Noise: Basic Concepts

Noise levels are generally expressed on a logarithmic scale, in units called decibels (dB). Environmental noise levels are typically presented as "A-weighted decibels" (or dBA), which approximates the typical hearing response of the human ear. Noise level limits are established by the Ontario Ministry of the Environment, Conservation and Parks (MECP). CBM is required to comply with MECP noise level limits at each receptor location. For your reference, below are common day-to-day noise levels.

Day-to-day noise levels

Decibels (dBA) Concert 150 Jet engine speaker from 25 m 140 from 1 m 130 120 Breaker 110 Lawnmower hammer 100 from 1 m from 1 m 90 80 Highway 70 Blaring traffic stereo from 15 m 60 from 1 m 50 **MECP** 40 exclusionary 30 davtime noise Inside level limits 20 home 10 Whispering from 1 m





Vibrations: Basic Concepts

The level of vibration is often used as an indicator of the potential to impact people or nearby structures. A common measure of the intensity of ground vibration is Peak Particle Velocity (PPV). This is a measure of the speed of the ground particles caused as a vibration wave passes. The level of vibration is often expressed in units of millimetres per second (mm/s). Equipment will be located at great enough distances where vibration levels are not expected to be perceptible at residences. The effect of different levels of vibration is shown below.

Effects of ground vibration levels

PPV Level (mm/s) Cracks start 1000 Limit often to develop set for concrete in rock 100 mm/s 635 mm/s 100 Limit for Perceived concrete as severe block walls 10 mm/s 75 mm/s 10 Limit for Lower limit heritage and for damage historic to drywall structures & plaster 3-12 mm/s 8 mm/s Ground Most people distinctly vibrations may perceive become vibration perceptible 1 mm/s 0.1 mm/s



