

ABBREVIATIONS

	DIAMETER, PHASE
A	AIR, AMPS
AAV	AUTOMATIC AIR VENT
ABV	ABOVE
AC	AIR CONDITIONER
ACU	AIR CONDITIONING UNIT
AD	ACCESS DOOR
ADA	AMERICANS WITH DISABILITIES ACT
AF	AIRFOIL
AFF	ABOVE FINISHED FLOOR
AFS	AIRFLOW MEASURING STATION
AFUE	ANNUAL FUEL UTILIZATION EFFICIENCY
AG	ABOVE GROUND
AHJ	AUTHORITY HAVING JURISDICTION
AHU	AIR HANDLING UNIT
AL	ACOUSTIC LINED (DUCT)
AMB	AMBIENT
AP	ACCESS PANEL
APD	AIR PRESSURE DROP
ARCH	ARCHITECT
ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATION AND AIR-CONDITIONING ENGINEERS, INC.
ASSY	ASSEMBLY
ATM	ATMOSPHERE
B	BOILER
BDD	BACK DRAFT DAMPER
BF	BELOW FLOOR
BHP	BRAKE HORSE POWER
BLW	BELOW
BOD	BOTTOM OF DUCT
BOP	BOTTOM OF PIPE
BOT	BOTTOM
BTUH	BRITISH THERMAL UNIT PER HOUR
BV	BALL VALVE
C	CONDENSATE PIPING
CA	AIR COMPRESSOR
CAP	CAPACITY
CBV	CIRCUIT SETTING BALANCING VALVE
CC	COOLING COIL
CD	CEILING DIFFUSER, CONDENSATE DRAIN
CFG	CEILING FIRE DAMPER
CFM	CUBIC FEET PER MINUTE
CG	CEILING GRILLE
CH	CABINET HEATER, CHILLER
CKV	CHECK VALVE
CLG	CEILING, COOLING
CO	CLEANOUT, CO SENSOR
CO2	CO2 SENSOR
COMB	COMBUSTION, COMBINATION
COND	CONDENSER, CONDENSATE
CONN	CONNECTOR
CONT	CONTINUE, CONTROL
COP	COEFFICIENT OF PERFORMANCE
COTG	CLEANOUT TO GRADE
C. TK	COMPRESSION TANK
CU	CONDENSING UNIT, CUBIC
Cv	FLOW COEFFICIENT
CV	CONSTANT VOLUME
CW	COLD WATER PIPING
D	DRAIN
DB	DRY BULB (TEMPERATURE)
dB	DECIBEL
DCVA	DOUBLE CHECK VALVE ASSEMBLY
DDCV	DOUBLE DETECTOR CHECK VALVE
DEG	DEGREE
DFU	DRAINAGE FIXTURE UNIT
DH	DUCT HEATER
DI	DUCTILE IRON
DIA	DIAMETER
DIM	DIMENSION
DISC	LOCATION OF STARTER, DISCONNECT AND CONTROLS
DISCH	DISCHARGE
DN	DOWN
DPV	DIFFERENTIAL PRESSURE VALVE
DWGS	DRAWINGS
DV	DRAIN VALVE
DWB	DOMESTIC WATER BOOSTER
(E)	EXISTING
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EER	ENERGY EFFICIENCY RATIO
EF	EXHAUST FAN
EFF	EFFICIENCY
EG	EXHAUST GRILLE, ENGINE GENERATOR
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRIC
EMCS	ENERGY MANAGEMENT AND CONTROL SYSTEM
EQUIV	EQUIVALENT
ESP	EXTERNAL STATIC PRESSURE
ET	EXPANSION TANK
EVAP	EVAPORATOR, EVAPORATIVE
EW	ELECTRIC WATER COOLER
EWT	ENTERING WATER TEMP
EXH	EXHAUST
EXT	EXTERIOR, EXTERNAL

FAH	FAHRENHEIT, FIRE MAIN PIPING
FC	FLUID COOLER
FCU	FLOOR CLEANOUT
FCU	FAN COIL UNIT
FD	FIRE DAMPER, FLOOR DRAIN, DRY SPRINKLER ROUTING
FDC	FIRE DEPARTMENT CONNECTION
FF	FOULING FACTOR, FLAT FILTER
FFD	FUNNEL FLOOR DRAIN
FLA	FULL LOAD AMPS
FLEX	FLEXIBLE
FLR	FLOOR
FLTR	FILTER
FMS	FLOW MEASUREMENT STATION (HVAC, PLUMBING)
FOR	FUEL OIL RETURN PIPING
FOS	FUEL OIL SUPPLY PIPING
FOT	FUEL OIL TANK
FP	FIRE PUMP, FLOATING POINT CONTROL
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FPVC	APPROVED PVC FIRE SPRINKLER ROUTING
FS	FLOOR SINK
F/S	FIRE/SMOKE DAMPER
FT	FEET, FIN TUBE
FTD	FOOTING DRAIN
FTG	FOOTING DRAIN
FTU	FIN TUBE UNIT
FV	FACE VELOCITY
FW	FILTERED WATER PIPING
G	GAS
GA	GAGE
GAL	GALLONS
GALV	GALVANIZED
GAHU	GAS AIR HANDLING UNIT
GC	GAS COCK, GENERAL CONTRACTOR
GFU	GAS FIRED UNIT
GPF	GALLONS PER FLUSH
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GPRV	GAS PRESSURE REGULATING VALVE
GRD	GRILLES, REGISTERS, AND DIFFUSERS
GV	GATE VALVE, GLOBE VALVE
GW	GREASE WASTE PIPING
GWB	GYPSPUM WALLBOARD
H	HUMIDISTAT, HEIGHT
HB	HOSE BIBB
HC	HEATING COIL
HD	HEAD, HUB DRAIN
HGL	REFRIGERANT HOT GAS LINE
HORIZ	HORIZONTAL
HP	HORSEPOWER, HEAT PUMP
HRU	HEAT RECOVERY UNIT
HST	STORAGE TANK
HTG	HEATING
HVAC	HEATING, VENTILATING, AND AIR CONDITIONING
HW	HOT WATER PIPING
HWC	HOT WATER CIRCULATING PIPING
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
HX	HEAT EXCHANGER
HZ	HERTZ
IAQ	INDOOR AIR QUALITY
ID	INDIRECT DRAIN
IE	INVERT ELEVATION
IN.	INCH
IN. WG	INCHES WATER COLUMN
IRR	IRRIGATION PIPING
IW	INDIRECT WASTE PIPING
KW	KILOWATT
L	LENGTH
LAT	LEAVING AIR TEMPERATURE
LB	LINEAR BAR
LBS	POUND
LD	LINEAR DIFFUSER
LL	REFRIGERANT LIQUID LINE
LPG	LIQUID PETROLEUM GAS PIPING
LRA	LOCKED ROTOR AMPS
LR	LINEAR RETURN
LVR	LOUVER
LWR	LOW WALL RETURN
LWS	LOW WALL SUPPLY
LWCD	LOW WATER CUT-OFF
LWT	LEAVING WATER TEMPERATURE
MA	MEDICAL AIR
MAC	MEDICAL AIR COMPRESSOR
MAT	MIXED AIR TEMPERATURE
MAV	MANUAL AIR VENT
MAX	MAXIMUM
MBH	THOUSAND BTU PER HOUR
MCA	MINIMUM CIRCUIT AMPACITY
MECH	MECHANICAL
MERV	MINIMUM EFFICIENCY REPORTING VALUE
MIN	MINIMUM
MOCOP	MAXIMUM OVERCURRENT PROTECTION
MOD	MOTOR OPERATED DAMPER
MPG	MEDIUM PRESSURE GAS

	NOT APPLICABLE
NC	NORMALLY CLOSED, NOISE CRITERIA
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN, NITROUS OXIDE
NO.	NUMBER
NP	NON POTABLE
NTS	NOT TO SCALE
OA	OUTDOOR AIR
OBD	OPPOSED BLADE DAMPER
OC	ON CENTER
OD	OUTSIDE DIMENSION OR DIAMETER
OSA	OUTDOOR SUPPLY AIR
OSD	OVER-FLOW STORM DRAIN
OV	OUTLET VELOCITY
P	PUMP, PRESSURE, PLUMBING FIXTURE
PD	PRESSURE DROP, PUMPED DRAIN
PH	PHASE
PIV	POST INDICATOR VALVE
PLD	PLANTAR DRAIN
POC	POINT OF CONNECTION
PRV	PRESSURE REDUCING VALVE
PSIG	POUNDS PER SQUARE INCH GAGE
QTY	QUANTITY
RA	RETURN AIR, RELIEF AIR
RD	ROOF DRAIN
REG	REGISTER
REF	REFERENCE, RETURN/EXHAUST FAN
RF	RELIEF FAN
RG	RETURN GRILLE
RH	ROOF HOOD
RL	RAIN LEADER
RLA	RATED LOAD AMPS
RPBA	REDUCED PRESSURE BACKFLOW ASSEMBLY
RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
RPM	REVOLUTIONS PER MINUTE
RTU	ROOFTOP UNIT
RV	SAFETY RELIEF VALVE
S	SENSOR
SA	SUPPLY AIR
SAT	SUPPLY AIR TEMPERATURE
SCH	SCHEDULE
SD	STORM DRAIN PIPING
SENS	SENSIBLE
SF	SUPPLY FAN, SQUARE FOOT
SG	SUPPLY GRILLE, SIGHT GLASS WITH MOISTURE INDICATOR
SHC	STEAM HEATING COIL
SIM	SIMILAR
SL	REFRIGERANT SUCTION LINE
SMACNA	SHEET METAL AND AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION, INC.
SNO	SCREENED OPENING
SOV	SHUTOFF VALVE
SP	STATIC PRESSURE
SPS	STATIC PRESSURE STATION
SS	STAINLESS STEEL, SANITARY SEWER
ST	SOUND TRAP
SW	SOFT WATER PIPING
S. TK	STORAGE TANK
T	TEMPERED WATER PIPING
TCV	TEMPERATURE CONTROL VALVE
TD	TRENCH DRAIN, TEMPERATURE DIFFERENCE
TDH	TOTAL DYNAMIC HEAD
TEMP	TEMPERATURE
TG	TRANSFER GRILLE
TOD	TOP OF DUCT
TOP	TOP OF PIPE
TOF	TOP OF FOOTING
TSP	TOTAL STATIC PRESSURE
T*STAT	THERMOSTAT
TU	TERMINAL UNIT
TYP	TYPICAL
UG	UNDERGROUND
UH	UNIT HEATER
V	VENT PIPING, VOLT
VA	VALVE
VAV	VARIABLE AIR VOLUME
VCD	VOLUME CONTROL DEVICE
VD	VOLUME DAMPER
VENT	VENTILATION, VENTILATOR
VFD	VARIABLE FREQUENCY DRIVE
VOLT	VOLTAGE
VTR	VENT THRU ROOF
W	WASTE, WATT, WIDE, WATER
W/	WITH
WB	WET BULB (TEMPERATURE)
WC	WATER CLOSET, WATER COLUMN
WCO	WALL CLEANOUT
WG	WATER GAGE
WH	WATER HEATER, WALL HYDRANT
WHM	WATER HAMMER ARRESTOR
WM	WATER METER
WSFU	WATER SUPPLY FIXTURE UNIT
WT	WEIGHT

GENERAL NOTES - MECHANICAL

1. COORDINATE MECHANICAL WORK WITH THAT OF OTHER TRADES (ELECTRICAL, ARCHITECTURAL AND STRUCTURAL.). REFER TO ELECTRICAL, ARCHITECTURAL AND STRUCTURAL DRAWINGS AND SPECIFICATIONS. COORDINATION SHALL OCCUR PRIOR TO FABRICATION, PURCHASE, AND/OR INSTALLATION OF ALL WORK.
2. COORDINATE PLUMBING, HVAC, AND FIRE PROTECTION SYSTEMS ROUTING PRIOR TO INSTALLATION. DURING LAYOUT COORDINATION, DUCTWORK TAKES PRECEDENCE OVER PLUMBING, INCLUDING FIRE PROTECTION SYSTEMS.
3. UNLESS OTHERWISE SPECIFIED, THE GENERAL CONTRACTOR (GC) SHALL BE RESPONSIBLE FOR PAINTING, CUTTING, AND PATCHING OF EXISTING FLOORS, WALLS, AND PARTITIONS IN THE EXISTING BUILDING.
4. REFER TO STRUCTURAL DRAWINGS FOR ALLOWABLE METHODS/LOADS FOR HANGING PIPING/DUCTS FROM STRUCTURAL MEMBERS.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFE KEEPING OF HIS OWN PROPERTY ON THE JOB SITE. OWNER ASSUMES NO RESPONSIBILITY FOR PROTECTION OF PROPERTIES AGAINST FIRE, THEFT, AND ENVIRONMENTAL CONDITIONS.

MECHANICAL EQUIPMENT INSTALLATION NOTES

1. ACCESS CLEARANCES FOR MAINTENANCE AND REPLACEMENT: VERIFY PHYSICAL DIMENSIONS OF EQUIPMENT TO ENSURE THAT ACCESS CLEARANCES CAN BE MET. COORDINATE LOCATIONS OF MECHANICAL WORK AND WORK OF OTHER TRADES TO PROVIDE ACCESS CLEARANCES FOR SERVICE AND MAINTENANCE.

PIPING NOTES

1. DISASSEMBLY PROVISIONS: PROVIDE UNIONS OR FLANGES AT PIPING CONNECTIONS TO EQUIPMENT, COILS, TRAPS, CONTROL VALVES, AND OTHER COMPONENTS TO ALLOW DISASSEMBLY FOR MAINTENANCE.
2. PRESSURE/TEMPERATURE TEST PORTS: PROVIDE AT SUPPLY AND RETURN PIPING CONNECTIONS TO EQUIPMENT.
3. PROVIDE 12" LONG, 1/2" WIDE FLUORESCENT ORANGE TAPE AT CONCEALED VALVE LOCATIONS.

PLUMBING NOTES

1. **WATER HAMMER ARRESTERS:** PROVIDE AT THE END OF HOT AND COLD WATER LINES SERVING TWO OR MORE FIXTURES. SIZE IN ACCORDANCE WITH PLUMBING AND DRAINAGE INSTITUTE (PDI) REQUIREMENTS.
2. **REDUCED PRESSURE BACKFLOW PREVENTERS (RPBP)** PROVIDE INDIRECT DRAIN PIPING FROM RPBP TO NEAREST DRAIN. INSTALL FUNNEL AT RPBP IF REQUIRED.
3. **ACCESS PANELS:** PROVIDE IN NON ACCESSIBLE CEILINGS AND WALLS FOR VALVES, WATER HAMMER ARRESTERS, CLEANOUTS, AND OTHER ITEMS THAT REQUIRE ACCESS TO PROPERLY MAINTAIN OR SERVICE THE BUILDING. REFER TO SPECIFICATIONS.

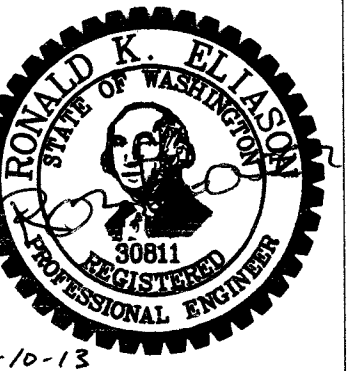
SHEET METAL NOTES

1. VOLUME DAMPERS: PROVIDE A MANUAL VOLUME DAMPER FOR EACH SUPPLY, RETURN, AND EXHAUST OPENING, LOCATED AS FAR UPSTREAM AS POSSIBLE FROM THE OPENING. PROVIDE A MANUAL VOLUME DAMPER FOR BRANCH MAINS SERVING MORE THAN ONE OPENING.
2. UNLESS NOTED TO USE LARGER SIZE DUCT, PROVIDE THE FOLLOWING MINIMUM SIZE BRANCH DUCTS TO CEILING DIFFUSERS.
 - 6" DIA. FOR UP TO 120 CFM
 - 8" DIA. FOR 121-210 CFM
 - 10" DIA. FOR 211-300 CFM
 - 12" DIA. FOR 301-450 CFM
 - 14" DIA. FOR 451-600 CFM
 - 16" DIA. FOR 601-820 CFM
3. PROVIDE 12" LONG, 1/2" WIDE FLUORESCENT ORANGE TAPE AT CONCEALED VOLUME DAMPER LOCATIONS.

NON-STRUCTURAL MECHANICAL COMPONENT NOTES

1. THE COMPONENT IMPORTANCE FACTOR (Ip) FOR ALL NON-STRUCTURAL COMPONENTS SHALL BE:

Ip = 1.0
2. THE FOLLOWING ITEMS ARE TAKEN DIRECTLY FROM THE 2009 INTERNATIONAL BUILDING CODE AS AMENDED BY THE CITY OF YEON, OREGON AND FROM THE AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE) STANDARD 7-05. THE CONTRACTOR SHALL REFER TO THE ABOVE FOR ADDITIONAL INFORMATION, EXCEPTIONS, AND FURTHER DESCRIPTIONS. THE CONTRACTOR SHALL ADHERE TO REQUIREMENTS AND AS SUCH, SHALL BE INCLUDED WITHIN BID. ALSO REFER TO SPECIFICATION SECTION 200550.
3. 2009 IBC, 1613.1.1. SCOPE: ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND NON-STRUCTURAL COMPONENTS THAT ARE PERMANENTLY ATTACHED TO STRUCTURES AND THEIR SUPPORTS AND ATTACHMENTS SHALL BE DESIGNED AND CONSTRUCTED TO RESIST THE EFFECTS OF EARTHQUAKE MOTIONS IN ACCORDANCE WITH ASCE 7-05, EXCLUDING CHAPTER 14 AND APPENDIX 11A.
4. 2009 IBC, 1706.1.1. CONTRACTOR RESPONSIBILITY: THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONSTRUCTION OF A SEISMIC-FORCE-RESISTING SYSTEM, DESIGNATED SEISMIC SYSTEM, OR SEISMIC-RESISTING COMPONENT LISTED IN THE STATEMENT OF SPECIAL INSPECTIONS AND SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND THE OWNER PRIOR TO THE COMMENCEMENT OF WORK ON THE SYSTEM OR COMPONENT. THE CONTRACTOR'S STATEMENT OF RESPONSIBILITY SHALL INCLUDE THE FOLLOWING:
 - A. ACKNOWLEDGEMENT OF AWARENESS OF THE SPECIAL REQUIREMENTS CONTAINED IN THE STATEMENT OF SPECIAL INSPECTIONS;
 - B. ACKNOWLEDGEMENT THAT CONTROL WILL BE EXERCISED TO OBTAIN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS APPROVED BY THE BUILDING OFFICIAL;
 - C. PROCEDURES FOR EXERCISING CONTROL WITHIN THE CONTRACTOR'S ORGANIZATION, THE METHOD AND FREQUENCY OF REPORTING AND THE DISTRIBUTION OF THE REPORTS;
 - D. IDENTIFICATION AND QUALIFICATIONS OF THE PERSON(S) EXERCISING SUCH CONTROL AND THEIR POSITION(S) IN THE ORGANIZATION.
4. DIVISION 21, 22, 23 RESPONSIBILITIES:
 - A. HANGERS AND SEISMIC BRACING FOR MECHANICAL SYSTEMS SHALL BE DESIGNED AND SPECIFIED BY DIVISION 21, 22, 23. DIVISION 21, 22, 23 SHALL REFER TO THE MECHANICAL DRAWINGS FOR LOCATIONS OF EQUIPMENT AND HUNG MECHANICAL SYSTEMS AS STRUCTURAL DRAWINGS DO NOT SHOW THE LOCATIONS OF MECHANICAL EQUIPMENT, DUCTWORK, PIPING, AND OTHER COMPONENTS.
 - B. DIVISION 21, 22, 23 SHALL COORDINATE THE SUPPORT SYSTEMS AND DESIGN LOADS FOR HUNG PIPING AND OTHER MECHANICAL SYSTEMS (INCLUDING COMBINED MULTIPLE PIPE RUNS) WITH THE GENERAL CONTRACTOR AND THE WOOD JOIST MANUFACTURER IN ADDITION TO OTHER TRADES THAT MAY BE IMPACTED.



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JOB NUMBER 1278
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MECHANICAL GENERAL NOTES

SHEET

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