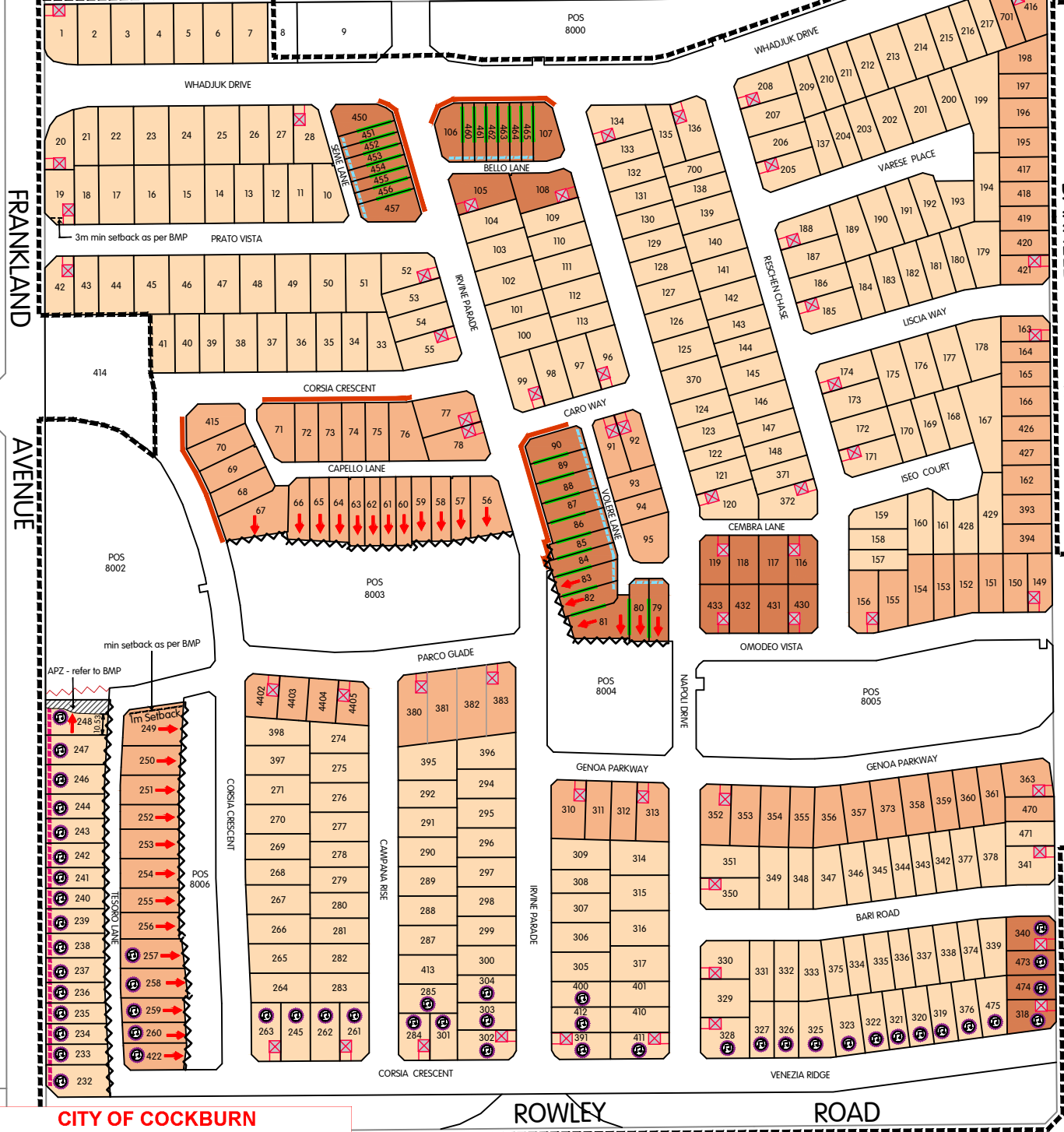


LEGEND

- Local Development Plan Boundary
- Proposed Lot Boundary
- Future Lot Boundary
- RMD R25
- RMD R30
- RMD R40
- No Vehicular Access
- 1.0 metre garage setback (to allow space for bin collection)
- Developer retaining & fencing
- Developer fencing (colorbond)
- Non-habitable Development (Refer to Stage 13 Bushfire Management Plan APZ requirements)
- Building orientation - Outdoor Living Area to address public open space. (entry point to adjoining public open space not required)
- Lots Affected by Quiet House Design Requirements (refer to Page 2 of this LDP)
- Double Storey Boundary Walls (refer provisions marked green on this LDP, not applicable to single storey dwellings)
- Mandatory Garage (refer table cl. 5.3.5)
- Tree Retention (Eaves permitted; 12.5m wide building envelopes as depicted)
- For Frankland Avenue Lots driveways are to be designed for two-way access to allow for vehicles to enter the street in forward gear (refer to garage access diagram)



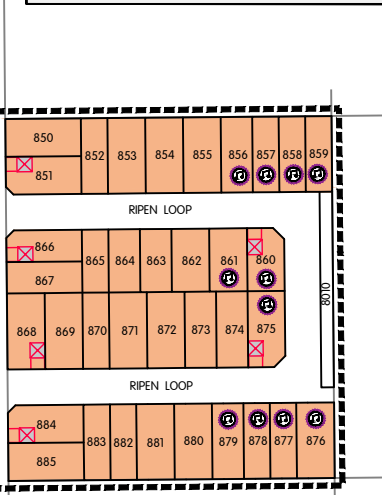
R-Code Variations

Vehicular Access
Clause 5.3.5 - C5.1 and C5.3

For lots denoted with mandatory garages, access to on-site car parking spaces is to be provided from the primary street frontage.

Where driveways are provided on the Primary Street, driveways shall be no closer than 1m to the point at which the carriageway begins to deviate for a street corner.

Bushfire Note:
Lots are subject to an approved Bushfire Management Plan and BAL assessment; however, since the majority of lots in this LDP are situated within a designated bushfire prone area, the Bushfire Attack Level (BAL) for proposed buildings may, at the discretion of City of Cockburn, need to be confirmed at the building permit stage in accordance with relevant WA building legislation.



Lots 232-248 Frankland Avenue Garage Access Diagram

Lots fronting Frankland Avenue are required to build a driveway turning circle within the lot setback area to allow car to be able to reverse into the turning bay and then drive forward out onto Frankland Avenue. (see Lots 232-248 Frankland Avenue Garage Access Diagram).

Clause 5.3.2 C2.ii Landscaping of the Residential Design Codes, landscaping of the street setback area, with not more than 50 percent of this area to consist of impervious surfaces, is not applicable.

LOCAL DEVELOPMENT PLAN - VIVENTE ESTATE

This Local Development Plan (LDP) is made under the provisions of the City of Cockburn Town Planning Scheme No. 3 (TPS3) and provides variations to the 'Deemed-to-comply' provisions of the Residential Design Codes (R-Codes), TPS3 and Local Planning Policies as shown on the plan and written below. The requirements of the R-Code and the Policies shall be satisfied in all other matters.

This approved LDP shall repeal and supersede LDP 19/12 for Lots 402, 403, 404 and 405 fronting Parco Glade.

Development Approval is exempt for any Single House that is compliant with the provisions of this LDP, the R-Codes, TPS3, and all relevant Local Planning Policies.

This LDP applies to all lots shaded and within the Local Development Plan Boundary as denoted on the plan. The LDP provisions only apply to Single Houses.

Minor variations to the R-Codes, Local Policies and this LDP will require Development Approval by the City of Cockburn.

For lots affected by Quiet House Design Requirements, refer to Page 2 of this LDP and the Transportation Noise Assessment prepared by Lloyd George Acoustics. A copy of the Transportation Noise Assessment can be obtained from the City of Cockburn.

Lots may be affected by Bushfire Attack Level (BAL) construction standards. Copies of the Bushfire Management Plan can be obtained from the City of Cockburn.

Lots affected by a 'No Vehicular Access' provision shall restrict vehicle access on boundaries identified on the map.

R-Code Variations	R25 Lots	R30 Lots	R40 Lots	
Street Setback & Front Fences	3.0 metre minimum, no average.	(R30 & R40 only) 2.0 metre minimum, no average (Excl. Frankland Ave Lots)		
	1.5 metres to porch / veranda / portico or similar, no maximum length.			
	1.5 metres minimum to secondary street.	(R30 & R40 only) 1.0 metre minimum to secondary street.		
Lot Boundary Setback	Where street setbacks are less than 4.0 meters, Front fences within the primary street setback area being a maximum height of 0.9 metres above natural ground level, measured from the primary street side of the front setback.			
	Provided the front setback is greater than 4.0 metres, a front fence within the primary street setback area being a maximum of 1.8 metres above natural ground level and visually permeable above 1.2 metres, measured from the primary street side of the front fence.			
	Uniform fencing shall be provided by the developer where shown on the map for lots abutting the POS, and shall be visually permeable above 1.2 metres, measured from the top of any retaining wall. Any uniform fencing shall be maintained by the landowner, and shall not be modified without written consent from the City of Cockburn.			
Open Space	Boundary Setbacks			
	1.2 metres for wall height 3.5 metres or less with major openings. 1.0 metre for wall height 3.5 metres or less without major openings.			
Garage setback and width and vehicular access	Boundary Walls (R40 only) To both side boundaries subject to: no maximum length to one side boundary, 2/3 max length to second side boundary for wall height 3.5 metres or less (or 6.0 metres or less for lot boundaries marked in green on the plan).			
	An outdoor living area (OLA) with an area of 10% of the lot size or 20sqm, whichever is greater, directly accessible from a habitable room of the dwelling and located behind the street setback area.			
	The OLA has a minimum 3.0 metres length or width dimension. No other R-Codes site cover standards apply. At least 70% of the OLA must be uncovered and includes areas under eaves which adjoin uncovered areas.			
Overshadowing	Rear Load			
	1.0 metre garage setback to laneway for lots marked with a light blue dashed line on the plan. --- 0.5 metre garage setback to laneway for all unmarked rear load lots.			
	Front Load 4.5 metre garage setback from the primary street and 1.5 metres from a secondary street. The garage setback from the primary street may be reduced to 4.0 metres where an existing or planned footpath or shared path is located more than 0.5 metres from the street boundary. For front loaded lots with street frontages between 10.5 and 12 metres, a double garage is permitted to a maximum width of 6.0 metres as viewed from the street subject to: <ul style="list-style-type: none"> garage setback a minimum of 0.5 metres behind the building alignment; a major opening to a habitable room directly facing the primary street; An entry feature consisting of a porch, veranda, portico, or similar element with a minimum depth of 1.2 metres; & no vehicular crossover wider than 4.5 metres where it meets the street. Lots with a frontage less than 10.5 metres or not compliant with the above require single or tandem garaging.			
Privacy	No maximum overshadowing for wall height 3.5 metres or less (or 6.0 metres or less for lot boundaries marked in green on the plan).			
	No maximum overshadowing for wall height greater than 3.5 metres where overshadowing is confined to the front half of the lot. If overshadowing intrudes into rear half of the lot, shadow cast does not exceed 25% of the rear half of the lot.			
<table border="1"> <tr> <td>(R30 & R40 only) No maximum overshadowing for wall height greater than 3.5 metres (or greater than 6.0 metres for lot boundaries marked in green on the plan) where overshadowing is confined to the front half of the lot. If overshadowing intrudes into rear half of the lot, shadow cast does not exceed 35% of the rear half of the lot.</td> </tr> </table>				(R30 & R40 only) No maximum overshadowing for wall height greater than 3.5 metres (or greater than 6.0 metres for lot boundaries marked in green on the plan) where overshadowing is confined to the front half of the lot. If overshadowing intrudes into rear half of the lot, shadow cast does not exceed 35% of the rear half of the lot.
(R30 & R40 only) No maximum overshadowing for wall height greater than 3.5 metres (or greater than 6.0 metres for lot boundaries marked in green on the plan) where overshadowing is confined to the front half of the lot. If overshadowing intrudes into rear half of the lot, shadow cast does not exceed 35% of the rear half of the lot.				

CITY OF COCKBURN
LOCAL DEVELOPMENT PLAN
AMENDMENT TO LDP24/04

APPROVED

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RICHARD NOBLE GOLD ESTATES
PROPERTY INTEGRITY COMMUNITY

ASSESSMENT NOTE
This LDP has been prepared by HATCH Urban Solutions on behalf of Gold Estates c/- Richard Noble. The City of Cockburn will administer all matters relating to the LDP. Any assessment enquiries should be directed to the City of Cockburn.



CADASTRAL INFORMATION
SOURCE: MNG
YYMMDD: 220426
DWG REF: 96326lots-9999bn-PCG94
PROJECTION: PCG94

IN ACCORDANCE WITH CLAUSE 57 OF THE REGULATIONS, THE APPROVAL HAS EFFECT FOR A PERIOD OF THREE (3) YEARS FROM THE DATE OF THIS APPROVAL.

HATCH

AV MINOR AMENDMENTS DIAGRAM AND TEXT	241120	FGH	TT
AU REMOVE INCLUSION LOT 414	241112	FGH	TT
AT AMEND CLAUSE FOR FRONT LANDSCAPING	241031	SB	TT
AS ADD NEW RMD R20/RP/VE LOTS	241025	CR	TT

VIVENTE ESTATE LOCAL DEVELOPMENT PLAN
BARFIELD ROAD LOCAL STRUCTURE PLAN
City of Cockburn

PAGE 1 OF 2
REF NO. RIC HAM
DRAW NO. RD1 402
REV. AV

DISCLAIMER: ISSUED FOR DESIGN INTENT ONLY. ALL AREAS AND DIMENSIONS ARE SUBJECT TO DETAIL DESIGN AND SURVEY

In accordance with Clause 57 of the Regulations, the approval has effect for a period of Three (3) years from the date of this approval.

**CITY OF COCKBURN
LOCAL DEVELOPMENT PLAN
AMENDMENT TO LDP24/04**

APPROVED

**21 Nov 2024
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Plan 2 of 11**



Signs and symbols

- Local Development Plan Boundary
- Package A (Kwinana Fwy)
- Package A (Rowley Rd)
- Package A (Both Roads)
- Package B (Kwinana Fwy)
- Package B (Rowley Rd)
- Package B (Both Roads)
- Package C (Rowley Rd & Frankland Ave)
- Package C (Frankland Ave)
- 3m High Noise Wall

Quiet House Design Requirements:

For lots effected by Quiet House Design Packages as depicted on this plan, refer to Appendix A of the Transportation Noise Assessment prepared by Lloyd George Acoustics.

Where a lot is noise affected and double storey construction is proposed, a specific assessment on that dwelling is required and to be undertaken by a suitably qualified acoustical consultant (member firm of Australian Acoustical Consultants).

Noise Report Reference: 14113024-03a

Noise Report Date: 29 Sep 2020

Noise Report (Stage 13) Date: 24 April 2024

Noise Report Reference: 24018670-02B Stage 13

Report available from the City of Cockburn



ASSESSMENT NOTE
This LDP has been prepared by HATCH Urban Solutions on behalf of Gold Estates c/- Richard Noble. The City of Cockburn will administer all matters relating to the LDP. Any assessment enquiries should be directed to the City of Cockburn.



1:3000
0 metres 30 60 90 120 150

CADASTRAL INFORMATION
SOURCE: MNG
YYMMDD: 220426
DWG REF: 96326lots-9999bn-PCG94
PROJECTION: PCG94



REV	DESCRIPTION	YYMMDD	DRAWN	APPR'D
AU	UPDATE NOISE REPORT INFORMATION	241112	FGH	TT
AT	AMEND CLAUSE FOR FRONT LANDSCAPING	241031	SB	TT
AS	ADD NEW RMD R20/REVISE LOTS	241025	SB	TT

VIVENTE ESTATE LOCAL DEVELOPMENT PLAN
BARFIELD ROAD LOCAL STRUCTURE PLAN
City of Cockburn

PAGE 2 OF 2 REF NO. **RIC HAM** DRAW NO. **RD1 402** REV. **AU**

DISCLAIMER: ISSUED FOR DESIGN INTENT ONLY. ALL AREAS AND DIMENSIONS ARE SUBJECT TO DETAIL DESIGN AND SURVEY

Quiet House Package A – Affected by Kwinana Freeway

Element	Orientation	Room	
		Bedroom	Indoor Living and Work Areas
External Glazing	Facing	<ul style="list-style-type: none"> Up to 40% floor area ($R_w + C_{tr} \geq 28$): <ul style="list-style-type: none"> 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 ($R_w + C_{tr} \geq 31$): <ul style="list-style-type: none"> Sealed awning or casement windows with minimum 6mm glass. 	<ul style="list-style-type: none"> Up to 40% floor area ($R_w + C_{tr} \geq 25$): <ul style="list-style-type: none"> Sliding or double hung with minimum 6mm single or 6mm-12mm-6mm double insulated glazing; Up to 60% floor area ($R_w + C_{tr} \geq 28$); Up to 80% floor area ($R_w + C_{tr} \geq 31$).
	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	<ul style="list-style-type: none"> Fully glazed hinged door with certified $R_w + C_{tr} \geq 28$ rated door and frame including seals and 6mm glass. 	<ul style="list-style-type: none"> Doors to achieve $R_w + C_{tr} \geq 25$: <ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> $R_w + C_{tr} \geq 45$: <ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> 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 11kg/m³; and 2 x 16mm fire-rated plasterboard to inside. 	
Roofs and Ceilings	All	<ul style="list-style-type: none"> $R_w + C_{tr} \geq 35$; Concrete or terracotta tile or metal sheet roof with sarking and at least 10mm plasterboard. 	

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LOCAL DEVELOPMENT PLAN
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APPROVED

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Quiet House Package A – Affected by Rowley Road

Element	Orientation	Room	
		Bedroom	Indoor Living and Work Areas
External Glazing	Facing	<ul style="list-style-type: none"> Up to 40% floor area ($R_w + C_{tr} \geq 28$): <ul style="list-style-type: none"> 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 ($R_w + C_{tr} \geq 31$): <ul style="list-style-type: none"> Sealed awning or casement windows with minimum 6mm glass. 	<ul style="list-style-type: none"> Up to 40% floor area ($R_w + C_{tr} \geq 25$): <ul style="list-style-type: none"> Sliding or double hung with minimum 6mm single or 6mm-12mm-6mm double insulated glazing; Up to 60% floor area ($R_w + C_{tr} \geq 28$); Up to 80% floor area ($R_w + C_{tr} \geq 31$).
	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	<ul style="list-style-type: none"> Fully glazed hinged door with certified $R_w + C_{tr} \geq 28$ rated door and frame including seals and 6mm glass. 	<ul style="list-style-type: none"> Doors to achieve $R_w + C_{tr} \geq 25$: <ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> $R_w + C_{tr} \geq 45$: <ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> 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 11kg/m³; and 2 x 16mm fire-rated plasterboard to inside. 	
Roofs and Ceilings	All	<ul style="list-style-type: none"> $R_w + C_{tr} \geq 35$; Concrete or terracotta tile or metal sheet roof with sarking and at least 10mm plasterboard. 	

CITY OF COCKBURN LOCAL DEVELOPMENT PLAN AMENDMENT TO LDP24/04

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Quiet House Package A – Both Roads (Kwinana Fwy & Rowley Rd)

Element	Orientation	Room	
		Bedroom	Indoor Living and Work Areas
External Glazing	Facing Kwinana Freeway / Rowley Road	<ul style="list-style-type: none"> Up to 40% floor area ($R_w + C_{tr} \geq 28$): <ul style="list-style-type: none"> 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 ($R_w + C_{tr} \geq 31$): <ul style="list-style-type: none"> Sealed awning or casement windows with minimum 6mm glass. 	<ul style="list-style-type: none"> Up to 40% floor area ($R_w + C_{tr} \geq 25$): <ul style="list-style-type: none"> Sliding or double hung with minimum 6mm single or 6mm-12mm-6mm double insulated glazing; Up to 60% floor area ($R_w + C_{tr} \geq 28$); Up to 80% floor area ($R_w + C_{tr} \geq 31$).
	Side On to Kwinana Freeway / Rowley Road	As above, except $R_w + C_{tr}$ values may be 3 dB less or max % area increased by 20%.	
External Doors	Facing Kwinana Freeway / Rowley Road	<ul style="list-style-type: none"> Fully glazed hinged door with certified $R_w + C_{tr} \geq 28$ rated door and frame including seals and 6mm glass. 	<ul style="list-style-type: none"> Doors to achieve $R_w + C_{tr} \geq 25$: <ul style="list-style-type: none"> 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 to Kwinana Freeway / Rowley Road	As above, except $R_w + C_{tr}$ values may be 3 dB less.	
External Walls	All	<ul style="list-style-type: none"> $R_w + C_{tr} \geq 45$: <ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> 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 11kg/m³; and 2 x 16mm fire-rated plasterboard to inside. 	
Roofs and Ceilings	All	<ul style="list-style-type: none"> $R_w + C_{tr} \geq 35$; Concrete or terracotta tile or metal sheet roof with sarking and at least 10mm plasterboard. 	

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LOCAL DEVELOPMENT PLAN
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Quiet House Package B – Affected by Kwinana Freeway

Element	Orientation	Room	
		Bedroom	Indoor Living and Work Areas
External Glazing	Facing	<ul style="list-style-type: none"> Up to 40% floor area ($R_w + C_{tr} \geq 31$): <ul style="list-style-type: none"> Fixed sash, awning or casement with minimum 6mm glass or 6mm-12mm-6mm double insulated glazing. Up to 60% floor area ($R_w + C_{tr} \geq 34$): <ul style="list-style-type: none"> Fixed sash, awning or casement with minimum 10mm glass or 6mm-12mm-10mm double insulated glazing. 	<ul style="list-style-type: none"> Up to 40% floor area ($R_w + C_{tr} \geq 28$): <ul style="list-style-type: none"> Sliding or double hung with 6mm-12mm-10mm double insulated glazing; Sealed awning or casement windows with minimum 6mm glass. Up to 60% floor area ($R_w + C_{tr} \geq 31$); Up to 80% floor area ($R_w + C_{tr} \geq 34$).
	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	<ul style="list-style-type: none"> Fully glazed hinged door with certified $R_w + C_{tr} \geq 31$ rated door and frame including seals and 10mm glass. 	<ul style="list-style-type: none"> Doors to achieve $R_w + C_{tr} \geq 28$: <ul style="list-style-type: none"> 40mm Solid timber core hinged door and frame system certified to $R_w 32$ including seals; Fully glazed hinged door with certified $R_w + C_{tr} \geq 28$ 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	<ul style="list-style-type: none"> $R_w + C_{tr} \geq 50$: <ul style="list-style-type: none"> Two leaves of 90mm thick clay brick masonry with minimum 50mm cavity between leaves and 25mm glasswool or polyester (24kg/m^3). 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/m^3). 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: <ul style="list-style-type: none"> 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/m^3) between studs; and One layer of 10mm plasterboard fixed to the inside face. 	
Roofs and Ceilings	All	<ul style="list-style-type: none"> $R_w + C_{tr} \geq 35$: <ul style="list-style-type: none"> Concrete or terracotta tile or metal sheet roof with sarking and at least 10mm plasterboard ceiling with R3.0+ fibrous insulation. 	

**CITY OF COCKBURN
LOCAL DEVELOPMENT PLAN
AMENDMENT TO LDP24/04**

APPROVED

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Quiet House Package B – Affected by Rowley Road

Element	Orientation	Room	
		Bedroom	Indoor Living and Work Areas
External Glazing	Facing	<ul style="list-style-type: none"> Up to 40% floor area ($R_w + C_{tr} \geq 31$): <ul style="list-style-type: none"> Fixed sash, awning or casement with minimum 6mm glass or 6mm-12mm-6mm double insulated glazing. Up to 60% floor area ($R_w + C_{tr} \geq 34$): <ul style="list-style-type: none"> Fixed sash, awning or casement with minimum 10mm glass or 6mm-12mm-10mm double insulated glazing. 	<ul style="list-style-type: none"> Up to 40% floor area ($R_w + C_{tr} \geq 28$): <ul style="list-style-type: none"> Sliding or double hung with 6mm-12mm-10mm double insulated glazing; Sealed awning or casement windows with minimum 6mm glass. Up to 60% floor area ($R_w + C_{tr} \geq 31$); Up to 80% floor area ($R_w + C_{tr} \geq 34$).
	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	<ul style="list-style-type: none"> Fully glazed hinged door with certified $R_w + C_{tr} \geq 31$ rated door and frame including seals and 10mm glass. 	<ul style="list-style-type: none"> Doors to achieve $R_w + C_{tr} \geq 28$: <ul style="list-style-type: none"> 40mm Solid timber core hinged door and frame system certified to $R_w 32$ including seals; Fully glazed hinged door with certified $R_w + C_{tr} \geq 28$ 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	<ul style="list-style-type: none"> $R_w + C_{tr} \geq 50$: <ul style="list-style-type: none"> Two leaves of 90mm thick clay brick masonry with minimum 50mm cavity between leaves and 25mm glasswool or polyester (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: <ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> $R_w + C_{tr} \geq 35$: <ul style="list-style-type: none"> Concrete or terracotta tile or metal sheet roof with sarking and at least 10mm plasterboard ceiling with R3.0+ fibrous insulation. 	

**CITY OF COCKBURN
LOCAL DEVELOPMENT PLAN
AMENDMENT TO LDP24/04**

APPROVED

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Quiet House Package B – Both Roads (Kwinana Fwy & Rowley Rd)

Element	Orientation	Room	
		Bedroom	Indoor Living and Work Areas
External Glazing	Facing Kwinana Freeway / Rowley Road	<ul style="list-style-type: none"> Up to 40% floor area ($R_w + C_{tr} \geq 31$): <ul style="list-style-type: none"> Fixed sash, awning or casement with minimum 6mm glass or 6mm-12mm-6mm double insulated glazing. Up to 60% floor area ($R_w + C_{tr} \geq 34$): <ul style="list-style-type: none"> Fixed sash, awning or casement with minimum 10mm glass or 6mm-12mm-10mm double insulated glazing. 	<ul style="list-style-type: none"> Up to 40% floor area ($R_w + C_{tr} \geq 28$): <ul style="list-style-type: none"> Sliding or double hung with 6mm-12mm-10mm double insulated glazing; Sealed awning or casement windows with minimum 6mm glass. Up to 60% floor area ($R_w + C_{tr} \geq 31$); Up to 80% floor area ($R_w + C_{tr} \geq 34$).
	Side On to Kwinana Freeway / Rowley Road	As above, except $R_w + C_{tr}$ values may be 3 dB less or max % area increased by 20%.	
External Doors	Facing Kwinana Freeway / Rowley Road	<ul style="list-style-type: none"> Fully glazed hinged door with certified $R_w + C_{tr} \geq 31$ rated door and frame including seals and 10mm glass. 	<ul style="list-style-type: none"> Doors to achieve $R_w + C_{tr} \geq 28$: <ul style="list-style-type: none"> 40mm Solid timber core hinged door and frame system certified to $R_w 32$ including seals; Fully glazed hinged door with certified $R_w + C_{tr} \geq 28$ rated door and frame including seals and 6mm glass.
	Side On to Kwinana Freeway / Rowley Road	As above, except $R_w + C_{tr}$ values may be 3 dB less or max % area increased by 20%.	
External Walls	All	<ul style="list-style-type: none"> $R_w + C_{tr} \geq 50$: <ul style="list-style-type: none"> Two leaves of 90mm thick clay brick masonry with minimum 50mm cavity between leaves and 25mm glasswool or polyester (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: <ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> $R_w + C_{tr} \geq 35$: <ul style="list-style-type: none"> Concrete or terracotta tile or metal sheet roof with sarking and at least 10mm plasterboard ceiling with R3.0+ fibrous insulation. 	

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Quiet House Package C – Both Roads (Rowley Road & Frankland Avenue)

Element	Orientation	Room	
		Bedroom	Indoor Living and Work Areas
External Glazing	West, South, East	<ul style="list-style-type: none"> Up to 20% floor area ($R_w + C_{tr} \geq 31$): <ul style="list-style-type: none"> Fixed sash, awning or casement with minimum 6mm glass or 6mm-12mm-6mm double insulated glazing. Up to 40% floor area ($R_w + C_{tr} \geq 34$): <ul style="list-style-type: none"> Fixed sash, awning or casement with minimum 10mm glass or 6mm-12mm-10mm double insulated glazing. 	<ul style="list-style-type: none"> Up to 40% floor area ($R_w + C_{tr} \geq 31$): <ul style="list-style-type: none"> Fixed sash, awning or casement with minimum 6mm glass or 6mm-12mm-6mm double insulated glazing. Up to 60% floor area ($R_w + C_{tr} \geq 34$): <ul style="list-style-type: none"> Fixed sash, awning or casement with minimum 10mm glass or 6mm-12mm-10mm double insulated glazing.
	North	As above, except $R_w + C_{tr}$ values may be 3 dB less or max % area increased by 20%.	
External Doors	West, South, East	<ul style="list-style-type: none"> Not recommended. 	<ul style="list-style-type: none"> Doors to achieve $R_w + C_{tr} \geq 30$: <ul style="list-style-type: none"> Fully glazed hinged door with certified $R_w + C_{tr} \geq 31$ 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.
	North	As above, except $R_w + C_{tr}$ values may be 3 dB less or max % area increased by 20%.	
External Walls	All	<ul style="list-style-type: none"> $R_w + C_{tr} \geq 50$: <ul style="list-style-type: none"> Two leaves of 90mm thick clay brick masonry with minimum 50mm cavity between leaves and 25mm glasswool or polyester insulation (24kg/m^3). 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/m^3). 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: <ul style="list-style-type: none"> 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/m^3) between studs; and One layer of 10mm plasterboard fixed to the inside face. 	
Roofs and Ceilings	All	<ul style="list-style-type: none"> $R_w + C_{tr} \geq 40$: <ul style="list-style-type: none"> 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. 	

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Quiet House Package C – Affected by Frankland Avenue

Element	Orientation	Room	
		Bedroom	Indoor Living and Work Areas
External Glazing	West	<ul style="list-style-type: none"> Up to 20% floor area ($R_w + C_{tr} \geq 31$): <ul style="list-style-type: none"> Fixed sash, awning or casement with minimum 6mm glass or 6mm-12mm-6mm double insulated glazing. Up to 40% floor area ($R_w + C_{tr} \geq 34$): <ul style="list-style-type: none"> Fixed sash, awning or casement with minimum 10mm glass or 6mm-12mm-10mm double insulated glazing. 	<ul style="list-style-type: none"> Up to 40% floor area ($R_w + C_{tr} \geq 31$): <ul style="list-style-type: none"> Fixed sash, awning or casement with minimum 6mm glass or 6mm-12mm-6mm double insulated glazing. Up to 60% floor area ($R_w + C_{tr} \geq 34$): <ul style="list-style-type: none"> Fixed sash, awning or casement with minimum 10mm glass or 6mm-12mm-10mm double insulated glazing.
	North, South	As above, except $R_w + C_{tr}$ values may be 3 dB less or max % area increased by 20%.	
	East	As above, except $R_w + C_{tr}$ values may be 6 dB less or max % area increased by 20%.	
External Doors	West	<ul style="list-style-type: none"> Not recommended. 	<ul style="list-style-type: none"> Doors to achieve $R_w + C_{tr} \geq 30$: <ul style="list-style-type: none"> Fully glazed hinged door with certified $R_w + C_{tr} \geq 31$ 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.
	North, South	As above, except $R_w + C_{tr}$ values may be 3 dB less or max % area increased by 20%.	
	East	As above, except $R_w + C_{tr}$ values may be 6 dB less or max % area increased by 20%.	
External Walls	All	<ul style="list-style-type: none"> $R_w + C_{tr} \geq 50$: <ul style="list-style-type: none"> Two leaves of 90mm thick clay brick masonry with minimum 50mm cavity between leaves and 25mm glasswool or polyester insulation (24kg/m^3). 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/m^3). 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: <ul style="list-style-type: none"> 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/m^3) between studs; and One layer of 10mm plasterboard fixed to the inside face. 	
Roofs and Ceilings	All	<ul style="list-style-type: none"> $R_w + C_{tr} \geq 40$: <ul style="list-style-type: none"> 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. 	

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Mechanical Ventilation requirements

In implementing the acceptable treatment packages, fresh air requirements of the National Construction Code must be satisfied on the basis of windows closed. Whilst not the only solution, the most common is mechanical ventilation / air-conditioning is installed with the following considerations:

- 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.

