CHURCHLANDS GREEN: STAGE 5B

RESIDENTIAL DESIGN GUIDELINES

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1 INTRODUCTION

The Churchlands Green Plan represents the conversion of the former Edith Cowan University campus site into a contemporary residential node taking advantage of its close proximity to both the city and nearby beachside suburbs.

RESIDENTIAL CODINGS

- R20
- R30
- R40
- R60
- R80

- PUBLIC OPEN SPACE
- LANDMARK LOCATION
- UNIFORM WALL/FENCING PROVIDED BY THE DEVELOPER
- REDEVELOPMENT STAGE BORDERS

FIGURE 1: CHURCHLANDS GREEN PLAN - STAGE 5
Note: Plan subject to change.

Edith Cowan University (ECU) has commissioned a plan featuring a mix of lot sizes and configurations with a range of residential density codings designed to provide a diversity of housing choices and lifestyle options within a compact walkable neighbourhood.

These guidelines have been prepared to assist buyers in developing their properties to a high standard, enhancing the value of their investment and the quality of the estate as a whole.

In assessing design submissions, compliance with the requirements of these Guidelines will be taken into consideration. Section 6: Design Standards Summary, lists key elements of the Guidelines that will be used by the City of Stirling in the assessment of planning or building licence applications.

Residential lots have been categorised in accordance with lot sizes and residential coding as illustrated in figure 1 (page 2).

1.1 DESIRED CHARACTER

The vision is for a vibrant residential village based on sustainable design principles and featuring a contemporary Australian urbanism in robust architectural form with street elevations articulated to feature clearly defined elements.

External wall finishes are to feature a primary material such as painted render, face brickwork, stonework or rammed earth complimented by minor elements including painted or clear finished weatherboards, corrugated metal cladding, painted fibre cement panel cladding, accent colours etc. In conjunction with changes in colour and texture, changes in material are an important design element.

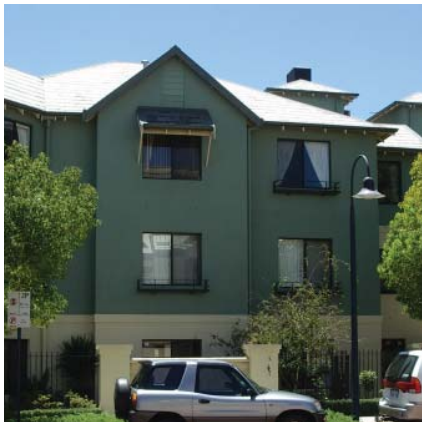
1.2 PROTECTIVE COVENANTS

Protective Covenants

Protective Covenants will provide confidence to property owners by ensuring high standards of development are achieved. The covenants will include some, but not necessarily all of the matters covered in the Guidelines.

Contemporary R30 dwelling

Contemporary grouped dwellings



R80 Multiple Dwellings

Other Applicable Documents

The guidelines are to be read in conjunction with the Protective Covenants, and any other relevant and current statutory documents including the following:
Building Code of Australia (BCA)
Residential Design Codes of Western Australia (R Codes)
City of Stirling Local Planning Scheme No. 3

1.3 ABOUT THESE GUIDELINES

These guidelines are divided into five sections as outlined below.

1.0 Introduction

This section provides an overview of the Guidelines and the process for applying for approval.

2.0 Sustainability and Site Planning

This section provides information on sustainability requirements and their application to design parameters including site planning, energy efficiency, solar access, the utilisation of open space, landscaping, privacy and security.

3.0 Building Design

This section addresses requirements relating to the physical form of development, including building appearance, streetscape, the amount of open space, roof form, materials and fencing.

4.0 Other Considerations

Other design aspects to be considered such as outdoor storage areas, rubbish bins, air conditioners, TV antennae, satellite dishes, solar collectors and clothes drying areas are included in this section.

5.0 Site Specific Considerations

This section summarises key guidelines elements in the form of indicative development plans for the various lot typologies including single, grouped and multiple dwelling lots. Particulars such as setbacks and building height requirements are also addressed.

6.0 Design Standards Summary

This will be used by the City of Stirling to assist in the administration of the planning and building applications.

1.4 OBJECTIVES OF THE GUIDELINES

- To promote contemporary forms of urban residential development that enhance the character of the surrounding area;
- To promote sustainable residential development that is energy efficient and sensitive to the need for water conservation and other community values;
- To ensure residential design enhances passive surveillance opportunities;
- To minimise the potential for adverse impact of development on neighbours by applying appropriate design criteria and specific impact mitigation requirements.

1.5 APPROVAL PROCEDURES

These guidelines are prepared to provide information required to design single and multi-dwelling developments within the estate. Further information or more detailed advice can be sought from the City of Stirling Local Planning Scheme No.3, the R Codes and the BCA.

1.5.1. MINIMUM PERFORMANCE REQUIREMENTS

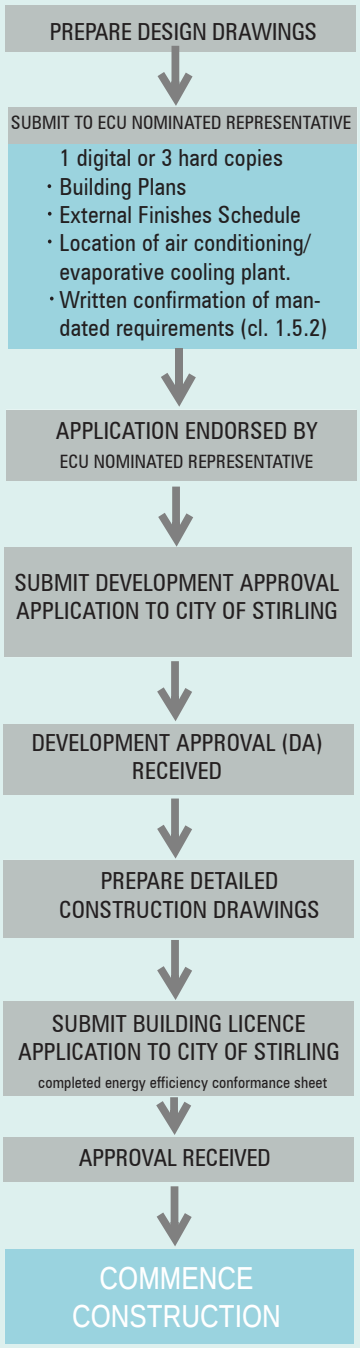
In assessing development proposals, adherence to the requirements of the Guidelines as well as the applicable Protective Covenants is required. As a part of the initial approval process proponents may engage in a consultative process with representatives of ECU to ensure the intent of the Guidelines are satisfactorily addressed.

1.5.2. ECU DESIGN ENDORSEMENT

Development proposed for the lots will require the endorsement of ECU's representative prior to the lodging of plans with the City of Stirling for Development or Building approval.

One (1) digital or three (3) hard copies of an Endorsement Application which is to include a site plan, floor plans and elevations illustrating the proposed built form, external materials and finishes, the location of mechanical plant (and colour if roof mounted) are to be submitted to the nominated ECU representative for approval. For digital copies the preferred format is A3 PDF's at scale.

APPROVAL PROCESS



Specific Guidelines requirements to be confirmed in writing in this stage of approval include:

Applicable Clause	Requirement
2.2.2. WASTE MANAGEMENT	▪ 2 bin storage spaces are to be provided within the kitchen cabinetry to facilitate separation of recyclable and non recyclable waste.
4.1. SITE SERVICES	▪ All piped and wired services shall be built into walls and not be visible from public areas.
4.6. AIR CONDITIONERS	▪ Roof mounted plant not to be visible from public areas and to match roof colour. ▪ Balcony mounted plant to be screened from public areas.

1.5.3. CITY OF STIRLING

Following assessment and endorsement by ECU's representative, a digital or two (2) hard copies of the application will be returned to the property owner stamped "Approved". Upon receipt of such stamped approval an application containing at least one of the stamped copies may the be submitted to the City of Stirling for Development Approval. Once approval is received, detailed plans may then be submitted for a Building Licence application. It is the owner's responsibility to ensure appropriate documentation and fees for both stages of approval are submitted.

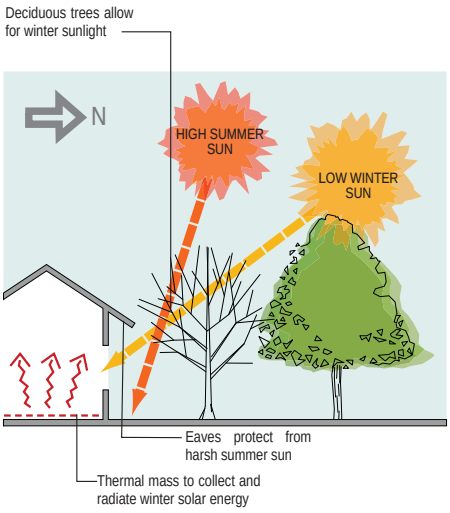
2 SUSTAINABILITY AND SITE PLANNING

ECU is committed to the promotion of sustainable development. The ECU Churchlands estate features a mix of lot sizes and configurations designed to create a compact walkable neighbourhood making better use of infrastructure services and contributing to energy efficient design.

ECU sustainability initiatives aim to meet the needs of current and future generations by addressing a range of environmental, social and economic issues. In order to contribute to this policy, dwellings constructed within the estate will be required to satisfy a range of socially responsible sustainability criteria.

2.1 ENERGY EFFICIENCY AND SOLAR ACCESS

Given that Perth experiences warm to hot summers and cool winters, dwellings should be designed to minimise heating and cooling costs by incorporating passive solar design principles which maximise energy efficiency and winter solar access:



2.1.1. ENERGY EFFICIENCY

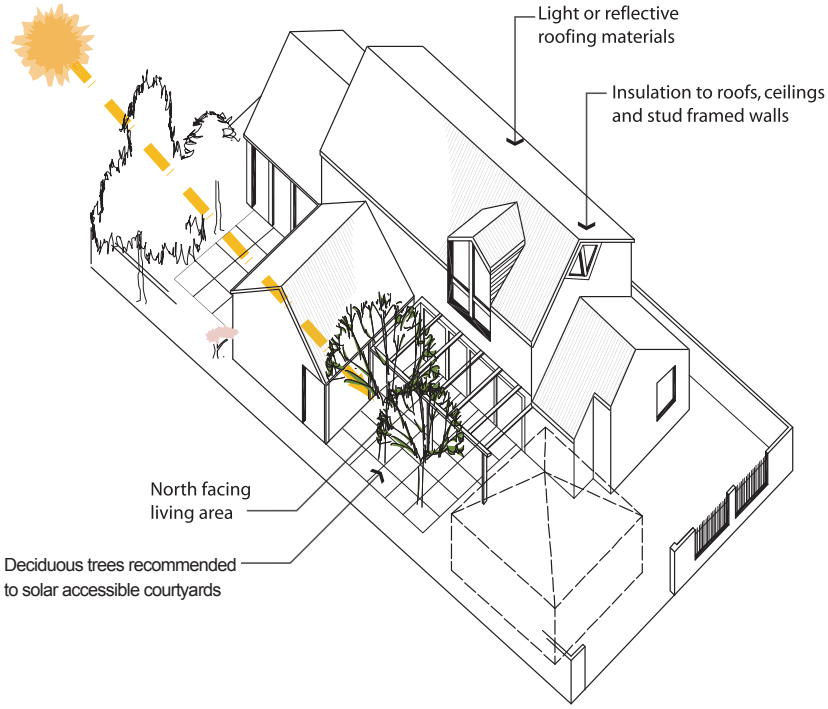
Residential design is required to satisfy the “Deemed to Satisfy” or “Alternative Solution” energy management rating provisions of the BCA current at the time of submission for approval

For an “alternative solution” the owner shall submit an energy rating certificate prepared by an accredited assessor and complying with the relevant star rating of the “First Rate” or any subsequent approved rating system.

Operable sunscreens protecting west face

Design considerations which should be taken in to account when achieving the required star rating include the following;

- Building materials and insulation should be selected to assist thermal performance and maintain internal comfort levels, i.e. light reflective colours to roofing materials and adequate insulation to roofs, ceilings, stud framed walls (and cavity walls where applicable);
- Where used for habitable floor space, the upper floors or loft of dwellings should be constructed giving consideration to thermal performance with adequate insulation of walls and floors;
- Utilise thermal mass within the insulated envelope of the building. The thermal mass of concrete floors is best located in north facing rooms with good solar access. The residence should absorb and re-radiate heat within living spaces during the winter months. Adequate ventilation opportunities should be provided to allow breezes to cool the home in summer, taking heat out of the thermal mass;



Solar accessible outdoor living area.

Solar accessible courtyard.

- The protection of openings by the application of screening including eaves, balcony and building overhangs, verandahs, pergolas, sunshades, awnings etc.;
- The extent of glazing to the east and west sides of dwellings should be minimised. Where openings are provided to take advantage of westerly or easterly views, these should have protection such as solar shutters, blinds or screening devices;
- The application of thermal performance glazing;
- Locate openings to facilitate cross ventilation through habitable spaces and roof spaces;
- Consider the use of wind driven mechanical ventilators to expel warm air from roof spaces;
- Utilise sweep fans to assist in ventilating habitable rooms
- Provide appropriate room zoning to compartmentalise heating and cooling;
- For single dwellings the hot water system shall be a gas boosted solar hot system, gas instantaneous system or, heat pump system with a minimum energy rating level of 5 stars;
- Built in electrical appliances and services shall be energy efficient with a minimum Energy Rating label of 4 stars;
- Locate hot water systems as close as possible to use area (kitchen, bathrooms, ensuites, laundry,) with consideration given to multiple units serving dispersed groupings of fixtures;
- Consider insulating hot water pipes;
- Select low energy lighting such as compact fluorescents in preference to low voltage downlights;
- Control external lighting by motion sensors or timer controls to prevent excessive power usage.
- A gas cooktop shall be installed.

2.1.2. SOLAR ACCESS

The design of single, grouped and multiple dwellings is to maximise the extent of winter solar penetration to indoor and outdoor living areas through the optimisation of lot orientation or the inclusion of courtyards or balconies. For many single residential lots, zero side boundary setbacks are nominated on the Detailed Area Plans in order to better facilitate the provision of solar accessible courtyards along the opposite side boundary. The following design considerations relating to solar access should be applied:

- For single dwellings a living area shall be located with openings to facilitate northerly or north east solar access. Larger openings should be positioned to maximise winter solar penetration whilst incorporating overhangs or screens to minimise summer solar impact.
- At least 50% of dwellings in a grouped/multiple dwelling development should wherever permitted by lot orientation, have a north-facing living area.
- The scale, bulk and placement of a building on the site shall give consideration to minimising the overshadowing of adjoining lots as described in section 5.2 of these guidelines - SITE SPECIFIC CONSIDERATIONS.
- When planting trees to solar accessible spaces, strategically locate deciduous species to provide summer shade whilst permitting winter solar penetration;

Outdoor living area.

Open Space, Outdoor Living Areas and Balconies

Open space is an important consideration in any residential development. Perth's climate allows for outdoor living areas to be utilised for much of the year and accordingly a degree of open space is required to be provided as part of the amenity of a dwelling. In particular a designated outdoor living area (or in the case of multiple dwellings, a balcony) is to be provided.

An outdoor living area is not intended to be walled and fully roofed but may be partially covered with a pergola, weatherproof canopy or roof to the extent allowed by the R Codes.

An outdoor living area or balcony is to be directly accessible from an internal living area and wherever possible located to best facilitate winter solar penetration.

Requirements for Open Space, Outdoor Living Areas and Balconies are to be generally as described in Section 5: SITE SPECIFIC CONSIDERATIONS.

Outdoor living area.

2.2 WATER AND WASTE MANAGEMENT

2.2.1. WATER MANAGEMENT

In keeping with the principles of sustainable development, dwellings shall be designed to minimise water consumption. All plumbing fittings shall be water efficient and shall comply with the requirements of the Water Efficiency Labelling Scheme (WELS) star rating system

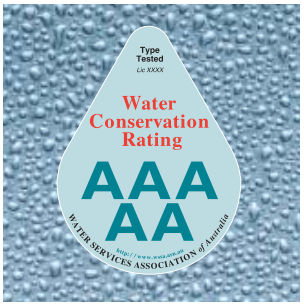
Fittings and Fixtures

- Each toilet shall have a minimum 4 star rated dual flush cisterns;
- All shower heads shall be a minimum 3 star rated;
- All tapware shall be minimum 4 star rated.

Additional steps to be considered to reduce demand on water resources are as follows;

- Use tap aerators and pressure and/or flow reduction valves;
- Use low volume baths, basins, sinks and troughs which can equate to reduced water usage and heating costs;
- Use AAAA rated dishwashers and washing machines;
- Use front loading washing machines rather than twin tub/top loader machines;
- Install compact rainwater tanks to provide an alternative water source for toilet flushing or garden irrigation, resulting in a reduced dependency on scheme water;
- Grey water recycling for use on gardens.

Smart Approved WaterMark



www.deh.gov.au/water
www.watercorporation.com.au

Rainwater Runoff

A significant source of runoff in the urban environment is generated by individual development sites. Hard/impervious surfaces can produce stormwater runoff of considerable volume and velocity. Increased flows have an ability to accumulate a variety of pollutants existing in the urban environment which are in turn deposited into waterways.

Developers and homeowners are encouraged to control stormwater runoff and minimise discharge impacts on adjoining properties. By recycling stormwater onto garden areas the demand for scheme water will also be lessened. Developers and homeowners are encouraged to:

- Design unencumbered open space to collect and retain stormwater runoff generated on site; and
- Utilise on-site retention to minimise the extent of water-borne contamination and increase the effectiveness of filtration into the ground.

Landscaping

A low maintenance garden can be achieved by preparing garden areas appropriately and choosing plants that do not need frequent watering, pruning, feeding or spraying.

The following actions are recommended in achieving a minimal water use garden.

- For garden areas improve soil to a depth of 300mm;
- The application of 75mm of mulch over non lawn planted garden areas;
- Utilise minimal water usage lawn varieties with the lawn area recommended to not exceed 20% of the outdoor lot area;
- Controlled irrigation through drippers, coarse drop sprays, subterranean drippers and electronic controllers;
- Maximise the use of indigenous and drought resistant plant species;
- Plan paved areas to direct surface rainwater runoff onto planted areas;
- Plant deciduous trees for summer shade and winter solar access;
- Shade paved areas or otherwise minimise the extent to reduce summer heat build up around dwellings;
- Collect stormwater and re-use on garden areas; and
- Use segmented or permeable paving to limit run-off and increase on-site water absorption.

Information on Waterwise garden construction including plant selection examples for a variety of garden styles is available on the Water Corporation Website. www.watercorporation.com.au

Contemporary urban landscape.

Contemporary urban landscape.

2.2.2 WASTE MANAGEMENT

Construction Waste

Builders are encouraged to take steps to minimise both the production of non-recyclable waste and the impact of their construction activities on neighbouring properties.

A construction management process addressing these issues should be established and clearly articulated to subcontractors to facilitate an ongoing culture of sustainable building practice.

A strategy should be developed to minimise the amount of waste required to be disposed of through landfill. Initiatives to be considered include the following:

- Set in place designated waste storage areas to enable an extent of on-site sorting. i.e. separate bins/areas for metal, timber, plasterboard, masonry, glass/ceramics etc, as opposed to a single general waste

pile;

- Educate subcontractors to dispose of waste accordingly, thus facilitating opportunities for sorting and recycling;
- Utilise waste collection agencies who carry out further sorting/recycling off-site;
- Regularly remove waste from the site to minimise unsightly messiness and the potential for spillage into neighbouring properties. An orderly building operation should be promoted thus reinforcing for subcontractors the message that they should take some responsibility for the minimisation of waste;
- Maximise the use of pre-fabricated components in order to achieve reductions in the extent of waste, i.e. the use of steel or timber roof trusses;
- Accurately order amounts and lengths of materials thus avoiding excessive waste;
- Store and recycle useable brick offcuts into rendered walls rather than sending to landfill;
- Store timber offcuts on site for mulching and use on garden areas;
- Maximise the use of non hazardous materials, i.e. low emission water based sealers and paints rather than epoxy/oil based;
- Use certified plantation timber only, i.e. plantation pine trusses and laminated veneer timber beams rather than hardwood rafters and structural beams;
- Provide secure storage areas, fencing, and the use of security agents in the final stages of construction in order to minimise the opportunities for break in and theft, a major source of additional cost for the residential construction industry.

Household Waste

Poorly designed or inadequate waste management and storage areas can spoil the general presentation of individual dwellings and the precinct as a whole, resulting in loss of amenity through odour and unsightly rubbish concentration.

Waste minimisation within the household shall be encouraged by facilitating the source separation and recovery of recyclable materials. The preservation of public health and amenity should be promoted by ensuring the appropriate storage, treatment and collection of waste. In order to achieve these objectives, applicants shall:

- Design garbage bin areas and external storage facilities to be sited appropriately to reduce their visual impact and complement the architecture and environs;
- Provide appropriate space within the dwelling for the temporary storage of waste in a manner that will enable source separation of recyclable and non recyclable waste. This shall be achieved by providing storage spaces for one bin for recyclable waste and one bin for non recyclable waste within the kitchen area.

2.3 SECURITY AND PRIVACY

In siting and designing residential development, the quality of community security can be enhanced through the following initiatives;

- Maintain visibility over streets, laneways and public open space from buildings. Provide a minimum of 1 window from a habitable room facing or overlooking a primary and where applicable a secondary street.
- Utilise the minimum front setbacks to better facilitate outlook to the street and thus maintain

an easily surveilled front garden;

- Design front and dividing fences forward of the building line to be low in height or visually permeable in order to promote visibility;
- Design and maintain landscaping to minimise visual obstruction, i.e. utilising planting such as low hedges and trees with a high canopy;
- Front gardens and rear outdoor areas at laneways should be well lit (having regard for the amenity of the neighbours), possibly incorporating motion activated light fittings;
- Provide secure connections to rear laneways through the installation of lockable garage doors and gateways;
- Upgrade sliding door and window security through the application of deadlocks and consider the use of stainless steel security mesh insect screens.

Balcony and windows overlooking rear laneway

With respect to privacy issues, external openings such as doors and windows are to be located as required by the R Codes so as to not unduly overlook neighbouring properties. Trees and tall plants can also be used to assist in screening upstairs windows from outdoor areas.

Windows, balcony and low fencing maximising outlook to street.

2.4 NOISE ATTENUATION

- Noise generating features such as pool pumps, air-conditioning or evaporative cooling plant are to be appropriately located or otherwise acoustically screened to minimise the level of noise intrusion into neighbouring properties to within the limits set out in the Environmental Protection (Noise) Regulations 1997.
- For grouped and multiple dwellings appropriate methods of construction are to be employed to limit the intrusion of airborne and impact noise between adjacent dwellings and public areas to within the limits set out in the BCA.

Openings providing outlook over laneway.

3 BUILDING DESIGN

3.1 BUILDING APPEARANCE & STREETSCAPE

- Buildings should reflect a contemporary Australian urbanism featuring a composite of external finishes rather than historical or vernacular styles such as “Federation”, “Tuscan”, etc. Building elevations are to be articulated to provide visual interest. Blank facades are to be

High level of articulation and detail to primary street elevation.

avoided through the provision of projections and indentations in the floor plan with resultant shadow effects and corresponding roof elements. The street or 'public face' of the building should be detailed to provide visual richness and variety, reduce apparent bulk and enhance individual identity. This can be achieved through:

- The application of colour, texture and changes in materials.
- The use of elements such as awnings, balconies and extensive glazing. Dwellings should enable "eyes on the street" for passive surveillance from living rooms and balconies.
- Front entries for single and multi-residential development which are clearly identifiable from the street through expressed elements such as entry porticos, glazing etc.
- Elevations which reflect the desired character through the application of a mix materials and colours as outlined in the introduction and Section 3.1.4. Walls.

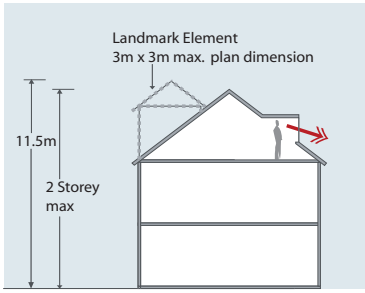
3.1.1. SECONDARY STREET ELEVATIONS

To promote security and provide visual interest, development on corner lots is required to address both the primary and secondary streets. The secondary street elevation is to be articulated and feature a suitable level of detail including windows which is consistent with that of the primary street elevation.

Articulated secondary street elevation.

3.1.2. BUILDING HEIGHT

- To ensure an appropriate urban scale the maximum allowable height for single and grouped dwellings is 2 storeys with a third habitable level permitted within the roof space.
- Maximum building height shall be as per the City's height policy for 2 storey development except that all maximum permissable heights shall be increased by 0.5m.
- At nominated Zero Lot Lines for R30 lots the maximum height for walls constructed up to the boundary is 3.3m with the maximum wall length to be as permitted by the R Codes.



2 storey dwelling

3.1.3. LANDMARK LOCATIONS

Key Locations with a high visibility such as corner lots, lots at the end of a street vista, or adjacent to a public open space are identified on fig. 1 as "landmark" sites. In order to facilitate mental recognition of locations within a neighbourhood it is recommended that landmark locations be treated with additional architectural emphasis such as an element of increased building height, distinctive roof forms, articulation of wall elements, or the bold use of materials, colour, detailing etc. Development on a landmark site should draw attention to the location whilst reinforcing the sense of architectural identity.

At landmark locations a landmark element which provides visual emphasis may exceed the maximum allowable roof height as follows:

- Single/Grouped Dwellings:

Max. roof height.	11.5m
Max. plan dimension.	3m x 3m

3.1.4. WALLS

The visual appeal of development within the estate will be greatly influenced by the colours and textures of walls visible from streets or other public spaces. They will be required to feature a composite of construction materials with a dominant material such as painted or coloured render/ bagging, face brickwork, stone, rammed earth or blockwork. These are to be complemented by minor elements of alternative materials (preferably featuring a change in material and/or colour) such as:

- Face or rendered/painted brickwork/blockwork of contrasting colours;
- Stone cladding;
- Clear glazing;
- Weatherboards in painted or natural finish;
- Corrugated sheet metal cladding in custom or mini orb profile in Colorbond finish and
- Compressed fibre cement cladding.

Landmark elements

Composite wall materials finishes

Roof finishes

Windows to have vertical proportion.

Tilt up or precast concrete is acceptable only for internal walls or where the design exhibits sufficient components of detail and glazing to satisfy the spirit of the guidelines.

3.1.5. ROOFSCAPE

Roof Forms

Roof forms within the estate are not restricted, however where conventional pitched roofs are employed, the pitch shall be 27½º minimum and 42º maximum in order to promote a consistency of development. Pitches lower than 27½º may be applied to designs featuring skillion roofs or secondary roofs such as verandahs and awnings. Flat roofs may be used in conjunction with pitched roofs or where hidden behind parapets or expressed as awnings. For habitable spaces within a pitched roof the profile may be broken by dormer windows.

Roof Materials

The type of materials used for roofing can potentially impact on neighbouring properties. Generally, roofing materials should be of tiles or colorbond corrugated metal. To promote a sense of uniformity, colours should be of neutral or low visual impact. Black, dark or overly bright colours are not considered appropriate as they may not be consistent with the desired streetscape character and are generally more heat absorbent than lighter colours.

3.1.6. WINDOWS

In keeping with the desired architectural form individual windows should usually have a square or a vertical proportion, particularly those facing the street. Where horizontally proportioned windows are used, these should be carefully integrated into the composition of the elevation.

3.1.7. BALCONIES & AWNINGS

- For two storey development balconies are recommended for the street elevation in order to provide visual interest and passive surveillance opportunities. Balconies shall satisfy the setback and visual privacy requirements of the R.Codes.
- The use of awnings over exposed window openings can be employed to limit solar exposure whilst adding to the extent of detail on a dwelling.

3.1.8. SITE LEVELS

- For sloping sites, development must be in according with the City's applicable policy. Where cutting of a site occurs in the vicinity of estate retaining walls, appropriate structural engineering design is required to be incorporated to ensure undermining does not occur.

Balconies & awnings.

3.2 FENCING

3.2.1. UNIFORM FENCING BY DEVELOPER

In order to contribute to a consistantly high standard of development along significant public areas, uniform fencing or retaining walls are provided to boundaries fronting Public Open Space, Stephenson Avenue and Pearson Street. See Figure 1 (page 2) for extent. For single dwelling lots, uniform fencing/retaining walls, by the Developer may not be modified. For multiple/grouped dwelling lots, modifications may be made to accomodate gates of a standard detail to be advised, in order to facilitate access to the front entry of a dwelling or to a P.O.S.

3.2.2. FRONT FENCING

Low and open front fencing can contribute to the creation of a valuable semi-private space adjacent to the public street. In order to create an open streetscape with good visibility and cross surveillance opportunities, front fences should ideally be no higher than 0.9m. Where tall fencing is preferred, this is to be in accordance with the City's Streetscape Policy.

Low open front fencing.

Materials such as corrugated fibre cement, brushwood or profiled sheet metal are not permitted for use in front fencing.

Materials used in the construction of front fencing should be similar to or compatible with those used on the house.

3.2.3. SECONDARY STREET FENCING

In line with the requirement for corner residences to address both streets, any fencing along a corner truncation and at least the first 20% of the secondary street boundary shall be a continuation of low or visually permeable fencing as required for front fencing.

Secondary street fencing.

The balance of secondary street fencing may be up to 1.8m high to suit particular privacy requirements with construction to be predominantly in masonry and the finish to be consistent with the materials used on the residential development.

Materials such as corrugated fibre cement, brushwood, timberlap or profiled sheet metal are not permitted for use in secondary street fencing.

3.2.4. LANEWAY FENCING

Fencing to laneways is permitted to a maximum height of 1.8m with piers to 2.0m and is generally to be of construction to match the residence. A minimum of 10% of the wall by area is recommended to be visually permeable in order to enable surveillance opportunities over the laneway.

3.2.5. DIVIDING FENCING

Fences dividing adjoining properties are to be in accordance with the Dividing Fences Act except that the construction shall be masonry and the finish is to be consistent or compatible with that of the residential development.

Tall solid fencing is not permitted to project forward of the front building line. Any fencing in front of the building line is required to be low or visually permeable with the construction requirements to be as for a front fence.

3.3 VEHICLE ACCESS & GARAGES

- For single/duplex residences, on site parking shall be as required by the R Codes. For lots served by a rear laneway, access is required to be off the rear laneway with vehicular access not permitted off a front or secondary street.
- For front loaded dwellings the garage shall be set back from the street boundary in accordance with the requirements of the R Codes except that it shall always be located a minimum of 0.5m behind the dwelling alignment.
- For dwelllings where a garage is located so that vehicles are parked parallel to the street, the garage front setback may be reduced to 2m with its street elevation to be articulated through the use of a minimum of one major opening.
- For grouped dwelling developments, on site parking shall be as required by the R Codes.

  Garage Location Lots 6/7 and 36
- Garages for lots 6/7 shall be located as illustrated in section 5.2. R30 LANEWAY DWELLINGS while the garage for lot 36 shall be located as illustrated in section 5.1 R20 LANEWAY DWELLINGS to provide sufficient reversing area to enable vehicles to exit the laneway in a forward gear.

4 OTHER CONSIDERATIONS

4.1 SITE SERVICES

All piped and wired services including waste and vent pipes, refrigerant lines and cable ducts are required to be built into walls and are not to be visible from the street or adjoining properties.

4.2 LANEWAY LIGHTING

In order to contribute to safe traffic movement and to enhance levels of community security, street lighting is provided to all laneways.

To facilitate the installation of light poles, small easement or road reserve projections will be provided. A building, wall or fence is not premitted to project into a laneway light easement or road reserve projection.

4.3 LETTER BOXES

For laneway lots, letterboxes shall be located at the primary street frontage. letterboxes are not permitted to be located on a laneway boundary.

4.4 STORES AND OUTBUILDINGS

Each single, grouped or multiple dwelling is to have a store with a minimum area of 4m², provided under the main or garage roof and accessible from either outside the dwelling or within a garage area.

Separate outbuildings visible from any public area are required to be constructed of wall and roof materials to match the main dwelling.

4.5 RUBBISH BINS

PVC or bulk rubbish bins should not be visible from public areas except on rubbish collection days. Bins shall be located in a screened storage area.

4.6 AIR CONDITIONERS

As air conditioning plant is noise generating and often unsightly, its impact on adjoining properties and public areas is to be mitigated.

- For single and grouped dwellings it is preferred to be located at ground level to minimise the impact on neighbours and is to be visually concealed from public areas. Any roof mounted air conditioning or evaporative cooling plant is required to be located so as to not be visible from a street or public open space and is to be finished in a colour to match that of the roof.
- For multiple dwellings any balcony or roof mounted plant is to be visually and acoustically screened from adjacent dwelling units and visually screened from streets and other public areas.

4.7 TV ANTENNAE AND SATELLITE DISHES

TV antennae are to be located within the roof space or to the rear of the roof, wherever reception permits. Where a TV antenna must project above a roof line to access the direction of reception the maximum projection is 0.5m. The installation of satellite dishes shall be in accordance with the City's policy.

4.8 SOLAR COLLECTORS

In line with sustainability principles the use of gas boosted solar hot water and swimming pool heating systems is encouraged, however solar collectors must not be visible from public spaces unless there is no other location which affords suitable solar exposure. In this case they should be installed on the plane of the roof, with water tanks ideally located within the roof space.

4.9 CLOTHES LINES AND DRYING AREAS

These should be located to access winter sunshine and prevailing breezes and shall not be visible from public areas.

4.10 EXISTING TREES

In designing the Churchlands Green Plan considerable effort has been devoted to retaining as many existing mature trees as possible.

Where an existing tree occurs within a street verge (mature or new street trees) it is not permitted to be removed. A residence proposed for an affected lot may have a pre-determined crossover location, otherwise it is to be designed so that the driveway crossover is located clear of any existing tree.

5 SITE SPECIFIC CONSIDERATIONS

5.1. R20 LANEWAY DWELLINGS

R20 LOTS 27 - 36.

Setbacks	min	max
Front	4m ave (2m min)	5m
Secondary Street	1.5m	
Side (zero lot line)		
- ground floor	nil	
- first floor	as per R Codes	
Side (non zero lot line)	as per R Codes	
Laneway		
- garage	0.5m	1.5m
- first floor over garage nil		
- residence	1.5m	

Maximum Building Height.

The maximum building height shall be 2 storeys as per the City's height policy except that all maximum permissable heights shall be increased by 0.5m.

Minimum Open Space.

As per R Codes.

Minimum Outdoor Living Area.

As per R Codes.

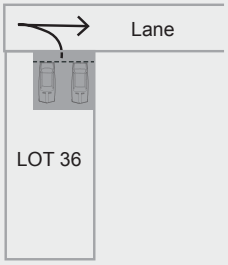
Overshadowing

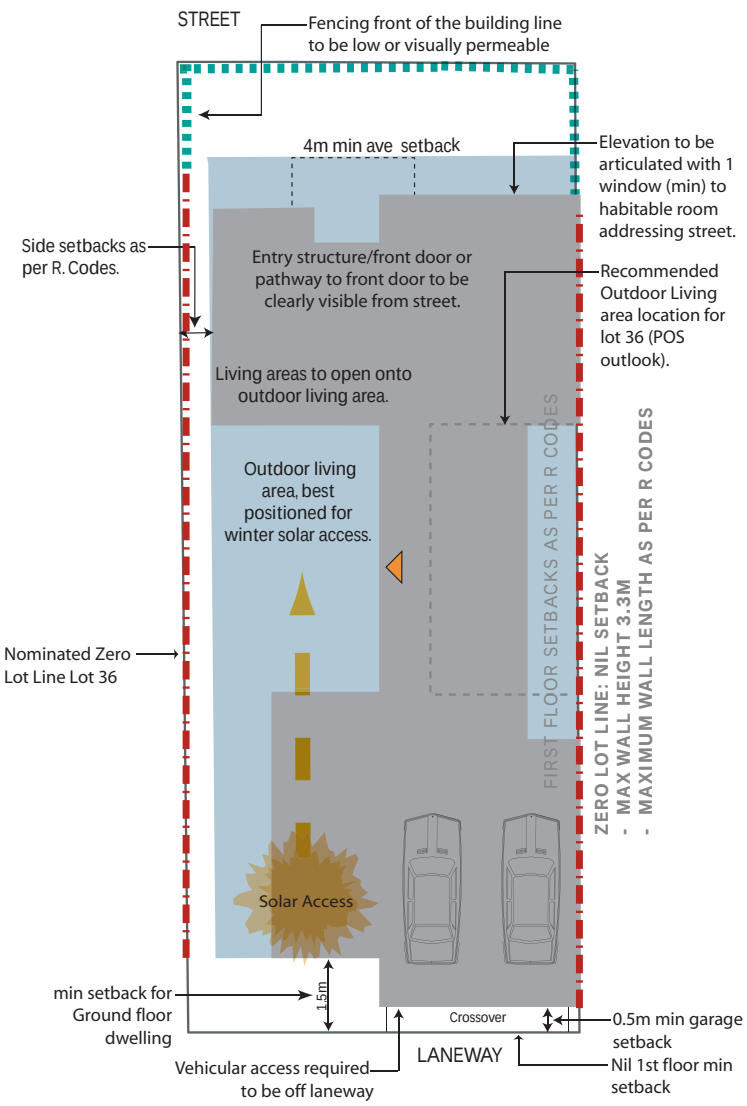
Shall not exceed 30% of the adjoining lot area.

Note: For lots fronting Cromarty Road where a front boundary deviates in order to retain an existing tree(s) within the verge, (which would otherwise have been located within a lot) the minimum front setback for that lot shall be 4m ave (2m min) from the front boundary alignment of the balance of lots as if no deviation has occured.

Lot 36 Garage Location

Garage shall be located so as to provide sufficient reversing area to enable vehicles to exit in a forward gear.

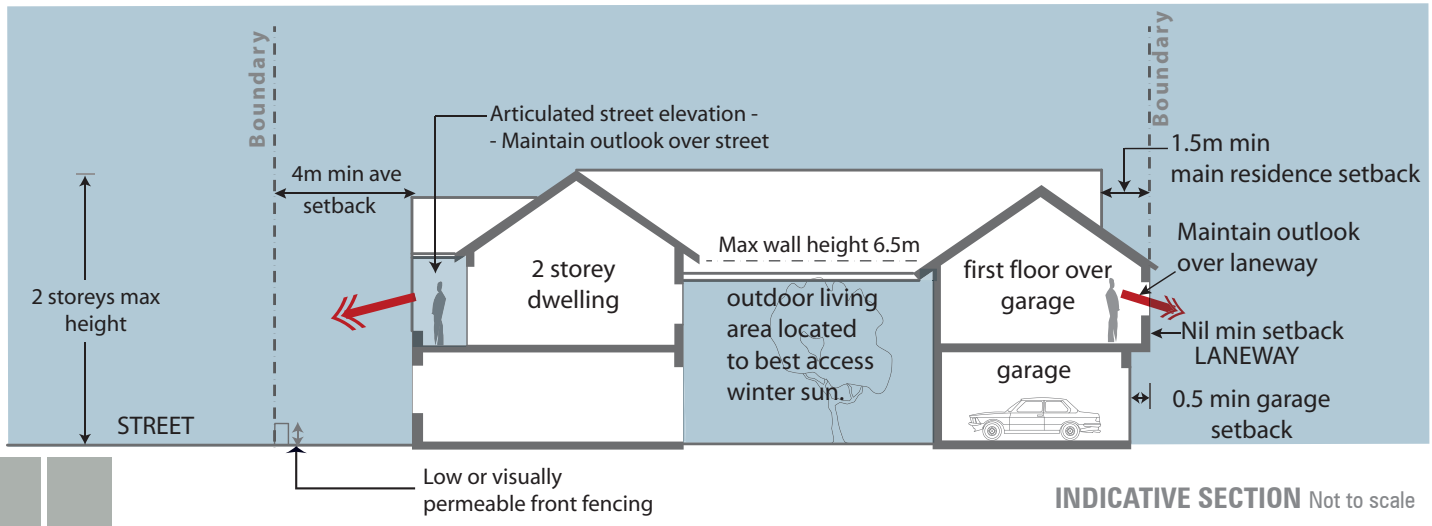




INDICATIVE PLAN Not to scale

Legend

- Building Envelope
- Indicative Building Footprint
- Low or visually permeable front fencing



INDICATIVE SECTION Not to scale

5.2 R30 LANEWAY DWELLINGS

R30 LOTS 1-15, 38-47, 80, 381-385, 386-396.

Setbacks	min	max
Front	as per R-Codes	5m
Secondary Street	as per R-Codes	n/a
Side (zero lot line)		
- ground floor	nil	n/a
- first floor	as per R-Codes	n/a
Side (non zero lot line)	as per R-Codes	
Laneway		
- garage	0.5m	1.5m
- ground floor	1.5m	n/a
- first floor	nil	n/a

Maximum Building Height.

The maximum building height shall be 2 storeys as per the City's height policy except that all maximum permissable heights shall be increased by 0.5m.

- To top of roof of landmark element. 11.5m

Minimum Open Space.

R30. 40% of the site area.

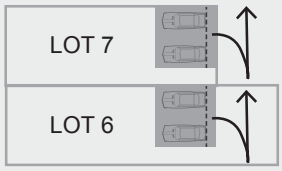
Minimum Outdoor Living Area.

R30: 30m²

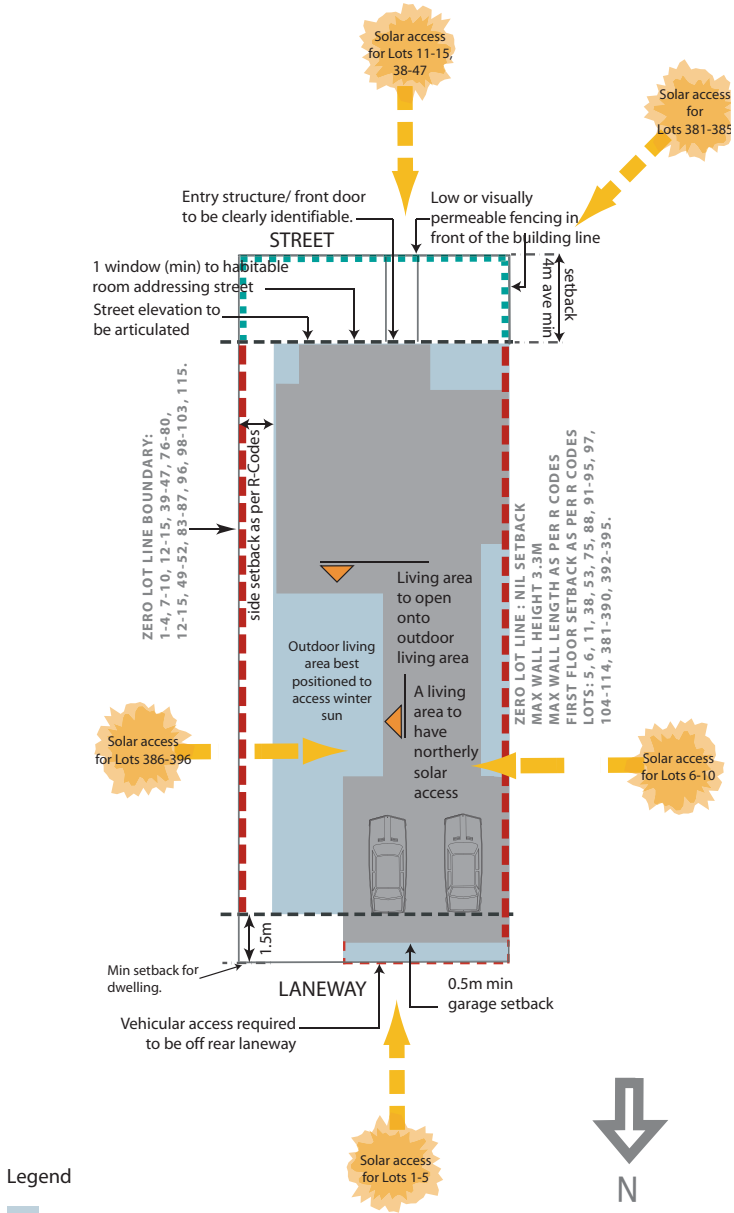
Overshadowing

Shall not exceed 40% of the adjoining lot area.

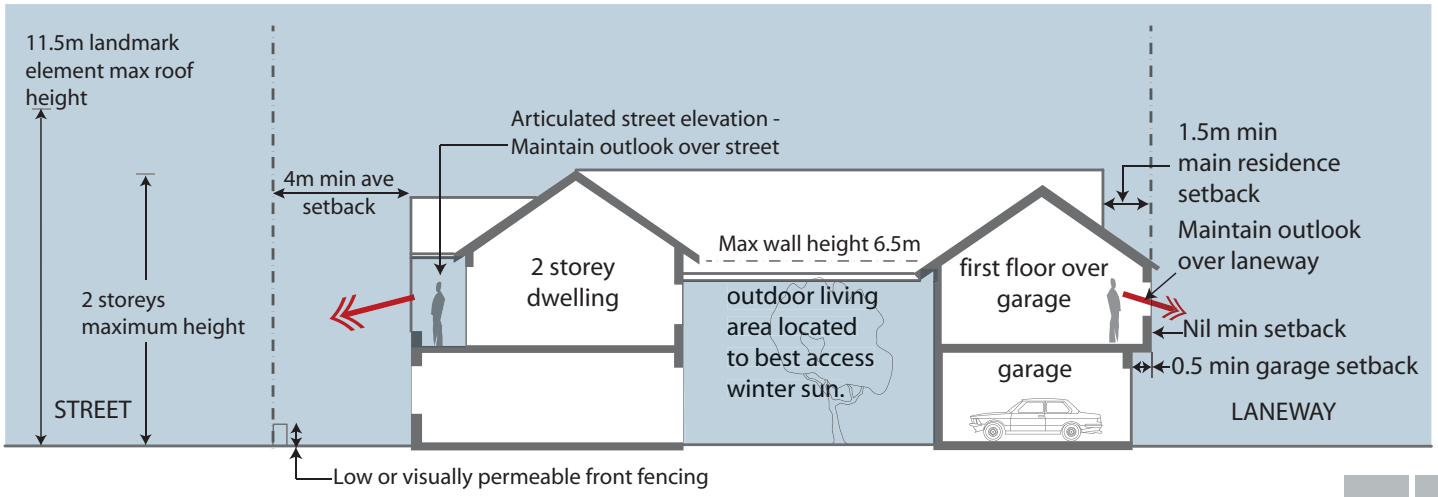
Lot 6/7 Garage Location



Garage shall be located so as to provide sufficient reversing area to enable vehicles to exit the laneway in a forward gear.



INDICATIVE PLAN Not to scale



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5.3. R60 GROUPED DWELLINGS

LOT 37

Setbacks	min	max
Front	3m ave	5m
Laneway		
- garage	0.5m	n/a
- ground floor (with openings)	1.5m	n/a
- ground floor (no openings)	nil	n/a
- first floor	nil	n/a
P.O.S.	1.5m ave (1m min)	n/a

Maximum Building Height

The maximum building height shall be 2 storeys as per the City's height policy except that all maximum permissable heights shall be increased by 0.5m.

Minimum Open Space

- 40% of site area

Minimum Outdoor Living Area

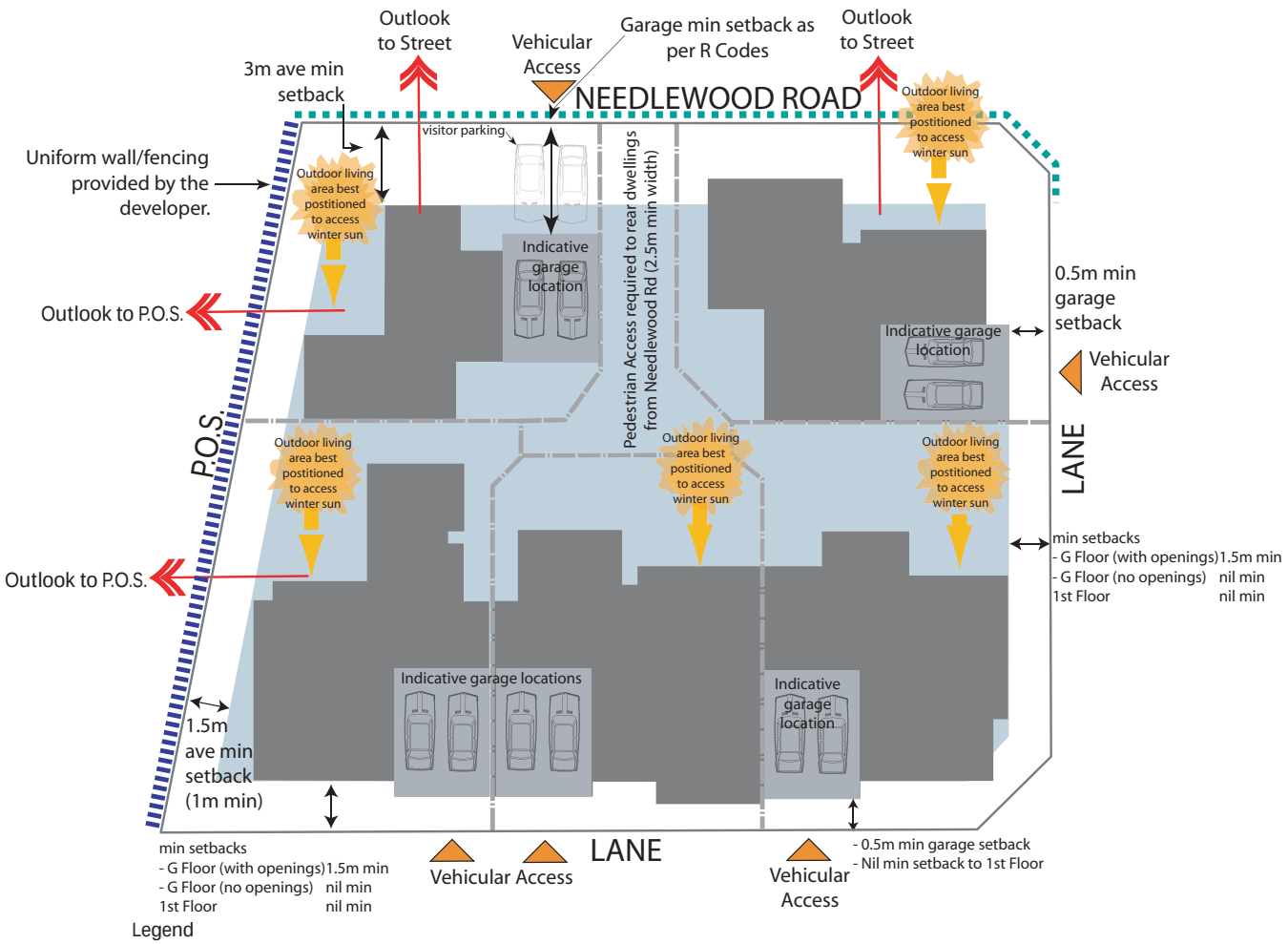
-16m² (as per R Codes)
-For dwellings fronting Needlewood Rd the outdoor living area may project into the front setback.

Parking

-Vehicular access to rear lots may be by a common internal driveway or alternatively off the rear/side laneways.
-Vehicular access is not permitted to be located adjacent to the P.O.S. boundary.

Pedestrian Access

-Pedestrian access to rear dwellings shall be through the lot.
-The minimum width for a common pedestrian access shall be 2.5m.



Legend

- Indicative Building Envelope
- Indicative Building Footprint
- Visually Permeable Front Fencing
- Uniform fencing to match fencing provided by the developer for the balance of the POS. (Gates permitted to access the POS).

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INDICATIVE PLAN Not to scale

6.0 DESIGN STANDARDS SUMMARY

Incorporating variations to the R Codes.

The Design Standards Summary will be used as a checklist by the City in the asessment of planning or building licence aplications.

Applicable Clause	Summary of Requirements
3.1.2. Building Height	▪ 2 storey development. - As per the City's height policy for 2 storey development except that all maximum permissible heights shall be increased by 0.5m. ▪ At zero lot lines for R30 and R40 lots the maximum height for walls constructed up to the boundary is 3.3m with a maximum wall length to be as permitted in the R Codes.
3.1.3. Landmark Locations	Maximum landmark element ▪ Single/Grouped Dwellings. - Max. roof height 11.5m - Max. plan dimension 3m x 3m
3.2.2. Front Fencing	▪ Corrugated fibre cement, brushwood, timberlap or profiled sheet metal not permitted.
3.2.3. Secondary Street Fencing	▪ To be low or visually permeable for the first 20% of the secondary street boundary from the truncation; ▪ Corrugated fibre cement, brushwood, timberlap or profiled sheet metal not permitted.
3.2.5. Dividing Fencing	▪ The construction of dividing fences shall be masonry with a finish which is consistent with or compatible with that of the residence.
3.3 Vehicle Access & Garages	▪ For all lots served by a laneway, vehicular access shall be off the laneway. Vehicular access is not permitted off a primary or secondary street. ▪ For front loaded lots where cars are garaged parallel to the street, the minimum garage setback may be reduced to 2m provided the elevation is articulated with a minimum of 1 major opening. ▪ Garages for lots 6/7 shall be located as illustrated in section 5.3: R30 LANEWAY DWELLINGS to provide sufficient reversing area to enable vehicles to exit the laneway in a forward gear. ▪ The garage for lot 36 shall be as illustrated in section 5.1: R20 LANEWAY DWELLINGS to provide sufficient reversing area to enable vehicles to exit the laneway in a forward gear.

4.4. Stores and Outbuildings	▪ All dwellings shall have a store with a minimum area of 4m² provided under the main or garage roof and to be accessible from either outside the dwelling or within the garage area.
5.1 R20 Laneway Dwellings	▪ All dwellings shall have a store with a minimum area of 4m² provided under the main or garage roof and to be accessible from either outside the dwelling or within the garage area.
5.2 R30 Laneway Dwellings	▪ For lots generally, the southernmost or westernmost side boundary is the zero lot line. ▪ For lots 6, 391, 396 located at the south end of a street block the northern side boundary is the zero lot line. ▪ For lots 5, 11, 38 located at the west end of a street block with a side laneway the eastern or western side boundary may be nominated as the zero lot line. ▪ For lots 75, 78 located at the west end of a street block the eastern side boundary shall be the nominated zero lot line. ▪ For lot 381 the eastern or western side boundary may be nominated as the zero lot line. ▪ The minimum open space shall be 40% of the site area. ▪ The minimum outdoor living area shall be 30m² for R30 lots and 25m² for R40 lots. ▪ Overshadowing shall not exceed 40% of the adjoing lot area.

DOCUMENT CONTROL

date	revision	issued
07/01/2011	A	Issued for approval.
10/01/2011	B	Issued for approval.