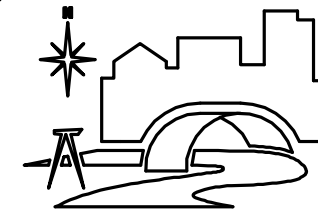


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MECHANICAL ABBREVIATIONS

A	<p>AFF ABOVE FINISHED FLOOR AP ACCESS PANEL ADJ ADJUSTABLE AC AIR CONDITIONER AFMS AIR FLOW MEASURING STATION AHU AIR HANDLING UNIT ALT ALTERNATE ALUM ALUMINUM Z ANGLE APPROX APPROXIMATELY ARR ARRANGEMENT ARCH ARCHITECTURAL/ARCHITECT AUTO AUTOMATIC</p> <p>BDD BACKDRAFT DAMPER BFP BACKFLOW PREVENTER BTUH BRITISH THERMAL UNIT BTUH BUT PER HOUR BLDG BUILDING</p> <p>CAB CABINET CUH CABINET UNIT HEATER CAP CAPACITY CI CAST IRON CL CENTER LINE CEILING CEILING CFU COLD WATER FIXTURE UNITS CO CLEANOUT CW COLD WATER COMB COMBINATION CMPR COMPRESSOR CONC CONCRETE COND CONDENSATE CONN CONNECTION CONT CONTINUOUS/CONTINUATION CONTR CONTRACTOR CU FT or FT³ CUBIC FEET CFM CUBIC FEET PER MINUTE CFU COLD WATER FIXTURE UNITS</p> <p>DMP DAMPER DEPT DEPARTMENT Dia. or Ø DIAMETER DIFF DIFFUSER DIM DIMENSION DDC DIRECT DIGITAL CONTROL DX DIRECT EXPANSION DSCHG DISCHARGE DS DOWNSPOUT DFU DRAINAGE FIXTURE UNITS DF DRINKING FOUNTAIN DB DRY BULB</p> <p>EA EACH ELEC ELECTRICAL EWC ELECTRIC WATER COOLER ELEV ELEVATION EAT ENTERING AIR TEMPERATURE EWT ENTERING WATER TEMPERATURE EPT EQUIPMENT EF EXHAUST FAN EXH EXHAUST EXIST EXISTING EXP EXPANSION EXT EXTERIOR</p>	F	<p>FU FAHRENHEIT FAN COIL UNIT FEET FPM FEET PER MINUTE FPS FEET PER SECOND FWIR FILTERED WATER FLEX FLEXIBLE F & T FLOAT & THERMOSTATIC TRAP FLR FLOOR FD FLOOR DRAIN FDMP FIRE DAMPER FU FIXTURE UNITS</p> <p>GAL GALLON GPH GALLONS PER HOUR GPM GALLONS PER MINUTE GALV GALVANIZED GA GAUGE GNL GENERAL GR GRILLE</p> <p>HD HEAD HVAC HEIGHT HGT HEIGHT HP HIGH PRESSURE OR HORSE POWER HOR HORIZONTAL HB HOSE BIBB HW HOT WATER HFU HOT WATER FIXTURE UNITS</p> <p>IN or " INCH INT INTERIOR ID INSIDE DIAMETER INSUL INSULATION INVERT INVERT ELEVATION</p> <p>KW KILOWATT</p> <p>LAV LAVATORY LV LEAVING AIR TEMPERATURE LAT LEAVING WATER TEMPERATURE LWT LEAVING WATER TEMPERATURE LG LENGTH LF LINEAR FOOT LQD LIQUID</p> <p>MH MANHOLE MBH THOUSAND BTU'S PER HOUR MFR MANUFACTURER MAX MAXIMUM MECH MECHANICAL MIN MINIMUM MISC MISCELLANEOUS MTR MOTORIZED</p>	N	<p>NAT NATURAL NOM NOMINAL NC NORMALLY CLOSED NO NORMALLY OPEN NO or # NUMBER</p> <p>OPG OPENING OB OPPOSED BLADE OA OUTDOOR AIR OD OUTSIDE DIAMETER OS & Y OUTSIDE SCREW & YOKE</p> <p>P PIV PLBG PLUMBING PNEUM PNEUMATIC PVC POLYVINYL CHLORIDE LB or # POUND PSIA POUNDS/SQUARE INCH ABSOLUTE PSIG POUNDS/SQUARE INCH GAUGE PRV PRESSURE REDUCING VALVE of POWER ROOF VENTILATION</p> <p>Q RAD RADIATOR or RADIATION RNL RAIN WATER LEADER REC RECESSED RPZ REDUCED PRESSURE ZONE BACKFLOW PREVENTOR REFG REFRIGERANT REG REGISTER RCP REINFORCED CONCRETE PIPE REL RELIEF REQ'D REQUIRED RET RETURN RA RETURNED AIR REV REVISIONS RPM REVOLUTIONS PER MINUTE RF ROOF RD ROOF DRAIN RM ROOM</p> <p>S SAN SCHEDULE SCHD SCHEDULE SEN SENSIBLE SS SERVICE SINK SHT SHEET SHR SHOWER SWIR SOFT WATER SPEC SPECIFICATION SQ FT SQUARE FOOT SF or FT² SUPPLY FIXTURE UNITS SS STAINLESS STEEL STD STANDARD SP STATIC PRESSURE STM STEAM STRM STORM STRUC STRUCTURAL SUCT SUCTION SA SUPPLY AIR MINI SUSPEND SW or \$ SWITCH</p>	T	<p>TA TEMP TEMP TEMPERATURE TC TEMPERATURE CONTROL TCC TEMPERATURE CONTROL CONTRACTOR TD TEMPERATURE DIFFERENCE THERM THERMOSTAT THRU THROUGH TYP TYPICAL</p> <p>U UL UNDERWRITERS LAB UR URINAL UH UNIT HEATER</p> <p>V VAC VACUUM VAV VARIABLE AIR VOLUME VFD VARIABLE FREQUENCY DRIVE V-VT VARIABLE VOLUME AND TEMPERATURE VEL VELOCITY VENT VENT VTR VENT THROUGH ROOF VERT VERTICAL VIBRATOR/VIBRATION VIBRATOR/VIBRATION VITRIFIED CLAY PIPE VITRIFIED CLAY PIPE VOLUME</p> <p>WH WALL HYDRANT WASTE WASTE WFU WASTE FIXTURE UNITS WTR WATER WC WATER CLOSET WT WEIGHT WB WET BULB w/ WITH w/o WITHOUT</p> <p>X</p> <p>Y</p> <p>Z</p>
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SUPPLEMENTAL LIST OF DRAWINGS

SHEET NUMBER	SHEET NAME
MO.1	MECHANICAL COVER SHEET
MO.2	MECHANICAL SPECIFICATIONS AND SEQUENCE OF CONTROLS
M1.0	MECHANICAL DEMOLITION PLAN
M1.1	HVAC PLAN
MS.1	HVAC SCHEDULES AND DETAILS
P1.1	SANITARY PLUMBING PLAN
P1.2	DOMESTIC PLUMBING PLAN
P5.1	PLUMBING SCHEDULES, DETAILS, AND RISERS

MECHANICAL LEGEND

HYDRONIC PIPING SYMBOLS:	HVAC DUCT SYMBOLS:	CONTROL SYMBOLS:	FIRE PROTECTION SYMBOLS:	PLUMBING PIPING SYMBOLS:	PLUMBING SYMBOLS:
<p>CHILLED WATER RETURN — CWR —</p> <p>CHILLED WATER SUPPLY — CWS —</p> <p>CONDENSER WATER RETURN — CD —</p> <p>CONDENSER WATER SUPPLY — C —</p> <p>FUEL OIL VENT — FOR —</p> <p>FUEL OIL RETURN — FVR —</p> <p>FUEL OIL SUPPLY — FOS —</p> <p>HEATING WATER RETURN — HWR —</p> <p>HEATING WATER SUPPLY — HWS —</p> <p>HIGH PRESSURE STEAM RETURN — HPS —</p> <p>HIGH PRESSURE STEAM SUPPLY — HPC —</p> <p>LIQUID PROPANE — LP —</p> <p>LOW PRESSURE STEAM RETURN — LPS —</p> <p>LOW PRESSURE STEAM SUPPLY — LPS —</p> <p>NATURAL GAS — G —</p> <p>PUMPED CONDENSATE RETURN — RL —</p> <p>REFRIGERANT LIQUID — RL —</p> <p>REFRIGERANT SUCTION — RS —</p>	<p>FIRE SMOKE DAMPER</p> <p>FIRE DAMPER</p> <p>VOLUME DAMPER</p> <p>BACK DRAFT DAMPER</p> <p>MOTORIZED DAMPER</p> <p>FLEXIBLE DUCT</p> <p>SUPPLY DIFFUSER</p> <p>LINEAR SUPPLY DIFFUSER</p> <p>RETURN GRILLE</p> <p>EXHAUST GRILLE</p> <p>TYPICAL DUCT SIZING</p> <p>SUPPLY/OUTDOOR AIR DUCT UP</p> <p>SUPPLY/OUTDOOR AIR DUCT DOWN</p> <p>RETURN AIR DUCT UP</p> <p>RETURN AIR DUCT DOWN</p> <p>EXHAUST AIR DUCT UP</p> <p>EXHAUST AIR DUCT DOWN</p> <p>VARIABLE AIR VOLUME BOX (VAV)</p> <p>AIR FLOW DIRECTION</p> <p>POINT OF CONNECTION TO EXISTING</p>	<p>THERMOSTAT</p> <p>REVERSE ACTING THERMOSTAT</p> <p>HUMIDISTAT</p> <p>SENSOR</p> <p>PRESSURE GAUGE</p>	<p>UPRIGHT SPRINKLER</p> <p>PENDANT SPRINKLER</p> <p>CONCEALED PENDANT SPRINKLER</p> <p>SIDE WALL SPRINKLER</p> <p>EXTENDED COVERAGE SIDE WALL SPRINKLER</p> <p>FLOW SWITCH</p> <p>FIRE DEPARTMENT SIAMESE CONNECTION</p>	<p>SANITARY PIPE—BELOW GRADE</p> <p>SANITARY VENT PIPE</p> <p>STORM DRAIN PIPE</p> <p>DOMESTIC COLD WATER</p> <p>DOMESTIC HOT WATER</p> <p>DOMESTIC SOFT WATER</p> <p>DOMESTIC FILTERED WATER</p> <p>DOMESTIC HOT WATER RETURN</p> <p>COMPRESSED AIR</p> <p>FLOW DIRECTION</p> <p>PIPE DOWN</p> <p>PIPE UP</p> <p>PIPE CAP</p> <p>FLOW FITTING</p>	<p>PIPE UP</p> <p>PIPE DOWN</p> <p>FLOOR DRAIN</p> <p>TELL-TALE FLOOR DRAIN</p> <p>FLOOR SINK (FULL GRATE)</p> <p>FLOOR SINK (HALF GRATE)</p> <p>FLOOR SINK (PARTIAL GRATE)</p> <p>FLOOR CLEAN-OUT</p> <p>WALL CLEAN-OUT</p> <p>WATER METER</p> <p>GAS METER</p> <p>HOSE BIBB/WALL HYDRANT</p> <p>RECIRCULATING PUMP</p> <p>BACKFLOW PREVENTER</p> <p>RPZ</p> <p>BALL VALVE</p> <p>CONTROL VALVE</p> <p>GATE VALVE</p> <p>ANGLE GLOBE VALVE</p> <p>GLOBE VALVE</p> <p>ANGLE GLOBE VALVE</p> <p>HOSE GLOBE VALVE</p> <p>MOTORIZED GLOBE VALVE</p> <p>NEEDLE VALVE</p> <p>PLUG VALVE</p> <p>PRESSURE REDUCING VALVE</p> <p>PRESSURE RELIEF VALVE</p> <p>SPRING CHECK VALVE</p> <p>SWING GATE CHECK VALVE</p> <p>SOLENOID VALVE</p> <p>STRAINER w/BLOW-OFF VALVE</p> <p>UNION</p>

REVISION _____ DATE _____

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Engineer under the laws of the state of Minnesota.

Perry R. Nistler
PERRY R. NISTLER, P.E.

3-31-10 Date 22468 License No.

MECHANICAL COVER SHEET

COMM. NO.: 10701
SCALE: AS SHOWN
DATE: MARCH 31, 2010
DRAWN BY: KLI

MO.1