LEGEND

- DAP Boundary
- Building Envelope
- Designated garage location
- Density Code R25
- 1.5m Second Storey Setback
- Boundary Wall
- 2.0m High Noise Wall
- Lots subject to Quiet House Design Requirements

PROVISIONS

The provisions addressed below relate to Agora North *Trinity Estate,* Alkimos.

All dwellings, outbuildings and garages/carports shall be constructed within the nominated building envelopes as depicted on the Plan.

The City of Wanneroo District Planning Scheme No. 2 and Residential Design Codes apply unless otherwise provided for below.

The following standards are deemed to meet the relevant Design Principles of the R-Codes and do not require consultation with adjoining landowners.

GENERAL PROVISIONS

R-Coding	R25
Minimum Open Space	35% (i)
Building Setbacks	
Primary Street	2.5m dwelling minimum
	3.0 m garage minimum
Side	Refer Provisions Below (ii)
Second storey	1.5m min. where depicted on plan

(i) Outdoor living areas to be located on the northern or eastern boundary where practicable for solar access.

(ii) Side Setbacks:
- Boundary walls are permitted to both side boundaries providing the second boundary wall is a maximum length of 6m behind the front setback line.

QUIET HOUSE DESIGN REQUIREMENTS

Facade Protection (Quiet house design measures) are not required for any dwellings at the ground floor level. Package B is required at upper floors for Lots 892 & 909 as defined in the Lloyd George Acoustic Report dated 5 August 2013.

Details of the Quiet House Design Packages are included in Attachment 1.

0 20m

Scale 1:1000 @ A4

N

NOTE: Pavements and footpaths shown diagrammatically only

LOCATION PLAN

ENDORSEMENT

This Detailed Area Plan has been endorsed by Council under Clause 9.14.3(d) of District Planning Scheme No. 2

23/1/14

Manager Planning Implementation - City of Wanneroo Date

DETAILED AREA PLAN No. 24 - AGORA STAGE 3
LOT 1001 MARMION AVENUE, ALKIMOS
TRINITY ESTATE

GRAY & LEWIS
LAND USE PLANNERS
Suite 5, 2 Hardy Street
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ATTACHMENT 1 - BUILDING FACADE TREATMENTS (QUIET HOUSE DESIGN REQUIREMENTS)

PROVISIONS AS PER LLOYD GEORGE TRANSPORTATION NOISE ASSESSMENT

Package A: House Facade In Areas Where Noise Levels Exceed The Noise 'Target' But Are Within The 'Margin'		
Area Type	**Orientation**	**Noise Control Measures**
Indoors		
Bedrooms	Facing road / rail corridor	6mm (minimum) laminated glazing Fixed, casement or awning windows with seals No external doors Closed eaves No vents to outside walls / eaves Mechanical ventilation / air-conditioning [1]
	Side-on to corridor	6mm (minimum) laminated glazing Closed eaves Mechanical ventilation / air-conditioning [1]
	Away from corridor	No requirements
Living and work areas [2]	Facing corridor	6mm (minimum) laminated glazing Fixed, casement or awning windows with seals 35mm (minimum) solid core external doors with acoustic seals [3] Sliding doors must be filled with acoustic seals Closed eaves No vents to outside walls / eaves Mechanical ventilation / air-conditioning [1]
	Side-on to corridor	6mm (minimum) laminated glazing Closed eaves Mechanical ventilation / air-conditioning [1]
	Away from corridor	No requirements
Other indoor areas	Any	No requirements
Outdoors		
Outdoor living area [4]	Facing corridor	Minimum 2.0m high solid fence Picket fences are not acceptable
	Side-on to corridor	
	Away from corridor	No requirements
Package B: Noise within 3dB above the 'limit' The following noise insulation package is designed to meet the indoor noise standards for residential developments in areas where transport noise levels exceed the noise 'limit' but by no more than 3dB (See Table 1 in the Policy)		
Area Type	**Orientation**	**Noise Control Measures**
Indoors		
Bedrooms	Facing road / rail corridor	10mm (minimum) laminated glazing Fixed, casement or awning windows with seals [3] No external doors Closed eaves No vents to outside walls / eaves Mechanical ventilation / air-conditioning [1]
	Side-on to corridor	10mm (minimum) laminated glazing Closed eaves Mechanical ventilation / air-conditioning [1]
	Away from corridor	No requirements
Living and work areas [2]	Facing corridor	10mm (minimum) laminated glazing Fixed, casement or awning windows with seals 40mm solid core external doors with acoustic seals [3] Sliding doors must be filled with acoustic seals Closed eaves No vents to outside walls / eaves Mechanical ventilation / air-conditioning [1]
	Side-on to corridor	6mm (minimum) laminated glazing Closed eaves Mechanical ventilation / air-conditioning [1]
	Away from corridor	No requirements
Other indoor areas	Any	No requirements
Outdoors		
Outdoor living area [4]	Facing corridor	Minimum 2.4m solid fence Colorbond and Picket fences are not acceptable
	Side-on to corridor	
	Away from corridor	No requirements
Package C: Noise more than 3dB above the 'limit"		
Area Type	**Orientation**	**Noise Control Measures**
Indoors		
Bedrooms	Facing road / rail corridor	10.5mm Pilkington '*Optilam Phon'* laminated glazing Fixed, casement or awning windows No external doors Closed eaves No vents to outside walls / eaves Mechanical ventilation / air-conditioning [1]
	Side-on to corridor	10.5mm Pilkington '*Optilam Phon'* laminated glazing Closed eaves Mechanical ventilation / air-conditioning [1]
	Away from corridor	No requirements
Living and work areas [2]	Facing corridor	10.5mm Pilkington '*Optilam Phon'* Casement or awning windows 40mm (minimum) solid core external doors with acoustic seals [3] Sliding doors not permitted Closed eaves No vents to outside walls / eaves Mechanical ventilation / air-conditioning [1]
	Side-on to corridor	10mm laminated glazing Closed eaves Mechanical ventilation / air-conditioning [1]
	Away from corridor	No requirements
Other indoor areas	Any	No requirements
Outdoors		
Outdoor living area [4]	Facing corridor	Minimum 3.0m solid fence (e.g. brick, limestone or Hardifence)
	Side-on to corridor	Dwelling must provide shielding (e.g. via alcove, semi-enclosed alfresco) - Colorbond and Picket fences not acceptable
	Away from corridor	No requirements

1. See section on Mechanical ventilation / air-conditioning below for further details and requirements.
2. These deemed-to-comply guidelines adopt the definitions of indoor spaces used in AS 2107-2000. A comparable description for bedrooms, living and work areas is that defined by the Building Guide of Australia as a 'habitable room'. The Building Guide of Australia may be referenced if greater clarity is needed. A living or work area can be taken to mean any 'habitable room' other than a bedroom. Note that there are no noise insulation requirements for utility areas such as bathrooms. The Building Guide of Australia describes these utility spaces as 'non-habitable rooms'.
2. Glazing panels are acceptable in external doors facing the transport corridor. However these must meet the minimum glazing requirements.
4. The policy requires that at least one outdoor living are be reasonably protected from transport noise. The protected are should meet the minimum space requirements for outdoor living areas, as defined in the Residential Design Codes of Western Australia or as amended in the DAP.

Mechanical ventilation / air conditioning
Where outdoor noise levels are above the 'target', both packages A and B require mechanical ventilation or air-conditioning to ensure that windows can remain closed in order to achieve the indoor noise standards.
In implementing Packages A and B, the following need to be observed:

- Evaporative air-conditioning systems will not meet the requirements for Packages A and B because windows need to remain open;
- Refrigerative air-conditioning systems need to be designed to achieve fresh air ventilation requirements;
- Air inlets need to be positioned facing away from the transport corridor where practicable;
- Ductwork needs to be provided with adequate silencing to prevent noise intrusion.