RIVERWALK

WERRIBEE

Design Standards

Permit Area 10

A project by

DEVELOPMENT VICTORIA

More Homes For Victorians

VICTORIA State Government

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

Developer's Approvals Process

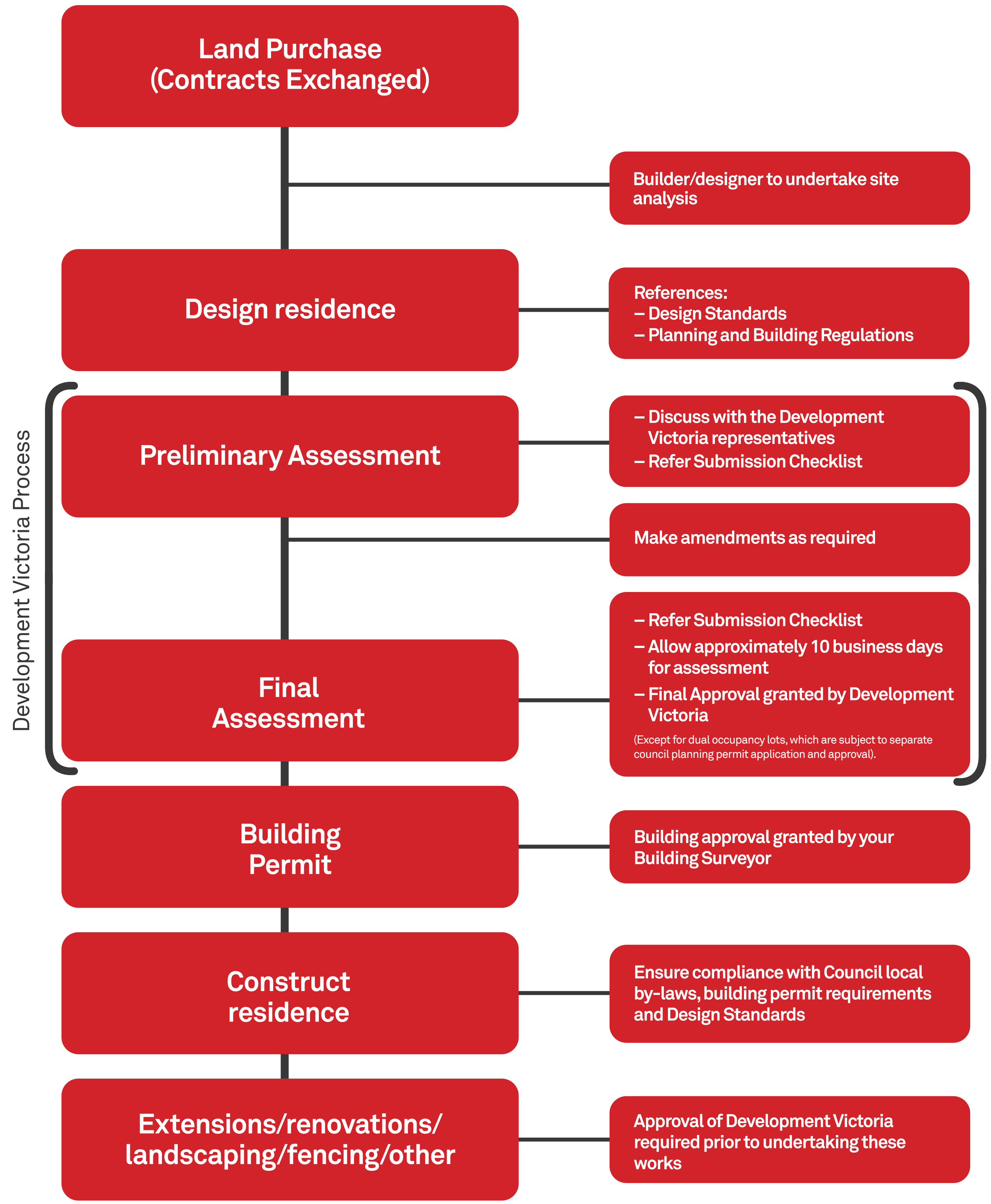
The approval process includes two stages of assessment; preliminary and final.

All homes built at Riverwalk must be approved by the Design Assessment Panel (DAP) prior to lodging for any Building Permit or commencing any construction of works. The DAP is appointed by Development Victoria to oversee and implement the objectives of the Design Standards.

No claims shall be made to the Developer, the DAP or their representatives with respect to the decisions made.

Allowance has been made for three submissions for each Developer's Approval application. Each additional submission may incur an administration fee, at the sole discretion of the DAP. New submissions for a lot that has already had an application approved may also incur an administration fee.

Key steps to planning your new home



SUBMISSION CHECKLIST

Avoid unnecessary delays by ensuring ALL information has been submitted.

All submissions must include:

- The lot number and street address;
- The lot owner's full name and contact number;
- The builder's business name and contact number; and
- The builder's ABN and builder registration 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).

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).

Landscape Plan (A3, 1:200 Scale)

1. Lot boundaries, lot dimensions, lot area.
2. Extent of all hardscape and softscape in the front garden.
3. Planting schedule that lists all proposed species referenced on landscape plan.

External Materials, Colour and Finishes

1. Printed samples or images (swatches, colour photos, paint chips, etc.) of all proposed external materials and colour selections for external walls, roof, driveways and fencing.

Energy Rating

1. Accredited Energy Rating Report detailing achievement of 7-Star Energy Rating.

SUBMISSIONS

When you are ready to make your submission for Developer's Approval, you can lodge it on the Developer's Approval Portal at www.ngdd.com.au:

Users must first register to use the portal. Once this has been done, log in and simply enter the relevant details when prompted.

Generally, we will review and respond to you within 10 working days of your submission, but this time may vary depending on the nature and completeness of your submission.

Handy Hint

Please note that incomplete submissions are the single greatest cause of delays in obtaining a Developer's Approval. Check that your submission includes all the required information before lodging it. Complete and thorough submissions take the least time to process, review and approve.

RE-SUBMISSIONS

Should a re-submission be required, please ensure that any alterations or changes are suitably highlighted on the plans or in any accompanying communication. This will help to speed up the processing and assessment.

OTHER APPROVALS

The requirements detailed in this document are in addition to, and not in lieu of, any other legal requirements. Approval by the DAP does not exempt the plans from any building or statutory regulations, nor infer compliance with the building regulations or other applicable statutory legislation. Separate approval must be obtained from the relevant authorities. It is the responsibility of the owner to ensure any other approvals, authorisation permits or other requirements are obtained and satisfied.

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.
7. The Design Standards may be changed from time to time at the DAP's discretion.
8. Applications for Developer's Approval will be assessed against the current version of the Design Standards.
9. Interpretation and application of these Design Standards is at the sole discretion of the DAP. The DAP's decisions are final. No claims shall be made to the Developer, the DAP or their representatives with respect to the decisions made.

BUILDING REGULATIONS

Clause 54-56 of the Planning Scheme applies to all land zoned for residential use in Victoria. Clause 54-56 should be read in conjunction with these Design Guidelines, as Clause 54-56 will apply on issues where these Design Guidelines are silent.

PERFORMANCE AND VERIFICATION

Handover for operation

All homes must be delivered with a Building User Guide that identifies all of the features in the home, any pertinent instructions relating to operations and maintenance, and copies of or links to operational manuals. Sustainability features and attributes of the surrounding community should also be included. A template will be provided on request.

Resilience

All projects must complete the Resilience Checklist from Green Star for Homes

Design Standards

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

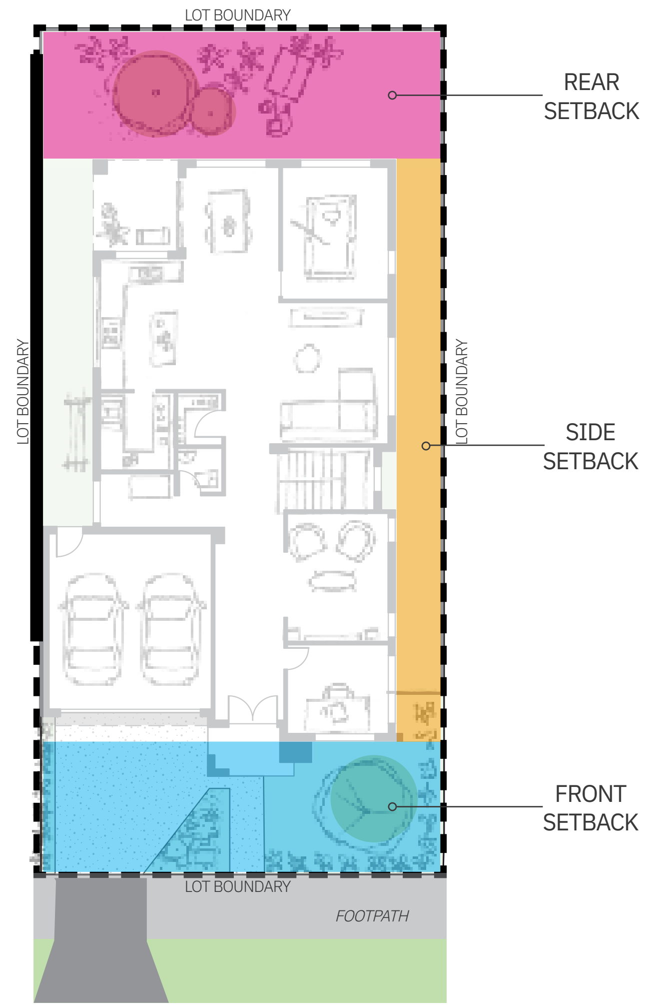
1. To ensure the optimal size and shape of the dwelling.
2. To ensure the maximum use of any northern orientation available to the dwelling.
3. To minimise any negative impact that neighbouring dwellings may have on one another.

Standard

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

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.

DEFINITIONS:

Acceptable encroachment

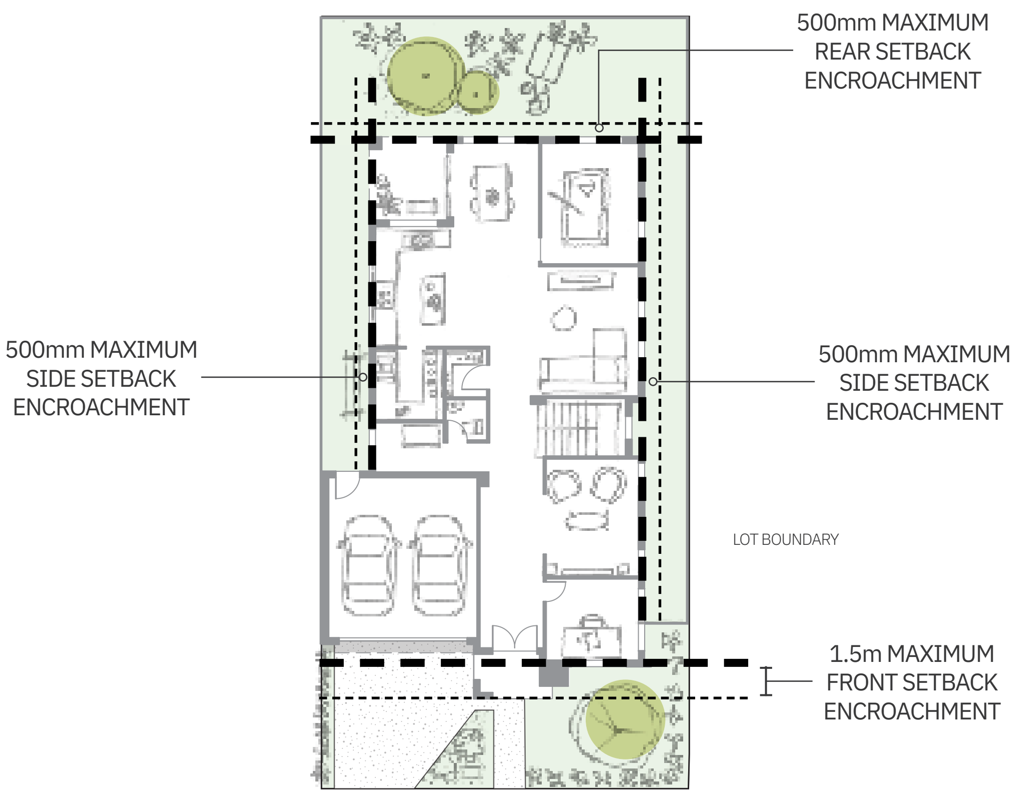
A component of the dwelling that is permitted outside the building envelope.

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.

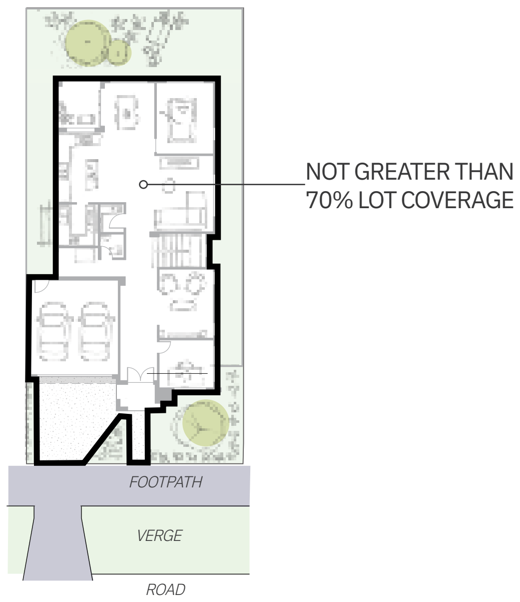
DEFINITIONS:

Impervious materials

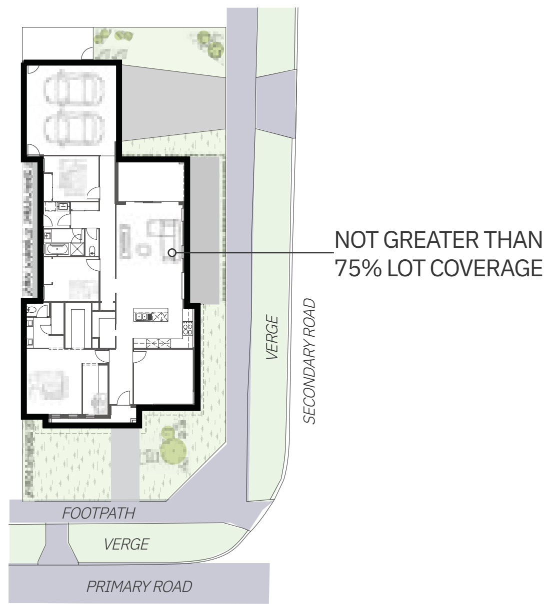
Materials which are resistant to water.

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

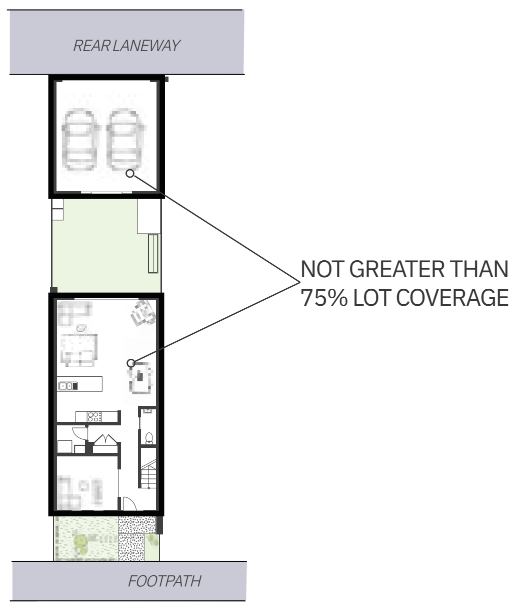
FRONT LOADED LOTS



SIDE LOADED LOTS



REAR LOADED LOTS



4. BUILDING SEALING

4.1. AIRTIGHTNESS OF THE BUILDING FABRIC

Each home should minimise air leakage through external walls.

Objectives

- The reduce air leakage and maximise the energy efficiency of the home
- Improve comfort by reducing drafts and 'cold spots'

Standards

- It is recommended that each home meets a minimum standard of 5 air changes per hour (ACH) or less. Homes should consider ventilation solutions for occupant health and comfort. This is achievable through quality construction practices (proper sealing, gaskets, etc.) A blower door test can occur near the end of construction, after all penetrations of the building envelope are sealed, but before insulation and drywall are installed. More information can be obtained from yourhome.gov.au

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.

5. SOLAR DESIGN AND SUN SHADING

5.1. SOLAR OPTIMISATION 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 light and winter sun into the principal living spaces.

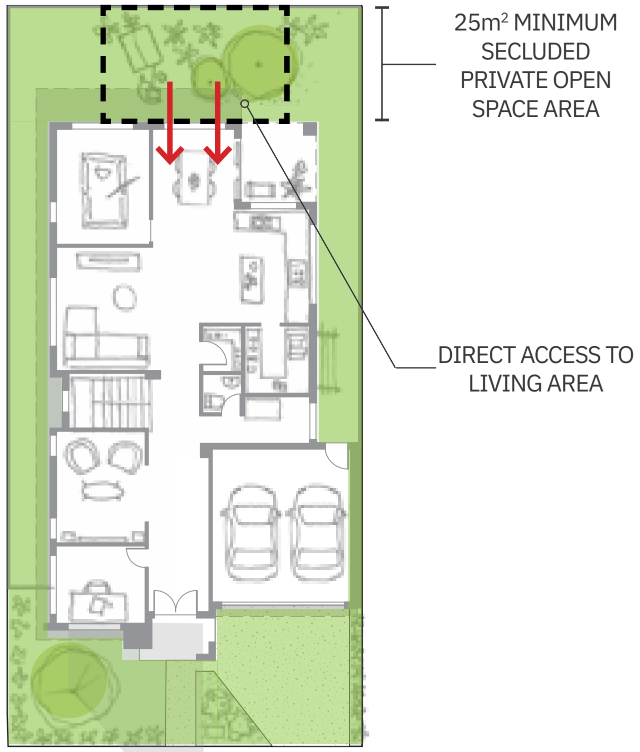
Standards (Optional)

All lots

1. Where practical, secluded private open space should:
   a. have direct access to a living space;
   b. have a minimum area of 25m²; and
   c. have a minimum dimension (shortest length) of 3m.

South, east and west facing lots

2. Where practical, 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.



5.2. SUN SHADING

Structural elements that shield harsh summer sun from habitable rooms.

Objectives

- To minimise harsh summer sun and maximise valuable winter sun.
- Reduce energy demand during extreme weather conditions

Standards

All windows

1. Roll down security shutters are not permitted where visible from public areas, such as street frontages, or reserves or parkland.
2. Where practical, north facing habitable room windows and glass doors should have a minimum 450mm eave or fixed top projection.

NOTES:

– Shading devices may be used where adequate sun shading can be demonstrated to Development Victoria. Examples include the provision of high UV protection transparent or 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, WCs or circulation space.

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

North facing habitable room windows and glass doors should have a minimum 450mm eave or fixed top projection.

6. FAÇADE DESIGN

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

Objectives

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

Standards

1. Dwellings must have a feature front entry point that provides a strong sense of entry to the front façade.
2. Double storey dwellings must contain architectural details such as balconies and/or protrusions to articulate the front façade.
3. Any elevation facing the Public Realm must not incorporate lightweight, infill panels above windows or door openings. The finish above the opening must match the finish on either side of the opening. Garage doors have separate requirements.
4. Where there is an eaves directly above the garage door opening, the panel above the garage door must match the colour of the garage door.
5. Where there are no eaves directly above the garage door, the panel above the garage door must match the finish and colour of the wall on either side of the garage door.
6. Screens and feature walls must be integrated into the dwelling design.

Feature point entry.

Articulated double story.

<u>Corner Lots</u>

7. Dwellings on corner lots and/or with secondary frontages to public open space must continue front façade design elements for a minimum of 3m to the secondary frontage.
8. Dwellings on corner lots or with secondary frontages to public open space must provide windows to both the primary and secondary frontages, forward of the return fence.
9. Secondary frontages must be articulated through the use of feature windows and/or wrap around balconies and/or varied wall materials and recessed and protruding elements in the built form.
10. Similar or overly similar façade designs will not be allowed within 3 lots of each other along a streetscape. Noticeable different means that there must be a considerable variation of materials and colour finishes and at least 2 design elements.
11. Each façade must be noticeably different from each façade within 5 lots on either side and opposite side of the street. Noticeable different means that there must be a considerable variation of materials and colour finishes and at least 2 design elements.

<u>Lots fronting the Riverfront Park</u>

12. Any lot fronting the Riverfront Park must be either a double storey attached or detached terrace house.
13. Any living areas and/or balconies facing the Park must provide passive surveillance and be designed to minimise visual impact on the Park.
14. Windows along dwelling façade must avoid the used of mirrored glass.

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:

Habitable rooms

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

Design elements

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

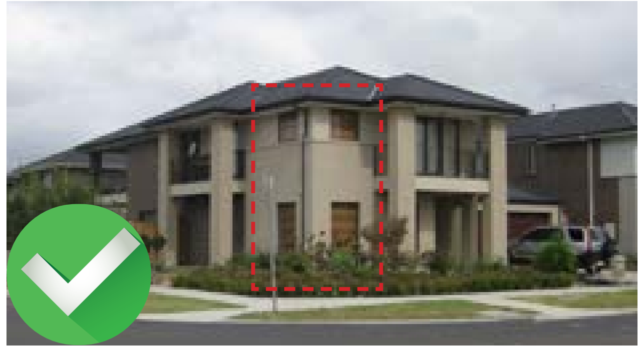
Public Realm

Any land that is vested in Council or any other public authority on a registered Plan of Subdivision, including, but not limited to, a Road or Park, etc.

<u>Double fronted lots:</u>

15. The primary frontage is the boundary where the developer-installed crossover is located.
16. The secondary frontage is any frontage other than the primary frontage that abuts the Public Realm.
17. A clearly defined pedestrian entry to each frontage must be provided.

Continuation of front facade to Secondary Street.



Window with matching head and sill at corner.

18. The primary frontage must include the primary pedestrian entry (front door).
19. Secondary frontages must be articulated through the use of feature windows and/or wrap around balconies and/or varied wall materials and recessed and protruding elements in the built form.
20. The mailbox must be located at the primary frontage.
21. Vehicle access must be provided from the frontage where the developer-installed crossover is located.
22. The garage must be incorporated into the built form.
23. The garage must be designed to minimise the impact of garages within the streetscape.
24. Due to the nature of these lots, Secluded Private Open Space must be allowed for in an area other than the primary or secondary setback.

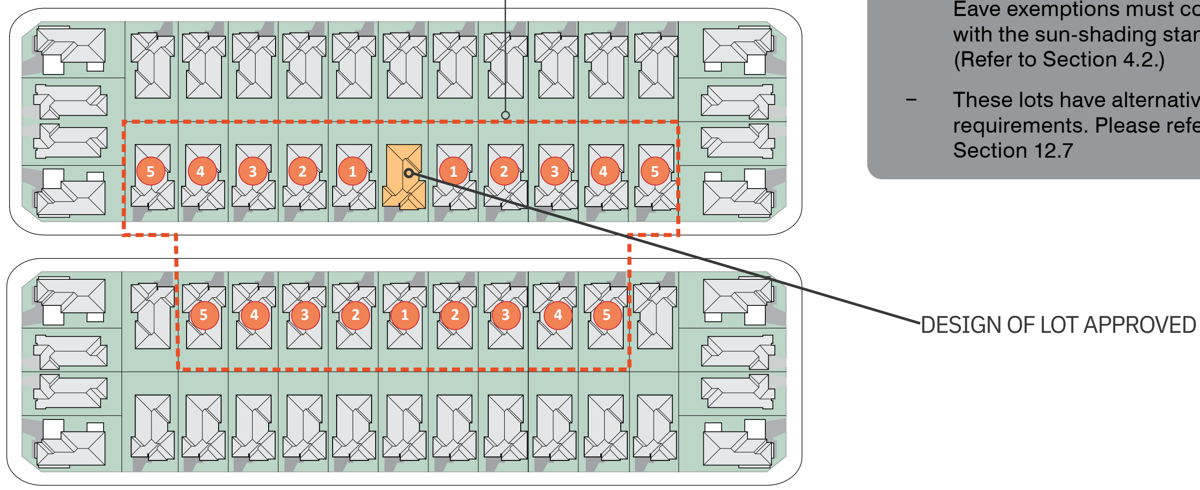
NOTES:

– 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.)

– These lots have alternative fencing requirements. Please refer to Section 12.7

Eaves continuing for the length of facade facing the Public Realm.

Identical or similar facade not permitted within 5 adjacent lots



Similar facade repeated.

Different facade.

7. ROOF FORM

The shape and character of a roof.

Objectives

- To achieve consistency in roof form and colour to tie the streetscape together.
- Lower the emissivity of the roof to assist in reducing heat island affect
- To ensure each roof form reads as a strong, simple element from street level.

Standards

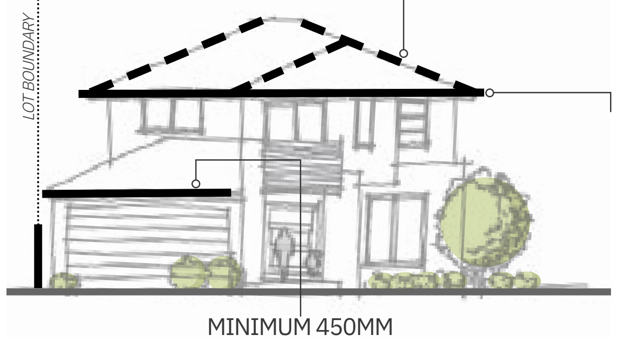
1. Pitched/gabled and hipped roofs are recommended to be pitched between 20 and 30 degrees.
2. Pitched and skillion roofs (with hipped or gabled ends) are recommended to have a minimum 450mm eave to north and westerly facing sides of the home and the front façade, including the garage. Where eaves are not achievable, design should consider alternative shading solutions such as awnings
3. Flat roofs must be screened from the street by a parapet wall.
4. Where parapets are used on the front façade, they must be extended along the side elevation for a minimum of 0.5 metres.
5. Roof material

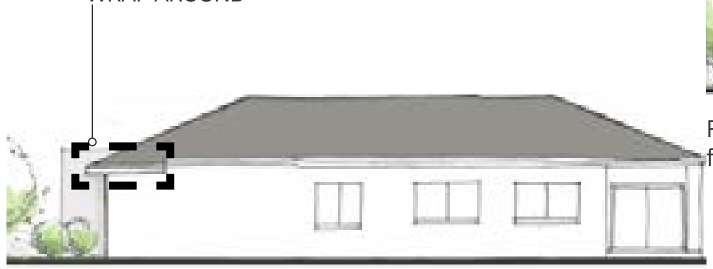
Designs should incorporative colour choices with a high Solar Reflective Index 'SRI' to asssit in reducing urban heat island effect and cooling energy demand.

a. For roof pitched <15°– a three-year SRI of minimum 64; or
b. For roof pitched >15°– a three-year SRI of minimum 34
c. Only where the three-year Solar Reflectance Index (SRI) for products is not available, the following SRI apply:
d. For roof pitched <15°– an initial SRI of minimum 82; or
e. For roof pitched >15°– an initial SRI of minimum 39

NOTE:

– Examples of Solar Reflective Index Ratings can be found via the following website.





Eave to the front facade must wrap around to side at least 0.5m.

NOTES:

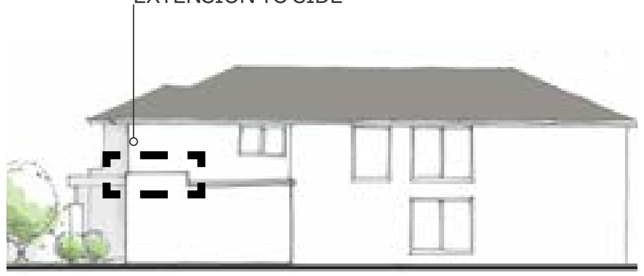
– Non-conventional roof designs may be considered on design merit.

– Elevations must be provided for consideration of non-conventional roof forms.

DEFINITIONS:

Flat Roof

A flat roof is a roof with a pitch of less than 10 degrees.



Parapet at the front facade must be extended to side elevation for a minimum of 0.5m.

8. GARAGES AND DRIVEWAYS

8.1. GARAGE

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 must be designed as an integral component of the dwelling and roof form.
2. Garages with openings perpendicular to the street are not permitted.
3. 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 500mm 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. Garage doors must be sectional or panel-lift style. Roller doors are not permitted to the front of a garage.
9. EV charging points should be located inside the garage unless otherwise approved by Development Victoria

Rear and side loaded garages

10. 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.

Example of compliant sectional panel lift door, and garage set back behind front facade.

0.0m - 0.15m garage setback from side boundary minimises 'leftover' space.

At least 1.0m garage setback from side boundary allows for a path.

NOTES:

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

DEFINITIONS:

Front loaded lots

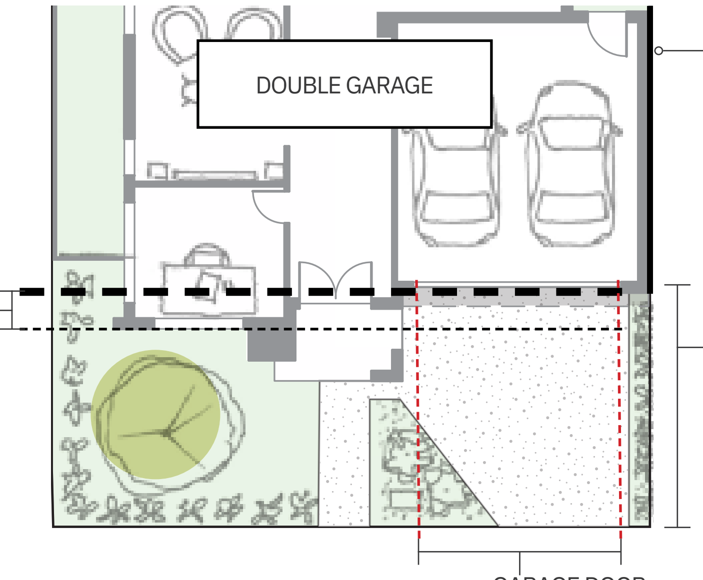
Front loaded lots are defined as those with vehicle access from the primary street frontage (front end of the lot).

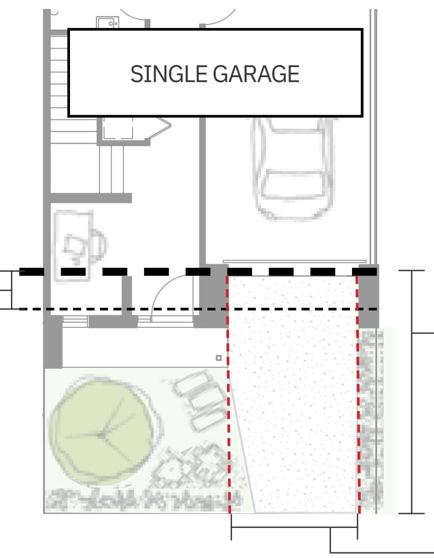
Rear loaded lots

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).





8.2. 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.

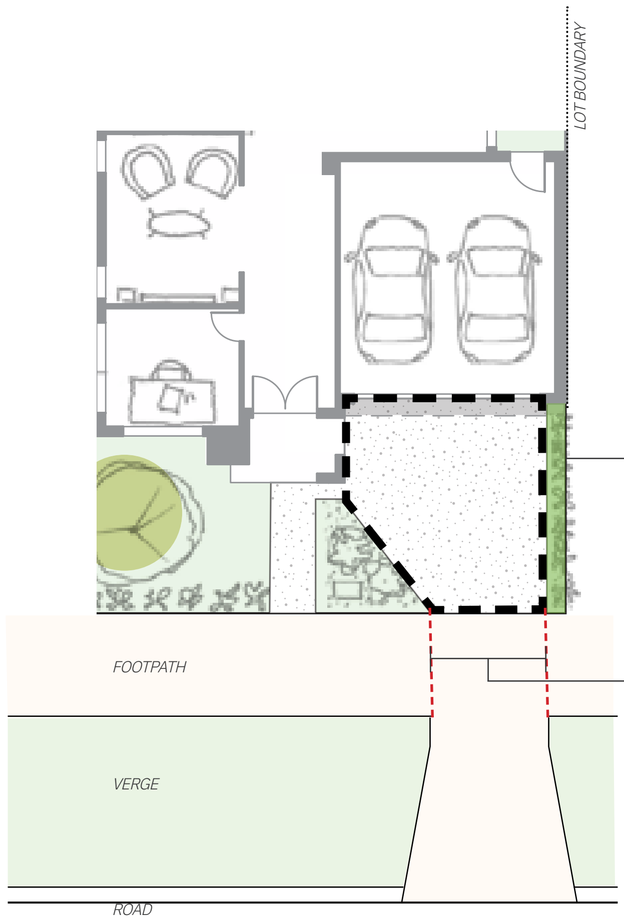
NOTES:

– 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.



9. 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. Front (street) façades must consist of at least two contrasting materials/colours (e.g. base brickwork and rendered brickwork).
   a. One Material must not account for more than 60% of the front facade (not including the garage door or windows)
   b. Mono-finish facades (e.g. 100% render) will be considered by Development Victoria on an individual basis.
2. Materials used on the front façade must extend to the side elevation for a minimum of 1.5m.
3. Imitation finishes, such as vinyl brick sheeting, are not permitted.
4. Raw zincalume or hand painted garage doors are not permitted.
5. Roofs must be finished using concrete, slate, terracotta tiles or corrugated profile metal sheeting.
6. All paints and sealants used are to be low emission.

NOTE:

– Submissions must be accompanied with colour samples.

One material / colour must not be more than 60%.

AT LEAST 2 CONSTRASTING FRONT FACADE MATERIALS

FRONT FACADE MATERIALS TO EXTEND AROUND THE CORNER FOR 1.5m OR ONE ROOM LENGTH

Driveways

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

Rainwater tanks

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

Example of driveway constructed using exposed aggregate concrete.

Example of driveway colour complementary to colour of the house.

Example of driveway colour and finish not permitted.

10. SERVICE EQUIPMENT, SHEDS, BINS, SIGNS AND LETTERBOXES

10.1. 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

1. 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
   - match the appearance of the dwelling in form, colour and materials if it is greater than 10m2.
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 façade design.

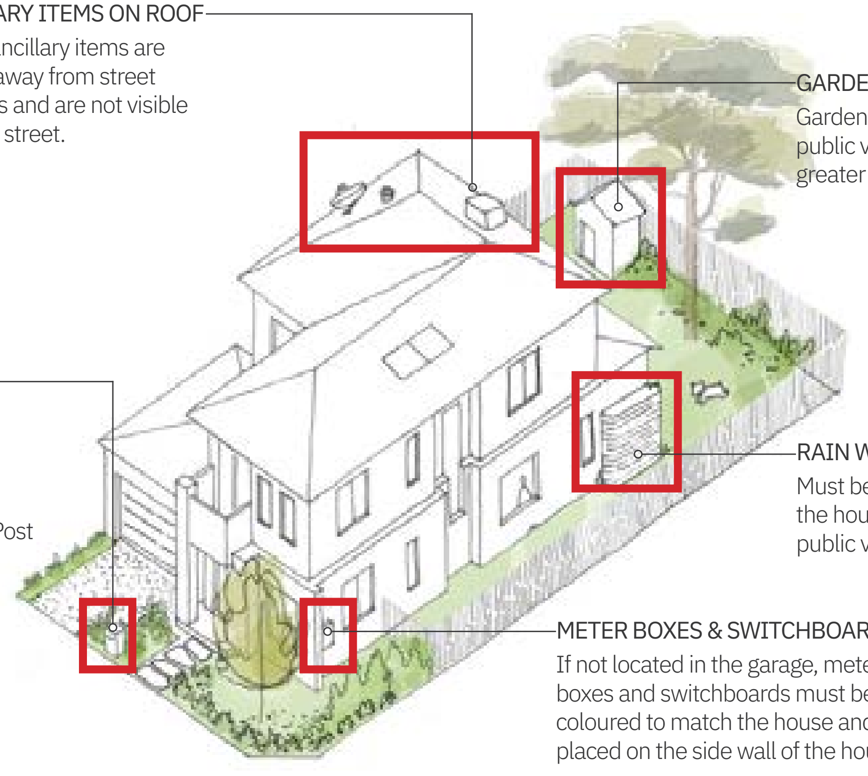
NOTE:

- Home business signs may require Council approval.

DEFINITION:

Ancillary Structures

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



10.2. 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.


Example of letter box complementing the dwelling.


This cooling unit is visible from the primary and secondary streets, and so does not comply.


Example of meter box on side of house screened by planting and painted to match the downpipe and house.


Non-compliant stick-and-post mailbox.

11. ENERGY, WATER AND MATERIALS EFFICIENCY

11.1. ENERGY RATING

Objective

- To minimise dwelling energy consumption requirements.

Standards

1. All dwellings must achieve a minimum 7-Star Energy Rating.
2. An assessment report from an accredited energy rating consultant must be submitted and retained by the owner for future reference should the home be sold.
3. All glazed windows and doors to be double glazed.

11.2. SOLAR PV

Objective

- To reduce energy costs for the homeowner.

Standards

1. 5kWp system minimum. Where the roof size or aspect limits the number of panels that can be accommodated, the builder is to nominate the maximum system size.
2. Batteries are optional and must meet current safety standards.

11.3. GREENHOUSE GAS EMISSIONS

Objective

- To reduce of the emission of greenhouse gases for each dwelling.

Standards

1. 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).

11.4. 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.

11.5. HEATING, COOLING AND VENTILATION

Objectives

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

Standards (Recommended)

1. Heating and cooling appliances are recommended to have a minimum star rating as outlined below:
   a. Central Ducted = 5 Star
   b. A minimum duct insulation level of R1.5 must be used when ducted heating is desired
   c. Reverse Cycle <2kW = 4 Star cooling and 4 Star heating
   d. Cooling Appliances <2kW = 4 Star
   e. Cooling Appliances 2 – 4kW = 5 Star
   f. Cooling Appliances 4 – 6kW = 4 Star
   g. Cooling Appliances 6 – 7kW = 3.5 Star
   h. An inverter system must be used when a split system air conditioner is installed
   i. All heating and cooling should be serviced by heat pump technology.
   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. A heat pump should be used as the source for heating water
   k. Ventilation
   All homes to include mechanical ventilation with heat recovery (MVHR) of minimum standard

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**

11.6. COOKING

Objective

- To reduce energy demand and costs.

Standard

1. Induction cooktops to be installed for cooking.

11.7. HOT WATER

Objective

- To reduce the energy demand for heating water.
- To provide efficient delivery of hot water.

Standard (Recommended)

1. Heat pump hot water shall be installed.
2. Meet the minimum standards set out in the Whole of Home assessment criteria.

11.8. LIGHTING

Objective

- To minimise dwelling energy requirements for lighting.

Standards

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

NOTE:

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

11.9. WATER EFFICIENCY

Objective

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

Standards (Recommended)

1. All water fixtures and fittings listed below are recommended to 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 must, install a rainwater tank, with a minimum capacity of 2kl.

11.10. 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.

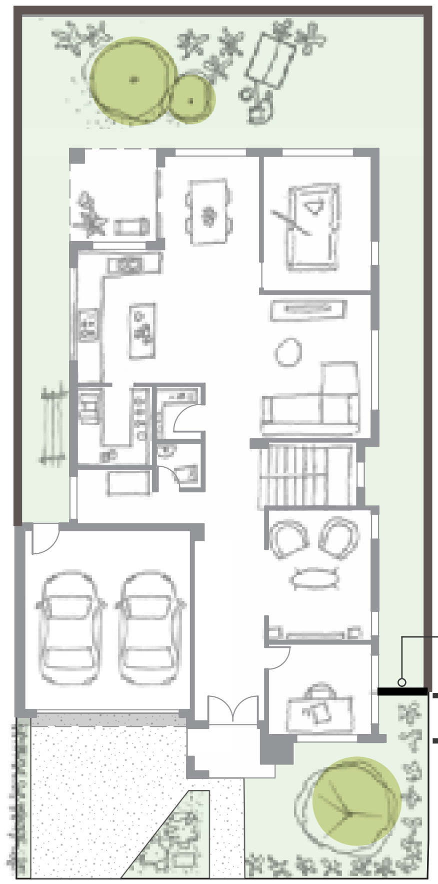
12. FENCING

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. This may include:
- Interlot fencing;
- Return fencing;
- Corner fencing;
- Front fencing (Rear Loaded Lots only).

NOTES:
- Interlot and return fencing must not come forward of the building line.
- All timber fencing must be ACQ (non-arsenic) treated.
- All fencing must be setback from any retaining walls a minimum distance of 450mm.
- Fencing visible from the public realm must not be finished in bright primary colours.
- Fencing type and location to be shown on Site Plan.



12.1. 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 should be set back at least 1m behind the front building line.
5. The fence must not protrude forward of the closest front wall.

12.2. RETURN FENCING

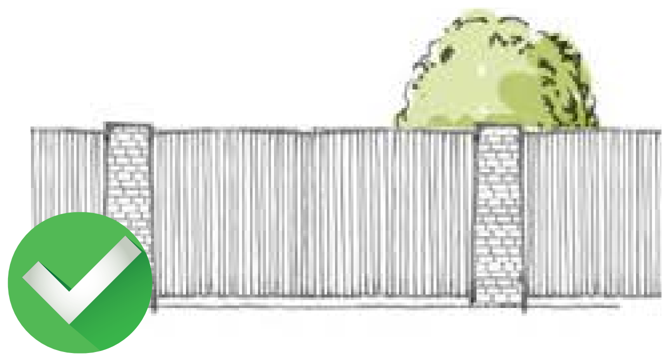
Fencing between the dwelling and the side fencing.

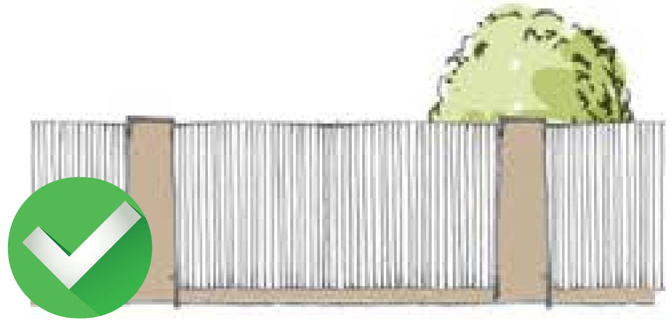
Standards
1. The fence must be constructed using horizontal open timber slats.
2. If a gate is included it must complement the return fence by matching in colour and material.
3. The fence must be setback 1m behind the front building line.

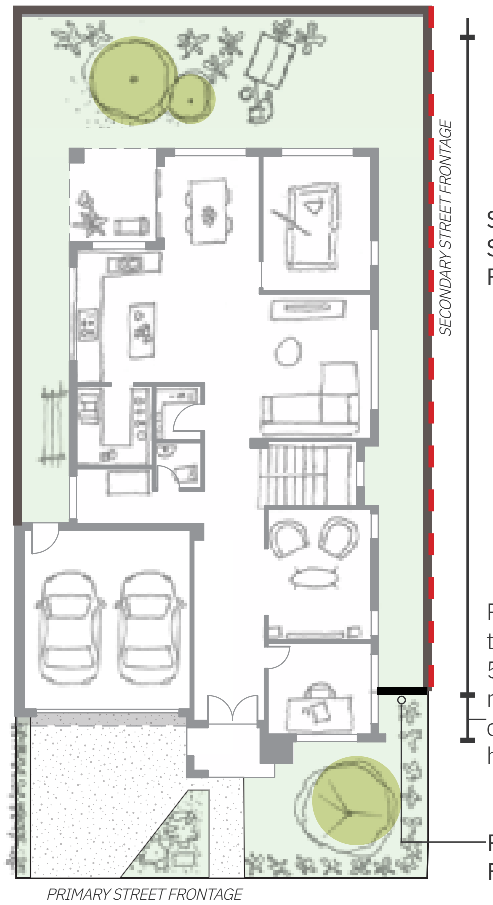
Interlot fencing must not be forward of the building.

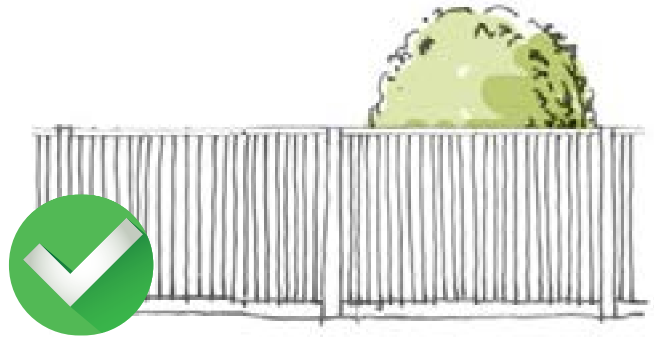
12.3. CORNER FENCING

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. Timber palings with exposed posts and timber capping.
2. The preferred construction material must complement the house.
3. The fence must not be greater than 1950mm in height.
4. The fence must be setback at least 5m behind the front building line.









SECONDARY STREET FENCING

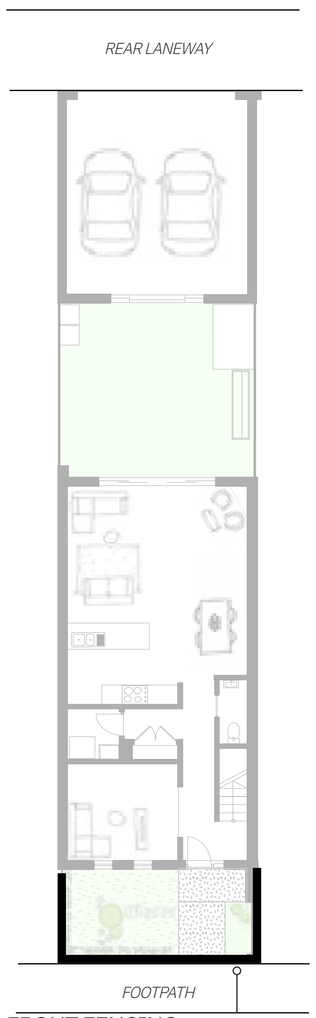
Timber paling fencing on Secondary Street setback at least 5.0m behind the front building line.

12.4. FRONT FENCING (REAR LOADED LOTS ONLY)

Low fencing that defines the front boundary.

Standards

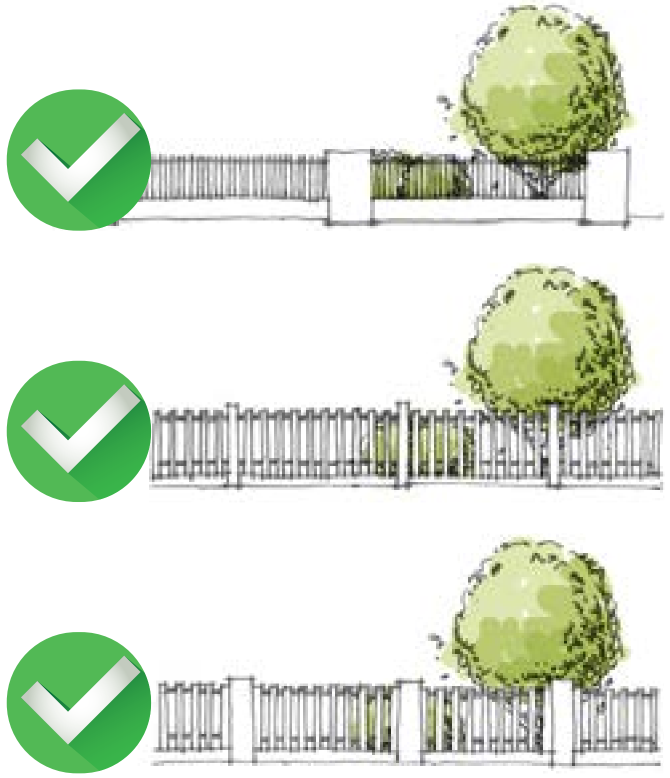
1. The fence must be constructed using:
   a. Rendered or bagged masonry with infill steel pickets or timber pickets;
   b. Timber pickets;
   c. Timber posts with steel wiring;
   d. Timber pickets with masonry.
2. The preferred construction material must compliment the dwelling materials and colours 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

12.5 SIDE FENCE ON LOTS ALONG THE PAPER ROAD AND LOTS SIDING 7M PEDESTRIAN ACCESS

1. Any side fencing must be no more than 1.2 metres in height for a minimum of 25% of the length of the boundary measured from the primary frontage of the lot. The fence must be constructed from timber palings.


FRONT FENCING

12.6 DOUBLE FRONTED LOT FENCING (RIVERFRONT PARK)

Standards

1. Fences along the primary and secondary boundaries must be no higher than 1m and at least 50% transparent.
2. Fences along a common side boundary, forward of the return fence, must be no higher than 1m.
3. Fences along a side boundary and between return fences, must comply with the interlot fence requirements.

13. FRONT GARDEN

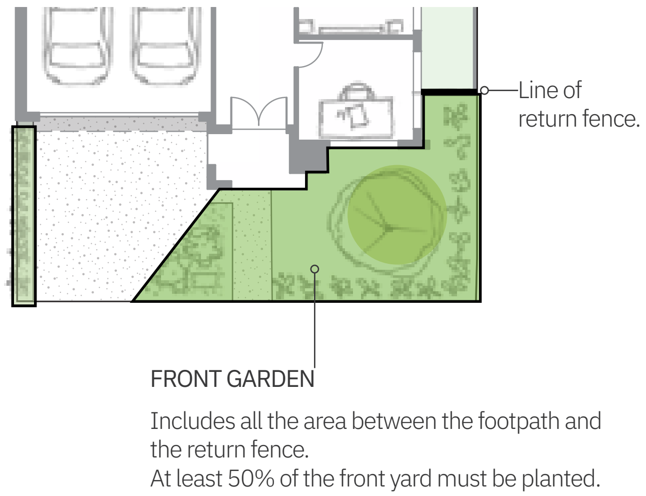
Specifications for the character, form and materials used to landscape front gardens.

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. At least 50% of the front yard must consist of soft landscape items such as:
   a. instant turf, artificial turf or seeded grass; and
   b. garden beds with shrubs;
2. Garden beds with shrubs must comprise at least 20% of the front yard.
   The garden beds must contain:
   a. at least 5 shrubs that are installed from a minimum 200mm pot size; and
   b. at least 20 smaller shrubs and/or ground covers that are installed from a minimum 150mm pot size; and
   c. at least one tree, with a minimum height of 2 m at time of planting.
3. All garden beds must be edged using timber or steel edging and should be densely planted to ensure good coverage of growth. Empty spaces between species should be avoided;
4. All garden beds must be mulched to help keep the soil moist. Use pine bark or other organic matter, or decorative pebbles.
5. Nature strips must be managed so that:
   a. any damage caused during construction of the dwelling is rectified; and
   b. they are finished with instant turf or seeded grass such that they achieve, or will achieve, a neat and even grass coverage.
6. Landscaping to the front street view of the lot must be completed within 6 months of the issue of the Occupancy Permit.



NOTES:

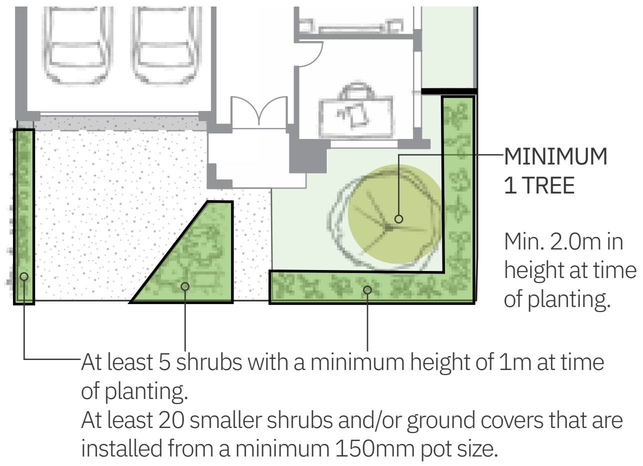
- Plant species should be selected that minimise the need for watering. This is usually achieved by selecting indigenous and drought tolerant plants shrubs and groundcovers.
- Consideration should be given to the location, species and mature size of any trees, to allow appropriate room for roots and branches to spread.
- Brightly coloured or coarsely textured wood mulches (such as dyed shredded wood or shredded pallet wood) and brightly coloured pebbles (such as reds or whites) are not permitted.

DEFINITIONS:

Front Garden

For the purpose of these Design Standards, the front garden is the area between the house, the garage, the return fence and the front boundary.


Example of front yard planting.



14. 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		
7 Star – Efficient AC	13%	1.11	☐
8 Star – Efficient AC	19%	1.72	☐
9 Star – Efficient AC	26%	2.28	☐
	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 Initiative	EnviroDevelopment Percentage Reduction	Greenhouse Gas Reductions Tonnes of CO2 per Dwelling	
5kW solar system	88%	7.7	☐
	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)	**0.0%**	**0.00**	

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July 2025