

**MECHANICAL GENERAL NOTES**

- ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE 2014 FLORIDA BUILDING CODE, NATIONAL ELECTRIC CODE, FLORIDA ENERGY CODE, ALL NFPA REQUIREMENTS AND ALL LOCAL CODES.
- ALL WORK SHALL BE COORDINATED WITH ARCHITECTURAL, CIVIL, STRUCTURAL, FIRE PROTECTION, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS. CONTRACTOR SHALL BE REQUIRED TO FURNISH, INSTALL AND CONNECT WITH APPROPRIATE SERVICES ALL ITEMS SHOWN ON THE DRAWING AT NO ADDITIONAL COST TO THE OWNER.
- FURNISH SIX (6) COPIES OF SHOP DRAWINGS OF EQUIPMENT OR FIXTURES FOR APPROVAL PRIOR TO PURCHASING.
- PRIOR TO SUBMITTING A BID, THE CONTRACTOR SHALL HAVE STUDIED AND COMPARED THE CONTRACT DOCUMENTS WITH EXISTING/PROPOSED CONDITIONS AND NOT LATER THAN TEN (10) DAYS PRIOR TO THE BID OPENING SHALL REPORT TO THE ENGINEER ANY ERROR, INCONSISTENCIES OR OMISSIONS IN THE CONTRACT DOCUMENTS.
- THE MECHANICAL CONTRACTOR SHALL RETAIN THE SERVICES OF AN INDEPENDENT TEST AND BALANCE AGENCY TO TEST AND BALANCE ALL HVAC SYSTEMS ON THIS PROJECT. THE TEST AND BALANCE REPORT SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND ACCEPTANCE. THE TEST AND BALANCE TEST REPORT SHALL BE SUBMITTED SEVEN (7) WORKING DAYS PRIOR TO SUBSTANTIAL COMPLETION. THE TEST AND BALANCE CONTRACTOR SHALL INCLUDE THE PROVISION FOR ADJUSTMENTS REQUESTED BY THE MECHANICAL ENGINEER AND RE-SUBMITTAL OF THE CORRECTED TEST AND BALANCE REPORT. TESTING AGENCY SHALL BE AABC OR NEBB CERTIFIED.
- COPIES OF THE MECHANICAL SUBCONTRACTOR'S FIRST YEAR GUARANTEE FOR THE INSTALLATION SHALL BE PROVIDED TO THE OWNER. NOTATION SHALL BE INCLUDED TO SHOW THE EXPIRATION OF THE FIRST YEAR PARTS AND LABOR GUARANTEE AND OF THE EXTENDED FOUR (4) YEAR COMPRESSOR WARRANTY.
- DEVIATION FROM MATERIALS, METHODS OR PROCEDURES SET FORTH HEREIN MUST BE APPROVED BY THE ENGINEER, IN WRITING, PRIOR TO BID OR COMMENCEMENT OF WORK.
- THE MECHANICAL CONTRACTOR IS RESPONSIBLE FOR ALL COST INCURRED BY ANY TRADE DUE TO THE SUBSTITUTION OF MECHANICAL EQUIPMENT. ANY CHANGES SHALL BE COORDINATED WITH THE TRADES INVOLVED.

**MECHANICAL EQUIPMENT**

- AIR CONDITIONING EQUIPMENT SHALL BE STRAIGHT COOL SPLIT SYSTEM WITH ELECTRIC HEAT.
- ALL AIR CONDITIONING UNITS SHALL INCLUDE A ONE (1) YEAR WARRANTY AND AN EXTENDED FOUR (4) YEAR COMPRESSOR WARRANTY.
- FILTERS SHALL BE PROVIDED IN THE UNITS. THE FACTORY FILTER SHALL BE USED DURING CONSTRUCTION AND A NEW SET OF REPLACEABLE MEDIA, IN METAL FILTER FRAMES, SHALL BE PROVIDED JUST PRIOR TO TEST AND BALANCE.
- CONDENSING UNITS SHALL BE MOUNTED ON A CONCRETE MAINTENANCE PAD. MAINTENANCE PAD SHALL BE 6" GREATER THAN UNIT ON ALL SIDES AND MINIMUM 4" THICK.
- ROUTE CONDENSATE PIPING AS SHOWN ON PLANS.

**CONDENSATE PIPING**

- INTERIOR CONDENSATE PIPING SHALL BE SCHEDULE 40 PVC WITH SOLVENT WELDED FITTINGS. INSULATE WITH 1/2" AP ARMAFLEX INSULATION.

**DUCTWORK**

- SUPPLY AND RETURN DUCTWORK SHALL BE GALVANIZED SHEET METAL WITH EXTERNAL DUCT WRAP INSULATION WITH CONTINUOUS VAPOR BARRIER EQUAL TO JOHNS-MANVILLE "MICROLITE" WITH A MINIMUM INSTALLED INSULATION VALUE EQUAL TO R-6. EXPOSED SUPPLY AND RETURN DUCTWORK SHALL BE GALVANIZED DOUBLE-WALL ROUND SPIRAL LOCKSEAM AS MANUFACTURED BY EHG DUCT.
- EXHAUST AND OUTSIDE AIR DUCTWORK SHALL BE GALVANIZED SHEET STEEL WITH ALL JOINTS SEALED WITH MASTIC. ROUND EXHAUST AND OUTSIDE AIR DUCTWORK SHALL BE ALUMINUM "THERMOFIN" OR SINGLE WALL ROUND SHEET METAL. EXHAUST AIR DUCTS DO NOT NEED TO BE INSULATED UNLESS REQUIRED BY LOCAL ORDINANCE. INSULATE OUTSIDE AIR DUCTS WITH EXTERNAL DUCT WRAP WITH A MINIMUM INSTALLED INSULATION VALUE EQUAL TO R-6.
- ALL DUCTWORK SHALL BE CONSTRUCTED AND INSTALLED PER SMACNA REQUIREMENTS.
- ALL DUCTS SHOWN ARE INSIDE CLEAR DIMENSIONS.
- SIZING OF DUCT SHALL BE BASED ON 0.10"/100 FT. EQUAL FRICTION FOR SUPPLY DUCTWORK AND A MAXIMUM 800 FPM VELOCITY FOR THE RETURN DUCTWORK.
- FLEXIBLE DUCT SHALL NOT BE ALLOWED EXCEPT FOR FINAL DIFFUSER RUNOUTS.
- PROVIDE FLEXIBLE CONNECTION FROM EACH DUCTWORK CONNECTION TO AIR HANDLERS AND FANS.
- PROVIDE ACCESS PANELS IN DUCTS FOR ACCESS TO VOLUME DAMPERS, FIRE DAMPERS, FIRE/SMOKE DAMPERS, DUCT MOUNTED SMOKE DETECTORS AND WHERE REQUIRED FOR MAINTENANCE OF ALL FANS AND MECHANICAL EQUIPMENT. PANELS SHALL HAVE A FIRE RATING EQUAL TO THE PENETRATED ASSEMBLY (MINIMUM ONE (1) HOUR). PROVIDE TWO (2) HOUR SMOKE/FIRE DAMPERS AT ALL DUCT PENETRATIONS OF SMOKE WALLS AND CHASES.
- ALL FLEXIBLE BRANCH CONNECTIONS SHALL HAVE A MANUAL VOLUME DAMPER INSTALLED AT MAIN TRUNK FOR BALANCING PURPOSES.
- PER FLORIDA MECHANICAL CODE 607.5.3., NO FIRE DAMPERS ARE REQUIRED WHERE THERE IS A 1-HOUR FIRE RATED WALL AND THE DUCT PENETRATING THE RATING IS LESS THAN 180 SQ. INCHES AND THE DUCT IS CONSTRUCTED OF A MINIMUM OF 26-GAUGE SHEET METAL. A MINIMUM 1/2" LONG STEEL SLEEVE SHALL BE CENTERED IN EACH DUCT OPENING AND SECURED TO BOTH SIDES OF THE WALL AND ALL FOUR SIDES OF THE SLEEVE WITH MINIMUM 1-1/2" x 1-1/2" STEEL RETAINING ANCHORS WELDED BY NO. 10 (M5) SCREWS. INSULATE ALL OPENINGS WITH ROCK (MINERAL) WOOL BATTING.

**CONTROLS**

- THERMOSTATS SHALL BE BY UNIT MANUFACTURER. ALL THERMOSTATS SHALL HAVE STAGES OF COOLING AND HEATING TO MATCH SPECIFIED UNIT AND SHALL BE 7-DAY PROGRAMMABLE.
- LOCATE ALL THERMOSTATS 4' FROM THE FLOOR. UNLESS OTHERWISE NOTED, EXACT LOCATION OF ALL THERMOSTATS SHALL BE APPROVED BY THE ARCHITECT AND THE ENGINEER.
- EXHAUST FANS SHALL BE CONTROLLED AS NOTED ON THE EXHAUST FAN SCHEDULE.
- 24 VOLT DUCT SMOKE DETECTORS SHALL BE FURNISHED AND INSTALLED BY THE MECHANICAL CONTRACTOR IN THE SUPPLY AIR DUCT OF ALL UNITS WITH A DESIGN CAPACITY GREATER THAN 2000 CFM. MECHANICAL CONTRACTOR SHALL POWER SMOKE DETECTOR VIA LOW VOLTAGE CONTROL TRANSFORMER IN UNIT. ALL SHUT DOWN CONTROL WIRING SHALL BE BY THE MECHANICAL CONTRACTOR.
- PER NFPA 99, 4.4.3. WHERE THE SMOKE DETECTORS ARE INSTALLED IN A BUILDING NOT EQUIPPED WITH A FIRE ALARM SYSTEM, EACH DETECTOR SHALL HAVE A REMOTE TEST STATION WITH A VISUAL AND AUDIBLE SIGNAL LOCATED ADJACENT TO THE ROOM THERMOSTATS FOR EACH AIR HANDLING UNIT WITH A SMOKE DETECTOR.
- PROVIDE ALTERNATE FOR ALL LABOR, MATERIALS, EQUIPMENT, AND SERVICE NECESSARY FOR THE CONNECTION OF THE NEW CONTROL DEVICES TO THE EXISTING FACILITY MANAGEMENT AND CONTROL SYSTEM (FMS) AT THE COMMUNITY CENTER. INTEGRATION SHALL BE SEAMLESS. COORDINATION REQUIREMENTS WITH THE EXISTING FMS.

**OUTSIDE AIR CALCULATION SCHEDULE (BUILDING)**

HVAC UNIT	SPACE DESCRIPTION	OCCUPANCY	OCCUPANCY REQUIREMENT (CFM/PERSON)	GROSS AREA (sq.ft.)	AREA REQUIREMENTS (CFM/sq.ft.)	REQUIRED CFM	PROVIDED CFM	NOTES
AHU-1	OFFICE/CONCESSIONS	8	5	624	0.12	115	220	1
AHU-2	LIFEGUARD/FIRST AID	9	5	457	0.06	73	100	1

**NOTES**

- OUTSIDE AIR CALCULATIONS BASED ON ASHRAE 62.1-2010.

**BUILDING AIR BALANCE (CONCESSION/OFFICE)**

OUTSIDE AIR INTO BUILDING		EXHAUST AIR OUT OF BUILDING	
SOURCE	CFM	SOURCE	CFM
AHU-1	220		
TOTAL OUTSIDE AIR	220	TOTAL EXHAUST AIR	
BUILDING BALANCE			(+) 220

**BUILDING AIR BALANCE (GUARD/AID)**

OUTSIDE AIR INTO BUILDING		EXHAUST AIR OUT OF BUILDING	
SOURCE	CFM	SOURCE	CFM
AHU-2	100		
TOTAL OUTSIDE AIR	100	TOTAL EXHAUST AIR	
BUILDING BALANCE			(+) 100

**AIR DISTRIBUTION SCHEDULE**

MARK	MANUFACTURER	MODEL	TYPE	MATERIAL	NOTES
CD1	PRICE	ASCD	CEILING DIFFUSER, SURFACE MTD	ALUMINUM	1, 2, 3, 4, 5, 6
SR1	PRICE	620D	SUPPLY REGISTER, SIDEWALL	ALUMINUM	2, 3, 5
RR1	PRICE	630D	RETURN REGISTER, SURFACE MOUNTED	ALUMINUM	1, 3, 5, 6
RG1	PRICE	630	RETURN GRILLE, SURFACE MTD	ALUMINUM	1, 2, 3, 5, 6
ER1	PRICE	630DAL	EXHAUST REGISTER, SIDEWALL	ALUMINUM	1, 2, 3, 5, 6
OAL-1	GREENHECK	ESD-435X	OUTSIDE AIR DOOR	ALUMINUM	7, 8

**NOTES**

- NOISE CRITERIA NOT TO EXCEED 20.
- CONTRACTOR TO COORDINATE BORDER WITH CEILING TYPE.
- REFER TO FLOOR PLAN FOR COORDINATES.
- AIR DEVICES ARE 4-WAY 2-ON (UNLESS NOTED OTHERWISE ON DRAWING).
- AIR DEVICES ARE TO BE SUPPLIED WITH 1" AIR FILTERS.
- APPROVED ALTERNATE MANUFACTURERS: TRANE AND YORK (J.C.).
- PROVIDE WITH FLANGE FRAME, 4" DEPTH AND BUSH SCREEN.
- APPROVED ALTERNATE MANUFACTURERS: TRANE AND YORK (J.C.).

**FAN SCHEDULE**

MARK	MANUFACTURER	MODEL	SERVICE	AIR QUANTITY	EXTERNAL STATIC PRESSURE	FAN TYPE	MAXIMUM FAN SPEED	DRIVE	MOTOR	ELECTRICAL	CONTROLS	SONES	WEIGHT	NOTES
						EF-1								1, 2, 3, 4, 6
						EF-2								1, 2, 3, 4, 6
						EF-3								1, 2, 3, 4, 6
						EF-4								1, 2, 3, 4, 6
						EF-5 THRU 8								1, 2, 3, 6, 7
						EF-9 & 10								1, 2, 3, 5, 6

**NOTES**

- PROVIDE FACTORY FABRICATED ROOF CURB.
- PROVIDE FACTORY MOUNTED DISCONNECT SWITCH.
- PROVIDE WITH AUTOMATIC BACKDRAFT DAMPER.
- PROVIDE SPEED CONTROLLER FOR BALANCING.
- PROVIDE INDUSTRIAL EPOXY COATING.
- APPROVED ALTERNATE MANUFACTURER: COOK.
- PROVIDE INLINE THERMOSTAT.

**BUILDING DESIGN TEMPERATURES**

DESIGN AREA	SUMMER DESIGN				WINTER DESIGN			
	OUTSIDE		INSIDE		OUTSIDE		INSIDE	
	DB	WB	DB	WB	DB	WB	DB	WB
OFFICE/LIFEGUARD/FIRST AID	92	77	75	64	40	70	55	

**AIR HANDLER DATA**

MARK	MANUFACTURER	MODEL	CAPACITY	TOTAL COOLING	SENSIBLE COOLING	SUPPLY AIR	OUTSIDE AIR	EXTERNAL STATIC PRESSURE	FAN MOTOR	ELECTRIC HEAT	FILTER TYPE	ELECTRICAL DATA	MCA	MCCP	LOCATION	WEIGHT

**CONDENSING UNIT DATA**

MARK	MANUFACTURER	MODEL	CAPACITY	EFFICIENCY	COMPRESSOR	CONDENSING FAN	ELECTRICAL DATA	MCA	MCCP	LOCATION	WEIGHT	NOTES

**NOTES**

- HVAC CONTRACTOR IS RESPONSIBLE FOR ANY ADDITIONAL ELECTRICAL COSTS WHICH MAY RESULT FROM SUBSTITUTED EQUIPMENT.
- UNIT SHALL HAVE A SINGLE POINT ELECTRICAL CONNECTION.
- PROVIDE TXV'S AND LOW AND HIGH PRESSURE SWITCHES.
- PROVIDE LIQUID LINE FILTER-DRYERS.
- IDENTIFY EACH UNIT WITH PERMANENT LABEL.
- INSTALL FILTERS IN AIR HANDLER PRIOR TO START-UP AND PROVIDE NEW SET OF FILTERS AT COMPLETION OF CONSTRUCTION PRIOR TO TEST AND BALANCE.
- APPROVED ALTERNATE MANUFACTURERS: TRANE AND YORK (J.C.).
- REFRIGERANT SHALL BE R410a.
- PROVIDE DISCONNECT SWITCH AT ELECTRICAL CONNECTION.

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**BUTLER PARK AQUATIC CENTER**  
 CITY OF NORTHPORT, FL

**MECHANICAL NOTES & SCHEDULES**

Scale: AS SHOWN  
 Designed by: MP  
 Drawn by: LO  
 Checked by: MP/AR  
 Date: DECEMBER 2017  
 Project No. 48285014

SHEET  
**MB-2.0**

This item has been electronically signed and sealed by Joseph R. Stolz, PE, on 12/15/2017 using a Digital Signature. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

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