

HVAC SPECIFICATIONS

DESIGN LIMITS
 A. THE DRAWINGS IN THIS SECTION ARE DIAGRAMMATIC AND ARE NOT INTENDED TO DEFINE EXACT QUANTITIES, LOCATIONS, OR CODE REQUIREMENTS. THE DRAWINGS SHALL NOT BE SCALED. EXACT STATE AND LOCAL CODE REQUIREMENTS AND OTHER APPLICABLE CODE REQUIREMENTS SHALL BE VERIFIED BY AND ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. ANY INFORMATION WHICH DIRECTLY CONFLICTS WITH ANY OF THESE CODES OR ANY DISCREPANCIES FOUND IN THE CONTRACT DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE PROJECT ARCHITECT/ENGINEER. FOR CLARITY, CERTAIN DRAFTING TECHNIQUES HAVE BEEN USED. THESE SHOULD NOT BE INTERPRETED TO REDUCE THE SCOPE OF THE CONTRACT.
 B. EQUIPMENT SIZES AND LOCATIONS ARE APPROXIMATE. ACTUAL DIMENSIONS TO BE DETERMINED BY EQUIPMENT FURNISHER.
 C. FINAL OPENING DIMENSIONS, SIZE AND LOCATION SHALL BE COORDINATED DURING CONSTRUCTION WITH APPROVED EQUIPMENT.
 D. THE DRAWINGS ARE DIAGRAMMATIC AND ARE NOT INTENDED TO DEFINE ALL ITEMS NECESSARY FOR A FULLY FUNCTIONAL SYSTEM. HOWEVER, ALL EQUIPMENT AND ACCESSORIES NEEDED TO PROVIDE A FULLY FUNCTIONAL SYSTEM SHALL BE PROVIDED UNDER THIS CONTRACT.
 E. COMPLETE INSTALLATION SHALL CONFORM TO ALL APPLICABLE CITY, STATE, FEDERAL AND LOCAL CODES AND ORDINANCES, INCLUDING BUT NOT LIMITED TO THE LATEST APPROVED EDITION OF NFPA 99A, AND NFPA 101. IT IS THE RESPONSIBILITY OF THE MECHANICAL INSTALLER TO NOTIFY THE ARCHITECT/ENGINEER OF ANY ITEMS ON THE PLANS AND SPECIFICATIONS THAT ARE NOT IN COMPLIANCE WITH THE ABOVE CODES.
 F. DRAWINGS INDICATE THE NORMAL STANDARDS BUT IF ANY WORK SHOULD BE INDICATED TO BE SUBSTANDARD TO ANY ORDINANCES, LAWS, CODES, RULES OR REGULATIONS BEARING ON THE WORK, THE MECHANICAL INSTALLER SHALL EXECUTE THE WORK CORRECTLY IN ACCORDANCE WITH SUCH ORDINANCES, LAWS, CODES, RULES OR REGULATIONS WITHOUT INCREASE IN COST TO OWNER.
 G. HVAC PERMITS SHALL BE APPLIED FOR, OBTAINED AND PAID FOR BY THIS CONTRACTOR. THIS CONTRACTOR SHALL VERIFY THE DESIGN OF THE SYSTEMS IDENTIFIED BY THE CONTRACT DOCUMENTS, AND BY VIRTUE OF COMPLETING THE WORK SHALL BE RESPONSIBLE FOR GUARANTEES AND SHALL WARRANT THE INSTALLED SYSTEMS WILL FUNCTION PROPERLY AS DESIGNATED BY THE CONTRACT DOCUMENTS.

INSULATION
 A. PROVIDE FIBERGLASS INSULATION IN COMPLIANCE WITH THE INTERNATIONAL ENERGY CONSERVATION CODE.
 B. HOLES, BREAKS, AND JOINTS SHALL BE SEALED WITH ALUMINUM FOIL TAPE. ENSURE A CONTINUOUS VAPOR BARRIER, AND REINFORCE JOINTS AS MAY BE REQUIRED TO PREVENT SEPARATION.

AIR SIDE
 A. METAL DUCTWORK, ALL DUCTWORK SHALL BE METALLIC, GALVANIZED, ANY FLEX DUCT PERMITTED SHALL BE OF EQUIVALENT SIZE OF THE DUCT OF SIZE NOTED IN GALVANIZED HARD PIPE.
 B. ALL DUCTS DIMENSIONS ARE CLEAR DIMENSIONS TO INSIDE OF DUCT.
 C. ALL ROUND ELBOWS TO BE FOUR (4) PIECE. ALL DIFFUSERS TO HAVE BALANCING DAMPERS.
 D. COORDINATE ALL DUCT AND DIFFUSER LOCATIONS WITH ALL OTHER TRADES.
 E. INSTALLER TO VACUUM OUT THE DUCT SYSTEMS PRIOR TO FINAL ACCEPTANCE TO REMOVE DUST AND DEBRIS. INSTALL NEW FILTERS AT PROJECT CLOSE OUT.
 F. BALANCING DAMPERS FOR OUTSIDE AIR AND RETURN AIR SHALL BE PROVIDED AT ALL AIR HANDLING UNITS.
 G. EXHAUST DUCTS & OUTSIDE AIR INTAKE DUCTS: EXHAUST AIR GRILLS/VENTS SHALL BE MINIMUM OF 1' FROM ANY INTAKE.
 H. EXHAUST FANS: NECESSARY DUCTING, AND ACCESSORIES, OR OTHER RELATED ITEMS, SHALL BE PROVIDED FOR AND INSTALLED BY A PRODUCT OTHER THAN THE BASIS OF DESIGN SHALL BE BORNE BY THE SUBSTITUTING CONTRACTOR.

COORDINATION
 A. DUE TO THE CONCURRENT NATURE OF DESIGN THE SUBCONTRACTOR MUST COORDINATE ALL FRAMING ISSUES WITH THE G.C. PRIOR TO TRAINING CONSTRUCTION. ALL ARCHITECTURAL ITEMS ARE TO BE REFERENCED FROM THE A SHEETS. THE ARCHITECTURAL BACKGROUND SHOWN ON THESE DOCUMENTS IS FOR GENERAL REFERENCE ONLY.
 B. VERIFY ALL RECESSED LIGHT FIXTURE LOCATIONS, BEFORE INSTALLING DUCTWORK, DIFFUSERS, REGISTERS, AND GRILLES.
 C. FOR EXACT ROOF PENETRATION LOCATIONS, SEE ARCHITECTURAL DRAWINGS AND COORDINATE WITH GENERAL CONTRACTOR OR FIELD WITH SITE CONDITIONS.
 D. THIS CONTRACTOR IS RESPONSIBLE TO COORDINATE ALL EQUIPMENT REQUIREMENTS WITH THE GENERAL CONTRACTOR AND ALL OTHER TRADES. ANY COST OR COORDINATION THAT IS CAUSED BY A PRODUCT OTHER THAN THE BASIS OF DESIGN SHALL BE BORNE BY THE SUBSTITUTING CONTRACTOR.

GENERAL
 A. SYSTEM BALANCING, BALANCE ALL HVAC SYSTEMS PRIOR TO CEILING INSTALLATIONS. INSTALLER IS RESPONSIBLE TO INSURE ALL DIFFUSERS AND GRILLES ARE AIR BALANCED AND CORRECTLY PLACED AND ALIGNED BEFORE AND AFTER ADJACENT CONSTRUCTION IS IN PLACE.
 B. ACCESS PANELS ARE REQUIRED FOR MAINTENANCE AND SERVICE TO ALL EQUIPMENT AND SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH AUTHORITY HAVING JURISDICTION.
 C. INSTALLER SHALL PROVIDE AND INSTALL ALL MISC. SUPPORT STEEL AND HANGERS AS REQUIRED TO MOUNT MECHANICAL EQUIPMENT.
 D. FINAL ELECTRICAL CONNECTIONS TO ALL MECHANICAL EQUIPMENT SHALL BE BY THE ELECTRICAL INSTALLER.
 E. ELECTRICAL CHARACTERISTICS SHOWN ON SCHEDULES OR DRAWINGS ARE DESIGN VALUES ONLY AND SHALL BE VERIFIED BEFORE ORDERING EQUIPMENT. IT IS THE MECHANICAL CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE E.C. OF THE ELECTRICAL CHARACTERISTICS BEFORE ANY WORK BEGINS.
 F. ALL DUCTS ABOVE CEILING UNLESS OTHERWISE NOTED.
 G. NO HVAC DURING CONSTRUCTION - MASK OFF ALL HVAC OUTLETS DURING CONSTRUCTION. AVOID ANY USE OF THE HVAC EQUIPMENT DURING CONSTRUCTION IF AT ALL POSSIBLE. OTHERWISE, HAVE ALL HVAC DUCTS AND COILS CLEANED BY A PROFESSIONAL COMPANY AT THE TIME OF COMPLETION ON THE PROJECT.
 H. PROVIDE ROOF TOP UNITS (RTU) ON ROOF CURB PER MANUFACTURER'S RECOMMENDED INSTALLATION INSTRUCTIONS.

GAS PIPING
 A. FURNISH AND INSTALL COMPLETE SYSTEM OF LOW PRESSURE GAS PIPING TO ALL ITEMS OF EQUIPMENT, INCLUDING SHUTOFF VALVE, UNION AND DIRT LEG AT EACH FINAL CONNECTION.
 B. VERIFY SPECIAL INSTALLATION AND METERING REQUIREMENTS WITH UTILITY COMPANY.
 C. PIPING, SCHEDULE 40 BLACK STEEL PIPE (ASTM A 53) WITH WELDED JOINTS. SCREWED MALLEABLE IRON FITTINGS MAY BE USED ON PIPING 2 1/2" AND SMALLER.
 D. EQUAL VALVES BY NIBCO, LUNKENHEIMER, STOCKHAM OR POWELL ARE ACCEPTABLE.
 E. TEST PIPING IN ACCORDANCE WITH UTILITY COMPANY REQUIREMENTS. AFTER TESTING, PURGE SYSTEM COMPLETELY.

PIPING HANGERS & SUPPORTS
 A. HANGERS FOR STEEL LINES 2-1/2" AND SMALLER, SIMILAR TO GRINNELL FIG. 91, ADJUSTABLE PIPE RING WITH GALVANIZED STEEL BAND AND 3/8" MALLEABLE IRON ADJUSTING NUT.
 B. HANGERS FOR STEEL LINES 3" AND LARGER SHALL BE SIMILAR TO GRINNELL FIG. 380, ADJUSTABLE CARBON STEEL, CLEVIS, HEAVY DUTY, WITH PROPER SIZE RODS.
 C. EQUALS BY ELCEM, PENN. FEE-MASON, MODERN, MICHIGAN HANGER COMPANY ARE ACCEPTABLE.
 D. SUPPORTS, CORROSION RESISTANT FACTORY FINISH UNISTRUT NO. 1000 OR KINDORF.
 E. HANGERS FOR STEEL PIPE SHALL BE SPACES AS FOLLOWS:
 PIPE SIZE MAX. SPAN
 1/2" - 1" 9 FT.
 1-1/2" - 2-1/2" 10 FT.
 3" - 4" 12 FT.
 5" - 6" 16 FT.
 F. CEILING GRID SYSTEMS SHALL NOT BE SUPPORTED FROM OR USED TO SUPPORT PLUMBING LINES. EACH UTILITY AND THE CEILING GRID SYSTEM SHALL BE A SEPARATE INSTALLATION AND EACH SHALL BE INDEPENDENTLY SUPPORTED FROM THE BUILDING STRUCTURE. WHERE INTERFERENCE OCCUR, IN ORDER TO SUPPORT PIPING, CONDUIT, CEILING GRID SYSTEM, TRAPEZE TYPE HANGERS OR SUPPORTS WILL HAVE TO BE EMPLOYED AND SHALL NOT BE LOCATED WHERE THEY INTERFERE WITH ACCESS PANELS, VALVES AND OTHER MECHANICAL EQUIPMENT ITEMS.

RTU EQUIP. SCHEDULE (LANDLORD FURNISHED AND INSTALLED. LANDLORD WORK IS UNDER SEPARATE PERMIT)																										
MARK NO.	NOMINAL COOLING CAP. (TONS)	MANUF.	MODEL	ORIENTATION	SUPPLY AIR			OUTSIDE AIR			COOLING DESIGN CONDITIONS					COOLING		HEATING			UNIT ELECTRICAL		NET INSTALLED		REMARKS	
					FLOW (CFM)	ESP (IN WC)	W.K. FLOW (CFM)	DB (°F)	WB (°F)	DB (°F)	WB (°F)	L.A.T. (°F)	L.A.T. (°F)	L.A.T. (°F)	L.A.T. (°F)	TOTAL CAP. (MBTUH)	SENSIBLE CAP. (MBTUH)	EFFICIENCY (SEER)	PLV	TYPE	CAPACITY (BTU/H)	EFFICIENCY (THERMAL)	TEMP. RISE (°F)	VOLTAGE		MCA
RTU-1B	10	GARRER	48TCE012	DOWNFLOW	2.67	4.000	0.5	400	95.0	76.9	64.6	57.77	58.92	124.5	83.8	11.0	-	GAS	224	183.7	80%	46.5	208-340	68.2	80	1400
RTU-1B	12.5	GARRER	48TCE014	DOWNFLOW	4.31	5.000	0.75	500	95.0	77.5	66.3	59.1	57.43	113.2	88.49	10.8	-	GAS	224	183.7	80%	46.5	208-340	68.2	80	1400
RTU-1B	12.5	GARRER	48TCE014	DOWNFLOW	4.31	5.000	0.5	500	95.0	78.8	67.7	59.88	58.42	113.2	88.49	10.8	-	GAS	224	183.7	80%	46.5	208-340	68.2	80	1400
RTU-1B	12.5	GARRER	48TCE014	DOWNFLOW	4.31	5.000	0.5	500	95.0	77.0	66.8	59.04	57.38	112	81.1	10.8	-	GAS	224	183.7	80%	46.6	208-340	68.2	80	1400
RTU-1B	12.5	GARRER	48TCE014	DOWNFLOW	4.31	5.000	0.5	500	95.0	78.1	67.3	58.38	57.41	258.8	172.8	10.8	-	GAS	224	183.7	80%	37.3	208-340	68.2	80	1400
RTU-1B	12.5	GARRER	48TCE014	DOWNFLOW	4.31	5.000	0.5	500	95.0	78.1	67.3	58.38	57.41	258.8	172.8	10.8	-	GAS	224	183.7	80%	37.3	208-340	68.2	80	1400
RTU-1B	12.5	GARRER	48TCE014	DOWNFLOW	4.31	5.000	0.5	500	95.0	78.1	67.3	58.38	57.38	210.8	150.6	10.8	-	GAS	224	183.7	80%	37.3	208-340	68.2	80	1400
RTU-1B	12.5	GARRER	48TCE014	DOWNFLOW	4.31	5.000	0.5	500	95.0	78.1	67.3	58.38	57.38	210.8	150.6	10.8	-	GAS	224	183.7	80%	37.3	208-340	68.2	80	1400

NOTES:
 1. LANDLORD MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL A SINGLE PACKAGED UNITARY ROOF MOUNTED HVAC UNITS UNDER THE FOLLOWING ACCESSORIES:
 1. ECONOMIZER WITH DRY BULB CONTROL.
 2. BAROMETRIC RELIEF.
 3. SMOKE DETECTOR INSTALLED IN RETURN AIR SECTION OF UNIT (BY E.C. COMPATIBLE WITH LANDLORD'S FIRE ALARM SYSTEM).
 4. NON FUSED DISCONNECT WITH/OUT THE BASE ELECTRICAL CONNECTIONS.
 5. NON POWERED RECEPTACLE.
 6. 1/4" HIGH ROOF CURB. (CURB ADAPTORS ARE NOT ALLOWED).
 7. 1 YEAR TOTAL UNIT LABOR AND PARTS WARRANTY.
 8. 5 YEAR COMPRESSOR WARRANTY.
 9. ONE (1) SET OF FILTERS.
 10. CHECK OUT AND START UP OF UNITS AFTER TENANT COMPLETES UTILITY (ELECTRIC AND GAS) AND THERMOSTAT CONNECTIONS.
 11. STRUCTURAL SUPPORT OF UNIT.
 12. FULL SIZE DUCT DROP OF UNITS TO 12" BELOW THE ROOF.
 13. 7-DAY AUTO-CHANGEOVER PROGRAMMABLE THERMOSTAT.
 LANDLORD MECHANICAL CONTRACTOR IS RESPONSIBLE TO COMPLETELY INSTALL THE LISTED ACCESSORIES PER MANUFACTURER'S RECOMMENDATIONS, INCLUDING ALL ELECTRICAL AND ACCESSORY CONTROL CONNECTIONS FOR ACCESSORIES.

TENANT IMPROVEMENT CONTRACTOR SCOPE OF WORK
 TENANT IMPROVEMENT CONTRACTOR IS RESPONSIBLE TO COMPLETELY INSTALL THE CO2 SENSOR AND THERMOSTATS AS SHOWN ON THESE DRAWINGS.
 TENANT IMPROVEMENT CONTRACTOR FURNISHED AND INSTALLED ACCESSORIES:
 1. WALL MOUNTED CO2 SENSOR (DEMAND CONTROL VENTILATION).
 2. THREE SETS STANDARD 2" AIR FILTERS - CONTRACTOR TO REPLACE FILTERS JUST PRIOR TO AIR BALANCE AND ONCE AGAIN AFTER FINAL STORE CLEANING IS COMPLETE.
 3. INITIAL START UP OF UNIT.
 4. THE TENANT MECHANICAL CONTRACTOR SHALL DO THE FINAL AIR BALANCE OF THE UNIT.
 5. THE TENANT MECHANICAL CONTRACTOR TO FURNISH AND INSTALL FIELD SUPPLIED DRIVES AS REQUIRED FOR FINAL AIR BALANCE TO MEET ACTUAL FIELD CONDITIONS.
 AT THE START OF THE TENANT IMPROVEMENT WORK, THE TENANT HVAC CONTRACTOR IS RESPONSIBLE FOR CONFIRMING THE LANDLORD CONTRACTOR HAS INSTALLED ALL OF THE LANDLORD PROVIDED ACCESSORIES PER MANUFACTURER'S RECOMMENDATIONS. IF THIS HAVE NOT BEEN INSTALLED OR IF THERE ARE OTHER DEFICIENCIES IN THE INSTALLATION, THE TENANT CONTRACTOR IS REQUIRED TO REPORT THESE TO THE TENANT'S PROJECT MANAGER/REPRESENTATIVE.

FAN SCHEDULE														
FAN	LOCATION	FUNCTION	COOL MODEL NUMBER	C.F.M.	TOTAL E.S.P. W.G.	MOTOR H.P./ WATTS	VOLT/ PHASE	ACCESSORIES					WEIGHT LBS.	REMARKS
								IRISEEEN	CONVERTED	ELECT. CONTROL	ADJUST. V-CURT	DIRECT DRIVE		
EP-1	ROOF	TOILET EXHAUST	ACEB-100C2B	375	0.50	1/8 HP	120/1	●	●	●	●	●	40	(1) (2) (3)
EP-2	ROOF	TOILET EXHAUST	ACEB-100C2B	450	0.50	5/8 HP	120/1	●	●	●	●	●	40	(1) (2) (3)

REMARKS
 (1) ALTERNATE MANUFACTURERS PENN, TWIN CITY, OR GREENECK.
 (2) FAN TO BE CONTROLLED BY THERMOSTAT. SEE TEMPERATURE CONTROL SPECIFICATIONS FOR ADDITIONAL INFORMATION.
 (3) FAN TO OPERATE WITH LIGHTS. REFER TO ELECTRICAL PLANS FOR FURTHER INFORMATION.
 (4) FAN TO OPERATE WITH VIBRATION ISOLATORS, FLEXIBLE DUCT CONNECTIONS AND SUPPORTS TO HANG FROM STRUCTURE.
 (5) FAN TO OPERATE CONTINUOUSLY DURING OCCUPIED HOURS. FAN IS CONTROLLED BY 24V PROGRAMMABLE TIME CLOCK.
 (6) FURNISH WITH ROOF CURB.
 (7) FURNISH WITH HANGING VIBRATION ISOLATORS, FLEXIBLE DUCT CONNECTIONS & SUPPORTS TO HANG FROM STRUCTURE.

AIR DISTRIBUTION DEVICES											
SYMBOL	CATALOG NUMBER	MOD.	NECK	CELLS	OTHER	MATERIAL		FINISH	DPR.	BORDER STYLE	REMARKS
						STEEL	ALUM.				
SD-1	TMS-AA	24"X24"	SEE PLAN	●		●	●	A	B	C	
SD-2	SD-L	12"X6"			●	●	●	A	F		
SD-3	SD-L	12"X4"			●	●	●	A	F		
SD-4	300-FS	18"X8"	18"X8"	●		●	●	A	A	A	
ER-1	350-RL	24"X24"	22"X22"	●		●	●	A	B	A	
ER-1	350-RL	12"X12"	10"X10"	●		●	●	A	B	A	
TG-1	350-RL	12"X12"	12"X10"		WALL	●	●	A	-	A	
TG-2	350-RL	18"X12"	18"X10"		WALL	●	●	A	-	A	
TG-3	350-RL	24"X14"	24"X12"		WALL	●	●	A	-	A	

NOTES:
 1. SYMBOL KEY -
 FIRST LETTER - S SUPPLY R RETURN E EXHAUST
 SECOND LETTER - D DIFFUSER R REGISTER G GRILLE
 2. CATALOG NUMBERS REFER TO TITUS AIR DEVICES:
 "R" ROUND BLADE BALANCE DAMPER IN BRANCHED DUCT
 "C" ROUND OPPOSED BLADE DAMPER IN NECK TITUS 40-75
 "F" ROUND REGULATOR, DPM MODEL, 9-5020-CC-1070-275
 "V" FINE DAMPER IN NECK
 "S" ROUND BLADE DAMPER IN NECK
 3. PROVIDE DIRECTIONAL BLOW FOR AIRFLOW OTHER THAN 4-WAY. SEE DETAIL ON SHEET "H"
 4. FINISH:
 "A" - WHITE
 "B" - WHITE G.G. TO FIELD PAINT
 "C" - MATCH CEILING OR WALL WITH ENAMEL FINISH
 "D" - FLAT BLACK
 "E" - 60% ALUMINUM
 5. DAMPERS SHALL BE OPERABLE FROM FACE
 "R" OPPOSED BLADE DAMPER IN BRANCHED DUCT
 "C" ROUND OPPOSED BLADE DAMPER IN NECK TITUS 40-75
 "F" ROUND REGULATOR, DPM MODEL, 9-5020-CC-1070-275
 "V" FINE DAMPER IN NECK
 "S" ROUND BLADE DAMPER IN NECK
 6. BORDER STYLE:
 "A" LAY-IN PROVIDE WITH TITUS MODEL 47FM FRAME FOR DRIVING CEILING MOUNTING. SEE DETAIL ON SHEET "H"
 "B" LAY-IN FRAME FOR T-848 CEILING. SEE DETAIL ON SHEET "H"
 "C" BORDER TYPE "E"

DRAWING INDEX

NUMBER	SHEET TITLE
M1.0	MECHANICAL SCHEDULES LEGEND/SPEC
M2.0	MECHANICAL FLOOR PLAN
M3.0	MECHANICAL DETAILS

LEGEND AND SYMBOLS

	SUPPLY DIFFUSER 4 WAY THRU		EQUIPMENT DESIGNATION
	SUPPLY DIFFUSER 3 WAY THRU		FIRE DAMPER - FD
	SUPPLY DIFFUSER 2 WAY THRU		COMBINATION FIRE/SMOKE DAMPER - CFSD
	RETURN GRILLE		MOTOR OPERATED DAMPER - MOD
	EXHAUST GRILLE		ZONE DAMPER - ZD
	ACCESS DOOR/PANEL		AUTOMATIC BACKDRAFT DAMPER - ABD
	BALANCE DAMPER		FLEXIBLE DUCT
	SPIN IN FITTING		ROUND DUCT - UP
	ECCENTRIC DUCT TRANSITION		ROUND DUCT - DOWN
	CONCENTRIC DUCT TRANSITION		TEMPERATURE SENSOR
	SUPPLY DUCT - UP		THERMOSTAT
	SUPPLY DUCT - DOWN		DUCT MTD - SMOKE DETECTOR
	RETURN OR EXH. DUCT - UP		UNDERCUT DOOR
	RETURN OR EXH. DUCT - DOWN		RELOCATED
	ELBOW WITH TURNING VANES		EXISTING TO REMAIN
			EXISTING TO BE REMOVED

ABBREVIATIONS

ABC	AMERICAN AIR BALANCE COUNCIL	ID	INSIDE DIAMETER
AC	AIR CONDITIONING UNIT	IN	INCH
ABV	ABOVE	IP	INCH POUND
AD	ACCESS DOOR	KW	KILOWATT
AFD	APPROVED FIRE DAMPER	L	LONG
AF	ABOVE FINISH FLOOR	LB	POUND
AHJ	AIR HANDLING UNIT	LF	LINEAR FEET
AP	ACCESS PANEL	MAX	MAXIMUM
ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR CONDITIONING ENGINEERS	M&H	THOUSAND BTU PER HOUR
BDD	BACK DRAFT DAMPERS	MCA	MINIMUM CIRCUIT AMPACITY
BEL	BELOW	MCD	MECHANICAL
BHP	BRAKE HORSEPOWER	MFR	MANUFACTURER
BLDG	BUILDING	MOP	MAXIMUM OVER CURRENT PROTECTION
BOD	BOTTOM OF DUCT	MTD	MOUNTED
BOP	BOTTOM OF PIPE	MTR	MOTOR
BTUH	BRITISH THERMAL UNIT PER HOUR	NEBB	NATIONAL ENVIRONMENTAL BALANCING BUREAU
CAP	CAPACITY	N.C.A.	NORMALLY CLOSED
CD	CONDENSATE DRAIN	N.I.C.	NOT IN CONTRACT
CFM	CUBIC FEET PER MINUTE	N.O.D.	NORMALLY OPEN
CHWR	CHILLED WATER RETURN	N/A	NOT APPLICABLE
CHWS	CHILLED WATER SUPPLY	N.T.S	NOT TO SCALE
CLG	CEILING COOLING	OB	OPPOSED BLADE DAMPER
CONN	CONNECTION OR CONNECTOR	OD	OUTSIDE DIMENSION OR DIAMETER
CONT	CONTINUOUS	OPNG	OPENING
CONTR	CONTRACTOR	OSA	OUTDOOR AIR
COEF	COEFFICIENT OF PERFORMANCE	P	PUMP
CSFD	COMBINATION FIRE/SMOKE DAMPER	PD	PRESSURE DROP
CHWR	CONDENSER WATER RETURN	PLBG	PLUMBING
CWS	CONDENSER WATER SUPPLY	POC	POINT OF CONNECTION
DB	DRY BULB DECBEL	PRV	PRESSURE REDUCING VALVE
DEG	DEGREE	PSI	POUNDS PER SQUARE INCH
DET	DETAIL	RPM	REVOLUTIONS PER MINUTE
DIA	DIAMETER	RA	RETURN AIR
DIM	DIMENSION	RH	RELATIVE HUMIDITY
DISCH	DISCHARGE	RN	REVOLUTIONS PER MINUTE
DN	DOWN	SA	SUPPLY AIR
DTR	DOWN THRU ROOF	SCH	SCHEDULE
EAT	ENTERING AIR TEMPERATURE	SENS	SENSIBLE
EC	ELECTRICAL CONTRACTOR	SM&MA	SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION
EER	ENERGY EFFICIENCY RATIO	SP	STATIC PRESSURE
EF	EXHAUST FAN	SQ	SQUARE
EFF	EFFICIENCY	SS	STAINLESS STEEL
EG	EXHAUST GRILLE	TEMP	TEMPERATURE
ELEC	ELECTRIC	TSP	TOTAL STATIC PRESSURE
ELV	ELEVATION	TSTAT	THERMOSTAT
ENCL	ENCLOSURE	TYP	TYPICAL
EQUIV	EQUIVALENT	UC	UNDERCUT
ESP	EXTERNAL STATIC PRESSURE	UH	UNIT HEATER
EWC	ELECTRIC WATER COOLER	UN	UNLESS OTHERWISE NOTED
EXH	EXHAUST	UP	UP THRU ROOF
F	FAHRENHEIT	VAV	VARIABLE AIR VOLUME
FCU	FAN COIL UNIT	VENT	VENTILATION VENTILATOR
FLA	FULL LOAD AMPS	VFD	VARIABLE FREQUENCY DRIVE
FLEX	FLEXIBLE	W	WATT
FLR	FLOOR	WB	WET BULB
FFM	FEET PER MINUTE	WG	WATER GAUGE
FRS	FEET PER SECOND	WT	WEIGHT
G	GAS	HVR	HEATING VENTILATING AND AIR CONDITIONING
GAL	GALLONS	HWS	HOT WATER RETURN
GALV	GALVANIZED		HOT WATER SUPPLY
GC	GENERAL CONTRACTOR		
GPM	GALLONS PER MINUTE		
HD	HEAD		
HP	HORSEPOWER</		