

Rozelle Interchange & Western Harbour Tunnel Enabling works

Toolbox – Noise & Your Hearing

March 2022



Noise & Your Hearing

Rozelle Interchange & Western Harbour Tunnel Enabling works

Our Activities and Noise

Our Noisy Activities

Tunnel

- Rock bolting and Road header Operations
- Hammering with excavators
- Using power tools
- Activities in and around the Scrubbers or around Ventilation fans

Surface

- Jackhammering
- Working in and around Machinery
- Hammering and working with Hand tools

The Numbers

- If exposed to 85dB or above, you need to wear hearing protection



Consequences of NOT Wearing Hearing Protection

Prolonged exposure to loud noise can damage a person's hearing and can also have other negative effects such as;

- Reduced productivity
- Inability to understand speech or communication issues
- Can cause irritability
- Sleeping problems
- Negative psychological effects with noise exposure being responsible for increased likelihood of developing depression and/or anxiety

Health effects associated with noise:

- Temporary or permanent hearing loss (i.e. Noise Induced Hearing Loss – NIHL)
- Tinnitus (constant ringing in ears – can disrupt sleep/make you irritable)
- Physical and psychological stress

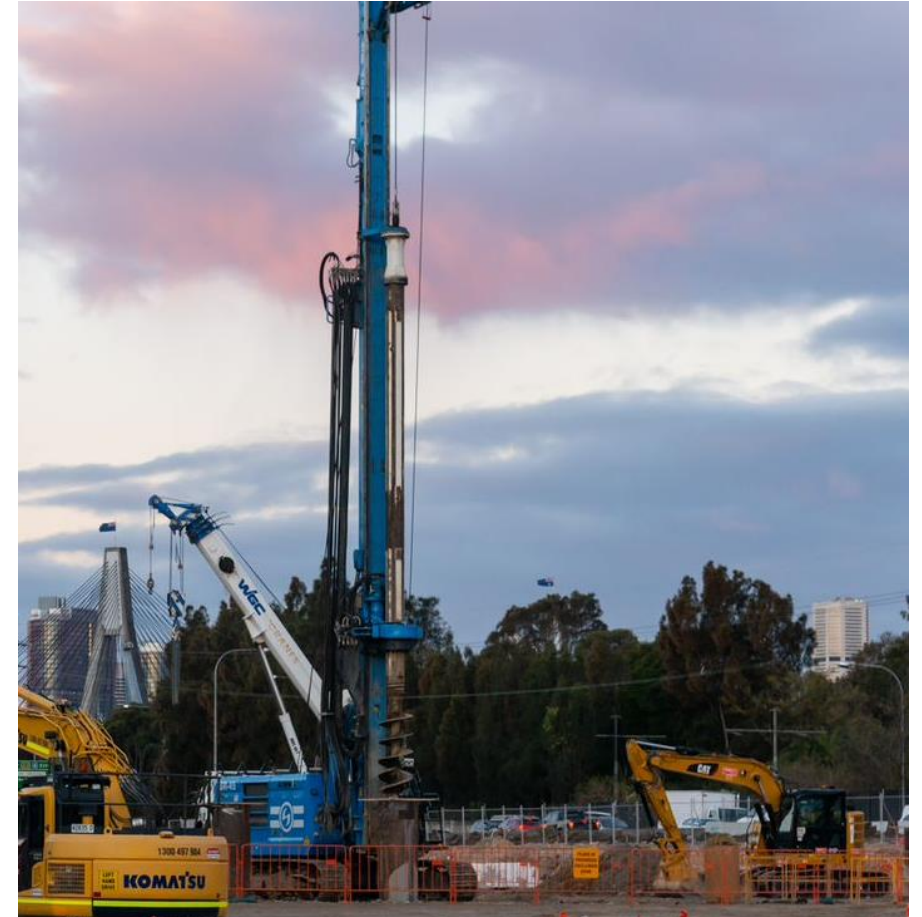
Our Activities and Noise

Our Noisy Activities

Rozelle Interchange
WestConnex

JOHN
HOLLAND

CPB
CONTRACTORS



Noise levels around Fan Stations in tunnel

Noise levels of fans measured with a sound level meter

- Results indicate that noise can reach as high as 101 dB(A)
- Noise remains above the 85 dB(A) workplace exposure standard up to about 3 cross passages away from the ventilation fans

Actions Taken:

- Develop this toolbox to educate workers
- Continued use of hearing protection for all workers in tunnels (hearing protection is mandatory in ALL tunnel areas), hearing protection MUST be class 4 or class 5
- Conduct regular noise monitoring on workers who are working near fan stations in tunnel
- Use Fans with inlet cones and silencers where possible
- Promote initiatives such as ear fit validation and procuring custom made moulded hearing protection for workers
- Increase availability of hearing protection



Noise results in the tunnel

What Happened:

- Noise monitoring is carried out every month as part of the monitoring schedule
- Based on the results that have been returning, the noise levels are high across all tunnels and activities

Actions Taken:

- Hearing protection is mandatory in the tunnel

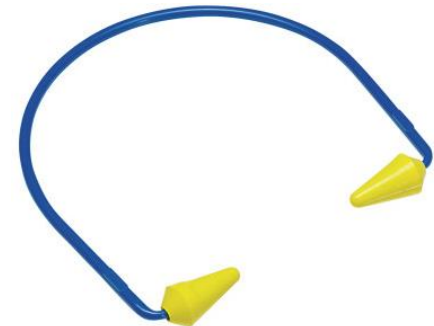
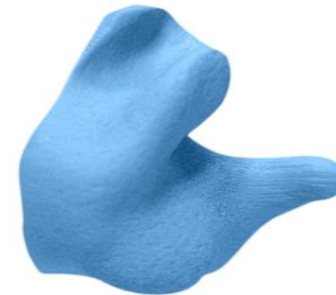
Lessons Learnt:

- Spread noise generating tasks out over a greater distance where possible
- Turn off plant and equipment not in use
- Rotate tasks to reduce extended exposure to noise

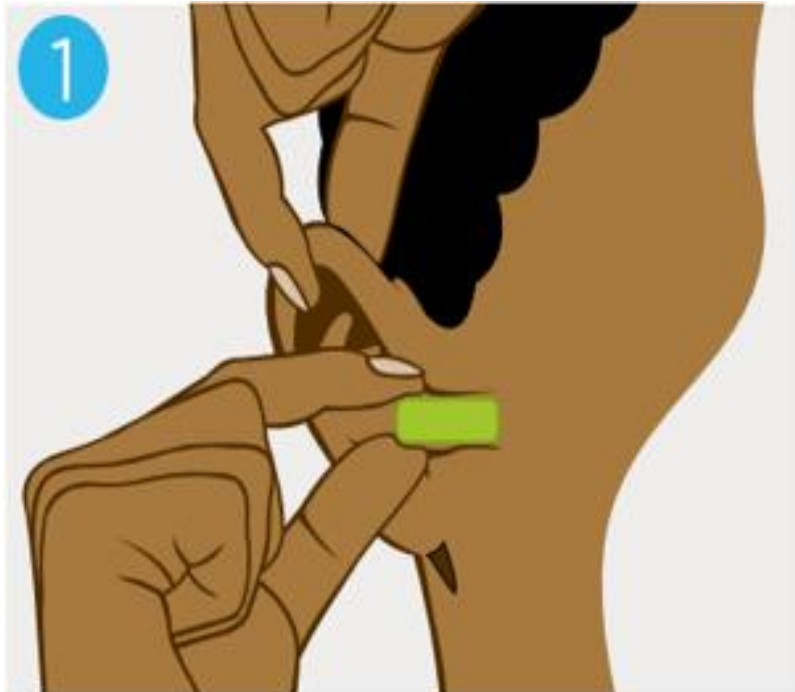
SEG and Sample Number	Activities and work area	Hazardous Agent	WES (dB(A)) / Peak (dB(C))	Minimum Reduction in noise from class 4 earplugs	Sample duration (min)	Measured Results	Exposure Category pre-PPE	Exposure Category post-PPE*	Required to wear hearing protection / Hearing protection worn
SEGF04N sample #II	Cut pipe, then spotting EWP for rest of day (09-02-2022)	Noise	85 dB(A) 8-hour TWA / 140 dB(C) peak	22 dB(A)	355	88.7 dB(A) TWA / 136.2 dB(C) peak	4	2	HPD Required / HPD worn
SEGF01N #V	Install lights and cable for lights M110 XP70-90 (09-02-2022)	Noise	85 dB(A) 8-hour TWA / 140 dB(C) peak	22 dB(A)	336	86.5 dB(A) TWA / 141.0 dB(C) peak	4	2	HPD Required / HPD worn

Hearing Protection Available

- There are many different types of hearing protection provided onsite
 - ✓ Earmuffs
 - ✓ Earplugs
 - ✓ Pre-moulded earplugs
 - ✓ Flat attenuating earplugs
 - ✓ Semi- insert plugs
- For workers exposed to:
 - ✓ Noise above 80 dB(A) (averaged over 8-hours) but less than 85 dB(A) – worker is advised to wear hearing protection (although is not mandatory)
 - ✓ Noise above 85 dB(A) (averaged over 8-hours) – workers must wear hearing protection



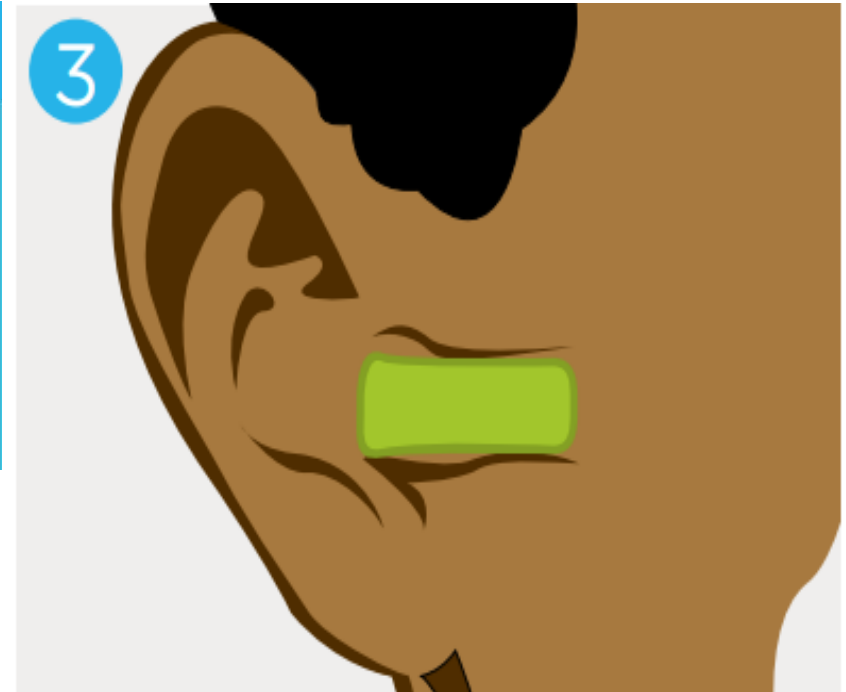
How to Use Your Earplugs Correctly



Reach over your head with a free hand, pull your ear up and back, and insert the earplug well inside your ear canal.



Earplugs should be inserted as shown in this drawing. Stop pushing earplug when your finger touches your ear.



If properly fitted, the end of the earplugs should not be visible to someone looking at you from the front.

Questions? Or Suggestions!

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