

ABBREVIATIONS

(NOT ALL ABBREV. ARE NECESSARILY USED ON THIS PROJECT)

A	AMPERES	(ER)	EXISTING TO BE REMOVED	NTS	NOT TO SCALE
AAV	AUTOMATIC AIR VENT	(ERR)	EXISTING TO BE REMOVED & RELOCATED	OA	OUTSIDE AIR
AC	AIR CONDITIONING	ET	EXPANSION TANK	OA1	OUTSIDE AIR INTAKE
ACCU	AIR COOLED CONDENSING UNIT	EUH	ELECTRIC UNIT HEATER	OD	OUTSIDE DIAMETER
ACS	AUTOMATIC CONTROL SYSTEM	EWB	ENTERING WET BULB	OED	OPEN END DUCT
ACU	AIR CONDITIONING UNIT	EWT	ENTERING WATER TEMPERATURE	OV	OUTLET VELOCITY
AD	ACCESS DOOR	EXH	EXHAUST	P	PUMP
AF	AFTER FILTER	EXP	EXPANSION	PCC	PRE-COOLING COIL
AFF	ABOVE FINISHED FLOOR	EXIST	EXISTING	PD	PRESSURE DROP
AFDW	AIR FOIL DOUBLE WIDTH	F	FILTER	PF	PRE-FILTER
AFMS	AIR FLOW MONITORING STATION	*F	DEGREES FAHRENHEIT	PHC	PREHEAT COIL
AFSW	AIR FOIL SINGLE WIDTH	F&T	FLOAT AND THERMOSTATIC	PRV	PRESSURE REDUCING VALVE
AHU	AIR HANDLING UNIT	FA	FREE AREA (SQ.FT.)	PSI	POUNDS PER SQUARE INCH
AL	ALUMINUM	FC	FLEXIBLE CONNECTION	PSIA	PSI ABSOLUTE
AMCS	AUTOMATED MONITORING AND CONTROL SYSTEM	FCDW	FORWARD CURVED DOUBLE WIDTH	PSIG	PSI GAUGE
AP	ACCESS PANEL	FCSW	FORWARD CURVED SINGLE WIDTH	PVC	POLYVINYL CHLORIDE
BAD	BOTTOM ANGULAR DISCHARGE	FCU	FAN COIL UNIT	R	RISE
BD	BLOW DOWN	FD	FIRE DAMPER	RA	RETURN AIR
BF	BOOSTER FAN	FF	FINAL FILTER	RAD	RADIATION
BG	BOTTOM GRILLE	FG	FINISHED GRADE	RCC	RECOOLING COIL
BFP	BOILER FEED PUMP	FIN FL	FINISHED FLOOR	(RE)	RELOCATED EXISTING
BHD	BOTTOM HORIZONTAL DISCHARGE	FLA	FULL LOAD AMPERES	REFR	REFRIGERANT
BHP	BRAKE HORSEPOWER	FOP	FUEL OIL PUMP	RF	RETURN FAN
BIDW	BACKWARD INCLINE DOUBLE WIDTH	FOT	FUEL OIL TANK	RH	RELATIVE HUMIDITY
BISW	BACKWARD INCLINE SINGLE WIDTH	FPI	FINS PER INCH	RHC	REHEAT COIL
BMS	BUILDING MANAGEMENT SYSTEM	FPM	FEET PER MINUTE	RHWP	REHEAT WATER PUMP
BR	BOTTOM REGISTER	FPS	FEET PER SECOND	RLA	RUNNING LOAD AMPS
BT	BOTTOM THROAT	FR	FLOOR REGISTER	RM	ROOM
BTU	BRITISH THERMAL UNIT	FT	FEET	ROT	ROTATION
BTUH	BTU PER HOUR	FTR	FINNED TUBE RADIATION	RPM	REVOLUTIONS PER MINUTE
°C	DEGREES CENTIGRADE (CELSIUS)	FV	FACE VELOCITY	(RR0)	EXISTING TO BE REMOVED AND RETURN TO OWNER
C	CONVERTOR	FX	FLUME HOOD EXHAUST	SA	SUPPLY AIR
CAC	CONTROL AIR COMPRESSOR	G	GAUGE	SAU	SOUND ATTENUATION UNIT
CC	COOLING COIL	GAL	GALLON	SD	SMOKE DAMPER
CCP	CENTRAL CONTROL PANEL	GLY	GLYCOL FEED	SCHWP	SECONDARY CHILLED WATER PUMP
CCW	COUNTER CLOCKWISE	GPH	GALLONS PER HOUR	SF	SUPPLY FAN
CD	CEILING DIFFUSER	GPM	GALLONS PER MINUTE	SHWP	SECONDARY HOT WATER PUMP
CFFC	CAP FOR FUTURE CONNECTION	GX	GENERAL EXHAUST	SMK. CTL.	SMOKE CONTROL OPERATION
CFM	CUBIC FEET PER MINUTE	H	HUMIDIFIER	SMM	SNOW MELT MANIFOLD
CFP	CHEMICAL FEED PUMP	HALX	HALON EXHAUST	SLD	STRIPLINE DIFFUSER
CG	CEILING GRILLE	HC	HEATING COIL	SP	STATIC PRESSURE
CH	CHILLER	HD	HEAD	SPEC	SPECIFICATION
CHWP	CHILLED WATER PUMP	HR	HOUR	SQ.FT.	SQUARE FEET
CLG	CEILING	HRC	HEAT RECOVERY COIL	SS	STAINLESS STEEL
COD	CLEAN-OUT DOOR	HT	HEIGHT	SX	SMOKE EXHAUST
COMPR	COMPRESSOR	HTWP	HIGH TEMPERATURE WATER PUMP	T	THROAT
COND	CONDENSATE	HWP	HOT WATER PUMP	TAD	TOP ANGULAR DISCHARGE
COV	CHAN OPERATED VALVE	HV	HEATING AND VENTILATING	TDH	TOTAL DYNAMIC HEAD
CPA	CONTROL POINT ADJUSTMENT	HX	HEAT EXCHANGER	TEMP	TEMPERATURE
CP	CONDENSATE PUMP	HZ	FREQUENCY	TF	TERMINAL FILTER
CR	CEILING REGISTER	IN	INCH OR INCHES	TG	TOP GRILLE
CPU	CONDENSATE PUMP UNIT	IPS	IRON PIPE SIZE	THD	TOP HORIZONTAL DISCHARGE
CT	COOLING TOWER	KW	KILOWATT	TR	TOP REGISTER
CU FT	CUBIC FEET	KX	KITCHEN RANGE HOOD EXHAUST	TRD	TRANSFER DUCT
CU IN	CUBIC INCHES	L	LENGTH	TRF	TRANSFER FAN
CUH	CABINET UNIT HEATER	LAT	LEAVING AIR TEMPERATURE	TRG	TRANSFER GRILLE
CV	CONSTANT VOLUME	LBS	POUNDS	TS	TIP SPEED
CW	CLOCKWISE	LCP	LOCAL CONTROL PANEL	TT	TOP THROAT
CWP	CONDENSER WATER PUMP	LD	LINEAR DIFFUSER	TV	TURNING VANES
D	DROP	LDB	LEAVING DRY BULB TEMPERATURE	TYP	TYPICAL
DB	DRY BULB	LF, LIN.FT.	LINEAR FEET	TX	TOILET EXHAUST
DBD	DOWN BLAST DISCHARGE	LR	LINEAR RETURN	UBD	UPBLAST DISCHARGE
DF	DUCT FURNACE UNIT	LRA	LOCKED ROTOR AMPS	UON	UNLESS OTHERWISE NOTED
DFWP	DEARATOR FEED WATER PUMP	LV	LOW VELOCITY	UH	UNIT HEATER
DG	DIESEL GENERATOR	LWB	LEAVING WET BULB TEMPERATURE	V	VOLTS
DX	DIRECT EXPANSION	LWT	LEAVING WATER TEMPERATURE	VA	VENTILATION AIR
DHW	DOMESTIC HOT WATER	MAV	MANUAL AIR VENT	VAV	VARIABLE AIR VOLUME UNIT
DIAM	DIAMETER	MAX	MAXIMUM	VFD	VARIABLE FREQUENCY DRIVE
DMPR	DAMPER	MB	MIXING BOX	VAC	VACUUM
DOP	DIESEL OIL PUMP	MBH	THOUSAND BTU PER HOUR	VF	VENTILATION FAN
DN	DOWN	MCC	MOTOR CONTROL CENTER	VIV	VARIABLE INLET VANES
DWG	DRAWING	MER	MECHANICAL EQUIPMENT ROOM	VP	VACUUM PUMP
(E)	EXISTING TO REMAIN	MHP	MOTOR HORSEPOWER	W	WIDTH
EA	EACH	MIN	MINIMUM	W/	WITH
EAT	ENTERING AIR TEMPERATURE	MM	MILLIMETER	W/O	WITHOUT
EDB	ENTERING DRY BULB TEMPERATURE	MOT	MOTOR	WB	WET BULB
EDR	EQUIVALENT DIRECT RADIATION	MOV	MOTOR OPERATED VALVE	WC	WATER COLUMN
EF	EXHAUST FAN	MX	MECHANICAL ROOM EXHAUST	WG	WATER GAUGE
EL	ELEVATION	NC	NORMALLY CLOSED	WMS	WIRE MESH SCREEN
ELEC	ELECTRIC	NIC	NOT IN CONTRACT	WP	WORKING PRESSURE
ELEV	ELEVATOR	N.O.	NORMALLY OPEN	WSP	WORKING STEAM PRESSURE
EDH	ELECTRIC DUCT HEATER	NO.	NUMBER		
EQ	EQUAL	NPSH	NET POSITIVE SUCTION HEAD		

GENERAL NOTES

- GENERAL NOTES, SYMBOL LIST AND DETAILS ARE APPLICABLE TO ALL HVAC/MECHANICAL DRAWINGS.
- DRAWINGS ARE DIAGRAMMATIC. DETERMINE LOCATIONS OF SYSTEMS AND COMPONENTS IN FIELD. RELOCATE EXISTING WORK THAT INTERFERES WITH WORK OF THIS CONTRACT.
- COORDINATE THIS WORK WITH THAT OF OTHER TRADES.
- DIMENSIONS SHOWN ON PLAN ARE HORIZONTAL. DIMENSIONS SHOWN IN ELEVATION ARE VERTICAL EXCEPT IN WAY OF STRUCTURAL STEEL. DIMENSIONS ARE MEASURED PERPENDICULAR TO FLANGE.
- NEITHER ACCURACY NOR COMPLETION OF SERVICES AND UTILITY LOCATIONS SHOWN ON DRAWINGS IS GUARANTEED. DETERMINE EXACT LOCATIONS OF EXISTING SERVICES AND UTILITIES IN FIELD, WHETHER OR NOT SHOWN ON DRAWINGS. EXERCISE CAUTION AND IDENTIFY LOCATIONS OF UNMARKED UTILITY LINES AS NECESSARY TO PERFORM WORK OF THIS SECTION.
- MANUFACTURERS MODEL NUMBERS ARE SPECIFIED SOLELY TO ESTABLISH STANDARDS OF QUALITY FOR PERFORMANCE AND MATERIALS.
- PRODUCT INSTALLATION SHALL ADHERE TO MANUFACTURERS RECOMMENDATIONS.
- PROVIDE ACCESS PANELS FOR EQUIPMENT THAT REQUIRES PERIODIC SERVICE.
- PROVIDE HANGERS, INSERTS, ANCHORS, SUPPLEMENTAL STEEL & SUPPORTS AS REQUIRED TO SUPPORT DUCTWORK, PIPING AND EQUIPMENT FROM STRUCTURE.
- SCHEDULE WORK OF THIS SECTION TO AVOID INTERFERING WITH EXISTING OPERATIONS IN THE FACILITY.
- COORDINATE ROOF PENETRATIONS WITH WORK OF OTHER SECTIONS AND WITH FLASHING REQUIREMENTS. MECHANICAL CONTRACTOR TO NOTIFY OWNER PRIOR TO STARTING WORK TO VERIFY COMPLIANCE WITH BOND AND WARRANTY OF EXISTING ROOF.
- RUN DUCTS AND PIPING CONCEALED, UNLESS OTHERWISE SPECIFIED AND CLEAR OF CEILING INSERTS.
- INSTALL THERMOSTATS 4"-6" ABOVE FINISHED FLOOR OR AS DIRECTED OTHERWISE BY ARCHITECT.
- STRUCTURAL WELDING SHALL BE CONTINUOUS 1/4" FILLET UNLESS REQUIRED OTHERWISE.
- AIR SYSTEMS REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF AIR DEVICES.
- INTERNAL AIRFLOW DIMENSIONS ARE SHOWN FOR DUCTS. INCREASE DUCT SIZE AS NECESSARY TO MAINTAIN FREE FLOW AREA INDICATED.
- USE FLAT TRANSVERSE SEAM FOR DUCTWORK WHERE SPACE AVAILABLE DICTATES.
- DIFFUSER SIZES SHOWN ARE NECK SIZES. REGISTERS AND GRILLE SIZES ARE NOMINAL.
- PROVIDE VOLUME DAMPERS OR OTHER APPROVED BALANCING DEVICES AT DUCT BRANCHES AND RUN OUTS. AND AT REGISTER GRILLE AND DIFFUSER NECKS IN SUPPLY, RETURN AND EXHAUST DUCTWORK WHETHER SHOWN OR NOT.
- PROVIDE 36" CLEARANCE IN FRONT OF ALL ELECTRIC CONTROL PANELS PER N.E.C. AND MFG. REQUIREMENTS.
- PROVIDE DUCT TRANSITIONS FROM VAV BOX INLET/OUTLET DUCT WORK AT SIZES INDICATED TO VAV BOX INLET/OUTLET UNIT CONNECTIONS.
- VAV DUCT INLET SIZE SHALL BE AS SCHEDULED OR AS INDICATED ON THE FLOOR PLANS. PROVIDE TRANSITION FROM DUCT SIZE INDICATED ON THE FLOOR PLANS TO SCHEDULED SIZE MINIMUM 2"-0" FROM VAV BOX INLETS.

PIPING SYSTEMS

- PITCH PIPING 1" IN 20' IN DIRECTION OF FLOW.

DEMOLITION NOTES

- GENERAL
 - THIS CONTRACTOR SHALL VISIT THE SITE AND ADJOINING AREAS AND EXAMINE THE EXISTING CONDITIONS TO BECOME FAMILIAR WITH THEM AND TO DETERMINE THE DIFFICULTIES WHICH WILL AFFECT THE EXECUTION OF THE WORK OF THIS CONTRACT. THIS CONTRACTOR SHALL PERFORM THIS PRIOR TO THE SUBMISSION OF HIS PROPOSAL. SUBMISSION OF A PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT SUCH AN EXAMINATION HAS BEEN MADE AND LATER CLAIMS WILL NOT BE RECOGNIZED FOR EXTRA LABOR, EQUIPMENT OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED WHICH COULD HAVE BEEN FORESEEN HAD SUCH AN EXAMINATION BEEN MADE.
 - THE DEMOLITION WORK SHALL INCLUDE, PROVIDING ALL MATERIALS, ALL NECESSARY EXTENSIONS, CONNECTIONS, CUTTING, REPAIRING, ADAPTING AND OTHER MECHANICAL WORK REQUIRED, TOGETHER WITH ANY REQUIRED TEMPORARY CONNECTIONS TO MAINTAIN SERVICE PENDING THE COMPLETION OF THE PERMANENT WORK. NOTES AND GRAPHIC REPRESENTATION SHALL NOT LIMIT THE EXTENT OF DEMOLITION REQUIRED. EXTENT OF DEMOLITION WORK SHALL BE COORDINATED WITH THE ARCHITECT AND BUILDING MANAGEMENT.
 - REFER TO ARCHITECTS PLANS FOR AREA OF WORK.
- SCOPE OF WORK
 - EXISTING WORK INTERFERING WITH NEW.
 - ALL EXISTING WORK REQUIRED TO REMAIN BUT INTERFERING WITH PROPOSED NEW MECHANICAL (AS WELL AS ELECTRICAL AND GENERAL CONSTRUCTION WORK) SHALL BE RELOCATED AND RECONNECTED USING MATERIALS CONFORMING TO STANDARDS OF THIS CONTRACT.
 - REMOVAL OF MECHANICAL EQUIPMENT DUCTWORK AND PIPING.
 - REMOVE EXISTING AIR AND WATER COOLED, CEILING AND FLOOR MOUNTED AIR CONDITIONING UNITS AND OUTDOOR HEAT REJECTION DEVICES WITH ALL ASSOCIATED DUCTWORK, TERMINAL BOXES, DIFFUSERS, GRILLES, HANGERS AND ACCESSORIES.
 - REMOVE EXHAUST, RETURN AND TRANSFER FANS AND ASSOCIATED DUCTWORK.
 - REMOVE PIPING, VALVING AND HANGERS ASSOCIATED WITH PIPING TO BE REMOVED BACK TO MAINS. IDENTIFY ALL PIPING BY SERVICE TYPE AND CAP AT MAINS.
 - REMOVE PUMPS, VALVES AND ASSOCIATED ACCESSORIES.
 - REMOVE ALL STARTERS, DISCONNECT SWITCHES, MOTORS, CONTROL (BOTH TEMPERATURE AND SYSTEM CONTROL) BACK TO MAIN PANELS AND CAP AT PANEL. COORDINATE WITH ELECTRICAL CONTRACTOR BEFORE REMOVAL OF ANY ELECTRICAL POWERED EQUIPMENT. ELECTRICAL CONTRACTOR IS TO DISCONNECT ALL POWER TO SUCH EQUIPMENT.
 - REMOVAL OF DUCTWORK AND ACCESSORIES
 - REMOVE SUPPLY AIR, RETURN AIR AND EXHAUST AIR DUCTWORK WITH ALL ASSOCIATED DIFFUSERS, TERMINAL BOXES, CONTROLS, COLLARS, DAMPERS, RETURN/EXHAUST GRILLES AND CONTROLS. BACK TO THE EXISTING SUPPLY AND RETURN AIR SHAFTS, OR AS NOTED ON DRAWINGS.
 - CONTRACTOR TO CONTACT BUILDING OWNER REGARDING DUCTWORK REMOVAL SCOPE OF WORK TO ENSURE THAT OTHER DEPARTMENTS THAT ARE TO STAY OPERATIONAL ARE NOT AFFECTED BY REMOVALS OF THE BASE BUILDING DUCTWORK.
 - ALL EXISTING BUILDING FIRE DAMPERS, FIRE/SMOKE DAMPERS, DUCT MOUNTED SMOKE DETECTORS AT SUPPLY AND RETURN AIR SHAFTS TO REMAIN.
 - PERIMETER SERVICES
 - REMOVE PERIMETER HEATING ELEMENTS, AS NOTED. REMOVE PIPING, FITTINGS, VALVES, DUCTS AND INSULATION FOR ALL EQUIPMENT TO BE REMOVED BACK TO MAIN AND CAP. PATCH AND CAP EXISTING AS REQUIRED FOR CONTINUED OPERATION.
 - CONTRACTOR TO REPLACE/ PATCH WALLS AND FLOORS TO MATCH EXISTING.
 - PROVIDE ADDITIONAL SUPPORT FOR ALL EXISTING DUCTS AND PIPING TO REMAIN WHICH ARE AFFECTED BY DEMOLITION OF EXISTING CEILING AND PARTITIONS.
 - EQUIPMENT REQUIRED TO BE TURNED OVER TO THE OWNER SHALL BE PLACED IN A MUTUALLY ACCEPTABLE LOCATION. ALL MATERIALS AND EQUIPMENT REMOVED AS A RESULT OF DEMOLITION SHALL BE TAKEN FROM THE SITE AND DISPOSED OF IN ACCORDANCE WITH APPLICABLE LAWS AND ENVIRONMENTAL REGULATIONS.
 - CONTRACTOR SHALL IDENTIFY ALL EXISTING WORK TO REMAIN BY ACCEPTABLE IDENTIFICATION MEANS TO CONFIRM PROPER SCOPE PRIOR TO COMMENCEMENT OF DEMOLITION.

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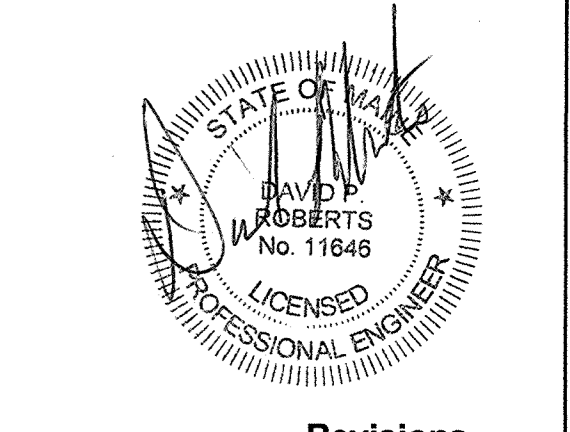
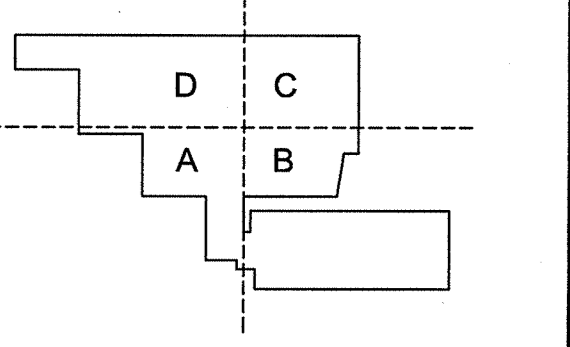
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CONSTRUCTION DOCUMENTS



Revisions

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MECHANICAL ABBREVIATIONS & GENERAL NOTES

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