

WERRIBEE



## Design Standards

Stage 26

### Be at the heart of it all.

### With everything at Riverwalk carefully planned.

To ensure Riverwalk is an engaging, attractive community, Development Victoria has created the Riverwalk Design Standards to help you and your builder design and construct a home that will offer both a more comfortable lifestyle through innovative design, and positively contribute to Riverwalk's overall visual appeal.

By ensuring your new home complements Riverwalk's community, streetscapes and your neighbour's home, you will also help promote sustainable development, and importantly, protect your investment.

All Riverwalk Design Standards are detailed within this document, as well as being registered on Title and located within your Contract of Sale. They are easy to follow, and rather than be restrictive, are there to encourage interesting and diverse architecture and high quality homes.

# Approvals

**Approvals Process Overview** Assessment Application Checklist **Preliminary Assessment Final Assessment Further Conditions** 



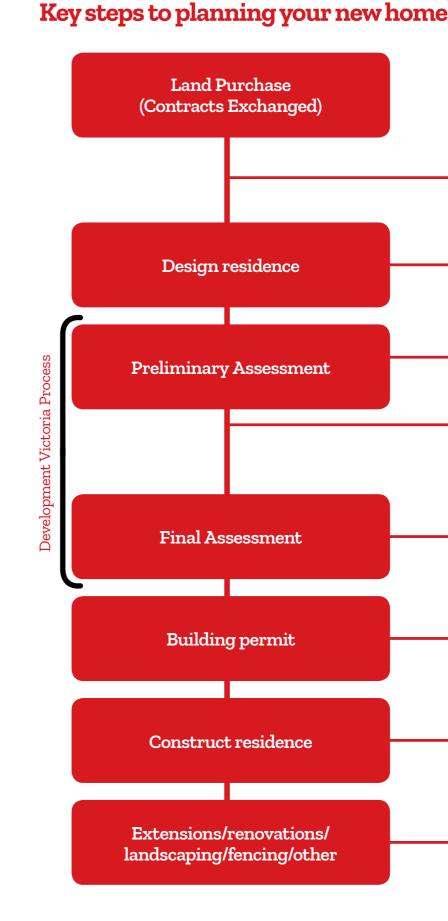
### **Approvals Process**

### The approval process includes two stages of assessment; preliminary and final.

The goal of the preliminary assessment is to provide an indication as to whether your design is likely to comply with the Standards, and if need be, share advice on changes that should be made to ensure your new home does meet the Design Standards. Once your design successfully completes the preliminary assessment, a final submission is made.

Every effort will be made to advise owners of submission outcomes within 10 working days of the submission being received.

In addition to the Design Standards, you must also obtain any relevant planning and building approvals from the Responsible Authority, typically the Local Council.





Builder/designer to undertake site analysis

**References:** – Design standards

- Planning and Building Regulations
- Discuss with the Development Victoria representatives
- Refer Submission Checklist

Make amendments as required

- Refer Submission Checklist
- Allow approximately 10 business days for assessment.
- Final Approval granted by Development Victoria

ept for dual occupancy lots, which are subject to

Building approval granted by your **Building Surveyor** 

Ensure compliance with Council local and by-laws, building permit requirements and Design standards

Approval of Development Victoria required prior to undertaking these works

### SUBMISSION CHECKLIST

Avoid unnecessary delays by ensuring ALL information has been submitted.

### All submissions must include:

The lot number and street address;

Riverwalk Design Standards

- The lot owner's full name and contact number: and
- The builder's business name and contact number.

### Site plan (A3, 1:200 scale)

- 1. North point.
- 2. Lot boundaries, lot dimensions, lot area.
- 3. Outline of lot specific building envelope.
- 4. Dimensions of the proposed dwelling.
- 5. Site Coverage Calculations:
- a. Ground Floor
- b. First Floor (if applicable)
- c. Garage d Porch
- e. Impervious Surface.
- 6. Dimensions of setbacks from dwelling to boundaries.
- 7. Secluded Private Open Space dimensions and hatched area.
- 8. Original and proposed finished ground levels, including changes in level
- 9. Driveway and all hard services (concrete, paving and tiling, etc).
- 10. Location of services equipment (meter box, hot-water system, rainwater tank, bin area, etc).
- 11. Location of existing trees and posts.
- 12. Location and details of boundary fencing and return fences.

### Floor plans (A3, 1:100 scale)

- 1. Internal layout including rooms, balconies, veranda, decks, windows, openings and dimensions.
- 2. Location of services equipment (meter box, hot-water system, rainwater tank, bin area, etc).
- 3. Fibre to the home specifications.

#### Roof plan and front, sides and rear elevations (A3, 1:100 scale)

- 1. Elevations indicating proposed building height.
- 2. Roof form and pitch detail.
- 3. Sections.
- 4. Location of services equipment (photovoltaic cells, heating and cooling units, satellite dishes, antennae, etc).

### External materials, colour and finishes

1. Printed examples of proposed materials, colours and finishes for external walls, roof, driveways and fencing.

### **Energy rating**

1. Accredited Energy Rating Report detailing achievement of 6-Star Energy Rating.

### **Reduction in Emissions**

1. The table at the back of these Design Standards (Reduction in Emissions) is to be completed to demonstrate how the proposed dwelling meets the required reduction in greenhouse gas emissions

### FURTHER CONDITIONS

- 1. Development Victoria reserves the right to apply, vary or waive the Design Standards or any aspect of the Design Standards at its absolute discretion.
- 2. If any damage is caused to the public realm (including footpaths, kerbs, nature strips and planting) during the construction of your dwelling and landscape, the lot owner will be liable for the full cost of the rectification
- 3. Any rectification works must be carried out by a contractor approved by Development Victoria. Development Victoria reserves the right to carry out the works itself and invoice the lot owner for the cost of the works.
- 4. If there is any inconsistency between the Design Standards and any other documentation then the Design Standards prevail unless otherwise specifically notified in writing by Development Victoria.
- 5. The Design Standards will apply to the lot/dwelling until such time as removed by Development Victoria.
- 6. All diagrams are indicative only and not to scale.

### RESCODE

ResCode is the Victorian residential design code and applies to all land zoned for residential use in Victoria. ResCode should be read in conjunction with these Design Standards as ResCode will apply on issues where these Design Standards are silent.

# Design Standards

- 1. Dwelling density
- 2. Building envelopes and encroachments
- 3. Site coverage
- 4. Passive solar design and sun shading
- 5. Facade design
- 6. Roof form
- 7. Garages and driveways
- 8. External materials, finishes and colour palette
- 9. Service equipment, sheds, bins, signs and letterboxes
- 10. Energy, water and materials efficiency
- 11. Fencing

Riverwalk

### **1. DWELLING DENSITY**

The number of dwellings per lot.

### Objective

To ensure the vision for neighbourhood form and character is achieved.

### Standard

1. One dwelling must be constructed per lot.

### NOTES:

- Exemptions applicable when the relevant Building Envelope Plan or Planning Permit identifies the lot as appropriate for dual occupancy or multiple dwellings.
- Allocated dual occupancy, multiple dwelling will require a Town Planning Permit.

### 2. BUILDING ENVELOPES AND ENCROACHMENTS

### **2.1. BUILDING ENVELOPES**

Building envelopes define the maximum area and height of the dwelling.

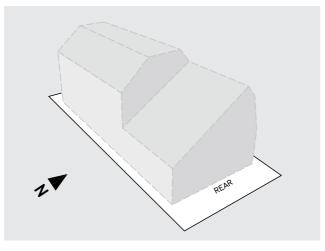
### Objectives

- To ensure the optimal size and shape of the dwelling.
- To ensure the maximum use of any northern orientation available to the dwelling.
- To minimise any negative impact that neighbouring dwellings may have on one another.

#### Standard

1. Dwellings must be designed within the vertical and horizontal area as detailed in the relevant Building Envelope Plan.

### Standard 1 – Example of a Standard East/West Oriented Building Envelope



#### NOTES:

- Building Envelopes consist of plans and profile diagrams that illustrate the mandatory setbacks from lot boundaries.
- All building envelopes have been sized and located to ensure the optimal developable area is available to construct a dwelling.
- Each building envelope considers the lot specific characteristics, the nature of adjoining lots and the streetscape.
- Building Envelope Plans are a legal document and are a restriction on Title.
- Building envelopes indicate the buildable area for a dwelling. Site coverage requirements must be considered when designing the dwelling.

### 2.2. ENCROACHMENTS

Elements of a dwelling which can be constructed outside of the building envelope.

### Objective

 To allow appropriate encroachments outside of the building envelope.

### Standards

- 1. Acceptable encroachments for front, side and rear setbacks must not:
- a. encroach greater than 1.5m into the front setback; and b. encroach greater than 500mm into the side and rear setbacks.
- 2. Domestic water tanks, domestic fuel storage tanks, hot water storage tanks and heating/cooling equipment must not encroach greater than 500mm into the front, side and rear setbacks.
- 3. Eaves may encroach up to 500mm into the front setback and up to 500mm intow the side and rear setbacks, provided a 500mm gap is retained between the gutter and the boundary.

#### **DEFINITIONS:**

### Acceptable encroachment

A component of the dwelling that is permitted outside the building envelope.

#### Front setback acceptable encroachments

- A porch
- A verandah
- A portico
- A pergola
- A masonry chimney
- A sunblind
- A flue or pipe
- Decks, steps or landings
- An eave (including fascias and gutters)

### Side and rear setback acceptable encroachments

- A porch or verandah
- A masonry chimney
- A sunblind
- A screen which prevents direct overlooking
- A flue or pipe
- A domestic fuel tank
- Heating and cooling equipment or other services.
- An eave (including fascias and gutters).

### **3. SITE COVERAGE**

The percentage of a site that is covered by the dwelling and garage or other impervious materials.

### Objectives

• To ensure a portion of the site remains pervious.

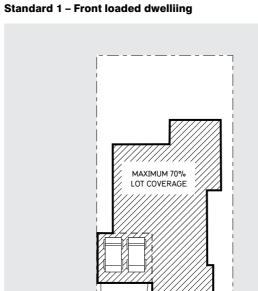
### Standards

- 1. A front loaded dwelling must not cover greater than 70% of the lot.
- 2. A side or rear loaded dwelling must not cover greater than 75% of the lot.

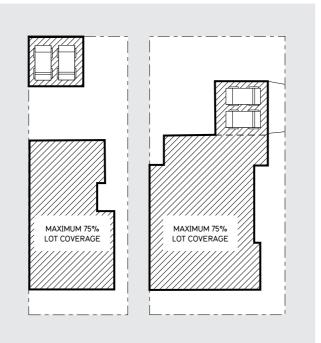
### **DEFINITIONS:**

Impervious materials Materials which are resistant to water.

These materials include, but are not limited to, concrete, pavers, tiles, sheds, garages and the dwelling itself.



#### Standard 2 - Rear and side loaded dwellings



### 4. PASSIVE SOLAR DESIGN AND SUN SHADING

### **4.1. PASSIVE SOLAR DESIGN**

Usable external space and windows of a minimum area and dimension which directly connect with, and allow sunlight to penetrate, the principal living space.

#### Objectives

- To ensure secluded private open space is of a useable size for outdoor living, furniture and landscaping.
- To connect the principal living space to the secluded private open space.
- To maximise secluded private open space located on the north and east sides of a dwelling.
- To provide north light and winter sun into the principal living spaces.

#### Standards

#### All lots

- 1. Secluded private open space must:
  - a. have direct access to a living space;
  - b. have a minimum area of 25m<sup>2</sup>; and
  - c. have a minimum dimension (shortest length) of 3m.

### South, east and west facing lots

- 2. Secluded private open space must:
  - a. not be located south of a living space;b. have unroofed north facing living space windows with a minimum head height of 2m.

### NOTES:

- Secluded private open space may be roofed where the applicable Standard 1 and 2 are met.
- While there is no passive solar standard for north facing lots with frontages less than 12.5m, it is highly recommended that all dwellings, regardless of lot width or orientation are provided with north facing living spaces.

### DEFINITIONS:

### Secluded private open space

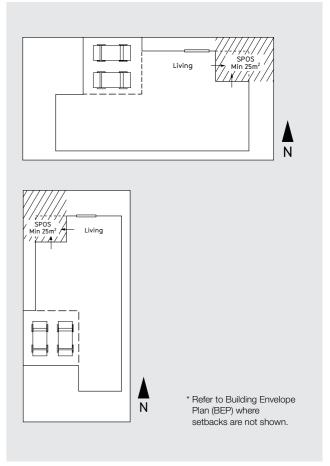
Useable external space of a minimum area and dimension which directly connects with the living space.

#### Habitable rooms

All living rooms and bedrooms, but not kitchens, bathrooms, WC's or circulation space.

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### Standard 1 and 2 – Secluded Private Open Space



### **4.2. SUN SHADING**

Structural elements that shield harsh summer sun from habitable rooms.

### Objectives

• To minimise harsh summer sun and maximise valuable winter sun.

### Standards

#### All windows

1. Roll down security shutters are not permitted where visible from public areas, such as street frontages, or reserves or parkland.

#### East and west facing habitable room windows

2. Windows reccomended to be double glazed.

#### North facing habitable room windows and glass doors

- 3. Must have a minimum 450mm eave or fixed top projection.
- 4. Fixed top projection or eaves are not required where the window is less than 1.5m from the side boundary.

#### NOTES:

- Other shading devices may be used in lieu of double glazing, or top projections where adequate sun shading can be demonstrated to Development Victoria. For example the provision of canvas blinds, architectural projections, awnings and pergolas.
- For the purposes of these standards, the term window also refers to glass doors.

### **DEFINITIONS:**

#### Habitable rooms

All living rooms and bedrooms, but not kitchens, bathrooms, WC's or circulation space.

### **5. FACADE DESIGN**

The character and form of the front of the dwelling facade.

### Objectives

- To ensure a contemporary approach to the design of a dwelling.
- To ensure the design, form, architectural detailing and scale of each dwelling facade contributes to the streetscape.

### Standards

- 1. Façades must be contemporary in style.
- 2. Façades must not include historic references. (Refer to historic references definition.)
- Dwellings must have a feature front entry point, verandah or porch of a minimum covered area of 3m<sup>2</sup> and minimum entry width of 1.5m.
- 4. Any verandah, porch and pergola design must be an integral component of the dwelling and roof form.
- 5. The front façade must not be continuously straight for more than 6.5m.
- 6. Double storey dwellings must contain architectural details such as balconies and/or protrusions to articulate the front façade.
- 7. Any elevation facing a street (front or side) must not incorporate lightweight, infill panels above an opening.
- 8. The front façade must have a minimum 450mm eave including the garage.
- 9. Where parapets are used on the front façade, they must be extended along the side elevation for a minimum of 1.5m.
- 10. Screens and feature walls must be integrated into the dwelling design.
- Dwellings on corner lots and/or with secondary frontages to public open space must continue front façade design elements for a minimum of 3.5m to the secondary frontage.
- Dwellings on corner lots or with secondary frontages to public open space must provide habitable room windows to the primary and secondary frontages.
- Similar or overly similar façade designs will not be allowed within 3 lots of each other along a streetscape.

### NOTES:

 An exemption from the provision of a front façade eave may be considered depending on the façade's architectural detailing. Eave exemptions must conform with the sun-shading standard. (Refer to Section 4.2.)

#### **DEFINITIONS:**

#### **Historic references**

These include but are not limited to fret work, colonial bars on windows, feature columns and period features or styles such as Colonial, Georgian, Victorian or Federation.

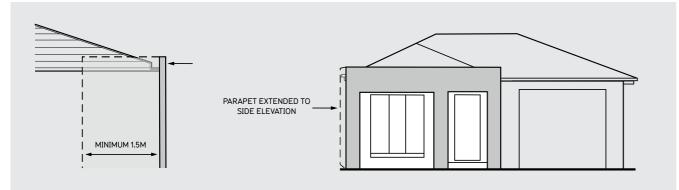
#### Habitable rooms

All living rooms and bedrooms, but not kitchens, bathrooms, WCs or circulation space.

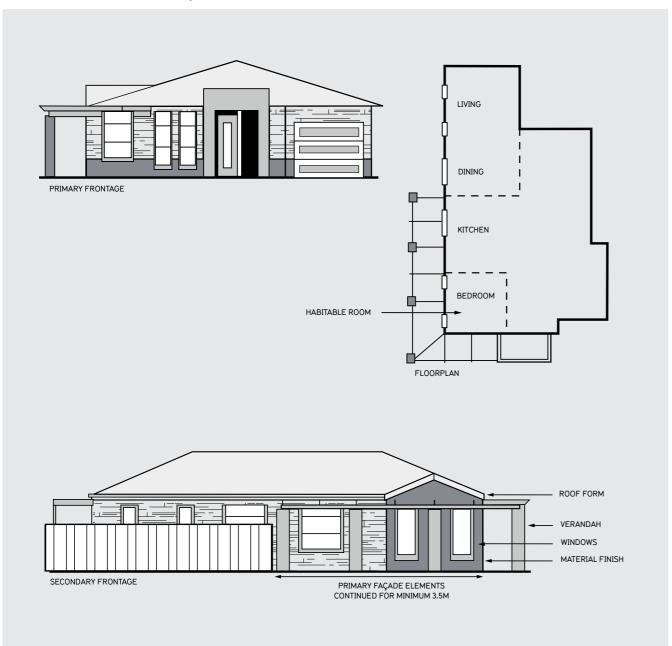
#### **Design elements**

Windows, roof, balconies, verandahs, materials and finishes.

### Standard 9 – Parapets on the front facade



### Standard 11-12 – Corner lot dwelling



### 6. ROOF FORM

The shape and character of a roof.

### Objectives

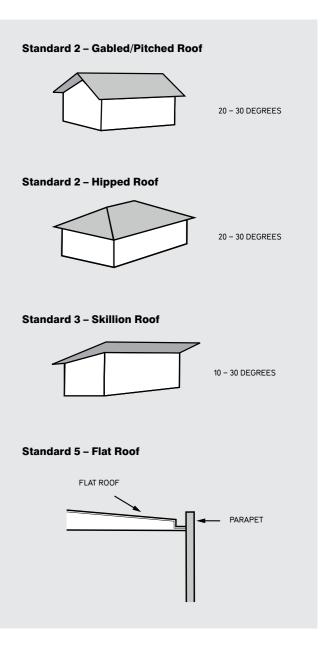
- To achieve consistency in roof form and colour to tie the streetscape together.
- To ensure each roof form reads as a strong, simple element from street level.

### Standards

- 1. Roof forms must be an integral component of the dwelling design.
- 2. Pitched/gabled and hipped roofs must be pitched between 20 and 30 degrees.
- 3. Skillion roofs must be pitched between 10 and 30 degrees.
- 4. Pitched and skillion roofs (with hipped or gabled ends) must have a minimum 450mm eave
- 5. Flat roofs must be screened by a parapet wall.

### NOTES:

- Non-conventional roof designs may be considered on design merit.
- Elevations must be provided for consideration of non-conventional roof forms.



### 7. GARAGES AND DRIVEWAYS

### 7.1. GARAGES

Covered structure used to accommodate one or more vehicles.

### Objectives

- To ensure garages do not dominate the dwelling or the streetscape.
- To ensure the garage is an integral component of the dwelling design.
- To ensure the garage provides an appropriate level of access.
- To provide suitable parking for two or more vehicles.

#### Standards

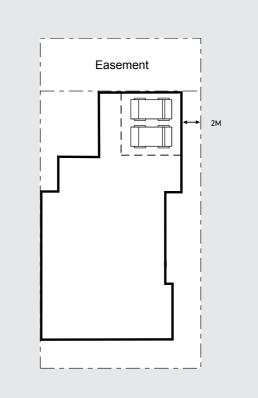
- 1. Garages with openings perpendicular to the street are not permitted.
- 2. Garages must be designed as an integral component of the dwelling and roof form.
- For garages on lots greater than 21 metre depth, the garage must be setback 5.5 metres from the front boundary or as stipulated within the relevant MCP
- 4. Front loaded garages must have a zero or 150mm setback OR at least 1m setback from the side boundary.
- 5. Garages must be setback a minimum 840mm from the front dwelling line.
- 6. Garages on front loaded lots must not be greater than 6m in width.
- 7. Front loaded lots less than 10.5m in width are limited to a single garage when single storey.
- 8. The garage door must be panelled.
- 9. On lots greater than 12.5m width, garages may be constructed flush with the front building line only when a minimum 1m wide verandah, balcony or similar is provided to the full width of the dwelling.

### Rear and side loaded garages

- Garages on rear loaded lots must have a zero rear boundary setback OR in accordance with the allocated building envelope setback.
- 11. Garages located on a secondary frontage must be setback a minimum 2m from the side boundary OR in accordance with the allocated building envelope setback.

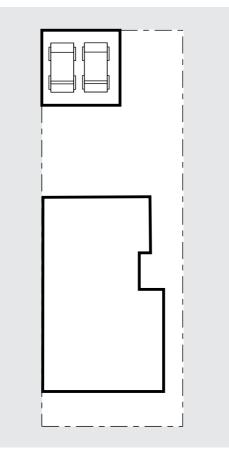
### NOTES:

For the purposes of these standards, the term garage also refers to carports.

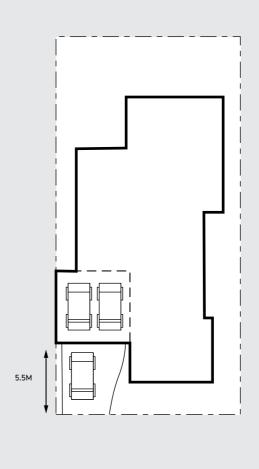


### Standard 10 - Rear loaded lot garages

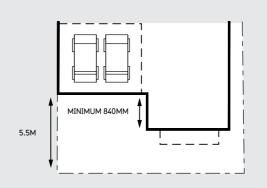
Standard 11 - Side loaded lot garages



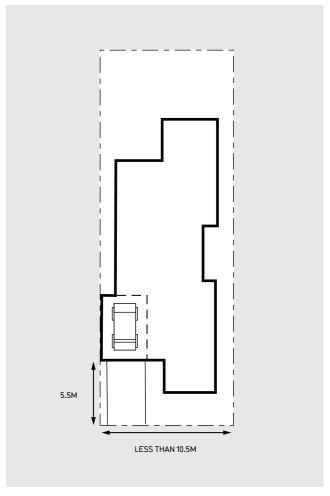
#### Standard 3 – Front loaded garages



### Standard 5 – Front building line setback



### Standard 7 – Single storey lots less than 10.5m frontage



#### **DEFINITIONS:**

#### **Front loaded lots**

Front loaded lots are defined as those with vehicle access from the primary street frontage (front end of the lot).

#### **Rear loaded lots**

Rear loaded lots have vehicle access from the rear of the lot via a laneway or side street.

#### Side loaded lot

Side loaded lots have vehicle access from the secondary frontage (side of the lot).

### 7.2. DRIVEWAYS

### Objectives

• To minimise the impact of driveways on the streetscape.

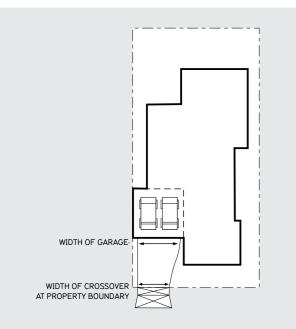
#### Standards

- 1. A maximum of one crossover per lot.
- 2. The driveway must not be wider than the garage and the crossover.
- 3. A minimum 300mm landscape strip must be provided to the side boundary.
- 4. The construction of driveways must not cut through existing footpaths.
- 5. Driveways must be constructed prior to occupancy and any applicable landscaping request.

#### NOTES:

- The locations of crossovers are fixed and must not be altered unless approved by Development Victoria and council.
- The request for relocation must be submitted to Development Victoria in writing with a site plan prior to consideration.
- The cost of crossover relocation and associated landscaping works will be borne by the lot owner.
- Crossover relocation approvals require the existing crossover to be removed and kerb and channel reinstated to match the existing. Associated costs will be borne by the lot owner/builder.

### Standard 2 – Driveway width



### 8. EXTERNAL MATERIALS, **FINISHES AND COLOUR** PALETTE

Elements used to give character and form to the elevations of a dwelling.

### Objectives

- To achieve consistency in textures and tones to tie the streetscape together.
- To ensure each house façade reflects and complements the natural landscape.
- To ensure each house façade has an appropriate mix of textures and tones.

#### Standards

- 1. All external materials and colours are to be generally in accordance with the External Materials, Colours and Finishes Palette.
- 2. Front (street) facades must consist of at least two contrasting materials (eg. base brickwork and rendered brickwork). Of the two contrasting materials at least one must be 60-70% of the facade.
- 3. Materials used on the front façade must extend to the side elevation for a minimum of 1.5m.
- 4. Imitation finishes, such as vinyl brick sheeting, are not permitted.
- 5. Raw zincalume or hand painted garage doors are not permitted.
- 6. Roofs must be finished using concrete, slate, terracotta tiles or metal sheeting.
- 7. All paints and sealants used are to be low emission.

### Driveways

- 8. The driveway must be constructed using exposed aggregate concrete, colour-through concrete, slate or natural stone pavers.
- 9. The driveway must achieve a matt (non shiny or reflective) finish.
- 10. The driveway colour must be muted and must complement the primary colour of the house.
- 12. Plain (uncoloured) concrete or bright coloured driveways are not permitted.

#### **Rainwater tanks (optional)**

12. The colour of the rainwater tank must be integrated in colour and material with the house.

### NOTES:

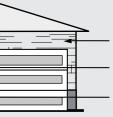
Submissions must be accompanied with colour samples.

### Standards 2 and 3 – Front Facade









PRIMARY COLOUR (BRICKWORK) 60% HIGHLIGHT COLOUR (RENDER) 10% SECONDARY COLOUR (RENDER) 30%

SECONDARY COLOUR (BRICKWORK) 30%

PRIMARY COLOUR (RENDER) 60% HIGHLIGHT COLOUR (RENDER) 10%

### **EXTERNAL MATERIALS, COLOURS & FINISHES**

#### **Roof Material and Colour**

Roof material and colour samples predominately draw on the browns, reds and dark greys that traditionally exist within Werribee.

The materials and colour of the roof are to be generally in accordance with the adjacent range:

#### **Primary Colour (60% – 70%)**

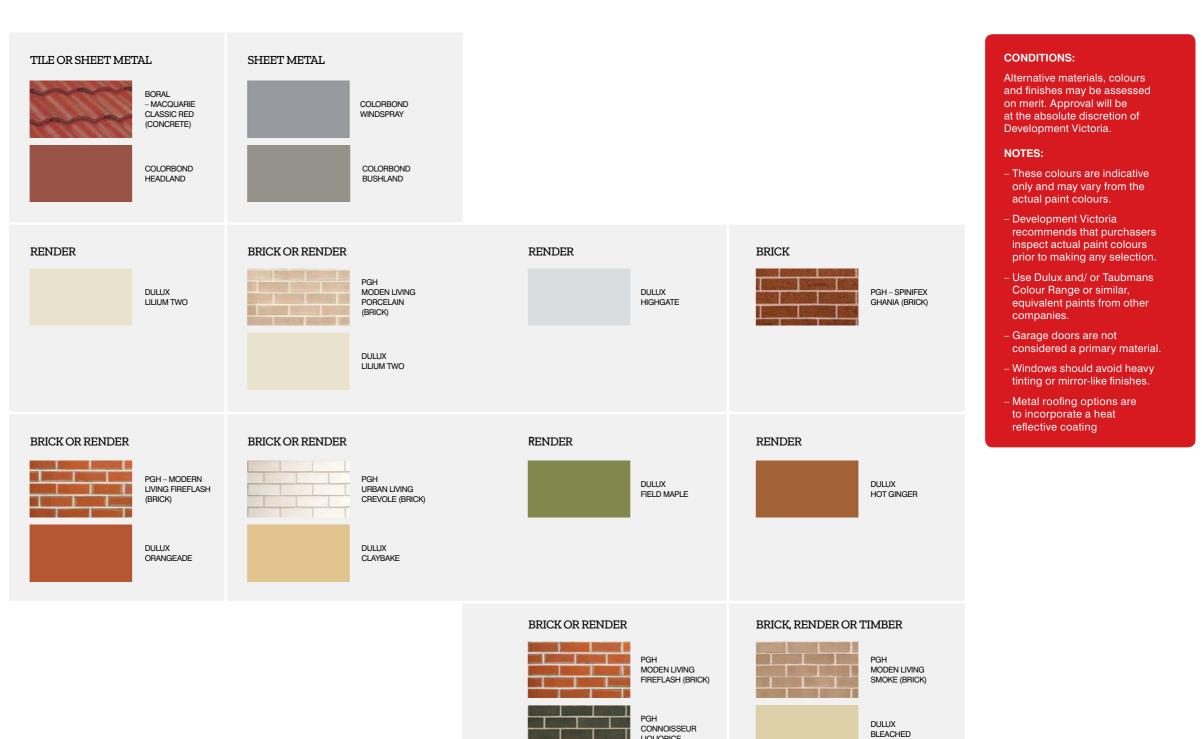
Primary colour samples have been inspired by the traditional Werribee colour palette and the surrounding natural landscape.

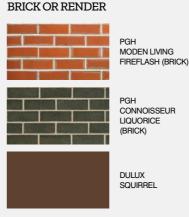
- The primary colour must be used for around 60% of the facade.
- Double storey homes must treat the upper level using the primary colour.

#### Secondary Colour (30%)

Secondary material and colour samples have been inspired by the traditional Werribee colour palette and the surrounding natural landscape.

• The secondary colour must be used for around 30% of the facade.





TIMBER TO MATCH

WHEAT

### 9.1. SERVICE EQUIPMENT, SHEDS, BINS AND SIGNS

#### Objective

• To ensure service equipment, sheds, bins and signs do not clutter the appearance of the dwelling and detract from the streetscape.

#### Standards

- Switchboards and meter boxes must be:

   located in garages; or
  - if required by authorities, located to the side of the dwelling.
- 2. Satellite dishes, antennae or external receivers must:
  - be located to the rear of the dwelling; and
  - not be in public view.
- 3. Heating and cooling units must:
  - be located towards the rear of the dwelling;
  - not be visible from the street; and
  - if located on the roof, be positioned below the ridge line
- to the middle of the roof and coloured to match the roof.
- 4. Photovoltaic cells must be located to maximise their efficiency and integrate with the roof form.
- 5. Garden sheds must:
  - not be in public view;not be greater than 2.4m in height; and
  - not be greater than 2.4m in height, and
     match the appearance of the dwelling in form,
  - colour and materials if it is greater than 10m<sup>2</sup>.
- 6. Rubbish bin storage areas must:
  - not be in public view; and
    not be greater than 2.4m in height.
- 7. Solar hot water systems must not be in public view, excluding corner lots.
- 8. Washing lines must not be in public view.
- 9. Other ancillary structures must not be in public view.
- 10. Dwelling names or home business signs must
  - not exceed 20cm; and
  - integrate with the facade design.

#### NOTE:

Home business signs may require council approval.

**DEFINITION:** 

### Ancillary Structures

Other structures in addition to the dwelling and garage/ carport.

### 9.2. LETTERBOXES

### Objective

• To ensure the form and style of the letter-box complements the design of the dwelling.

#### Standards

1. Letter-boxes must complement the dwelling in colour, design and material.

### 10. ENERGY, WATER AND MATERIALS EFFICIENCY

### **10.1. ENERGY RATING**

#### Objective

To minimise dwelling energy consumption requirements.

#### Standards

- 1. All dwellings must achieve a minimum 6-Star Energy Rating.
- 2. An assessment report from an accredited energy rating consultant must be submitted.
- All dwellings to include provisions to reduce greenhouse gas emissions by 24.3% or 2.16 tonnes of greenhouse gas per dwelling/ year (complete table at the back of these Design Standards)

### 10.2. ENERGY METERING (OPTIONAL)

#### Objective

 To help residents understand the amount and characteristics of their energy consumption.

### Standards

1. All dwellings are recommended to include an energy metering device which has an in-home display that demonstrates dwelling energy use and greenhouse gas emissions to the user.

### 10.3. HEATING AND COOLING

#### Objectives

- To provide effective heating and cooling to each dwelling.
- To ensure an appropriate level of comfort.
- To minimise heat loss and resource use.

#### Standards (Recommended)

- Heating and cooling appliances must have a minimum star rating as outlined below:
  - a. Gas convection heater = 4 Star
  - b. Central Ducted = 5 Star
  - c. A minimum duct insulation level of R1.5 must be used when ducted heating is desired
  - d. Reverse Cycle < 2kW = 4 Star cooling and 4 Star heating
  - e. Cooling Appliances <2kW = 4 Star
  - f. Cooling Appliances 2 4kW = 5 Star
  - g. Cooling Appliances 4 6kW = 4 Star
  - h. Cooling Appliances 6 7kW = 3.5 Star
  - i. An inverter system must be used when a split system air conditioner is desired
  - j. A hydronic heating system may be installed. Although this type of heating does not have a star rating, it provides a comfortable radiant heat that is energy efficient.

### NOTES:

- The minimum star rating for appliances varies due to their output range.
- To find manufacturers contact details for the appropriate star rated products, please visit www.energyrating.gov.au

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### **10.4. LIGHTING**

### Objective

• To minimise dwelling energy requirements for lighting.

### Standards

1. External light fittings must not result in excessive light spill.

### NOTES:

While there is no standard for compact fluorescent lamps or LED's, their use is recommended to prevent the excessive heat and energy waste of halogen down lights.

### **10.5. WATER EFFICIENCY**

### Objective

• To reduce the amount of potable water consumed by the dwelling.

### Standards

- All water fixtures and fittings listed below must meet the following minimum mandatory Water Efficiency Labelling Standards (WELS, refer Notes 1 and 2):
  - a. Toilets = 4 Star
  - b. Shower heads = 3 Star
  - c. Taps (internal only) = 5 Star
- 2. All homes are encouraged to install a rainwater tank.

### **10.6. RECYCLED WATER**

### Objective

 To reduce the amount of potable water consumed by a dwelling.

### Standards

- 1. Connection to Class A recycled water main (commonly known as The Third Pipe) is mandatory.
- 2. The Third Pipe must be connected to all toilets and front and rear garden irrigation.

### NOTE:

 Until Class A recycled water is available, potable water will be used in the Third Pipe, consequently normal water restrictions will continue to apply.

### **11. FENCING**

### Objectives

- To achieve an attractive and complementary streetscape.
- To encourage passive surveillance of the street.

### **Fencing Types**

The type of fencing installed will be determined by the location of the lot and the type of dwelling it can accommodate.

- Interlot fencing
- Connector fencing
- Return fencing
- Corner fencingFront fencing
- Front lenciLow wall
- Low wall

### **Fencing Types**

1. Fencing must comply with the following table as applicable:

Location Type	Interlot	Connector	Corner	Return	Front	Low wall
Transparency (minimum %)	0%	0%	20%	50%	50%	NA
Length (minimum %)	NA	Varies	70% of lot depth	NA	Varies	Varies
Height (m)	1.8m AVE 1.95m MAX	1.1m MAX 0.7m MAX	1.8m AVE 1.95m MAX	1.8m AVE 1.95m MAX	1.1m MAX	0.7m MAX 0.6m MIN
Setback (minimum in metres)	1m behind building line	NA	3.5m behind building line	1m behind building line	NA	NA
Materials (selected list)	Timber	Timber	Must not be metal	Timber	Various	Rendered or bagged masonry

Note: Interlot and return fencing must not come forward of the building line

2. All timber fencing must be ACQ (non-arsenic) treated.

3. All fencing must be setback from any retaining walls a minimum distance of 450mm.

4. Fencing visible from the public realm must not be finished in bright primary colours.

5. Fencing type and location to be shown on Site Plan.

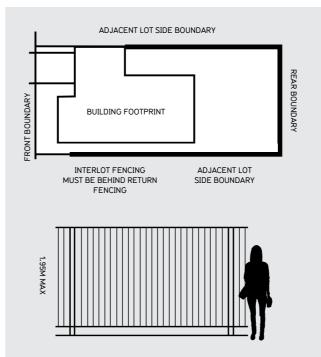
### **INTERLOT FENCING**

Fencing behind the building line between neighbouring lots.

### Standards

- 1. The fence must be constructed using timber palings.
- 2. The fence must not be greater than 1950mm in height.
- 3. The fence must not be substantially visible from the street.
- 4. The fence must be set back at least 1m behind the front building line.

### Interlot Fencing Arrangement and Elevation



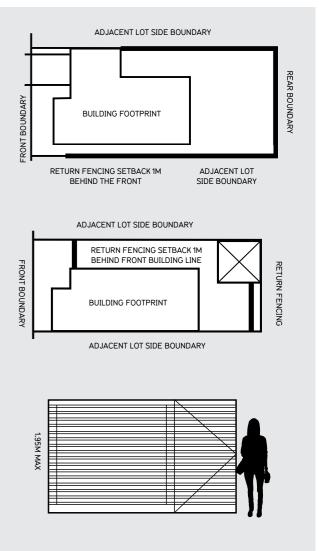
### **RETURN FENCING**

Fencing between the dwelling and the side fencing.

### Standards

- 1. The fence must be constructed using horizontal open timber slats.
- 2. If a gate is included it must complement the return fence by matching in colour and material.
- 3. The fence must be setback 1m behind the front building line.

### Typical Return Fencing Arrangement and Elevation

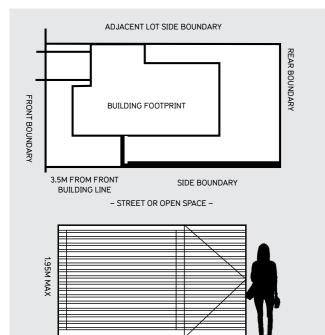


### **CORNER FENCING**

#### Standards

- 1. The fence must be constructed using:
  - a. Rendered or bagged masonry with infill steel pickets OR timber pickets;
  - b. Timber pickets with masonry; c. Horizontal or vertical timber slats.
- 2. The preferred construction material must comply with the Material and Colour Palette Standards set out in section 8.
- 3. The fence must not be greater than 1.95m in height.
- 4. The fence must be at least 20% transparent.
- 5. The fence must be setback at least 3.5m behind the front building line.
- 6. The fence must not be longer than 70% of the lot depth.

#### **Typical Corner Fencing Arrangement and Elevation**



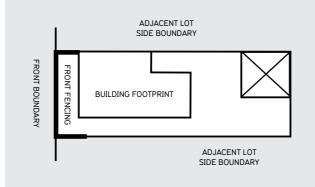
### **FRONT FENCING** (REAR LOADED LOTS ONLY)

Low fencing that defines the front boundary.

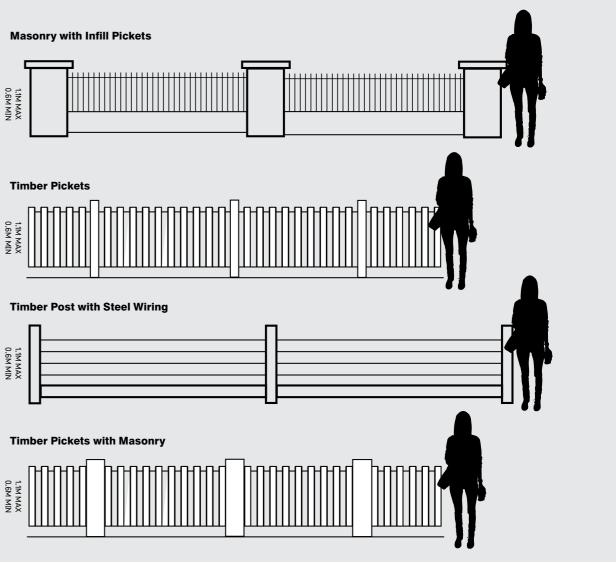
### Standards

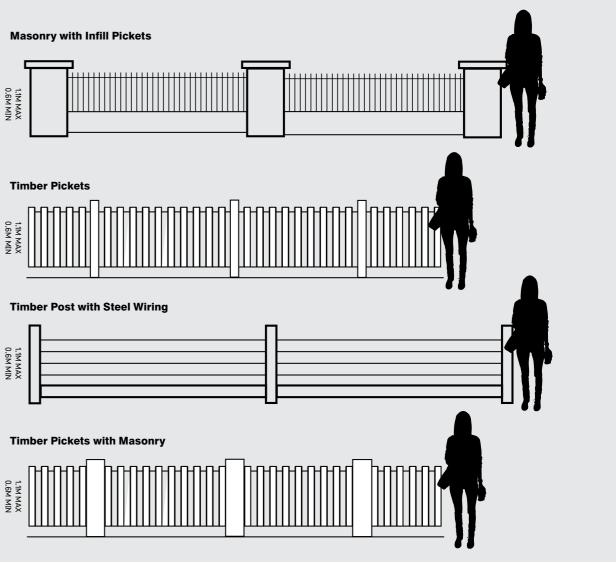
- 1. The fence must be constructed using:
- a. Rendered or bagged masonry with infill steel pickets OR timber pickets;
- b. Timber pickets;
- c. Timber posts with steel wiring;
- d. Timber pickets with masonry.
- 2. The preferred construction material must comply with the Material and Colour Palette Standards set out in section 8.
- 3. The fence must not be less than 0.6m in height
- 4. The fence must not be greater than 1.1m in height.
- 5. The fence must connect with side boundary fence 1m behind the front building line.

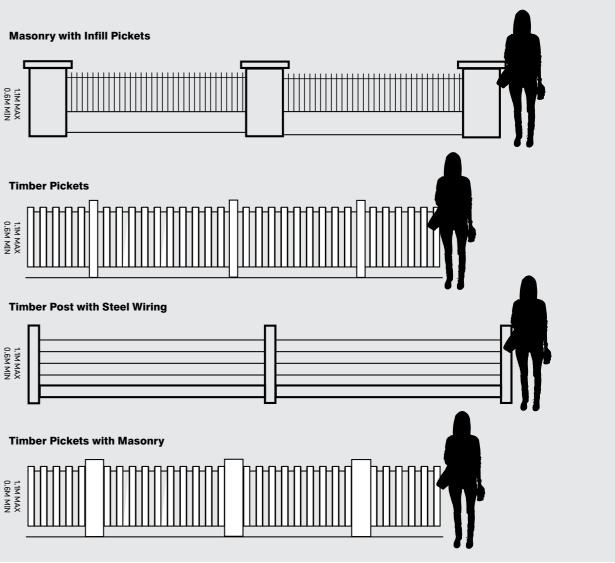
#### **Front Fencing Arrangement and Elevations**

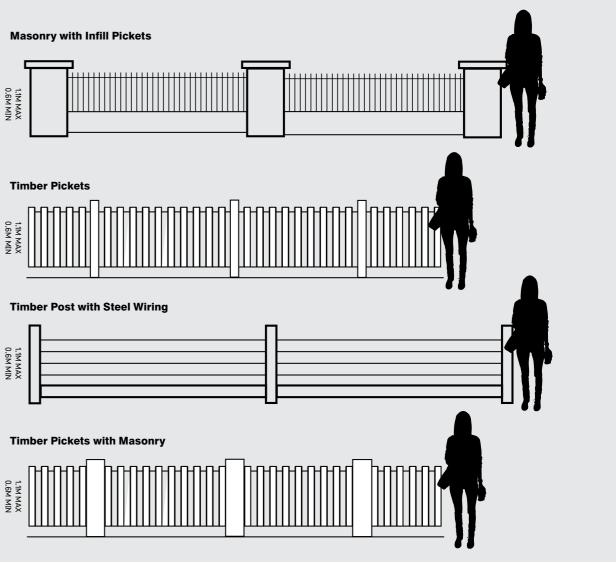


### FRONT FENCING (REAR LOADED LOTS ONLY)









### **12. FRONT GARDEN**

Riverwalk

Design Standards

Specifications for the character, form and materials used to landscape front gardens.

### Objective

- To provide an attractive setting for your house while contributing to the streetscape.
- To ensure the character of the streetscape is complementary and coordinated.

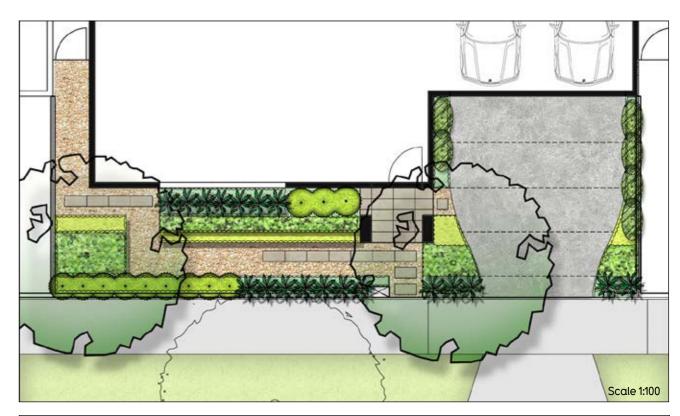
### Standards

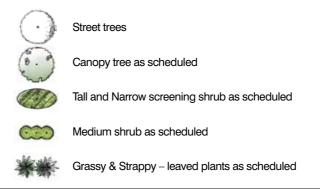
- 1. Development Victoria has developed front garden designs for you to choose from.
- 2. Your preferred front garden design must be submitted as part of your final Design Standard assessment submission.

### HOW TO USE THE FRONT **GARDEN STANDARDS:**

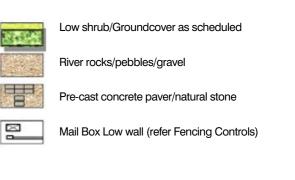
- 1. Review the available designs, and decide which is most suitable for your lot type and individual requirements. Landscape concept designs are typical only and garden layout may require alteration by the contractor to suit the building design and site conditions as well as any other constraints. Images and symbols on the landscape designs are indicative only, and represent suitable materials, colours, plants and combinations of garden elements.
- 2. Select plant species and paving materials to complement your house and natural characteristics of your lot. Consider using deciduous trees to provide shade to North facing frontage in summer and allow for winter sun. Identify sunny and shady spots in your garden and select plants accordingly. The plant list identifies species for shady conditions.

Plant species included in this document have been specifically selected to ensure a quality design, consistent with the character of Riverwalk.

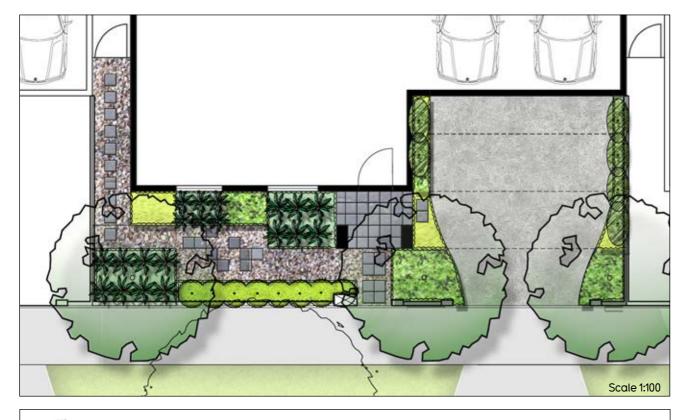


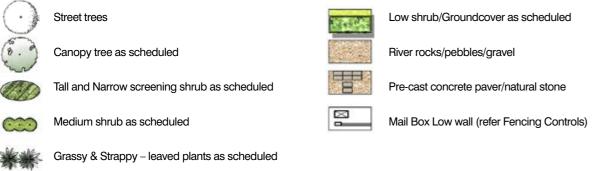






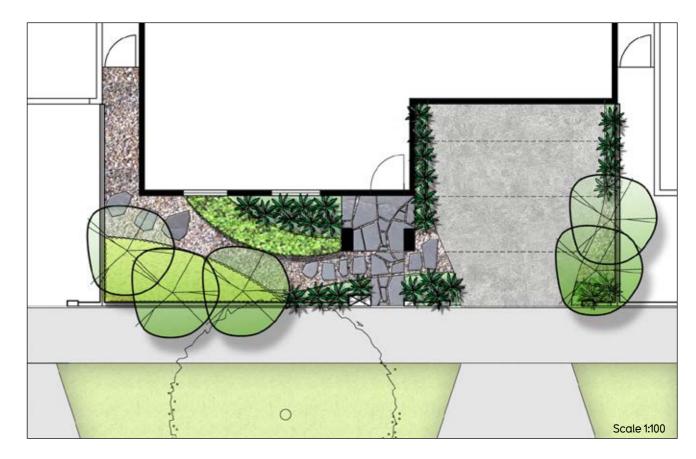
### TRADITIONAL LIVING: MOSAIC GARDEN

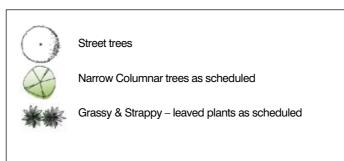




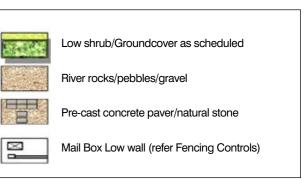


### TRADITIONAL LIVING: RIVERWALK GARDEN

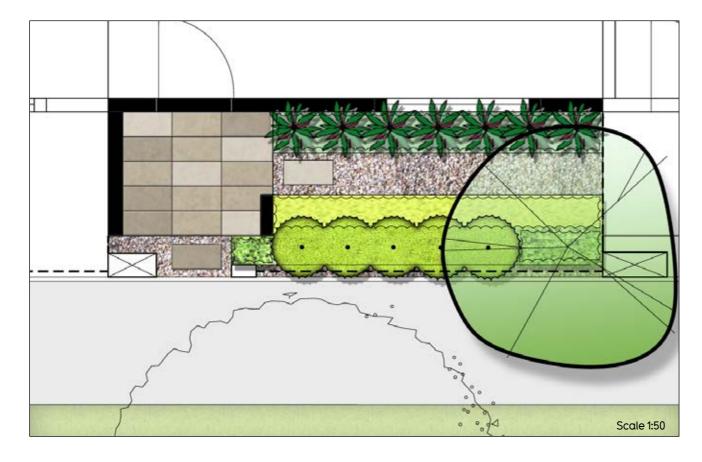


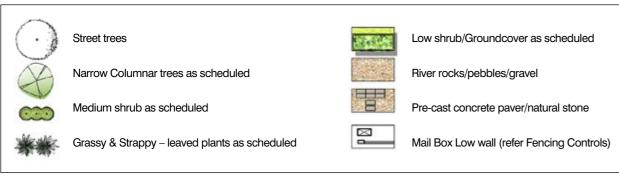






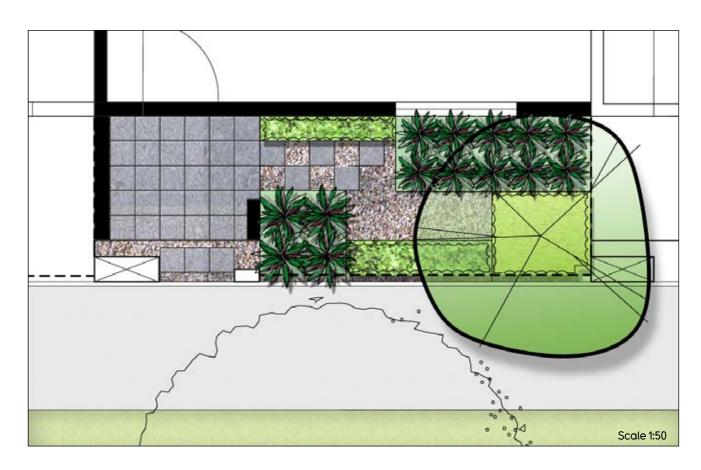
### TERRACE (REAR LOADED): LINEAR GARDEN

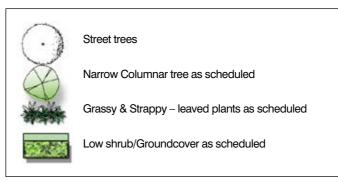




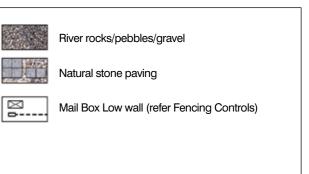


### TERRACE (REAR LOADED): MOSAIC GARDEN

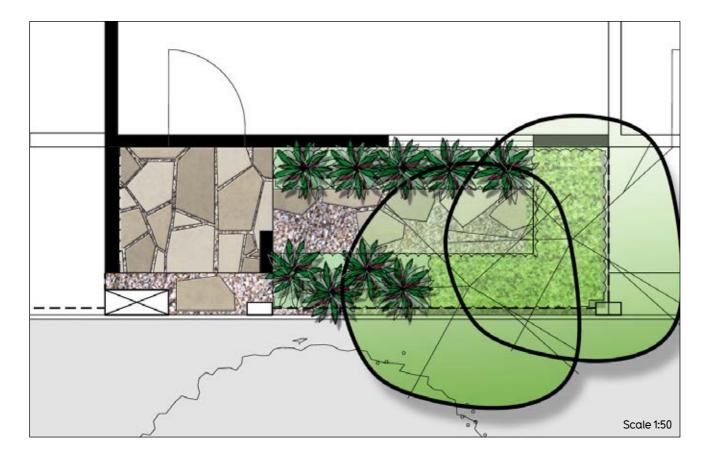


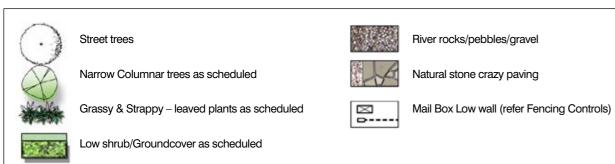






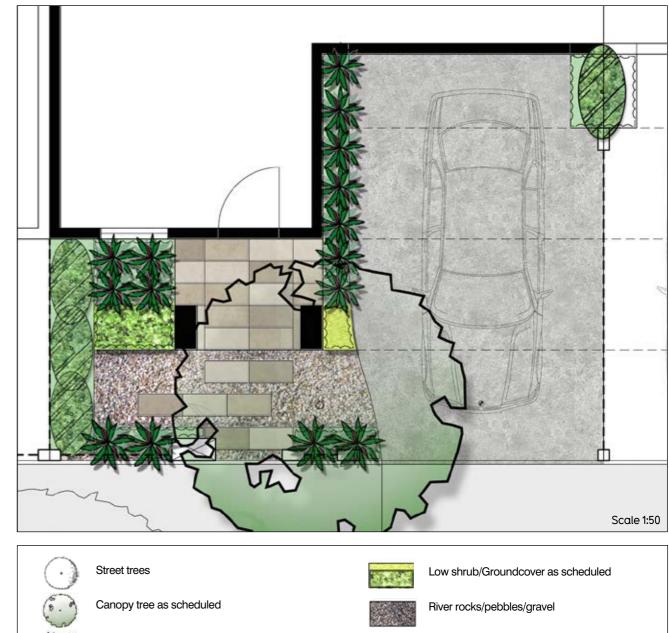
### **TERRACE (REAR LOADED): RIVERWALK GARDEN**

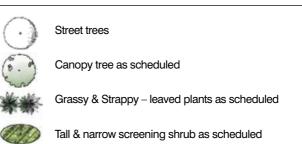






### **TERRACE (FRONT LOADED): LINEAR GARDEN**





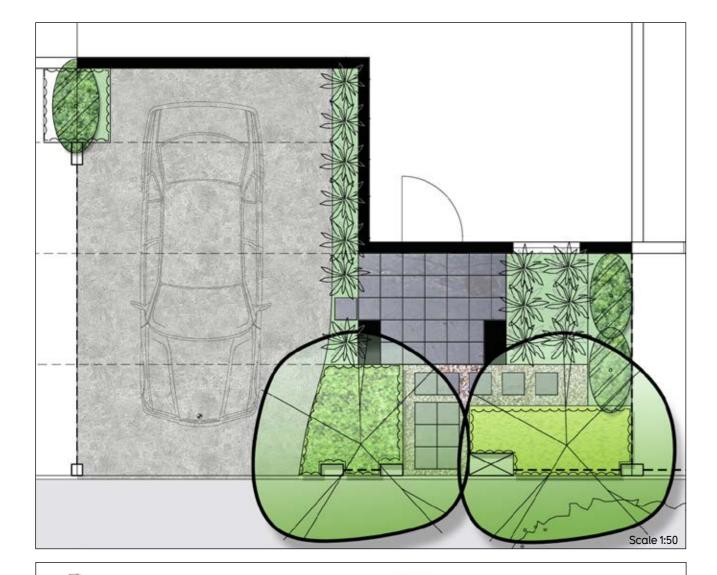


Natural stone paving

Mail Box Low wall (refer Fencing Controls)

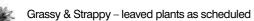
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### **TERRACE (FRONT LOADED): MOSAIC GARDEN**



Street trees ٠

Narrow Columnar trees as scheduled

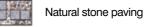






River rocks/pebbles/gravel

Low shrub/Groundcover as scheduled



Mail Box Low wall (refer Fencing Controls)



### **TERRACE (FRONT LOADED): RIVERWALK GARDEN**









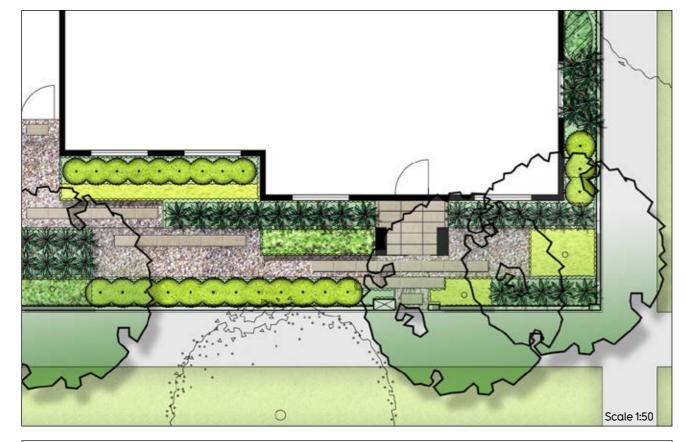
Low shrub/Groundcover as scheduled

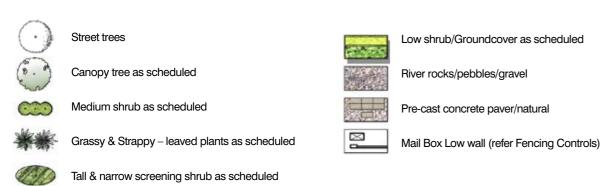
River rocks/pebbles/gravel

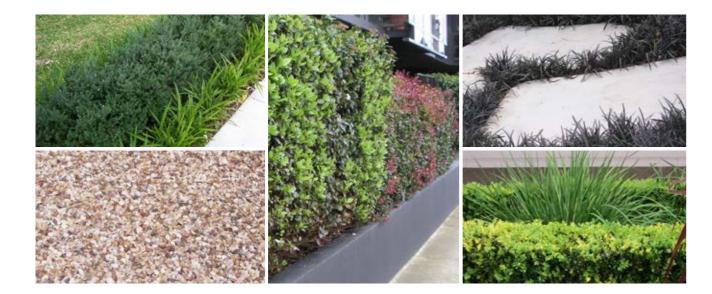
Natural stone crazy paving

Mail Box Low wall (refer Fencing Controls)

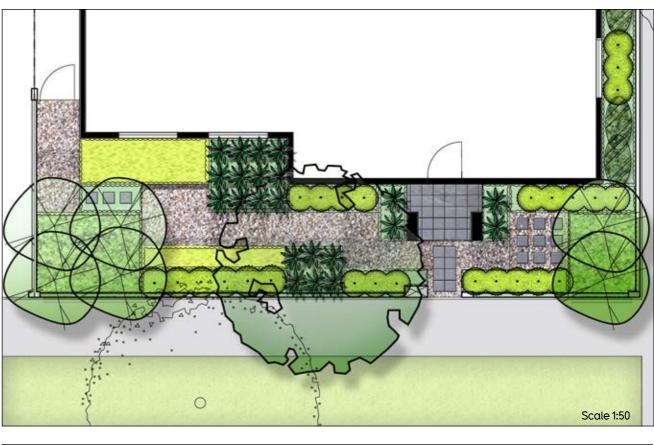
### SIDE LOADED – (CORNER LOT): LINEAR GARDEN

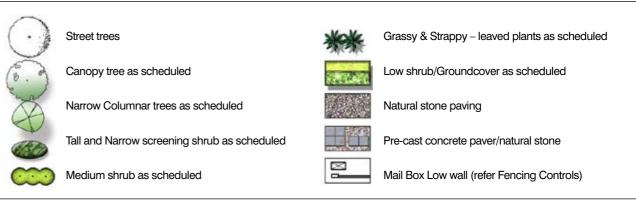






### SIDE LOADED - (CORNER LOT): MOSAIC GARDEN

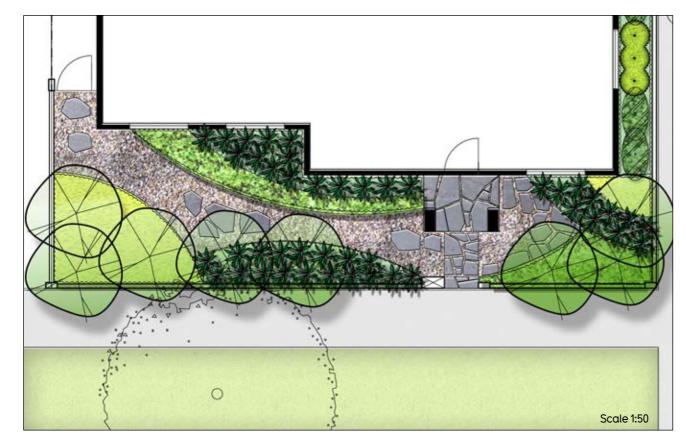


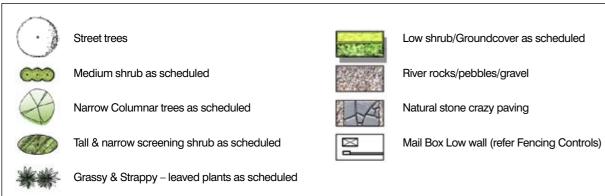




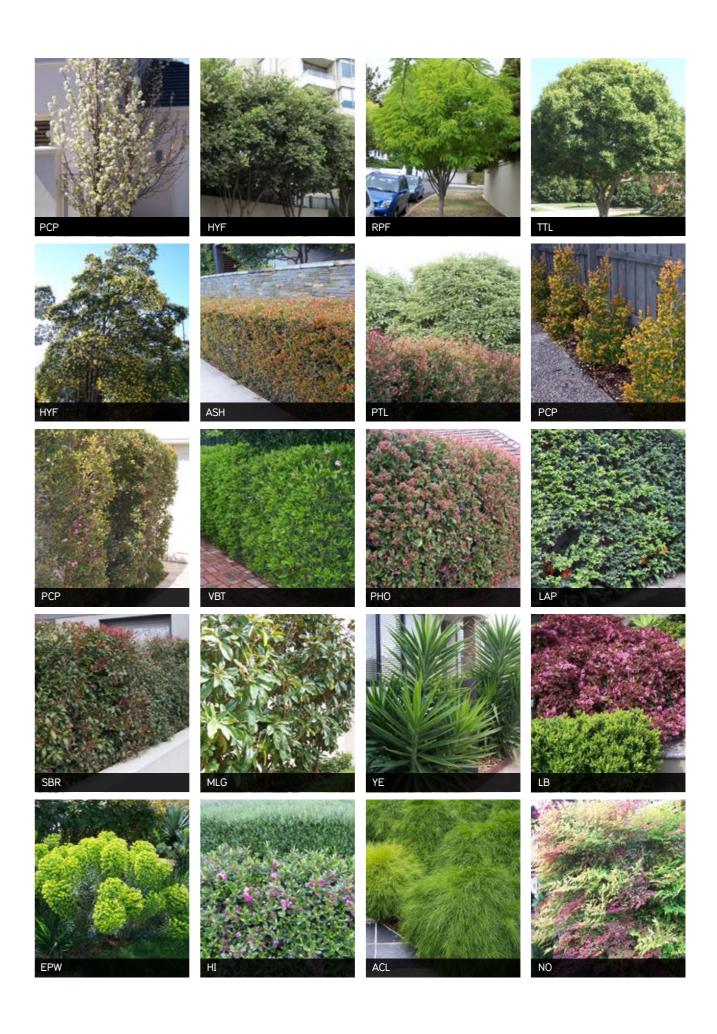
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### SIDE LOADED – (CORNER LOT): RIVERWALK GARDEN









### Front gardens plant list

### Note: EX = exotic, A = Australian native, D = deciduous, E = evergreen

KEY BOTANIC	AL NAME	COMMON NAME	MATURE SIZE (H x W)	SPACING	ORIGIN D/E	SHADE
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### SMALL/MEDIUM CANOPY TREES (4-12M) INSTALLATION SIZE: 1.5-1.8M HIGH.

BPF	Betula pendula 'Fastigiata'	Silver Birch	11 x 4	as shown	EX	D	
CF	Corymbia ficifolia	Red flowering Gum	5-8 x 4-8	as shown	Α	Е	
CS	Ceratonia siliqua	Carob Tree	5-7 x 5	as shown	EX	E	
CS	Cercis siliquastrum	Judas Tree	4-6 x 5-7	as shown	EX	D	
HYF	Hymenosporum flavum	Native frangipani	7-10 x 3-5	as shown	А	E	
LGI	Lagerstroemia indica 'Natchez'	Crepe Myrtle	8×6	as shown	EX	D	
MG	Magnolia grandiflora Kay Parris	Kay Parris' Magnolia	6-8 x 4-6	as shown	EX	D	
OE	Olea europaea	Common Olive	5-8 x 5-8	as shown	EX	E	
PYA	Pyrus calleryana 'aristocrat'	Aristocrat Pear	12 x 8	as shown	EX	D	
RPF	Robinia pseudoacacia 'Frisia'	Golden Robinia	6-10 x 5-8	as shown	EX	D	
SA	Syzygium australe	Brush Cherry	7-10 x 3-8	as shown	Α	E	
TTL	Tristaniopsis laurina	Kanooka	7-12 x 5-8	as shown	А	E	

### NARROW UPRIGHT TREES (5-12M) INSTALLATION SIZE: 1.5-1.8M HIGH.

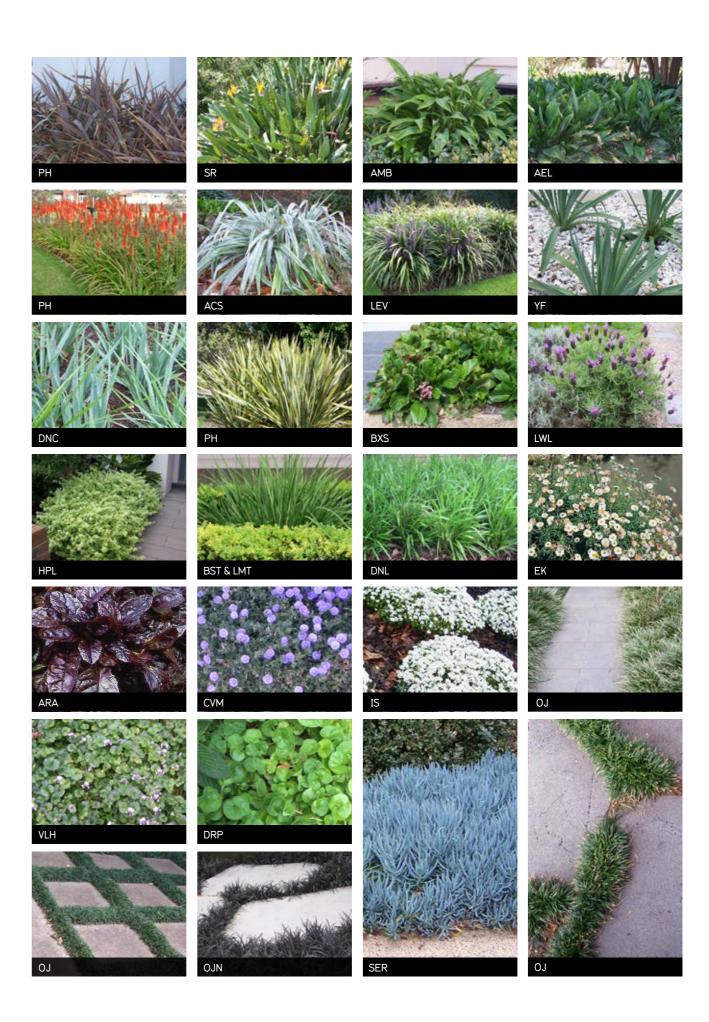
PBD	Pyrus betulaefolia 'Southwort' Dancer	Southworth Dancer Plum	7 x 4.5	as shown	EX	D	
ELR	Eleaocarpus reticulatus	Bleberry Ash	6-8 x 4-6	as shown	А	E	
MT	Malus tschonoskii	Tschonoskii Crab Apple	7 x 4	as shown	EX	D	
LN	Laurus nobilis	Bay Tree	6-10 x 3-5	as shown	EX	E	
OET	Olea europea 'Tolley's Upright'	Tolle's Upright Olive	7-9 x 3-6	as shown	EX	D	
PCO	Prunus cerasifera 'Oakville Crimson Spire'	Crimson Spire Cherry Plum	6x2	as shown	EX	D	
PCP	Pyrus calleryana 'Capital	Capital Pear	11 x 3.5	as shown	EX	D	

### TALL & NARROW SCREENING SHRUBS/SMALL TREE (1.5-5M)

ASM	Acmena smithii var 'Minor'	Minor Lilly Pilly	5x2	as shown	А	E	
ASS	Amena smithii 'Green Screen'	Green Screen Lilly Pilly	3-5 x 1-2	900 c/c	А	Е	
ASH	Acmena smithii var. minor 'Hot Flush'	Lilly Pilly dwarf	3x2	900 c/c	Α	E	
CS	Camelia sasanqua spp.	Sasanqua Camellia cultivars	3 X 1.5	900 c/c	EX	Е	
СТ	Choisya ternata	Mexican Orange Blossom	2.5 x 2	900 c/c	EX	Е	
CP	Cordyline petiolaris	Broad-leaf Palm Llily	2 x 0.8-1.2	700 c/c	А	E	
YE	Yucca elephantipes	Spineless Yucca	1.5-2 – 1-1.5	700 c/c	EX	E	
LAP	Luma apiculata syn. Myrtus Luma	Myrtle	5-4 X 3	1200 c/c	EX	E	
MLG	Magnolia 'Little Gem'	Little Gem Magnolia	4 x 1.5	1000 c/c	EX	E	
MP	Murray paniculata	Orange jasmine	2.5 x 2.5	900 c/c	EX	E	
PTL	Pittosporum tenuifolium 'Lime Light'	Lime Light Kohuhu	1.5 X 2.5	1200 c/c	EX	E	
PHO	Photinia glabra 'Rubens'	Japanese Photinia	4.5 x 3.5	900 c/c	EX	E	
PHR	Photinia x fraseri 'Robusta'	Photinia Robusta	4.5 x 4.5	900 c/c	EX	E	
SBR	Syzygium 'BigRed'	Big Red Brush Cherry	4 x 2.5	900 c/c	А	E	
SYE	Syzygium paniculatum 'Elite'	Elite Brush Cherry	3-5 X 1.5	900 c/c	А	E	
VO	Viburnum odoratissimum 'Emerald Luster'	Sweet Viburnum	4 x 3	1000 c/c	EX	E	
VBT	Viburnum tinus	Laurustinus	1.5-3 x 1.5-2	900 c/c	EX	Е	

### MEDIUM SHRUBS (1-1.5M)

ABG	Abelia grandiflora	Abelia	1.5x1.5	750 c/c	EX	E	
ACL	Acacia cognata 'Limelight'	Limelight Wattle	1 X 1	600 c/c	а	E	
BS	Buxus sempervirens 'Handsworthiensis'	Handsworthiensis English Box	1.5 x 1	500 c/c	EX	Е	
CIS	Cistus ladaniferus	Rock Rose	1-1.5 x 1.5	750 c/c	EX	Е	
CSS	Cistus 'Sunset'	Sunset Rock Rose	1 X 1	600 c/c		Е	
EPW	Euphorbia charicias ssp wulfenii	Milkweed	1.5 x 1.7	600 c/c	EX	Е	
EMY	Eriostemon myoporoides	Long leaf wax flower	1.5-2 x 1.5-2	900 c/c	Α	E	
н	Hebe inspiration	Inspiration Hebe	0.5-1.2 x 1	750 c/c	EX	Е	
HBU	Hebe buxifolia	Box leaf Hebe	1 X 1	400 c/c	EX	E	
LB	Loropetalum chinensis rubrum 'Blush'	Fringe Flower, Loropetalum	1.5 x 1.5	750 c/c	EX	E	
MCT	Metrosideros Collina Tahiti	Dwarf Metrosideros	1 X 1	600 c/c	EX	E	
ND	Nandina domestica	Japanese Sacred Bamboo	1.2 x 1.5 x 1	800 c/c	EX	E	
NOC	Nerium oleander 'Cherry Surprise'	Dwarf Oleander	1 – 1.5 x	600 c/c	EX	E	
ROS	Rosmarinus officinalis 'Blue Lagoon'	Rosemary	1.2 x 1.2m	600 c/c	EX	Е	
SAB	Syzygium australe 'Blaze'	Blaze Lilly Pilly	1.5 x 1-1.25	600 c/c	А	E	
VBD	Viburnum davidii	David's viburnum	1.2x1.2m	750 c/c	EX	Е	



### Front gardens plant list

### Note: EX = exotic, A = Australian native, D = deciduous, E = evergreen

EX

EX

EX

EX

EX

Е

Е

Е

Е

Е

400 c/c

400 c/c

500 c/c

400 c/c

500 c/c

KEY	BOTANICAL NAME	COMMON NAME	MATURE SIZE (H x W)	SPACING	ORIGIN	D/E	SHADE
GRASS	SES AND STRAPPY-LEAFED PLANTS	(>0.5M)					
ABP	Agapanthus 'Black Pantha'	Black Pantha African Lily	1x1	500 c/c	EX	Е	
AMB	Arthropodium cirrhatum 'Matapouri Bay'	Renga Renga Lily	0.6 x 0.8	500 c/c	EX	Е	
AEL	Aspidistra elatior	Cast Iron Plant	0.6-1 x 0.8-1.2	750 c/c	EX	E	
ACS	Astelia chathamica Silver Spear	Silver Spear Astelia	1.5 x 1.5	750 c/c	EX	E	
DNC	Dianella caerulea 'Cassa Blue'	Blue Flax Lily	0.5 x 0.4	400 c/c	А	Е	
DCB	Dianella caerulea 'Breeze'	Breeze Flax Lilly	0.7 x 0.65	500 c/c	Α	Е	
DNU	Dianella prinina 'Utopia'	Utopia Flax Lily	0.5 x 0.5	400 c/c	А	E	
DIR	Dietes iridiodes	Fortnight Lily	0.6 x 0.4	400 c/c	EX	Е	
CRS	Cordyline australis 'Red Star'	Red Palm Palm Lily	1.2 x 1	600 c/c	EX	Е	
KL	Kniphofia linearifolia	Red Hot Poker	1-1.2 x 0.8	500 c/c	EX	E	
KC	Kniphofia citrina	Red Hot Poker	0.9 X 0.4	400 c/c	EX	Е	
LEV	Liriope muscari 'Evergreen Giant'	Evergreen Giant Liriope	0.3-0.6 x 0.45	400 c/c	EX	Е	
LN	Lomandra 'Nyalla'	Lomandra Nyala	0.6 x 0.5	400 c/c	А	E	
MT	Lomandra 'Tanika'	Dwarf Lomandra	0.5-0.6 x 0.6	400 c/c	Α	E	
DM	Orthorosanthus multiflorus	Morning Flag	0.5 x 0.4	400 c/c	A	E	
PH	Phormium species	New Zealand Flax	0.5-1.5 x 0.4-1	400-800c/c	EX	E	
SR	Strelitzia reginae	Bird of paradise	1.8 x 1	750 c/c	EX	Е	
ΥF	Yucca fillamentosa	Adam's Needle	0.6 x 0.9	600 c/c	EX	E	
						E	
ASI	Acmena smithii ' Hedgemaster'	Lilly Pilly dwarf	0.5-1 X 0.6	400c/c	А	E	
ACG	Ajuga reptans 'Catlins Giant'	Catlins Giant Bugle	0.2 x spreading	400 c/c	EX		
ARA	Ajuga reptans 'Atropurpurea'	Purple Bugle	0.2 x spreading	400 c/c	EX	E	
BXS	Bergenia x schmidtii	Pigsqeak	0.3 x 0.6	400 c/c	EX	E	
BSB	Buxus sempervirens 'Blauer Heinth'	Blauer Heinth English Box	0.5 x 0.5	400c/c	EX	E	
	Clivia x cyrtanthiflora	Kaffir Lily	0.5 X 0.7	400 c/c	EX	E	
CVM	Convolvulus mauritanicus	Ground Morning Glory	0.15-0.2 x 0.3	450 c/c	EX	E	
CDB	Correa 'Dusky Bells'	Dusky Bells Correa	0.7 X 1	500 c/c	A	E	
DNL	Dianella caerulea 'Little Jes'	Blue Flax Lily	0.3-0.4 x 0.3	300 c/c	Α	E	
DHS	Dianella 'Silver Streak'	Silver Streak Flax Lily	0.4 x 0.4	400 c/c	A	E	
DTR	Dianella tasmanica 'Tasred'	Tasred Flax	0.4 x 0.4	400 c/c	Α	E	
EK	Erigeron karviscianus	Seaside Daisy	0.5 x 1	400 c/c	EX	E	
EPC	Euphorbia Craigieburn	Milkweed	0.6 X 0.7	500 c/c	EX	E	
HWM	Hebe 'Wiri Mist'	Wiri Mist Hebe	0.45 X 1	600 c/c	EX	Е	
HPL	Helichrysum petiolare 'Limelight'	Icicles Licorice Plant	0.4 x 0.1	600 c/c	A	E	
S	Iberis sempervirens	Candytuft	0.3 x 0.45	300 c/c	EX	E	
JNC	Juniperus conferta	Shore Juniper	0.6 x 1	500 c/c	EX	E	
VH	Lavandula angustifolia 'Hidcote'	Hidcote Lavender	0.45 X 0.45	400 c/c	EX	Е	
WL	Lavandula 'Winter Lace'	Winter Lace Lavender	0.7 X 0.7	500 c/c	EX	Е	
LLP	Lomandra confertifolia 'Little Pal'	Little Pal Lomandra	$0.5 - 0.6 \times 0.65$	400 c/c	Α	E	
LC	Lomandra contertifolia 'Little Con'	Little Con Lomandra	0.3 x 0.3	300c/c	Α	Е	
MYP	Myoporum parvifolium 'Purpureum'	Creeping Boobialla	0.2 x 0.8	600 c/c	Α	Е	
PTW	Pittosporum tobira 'Wheelers Dwarf'	Wheeler's Dwarf Pittosporum	0.6 x 0.6	500 c/c	EX	Е	

### GROUNDCOVERS FOR STEPPING STONES

Trachelospermum jasminoides

Pittosporum tenuifolium 'Golf ball'

Rosmarinus lavandulaceus

Ruscus hypoglosum

Senecio repens

PGB

RML

RHP

SER

TRA

DRP	Dichondra reptans	Kidney Grass	0.15 x 0.5	400 c/c	А	Е	
OJN	Ophiopogon japonicus 'Nigra'	Mondo Grass	0.2-0.3 x 0.3	300 c/c	EX	E	
OJ	Ophiopogon japonicus	Black Mondo Grass	0.2 x 0.2	300 c/c	EX	Е	
VLH	Viola hederacea	Native Violet	0.15 x 0.5	300 c/c	Α	E	

0.5 x 0.5

0.3 x 0.6

0.5 x 0.6

0.3 x 0.6

0.4 x spreading

Golf – ball Dwarf Pittosporum

Prostrate Rosemary

Chinese Star Jasmine

Blue Chalksticks

Box Holly

### Development Victoria design review panel Stage 26

Preliminary & Final Design/Siting Assessment Checklist

-	0	<u> </u>
Builder	Lot No.	Street
2.0 BUILDING ENV	ELOPES AND B	UILDER ENCROACHME
- Achieve minimum s	setbacks to dwelli	ng from all boundaries (re
– Maximum 1.5m enc	roachment permit	tted into front setback for
3.0 SITE COVERAG	E (page 10)	
– Maximum 70% for f	front loaded dwell	lings
– Maximum 75% for s	side or rear loade	d dwellings
4.0 PASSIVE SOLA	R DESIGN AND	SUN SHADING (page 11,
(4.1) Passive Solar De		
- Have direct access	s from internal livir	ng area
- Achieve 3.0m minin	num dimension	
- Achieve minimum o	area of 25m²	
South, East and Wes	t Facing Lots Only	,
- SPOS must not be I	located South of c	a living space
- SPOS must have ur	nroofed North fac	ing living space windows
(4.2) Sun Shading/W	indow Treatment (	Objective North Facing Ho
– Provide 450mm ea	ve where window	achieves greater than 150
- Two storey dwellin	gs only require ec	ave to upper floor
East/West Habitable	Room Windows	
- Apply double glaz	ing where window	v achieves greater than 15
5.0 FAÇADE DESIG	N (page 13, 14)	
– Contemporary styl	e	
– Must not be contin	uously straight fo	r more than 6.5m (horizon
– Eave to full façade – (excludes parapet – (excludes garage	areas)	
- Parapets and eave	es (where used or	n facades) are to be return
- Portico to achieve	minimum dimensi	on of 1.5m and overall are
- Sufficiently addres	ss corner by exten	sion of main façade to 3.5
-	-	-

Stage	Estate
ENTS (page 8, 9)	
efer to relevant Building Envelope Plan	))
Porch (incl eave)	
, 12)	
abitable Room Windows	
00mm offset from boundary	
500mm offset from boundary (recomme	ended)
tally)	
ned 1500mm to side elevations	
ea of 3m <sup>2</sup>	
5m to secondary elevation (Corner Lots	5)

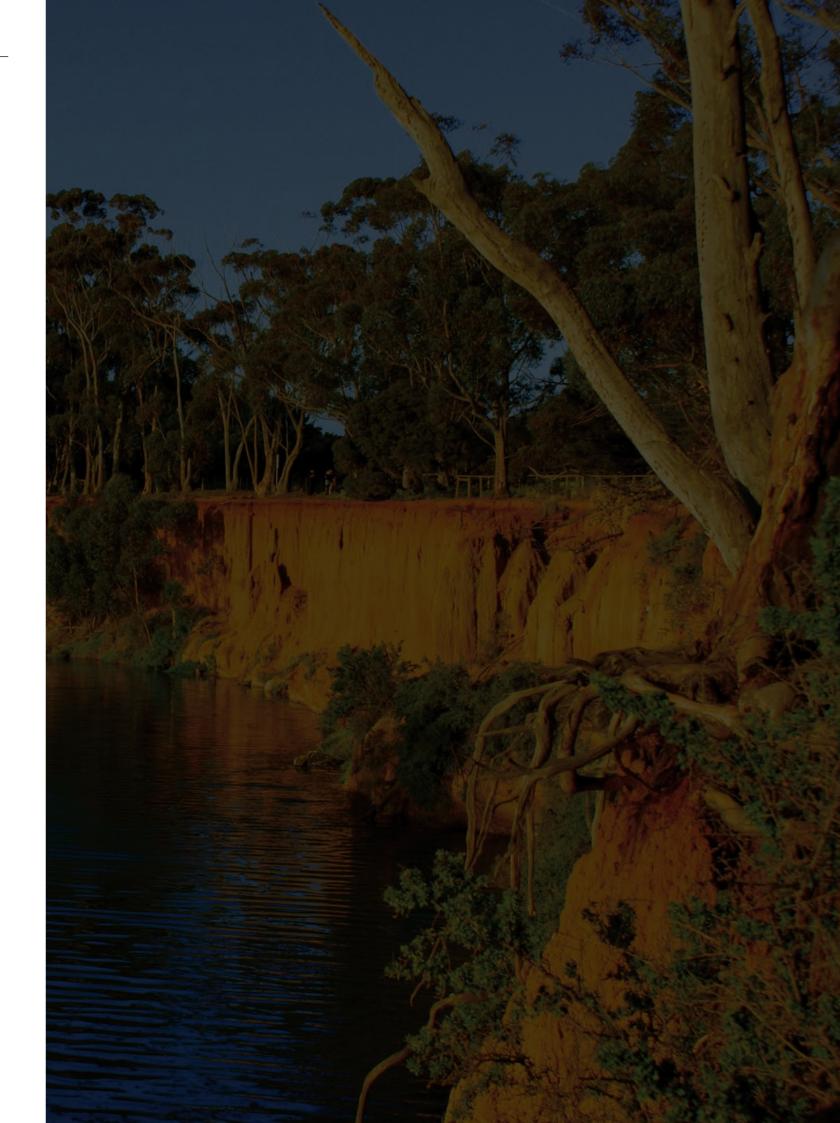
6.0 ROOF FORM (page 15)	
– Achieve 20 – 30 degree pitch for Pitched, Gabled or Hipped Roofs	
– Achieve 10 – 30 degree pitch for Skillion Roofs	
7.0 GARAGES AND DRIVEWAYS (page 16-18)	
(7.1) Garages	
- Garage to achieve minimum 5.5m setback from front boundary	
– Garage to achieve minimum 840mm setback behind dwelling	
– Garage may be built to boundary or – at least 1.0m setback	
– Side Entry Garage to achieve minimum 2.0m setback from side street boundary (corner lots only)	
– 10.5m or less lot width limited to Single Car Garage	
– Garage doors must be panelled	
<ul> <li>Garages to achieve minimum internal dimensions as follows:</li> <li>Double (5.5m (w) x 6.0m (d))</li> <li>Single (3.5m (w) x 6.0m (d))</li> </ul>	
(7.2) Driveways	
– Must not be constructed wider than the crossover at entry	
– Achieve 300mm landscape strip between driveway and side boundary	
8.0 EXTERNAL MATERIALS, FINISHES AND COLOUR PALETTE (page 18-21)	
Façades	
– Achieve three different colours (primary, secondary and highlight)	
– Primary colour – largest quantity applied to façade around 60%	
– Secondary colour – bold material/colour applied to ground level of façade around 30%	
– Highlight colour – smallest quantity applied to façade around 10%	
– Materials must return 1.5m to side elevations	
– Roof tiles or Metal Sheeting roofing permitted	
- Roof tiles or Metal Sheeting roofing permitted Driveways	
Driveways - Driveway finish to be provided as Matt finish using Exposed Aggregate,	
Driveways – Driveway finish to be provided as Matt finish using Exposed Aggregate, Colour-through Concrete, Slate or Natural Stone Pavers	
Driveways         - Driveway finish to be provided as Matt finish using Exposed Aggregate, Colour-through Concrete, Slate or Natural Stone Pavers         - Driveway colour must compliment primary façade colour	
Driveways         - Driveway finish to be provided as Matt finish using Exposed Aggregate, Colour-through Concrete, Slate or Natural Stone Pavers         - Driveway colour must compliment primary façade colour         Rainwater Tanks (optional)	

9.0 SERVICE EQUIPMENT, SHEDS, BINS, SIGNS AND LETTERBOXES (page 22)         The following structures must be hidden from public view (where possible)         - Satellite Dishes & Antennas         - Heating and Cooling units         - Solar Hot Water Systems         - Garden Sheds         10. ENERGY, WATER AND MATERIALS EFFICIENCY (page 23)         (10.1) Energy Rating         - Minimum 6.0 star energy rating achieved         (10.2) Energy Metering         - Energy metering device (recommended)         (10.3) Heating and Cooling (recommended)         - Achieve minimum 5 star rating for ducted heating units         - Provide minimum R1.5 duct insultation for ducted heating units         - Cooling appliances to achieve minimum energy ratings         (10.4) Lighting         (10.5) Water Efficiency         - Water Fittings and Fixtures to achieve minimum standards (recommended)         - Toilets - 4 Star         - Shower Heads - 3 Star         - Internal Taps - 5 Star         (10.6) Recycled Water		
- Satellite Dishes & Antennas	9.0 SERVICE EQUIPMENT, SHEDS, BINS, SIGNS AND LETTERBOXES (page 22)	
(10.1) Energy Rating         - Minimum 6.0 star energy rating achieved         (10.2) Energy Metering         - Energy metering device (recommended)         (10.3) Heating and Cooling (recommended)         - Achieve minimum 5 star rating for ducted heating units         - Provide minimum R1.5 duct insulation for ducted heating units         - Cooling appliances to achieve minimum energy ratings         (10.4) Lighting         (10.5) Water Efficiency         - Water Fittings and Fixtures to achieve minimum standards (recommended)         - Toilets - 4 Star         - Shower Heads - 3 Star         - Internal Taps - 5 Star	– Satellite Dishes & Antennas – Heating and Cooling units – Solar Hot Water Systems	
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- External tappings to front and rear of dwelling	(10.6) Recycled Water	ł
	- External tappings to front and rear of dwelling	
11. FENCING (page 24)	11. FENCING (page 24)	
- Fencing type and location must be shown on siteplan	– Fencing type and location must be shown on siteplan	

### **REDUCTION IN EMISSIONS**

The following table is to be completed to demonstrate how the proposed dwelling achieves the minimum target in reduction of greenhouse gas emissions by 24.3% or 2.16 tonnes of greenhouse gas per dwelling/year, as per Riverwalk's EnviroDevelopment Certification. Refer to options provided below:

Energy Initiatives	Energy Initiatives	Greenhouse Gas Reductions Tonnes of GHG per Dwelling	
	Heating and Cooling – FirstRate Scores		
6.5 Star – Gas Heating (80% efficient) & no A/C	18%	1.59	
7 Star – Efficient AC	13%	1.11	
7 Star – Gas Heating (80% efficient) & no A/C	20%	1.78	
8 Star – Efficient AC	19%	1.72	
8 Star – Gas Heating (80% efficient) & no A/C	24%	2.14	
9 Star – Efficient AC	26%	2.28	
9 Star – Gas Heating (80% efficient) & no A/C	28%	2.48	
	Lighting		
4W/m2 (LED and Compact Fluoro)	3%	0.27	
3.5W/m2	5%	0.40	
3W/m2 (Fully LED Lighting)	6%	0.54	
2.5W/m2 (Optimal Daylight and smart LED design)	8%	0.67	
	Solar Offset		
Energy Initiatives	EnviroDevelopment Percentage Reduction	Greenhouse Gas Reductions Tonnes of GHG per Dwelling	
1kW solar system	19%	1.67	
1.5kW solar system	27%	2.38	
2kW solar system	37%	3.27	
3kW solar system	54%	4.76	
	Hot Water(mandatory)		
High Efficiency Solar Hot Water or Efficient Electric Heat Pump (COP of 3.5 or greater)	4.5%	0.40	
Total percentage reduction			
Total Reductions (Percentage and Tonnes)			



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