

NO.	CFM RANGE	INLET DUCT DIA.	MAT'L	DAMPER	FINISH	FRAME	THROW	MODEL	REMARKS
5-6	0-75	6"	ALUM.	(3)	(1)	LAY-IN (2)	4-WAY	TMS-AA	"TITUS"
5-8	76-275	8"	ALUM.	(3)	(1)	LAY-IN (2)	4-WAY	TMS-AA	"TITUS"
5-10	276-375	10"	ALUM.	(3)	(1)	LAY-IN (2)	4-WAY	TMS-AA	"TITUS"
5-12	376-550	12"	ALUM.	(3)	(1)	LAY-IN (2)	4-WAY	TMS-AA	"TITUS"
5-14	551-750	14"	ALUM.	(3)	(1)	LAY-IN (2)	4-WAY	TMS-AA	"TITUS"

- ACCEPTABLE MANUFACTURERS: TITUS, KRUEGER, CARNES, SHOEMAKER.
- PROVIDE R-6 MOLDED FOIL BACKED INSULATION BLANKET.
- BRANCH DUCT SIZE TO GRILLE SHALL BE SAME SIZE AS NECK UNLESS OTHERWISE NOTED.
- (1) WHITE. PROVIDE MANUFACTURER'S COLOR CHART WITH SHOP DRAWING SUBMITTAL. VERIFY COLOR SELECTIONS WITH OWNER / ARCHITECT PRIOR TO PURCHASE.
- (2) COORDINATE MOUNTING WITH ARCH. PLANS. PROVIDE PLASTER RINGS WHERE REQD FOR INSTALLATION.
- (3) DAMPER AT THE GRILLE INDICATED BY A "D" AFTER THE GRILLE DESIGNATION.
- EXAMPLE: SG1SD-6 IS SG1S-6 WITH A DAMPER.

NO.	TYPE	MAX CFM	NECK SIZE	FLEX DUCT DIA.	MAT'L	DAMPER	FINISH	FRAME	MODEL	REMARKS
2-8	EGG CRATE	75	24 x 24	8"	ALUM.	(4)	(1)	LAY-IN (2)	50F (3)	"TITUS"
2-8	EGG CRATE	275	24 x 24	8"	ALUM.	(4)	(1)	LAY-IN (2)	50F (3)	"TITUS"
2-10	EGG CRATE	450	24 x 24	10"	ALUM.	(4)	(1)	LAY-IN (2)	50F (3)	"TITUS"
2-12	EGG CRATE	750	24 x 24	12"	ALUM.	(4)	(1)	LAY-IN (2)	50F (3)	"TITUS"
2-14	EGG CRATE	1,100	24 x 24	14"	ALUM.	(4)	(1)	LAY-IN (2)	50F (3)	"TITUS"
2-16	EGG CRATE	1,900	24 x 24	16"	ALUM.	(4)	(1)	LAY-IN (2)	50F (3)	"TITUS"

- ACCEPTABLE MANUFACTURERS: TITUS, KRUEGER, CARNES, SHOEMAKER.
- BRANCH DUCT SIZE TO GRILLE SHALL BE SAME SIZE AS NECK UNLESS OTHERWISE NOTED.
- PROVIDE MIN. 6" DEEP PLENUM BOX AT ALL RETURN GRILLES (TYP.)
- (1) WHITE. PROVIDE MANUFACTURER'S COLOR CHART WITH SHOP DRAWING SUBMITTAL. VERIFY COLOR SELECTIONS WITH OWNER / ARCHITECT PRIOR TO PURCHASE.
- (2) COORDINATE MOUNTING WITH ARCH. PLANS. PROVIDE PLASTER RINGS WHERE REQD FOR INSTALLATION.
- (3) 1/2 X 1/2 / 1/2 CORE
- (4) DAMPER AT THE GRILLE INDICATED BY A "D" AFTER THE GRILLE DESIGNATION.
- EXAMPLE: RG1SD-6 IS RG1S-6 WITH A DAMPER.

ROOFTOP AIR CONDITIONING UNIT SCHEDULE (RTAC)

NO.	TOMS	SUPPLY FAN				MOD. TYPE	RELIEF		COOLING				HEATING				OUTSIDE AIR	SMOKE DETECTOR	CURB HEIGHT BY MFR.	TYPE	MCA	OP	PH	EFFECTIVE MIN. CODE	UNIT RATING	TEST PROC.	WEIGHT (LBS.)	MODEL	REMARKS	
		CFM	OA CFM	EXT. SP	DRIVE TYPE		MOTOR HP	BAR.	FAN	EAT DB / WB	MBH CAP.	AMB. TEMP F	NO. COMP.	NO. STAGES	KW	MBH IN														MBH OUT
1	4	1,500	175	1	BELT	1	X	-	80/67	42.8	110	1	1	-	72	59	1	ECON	-	14"	STANDARD	24.0	30	208/3	13.0 SEER	14.0 SEER	ARI 210/240	850	48KC	CARRIER
2	5	1,750	250	1	BELT	1	X	-	80/67	53.5	110	1	1	-	72	59	1	ECON	-	14"	STANDARD	30.0	30	208/3	13.0 SEER	14.1 SEER	ARI 210/240	850	48KC	CARRIER
3	4	1,575	175	1	BELT	1	X	-	80/67	42.8	110	1	1	-	72	59	1	ECON	-	14"	STANDARD	24.0	30	208/3	13.0 SEER	14.0 SEER	ARI 210/240	850	48KC	CARRIER

- ADMIN TO SUPPLY RTAC UNITS. H.C. / G.C. TO INSTALL.
- SEE MOTOR SPECIFICATIONS FOR MOTOR REQUIREMENTS.
- PROVIDE WITH 2" ASHRAE STD 52.2 MERV 8 T.A. FILTERS.
- RTAC DESIGNED TO PREVENT RAIN INTRUSION INTO THE AIRSTREAM WHEN TESTED AT DESIGN AND NO AIRFLOW PER SECTION 58 OF UL 1995.
- PROVIDE UNIT WITH INTEGRAL MANUFACTURER INSTALLED WATER-LEVEL MONITORING DEVICE IN THE PRIMARY DRAIN PAN TO SHUT OFF THE EQUIPMENT PER IMC 307.2.3.1.
- PROVIDE UNIT MOUNTED WEATHERPROOF DISCONNECT.
- PROVIDE WITH ULTRA LOW LEAK CODE COMPLIANT ECONOMIZER WITH BAROMETRIC RELIEF AND COMPARATIVE ENTHALPY CONTROL.
- PROVIDE WITH HINGED ACCESS PANELS AND HINGED DOOR FOR ECONOMIZER.
- PROVIDE WITH STAINLESS STEEL HEAT EXCHANGER.
- PROVIDE WITH CARRIER EDGE PRO PROGRAMMABLE COMMERCIAL THERMOSTAT.

HVAC SPECIFICATIONS

I. BASIC HVAC REQUIREMENTS

- SEE SHEET T2.0.
- SUBSTITUTIONS: WHERE SUBSTITUTE EQUIPMENT REQUIRES REDESIGN OF ANY PART OF THE PROJECT, THE COST OF REDESIGN AND ADDITIONAL COSTS OF THE WORK SHALL BE PAID BY THE CONTRACTOR. REDESIGN SHALL BE SUBJECT TO THE APPROVAL OF ALL AUTHORITIES HAVING JURISDICTION OVER THE WORK INCLUDING THE ARCHITECT/ENGINEER.
- DETAILS AND SCHEDULES ARE SHOWN TO AID THE CONTRACTOR AND ARE NOT MEANT TO BE INCLUSIVE OF ALL DEVICES. PROVIDE REQUIRED EQUIPMENT AND ACCESSORIES FOR A COMPLETE INSTALLATION.
- INSTALL ALL EQUIPMENT PER MANUFACTURER'S INSTALLATION INSTRUCTIONS AND REQUIREMENTS. PROVIDE ADDITIONAL WORK AND MATERIALS AS REQUIRED.
- COORDINATE INSTALLATION OF HVAC WORK WITH THE OTHER CONTRACTORS AND THE EXISTING BUILDING TO AVOID CONFLICTS WITH OTHER WORK.
- PROVIDE ALL CUTTING AND PATCHING NECESSARY FOR HVAC WORK INSTALLATION UNLESS THIS WORK IS IDENTIFIED TO BE THE WORK OF OTHER CONTRACTORS. PATCHING SHALL MATCH ADJACENT SURFACES.
- INSTALL CLEAN SET OF FILTERS IN ALL UNITS AT TIME OF TESTING AND BALANCING.
- CLEAN GRILLES AND EQUIPMENT AND LEAVE IN PROPER WORKING CONDITION AT THE TIME OF FINAL CLEAN-UP.

II. FINISH AND PAINTING

- COORDINATE WORK WITH THE PAINTERS SO THAT ALL EQUIPMENT IS INSTALLED PRIOR TO PAINTING. H.C. SHALL PAINT ITEMS IF NO PLACE PRIOR TO FINAL ROOFING PAINTING.
- IF FINISH BECOMES RUSTED, CORRODED, SCRAPPED, OR DAMAGED DURING STORAGE OR INSTALLATION, REFINISH THE EQUIPMENT TO THE SATISFACTION OF THE OWNER.
- WHERE THE HEATING CONTRACTOR IS REQUIRED TO PAINT, THE PAINTING SHALL BE DONE IN ACCORDANCE WITH THE PAINTING PORTION OF THE ARCHITECTURAL SPECIFICATION.

III. INSULATION

- INSULATION SYSTEMS SHALL BE UL-723 RESISTANT TO MAX. FIRE HAZARD CLASSIFICATIONS OF 1 AND MAX. FLAME SPREAD CONTRIBUTED, AND SMOKE DEVELOPED OF 50 WHEN TESTED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND MICA PUBLICATION "COMMERCIAL AND INDUSTRIAL STANDARDS", 1999 FIFTH EDITION.
- CONTINUE INSULATION WITHOUT INTERRUPTIONS THROUGH WALLS, SLEEVES, AND HANGERS.
- FIBERGLASS (F.G.) INSULATION
 - MANUFACTURERS: OWENS CORNING (O.C.) FIBERGLASS CORPORATION, CERTAINTED, KNAUF, KNAUF CEILING DIVISION.
 - FLEX F.G. (FLEX) 1/2" FT. GLASS FIBER INSULATION FACTORY LAMINATED TO FRK VAPOR RETARDER. LISTED THICKNESS IS NOMINAL, R-3.1 / NOMINAL INCH.
- INSULATE FITTINGS, JOINTS, FLANGES, DAMPERS, AND IN-LINE ACCESSORIES WITHOUT INTERNAL LINING/INSULATION WITH SAME MATERIAL AND THICKNESS AS SPECIFIED FOR THE DUCT SYSTEM. STOP AND POINT INSULATION AROUND ACCESS DOORS AND DAMPER OPERATORS TO ALLOW OPERATION WITHOUT DISTURBING WRAPPING.

IV. DUCTWORK

- PERFORM WORK IN ACCORDANCE WITH THE LATEST EDITIONS OF SMACNA HVAC DUCT CONSTRUCTION STANDARDS.
 - PAINT THE INSIDE OF ALL DUCTS VISIBLE THROUGH GRILLES OR OTHER OUTLETS WITH DULL BLACK PAINT.
 - CERTAIN VERTICAL AND HORIZONTAL OFFSETS INDICATED IN DRAWINGS TO INDICATE THE GENERAL POSITION RELATIONSHIP OF THE DUCTWORK SYSTEMS. PROVIDE ADDITIONAL OFFSETS AS REQUIRED TO AVOID INTERFERENCE WITH THE INSTALLATION OF OTHER SYSTEMS, CEILINGS AND STRUCTURE. THE DRAWINGS ARE DIAGNOSTIC AND SHALL NOT BE SOLED TO DETERMINE EXACT LOCATION OF DUCTWORK.
 - PROVIDE TEMPORARY CURBS OR METAL TAPED POLYETHYLENE ON OPEN DUCTWORK TO PREVENT OBSTRUCTION OF AIR FLOW INTO ENTERING DUCTWORK SYSTEM.
 - LOCATE DUCTWORK WITH SUFFICIENT SPACE AROUND EQUIPMENT TO ALLOW NORMAL OPERATION AND MAINTENANCE ACTIVITIES.
 - INCREASE DUCTWORK GRADUALLY, NOT EXCEEDING 15 DEGREES WHENEVER POSSIBLE. 30 DEGREE MAXIMUM DIVERGENCE IS PERMITTED UPSTREAM OF EQUIPMENT; 45 DEGREE MAXIMUM CONVERGENCE DOWNSTREAM.
 - USE TABLES OF EQUIVALENT RECTANGULAR AND ROUND DUCTS. ROUND DUCTWORK: CONCEALED BRANCH DUCTWORK TO GRILLES AND DIFFUSERS MAY BE LONGITUDINAL LOCKSEAM. ALL OTHER ROUND DUCTWORK SHALL BE SPIRAL LOCKSEAM WITH FITTINGS AND COUPLINGS MINIMUM 2 GAUGES HEAVIER THAN DUCT.
- DUCTWORK
 - LISTED CLASS 1 FLEXIBLE AIR DUCT, COMPLY WITH NFPA 90A, FLAME SPREAD 25 OR LESS, SMOKE DEVELOPED RATING OF 50 OR LESS.
 - MANUFACTURERS: THERMAFLEX, FLEXMASTER
 - INSULATED FOR SUPPLY DUCTWORK. UNINSULATED FOR RETURN AND EXHAUST DUCTWORK.
 - CONNECT TO SUPPLY DUCTWORK BY SLIDING CORE OVER COLLAR, TAPE JOINT WITH MINIMUM 3 WRAPS OF TAPE, AND APPLY METAL BAND CLAMP OR PANDUIT. FOR INSULATED DUCTWORK, PULL INSULATION AND OUTER JACKET BACK INTO POSITION, AND TAPE WITH MINIMUM 3 WRAPS OF TAPE BETWEEN FLEX DUCT AND DUCT INSULATION.
 - CONNECT TO GRILLES AND RETURN AND TRANSFER DUCTWORK WITH METAL BAND CLAMP OR PANDUIT.
 - MAXIMUM LENGTH FROM DUCTWORK TO GRILLES OR SLOTS 8'-0".
 - DO NOT RUN THROUGH WALLS OR PARTITIONS.
 - DUCTWORK SEALANTS
 - MANUFACTURERS: HARDCAST #601, UNITED MCGILL WATER BASED DUCT SEAL. MAXIMUM FLAME SPREAD OF 75, FUEL CONTRIBUTED OF 50, AND SMOKE DEVELOPED OF 50.
 - HARDCAST ALUMA-GRIP 701 OR EQUIVALENT PRESSURE SENSITIVE DUCT JOINT ROLLED SEALANT MAY BE USED IN PLACE OF MASTIC. SEALANT SHALL COMPLY WITH THE FOLLOWING:
 - MILL FINISH ALUMINUM SUBSTRATE WITH GRAY ADHESIVE.
 - MINIMUM 30 MIL THICK
 - MIN. 17 LB PER LINEAR INCH PEEL STRENGTH
 - MAX FLAME SPREAD OF 25, MAX SMOKE DEVELOPED OF 50 WHEN TESTED IN ACCORDANCE WITH ASTM G-53.
 - VOC: 0 G/L, COMPLIANT WITH LEED SCAQMD RULE 1168.
 - PRESSURE CLASSES UP TO 10" W.C.

V. DUCTWORK ACCESSORIES

- TURNING VANES
 - MANUFACTURERS: AERO/DYNE CO. H.E.P., HART & COOLEY, UNITED MCGILL, SEMCO.
 - RECTANGULAR DUCTWORK: AIRFOIL TURNING VANES IN ACCORDANCE WITH SMACNA FIG. 2-3 AND 2-4. VANE RADIUS AS PROVIDED BY AERO/DYNE H.E.P. OR 4-1/2 INCHES WITH A 5-1/2 INCH SPACING.
- MANUAL VOLUME DAMPERS
 - MANUFACTURERS: RUSKIN, VENT PRODUCTS, UNITED MCGILL.
 - DAMPERS WITH EXTENDED SHAFTS AND QUADRANTS, OPERATOR WITH LOCKING DEVICE, POSITION INDICATOR, AND ELEVATED PLATFORM FOR EXTERNALLY INSULATED DUCTWORK.
 - BUTTERFLY DAMPER, MINIMUM 22 GAUGE. SHAFT ALONG ENTIRE LENGTH OF DAMPER FOR DAMPERS EXCEEDING 16" IN WIDTH.
 - ROUND DAMPERS: MINIMUM 20 GAUGE BUTTERFLY DAMPER.
- TAKE-OFF FITTINGS
 - MANUFACTURERS: FLEXMASTER, UNITED MCGILL.
 - TO GRILLES: ONE PIECE SPIN-IN WITH INTEGRAL FACTORY INSTALLED LOCKING TYPE BALANCING DAMPERS.
- DUCT ACCESS DOORS
 - MANUFACTURERS: CESCO, FLEXMASTER, VENT PRODUCTS, KEES, UNITED MCGILL, SEMCO.
 - HINGE, LATCHES, HANDLES, AND RUBBER GASKET IN FRAME. 1" INSULATED DOUBLE WALL CONSTRUCTION FOR DOORS IN LINED OR EXTERNALLY INSULATED DUCTWORK. ATTACHMENT CABLES FOR SPIN-IN UNITS. DOOR SUITABLE FOR DUCT STATIC PRESSURE CLASS.
 - DOOR SIZE 2" LESS THAN THE WIDTH OF THE DUCT (MAX. DOOR SIZE 24" X 24" (24" DIA.).
 - ROUND DUCTWORK: 16 GAUGE ROLLED SHEET METAL HINGED ACCESS DOOR WITH BUCKLE LOCKS.
 - PROVIDE AT TURNING VANES IN RETURN AND EXHAUST DUCTWORK, AT ANY DEVICE IN THE DUCT WHICH REQUIRES MAINTENANCE, SERVICE OR CLEANING.
 - USE HINGED ACCESS DOORS WHERE POSSIBLE. USE CAM OPERATED REMOVABLE DOORS WHERE SPACE PREVENTS THE OPENING OF A HINGED MODEL.
- BACKDRAFT DAMPERS
 - MANUFACTURERS: RUSKIN, VENT PRODUCTS.
 - ALUMINUM FRAME AND BLADE CONSTRUCTION WITH BLADE AND EDGE SEALS. LEAKAGE LESS THAN 12 CFM PER SQ. FT. AT 1/2" W.G., COUNTERBALANCE TO OPEN AT APPROXIMATELY 0.05" STATIC PRESSURE.

SERVICE	MAT'L	SMACNA PRESS. CLASS	INSULATION		INSUL. JACKET
			RECTANGULAR DUCT	ROUND DUCT	
SUPPLY	GALV. ST.	+1"	1.5" FLEX. F.G.	1.5" FLEX. F.G.	N.R.
RETURN	GALV. ST.	-1"	1.5" FLEX. F.G.	1.5" FLEX. F.G.	N.R.
EXHAUST	GALV. ST.	-1"	1.5" FLEX. F.G. (1)	1.5" FLEX. F.G. (1)	N.R.

- N.R. = NOT REQUIRED
- MATERIALS:
 - GALV. STEEL: ASTM A525 AND 527, LOCK FORMING QUALITY, 1.25 OUNCES PER S.F. ZINC COATING (980 IN ACCORDANCE WITH ASTM A90 BOTH SIDES OF SHEET).
 - SEAL ALL JOINTS, LONGITUDINAL AND TRANSVERSE SEAMS AND CONNECTIONS PER IECC 503.2.7.
 - INSULATE 18" UPSTREAM OF THE BACKDRAFT DAMPER WHERE THE DUCT EXITS THE BUILDING.

NO.	SERVICE	TYPE	THROAT	CFM	APD.	SCREEN	DAMPER	MODEL	REMARKS
1	EXHAUST	FLAT	6	100	0.01	BIRD	NO	RCC-7 (1)	"GREENHECK"
2	EXHAUST	FLAT	6	100	0.01	BIRD	NO	RCC-7 (1)	"GREENHECK"
3	EXHAUST	FLAT	10	600	0.09	BIRD	NO	GRS-10 (1)	"GREENHECK"

- ACCEPTABLE MANUFACTURERS: GREENHECK, CARNES
- (1) PROVIDE ROOF CURB.

SYM.	LOCATION	ELECTRICAL DATA						STARTER				DISCONNECT			REMARKS	
		HP	KW	MCA	MOP	VOLT	PH.	TYPE	LOCATION	FURN. BY	AUX. CONTACT	ACCESSORIES	DISCONNECT	FURN. BY		
RTAC-1	ROOF	-	-	24.0	30	208	3	INTEG.	INTEGRAL	EM	-	-	-	R, WP	EM	-
RTAC-2	ROOF	-	-	30.0	45	208	3	INTEG.	INTEGRAL	EM	-	-	-	R, WP	EM	-
RTAC-3	ROOF	-	-	24.0	30	208	3	INTEG.	INTEGRAL	EM	-	-	-	R, WP	EM	-
CEF-1	TOILET RM	-	0.08	-	-	120	1	(1)	(1)	EC	-	-	-	R	EM	-
CEF-2	TOILET RM	-	0.08	-	-	120	1	(1)	(1)	EC	-	-	-	R	EM	-
CEF-3	LAB	-	0.23	-	-	120	1	(2)	(2)	EC	-	-	-	R	EM	-
CEF-4	MECH RM	-	0.23	-	-	120	1	(3)	(3)	EM	-	-	-	R	EM	-

- STARTER TYPE:
 - INTEG.= INTEGRAL: PROVIDED INTEGRAL WITH EQUIPMENT.
- FURNISHED BY:
 - EM = EQUIPMENT MANUFACTURER
 - HC = HEATING CONTRACTOR
 - EC = ELECTRICAL CONTRACTOR
- DISCONNECT:
 - NR = NOT REQUIRED
 - R = REQUIRED
 - WP = WEATHERPROOF
- REMARKS:
 - H.W. = HARD WIRED
 - REC.=RECEPTACLE

- VERIFY VOLTAGE AND PHASE WITH ELECTRICAL CONTRACTOR BEFORE ORDERING EQUIPMENT.
- (1) POWER ROUTED THRU INTERIOR LIGHTING CONTACTOR BY E.C. SEE ELECTRICAL PLANS.
- (2) LOCAL WALL SWITCH PROVIDED BY EC TO TURN ON FAN.
- (3) FAN WIRED TO REVERSE ACTING THERMOSTAT BY E.C.

NO.	AREA SERVED	TYPE	CFM	S.P. "W.C.	HP	MOTOR WATTS	MAX. SPEED	COL. SIZE	MOD.	REMARKS
1	TOILET RM	CEILING	100	0.38	950	2.7	6"	SP-B110	"GREENHECK"	
2	TOILET RM	CEILING	100	0.38	950	2.7	6"	SP-B110	"GREENHECK"	
3	LAB	CEILING	300	0.70	1070	4.5	8 x 8	SP-A510	"GREENHECK"	
4	MECH RM	CEILING	300	0.70	1070	4.5	8 x 8	SP-A510	"GREENHECK"	

- ACCEPTABLE MANUFACTURERS: GREENHECK, CARNES, PENN.
- SUPPORT FROM STRUCTURE. ISOLATE FAN AND ASSOCIATED DUCTWORK.
- PROVIDE SPEED CONTROL MOUNTED ON FAHOUSING, INTERNAL PLUG-IN DISCONNECT AND BACKDRAFT DAMPER.
- PROVIDE WITH WHITE ALUMINUM GRILLE.

F. FLEXIBLE CONNECTIONS

- MANUFACTURERS: VENTFABRICS, DURO-DYNE
- MATERIAL BOLTED SECURELY TO THE EQUIPMENT AND CONNECTING DUCTWORK WITH #16 GAUGE GALVANIZED IRON BAND (LOOP) CLAMPS BOLTED TIGHT TO MAKE AN AIRTIGHT CONNECTION, MINIMUM 6" WIDE.
- PROVIDE AT INLET AND OUTLET OF ALL AIR HANDLING UNITS AND FANS IN ACCORDANCE WITH SMACNA FIGURE 2-19.
- CONVENTIONAL INTERIOR: VENTGLAS, -20 TO 200 DEG F., 30 OZ. PER SQUARE YARD GLASS FABRIC DOUBLE COATED WITH NEOPRENE, UL 214 APPROVED.

VI. ROOFTOP AIR CONDITIONING UNIT - SEQUENCE OF OPERATION

- CONTRACTOR TO INSTALL THERMOSTAT FURNISHED BY RTAC CONTRACTOR.
 - SET FAN SETTING TO "ON" FOR FAN TO RUN CONTINUOUSLY IN OCCUPIED PERIODS, AND TO RUN WITH EQUIPMENT OPERATION DURING UNOCCUPIED PERIODS.
 - DRY CONTACT OUTPUT SHALL BE USED TO ENERGIZE ECONOMIZER TO OPEN OUTDOOR AIR DAMPER TO MINIMUM POSITION DURING OCCUPIED OPERATION.
 - THERMOSTAT INSTALLER SETUP SHALL OTHERWISE UTILIZE FACTORY DEFAULTS.
- MOUNT AND WIRE ALL CONTROL WIRING ASSOCIATED WITH THE ROOFTOP AND PROVIDE ANY ADDITIONAL DEVICES NECESSARY FOR A COMPLETE OPERATIONAL SYSTEM.

VII. TESTING, ADJUSTING, AND BALANCING

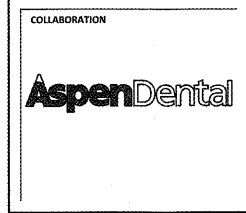
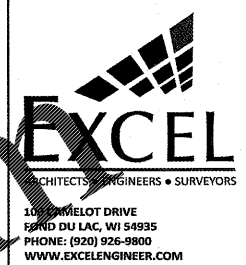
- QUALITY ASSURANCE - PERFORM TOTAL SYSTEM BALANCE IN ACCORDANCE WITH AABC NATIONAL STANDARDS FOR FIELD MEASUREMENT AND INSTRUMENTATION, TOTAL SYSTEM BALANCE OR NEBB PROCEDURAL STANDARDS FOR TESTING, BALANCING AND ADJUSTING OF ENVIRONMENTAL SYSTEMS.
- SUBMITTALS
 - CONTRACTOR SHALL SUBMIT THE FINAL TESTING AND BALANCING REPORT PRIOR TO PROJECT COMPLETION AND IN ADVANCE OF DATE OF OCCUPANCY. SUBMIT REPORTS ON AABC NATIONAL STANDARDS FOR TOTAL SYSTEM BALANCE OR NEBB FORMS.
 - SUBMIT THE DESIGN AND ACTUAL DATA FOR EACH SCHEDULED PIECE OF EQUIPMENT: MODEL, SUPPLY, RETURN AND OUTSIDE AIR FLOW, FAN RPM, BHP, AMPERAGE, FAN AND MOTOR SHAFT, DIAMETER, BORE AND MAKE, BELT SIZE AND QUANTITY, MOTOR SHAFT CENTER LINE AND OPERATOR DISTANCE, ROOM AIR FLOW.
- INSTALLATION TOLERANCES
 - AIR HANDLING SYSTEMS: ADJUST SUPPLY SYSTEMS TO WITHIN PLUS OR MINUS 5 PERCENT OF DESIGN AND RETURN AND EXHAUST SYSTEMS TO PLUS OR MINUS 10 PERCENT OF DESIGN.
 - AIR OUTLETS AND INLETS: ADJUST TOTAL AIR FLOW TO SPACE TO WITHIN PLUS 10 PERCENT AND MINUS 5 PERCENT OF DESIGN.
 - ADJUST OUTLETS AND INLETS IN SPACE TO WITHIN PLUS OR MINUS 10 PERCENT OF DESIGN.
- AIR SYSTEM BALANCE
 - VARY TOTAL SYSTEM AIR QUANTITIES BY ADJUSTING FAN SPEEDS. VARY BRANCH AIR QUANTITIES BY DAMPER REGULATION.
 - ADJUST OUTSIDE AIR AND RETURN AIR AUTOMATIC DAMPERS FOR DESIGN CONDITIONS.
 - ROOM AIRFLOW TESTING AND BALANCING TO OCCUR WITH ROOM DOORS CLOSED.

PROJECT DESIGN CRITERIA

MECHANICAL CODE 2015 IMC
 ENERGY CODE 2009 IECC
 SEISMIC DESIGN CATEGORY D
 NEAREST ASHRAE CITY CAPE GIRARDEAU, MO
 ELEVATION 351

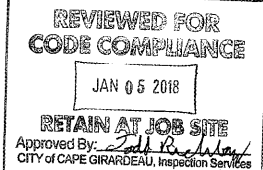
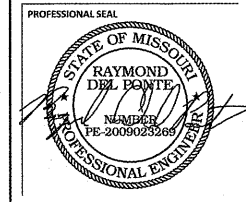
	INSIDE		OUTSIDE	
	DB	% RH	DB	WB
WINTER:	72	N/A	9.7	N/A
SUMMER:	75	50	94.5	80.3

BASED ON ASHRAE 0.4% DESIGN CONDITIONS.



PROJECT INFORMATION
 PROJECT NUMBER 1712680

TENANT BUILD-OUT FOR:
ASPEN DENTAL
 3070 WILLIAM STREET • CAPE GIRARDEAU, MO 63703



SHEET DATES
 ISSUE DATE JUNE 1, 2017

REVISIONS
 AD2 JUNE 22, 2017

SHEET INFORMATION
 SPECIFICATIONS & SCHEDULES

SHEET NUMBER
H0.1