

APPROVED PLAN  
PLANNING AND ENVIRONMENT ACT 1987  
CARDINIA PLANNING SCHEME

Permit No.: T150659 PC4 (Con 10 BDG)  
Sheet: 1 of 13  
Approved by: Stephen Powell  
CARDINIA SHIRE COUNCIL  
Date: Wednesday, 4 January 2017



**Building Design Guidelines**  
**Gardenia Estate – Stages 3 & 4**

January 2017

# Building Design Guidelines - Gardenia Estate – Stages 3 & 4

## Introduction

This Gardenia Estate will allow for a range of housing styles, responding to the natural features of the land, as well as the surrounding transport network.

The aim of these building design guidelines is to ensure that Gardenia Estate establishes itself as an attractive and welcoming community, exhibiting a high standard of design which consistently addresses its surrounding environs

These Building Design Guidelines set out various requirements which must be met for each dwelling within the estate to ensure the overall quality and amenity of the area.

These Building Design Guidelines cannot be varied without the approval of Cardinia Shire Council.

## Additional Controls

Design approval refers only to compliance with the applicable building design guidelines (BDG). It does not refer to and should not be treated as compliance with the laws or regulations of local, state or federal government, statutory authorities or any building codes or standards imposed or administered by them (e.g. town planning controls or Rescode).

The small lot housing code applies to all lots of less than 300 sqm (*as applicable*). The BDG do not apply to these lots.

An individual building envelope applies to each lot within the estate. The building envelope shows the applicable setbacks which must be achieved and is registered as a restriction on each title.



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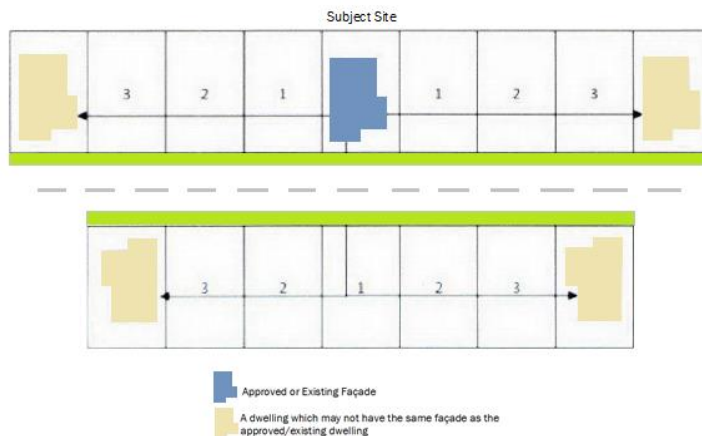
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# Building Design Guidelines - Gardenia Estate – Stages 3 & 4

## Dwelling Design

Two dwellings of the same front façade design shall not be built within 3 dwelling lots of the subject property: this would include lots either side and opposite the subject lot. See *diagram below*.

Three dwellings of the same façade may not be built within the same street. This includes lots on opposite sides of the street.



## Setbacks

All setbacks must be in accordance with the applicable building envelope.

### Front Setbacks

Dwellings must be setback a minimum of 4 metres from the front boundary.

Porches, verandas, pergolas, eaves, fascia, gutters, sunblinds, shade sales and decks are permitted to encroach no more than 2.5 metres into setback distances.

### Corner Lots

Dwellings constructed on corner lots must be setback a minimum of 2 metres from the side street boundary. The remaining side boundary must be setback as above.

### Side Setbacks

Dwellings must be set back at least 3 metres from the rear property boundary. Where a property has a north-facing side boundary and rooms within a dwelling are designed to have a northern orientation and north facing open space, the option exists to reduce the rear boundary setback to 1 metre, where a 3 metre setback is proposed along the northern boundary.

Buildings may be constructed to one side boundary (i.e. zero to 0.15 metre setback) for a length not exceeding 10 metres plus 25 per cent of the remaining length of the boundary of an adjoining lot, and must be set back at least 1 metre from one side boundary.

Porches, verandahs, open pergolas, eaves, fascia and gutter, privacy screens, masonry chimneys, sunblinds, shade sails, flues, pipes, decks, domestic fuel tanks, water tanks, heating and cooling equipment and other services may encroach into the aforementioned setback areas by no more than 0.5 metres (unless they interface with north facing windows).

### Walls on Boundary

The height of a new wall constructed on or within 0.15 metres of a side or rear boundary should not exceed an average of 3.2 metres with no part higher than 3.6 metres unless abutting a higher existing or simultaneously constructed wall.

### Lots Adjoining Open Space

Dwellings with any frontage to public open space must be setback a minimum of 2 metres from that applicable boundary.

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## Façades

Façades must include design elements to ensure an identifiable pedestrian entry point and a sense of address to the street.

Roller shutters are not permitted for any doors or windows visible from the public realm.

Double storey façades must include architectural features such as balconies, windows and varied materials. Expansive blank walls are not permitted.

Façades may include materials such as brick, render, timber cladding etc.



*Roller Shutters on Windows*



*Poor Double Storey Facade Articulation*



*Poor Double Storey Facade Articulation*



*Good Double Storey Facade Articulation*

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# Building Design Guidelines - Gardenia Estate – Stages 3 & 4

## Façades

### Corner Lots

Dwellings constructed on corner lots must be designed to address both street frontages.

Dwellings constructed on corner lots must have a façade which wraps around the second frontage, providing an appropriate corner feature for a minimum of 4m.

Dwellings constructed on corner lots must present at least one habitable room window, forward of the side boundary fence, to each frontage. If the dwelling is double storey at least one habitable room window must be provided at each level.



*Facade Which Wraps Around Second Frontage*



*Dwelling Which Addresses Both Frontages*

### Lots Fronting Open Space

Dwellings constructed on lots fronting areas of open space must be designed to address the open space.

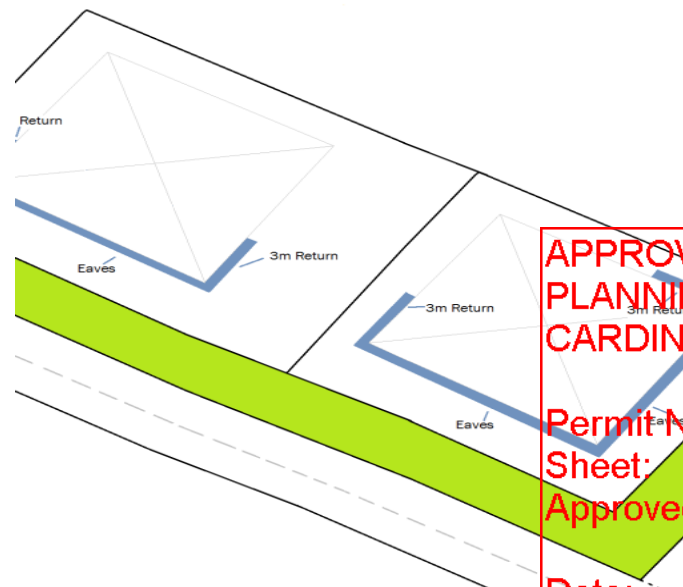
Dwellings constructed on lots fronting areas of open space must provide a pedestrian entry point with access to the open space.

Dwellings constructed on lots fronting areas of open space must present a habitable room window, forward of the side boundary fence, to each frontage. If the dwelling is double storey a habitable room window must be provided at both levels.

### Eaves

When eaves are used as part of a front façade they must return a minimum of 3 metres around side elevations. See *diagram*.

When eaves are used as part of a front façade of a dwelling constructed on a corner lot, they must return the length of the second frontage. See *diagram*.



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## Roofing

Roofs must be constructed of low reflective materials.  
Cement sheeting and zinalume are not to be used in  
roof construction

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*Zinalume Roof*



*Reflective Roof*

# Building Design Guidelines - Gardenia Estate – Stages 3 & 4

## Garages

Garages must be designed not to dominate the streetscape.

Garages are not permitted to have roller doors visible from the public realm.

Raw zincalume and hand painted garage doors not permitted.

### Corner Lots

For dwellings constructed on corner lots, garages must be located on or close to a side boundary that adjoins a neighbouring lot. See *Diagram*.

### Garage Sizes

Garage openings must not exceed 40% of the frontage dwelling for single storey dwellings.

Garage openings must not exceed 25% of the area of the front facade of the dwelling which exceed single storey.

Lots with frontages less than 12.5 metres in width are restricted to single garages when single storey.

### Additional Garage Setbacks

Garages must be setback a minimum of 0.5 metres behind the dwelling line.



No Garage Setback



Garage NOT Constructed on Boundary



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# Building Design Guidelines - Gardenia Estate – Stages 3 & 4

## Fencing

Fences must respond to the prevailing neighbourhood character and landscape design, with materials complementing those of the dwelling.

Where fences are to be painted, they are to be of neutral tones.

### Front Fences

Front fencing must not exceed 1.2 metres in height and must be at least 40% transparent.

Front fencing must not be constructed on top of a retaining wall.

Side fencing which returns from a front fence along a side boundary:

- Must not exceed 1.2 metres in height
- Must be at least 40% transparent.
- Must continue to a minimum of 2 metres behind the dwelling line.

### Side and Rear Fences

All side fences between properties must terminate a minimum of 2 metres behind the dwelling line.

Side and rear fences are not to exceed 2 metres in height, and are to comprise timber paling with appropriate capping.

### Lots Fronting Open Space

Fencing abutting or overlooking an area of open space may not exceed 50% of the allotment length. The remaining fencing may not exceed 1.2 metres in height and must be a minimum of 40% transparent.

All fencing abutting or overlooking areas of open space within the estate must be consistent.

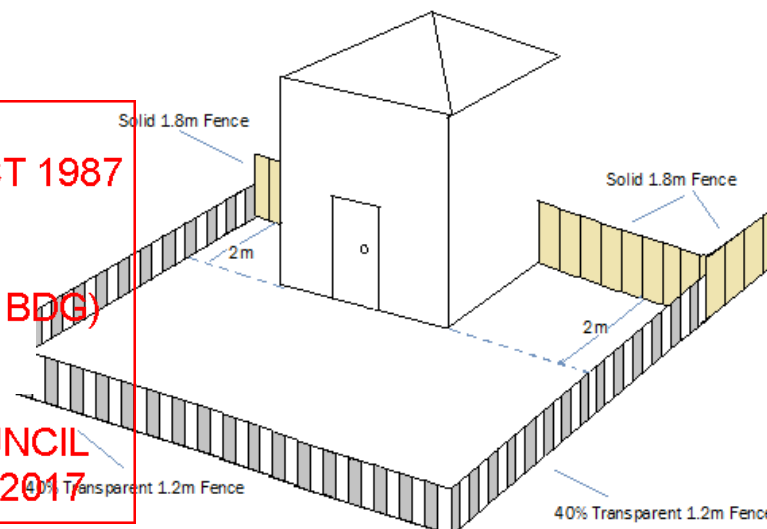
### Lots with Retaining Walls

Side fencing constructed on top of a retaining wall may not exceed 1.5 metres in height.

Fencing visible from the public realm constructed on top of a retaining wall (where the retaining wall exceeds 1 metre in height) must be high quality feature fencing, such as brush fencing.

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*Side Fence Extending Beyond Dwelling*



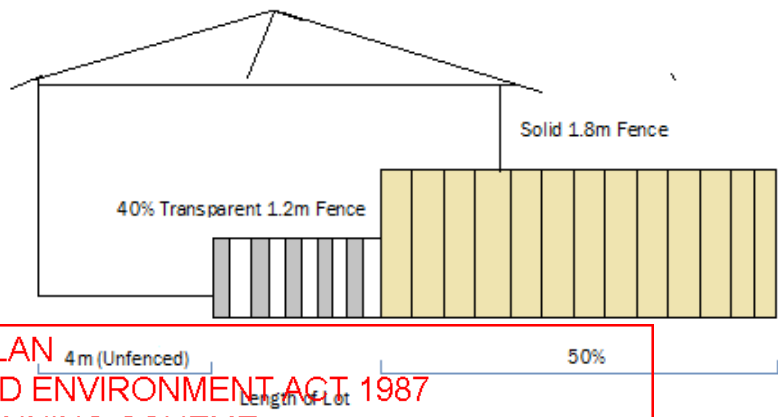
# Building Design Guidelines - Gardenia Estate – Stages 3 & 4

## Fencing

### Corner Lots

Dwellings constructed on corner lots must be unfenced for a minimum of 4 metres from the front dwelling line. See *diagram*.

Solid fencing on corner lots may not exceed 50% of the lot length from the rear boundary. Remaining fencing may not exceed 1.2 metres in height and must be a minimum of 40% transparent. See *diagram*.



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## Landscaping

Landscape design should utilise a range of drought resistant species where possible, and must include at least 1 canopy tree within the front setback.

A minimum 20 per cent of the property must remain free of impervious surfaces.

All landscape elements within the front yard, including driveways and pathways must be completed within 3 months of obtaining a Certificate of Occupancy.

## Utilities & Services

Utilities and services must not be visible from the public realm.

## Solar Panels

Solar panels must be located for maximum efficiency.

## Recycled water

All buildings must incorporate plumbing for recycled water supply for toilet flushing and garden watering use to allow for future connections should it become available.



Canopy Tree within Front Setback

# Building Design Guidelines - Gardenia Estate – Stages 3 & 4

## Driveways

Driveways must be fully constructed prior to a certificate of occupancy being obtained.

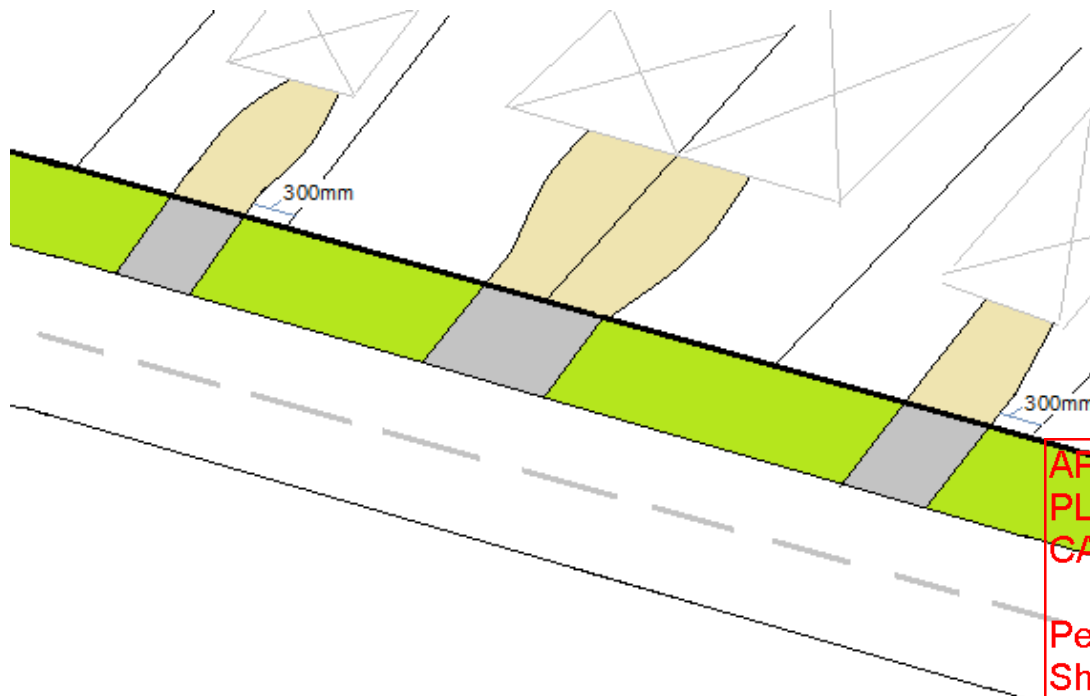
Only one crossover is permitted for each lot.

Driveway widths must match the width of the crossovers but may taper thereafter to align with garage widths.

Gravel and uncoloured concrete driveways are not permitted.

### Landscaping Strip

A minimum allowance of 300mm for garden planting is required between a driveway and a side boundary. This does not apply when a crossover is constructed as part of a double-crossover with an adjoining lot. Landscaping strips are not permitted between double crossovers. See *diagram*.



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# Building Design Guidelines - Gardenia Estate – Stages 3 & 4

## Retaining Walls

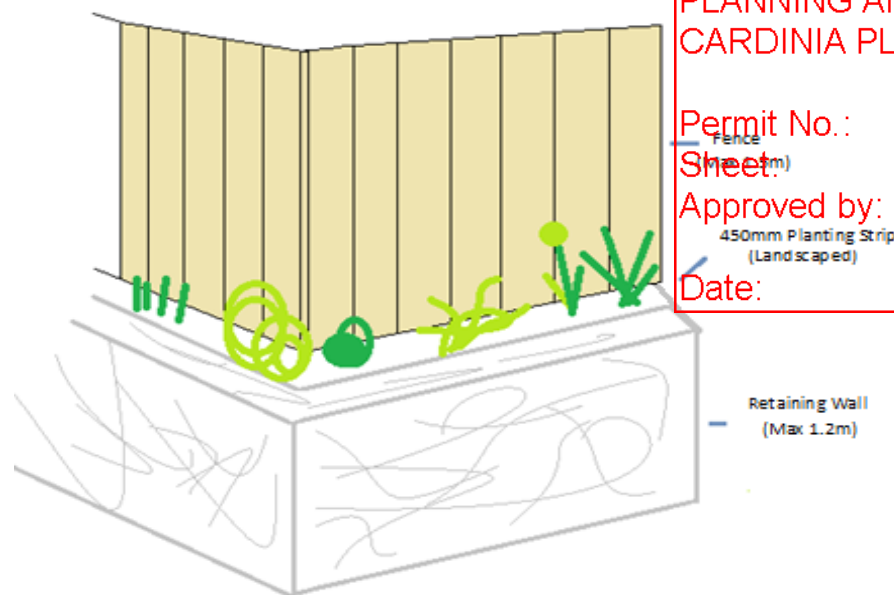
Retaining walls visible from the public realm must not exceed 1.2 metres in height.

Fencing constructed on top of a retaining wall visible from the public realm, must be setback a minimum of 450mm from the inner edge of that retaining wall. This setback must be suitably landscaped and maintained. See diagram.

Retaining walls visible from the public realm must be constructed from suitable materials.

Unpainted timber panels/boards are not permitted unless they are of a high architectural quality such as recycled sleepers.

Unfinished concrete walls/blocks are prohibited.



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Landscaped Retaining Wall Setback



Unfinished Concrete Retaining Wall



Unfinished Timber Retaining Wall

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INVESTMENTS



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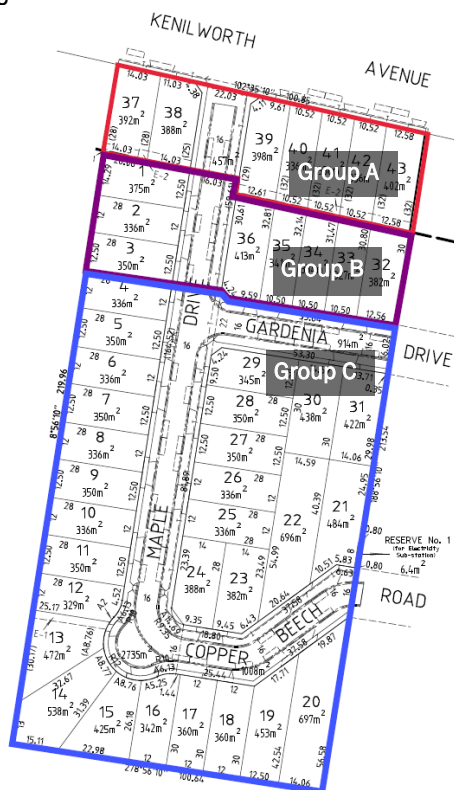
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## Acoustic requirements

Due to their proximity to the Pakenham Railway reserve, all dwellings must be designed so as to reduce noise levels in living areas.

Dwellings on the above properties will need to include glazing for habitable rooms (bedrooms and living rooms including kitchens) that are facing to the north, east and west as per this table.

The Groups described in the table are shown in the figure below.



| Type of room                               | Glazing area      | Glazing type   | Rw (Ctr) =<br>Rw+Ctr dB                  |
|--|-------------------|--|--|
| <b>Group A</b>                             |                   |  |  |
| <i>North, east and west facing windows</i> |                   |  |  |
| Bed  | <3m <sup>2</sup>  | 10.38 mm laminated glass   | 34 (-2) = 32 dB                          |
| Bed  | 3-6m <sup>2</sup> | 12.76 mm laminated glass<br>OR<br>6 mm / 12 mm air cavity /<br>10.38 mm laminated<br>(6/12/10.38 IGU)          | 36 (-3) = 33 dB<br>39 (-5) = 34 dB       |
| Living                                     | <10m <sup>2</sup> | Not less than 6 mm thick<br>float glass or IGU including<br>6 mm float   |  |
| Living                                     | >10m <sup>2</sup> | 6.38 mm laminated glass<br>OR<br>6 mm / 12 mm air cavity /<br>6.38 mm laminated glass<br>(6/12/6.38 IGU)       | 32 (-2) = 30 dB<br>36 (-5) = 31 dB       |
| <i>South facing</i>                        |                   |  |  |
| Bed  | <3m <sup>2</sup>  | 6.38 mm laminated glass or<br>6 mm / 12 mm air cavity /<br>6.38 mm laminated glass<br>(6/12/6.38 IGU)          | 32 (-2) = 30 dB                          |
| Bed  | 3-6m <sup>2</sup> | 10.38 mm laminated glass<br>OR<br>6 mm / 12 mm air cavity /<br>6.38 mm laminated glass<br>(6/12/6.38 IGU)      | 34 (-2) = 32 dB<br>36 (-5) = 31 dB       |
| <b>Group B</b>                             |                   |  |  |
| <i>North, east and west facing windows</i> |                   |  |  |
| Bed  | <4m <sup>2</sup>  | 6.38 mm laminated<br>glass<br>OR<br>6 mm / 12 mm air<br>cavity / 6.38 mm<br>laminated glass<br>(6/12/6.38 IGU) | 32 (-2) =<br>30 dB<br>36 (-5) =<br>31 dB |

| Type of room                | Glazing area      | Glazing type  | Rw (Ctr) =<br>Rw+Ctr dB                  |
|-----------------------------|-------------------|---|--|
| Living                      | <12m <sup>2</sup> | Not less than 5 mm<br>thick single glazing or<br>any IGU  |  |
| Living                      | >12m <sup>2</sup> | 6.38 mm laminated<br>glass<br>OR<br>6 mm / 12 mm air<br>cavity / 6 mm<br>laminated glass<br>(6/12/6.38 IGU) | 32 (-2) =<br>30 dB<br>36 (-5) =<br>31 dB |
| <i>South facing windows</i> |                   |   |  |
| Bed                         | <4m <sup>2</sup>  | Not less than 5 mm<br>thick single glazing or<br>any IGU  |  |
| <i>All windows</i>          |                   |   |  |
| Non-habitable rooms         |                   | To Code (not less than<br>4mm)  |  |
| <b>Group C</b>              |                   |   |  |
| All rooms                   |                   | To Code (not less than<br>4mm)  |  |

\* Exceedances of up to 4 dBA are predicted for train horns in some instances. The average horn level will, however, meet the project criteria.

These recommendations relate to the specific area of glazing nominated. If larger areas are proposed, this will need to be revised. If alternative glazing types are desired, then the glazing type selected shall have equivalent (or greater) Rw and Rw +Ctr ratings.

Other blocks in the development (Group C) will be shielded by the first few rows of houses and will not require treatment. The glazing in this area should be to Code.



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## Acoustic requirements

### Additional Glazing Requirements

The following principles shall apply to all acoustically upgraded windows:

- Frames for windows shall have a wall thickness such that there is no significant degradation in the acoustic isolation of the window, and in any case shall be not less than 2 mm.
- Awning windows should be used and shall have two sets of compression seals. One on the window frame, and one on the external angle. Sufficient closures shall be fitted to ensure a good seal.
- Doors are to be hinged doors and fitted to all four edges of the door and/or frame.
- Approved seals for doors include Raven RP24, or RP10 frame seal, and Raven RP38 bottom seal. Ensure handle does not interfere with seals; long back set may be required
- Laminate where specified is to be not less than 0.38 mm thick.
- Where frames or sections of frames interlock or butt together, they shall include an approved seal or sealant.
- Any window or door frame which bows or any seals showing even small gaps or noticeable sound leakage shall be rectified.

### Floor coverings

The glazing advice provided in this report assumes hard floors to living rooms and carpet to bedrooms. If bedrooms are not carpeted, the glazing advice provided in this report should be reviewed.

### Wall and roof construction

Wall constructions for the Groups A are to achieve a minimum Rw + Ctr rating of 47 dB. Suitable wall constructions include:

#### Walls

##### Masonry

- Brick or concrete block, not less than 170 kg/m<sup>2</sup>
- 10-15 mm gap to studwork
- Insulation to cavity, not less than 90 mm thick, 14 kg/m<sup>2</sup>
- Timber or steel stud not less than 75 mm thick
- 1 X 13 mm standard plasterboard

Estimated wall rating: Rw+Ctr=50 dB

##### Cement Sheet Lightweight Type

Recommended minimum suitable construction rating Rw+Ctr = 47 dB

- 1 X 9 mm cement sheet
- Staggered steel or staggered timber stud in 150 mm track, or single 120 mm timber stud with resilient isolation clip / mount to room side.
- Insulation to cavity, not less than 100 mm thick, 20 kg/m<sup>2</sup>
- 2 X 16 mm fire-rated plasterboard

Estimated wall rating: Rw+Ctr=47 dB

Any south facing wall in Group A, and the entirety of group B can have 1 layer of the 16 mm fire-rated plasterboard eliminated (i.e. only 1 layer required). The required minimum wall rating for Group B is Rw+Ctr=43 dB

#### Roof

Roof constructions for Group A and B are to achieve a minimum Rw + Ctr rating of 44 dB. Suitable roof constructions include:

- 0.42 mm Corrugated Steel
- 0.2 mm Vapour Barrier as required
- Not less than 190 mm ceiling joists
- Ceiling acoustic isolation mount / clip
- 200 mm thick insulation, not less than 20 kg/m<sup>2</sup>
- 2 X 16 mm fire-rated plasterboard ceiling fixed to furring channels / acoustic clip.

Estimated rating: Rw+Ctr=40 dB  
Any room with only south facing windows can have 2 layers of 13 mm thick fire rated plasterboard to ceiling in lieu of the 2x16 mm fire-rated plasterboard.

Estimated rating: Rw+Ctr=40 dB

#### Ventilation

All penetrations through acoustically upgraded walls and roofs are to be treated to ensure that they do not compromise the acoustic rating of the partition. This requirement applies to air vents and evaporative coolers.

All acoustic requirements have been translated from the SLR Consulting Australia Pty Ltd Rail Noise and Vibration Planning Assessment, 9 April 2013

