

HVAC DEMOLITION NOTES

- ALL WORK SHALL CONFORM TO THE STATE OF MASSACHUSETTS BUILDING CODES AND ALL OTHER APPLICABLE CODES AND REGULATIONS.
- THE DRAWINGS DEPICT ONLY GENERALLY THE EXISTING CONDITIONS. THE CONTRACTOR SHALL MAKE FIELD OBSERVATIONS AND CONFIRM WALL LOCATIONS, DUCTWORK, PIPING AND OTHER UTILITIES ABOVE EXISTING CEILINGS.
- ALL CONFLICTS AND ITEMS FOR CLARIFICATIONS SHALL BE BROUGHT TO THE ENGINEER/ARCHITECT'S ATTENTION PRIOR TO WORK IN THE AREA.
- THE CONTRACTOR IS RESPONSIBLE TO FOLLOW BUILDING MANAGEMENT RULES WITH REGARDS TO TRASH, ELEVATORS, NOISE, SPRINKLERS AND FIRE ALARM.
- THE CONTRACTOR SHALL MAINTAIN IN OPERATION ALL EXISTING UTILITIES DURING CONSTRUCTION.
- ITEMS IDENTIFIED TO BE SALVAGED SHALL BE STOCKPILED IN AN AREA FOR REMOVAL BY THE OWNER. ALL OTHER ITEMS TO BE REMOVED SHALL BE DISPOSED OF LEGALLY OFF SITE. ALL ITEMS BEING REMOVED AND NOT REUSED SHALL BE DISPOSED OF AS DIRECTED BY THE OWNER.
- CAPPING OF ALL SERVICES SHALL BE PERFORMED TO LEAVE EXISTING SERVICES TO OTHER AREAS INTACT AND FUNCTIONAL.
- ALL DEMOLITION WORK WILL BE SCHEDULED WITH BUILDING MANAGEMENT AND PERFORMED ONLY FOLLOWING APPROVAL.
- THE CONTRACTOR SHALL INFORM BUILDING MANAGEMENT AND RECEIVE SCHEDULE APPROVAL FOR ANY REQUIRED UTILITY SHUTDOWN.
- WHERE EQUIPMENT IS SHOWN TO BE REMOVED, THE EQUIPMENT SHALL BE DELIVERED TO BUILDING MANAGEMENT FOR STORAGE OR PROPERLY DISPOSED OF AS DIRECTED BY BUILDING MANAGEMENT.
- WHERE EQUIPMENT IS SHOWN OR NOTED AS BEING REMOVED & REPLACED AFTER WALL/CEILING STRUCTURAL OR ARCHITECTURAL WORK IS PERFORMED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER, SAFE STORAGE OF SUCH EQUIPMENT.
- ANY DUCTWORK SHOWN TO BE REMOVED SHALL INCLUDE REMOVE OF ALL ASSOCIATED DUCTWORK, FLEXIBLE CONNECTIONS, DIFFUSERS, HANGERS, INSULATION, ETC.
- ANY PIPING SHOWN TO BE REMOVED WILL BE REMOVED TO THE POINT INDICATED ON THE DRAWING OR TO THE ACTIVE MAIN AND VALVED AND CAPPED. PIPING REMOVAL SHALL INCLUDE ALL HANGERS, VALVES, INSULATION, ETC.
- EXISTING DUCTWORK SHALL BE CAPPED AND SEALED AIR TIGHT, EXCEPT WHERE UTILIZED FOR NEW BRANCH DUCTWORK.
- THERMOSTATS ARE TO BE RELOCATED AS SHOWN ON NEW WORK DRAWING.
- REMOVE AND CLEAN ALL SUPPLY, RETURN & EXHAUST DIFFUSERS & GRILLES. RE-INSTALL OR SAVE FOR RELOCATION AS SHOWN ON NEW WORK PLAN.
- ALL DIFFUSERS TO BE TIED TO UNDERSIDE OF STRUCTURE TO FACILITATE REMOVAL OF EXISTING CEILING AND MAINTAIN DIFFUSER CONNECTION TO DUCTWORK WHERE APPLICABLE. DIFFUSERS SHALL BE REPLACED INTO NEW CEILING GRID AS SHOWN ON NEW WORK DRAWING. ADDITIONAL LENGTH OF FLEX MAY BE REQUIRED FOR DIFFUSERS.
- CONTRACTOR SHOULD SURVEY EXISTING CONDITIONS AND INFORM ENGINEER OF ANY DEVIATIONS PRIOR TO CONSTRUCTION.

HVAC GENERAL NOTES

- THE HEATING, VENTILATING AND AIR CONDITIONING (HVAC) CONTRACTOR SHALL VISIT THE SITE TO DETERMINE ALL PRE-EXISTING CONDITIONS AND WORK NECESSARY PRIOR TO SUBMISSION OF BID PRICE.
- THE HVAC CONTRACTOR SHALL BE FAMILIAR WITH ALL CONTRACT DOCUMENTS FOR ALL TRADES AND COORDINATE WITH OTHER CONTRACTORS.
- DRAWINGS ARE DIAGRAMMATIC ONLY; FINAL ROUTINGS OF DUCTWORK, PIPING AND EQUIPMENT LOCATIONS SHALL BE DETERMINED IN THE FIELD. PROVIDE ALL ADDITIONAL OFFSETS, ELBOWS, ETC. AT NO ADDITIONAL COST TO THE OWNER.
- CONSTRUCT AND INSTALL ALL DUCTWORK IN ACCORDANCE WITH THE LATEST EDITION OF SMACNA STANDARDS.
- PROVIDE VOLUME DAMPERS AT ALL LOW PRESSURE SUPPLY, RETURN AND EXHAUST DUCTWORK BRANCH TAKE-OFFS.
- MINIMUM SIZE OF HOT WATER SUPPLY, HOT WATER RETURN AND CONDENSATE DRAIN PIPING SHALL BE 3/4" UNLESS OTHERWISE NOTED.
- MINIMUM SIZE OF STEAM CONDENSATE RETURN PIPING SHALL BE 1" UNLESS OTHERWISE NOTED.
- COORDINATE ALL ELECTRICAL AND PLUMBING REQUIREMENTS WITH THE ELECTRICAL AND PLUMBING CONTRACTORS.
- INTERNALLY LINE THE SUPPLY AND RETURN DUCT MAINS FROM AIR HANDLING EQUIPMENT WITH 1" ACOUSTICAL LINING FOR A MINIMUM OF 10' FROM THE UNIT INSIDE DIMENSIONS. ALL INTERIALLY ACOUSTICAL DUCT LINING SHALL HAVE THE AIR SURFACE COATED WITH ACRYLIC COATING FORMULATED WITH IMMOBILIZED EPA REGISTERED ANTI-MICROBIAL AGENT PROVEN TO RESIST MICROBIAL GROWTH AS DETERMINED BY ASTM G21 AND G22.
- REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR FINAL LOCATIONS OF DIFFUSERS, REGISTERS AND GRILLES.
- AUTOMATIC TEMPERATURE CONTROL (ATC) CONTRACTOR: COORDINATE THERMOSTAT LOCATIONS WITH THE ARCHITECTURAL FURNITURE PLANS. INSTALL ALL SENSORS AND FINISHED SPACE CONTROLS INCLUDING THERMOSTATS 48" ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED.
- PROVIDE ALL INCIDENTAL ACCESSORIES NECESSARY TO MAKE THE HVAC WORK COMPLETE AND READY FOR OPERATION.
- PROVIDE (FURNISH AND INSTALL) ALL HVAC WORK SHALL BE IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL CODES.
- INSTALL ALL HVAC EQUIPMENT IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- DEMOLITION WORK SHALL BE DONE BY THE HVAC CONTRACTOR. THE HVAC CONTRACTOR SHALL COORDINATE ALL WORK CONCERNING EXISTING EQUIPMENT AND SYSTEMS REMAINING IN THE BUILDING. ALL UNUSED DUCTS AND PIPES AS A RESULT OF THE DEMOLITION SHALL BE CAPPED, SEALED AND INSULATED.
- THE HVAC CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE INTEGRITY, CONDITION AND LOCATION OF EXISTING DUCTWORK AND PIPING WHICH IS TO BE REUSED. IF PIPING AND DUCTWORK CANNOT BE REUSED, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER TO DETERMINE THE EXTENT OF REPLACEMENT.
- PROVIDE FIRE DAMPERS AND ACCESS PANELS AT ALL FIRE RATED ASSEMBLIES AND FLOOR PENETRATIONS. REFER TO ARCHITECTURAL DRAWINGS FOR ASSEMBLY LOCATIONS.
- PROVIDE FIRE DAMPERS AT ALL TRANSFER DUCTS IN FIRE RATED PARTITIONS.
- PROVIDE ISOLATION VALVES IN SUPPLY AND RETURN PIPING ON EACH FLOOR, AND IN BRANCH PIPING SERVING MORE THAN ONE PIECE OF EQUIPMENT.
- PROVIDE SHUTOFF VALVES IN THE SUPPLY AND RETURN PIPING TO ALL BRANCH PIPING SERVING MORE THAN ONE PIECE OF EQUIPMENT. VALVES SHALL BE ARRANGED SUCH THAT EQUIPMENT CAN BE SERVICED WITHOUT CUTTING AND MINIMAL DISRUPTION OF PIPING SERVING THE EQUIPMENT.
- FURNISH TO THE GENERAL CONTRACTOR ALL INFORMATION REQUIRED FOR SETTING OF WALL, ROOF AND PARTITION OPENINGS FOR HVAC WORK. THIS INFORMATION SHALL BE FURNISHED IN A TIMELY MANNER SUCH THAT CONSTRUCTION SCHEDULE IS NOT JEOPARDIZED.
- INFORM AND COORDINATE WITH THE OWNER ALL NECESSARY INTERRUPTIONS TO EXISTING BUILDING SYSTEMS AND SERVICE THAT MAY AFFECT THE NORMAL OPERATION OF OCCUPIED PORTIONS OF THE BUILDING. THE OWNER SHALL BE INFORMED OF ANY INTERRUPTIONS AT LEAST TWO (2) WEEKS IN ADVANCE.
- INFORM THE OWNER WELL IN ADVANCE OF ANY WORK TO BE UNDERTAKEN IN OCCUPIED AREAS OF THE BUILDING ASSOCIATED WITH THIS PROJECT. CONFORM NOISE LIMITS IN THE PORTIONS OF THE BUILDING WHICH REMAIN OCCUPIED DURING CONSTRUCTION.
- COORDINATE PHASING REQUIREMENTS FOR THE PROJECT WITH THE GENERAL CONTRACTOR.
- FIELD MEASURE THE EXACT SIZES AND VERIFY ALL OPENINGS FOR SHAFTS AND LOUVERS PRIOR TO SUBMISSION OF SHOP DRAWINGS AND INSTALLATION.
- HVAC CONTRACTOR SHALL INSTALL ALL GAS FIRED FLUE VENTING UNDER THE SUPERVISION OF A LICENSED (MASTER OR JOURNEYMAN) PLUMBER OR GAS SUPERVISING LICENSED (MASTER OR JOURNEYMAN) PLUMBER OR GAS FITTER SHALL BE RESPONSIBLE FOR SECURING THE GAS FITTING PERMIT IN COMPLIANCE WITH 248 CMR 3.00. (MASSACHUSETTS)
- MINIMAL CONTROL POWER HAS BEEN IDENTIFIED ON THE DRAWINGS. IF ANY ADDITIONAL POWER IS REQUIRED BASED ON SYSTEMS DESIGN BY THE CONTROLS CONTRACTOR THE ATC/GAS CONTRACTOR SHALL BE RESPONSIBLE TO SUPPLY THAT POWER.
- COOLING DESIGN CONDITIONS ARE 75 F, 50% RH INDOOR AT 87°F DB/71°F WB OUTDOOR.
- HEATING DESIGN CONDITIONS ARE AND 72°F INDOOR AT 8°F OUTDOOR.
- THE HVAC CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ALL MECHANICAL EQUIPMENT, DUCTWORK, PIPING, ETC. TO FIT WITHIN THE SPACE ALLOWED BY THE ARCHITECTURAL AND STRUCTURAL CONDITIONS. CUTTING OR OTHERWISE ALTERING ANY STRUCTURAL MEMBERS SHALL NOT BE PERMITTED WITHOUT WRITTEN PERMISSION FROM THE ARCHITECT.
- ANY EXISTING WALL, FLOOR OR CEILING SURFACE THAT IS DISTURBED DURING THE COURSE OF THE HVAC WORK SHALL BE REPAIRED TO MATCH NEW AND/OR EXISTING CONDITIONS.
- PROVIDE ACCESS PANELS IN NON-ACCESSIBLE CEILINGS AND IN WALL STRUCTURE OF ADEQUATE SIZE TO ALLOW FOR MAINTENANCE, BALANCING AND COMPLETE REPLACEMENT OF EQUIPMENT WITHOUT DISTURBING PERMANENT CONSTRUCTION. ACCESS PANELS IN CEILINGS AND WALLS SHALL BE PROVIDED WHERE SHOWN ON THE PLANS OR NECESSARY TO ACCESS DAMPERS, VALVES, ETC. COORDINATE EXACT LOCATION & SIZES OF ALL ACCESS PANELS WITH THE ARCHITECT DURING THE SHOP DRAWING PROCESS.

HVAC GENERAL NOTES (cont.)

- PORTIONS OF DUCTWORK AND PIPE INSULATION VISIBLE THROUGH AIR DISTRIBUTION DEVICES IN FINISHED AREAS SHALL BE PAINTED FLAT BLACK.
- ALL PIPE AND DUCT PENETRATIONS OF FIRE AND/OR SMOKE-RATED ASSEMBLIES SHALL BE FIRE-STOPPED AS REQUIRED TO RESTORE THE ASSEMBLY TO ITS ORIGINAL INTEGRITY. FIRE BARRIER PRODUCTS SHALL BE AS MANUFACTURED BY TREMCO, H.L.T.I. 3M OR APPROVED EQUAL.
- WHERE ABOVE CEILING VOLUMES ARE UTILIZED AS A RETURN AIR PLENUM, ALL MATERIALS EXPOSED WITHIN THE PLENUMS SHALL BE NON-COMBUSTIBLE OR SHALL HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE DEVELOPED INDEX OF NOT MORE THAN 50 AS DETERMINED IN ACCORDANCE WITH ASTM E84.
- THE HVAC CONTRACTOR SHALL COORDINATE ELECTRICAL CHARACTERISTICS AND REQUIREMENTS OF ALL MECHANICAL EQUIPMENT WITH ELECTRICAL DRAWINGS PRIOR TO SUBMITTING SHOP DRAWINGS OR ORDERING EQUIPMENT. EQUIPMENT SHALL BE FURNISHED WIRED FOR THE VOLTAGES SHOWN ON THE ELECTRICAL PLANS.
- ALL MECHANICAL EQUIPMENT REQUIRING ELECTRICAL POWER SHALL BE INSTALLED WITH DISCONNECT SWITCHES AT EACH PIECE OF EQUIPMENT. COORDINATE SWITCH TYPE WITH EQUIPMENT CHARACTERISTICS, MANUFACTURER'S RECOMMENDATIONS AND THE ELECTRICAL DRAWINGS.
- ALL REQUIRED CONTROL WIRING (INCLUDING POWER WIRING REQUIRED FOR CONTROL PANELS, DEVICES, ETC.) NOT SHOWN ON THE ELECTRICAL DRAWINGS SHALL BE INCLUDED AS PART OF THE MECHANICAL WORK.
- UNLESS NOTED OTHERWISE, TRANSFORMERS, CONTROLS AND CONTROL WIRING REQUIRED FOR ALL MECHANICAL SYSTEMS SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR. MOTOR STARTERS FOR HVAC EQUIPMENT SHALL BE FURNISHED WITH THE MOTOR OR APPARATUS WHICH IT OPERATES. MOTOR STARTER INSTALLATION SHALL BE BY THE ELECTRICAL CONTRACTOR.
- ALL EVAPORATORS AND COOLING COILS LOCATED ABOVE THE LOWEST LEVEL FINISHED FLOOR SHALL BE INSTALLED WITH AN AUXILIARY CONDENSATE DRAIN PAN UNDER THE UNIT. PROVIDE AN ELECTRONIC WATER LEVEL DETECTOR WIRED TO SHUTDOWN THE UNIT UPON DETECTION OF WATER IN THE AUXILIARY DRAIN PAN.
- AS AN ALTERNATE TO THE AUXILIARY CONDENSATE DRAIN PAN, AN ELECTRONIC WATER LEVEL DETECTOR WIRED TO SHUTDOWN THE UNIT UPON DETECTION OF WATER MAY BE INSTALLED IN THE PRIMARY DRAIN LINE, THE OVERFLOW DRAIN LINE OR THE EQUIPMENT-SUPPLIED DRAIN PAN. THE WATER LEVEL DETECTOR SHALL BE LOCATED AT A POINT HIGHER THAN THE PRIMARY DRAIN LINE CONNECTION AND BELOW THE OVERFLOW RIM OF SUCH PAN.
- EACH SUPPLY DIFFUSER/REGISTER RUNOUT SHALL BE PROVIDED WITH A VOLUME DAMPER. REFER TO CEILING DIFFUSER BRANCH TAKE-OFF DETAIL FOR ADDITIONAL INFORMATION.
- ALL VOLUME DAMPERS LOCATED ABOVE HARD NON-ACCESSIBLE CEILINGS SHALL BE PROVIDED WITH A YOUNG REGULATOR VOLUME DAMPER FOR REMOTE BALANCING.
- RUNOUT SIZES TO DIFFUSERS/REGISTERS SHALL MATCH INLET SIZE NOTED IN THE DIFFUSER REGISTER/GRILLE SCHEDULE OR TAG UNLESS SHOWN OTHERWISE ON FLOOR PLANS.
- RUNOUT SIZES TO TERMINAL UNITS SHALL MATCH INLET SIZE UNLESS OTHERWISE NOTED OR SHOWN ON THE FLOOR PLANS.
- ALL FANS SUPPLYING MORE THAN 2,000 CFM OF AIR TO ANY SPACE SHALL BE INSTALLED WITH A SMOKE DETECTOR IN THE SUPPLY (RETURN) DUCTWORK. DUCT SMOKE DETECTORS SHALL BE INSTALLED IN THE SUPPLY (RETURN) AIR PATH OF AIR DISTRIBUTION SYSTEMS UTILIZING A COMMON SUPPLY AND/OR RETURN AIR PLENUM WITH A COMBINED DESIGN CAPACITY GREATER THAN 2,000 CFM. THE SMOKE DETECTOR SHALL BE WIRED TO STOP THE FAN UPON DETECTION OF SMOKE, AND SIGNAL THE BUILDING FIRE ALARM CONTROL PANEL. THE SMOKE DETECTOR SHALL BE FURNISHED BY ELECTRICAL CONTRACTOR, MOUNTED IN THE DUCT BY MECHANICAL CONTRACTOR AND WIRED BY THE ELECTRICAL CONTRACTOR.
- LOCATIONS OF LOUVERS SHOWN ON THE PLANS ARE APPROXIMATE. REFER TO ARCHITECTURAL ELEVATIONS FOR EXACT LOCATION.
FLEXIBLE DUCT LENGTH SHALL NOT EXCEED 6'-0" IN LENGTH. FLEXIBLE DUCTWORK SHALL BE INSTALLED AS STRAIGHT AS POSSIBLE AND SHALL BE ROUTED AND SUPPORTED WITHOUT FORMING CRIMPS OR OTHER AIR FLOW RESTRICTIONS. PROVIDE SQUARE TO ROUND ADAPTERS OR BOOTS TO CONNECT TO AIR DEVICES NECK WHEN REQUIRED.
- GAS FLUE TYPES (U.L. LISTED):
- FOR ALL CATEGORY I AND DRAFT HOOD EQUIPPED APPLIANCES: TYPE 'B' DOUBLE WALL FLUE.
- FOR ALL CATEGORY II, III & IV APPLIANCES: SCHEBLER, MODEL 'E'-VENT OR APPROVED EQUAL.

HVAC LEGEND

PIPING SYSTEMS

— BFW —	BOILER FEED WATER
— CHWS —	CHILLED WATER SUPPLY
— CHWR —	CHILLED WATER RETURN
— CWR —	CITY WATER MAKEUP
— CA —	COMPRESSED AIR
— CD —	CONDENSATION DRAIN
→	DIRECTION OF PITCH
→	DIRECTION OF FLOW
— F —	FILL
— G —	GAS
— GS —	GLYCOL SUPPLY
— GR —	GLYCOL RETURN
— HWS —	HOT WATER SUPPLY
— HWR —	HOT WATER RETURN
— LSS —	LOW PRESSURE STEAM SUPPLY
— LSC —	LOW PRESSURE STEAM CONDENSATE
— MSS —	MEDIUM PRESSURE STEAM SUPPLY
— MSC —	MEDIUM PRESSURE STEAM CONDENSATE
— PC —	PUMPED CONDENSATE
— RL —	REFRIGERANT/STEAM CONDENSATE
— RS —	REFRIGERANT SUCTION
— RHG —	REFRIGERANT HOT GAS
— V —	VENT

PIPING SPECIALTIES

— G —	GATE VALVE
— C —	CHECK VALVE
— T —	TRIPLE DUTY VALVE
— G —	GLOBE VALVE
— B —	BALL VALVE
— B —	BALANCING VALVE
— R —	PRESSURE REDUCING VALVE
— B —	BUTTERFLY VALVE
— A —	ANGLE VALVE
— S —	3 WAY CONTROL VALVE
— R —	RELIEF VALVE
— L —	WEIGHTED LEVER VALVE
— A —	AIR VENT
— S —	STRAINER
— F —	FLOAT & THERMOSTATIC TRAP
— B —	INVERTED BUCKET TRAP
— T —	TEE-TURNED DOWN
— T —	TEE-TURNED UP
— A —	PIPE ANCHOR
— G —	PIPE GUIDE
— F —	FLEXIBLE PIPE CONNECTION
— R —	REDUCER
— C —	PIPE CAP
— U —	UNION
— C —	COMPANION FLANGE
— F —	BLIND FLANGE
— M —	FLOW MEASURING STATION
— V —	FLOW VENTURI
— T —	THERMOMETER
— G —	GAUGES (PRESSURE)
— V —	2 WAY CONTROL VALVE

DUCTWORK SPECIALTIES

14 x 6	RECTANGULAR DUCT
24 x 12	FLAT OVAL DUCT
120	ROUND DUCT
24 120	DUCT SECTION - SUPPLY
24 12	DUCT SECTION - RETURN
120	ROUND DUCT WITH SIZE
48 12	FLAT OVAL DUCT WITH SIZE
120	DUCT TURNING UP
120	DUCT TURNING DOWN
120	VOLUME EXTRACTOR
120	SPLITTER DAMPER
120	DUCT DROP IN RESPECT TO AIR FLOW
120	DUCT RISE IN RESPECT TO AIR FLOW
120	FLEXIBLE DUCT CONNECTION
120	DIFFUSER
120	RETURN/EXHAUST OUTLET
120	DIFFUSER WITH FLEX DUCT
120	RETURN/EXHAUST OUTLET
120	RETURN GRILLE RG-1
120	ACOUSTICAL DUCT LINING
120	SOUND ATTENUATOR
120	NEW DUCTWORK
120	FUTURE DUCTWORK
120	EXISTING DUCT TO REMAIN
120	EXISTING DUCT TO BE REMOVED
120	FIRE DAMPER
120	FIRE DAMPER/SMOKE DAMPER
120	VOLUME DAMPER
120	MOTORIZED DAMPER
120	TRANSFER DUCT

MISCELLANEOUS

T	THERMOSTAT (TEMPERATURE SENSOR)
TE	THERMOSTAT-EXISTING (TEMPERATURE SENSOR)
TR	THERMOSTAT-RELOCATED (TEMPERATURE SENSOR)
TN	THERMOSTAT-NEW (TEMPERATURE SENSOR)
H	HUMIDISTAT (HUMIDITY SENSOR)
CO2	CARBON DIOXIDE (CO2) SENSOR
CO	CARBON MONOXIDE (CO) SENSOR
●	CONNECT NEW TO EXISTING
○	LIMIT OF REMOVAL
⊕ SD	SMOKE DETECTOR
EQP #	MOTORIZED EQUIPMENT (EF, B)
EQP #	UPPER - EQUIPMENT DESIGNATION LOWER - EQUIPMENT NUMBER
FPT, MBH, GPM	MOTORIZED EQUIPMENT (FPT)
FPT, MBH, GPM	UPPER - EQUIPMENT DESIGNATION LOWER - MIN CFM or GPM
EQP #	NON-MOTORIZED EQUIPMENT (ET, AS, CV)
EQP #	UPPER - EQUIPMENT DESIGNATION LOWER - EQUIPMENT NUMBER
EQP, MBH, GPM	NON-MOTORIZED EQUIPMENT (V, EXV)
EQP, MBH, GPM	UPPER - EQUIPMENT DESIGNATION MIDDLE - MAX CFM or MBH LOWER - MIN CFM or GPM
EQP #	UPPER - DETAIL DESIGNATION LOWER - DRAWING NUMBER
←	UNDERCUT DOOR
←	LOUVERED DOOR

HVAC ABBREVIATIONS

ACD	AUTOMATIC CONTROL DAMPER
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
AP	ACCESS PANEL
ATC	AUTOMATIC TEMPERATURE CONTROL
CFM	CUBIC FEET PER MINUTE
CO	CLEAN OUT
DB	DRY BULB
DX	DIRECT EXPANSION
EAT	ENTERING AIR TEMPERATURE
EAT	EXISTING TO REMAIN
EP	ELECTRIC PNEUMATIC RELAY
EWT	ENTERING WATER TEMPERATURE
EXH	EXHAUST
FLA	FULL LOAD AMPS
FD	FIRE DAMPER
FD/SMD	COMBINATION FIRE DAMPER/SMOKE DAMPER
FBM	FEET PER MINUTE
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
HP	HORSEPOWER
LAT	LEAVING AIR TEMPERATURE
LSBHR	POUNDS PER HOUR
LPR	LOW PRESSURE STEAM CONDENSATE RETURN
LPS	LOW PRESSURE STEAM SUPPLY
LRA	LOCK ROTOR AMPS
LWT	LEAVING WATER TEMPERATURE
MAX	MAXIMUM
MBH	THOUSAND BTU PER HOUR
MD	MOTORIZED DAMPER
MIN	MINIMUM
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
OA	OUTSIDE AIR
OBD	OPPOSED BLADE DAMPER
OED	OPEN END DRAIN
PD	PRESSURE DROP
PE	PNEUMATIC ELECTRIC SWITCH
PRV	PRESSURE REDUCING VALVE
RA	RETURN AIR
RH	RELATIVE HUMIDITY
RPM	REVOLUTIONS PER MINUTE
SMD	SMOKE DAMPER
SD	SMOKE DETECTOR
SP	STATIC PRESSURE (INCHES OF WATER)
SPD	SPLITTER DAMPER
VD	VOLUME DAMPER
WB	WET BULB TEMPERATURE °F
WMS	12" x 12" GALVANIZED WIRE MESH SCREEN

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CONSULTANT INFORMATION
CIVIL ENGINEER: NITSH ENGINEERING
MECHANICAL ENGINEER: AHA CONSULTING ENGINEERS
MECHANICAL ENGINEER: LANDSCAPE DESIGN
MECHANICAL ENGINEER: BROWN, RICHARDSON, & ROWE
MECHANICAL ENGINEER: CAMPBELL-MCCABE, INC.
MECHANICAL ENGINEER: SIMPSON GUMPERTZ & HEGGER

REVISIONS		
NUMBER	DESCRIPTION	DATE

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