

NOISE GUIDELINES - CRESTED BUTTE SOUTH

These Guidelines provide:

- θ A brief overview of noise
- θ How sound propagates
- θ Noise Standards (dogs, outdoor music, construction noise and commercial activity)
- θ Enforcement

Overview of Noise

Noise is defined as any sound you don't want to hear. Although this is a subjective definition, it is possible to measure noise levels objectively and compare them to reference sound levels. Most noise guidelines refer to a maximum allowable decibel (dB) level, using an A-weighted sound scale (dBA). The decibel scale is a logarithmic expression of sound power; hand-held sound level meters read out in decibels or dB.

Examples of common sound levels at the source:

Normal conversation	50dB	Band Music	115dB
Vacuum cleaner	74dB	Busy street traffic	70dB
Circular saw	107dB	Power mower	92dB
Heavy truck at 90ft (40mph)	99dB	Tailpipe damage	109dB

Sound Propagation

Many factors affect sound propagation outdoors, including: ground surfaces, air temperature, altitude and relative altitude, humidity, wind speed and direction, and distance of sound source. Here are a few general rules about sound propagation:

- Sound travels easier through thin air at high altitude than through thicker lower altitude air.
- Sound travels faster through dry air than humid air.
- Sound moves faster when the air temperature is warmer than when it is colder. (ANSI S12.18-1994)
- Sometimes sounds are masked near a source, but clearly audible in quieter areas farther away. Sound outdoors reaches a receiver by both direct and reflected paths. The magnitude of reflected sound depends on the ground surface and the angle. Hard ground has low porosity and tends to be highly reflective, absorbing very little acoustic energy upon reflection. At angles off the ground greater than 20 degrees, which occur in cases of elevated sources, even soft ground becomes a good reflector of sound
- For distances over 100 meters, termed long-range propagation, wind and its direction play an important role. Wind pushes sound through the air faster and if a source is upwind and a receiver is downwind sound waves bend downward resulting in a condition advantageous to sound propagation. This can explain why sound levels downwind of a noise source are more easily detected or heard as compared to the listening conditions upwind. The frequency content of sound also changes with distance—low frequency sounds such as bass travel further than high frequency sounds and are usually the cause of noise complaints.

- Relative altitude can affect the rate of propagation, along with wind and altitude. If a noise source is higher than a receiver, sound is less impeded due to thinner air, lower humidity and angle of reflection.
- The intensity of noise diminishes with distance. Outdoors, and in absence of any close reflecting surface, the effective decibel level diminishes at a rate of 6 dB for each factor of two increase in distance. For example , a sound measuring 100dB at 10 meters would be 94dB at 20 meters, 88 dB at 40 meters, and so on.

Noise Guideline Standards: (EPA, 1974)

Noise Source	Allowable Daytime Levels	Allowable Nighttime Levels
Residential	55 dBA 7am-8pm weekdays 8am-8pm weekends and public holidays	50 dBA 8pm-7am weekdays 8pm- 8am weekends and public holidays
Commercial/Business	65 dBA 7am-8pm weekdays 8am-8pm weekends and public holidays	60 dBA 8pm-7am weekdays 8pm-8am weekends and public holidays
Outdoor Music (restaurants, speakers, radios, public address systems, commercial business, musical instruments)	85 dBA 8am-10pm everyday	75 dBA 10pm – 8am everyday
Noise Generating Activities on a Construction Site (see attached list)	7am-7pm weekdays 8am-5pm Saturday and public holidays	Not Allowable 7pm-7am weekdays 5pm- 8am Saturday and public holidays
Sundays: Only owner build construction (special permission by CBSA) with the exception that heavy and light equipment cannot be used on this day. See the attached list.		
Animals No person shall keep or permit the keeping of any animal or bird which by habitual howling, barking, meowing, squawking or any other noise unreasonably disturbs the peace and quiet of the neighborhood, causing disturbance, discomfort, or annoyance to another.		
Vibration Operating or permitting the operation of any device that creates a vibration above the vibration perception threshold of an individual at or beyond the property of the source or at 15 feet from the source if on a public space. “Vibration perception threshold” means the minimum vibratory motion necessary to cause a person to be aware of the vibration, by observation of moving objects and/or sensation by touch.		
Vehicles/Cars/Dirt Bike Maximum allowable sound level: 96dBA (measurement taken at property line.)		

Enforcement

If an offensive noise exceeds the levels set in the guidelines or occurs outside the set time restrictions penalty notices can be given per the EPA's Protection of the Environment Operations Act 1997. Individual fines maybe up to \$200.00 or business up to \$400.00. The maximum penalty is \$5000.00 per act.

Dealing with Community Noise Complaints:

1. **First try to talk to people.** Try to solve the problem amicably by talking to whoever is causing the noise. Often people do not realize they are being noisy and are happy to work with you to solve the problem.
2. **Contact your Association Manager.** They can serve various notices/warnings requiring the noise to be controlled and advising what noise levels are acceptable.
 - A. Use of a Sound Level Meter
 - B. Noise mitigation techniques for new development, residential activities and construction.
 - C. Noise control compliance
3. **A noise abatement direction** may be issued if the noise continues after warning/notices. It can be enforced up to 28 days from the time it was issued. Any person who fails to comply with it can be fined up to a maximum of \$5000.00 per act or issued with a \$200.00 on- the-spot fine (\$400.00 for a business).
4. **Unpaid fines** will be collected via our property lien process.

Construction

“Noise Generating Activities include,” but are not limited to, the following:

Operation of Heavy Equipment

Tractors
Backhoes
Graders
Pile Drivers
Cranes
Forklifts
Dump Trucks
Water Trucks
Etc.

Operation of Light Equipment

Jackhammers
Vibratory Compactors
Generators
Augers
Etc.

Use of Hand Tools

Hammers
Power Saws
Drills
Nail/Staple Guns
Etc.

Other Activities

Loud Radios
Yelling
Whistling
Etc.