

APPENDIX 1: ADDITIONAL SPECIFIC CONTROLS FOR COMMON CONSTRUCTION WORK ACTIVITIES

WORK ACTIVITY

1. AIR TRACK DRILLS		
Type of control	SUBSTITUTION	<ul style="list-style-type: none"> A quieter alternative to the air drill is the hydraulic drill – the drill steel still produces noise but the noisy pneumatic discharge is eliminated
	ISOLATION	<ul style="list-style-type: none"> Use an acoustical enclosure for the drill integrated with an air exhaust muffler. Ensure the enclosure can be easily opened for maintenance
	ENGINEERING	<ul style="list-style-type: none"> See 'Isolation' above
	ADMINISTRATIVE	
2. ANY NOISY WORK IS PROPOSED OUTSIDE OF STANDARD CONSTRUCTION HOURS		
Type of control	SUBSTITUTION	<ul style="list-style-type: none"> Substitute any plant or equipment that generate hazardous noise with plant and equipment that generate noise below 85 dB(A)
	ISOLATION	<ul style="list-style-type: none"> Isolate workers in soundproof cabin of plant/machinery Isolate workers in control room using remote control devices, where practicable
	ENGINEERING	<p>SCREENING</p> <ul style="list-style-type: none"> Erect screening early in the construction program near adjacent, sensitive properties to contain noise from future work, eg: <ul style="list-style-type: none"> – build permanent fences etc that are part of the final design – build boundary hoardings and site huts, especially if there are no gaps Plywood or chipboard panels can be lined with sound-absorbing material (eg: synthetic mineral wool) to create noise containing screens or enclosures Simple portable screens, located very close together, can effectively reduce the effects of noisy work in small areas (eg: jack hammering, plate compaction) The length of the barrier should be greater than its height
	ADMINISTRATIVE	<ul style="list-style-type: none"> Arrange delivery and unloading of materials to specific and agreed locations to screen noise
3. BREAKING CONCRETE		
Type of control	SUBSTITUTION	
	ISOLATION	
	ENGINEERING	<ul style="list-style-type: none"> Use equipment that breaks concrete by crushing it rather than drilling through it Use hydraulic and chemical expansion methods. Even explosive methods can be tailor-made for the job and may be appropriate
	ADMINISTRATIVE	<ul style="list-style-type: none"> Always consult the occupants of adjoining properties before work starts

WORK ACTIVITY (cont.)

4. CIRCULAR SAW		
Type of control	SUBSTITUTION	
	ISOLATION	
	ENGINEERING	<ul style="list-style-type: none"> Spiral cut gears are reputedly quieter rather than spur cut gears
	ADMINISTRATIVE	<ul style="list-style-type: none"> Saw blade noise can be reduced (perhaps by up to 5 dB) by using sharp blades
5. CONCRETE POURING		
Type of control	ELIMINATION	<ul style="list-style-type: none"> In the design stage, architects and engineers may be able to incorporate reduced slab sizes to avoid the need to extend construction hours
	SUBSTITUTION	
	ISOLATION	<ul style="list-style-type: none"> Concrete pumping should be located away from sensitive boundaries
	ENGINEERING	<ul style="list-style-type: none"> The use of accelerants and heaters should be considered to reduce setting times
	ADMINISTRATIVE	<ul style="list-style-type: none"> The noise from large concrete pumps can often cause complaints from nearby businesses etc, even in the central city. Place concrete orders early so that suppliers can offer a choice of delivery times after 7.30am
6. DROP HAMMER PILING		
Type of control	SUBSTITUTION	<ul style="list-style-type: none"> Substitute with quieter types of piling such as augured or vibratory piling as a first option The choice of drop hammer rigs should be a last resort (unless there are good engineering reasons to confirm that the ground conditions are not suitable)
	ISOLATION	<ul style="list-style-type: none"> Enclose the entire pile and hammer
	ENGINEERING	<ul style="list-style-type: none"> Use purpose-made dollies or blocks of plywood to reduce the noise from the contact of the hammer with the pile helmet The design of the equipment and the pile helmet should ensure that damping can be utilised If possible, add shrouds to help contain noise at the hammer
	ADMINISTRATIVE	<ul style="list-style-type: none"> Planned breaks may be necessary to fit in with adjoining business activities
7. HEAVY MOBILE EQUIPMENT eg: trucks, bulldozers, front-end loaders		
Type of control	SUBSTITUTION	
	ISOLATION	
	ENGINEERING	<ul style="list-style-type: none"> Purchase or hire mobile plant with: <ul style="list-style-type: none"> engine intake mufflers sound absorbing hoods over engines isolation of hydraulic reservoirs/valves from cab's control box
	ADMINISTRATIVE	

WORK ACTIVITY (cont.)

9. PORTABLE AIR COMPRESSORS		
Type of control	SUBSTITUTION	
	ISOLATION	<ul style="list-style-type: none"> • Use a combination of enclosures fitted around the engine and compressor • Isolate the machine vibration from the frame
	ENGINEERING	<ul style="list-style-type: none"> • Use a combination of enclosures fitted around the engine and compressor • Isolate the machine vibration from the frame
	ADMINISTRATIVE	
10. SAW CUTTING OF PAVERS AND PAVEMENT SLABS		
Type of control	SUBSTITUTION	
	ISOLATION	<ul style="list-style-type: none"> • Establish a cutting station with the saw enclosed in an acoustic enclosure
	ENGINEERING	<ul style="list-style-type: none"> • Establish a cutting station with the saw enclosed in an acoustic enclosure
	ADMINISTRATIVE	
11. FOR ANY SAW CUTTING		
Type of control	SUBSTITUTION	
	ISOLATION	
	ENGINEERING	<ul style="list-style-type: none"> • Choose a saw blade with: <ul style="list-style-type: none"> - the greatest number of teeth and of the smallest width - gullets as small as possible - built in vibration dampening slots
	ADMINISTRATIVE	
12. SITE MONITORING		
Type of control	SUBSTITUTION	
	ISOLATION	
	ENGINEERING	
	ADMINISTRATIVE	<ul style="list-style-type: none"> • Look out for engines left idling when not in use, noisy mufflers on plant and noisy site radios • Make sure that unnecessary metallic impact noise is avoided from: <ul style="list-style-type: none"> - dropping scaffolding poles - placement of roading plates - moving metal fencing - the clanking of chains on crane hoists • Do workers have to shout at arm's-length to communicate?

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 SafeWork NSW, 92-100 Donnison Street,
 Gosford, NSW 2250
 Locked Bag 2906, Lisarow, NSW 2252
 Customer Service Centre 13 10 50
 Website www.safework.nsw.gov.au
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