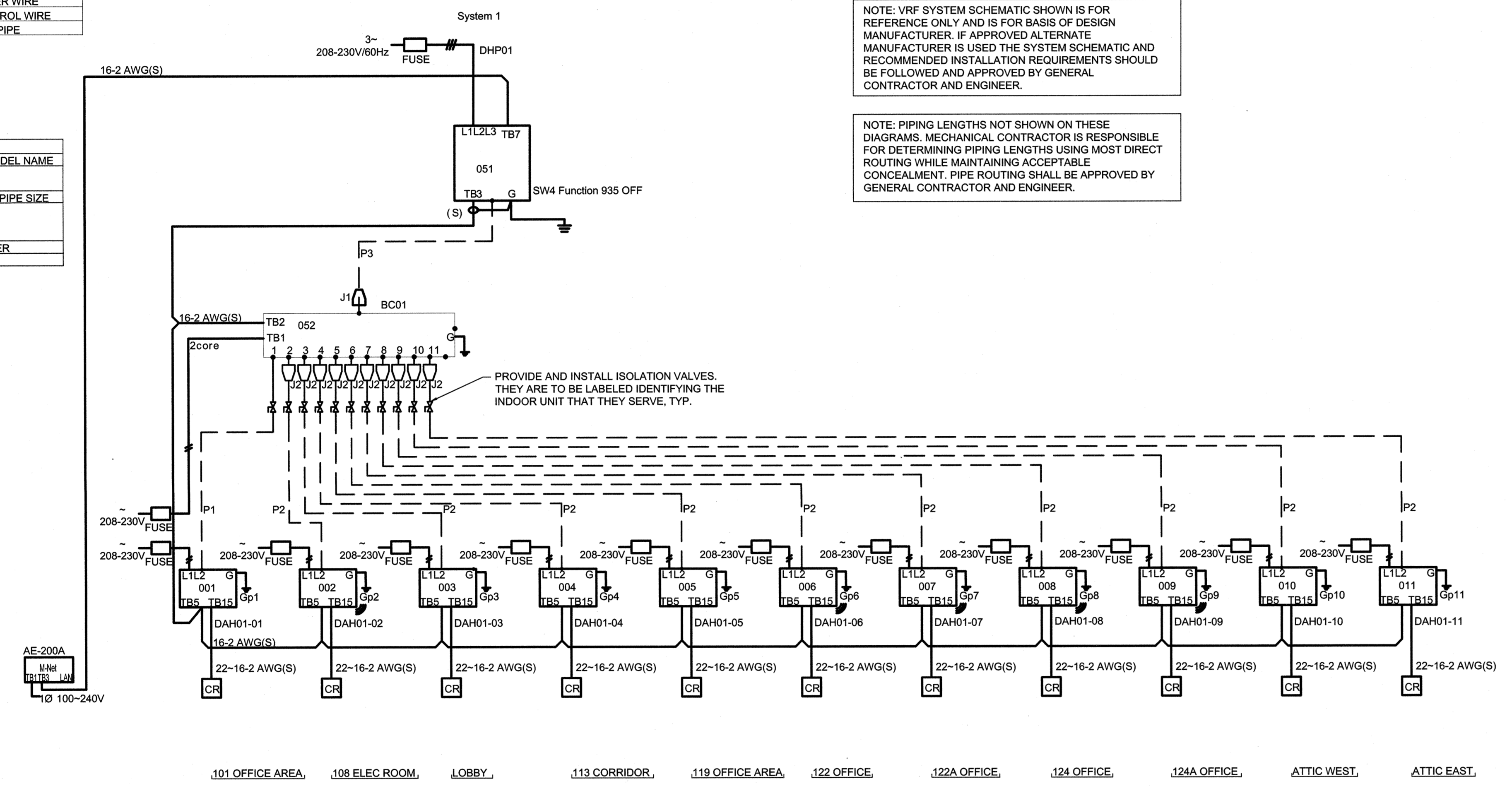


REVISIONS		
SYM.	DATE	APPROVED

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

PIPING AND CONTROLS	
SYMBOL	BRANCH PIPE MODEL NAME
J1	CMV-R2025-G1
J2	Reducer
SYMBOL LIQUID PIPE/GAS PIPE SIZE	
P1	3/8 / 5/8
P2	1/4 / 1/2
P3	7/8 / 1-1/8
SYMBOL MODEL NUMBER	
CR	PAC-YT33CRAU-J



**VRF SYSTEM**

**DESCRIPTION:** SPLIT SYSTEM, VARIABLE REFRIGERANT HEAT RECOVERY SYSTEM CONSISTING OF MULTIPLE INDOOR AIR HANDLERS WITH MULTIPLE SPEED AIR VOLUME, UNDER CONTROL OF DDC SYSTEM. EACH INDOOR UNIT MAY BE IN HEATING OR COOLING MODE INDEPENDENT OF THE OTHER INDOOR UNITS.

**HEAT PUMP INDOOR AIR HANDLER**

EACH INDOOR UNIT SHALL BE SCHEDULED ON BY THE BMS SYSTEM AT THE OCCUPIED TIMES DEFINED BY THE OWNER.

THE INDOOR UNITS SHALL BE SET TO AUTO MODE DURING OCCUPIED TIMES. DURING UNOCCUPIED TIMES THE INDOOR UNITS SHALL BE SET TO HEAT OR COOL BASED ON OUTSIDE AIR ENTHALPY CONDITIONS.

THE BMS SHALL SET THE OCCUPIED AND UNOCCUPIED TEMPERATURE SET-POINTS. BMS SHALL GLOBALLY SET THIS AS A SINGLE HEATING/COOLING SET POINT, WITH AN AMBIENT RESET, 70F AT 50F AMBIENT, AND 76F AT 80F AMBIENT, LINEAR IN BETWEEN.

DURING UNOCCUPIED TIMES THE BMS SHALL SEND THE OFF COMMAND TO THE INDOOR UNIT AT THE START OF UNOCCUPIED TIMES AND EVERY TWO HOURS THEREAFTER TO REINFORCE THE SETBACK CONDITIONS. THE BMS SHALL MONITOR THE ROOM TEMPERATURE AT THE REMOTE CONTROLLER IN THE SPACE AND COMMAND THE UNIT ON IF THE OWNER SPECIFIED UNOCCUPIED LIMITS ARE EXCEEDED. THE BMS SHALL SEND THE COOL MODE COMMAND WHEN THE TEMPERATURE UPPER LIMIT IS EXCEEDED OR THE HEAT MODE COMMAND WHEN THE TEMPERATURE LOWER LIMIT IS EXCEEDED. THE BMS SHALL SEND THE TEMPERATURE UPPER OR LOWER LIMIT AS THE SPACE TEMPERATURE SET-POINT DURING UNOCCUPIED TIME.

**VRF SYSTEM INDOOR AIR HANDLER POINTS LIST**

INDOOR UNIT CONTROL POINT DESCRIPTION	SOFTWARE POINTS		ALARMS			
	NETWORK VARIABLE INPUT	NETWORK VARIABLE OUTPUT	DISPLAY	HIGH LIMIT	LOW LIMIT	ABNORMALITY
ON/OFF	x					
SET MODE	x					
SET TEMPERATURE	x		x			
MODE STATE		x	x			
ROOM TEMPERATURE		x	x	x	x	
FAN SPEED STATE		x	x			
INDOOR UNIT NOTIFY		x	x			
ERROR CODE		x	x			x

**1 DHP / DAH SYSTEM SCHEMATIC**  
NOT TO SCALE

SEE DISCLOSURE OF INFORMATION STATEMENT ON SHEET T-1

 2248 Yeupon Drive Wilmington, NC 28401 Phone: 910.791.4000 Fax: 910.791.5286 www.cbhfengineers.com	SHEET TITLE: <b>MECHANICAL SCHEMATIC AND CONTROLS</b>		<b>M-6</b>
	TALLEY & SMITH ARCHITECTURE INC. P.O. BOX 518 SHELBY, NC 28151-0518 409 EAST MARION ST. SHELBY, NC 28150		
DES. WTB DR. WTB CHK. TOG SUBMITTED BY: DESIGN DIR. T H BURTON, PE		DEPARTMENT OF THE NAVY MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA	
APPROVED: [Signature] DATE: 06/28/2019		SIZE: F CODE IDENT. NO.: 80091	NAVFAC DRAWING NO.: 60025140 CONST. CONTR. NO.: N40085-19-B-0034
SATISFACTORY TO: [Signature] DATE:		SCALE: NOTED SPEC: 05-19-0034	SHEET 42 OF 57



REVISIONS		
SYL	DATE	APPROVED

### DEDICATED OUTDOOR AIR SYSTEM CONTROL SEQUENCE

**SYSTEM DESCRIPTION:** SPLIT SYSTEM DEDICATED OUTDOOR AIR UNIT WITH MODULATING DX COOLING CAPACITY, HOT GAS REHEAT, AND MODULATING SCR ELECTRIC HEAT.

**UNIT START/STOP CONTROL:** START/STOP UNIT BASED ON (1) USER-DEFINED 'ON/OFF' SCHEDULE.

SETPPOINTS SHALL BE AS FOLLOWS UNLESS MODIFIED BY USER:

SUPPLY AIR TEMPERATURE: 73°F (ADJ)  
 OUTDOOR AIR DEWPOINT TEMPERATURE: 50°F (ADJ)  
 DX COIL LEAVING AIR TEMPERATURE: 50°F (ADJ)

**EMERGENCY SHUTDOWN:**  
 THE UNIT SHALL SHUT DOWN AND GENERATE AN ALARM UPON RECEIVING AN EMERGENCY SHUTDOWN SIGNAL. EMERGENCY SHUTDOWN TO BE A HARDWIRE INTERLOCK.

**CONDENSATE SHUTDOWN:** THE UNIT SHALL SHUT DOWN AND GENERATE AN ALARM UPON RECEIVING AN CONDENSATE OVERFLOW SIGNAL. CONDENSATE SHUTDOWN TO BE A HARDWIRE INTERLOCK.

**FREEZE PROTECTION:**  
 THE UNIT SHALL SHUT DOWN AND GENERATE AN ALARM UPON RECEIVING A FREEZESTAT STATUS. FREEZE STAT TO BE A HARDWIRE INTERLOCK.

**OUTSIDE AIR DAMPER:**  
 THE OUTSIDE AIR DAMPER SHALL OPEN ANYTIME THE UNIT RUNS AND SHALL CLOSE ANYTIME THE UNIT STOPS. THE SUPPLY FAN SHALL START ONLY AFTER THE DAMPER STATUS HAS PROVEN THE DAMPER IS OPEN. THE OUTSIDE AIR DAMPER SHALL CLOSE 4 SEC. (ADJ.) AFTER THE SUPPLY FAN STOPS.

**ALARMS SHALL BE PROVIDED AS FOLLOWS:**

- OUTSIDE AIR DAMPER FAILURE: COMMANDED OPEN, BUT THE STATUS IS CLOSED.
- OUTSIDE AIR DAMPER IN HAND: COMMANDED CLOSED, BUT THE STATUS IS OPEN.

**SUPPLY FAN:**  
 THE SUPPLY FAN SHALL RUN ANYTIME THE UNIT IS COMMANDED TO RUN. TO PREVENT SHORT CYCLING, THE SUPPLY FAN SHALL HAVE A USER DEFINABLE (ADJ.) MINIMUM

RUNTIME, UNLESS SHUTDOWN ON SAFETIES.

**ALARMS SHALL BE PROVIDED AS FOLLOWS:**

- SUPPLY FAN FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.

**TEMPERATURE AND HUMIDITY CONTROL:**

**SUPPLY AIR TEMPERATURE CONTROL:** A TEMPERATURE CONTROL PROGRAM RAMP UP AND DOWN HEATING/COOLING DEMAND VALUES BY USING THE SUPPLY AIR TEMPERATURE CONTROL SET-POINT AND COMPARING IT WITH A SUPPLY AIR TEMPERATURE SENSOR. THE SUPPLY AIR TEMPERATURE CONTROL SET-POINT IS DETERMINED BY THE ADJUSTABLE SUPPLY AIR TEMPERATURE SETPOINT AND ANY APPLICABLE RESET.

**DEHUMIDIFICATION:** IF THE OUTSIDE AIR DEW-POINT EXCEEDS THE OUTSIDE AIR DEW-POINT SETPOINT AND THE OUTSIDE AIR TEMPERATURE EXCEEDS THE SUPPLY AIR TEMPERATURE SETPOINT, THEN THE UNIT WILL ENTER DEHUMIDIFICATION MODE. THE UNIT CONTROLLER WILL MODULATE COOLING CAPACITY TO MAINTAIN THE DX COIL LEAVING AIR TEMPERATURE SETPOINT AND MODULATE THE HOT GAS REHEAT VALVE TO MAINTAIN THE SUPPLY AIR TEMPERATURE SETPOINT.

**COOLING:** IF THE SUPPLY AIR TEMPERATURE EXCEEDS THE SUPPLY AIR TEMPERATURE SETPOINT, THE UNIT WILL ENABLE THE COMPRESSORS AND MODULATE CAPACITY TO MAINTAIN SUPPLY AIR TEMPERATURE SETPOINT.

**HEATING:** IF SUPPLY AIR TEMPERATURE IS LESS THAN THE SUPPLY AIR TEMPERATURE SETPOINT, THE UNIT WILL ENABLE THE SCR ELECTRIC HEAT AND MODULATE CAPACITY TO MAINTAIN SUPPLY AIR TEMPERATURE SETPOINT.

**ALARMS SHALL BE PROVIDED AS FOLLOWS:**

- HIGH SUPPLY AIR TEMP: IF THE SUPPLY AIR TEMPERATURE IS GREATER THAN 85°F (ADJ.).
- LOW SUPPLY AIR TEMP: IF THE SUPPLY AIR TEMPERATURE IS LESS THAN 45°F (ADJ.).

HARDWIRE INTERLOCK DAMPER AND PROVING SWITCH

### DEDICATED OUTDOOR AIR SYSTEM CONTROL SEQUENCE

**SYSTEM DESCRIPTION:** SPLIT SYSTEM DEDICATED OUTDOOR AIR UNIT WITH MODULATING DX COOLING CAPACITY, HOT GAS REHEAT, AND MODULATING SCR ELECTRIC HEAT.

**UNIT START/STOP CONTROL:** START/STOP UNIT BASED ON DEMAND CONTROL. WHEN SPACE CO2 EXCEEDS THE CO2 SETPOINT, THE UNIT SHALL RUN.

SETPPOINTS SHALL BE AS FOLLOWS UNLESS MODIFIED BY USER:

SUPPLY AIR TEMPERATURE: 73°F (ADJ)  
 OUTDOOR AIR DEWPOINT TEMPERATURE: 50°F (ADJ)  
 DX COIL LEAVING AIR TEMPERATURE: 50°F (ADJ)  
 CO2: 750 PPM (ADJ)

**EMERGENCY SHUTDOWN:**  
 THE UNIT SHALL SHUT DOWN AND GENERATE AN ALARM UPON RECEIVING AN EMERGENCY SHUTDOWN SIGNAL. EMERGENCY SHUTOFF TO BE A HARDWIRE INTERLOCK.

**CONDENSATE SHUTDOWN:** THE UNIT SHALL SHUT DOWN AND GENERATE AN ALARM UPON RECEIVING AN CONDENSATE OVERFLOW SIGNAL. CONDENSATE SHUTDOWN TO BE A HARDWIRE INTERLOCK.

**FREEZE PROTECTION:**  
 THE UNIT SHALL SHUT DOWN AND GENERATE AN ALARM UPON RECEIVING A FREEZESTAT STATUS. FREEZE STAT TO BE A HARDWIRE INTERLOCK.

**OUTSIDE AIR DAMPER:**  
 THE OUTSIDE AIR DAMPER SHALL OPEN ANYTIME THE UNIT RUNS AND SHALL CLOSE ANYTIME THE UNIT STOPS. THE SUPPLY FAN SHALL START ONLY AFTER THE DAMPER STATUS HAS PROVEN THE DAMPER IS OPEN. THE OUTSIDE AIR DAMPER SHALL CLOSE 4 SEC. (ADJ.) AFTER THE SUPPLY FAN STOPS.

**ALARMS SHALL BE PROVIDED AS FOLLOWS:**

- OUTSIDE AIR DAMPER FAILURE: COMMANDED OPEN, BUT THE STATUS IS CLOSED.
- OUTSIDE AIR DAMPER IN HAND: COMMANDED CLOSED, BUT THE STATUS IS OPEN.

**SUPPLY FAN:**  
 THE SUPPLY FAN SHALL RUN ANYTIME THE UNIT IS COMMANDED TO RUN. TO PREVENT

SHORT CYCLING, THE SUPPLY FAN SHALL HAVE A USER DEFINABLE (ADJ.) MINIMUM RUNTIME, UNLESS SHUTDOWN ON SAFETIES.

**ALARMS SHALL BE PROVIDED AS FOLLOWS:**

- SUPPLY FAN FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.

**TEMPERATURE AND HUMIDITY CONTROL:**

**SUPPLY AIR TEMPERATURE CONTROL:** A TEMPERATURE CONTROL PROGRAM RAMP UP AND DOWN HEATING/COOLING DEMAND VALUES BY USING THE SUPPLY AIR TEMPERATURE CONTROL SET-POINT AND COMPARING IT WITH A SUPPLY AIR TEMPERATURE SENSOR. THE SUPPLY AIR TEMPERATURE CONTROL SET-POINT IS DETERMINED BY THE ADJUSTABLE SUPPLY AIR TEMPERATURE SETPOINT AND ANY APPLICABLE RESET.

**DEHUMIDIFICATION:** IF THE OUTSIDE AIR DEW-POINT EXCEEDS THE OUTSIDE AIR DEW-POINT SETPOINT AND THE OUTSIDE AIR TEMPERATURE EXCEEDS THE SUPPLY AIR TEMPERATURE SETPOINT, THEN THE UNIT WILL ENTER DEHUMIDIFICATION MODE. THE UNIT CONTROLLER WILL MODULATE COOLING CAPACITY TO MAINTAIN THE DX COIL LEAVING AIR TEMPERATURE SETPOINT AND MODULATE THE HOT GAS REHEAT VALVE TO MAINTAIN THE SUPPLY AIR TEMPERATURE SETPOINT.

**COOLING:** IF THE SUPPLY AIR TEMPERATURE EXCEEDS THE SUPPLY AIR TEMPERATURE SETPOINT, THE UNIT WILL ENABLE THE COMPRESSORS AND MODULATE CAPACITY TO MAINTAIN SUPPLY AIR TEMPERATURE SETPOINT.

**HEATING:** IF SUPPLY AIR TEMPERATURE IS LESS THAN THE SUPPLY AIR TEMPERATURE SETPOINT, THE UNIT WILL ENABLE THE SCR ELECTRIC HEAT AND MODULATE CAPACITY TO MAINTAIN SUPPLY AIR TEMPERATURE SETPOINT.

**ALARMS SHALL BE PROVIDED AS FOLLOWS:**

- HIGH SUPPLY AIR TEMP: IF THE SUPPLY AIR TEMPERATURE IS GREATER THAN 85°F (ADJ.).
- LOW SUPPLY AIR TEMP: IF THE SUPPLY AIR TEMPERATURE IS LESS THAN 45°F (ADJ.).

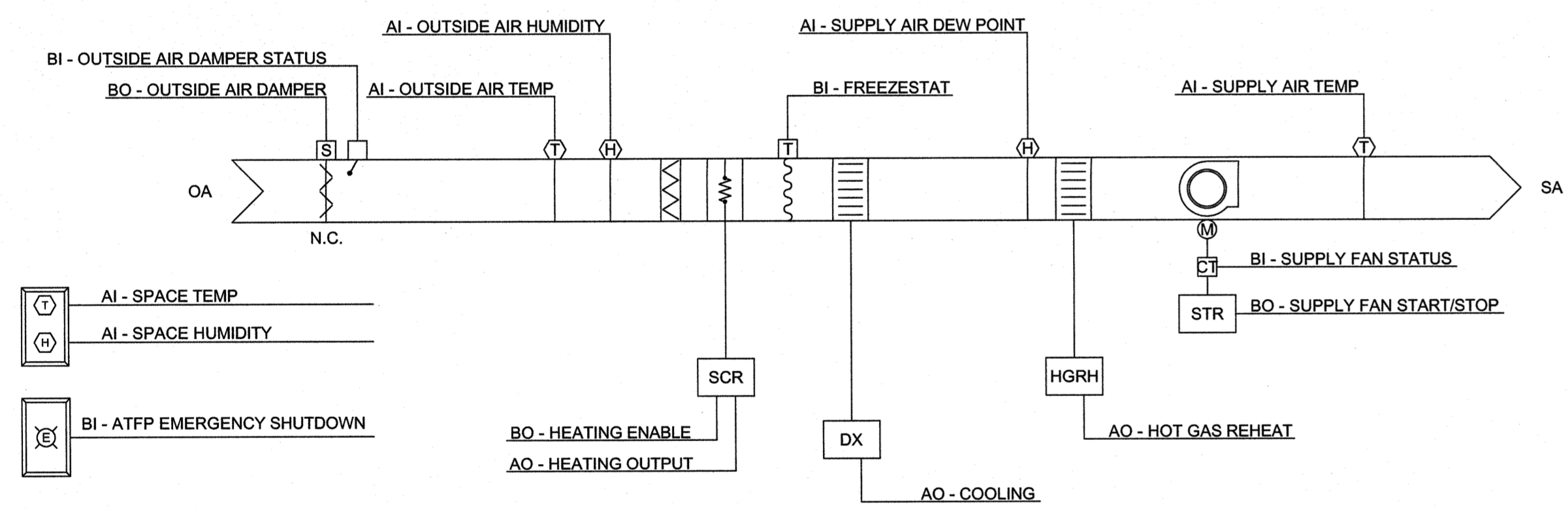
HARDWIRE INTERLOCK DAMPER AND PROVING SWITCH.

### DEDICATED OUTSIDE AIR SYSTEM POINTS LIST

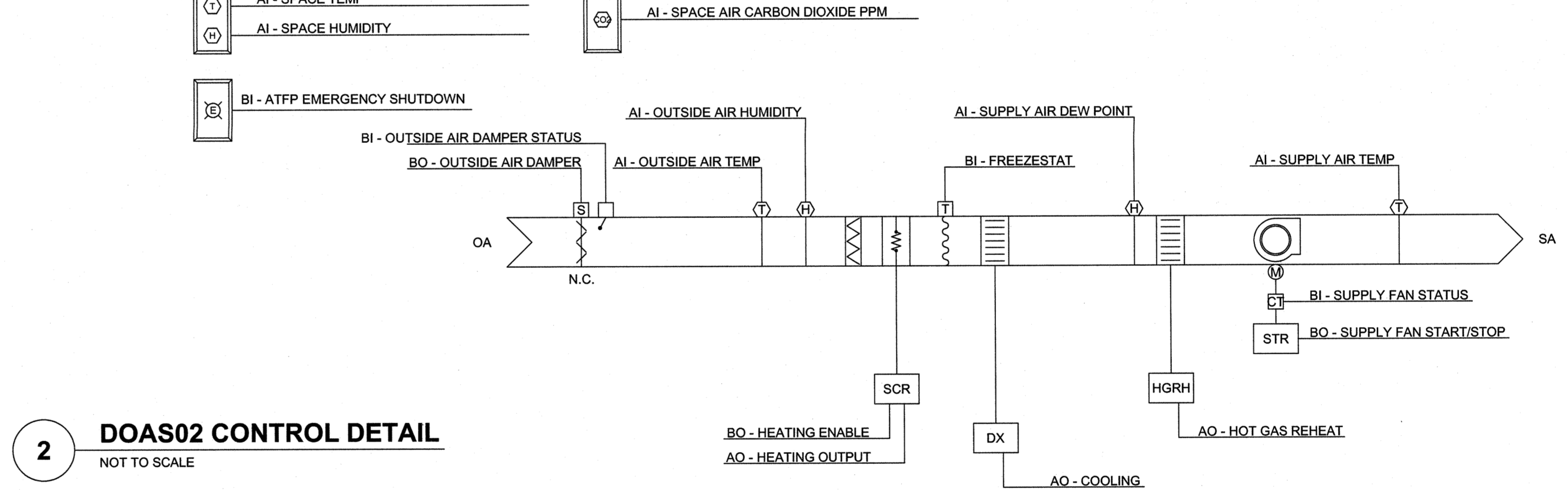
INDOOR UNIT CONTROL POINT DESCRIPTION	SOFTWARE POINTS		FUNCTIONS			ALARMS		
	NETWORK VARIABLE INPUT	NETWORK VARIABLE OUTPUT	SCHEDULE	TREND	DISPLAY	HIGH LIMIT	LOW LIMIT	ABNORMALITY
ON/OFF								
OUTSIDE AIR DAMPER	X		X	X	X			
OUTSIDE AIR DAMPER STATUS		X						
CONDENSATE OVERFLOW	X					X		
FREEZESTAT	X						X	
SUPPLY AIR TEMPERATURE	X			X	X	X		X
SUPPLY AIR DEWPOINT	X			X	X	X		X
OUTSIDE AIR TEMPERATURE	X			X	X			
OUTSIDE AIR DEWPOINT	X			X	X			
ON/OFF STATUS		X		X	X			
SUPPLY FAN STATUS		X		X	X			X
COOLING DEMAND	X			X	X			
HOT GAS REHEAT DEMAND	X			X	X			
HEATING DEMAND	X			X	X			

### DEDICATED OUTSIDE AIR SYSTEM POINTS LIST

INDOOR UNIT CONTROL POINT DESCRIPTION	SOFTWARE POINTS		FUNCTIONS			ALARMS		
	NETWORK VARIABLE INPUT	NETWORK VARIABLE OUTPUT	SCHEDULE	TREND	DISPLAY	HIGH LIMIT	LOW LIMIT	ABNORMALITY
ON/OFF								
OUTSIDE AIR DAMPER	X		X	X	X			
OUTSIDE AIR DAMPER STATUS		X						
CONDENSATE OVERFLOW	X					X		
FREEZESTAT	X						X	
SUPPLY AIR TEMPERATURE	X			X	X	X		X
SUPPLY AIR DEWPOINT	X			X	X	X		X
OUTSIDE AIR TEMPERATURE	X			X	X			
OUTSIDE AIR DEWPOINT	X			X	X			
CARBON DIOXIDE SENSOR	X			X	X	X		X
ON/OFF STATUS		X		X	X			
SUPPLY FAN STATUS		X		X	X			X
COOLING DEMAND	X			X	X			
HOT GAS REHEAT DEMAND	X			X	X			
HEATING DEMAND	X			X	X			



1 DOAS01 CONTROL DETAIL  
NOT TO SCALE



2 DOAS02 CONTROL DETAIL  
NOT TO SCALE

### POWER VENTILATOR SEQUENCE OF OPERATION

**POWER VENTILATOR - ON/OFF**

**RUN CONDITIONS - SCHEDULED:**  
 THE FAN SHALL RUN ACCORDING TO A USER DEFINABLE SCHEDULE.

**FAN:**  
 THE FAN SHALL HAVE A USER DEFINABLE (ADJ.) MINIMUM RUNTIME.

**EXHAUST AIR DAMPER:**  
 THE EXHAUST AIR DAMPER SHALL OPEN ANYTIME THE UNIT RUNS AND SHALL CLOSE ANYTIME THE UNIT STOPS. THE EXHAUST AIR DAMPER SHALL CLOSE 30 SEC (ADJ.) AFTER THE FAN STOPS.

**ALARMS SHALL BE PROVIDED AS FOLLOWS:**

- DAMPER FAILURE: COMMANDED OPEN, BUT THE STATUS IS CLOSED.
- DAMPER IN HAND: COMMANDED CLOSED, BUT THE STATUS IS OPEN.

**DAMPER STATUS:**  
 THE FAN SHALL BE ENABLED AFTER THE DAMPER STATUS HAS PROVEN.

**ALARMS SHALL BE PROVIDED AS FOLLOWS:**

- DAMPER FAILURE: COMMANDED OPEN, BUT THE STATUS IS CLOSED.
- DAMPER IN HAND: COMMANDED CLOSED, BUT THE STATUS IS OPEN.

**FAN STATUS:**  
 THE CONTROLLER SHALL MONITOR THE FAN STATUS.

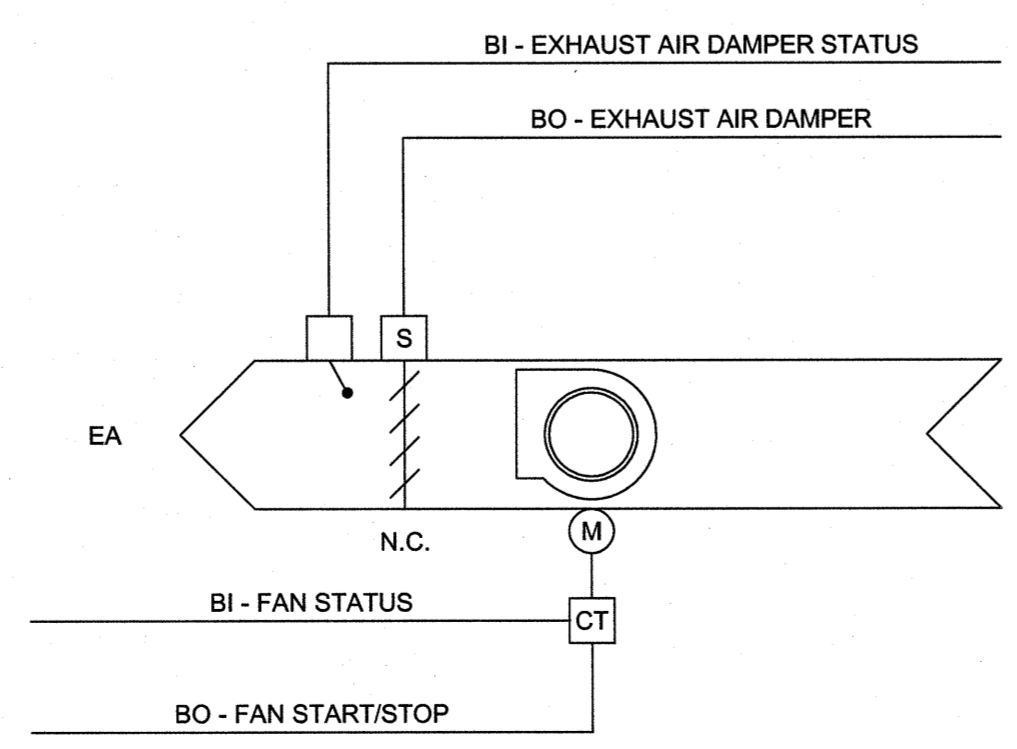
**ALARMS SHALL BE PROVIDED AS FOLLOWS:**

- FAN FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.
- FAN IN HAND: COMMANDED OFF, BUT THE STATUS IS ON.
- FAN RUNTIME EXCEEDED: FAN STATUS RUNTIME EXCEEDS A USER DEFINABLE LIMIT (ADJ.).

HARDWIRE INTERLOCK DAMPER AND PROVING SWITCH WITH FAN MOTOR.

### POWER VENTILATOR POINTS LIST

POINT NAME	HARDWARE POINTS						SOFTWARE POINTS				SHOW ON GRAPHIC	
	AI	AO	BI	BO	AV	BV	LOOP	SCHED	TREND	ALARM		
EXHAUST AIR DAMPER STATUS			X						X		X	
FAN STATUS			X						X		X	
EXHAUST AIR DAMPER				X					X		X	
FAN START/STOP				X					X		X	
SCHEDULE								X				
EXHAUST AIR DAMPER FAILURE										X		
EXHAUST AIR DAMPER IN HAND										X		
FAN FAILURE										X		
FAN IN HAND										X		
FAN RUNTIME EXCEEDED										X		



3 EXHAUST FAN CONTROLS  
NOT TO SCALE

SEE DISCLOSURE OF INFORMATION STATEMENT ON SHEET T-1

<b>CBHF</b> Engineers, PLLC 2246 Yaupon Drive Wilmington, NC 28401 Phone: 910.791.4000 Fax: 910.791.5266 www.cbhfengineers.com	SHEET TITLE: MECHANICAL CONTROLS		M-7
	TALLEY & SMITH ARCHITECTURE INC. P.O. BOX 518 SHELBY, NC 28151-0518 409 EAST MARION ST. SHELBY, NC 28150		
	DES. WTB	DR. WTB	RENOVATION BLDG. M-104 CAMP LEJEUNE, NORTH CAROLINA
	SUBMITTED BY: DESIGN DR. T.H. BURTON, PE	APPROVED: DATE:	CODE IDENT. NO. <b>80091</b>
SATISFACTORY TO:	DATE:	SCALE: NOTED	CONST. CONTR. NO. N40085-19-B-0034 SHEET 43 OF 57