

GENERAL NEW NOTES:

- PRIOR TO SUBMITTING BID, VISIT THE JOB SITE AND BECOME FULLY ACQUAINTED WITH THE EXISTING CONDITIONS OF THE PROJECT. REVIEW THE GENERAL NOTES, SPECIFICATIONS AND OTHER DRAWINGS FOR ADDITIONAL REQUIREMENTS WHICH MAY NOT BE SPECIFICALLY CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY ARCHITECT, ENGINEER AND/OR OWNER OF CONFLICTS OR DISCREPANCIES PRIOR TO SUBMISSION OF BID.
- EXISTING CONDITIONS WERE TAKEN FROM ORIGINAL DRAWINGS AND SITE VISITS AND MAY NOT REFLECT EXACT "AS-BUILT" CONDITIONS. FIELD VERIFY EXISTING CONDITIONS PRIOR TO SUBMITTING FINAL BIDS. COORDINATE NEW WORK AND DEMOLITION WITH OTHER DISCIPLINES AND EXISTING CONDITIONS PRIOR TO CONSTRUCTION.
- COORDINATE THE INSTALLATION OF THE MECHANICAL SYSTEMS WITH OTHER TRADES TO ENSURE A NEAT AND ORDERLY INSTALLATION. INSTALL DUCTWORK AND PIPING AS TIGHT TO STRUCTURE AS POSSIBLE. COORDINATE WITH OTHER TRADES TO AVOID CONFLICTS. COORDINATE INSTALLATION OF DUCTWORK AND PIPING TO AVOID CONFLICTS WITH ELECTRICAL PANELS, LIGHTING FIXTURES, ETC. ANY MODIFICATIONS REQUIRED DUE TO LACK OF COORDINATION WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AT NO EXTRA COST TO THE OWNER.
- WHERE SHUTDOWN OF EXISTING SYSTEMS IS REQUIRED DURING CONSTRUCTION, COORDINATE SHUTDOWN TIME AND DURATION WITH THE OWNER TO MINIMIZE DOWNTIME. NOTIFY OWNER SEVEN (7) DAYS PRIOR TO INTERRUPTION OF SERVICE.
- DURING INSTALLATION OF NEW WORK AND DEMOLITION, AVOID DAMAGING EXISTING SURFACES AND EQUIPMENT TO REMAIN. REPAIR DAMAGE CAUSED DURING CONSTRUCTION AT NO EXTRA COST TO THE OWNER.
- PROVIDE TEMPORARY BARRIERS TO CONTAIN DUST AND DEBRIS RESULTING FROM THE PERFORMANCE OF THE WORK TO THE AREA WHERE WORK IS BEING PERFORMED.
- ALL MECHANICAL EQUIPMENT SHOWN ON THE MECHANICAL PLANS SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR UNLESS OTHERWISE NOTED.
- NEW MECHANICAL EQUIPMENT, DUCTWORK AND PIPING ARE SHOWN AT APPROXIMATE LOCATIONS. FIELD MEASURE FINAL DUCTWORK AND PIPING LOCATIONS PRIOR TO FABRICATION AND MAKE ADJUSTMENTS AS REQUIRED TO FIT THE DUCTWORK AND PIPING WITHIN THE AVAILABLE SPACE. VERIFY THAT FINAL EQUIPMENT LOCATIONS MEET MANUFACTURER'S RECOMMENDATIONS REGARDING SERVICE CLEARANCE AND PROPER AIRFLOW CLEARANCE AROUND EQUIPMENT.
- REFER TO ARCHITECTURAL DRAWINGS FOR RELATED CONSTRUCTION DETAILS AS APPLICABLE TO THE HVAC SYSTEM. VERIFY CHASES AND PENETRATIONS SHOWN ON ARCHITECTURAL DRAWINGS THAT ARE INTENDED FOR DUCTWORK AND PIPING MEET REQUIREMENTS.
- COORDINATE LOCATION OF ROOF MOUNTED HVAC EQUIPMENT AND ROOF PENETRATIONS WITH THE ARCHITECTURAL AND STRUCTURAL DRAWINGS.
- INDOOR AIR QUALITY MEASURES: PROTECT INSIDE OF (INSTALLED AND DELIVERED) DUCTWORK AND HVAC UNITS FROM EXPOSURE TO DUST, DIRT, PAINT AND MOISTURE. REPLACE INSULATION THAT HAS GOTTEN WET AT ANY TIME DURING CONSTRUCTION. DRYING THE INSULATION IS NOT ACCEPTABLE. SEAL ANY TEARS OR JOINTS OF INTERNAL FIBERGLASS INSULATION. REMOVE DEBRIS FROM CEILING/RETURN AIR PLENUM INCLUDING DUST. AN INDEPENDENT, PROFESSIONAL DUCT CLEANING COMPANY SHALL VACUUM CLEAN ANY DUCTWORK CONNECTED TO HVAC UNITS THAT WERE OPERATED DURING THE CONSTRUCTION PERIOD AFTER NEW FILTERS ARE INSTALLED AND PRIOR TO TURNING SYSTEM OVER TO THE OWNER. THE INTERNAL SURFACES AND ASSOCIATED COILS OF ANY HVAC UNITS THAT WERE OPERATED SHALL ALSO BE CLEANED.
- INSTALL DUCTWORK AND PIPING PARALLEL TO BUILDING COLUMN LINES UNLESS OTHERWISE SHOWN OR NOTED.
- OVERHEAD HANGERS AND SUPPORTS FOR EQUIPMENT, DUCTWORK AND PIPING SHALL BE FASTENED TO BUILDING JOISTS OR BEAMS. DO NOT ATTACH HANGERS AND SUPPORTS TO THE ABOVE FLOOR SLAB OR ROOF EXCEPT WHERE CONCRETE INSERTS IN CONCRETE SLABS ARE ALLOWED BY THE SPECIFICATIONS.
- COORDINATE LOCATION OF EQUIPMENT SUPPORTS WITH LOCATION OF EQUIPMENT ACCESS PANELS/DOORS TO ENABLE SERVICE OF EQUIPMENT AND/OR FILTER REPLACEMENT.
- SEAL PENETRATIONS THROUGH THE BUILDING COMPONENTS IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS. FIREPROOF PENETRATIONS THROUGH FIRE RATED COMPONENTS IN ACCORDANCE WITH U.L. REQUIREMENTS.
- COORDINATE THE EXACT MOUNTING SIZE AND FRAME TYPE OF DIFFUSERS, REGISTERS AND GRILLES WITH THE SUPPLIER TO MEET THE CEILING, WALL AND DUCT INSTALLATION REQUIREMENTS.
- ADJUST LOCATION OF CEILING DIFFUSERS, REGISTERS AND GRILLES TO ACCOMMODATE FINAL CEILING GRID AND LIGHTING LOCATIONS.
- DUCTWORK CROSSING FIRE RATED WALLS OR OTHER FIRE RATED ASSEMBLIES SHALL BE MINIMUM 26 GAUGE SHEET METAL.
- PROVIDE FIRE OR FIRE/SMOKE DAMPERS, AS APPLICABLE, IN DUCTWORK AT CEILINGS AND WALLS AT LOCATIONS SHOWN ON THE PLANS. FIRE AND FIRE/SMOKE DAMPERS SHALL CONFORM TO NFPA AS APPLICABLE. COORDINATE SLEEVE LENGTH WITH REQUIREMENTS OF INSTALLED LOCATION.
- PROVIDE WALL OR DUCT ACCESS PANELS OR DOORS FOR ACCESS TO FIRE AND FIRE/SMOKE DAMPERS. ACCESS PANEL OR DOOR SHALL BE MINIMUM SIZE OF 10" BY 10" AND SHALL BE INSTALLED WITHIN 1' OF DAMPER. PROVIDE A REMOVABLE DUCT SECTION WHERE DUCT SIZE IS TOO SMALL FOR A 10" BY 10" ACCESS DOOR.
- LOCATE AND SET THERMOSTATS, TEMPERATURE SENSORS AND CARBON DIOXIDE SENSORS AT LOCATIONS SHOWN ON PLANS. VERIFY EXACT LOCATIONS WITH ARCHITECT PRIOR TO INSTALLATION. INSTALL DEVICES WITH TOP OF DEVICE AT MAXIMUM 48" AFF TO MEET ADA REQUIREMENTS UNLESS NOTED OTHERWISE ON PLANS. PROVIDE INSULATED BACKING FOR THERMOSTATS MOUNTED ON EXTERIOR BUILDING WALLS. INSTALL WIRING IN CONDUIT PROVIDED BY DIVISION 16. AT A MINIMUM, PROVIDE CONDUIT IN THE WALL FROM THE JUNCTION BOX TO 6" ABOVE THE CEILING.
- COORDINATE THE LOCATION AND ELEVATION OF WALL MOUNTED DEVICES WITH PRESENTATION BOARDS, DISPLAY CABINETS, SHELVES OR OTHER COMPONENTS SHOWN ON THE ARCHITECTURAL DRAWINGS THAT ARE TO BE INSTALLED UNDER OTHER DIVISIONS. CONTRACTOR WILL NOT BE REIMBURSED FOR RELOCATION OF WALL MOUNTED DEVICES CAUSED BY A LACK OF COORDINATION.
- PROVIDE A MANUAL BALANCING DAMPER IN EACH BRANCH DUCT TAKEOFF FROM MAIN SUPPLY, RETURN, OUTDOOR AND EXHAUST AIR DUCTS.
- PROVIDE A PREFABRICATED 45 DEGREE, HIGH EFFICIENCY, RECTANGULAR/ROUND BRANCH DUCT TAKEOFF FITTING WITH MANUAL BALANCING DAMPER AND LOCKING QUADRANT FOR BRANCH DUCT CONNECTIONS AND TAKE-OFFS TO INDIVIDUAL DIFFUSERS, REGISTERS AND GRILLES.
- BRANCH DUCTWORK TO AIR OUTLETS SHALL BE SAME SIZE AS OUTLET NECK SIZE UNLESS OTHERWISE NOTED.
- REFER TO SPECIFICATIONS FOR DUCTWORK INSULATION REQUIREMENTS. DUCT SIZES ON MECHANICAL PLANS INDICATE CLEAR INSIDE AIRFLOW DIMENSIONS. INCREASE SHEET METAL SIZES ACCORDINGLY TO ACCOUNT FOR THICKNESS OF DUCT LINER.
- FLEXIBLE DUCTWORK SHALL NOT EXCEED 5'-0" IN LENGTH AND SHALL BE INSTALLED AND SUPPORTED TO AVOID SHARP BENDS AND SAGGING. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- PROVIDE A NEW SET OF AIR FILTERS IN UNITS PRIOR TO TESTING, ADJUSTING AND BALANCING AND BEFORE TURNING SYSTEM(S) OVER TO OWNER.
- CLEAN EXISTING GRILLES, REGISTERS, DIFFUSERS, DUCTWORK AND DUCTWORK ACCESSORIES BEING REUSED FOR THIS PROJECT.

GENERAL DEMOLITION NOTES:

- COORDINATE ALL DEMOLITION WITH WHAT IS SHOWN ON ARCHITECTURAL PLANS. NOTIFY ARCHITECT OF ANY DISCREPANCIES.
- OWNER RETAINS RIGHTS OF SALVAGE FOR EQUIPMENT AND FIXTURES TO BE REMOVED. COORDINATE WITH OWNER THE EQUIPMENT AND FIXTURES TO BE SALVAGED AND THE LOCATION FOR STORAGE. AVOID DAMAGE TO SALVAGED EQUIPMENT, FIXTURES AND DEVICES DURING DEMOLITION WORK AND DURING TRANSPORT TO OWNER'S DESIGNATED STORAGE LOCATION.
- REMOVE ITEMS SHOWN HEAVY-LINED DASHED, CROSS-HATCHED, NOTED TO BE REMOVED, AND/OR NOT BEING REUSED.
- SEAL PENETRATIONS THROUGH FLOORS, WALLS, CEILINGS AND ROOFS WHERE MECHANICAL COMPONENTS ARE REMOVED AND WHERE THE EXISTING PENETRATION IS NOT USED FOR THE NEW INSTALLATION. REPAIR DAMAGED SURFACES TO MATCH ADJACENT AREAS OR AS INDICATED ON THE ARCHITECTURAL DRAWINGS.
- REMOVE HANGERS AND SUPPORTS WHERE DUCTWORK, PIPING AND/OR EQUIPMENT ARE REMOVED AND THE EXISTING HANGERS AND SUPPORTS ARE NOT USED FOR THE NEW INSTALLATION.
- INSTALL PERMANENT CAPS WHERE DUCTWORK AND PIPING IS REMOVED AND THE EXISTING TAPS ARE NOT USED FOR THE NEW INSTALLATION. WHERE DUCTWORK AND PIPING ARE REMOVED AND THE EXISTING TAPS WILL BE USED FOR THE NEW INSTALLATION, INSTALL TEMPORARY CAPS TO PROTECT THE INTERIOR SURFACES UNTIL NEW DUCTWORK AND PIPING ARE INSTALLED.
- CONTRACTOR SHALL CEASE WORK AND IMMEDIATELY NOTIFY THE OWNER SHOULD ANY HAZARDOUS MATERIALS BE ENCOUNTERED DURING THE PERFORMANCE OF THE WORK.
- REMOVAL, RECOVERY, RECYCLING, AND DISPOSAL OF REFRIGERANT, CONTAINED IN ANY EQUIPMENT TO BE REMOVED, SHALL BE PERFORMED IN STRICT ACCORDANCE WITH CURRENT EPA GUIDELINES.

ELECTRICAL NOTES:

- RE-USE EXISTING WIRE, EXISTING CIRCUIT BREAKER. PROVIDE NEW 30A/3P/30AF/3R FUSED DISCONNECT. CONNECT NEW RTU RECEPTACLE TO EXISTING MAINTENANCE RECEPTACLE CIRCUIT.
- RE-USE EXISTING WIRE, EXISTING CIRCUIT BREAKER, AND EXISTING FUSED DISCONNECT SWITCH. CONNECT NEW RTU RECEPTACLE TO EXISTING MAINTENANCE RECEPTACLE CIRCUIT.
- PROVIDE (3) #3, #8G, 1" AND 100A CIRCUIT BREAKER WITH AIC RATING TO MATCH EXISTING PANELBOARD AID RATING. EXISTING DISCONNECT MAY BE RE-USED. PROVIDE NEW 100A FUSES. CONNECT NEW RTU RECEPTACLE TO EXISTING MAINTENANCE RECEPTACLE CIRCUIT.
- RE-USE EXISTING WIRE AND EXISTING CIRCUIT BREAKER. PROVIDE NEW 60A/3P/35AF/3R FUSED DISCONNECT. CONNECT NEW RTU RECEPTACLE TO EXISTING MAINTENANCE RECEPTACLE CIRCUIT.

MECHANICAL PLAN NOTES:

- DO NOT ROUTE DUCTWORK OVER ELECTRICAL EQUIPMENT.
- PROVIDE NEW DX ROOFTOP UNIT AND NEW CURB AS SCHEDULED ON SHEET M3.0. COORDINATE FINAL LOCATION WITH LANDLORD AND STRUCTURAL ENGINEER PRIOR TO PLACING UNIT.
- LANDLORD APPROVED ROOFING CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING ALL CUTS THROUGH THE EXISTING ROOF. TO MAKE ALTERATIONS TO EXISTING OPENINGS, OR CURB FLASHING AT GENERAL CONTRACTOR'S EXPENSE. COORDINATE WITH GENERAL CONTRACTOR.
- ROUTE SHEET METAL RETURN AIR DUCT AS SHOWN. PROVIDE DUCT LINER IN RETURN AIR DUCTWORK FOR SOUND ATTENUATION. COVER INLET WITH 1/2" X 1/2" BIRD SCREEN.
- PROVIDE SMOKE DETECTOR IN RETURN DUCT FOR WIRING BY DIVISION 16 CONTRACTOR. SMOKE DETECTOR SHALL SHUT-DOWN UNIT UPON ALARM.
- SENSORS PROVIDED BY EMS VENDOR. COORDINATE WITH ELECTRICAL CONTRACTOR AND ARCHITECT FOR FINAL LOCATIONS.
- INSTALL THERMOSTAT/TEMPERATURE SENSOR AT 48" AFF MAXIMUM. COORDINATE FINAL LOCATION WITH ARCHITECT PRIOR TO INSTALLATION OF THERMOSTAT BACKING OR WIRING.
- INSTALL CO2 SENSOR AT 54" AFF DIRECTLY ABOVE ADJACENT TEMPERATURE SENSOR/THERMOSTAT. COORDINATE FINAL LOCATION WITH ARCHITECT PRIOR TO INSTALLATION OF BACKING OR WIRING.
- INSTALL RETURN AIR HUMIDITY SENSOR FOR ENTHALPHY CALCULATION AND DEHUMIDIFICATION CONTROL SEQUENCE.
- ACCESS TO HVAC EQUIPMENT SHALL BE FROM LAY-IN CEILING. HATCHED TILE INDICATES ACCESS POINT FOR UNIT. NO CEILING DEVICES SHALL BE PLACED IN THIS LOCATION. COORDINATE FINAL INSTALLED LOCATION SUCH THAT THE HVAC EQUIPMENT IS ACCESSIBLE. VERIFY THAT NO OTHER PIPING, ELECTRICAL CONDUIT, STRUCTURE, AND/OR CEILING SUPPORTS IMPEDE ACCESS IN ANY WAY. INSTALL BOTTOM OF HVAC EQUIPMENT WITHIN 24" ABOVE CEILING FOR SERVICEABILITY.
- COORDINATE WITH EMS VENDOR TO PROVIDE DUCT MOUNTED PRESSURE SENSOR AT INSTALLED LOCATION.
- PROVIDE NEW ROOF MOUNTED EXHAUST FAN IN EXISTING EXHAUST FAN LOCATION. EXTEND ANGLE OF EXHAUST DISCHARGE OF NEW EXHAUST FAN TO EXISTING EXHAUST DUCTWORK. FIELD VERIFY EXACT LOCATION AND SIZE OF EXISTING DUCTWORK. ADJUST ROUTING TO MATCH FIELD CONDITIONS. CONTRACTOR SHALL FIELD VERIFY EXHAUST DUCTWORK IS IN GOOD CONDITION AND REPAIR/REPLACE AS REQUIRED. EXHAUST AIR DUCTWORK SHALL BE INSULATED PER SPECIFICATIONS.
- PROVIDE NEW EXHAUST AIR GRILLE IN EXISTING GRILLE LOCATION. PROVIDE NEW DUCT AND/OR VOLUME DAMPER AS REQUIRED TO CONNECT TO EXISTING EXHAUST DUCTWORK. FIELD VERIFY EXACT LOCATION AND SIZE OF EXISTING DUCTWORK AS ADJUST ROUTING TO MATCH FIELD CONDITIONS.
- AT CONTRACTOR'S OPTION, EXISTING SUPPLY DIFFUSERS IN THE TRAINING ROOM MAY BE REUSED. FIELD VERIFY EXISTING SUPPLY DIFFUSERS MATCH SCHEDULED DIFFUSER AND ARE IN GOOD CONDITION. THOROUGHLY CLEAN DIFFUSERS IF REUSED. NECK SIZE SHOWN ON PLAN IS MINIMUM NECK SIZE. BALANCING DAMPERS SHALL BE ACCESSIBLE FROM FROM BACK-OF-HOUSE LAY-IN CEILING. COORDINATE FINAL INSTALLED LOCATION SUCH THAT THE DAMPERS REMAIN ACCESSIBLE.
- RAISE DUCT UP AS SHOWN. DROP BACK DOWN UPSTREAM OF VAV BOX FOR ACCESS TO HVAC EQUIPMENT.
- EXISTING ROOFTOP UNIT SHALL BE DEMOLISHED. CONTRACTOR SHALL PATCH ROOF PENETRATIONS WATERTIGHT AND WEATHERTIGHT PER SPECIFICATIONS.
- RETURN AND SUPPLY AIR DUCTWORK UP TO NEW UNIT ON ROOF. CONTRACTOR SHALL FIELD MEASURE AND VERIFY EXACT LOCATION, DUCT ROUTING AND TRANSITIONS WITH STRUCTURAL DRAWINGS. ALL DUCTWORK SHALL TRANSITION FROM UNIT OPENING TO FINAL DUCT SIZE IN CURB IN ORDER TO PREPARE AND SUBMIT SHOP DRAWINGS.
- EXTEND AND RECONNECT NEW 1" CONDENSATE PIPING FROM THE NEW ROOF TOP UNIT TO THE EXISTING CONDENSATE DISPOSAL SYSTEM LOCATED IN THE CEILING SPACE BELOW THE ROOF. PRIOR TO BID, CONTRACTOR SHALL FIELD VERIFY CONDENSATE DISPOSAL LOCATION IS TO A CODE APPROVED FIXTURE. NOTIFY ENGINEER IMMEDIATELY IF CONFLICTS WITH EXISTING CONDITIONS EXIST.

THIS DRAWING IS PROVIDED FOR REFERENCE ONLY TO IDENTIFY EXISTING EQUIPMENT AND SHOW GENERAL EXISTING CONDITIONS.

UNIT REPLACEMENT SCOPE:
SEVEN ROOFTOP HVAC UNITS ARE CURRENTLY INSTALLED. REPLACE EACH UNIT LIKE FOR LIKE AND UPDATE O.A. CFM PER SCHEDULES.

SUPPLY DUCTWORK AND RETURN AIR PLENUM ARE EXISTING TO REMAIN. PROVIDE NEW FABRIC DUCTWORK CONNECTIONS.

EXISTING ROOF CURB TO REMAIN.

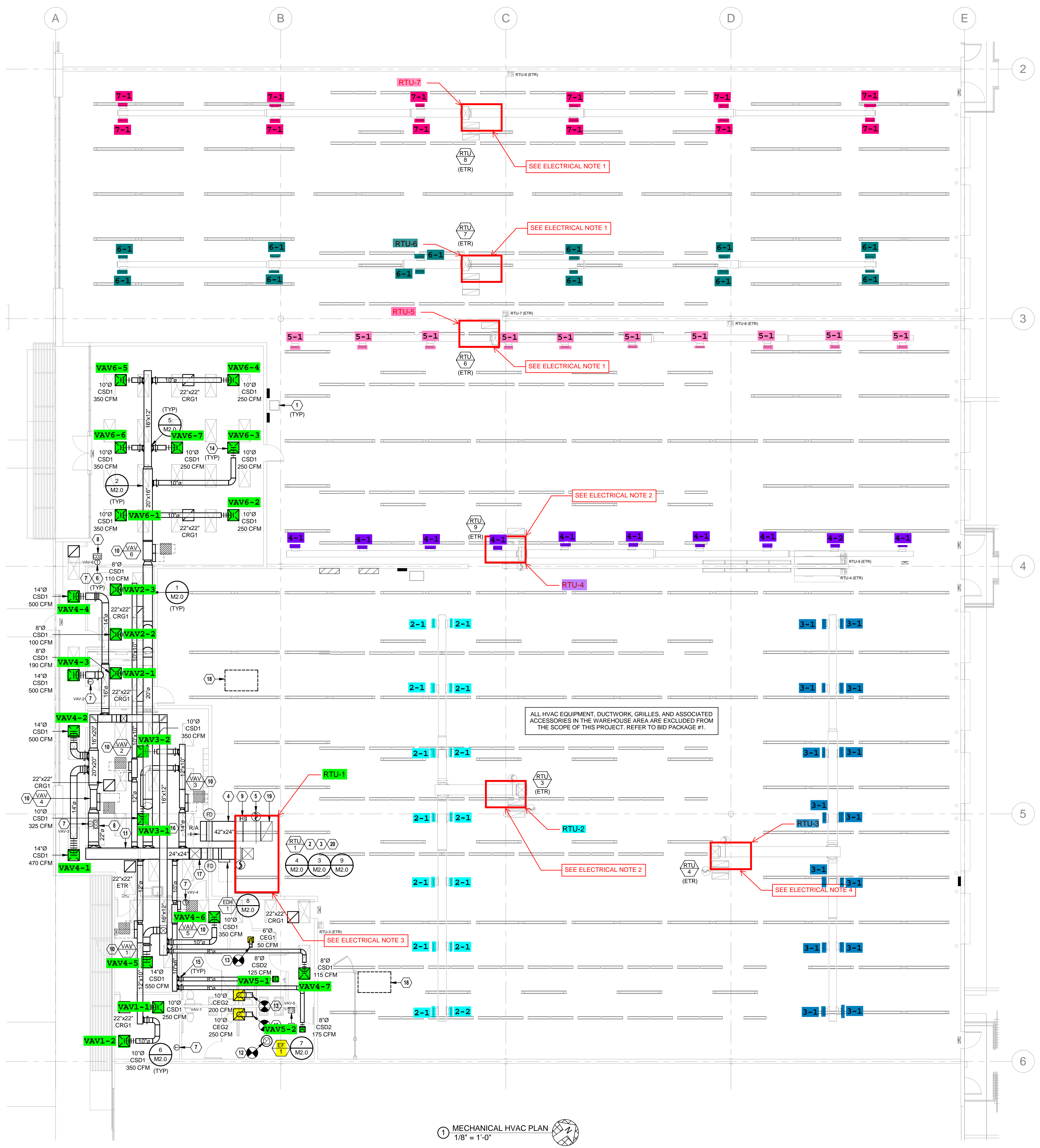
CHECK AND VERIFY ALL DIMENSIONS IN THE FIELD AND COORDINATE WORK WITH ALL OTHER TRADES. CONTRACTOR SHALL COORDINATE LOCATIONS OF AIR OUTLETS WITH ARCHITECTURAL DRAWINGS. THE DUCTWORK LAYOUT INDICATED ON THESE DRAWINGS IS SCHEMATIC AND SHOWS DESIGNED INTENT ONLY. PRIOR TO FABRICATION AND INSTALLATION OF ANY DUCTWORK, THE HVAC CONTRACTOR SHALL HAVE A QUALIFIED EXPERIENCED SHEET METAL SHOP DRAWING. THE SHOP DRAWING SHALL TAKE INTO ACCOUNT ALL EXISTING CONDITIONS INCLUDING STRUCTURAL MEMBERS, CONDUITS AND PIPING TO REMAIN. SHOP DRAWINGS SHALL ALSO TAKE INTO ACCOUNT ANY NEW CONDITIONS INCLUDING NEW STRUCTURAL MEMBERS, NEW CEILING AND SOFFIT HEIGHTS AND LIGHTING FIXTURES. THE SHEET METAL SHOP DRAWINGS SHALL INDICATE ANY REVISIONS TO THE LAYOUT REQUIRED TO ACCOMMODATE THE EXISTING CONDITIONS AND MAINTAIN THE CEILING HEIGHTS AND CLEARANCES REQUIRED. NOTIFY THE ARCHITECT AND ENGINEER OF ANY LOCATION WHERE THE DESIGN INTENT CAN NOT BE MET PRIOR TO FABRICATION AND INSTALLATION OF DUCTWORK. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR REVIEW PRIOR TO COMMENCING CONSTRUCTION.

GENERAL CONTRACTOR IS RESPONSIBLE FOR THE PRODUCTION OF COORDINATION DRAWINGS. COORDINATION DRAWINGS SHALL INDICATE PROPOSED LOCATIONS OF PIPING, DUCTWORK, SPRINKLER PIPING, AND LIGHTING, AS WELL AS LOCATIONS OF STRUCTURAL BEAMS AND OTHER RELEVANT STRUCTURAL FEATURES. COORDINATION DRAWINGS SHALL INDICATE HEIGHTS OF ALL DUCTWORK, PIPING, STRUCTURAL BEAMS, AND CEILINGS TO ENSURE INSTALLED EQUIPMENT WILL FIT ABOVE CEILING. GENERAL CONTRACTOR SHALL SUBMIT COORDINATION DRAWINGS TO ARCHITECT AND ENGINEER FOR REVIEW PRIOR TO COMMENCING CONSTRUCTION.

GENERAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING TO ARCHITECT, ENGINEER, LANDLORD, AND BUILDING OFFICIALS/INSPECTOR A FINAL TEST AND BALANCE REPORT PER MECHANICAL SPECIFICATIONS. TEST AND BALANCE REPORT SHALL BE PROVIDED TO ARCHITECT AND ENGINEER PRIOR TO ENGINEER'S FINAL PUNCH AND FINAL BUILDING INSPECTION.

TEMPERATURE CONTROLS: CONTROL SYSTEMS USA TO PROVIDE SENSORS AND CONTROLS COMPONENTS AS INDICATED ON PLANS AND NECESSARY TO ACCOMPLISH THE INTENT OF THE DRAWINGS. SEE M3.0 FOR CARRIER CONTACT INFORMATION.

GENERAL CONTRACTOR SHALL INSTALL CARRIER FURNISHED TEMPORARY THERMOSTATS AND FEED THE WIRING DOWN INTO THE SPACE FOR START UP AND CONTROL OF RTU(S) UNTIL THE EMS SYSTEM IS OPERABLE.



MECHANICAL HVAC PLAN
1/8" = 1'-0"

Architect:
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BID PACKAGE:
BID PACKAGE #2

Stamp:
NIKE FY25 HVAC REPLACEMENT.

ORLANDO SERVICE CENTER ORLANDO, FL

HENDERSON ENGINEERS

ISSUE DATE: 10/30/2024

FOR REFERENCE ONLY

Sheet Title:
MECHANICAL PLAN

Sheet Number:
M1.0

ROOFTOP UNIT SCHEDULE (DX COOLING, ELECTRIC HEATING)

MARK	MANUFACTURER	MODEL	NOMINAL TONS	SUPPLY FAN				COOLING COIL					HEATING COIL		MIN O/A CFM	ABS MIN O/A	ELECTRICAL			WEIGHT (LBS)	NOTES	
				CFM	ESP (IN)	BHP	VFD (Y/N)	TH (MBH)	SH (MBH)	REFR TYPE	MIN EFF (EER)	MIN EFF (IEER)	MIN NO STAGES	NOM (KW)			MIN NO STAGES	VPH	MCA			MOCP
RTU-1	CARRIER	50K3BM26	25	7,010	2.8	4.7	Y	269.8	176.8	R-454b	10	13.2	2	NA	NA	1950	580	460/3	66	80	3893	A-C, E-Y
RTU-3	CARRIER	50FE-N12A2M6	10	3,700	0.5	1.7	Y	114	79.8	R-454b	11	14.6	2	30.3	2	575	NA	460/3	54	60	926	A-D, F-Y
RTU-4	CARRIER	50FE-N12A2M6	10	3,700	0.5	1.7	Y	114	79.8	R-454b	11	14.6	2	30.3	2	575	NA	460/3	54	60	926	A-D, F-Y
RTU-6	CARRIER	50FE-N08A2M6	7.5	2,250	0.5	0.8	N	75.1	49.8	R-454b	11	14.6	2	13.8	2	260	NA	460/3	27	30	854	A-D, F-Y
RTU-7	CARRIER	50FE-N08A2M6	7.5	3,200	0.5	1.7	N	81	57.2	R-454b	11	14.6	2	13.8	2	370	NA	460/3	29	30	929	A-D, F-Y
RTU-8	CARRIER	50FE-N08A2M6	7.5	3,200	0.5	1.7	N	81	57.2	R-454b	11	14.6	2	13.8	2	370	NA	460/3	29	30	929	A-D, F-Y
RTU-9	CARRIER	50FE-M08A2A6	7.5	2,250	0.5	0.7	Y	82.2	56.9	R-454b	11	14.6	2	13.8	2	260	NA	460/3	29	30	883	A-D, F-Y

MODEL NUMBERS AND NOMINAL TONS LISTED SHALL NOT BE CONSIDERED COMPLETE AND MATERIAL SHALL NOT BE ORDERED BY MANUFACTURER, MODEL NUMBERS, OR NOMINAL TONS ONLY. REVIEW THE COMPLETE DESCRIPTION, NOTES AND SPECIFICATIONS TO DETERMINE THE EXACT MATERIAL AND ACCESSORIES TO BE ORDERED. THE MANUFACTURERS LISTED ARE THE BASIS FOR THE DESIGN.

- NOTES:
- A. ROOFTOP UNIT REPLACEMENT IS "LIKE FOR LIKE" UNLESS NOTED OTHERWISE.
 - B. EQUIPMENT SIZED FOR 100°F AMBIENT TEMPERATURE.
 - C. PROVIDE 2 INCH MERV 13, EFFICIENT PLEATED THROWAWAY AIR FILTERS.
 - D. PROVIDE FACTORY MOUNTED DISCONNECT INSTALLED ON SERVICE SIDE OF UNIT.
 - E. EXISTING FIELD-INSTALLED DISCONNECT SWITCH TO REMAIN.
 - F. STARTERS FOR ALL MOTORS SHALL BE FURNISHED INTEGRAL WITH UNIT.
 - G. PROVIDE FACTORY MOUNTED VARIABLE FREQUENCY DRIVE OR 2-SPEED MOTOR TO FACILITATE STAGED FAN SPEED CONTROL.
 - H. PROVIDE SINGLE POINT POWER CONNECTION. PROVIDE SHAFT GROUNDING SYSTEM ON MOTOR. REFER TO MOTOR SPECIFICATION FOR ADDITIONAL INFORMATION.
 - I. PROVIDE DIFFERENTIAL ENTHALPY ECONOMIZER WITH POWERED EXHAUST FAN.
 - J. COORDINATE SIZE OF CONDUCTOR TERMINATION LUGS WITH CONDUCTOR SIZES SHOWN ON ELECTRICAL DRAWINGS.
 - K. PROVIDE 125 VAC, 20 AMP DUPLEX CONVENIENCE RECEPTACLE MOUNTED TO UNIT READY FOR FIELD WIRING WITH A COVER UL LISTED FOR WET AND DAMPER LOCATIONS WHEN IN USE.
 - L. SPECIFIED FAN ESP ACCOUNTS FOR DUCT LOSSES EXTERNAL TO UNIT.
 - M. PROVIDE MOTOR HORSEPOWER TO OVERCOME INTERNAL UNIT STATIC PRESSURE DROP PLUS SPECIFIED EXTERNAL STATIC PRESSURE DROP. NOMINAL MOTOR HP SHALL BE NO LARGER THAN THE FIRST AVAILABLE NOMINAL MOTOR SIZE GREATER THAN THE REQUIRED BHP.
 - N. ROOF CURB IS EXISTING TO REMAIN. IF NECESSARY, PROVIDE ROOF CURB ADAPTER FROM EXISTING CURB PENETRATION TO NEW UNIT. COORDINATE CURB ADAPTER TYPE WITH EXISTING CURB CONDITIONS AND EQUIPMENT MANUFACTURER.
 - O. PROVIDE NEW WIND TIE-DOWN STRAPS FOR EXISTING FLORIDA APPROVED NOA CURB DESIGNED TO WITHSTAND HURRICANE WIND FORCES.
 - P. PROVIDE HOT GAS REHEAT DEHUMIDIFICATION COIL.
 - Q. SCHEDULED WEIGHT IS THE MAXIMUM ALLOWABLE OPERATING WEIGHT OF THE EQUIPMENT.
 - R. COOLING COIL LAT IS LEAVING AIR TEMPERATURE OF COIL.
 - S. PROVIDE GUARDS TO PROTECT CONDENSER COIL FROM HAIL OR OTHER DAMAGE.
 - T. PROVIDE HEATER TO MEET OR EXCEED SCHEDULED MINIMUM MBH OUTPUT. NOMINAL KW IS BASED ON LISTED MANUFACTURER'S STANDARD PRODUCT. COORDINATE EQUIPMENT POWER SUPPLY WITH ELECTRICAL.
 - V. ABS. MIN. O/A IS THE ABSOLUTE MINIMUM OUTSIDE AIR CFM USING VENTILATION RESET OR DEMAND CONTROL VENTILATION.
 - X. PROVIDE UNIT WITH FACTORY INSTALLED CARRIER SYSTEMU CONTROLLER WITH SUPPLY AND OUTSIDE AIR TEMPERATURE SENSORS. COORDINATE ALL CONTROLS WITH EMS VENDOR PRIOR TO PURCHASE.
 - Y. PROVIDE WITH DUCT SMOKE DETECTOR WIRE HARNESS KIT FOR EMS INTERFACE FOR SYSTEMU UNITS. SMOKE DETECTORS ARE EXISTING TO REMAIN AND SHALL SHUT DOWN UNIT UPON ALARM.

OUTSIDE AIR REQUIREMENTS, IMC-2021 (IP)

SYSTEM DESIGNATION	SYSTEM TAB NAME OR LIST 'SINGLE'	SINGLE-ZONE SYSTEMS ONLY		MULTI-ZONE SYSTEMS ONLY	FLOOR AREA SERVED BY SYSTEM (sq ft)	SYSTEM AVERAGED AREA-BASED OUTDOOR AIR RATE (CFM/SF)	SYSTEM POPULATION (P) (PEOPLE)	SYSTEM AVERAGED PEOPLE-BASED OUTDOOR AIR RATE (CFM/P)	REQUIRED OA INTAKE FLOW (Vot) (CFM)	REQUIRED DCV OA INTAKE FLOW (Vot) (CFM)	DESIGN OA INTAKE FLOW (Vot) (CFM)	NOTES
		SINGLE-ZONE SYSTEM ASSOCIATED VENTILATION ZONE	SINGLE ZONE WORST CASE ZONE AIR DISTRIBUTION EFFECTIVENESS (Eg)	SYSTEM VENTILATION EFFICIENCY (E _V)								
RTU-1	MULTI-ZONE (NAME)			0.38	3,408	0.052	1,843	4.83	1,843	578	1,850	
RTU-3,4	SINGLE ZONE	STOCK S	0.90	-	11,295	0.090	23	10.00	1,134	N/A	1,150	
RTU-6,7,8,9	SINGLE ZONE	STOCK N	0.90	-	12,542	0.090	25	10.00	1,263	N/A	1,280	
TOTALS									4,330	578	4,380	

- GENERAL NOTES:
1. VENTILATION CALCULATIONS BASED ON IMC-2021.
 2. SYSTEM POPULATIONS BASED ON MAX SEATING AND/OR CODE MAXIMUM VALUES.
 3. SINGLE ZONE SYSTEMS (Vot = Vot2): SYSTEM VENTILATION EFFICIENCY CALCULATION IS NOT REQUIRED FOR SINGLE ZONE SYSTEMS. WORST CASE AIR DISTRIBUTION EFFECTIVENESS BETWEEN HEATING AND COOLING MODES OF OPERATION IS SHOWN IN TABLE.
 4. 100% OA SYSTEMS (Vot = Σ Q_{zone} / Vot2): WHEN ONE AIR HANDLER SUPPLIES ONLY OUTDOOR AIR TO ONE OR MORE ZONES, EACH ZONE IS INDIVIDUALLY CALCULATED WITH ITS WORST CASE ZONE AIR DISTRIBUTION EFFECTIVENESS (HEATING/COOLING).
 5. MULTI-ZONE RECIRCULATING SYSTEMS: CALCULATOR USED TO DETERMINE VENTILATION AIRFLOW IN COMPLIANCE WITH IMC-2021 VRP AND ASHRAE 62.1-2018 APPENDIX A. VENTILATION RATE SHOWN IS ACTUAL CALCULATED WITH CORRECTION FACTORS INCLUDED. EACH ZONE IS CALCULATED WITH ITS WORST CASE ZONE AIR DISTRIBUTION EFFECTIVENESS (HEATING/COOLING) AS PART OF CALCULATIONS TO FIND EV.

EXISTING ROOFTOP UNITS

MARK	MANUFACTURER	MODEL	ELECTRICAL		APPROX WEIGHT (LBS)	NOTES
			VPH	MOCP		
RTU-1	CARRIER	50A3F025	460/3	80	5475	A
RTU-3	CARRIER	60HCBE12	460/3	60	930	A
RTU-4	CARRIER	60HCBE12	460/3	60	930	A
RTU-6	CARRIER	50TC-D08	460/3	35	835	A
RTU-7	CARRIER	50TC-D08	460/3	35	835	A
RTU-8	CARRIER	50TC-D08	460/3	35	835	A
RTU-9	CARRIER	60HCAE08	460/3	25	835	A

NOTES:
A. INFORMATION FROM AS-BUILT DRAWINGS. VERIFY IN FIELD.

NIKE FY25 HVAC REPLACEMENT
ORLANDO SERVICE CENTER
 9424 SOUTHRIDGE PARK CT, SUITE #400
 ORLANDO, FL 32819

FOR REFERENCE ONLY

MECHANICAL SCHEDULES

DATE: 08/30/2024
 SCALE: NO SCALE

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