

Commercial 1 (Unit 27)

+612 9587 9702

DELIVERING SOUND ADVICE

637-645 Forest Road

office@koikasacoustics.com

Bexley NSW 2207

www.koikasacoustics.com

ABN: 12 058 524 771

Date: Thursday, 9 July 2026
Our Reference: 7305L20260709rcf8BaltimoreStreetBelfield.docx
Project No.: 7305
Prepared For: Sung Eun Im & Kyoung Ae Baik
Email: jihosulove@gmail.com

RE: RAIL NOISE INTRUSION – NO. 8 BALTIMORE STREET, BELFIELD NSW

Koikas Acoustics Pty Ltd was requested to address the potential for rail noise intrusion to the proposed development of a residential dwelling at 8 Baltimore Street, Belfield, NSW.

Following the initial investigation of the subject site's location, the site is predicted not to be adversely affected by rail traffic noise due to the lack of line of sight and the low speed limit from the nearby classified rail corridor. The closest distance to the boundary of the nearest rail corridor is approximately 48 meters.

Based on the above, it is the professional opinion of Koikas Acoustics that the rail noise impact from the nearby rail corridor to the subject site is low and a detailed rail noise assessment is not warranted. Refer to Figure 1.





Figure 1. Site location and proximity to the rail line – Image source: NSW Explorer v1.2

The NSW DoPI Road and Rail Development Near Rail Corridors and Busy Roads – Interim Guideline categorises developments into zones, detailing the required depth of an acoustic report. 8 Baltimore Street, Belfield has a distance of 48 m between the rear boundary closest to the rail corridor and the nearest point of the rail corridor, with line-of-sight shielded by the rear dwelling fronting Bruce Avenue, and surrounding neighbouring dwellings. This categorises 8 Baltimore Street, Belfield as being within Zone B.

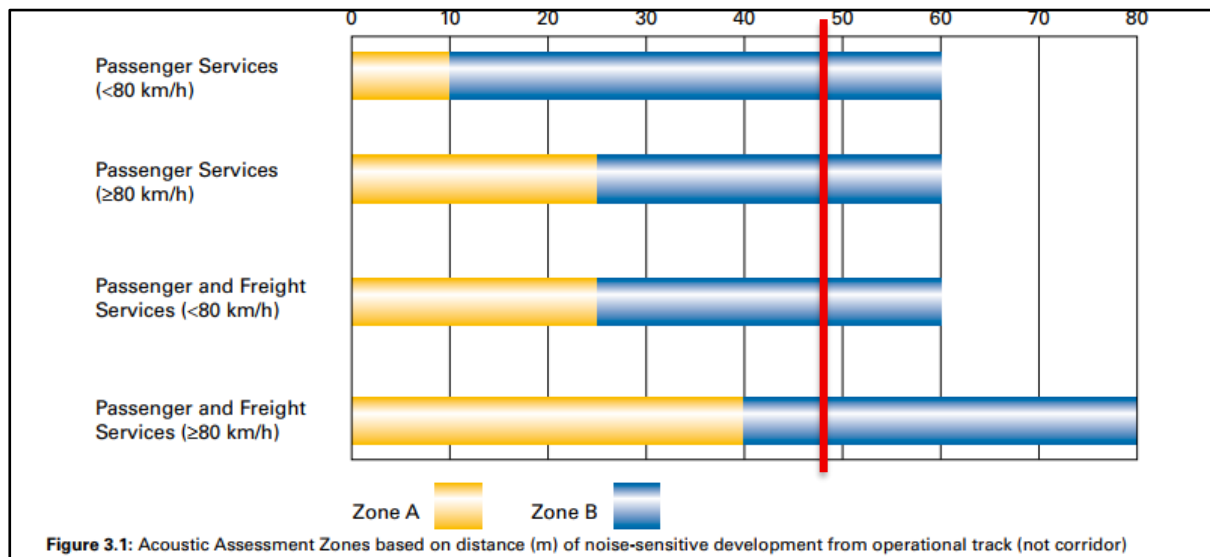


Figure 2. Acoustic assessment zones for rail corridors – Image source: NSW DoPI Development Near Rail Corridors and Busy Roads – Interim Guideline

As the assessment site is located in Zone B, the noise impact can be adequately addressed by considering this site under Noise Control Treatment Category 2 (Appendix C, Development near rail corridors and busy roads – Interim Guidelines – NSW DoP). By achieving the Category 2 minimum acoustic performance of building elements (Figure 3) and utilising the Category 2 standard constructions (Figure 4), the proposed residential dwelling is expected to be acoustically satisfactory.

Category of Noise Control Treatment	R _w of Building Elements (minimum assumed)				
	Windows/Sliding Doors	Frontage Facade	Roof	Entry Door	Floor
Category 1	24	38	40	28	29
Category 2	27	45	43	30	29
Category 3	32	52	48	33	50
Category 4	35	55	52	33	50
Category 5	43	55	55	40	50

Figure 3. The acoustic performance of building elements – Category 2

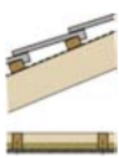
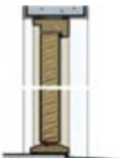
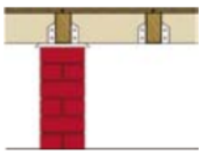
Category No.	Building Element	Standard Constructions	sample
2	Windows/Sliding Doors	Openable with minimum 6mm monolithic glass and full perimeter acoustic seals	
	Frontage Facade	Timber Frame or Cladding Construction: 6mm fibre cement sheeting or weatherboards or plank cladding externally, 90mm deep timber stud or 92mm metal stud, 13mm standard plasterboard internally with R2 insulation in wall cavity.	
		Brick Veneer Construction: 110mm brick, 90mm timber stud frame or 92mm metal stud, minimum 50mm clearance between masonry and stud frame, 10mm standard plasterboard internally.	
		Double Brick Cavity Construction: 2 leaves of 110mm brickwork separated by 50mm gap	
	Roof	Pitched concrete or terracotta tile or metal sheet roof with sarking, 10mm plasterboard ceiling fixed to ceiling joists, R2 insulation batts in roof cavity.	
	Entry Door	40mm solid core timber door fitted with full perimeter acoustic seals	
	Floor	1 layer of 19mm structural floor boards, timber joist on piers	
		Concrete slab floor on ground	

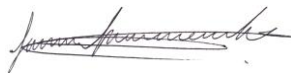
Figure 4. Standard constructions - Category 2

Alternate building materials could also be considered provided that adequate evidence is available to demonstrate compliance with the R_w ratings nominated under Noise Control Treatment Category 2. It is noted that R_w is a laboratory-derived weighted sound reduction rating. A high R_w rating means that the partition element provides better sound reduction. The above standard constructions are satisfactory provided that there are no air gaps at the junctions.

Based on the application of the screening assessment, outlined in the NSW Department of Planning's Development Near Rail Corridors and Busy Roads Interim Guideline, our assessment concludes that the proposed dwelling can be sufficiently insulated from rail noise and vibration using category 2 construction elements.

Koikas Acoustics believes that the potential rail noise intrusion requirements have been adequately addressed, and no further consideration is required for rail noise for the proposed residential dwelling at No. 8 Baltimore Street, Belfield, NSW.

Prepared by: James Tseverementzis (M.A.A.S)
Managing Consultant (Acoustics)



Koikas Acoustics Pty Ltd

