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Dept. of Building Inspections
City of Portland Maine

Reviewed for Code Compliance
Inspections Division
Approved with Conditions

Date: 08/13/14

Ranor Mechanical

Commitment – Experience – Performance - Quality

West End Place Mechanical Equipment Noise Data:

Below is the list of equipment on the sound data on the equipment as well as the calculated sound level at the boundary line.

Mini Split Outdoor Units											
QTY	Tag #	Manufacturer	Model	Cooling Capacity BTUH	Heating Capacity BTUH	SEER	V/Ø	MCA	MROPD	Sound Level Dba	Areas Served
16	COND. A	DAIKEN	2MXS18GVJU	17000	22000	16.3	208/1	11.1	20	51	APARTMENT
21	COND. B	DAIKEN	3MXS24JVJU	23600	29400	14.8	208/1	17.8	20	52	APARTMENT
2	COND. C	DAIKEN	4MXS32GVJU	29800	31200	15.25	208/1	18.0	20	54	APARTMENT

RTU SCHEDULE															
TAG	SERVICE	MFR	MODEL	OUTDOOR AIR	SUPPLY CFM	HP	V/P/C	FLA	MCA	MOP	FUSE	COOLING CAPACITY	HEATING CAPCITY	Sound Data Dba	
RTU-1	CORIDORS	Goodman	GPG13480	200	1550	3/4	208-230/1	5.8	27.1	32.1	50	4	69000	80	520

The mini split outdoor units are all below the 55db sound level. The assumption is that the sound level is measured at 3' from the unit or noise source.

To calculate the RTU sound level at the boundary the formula below is used.

Lp(R2) = Lp(R1) – 20 log 10 (R2/R1) [dB]

Where:
Lp (R1) = Sound Pressure Level at the initial location
Lp (R2) = Sound Pressure Level at the new location
R1 = distance from the noise source to the initial location
R2 = distance from the noise source to the new location

So, in this case, **Lp(R1) = 80 db, R1=3', R2=70'** *(The 70' was calculated by looking at the 43' vertical distance from the boundary line to the roof and the worst case of 27' from the boundary to the RTU)*

Lp(R2) = 80dba – 20 log 10 (70/3)

Lp(R2) = 52.6dba

The above information is based on the equipment data and above assumptions.

B-1 Zone 55 dBA max

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