

### MECHANICAL SYMBOLS

(ALL SYMBOLS SHOWN ARE NOT NECESSARILY USED ON THE DRAWINGS)

#### DUCT (DUCTWORK)

SUPPLY AIR DIFFUSER - ARROWS INDICATE PATTERN. NO PATTERN SHOWN EQUALS 4-WAY.

RETURN AIR DEVICE

EXHAUST DEVICE

SUPPLY AIR SLOT DEVICE  
RETURN AIR SLOT DEVICE

ROUND DUCT, DIAMETER INDICATED IN INCHES.  
20"x12"  
RECTANGULAR DUCT, SIZE INDICATED IN INCHES, FIRST NUMBER IS SIDE SHOWN.  
24"x8"  
RIGID ROUND DUCT TO FLEX  
24"x8"  
SINGLE LINE SUPPLY AIR DUCTWORK  
SINGLE LINE RETURN AIR DUCTWORK  
SPIN-IN TAKE OFF-FITTING WITH DAMPER AND SCOOP  
SPIN-IN TAKE OFF-FITTING ONLY  
SUPPLY OR OUTSIDE AIR DUCT  
RETURN AIR DUCT.  
RELIEF OR EXHAUST AIR DUCT, DIFFUSER/GRILLE LABEL:  
- TYPE/DESIGNATION  
- AIRFLOW (CFM)  
- NECK SIZE (INCHES)  
24x24 CD 220 CFM  
90 DEGREE DUCT ELBOW.  
RADIUS DUCT ELBOW - ROUND OR RECTANGULAR.  
RECTANGULAR DUCT BRANCH TAKE-OFF WITH 45 DEGREE BRANCH INLET.  
FLARED SPIN-IN WITH DAMPER AND FLEX DUCT (DIFFUSER CONNECTION).  
ROUND DUCT BRANCH TAKE-OFF FROM RECTANGULAR MAIN WITH CONICAL TAP.  
DUCT SIZE TRANSITION.  
REQUIRED NECK SIZE  
SA DUCT, SPIN-IN DAMPER, FLEX DUCT TO AIR DEVICE WITH CFM REQUIRED CFM  
SUPPLY OR OUTSIDE AIR DUCT UP  
SUPPLY OR OUTSIDE AIR DUCT DOWN  
RETURN AIR DUCT UP  
RETURN AIR DUCT DOWN  
RELIEF OR EXHAUST AIR DUCT UP  
RELIEF OR EXHAUST AIR DUCT DOWN  
IN-LINE 90 DEGREE DROP (RISE) IN DUCT  
INCLUDED RISE IN DUCT  
INCLUDED DROP IN DUCT  
TURNING VANES  
DUCT EXTRACTOR  
SPLITTER DAMPER/NECK SIZE  
DUCT MOUNTED HEATING COIL.

#### DUCT (DUCTWORK) CONT.

DUCT MOUNTED HUMIDIFIER

MOTORIZED DAMPER

DAMPER TYPE:  
OPPOSITE BLADE MANUAL DAMPER  
FIRE DAMPER W/ACCESS DOOR  
FIRE SMOKE DAMPER W/ACCESS DOOR  
FIRE DAMPER

BAROMETRIC BY-PASS DAMPER (BBD)  
BACKDRAFT DAMPER (BDD)

EXISTING TO REMAIN  
EXISTING TO REMOVE  
FUTURE DUCT TO BE INSTALLED  
AIR TRANSFER GRILLE

#### PIPING TYPES

CD CONDENSATE DRAIN (COLD) GRAVITY  
RG REFRIGERANT HOT GAS  
RL REFRIGERANT LIQUID LINE

#### MISCELLANEOUS

UNDERCUT DOOR 1"

DUCT SMOKE DETECTOR  
SPACE THERMOSTAT  
HUMIDISTAT  
MANUAL PULL STATION  
TEMPERATURE SENSOR  
HUMIDITY SENSOR  
SPACE THERMOSTAT WITH REMOTE SENSOR  
THERMOSTAT/HUMIDISTAT  
PNEUMATIC TUBING OR CONTROL WIRING  
DRAWING NOTE REFERENCE  
ROUND  
OVAL OR FLAT OVAL

SECTION MARK & PAGE  
U-2  
OCCUPANCY SENSOR  
POINT OF NEW CONNECTION  
LIMIT OF DEMOLITION  
EXISTING TO BE REMOVED

#### DRAWING/DETAIL REFERENCE KEY

REFER TO DRAWING/DETAIL NUMBER  
3 M-5  
SHEET NUMBER  
RE: 3M-5  
3 M-5

### AIR HANDLING UNIT SCHEDULE

Mark	AIR HANDLER DATA								ELECTRICAL DATA			Remarks	
	Manufacturer	Model No.	Cabinet Type	CFM Total	CFM OA	ESP (W.G.)	Fan Motor HP	Weight	Heater KW/MCA	Heater Stages	Heater MOCP		VOLTPH60
AHU-1	Carrier Corporation	FB4CNP060	VERTICAL	1800	340	0.5	3/4	175 lb	10/50.4	1	60	208/160	1/3/6/8/9/10/11/12/13/14
AHU-2	Carrier Corporation	FV4CNF006	VERTICAL	1800	340	0.5	3/4	175 lb	10/50.4	1	60	208/160	1 TO 14
AHU-3	Carrier Corporation	FB4CNP060	VERTICAL	1800	340	0.5	3/4	175 lb	10/50.4	1	60	208/160	1/3/6/8/9/10/11/12/13/14
AHU-4	Carrier Corporation	FB4CNP060	VERTICAL	1800	340	0.5	3/4	175 lb	10/50.4	1	60	208/160	1/3/6/8/9/10/11/12/13/14
AHU-5	Carrier Corporation	FB4CNP060	VERTICAL	1800	320	0.5	3/4	175 lb	10/50.4	1	60	208/160	1 TO 16

### CONDENSING UNIT SCHEDULE

Mark	CONDENSER DATA					ELECTRICAL DATA					Remarks			
	Manufacturer	Model No.	Total Capacity (MBH)	Sensible Capas. (MBH)	Ent. Air Temp. (F) (DBWB)	Leav. Air Temp. (F) (DBWB)	Weight	No. Compressors	Comp. MCA	No. Cond. Fans		SEER	Max. Breaker Amps	VOLTPH60
CU-1	Carrier Corporation	24ACC460	60	48	78/67	59/58	218 lb	1	34.2	1	14	50	208/160	1/3/6/8/9/10/11/12/13/14
CU-2	Carrier Corporation	24ACB760	60	48	78/67	59/58	218 lb	2	34.2	1	17	50	208/160	1 TO 14
CU-3	Carrier Corporation	24ACC460	60	48	78/67	59/58	218 lb	1	34.2	1	14	50	208/160	1/3/6/8/9/10/11/12/13/14
CU-4	Carrier Corporation	24ACC460	60	48	78/67	59/58	218 lb	1	34.2	1	14	50	208/160	1/3/6/8/9/10/11/12/13/14
CU-5	Carrier Corporation	24ACB760	60	48	78/67	59/58	218 lb	2	34.2	1	17	50	208/160	1 TO 16

**Remarks:**  
1. Provide 1" thick 30% throwaway filter, fan 30/30 or equal.  
2. N/A.  
3. Provide 24 v control for a programmable 24, 7-day time clock/stat or combination of thermostat/humidistat, control system shall have a 5' 1" deadband, set point overlap restriction, capability of setback to 55 °(heat) and 85 °(cool), 7 day clock, 2 hour occupant override, 10 hour back up, capability of proportional integral calculation to determine the number of stages required for heating, cooling and humidity to provide accurate temperature and humidity control, equal to 33cs2p2s-03, systctrln01-a or tph01-b carrier.  
4. N/A.  
5. Humidity control for ac units 1.5-5 ton capacity, occupied and unoccupied, if the space humidity rises above 50% th compressor shall run in first stage, and staged air volume (yd) air handlers shall operate in low speed during first stage of cooling, allowing dehumidification by extending the run time without overcooling, after the delay time if additional cooling is still required cooling system shall be back on full capacity so that the cooling demand will be satisfied.  
6. Provide single phase loss voltage monitoring device equal to p251-0092 to protect from over or under voltage, rapid short-cycling, and power interruptions.  
7. N/A.  
8. Outside air for ventilation are calculated using florida building code chapter 4 FBCM 6th edition 2017.  
9. Install air handling and condensing units per mfg.' recommendations.  
10. Refrigeration line size and installations in accordance with mfg.' recommendations.  
11. Provide manual and motorized damper for outside air installed on return duct.  
12. Provide 5 minute time delay to prevent short cycling of compressor.  
13. Provide phase-fail protection for three-phase units.  
14. Model number for ac units are provide to establish standard of quality and necessary specifications, coordinate with manufacturer for final model numbers.  
15. AHU-5/ CU-5 Shall be interlocked with Hood-1.  
16. AHU-5/CU-5 Shall be dual stage and constant volume.

### PTAC 9-12 MBH SCHEDULE

Mark	AIR HANDLER DATA				ELECTRICAL DATA			AIR HANDLER DATA	
	Manufacturer	Model	Total Capacity (BTU/h)	CFM Total	SEER	Heater KW/MCA	Heater MOCP		VOLTPH60
PTAC-A.1	Amana	PTH093G*ACVXX	9000	245-330	14.4	2.9/19.5	20	208/160	127 lb
PTAC-A.2	Amana	PTH093G*ACVXX	9000	245-330	14.4	2.9/19.5	20	208/160	127 lb
PTAC-A.3	Amana	PTH093G*ACVXX	9000	245-330	14.4	2.9/19.5	20	208/160	127 lb
PTAC-A.4	Amana	PTH093G*ACVXX	9000	245-330	14.4	2.9/19.5	20	208/160	127 lb
PTAC-A.5	Amana	PTH093G*ACVXX	9000	245-330	14.4	2.9/19.5	20	208/160	127 lb
PTAC-A.6	Amana	PTH093G*ACVXX	9000	245-330	14.4	2.9/19.5	20	208/160	127 lb
PTAC-A.7	Amana	PTH123G*ACVXX	12000	245-340	13.2	2.9/19.5	20	208/160	132 lb
PTAC-A.8	Amana	PTH093G*ACVXX	9000	245-330	14.4	2.9/19.5	20	208/160	127 lb
PTAC-A.9	Amana	PTH093G*ACVXX	9000	245-330	14.4	2.9/19.5	20	208/160	127 lb
PTAC-A.10	Amana	PTH123G*ACVXX	12000	245-340	13.2	2.9/19.5	20	208/160	132 lb
PTAC-A.11	Amana	PTH123G*ACVXX	12000	245-340	13.2	2.9/19.5	20	208/160	132 lb
PTAC-B.1	Amana	PTH093G*ACVXX	9000	245-330	14.4	2.9/19.5	20	208/160	127 lb
PTAC-B.2	Amana	PTH093G*ACVXX	9000	245-330	14.4	2.9/19.5	20	208/160	127 lb
PTAC-B.3	Amana	PTH093G*ACVXX	9000	245-330	14.4	2.9/19.5	20	208/160	127 lb
PTAC-B.4	Amana	PTH093G*ACVXX	9000	245-330	14.4	2.9/19.5	20	208/160	127 lb
PTAC-B.5	Amana	PTH093G*ACVXX	9000	245-330	14.4	2.9/19.5	20	208/160	127 lb
PTAC-B.6	Amana	PTH093G*ACVXX	9000	245-330	14.4	2.9/19.5	20	208/160	127 lb
PTAC-B.7	Amana	PTH123G*ACVXX	12000	245-340	13.2	2.9/19.5	20	208/160	132 lb
PTAC-B.8	Amana	PTH093G*ACVXX	9000	245-330	14.4	2.9/19.5	20	208/160	127 lb
PTAC-B.9	Amana	PTH093G*ACVXX	9000	245-330	14.4	2.9/19.5	20	208/160	127 lb
PTAC-B.10	Amana	PTH123G*ACVXX	12000	245-340	13.2	2.9/19.5	20	208/160	132 lb
PTAC-B.11	Amana	PTH123G*ACVXX	12000	245-340	13.2	2.9/19.5	20	208/160	132 lb

**NOTE:** PER FBCM 402.2 6TH EDITION 2017, MINIMUM OPERABLE AREA TO OUTDOORS SHALL BE 4 % OF THE FLOOR AREA BEING VENTILATED.

**ALL ROOMS AREA = 240 SF x 4% = 9.6 SF REQUIRED; (1)4'x4' WINDOW = 16 SF OPERABLE AREA PROVIDED**  
**STAFF ROOM AREA = 362 SF x 4% = 14.49 SF REQUIRED; (1)4'x4' WINDOW = 16 SF OPERABLE AREA PROVIDED**

### PROJECT DESIGN CONDITION

SPACE SERVED	DESIGN LOCATION	INDOOR				OUTDOOR		
		SUMMER MINIMUM TEMPERATURE (°F) DB	SUMMER MAXIMUM HUMIDITY (RH%)	WINTER MAXIMUM TEMPERATURE (°F)	REMARK	SUMMER MAXIMUM TEMPERATURE (°F) DB	SUMMER MAXIMUM HUMIDITY (RH%)	WINTER MINIMUM TEMPERATURE (°F)
GENERAL COMFORT, APARTMENT, HOUSE, HOTEL, OFFICE, HOSPITAL, SCHOOL, ETC.	DAYTONA BEACH	77	55(+2)	74	1.2	93.8/76.5	53	38

**NOTES:**  
1. MINIMUM TEMPERATURE IN BUILDING MUST BE MAINTAINED AT 55 °F EVEN WHEN UNOCCUPIED.  
2. DRY BULB AND RELATIVE HUMIDITY ARE TO BE MAINTAINED 6 INCH TO 6 FEET ABOVE THE FLOOR.

### ELECTRIC UNIT HEATHER SCHEDULE

Mark	CFM Total	MW	VOLTPH60	MCA	Location	Model No.	Manufacturer	Remarks
EUH-1	400 CFM	3	208/160	20	FIRE RISER ROOM	UHEC-031A0C0	TRANE	1,2,3,4

**Remarks:**  
1. Provide Unit with Disconnect & Built-in Thermostat.  
2. Hanger Bracket.  
3. Provide Thermostat.  
4. Provide Disconnect and Receptacle.  
5. Horizontal Installation.

### AIR DISTRIBUTION SCHEDULE

Mark	Description	ELECTRICAL DATA					Remarks
		Material	Finish	Manufacturer	Model	Remarks	
CD	Ceiling Diffuser - Square and Rectangular with opposed blade volume damper.	Aluminum	Baked Off-White Enamel	PRICE	ASCO	2,3,5	
EAG	Eggcrate Exhaust Grille	Aluminum	Baked Off-White Enamel	PRICE	85 Series	1,2,3,4,5	
EAL	Exhaust Air Louver, Flange Frame with Bird Screen, Wind Driven, Rain type Louver	Aluminum	Aluminum	GREENHECK	EHH601D	-	
Y OAL	Outside Air Louver/ Flange Frame with Bird Screen, Wind Driven, Rain type Louver	Aluminum	Aluminum	GREENHECK	EHH601D	-	
PCD	Ceiling Diffuser - Square and Rectangular with opposed blade volume damper or gang operated radial blades damper.	Plenum Galvanized	Frame and Face Stainless Steel	CAPTIVE AIR	DI-PSP	4,5	
RAG	Eggcrate Return	Aluminum	Baked Off-White Enamel	PRICE	85 Series	1,2,3,4,5	
TG	Transfer Grille	Aluminum	Baked Off-White Enamel	PRICE	85 Series	1,2,3,4,5	

**Remarks:**  
1. Paint flat black inside of ducts behind grilles, provide duct collar with all grilles.  
2. See architectural ceiling plan for frame type.  
3. Provide surface mount border for hard ceiling.  
4. Provide with plenum.  
5. Insulated plenum.

FACE SIZE  
12X12 CD  
400 CFM  
SCHEDULED DESIGNATOR, I.E.  
AIR QUANTITY IN CUBIC FEET PER MINUTE

### EXHAUST FAN SCHEDULE

Mark	Manufacturer	Model No.	Air Flow Rate	Location	SP, inches of water	RPM	Motor HP/Watts	Voltage	Drive	Type	Weight (lb)	Remarks
EF-1	Greenheck	SP A90	70 CFM	COMP. LAB A	0.20	900	29 W	120 V	Direct	Ceiling	12 lb	2/4/5/6/8/9/10
EF-2	Greenheck	CSP-AS10	450 CFM	RESTROOM A	0.25	1050	102.2 W	0 V	Direct	Inline	23 lb	4/5/6/8/9/10/11
EF-3	Greenheck	CSP-AS10	450 CFM	RESTROOM B	0.25	1050	102.2 W	0 V	Direct	Inline	23 lb	4/5/6/8/9/10/11
EF-4	Greenheck	SP A190	150 CFM	MENS RR	0.20	1400	54.4 W	120 V	Direct	Ceiling	17 lb	4/5/6/8/9/10/11
EF-5	Greenheck	SP A190	150 CFM	WOMENS RR	0.20	1400	54.4 W	120 V	Direct	Ceiling	17 lb	4/5/6/8/9/10/11
EF-6	Greenheck	SP A90	70 CFM	COMP. LAB B	0.20	900	29 W	120 V	Direct	Ceiling	12 lb	2/4/5/6/8/9/10

**Remarks:**  
1. Operate with wall switch.  
2. Operate with Occupancy sensor and Overrides Switch.  
3. Operate with timer switch.  
4. Provide Speed Controllers.  
5. Provide support Rods and Vibration Isolator.  
6. Provide Bird Screen Protection.  
7. Provide Weather Hood.  
8. Provide Backdraft Damper (BDD).  
9. Contractor shall coordinate voltage selection with this Project provide transformer if necessary.  
10. Provide disconnect switch.  
11. Continuous Run with Time Clock.

### REQUIRED OUTDOOR VENTILATION AIR CALCULATION (PER FBCM403.3)

#### AHU-1

AREA CLASSIFICATION	SQ.FT.	OCCUPANCY	Rp [CFM/PERSON]	Ra [CFM/SF]	EXHAUST RATE [CFM/SF]	CALCULATION	VENTILATION REQUIRED [CFM]
CORRIDOR	600	-	-	0.06	-	600 SF x 0.06 CFM/SF	36
TV LOUNGE	312	15	5	0.06	-	15 PERSONS x 5 CFM/PERSON + 312 SF x 0.06 CFM/SF	93.72
KITCHEN	-	2	15	-	-	3 PERSONS x 15 CFM/PERSON	45
COMP. LAB. A	180	5	5	0.06	-	5 PERSONS x 5 CFM/PERSON + 180 SF x 0.06 CFM/SF	35.8
STORAGE	180	-	-	0.06	-	180 SF x 0.06 CFM/SF	10.8
TOTAL OUTSIDE AIR REQUIRED [CFM]							221.32
TOTAL OUTSIDE AIR PROVIDED [CFM] (AHU-1) (340)							=340

#### AHU-2/AHU-3

AREA CLASSIFICATION	SQ.FT.	OCCUPANCY	Rp [CFM/PERSON]	Ra [CFM/SF]	EXHAUST RATE [CFM/SF]	CALCULATION	VENTILATION REQUIRED [CFM]
MAIN HALL/LOBBY	2663	90	5	0.06	-	90 PERSONS x 5 CFM/PERSON + 2663 SF x 0.06 CFM/SF	609.78
TOTAL OUTSIDE AIR REQUIRED [CFM]							609.78
TOTAL OUTSIDE AIR PROVIDED [CFM] (AHU-2) (AHU-3) (340)+(340)							=680

#### AHU-4

AREA CLASSIFICATION	SQ.FT.	OCCUPANCY	Rp [CFM/PERSON]	Ra [CFM/SF]	EXHAUST RATE [CFM/SF]	CALCULATION	VENTILATION REQUIRED [CFM]
CORRIDOR	600	-	-	0.06	-	600 SF x 0.06 CFM/SF	36
LOUNGE	850	18	5	0.06	-	18 PERSONS x 5 CFM/PERSON + 850 SF x 0.06 CFM/SF	141
LAUNDRY	120	-	-	0.06	-	120 SF x 0.06 CFM/SF	7.2
COMP. LAB. B	180	5	5	0.06	-	5 PERSONS x 5 CFM/PERSON + 180 SF x 0.06 CFM/SF	35.8
STORAGE	180	-	-	0.06	-	180 SF x 0.06 CFM/SF	10.8
MECH. ROOM	100	-	-	0.06	-	100 SF x 0.06 CFM/SF	6
TOTAL OUTSIDE AIR REQUIRED [CFM]							236.8
TOTAL OUTSIDE AIR PROVIDED [CFM] (AHU-4) (340)							=340

#### AHU-5

AREA CLASSIFICATION	SQ.FT.	OCCUPANCY	Rp [CFM/PERSON]	Ra [CFM/SF]	EXHAUST RATE [CFM/SF]	CALCULATION	VENTILATION REQUIRED [CFM]
PREP. KITCHEN	319	3	15	-	-	3 PERSONS x 15 CFM/PERSON	45
TOTAL OUTSIDE AIR REQUIRED [CFM]							45
TOTAL OUTSIDE AIR PROVIDED [CFM] (AHU-5) (320)							=320

#	REVISIONS
1	04/15/20 ADDENDUM #1

1325 S. Bumby Ave. Orlando, Florida 32806  
PH: (407) 896 7411 / FX: (407) 896 7412  
EMAIL: eggroup@atl.net  
CA#8126  
Farshad Antkchi, P.E.#27998

PROJECT NUMBER:  
MTF18144

DME SPORTS HOUSING COMPLEX

OWNER/DEVELOPER: WMC-PANAGO DIRECT MAIL EXPRESS 241 BELLEUE AVENUE, DAYTONA BEACH, FL 32114 (386) 251-3924  
 PROJECT LOCATION: 260 BELLEUE AVENUE, DAYTONA BEACH, FL 32114  
 GENERAL CONTRACTOR: BRIAN COLLIER, 315 FERRELLS BOULEVARD, DAYTONA BEACH, FL 32114, PH: (386) 576-1717

ARCHITECTURE, DESIGN & DRAWING SERVICES

# AA 2001108  
BRIAN P. FREDLEY, ASSOC. AIA, PROJECT MANAGER  
DALLAS B. PEACOCK, AIA, ARCHITECT  
# AR 0007006  
207 FAIRVIEW AVENUE, DAYTONA BEACH, FL 32114  
PH: (386) 251-6902 FX: (386) 251-1050  
E-MAIL: bpfdesign@atl.net WEBSITE: bpfdesign.net

<b>MECHANICAL SCHEDULES</b>	
DATE: 05/28/19	SHT NO. M-5
SCALE: AS SHOWN	
ARCHITECT'S / ENGINEER'S SEAL	