



HARRISDALE NORTH - Local Development Plan Lots 201 and 202 Skeet Road, Harrisdale, Armadale, WA



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Lloyd George Acoustics Lloyd George Acoustics

Quiet House Package A

Element	Orientation	Room		
		Bedroom Indoor Living and Work Areas		
External Windows	Facing	 Up to 40% floor area (R_w + C_{tr} ≥ 28): Sliding or double hung with minimum 10mm single or 6mm-12mm-10mm double insulated glazing; Sealed awning or casement windows with minimum 6mm glass. Up to 60% floor area (R_w + C_{tr} ≥ 31): 		
	Side On	As above, except R _w + C _{tr} values may be 3 dB less or max % area increased by 20%.		
	Opposite	No specific requirements		
External Doors	Facing	 Fully glazed hinged door with certified R_w + C_{tr} ≥ 28 rated door and frame including seals and 6mm glass. Doors to achieve R_w + C_{tr} ≥ 25: 35mm Solid timber core hinged door and frame system certified to R_w 28 including seals; Glazed sliding door with 10mm glass and weather seals. 		
	Side On	As above, except R _w + C _{tr} values may be 3 dB less.		
	Opposite	No specific requirements		
External Walls	All	 R_w + C_{tr} ≥ 45: Two leaves of 90mm thick clay brick masonry with minimum 20mm cavity; or Single leaf of 150mm brick masonry with 13mm cement render on each face; or One row of 92mm studs at 600mm centres with: Resilient steel channels fixed to the outside of the studs; and 9.5mm hardboard or fibre cement sheeting or 11mm fibre cement weatherboards fixed to the outside; 75mm thick mineral wool insulation with a density of at least 11kgkg/m³; and 2 x 16mm fire-rated plasterboard to inside. 		
Roofs and Ceilings	All	R _w + C _{tr} ≥ 35: Concrete or terracotta tile or metal sheet roof with sarking and at least 10mm plasterboard.		

Quiet House Package B

Element	Orientation	Room
		Bedroom Indoor Living and Work Areas
External Windows	Facing	 Up to 40% floor area (R_w + C_{tr} ≥ 31): Fixed sash, awning or casement with minimum 6mm glass or 6mm-12mm-6mm double insulated glazing. Up to 60% floor area (R_w + C_{tr} ≥ 34): Fixed sash, awning or casement with minimum 10mm glass or 6mm-12mm-10mm double insulated glazing. Up to 60% floor area (R_w + C_{tr} ≥ 34): Up to 80% floor area (R_w + C_{tr} ≥ 31); Up to 80% floor area (R_w + C_{tr} ≥ 34).
	Side On	As above, except R _w + C _{tr} values may be 3 dB less or max % area increased by 20%.
	Opposite	As above, except R _w + C _{tr} values may be 6 dB less or max % area increased by 20%.
External Doors	Facing	 Fully glazed hinged door with certified R_w + C_{tr} ≥ 31 rated door and frame including seals and 10mm glass. Doors to achieve R_w + C_{tr} ≥ 28: 40mm Solid timber core hinged door and frame system certified to R_w 32 including seals; Fully glazed hinged door with certified R_w + C_{tr} ≥ 28 rated door and frame including seals and 6mm glass.
	Side On	As above, except R _w + C _{tr} values may be 3 dB less or max % area increased by 20%.
	Opposite	As above, except R _w + C _{tr} values may be 6 dB less or max % area increased by 20%.
External Walls	All	 R_w + C_{tr} ≥ 50: Two leaves of 90mm thick clay brick masonry with minimum 50mm cavity betwee leaves and 25mm glasswool or polyester (24kg/m³). Resilient ties used when required to connect leaves. Two leaves of 110mm clay brick masonry with minimum 50mm cavity betwee leaves and 25mm glasswool or polyester insulation (24kg/m³). Single leaf of 220mm brick masonry with 13mm cement render on each face. 150mm thick unlined concrete panel or 200mm thick concrete panel with one layer of 13mm plasterboard or 13mm cement render on each face. Single leaf of 90mm clay brick masonry with: A row of 70mm x 35mm timber studs or 64mm steel studs at 600mm centres. A cavity of 25mm between leaves; 50mm glasswool or polyester insulation (11kg/m³) between studs; and One layer of 10mm plasterboard fixed to the inside face.
Roofs and Ceilings	All	R _w + C _{tr} ≥ 35: Concrete or terracotta tile or metal sheet roof with sarking and at least 10mr plasterboard ceiling with R3.0+ fibrous insulation.





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Quiet House Package C

QUICI	110026	rackage C		
Element	Orientation	Room		
		Bedroom Indoor Living and Work Areas		
External Windows	Facing	 Up to 20% floor area (R_w + C_{tr} ≥ 31): Fixed sash, awning or casement with minimum 6mm glass or 6mm-12mm-6mm double insulated glazing. Up to 40% floor area (R_w + C_{tr} ≥ 34): Fixed sash, awning or casement with minimum 6mm glass or 6mm-12mm-6mm double insulated glazing. Up to 60% floor area (R_w + C_{tr} ≥ 34): Fixed sash, awning or casement with minimum 10mm glass or 6mm-12mm-10mm double insulated glazing. Fixed sash, awning or casement with minimum 10mm glass or 6mm-12mm-10mm double insulated glazing. Fixed sash, awning or casement with minimum 10mm glass or 6mm-12mm-10mm double insulated glazing. Fixed sash, awning or casement with minimum 10mm glass or 6mm-12mm-10mm double insulated glazing.		
	Side On	As above, except R_{w} + C_{tr} values may be 3 dB less or max $\%$ area increased by 20%.		
	Opposite	As above, except R _w + C _{tr} values may be 6 dB less or max % area increased by 20%.		
External Doors	Facing	 Not recommended. Doors to achieve R_w + C_{tr} ≥ 30: Fully glazed hinged door with certified R_w + C_{tr} ≥ 31 rated door and frame including seals and 10mm glass; 40mm Solid timber core side hinged door, frame and seal system certified to R_w 32 including seals. Any glass inserts to be minimum 6mm. 		
	Side On	As above, except R _w + C _{tr} values may be 3 dB less or max % area increased by 20%.		
	Opposite	As above, except R _w + C _{tr} values may be 6 dB less or max % area increased by 20%.		
External Walls	All	 R_w + C_{tr} ≥ 50: Two leaves of 90mm thick clay brick masonry with minimum 50mm cavity between leaves and 25mm glasswool or polyester insulation (24kg/m³). Resilient ties used where required to connect leaves. Two leaves of 110mm clay brick masonry with minimum 50mm cavity between leaves and 25mm glasswool or polyester insulation (24kg/m³). Single leaf of 220mm brick masonry with 13mm cement render on each face. 150mm thick unlined concrete panel or 200mm thick concrete panel with one layer of 13mm plasterboard or 13mm cement render on each face. Single leaf of 90mm clay brick masonry with:		
Roofs and Ceilings	All	R _w + C _{tr} ≥ 40: Concrete or terracotta tile roof with sarking, or metal sheet roof with foil backed R2.0+ fibrous insulation between steel sheeting and roof battens; R3.0+ insulation batts above ceiling; 2 x 10mm plasterboard ceiling or 1 x 13mm sound-rated plasterboard affixed using steel furring channel to ceiling rafters.		

Mechanical Ventilation requirements

In implementing the acceptable treatment packages, the following mechanical ventilation / airconditioning considerations are required:

- Acoustically rated openings and ductwork to provide a minimum sound reduction performance of R_w 40 dB into sensitive spaces;
- Evaporative systems require attenuated ceiling air vents to allow closed windows;
- Refrigerant based systems need to be designed to achieve National Construction Code fresh air ventilation requirements;
- Openings such as eaves, vents and air inlets must be acoustically treated, closed or relocated to building sides facing away from the corridor where practicable.

Notification

Notifications on title advise prospective purchasers of the potential for noise impacts from major transport corridors and help with managing expectations.

The Notification is to state as follows:

This lot is in the vicinity of a transport corridor and is affected, or may in the future be affected, by road and rail transport noise. Road and rail transport noise levels may rise or fall over time depending on the type and volume of traffic.