

Design and construction specification for DHA residences



Version 5.0 October 2014



Introduction

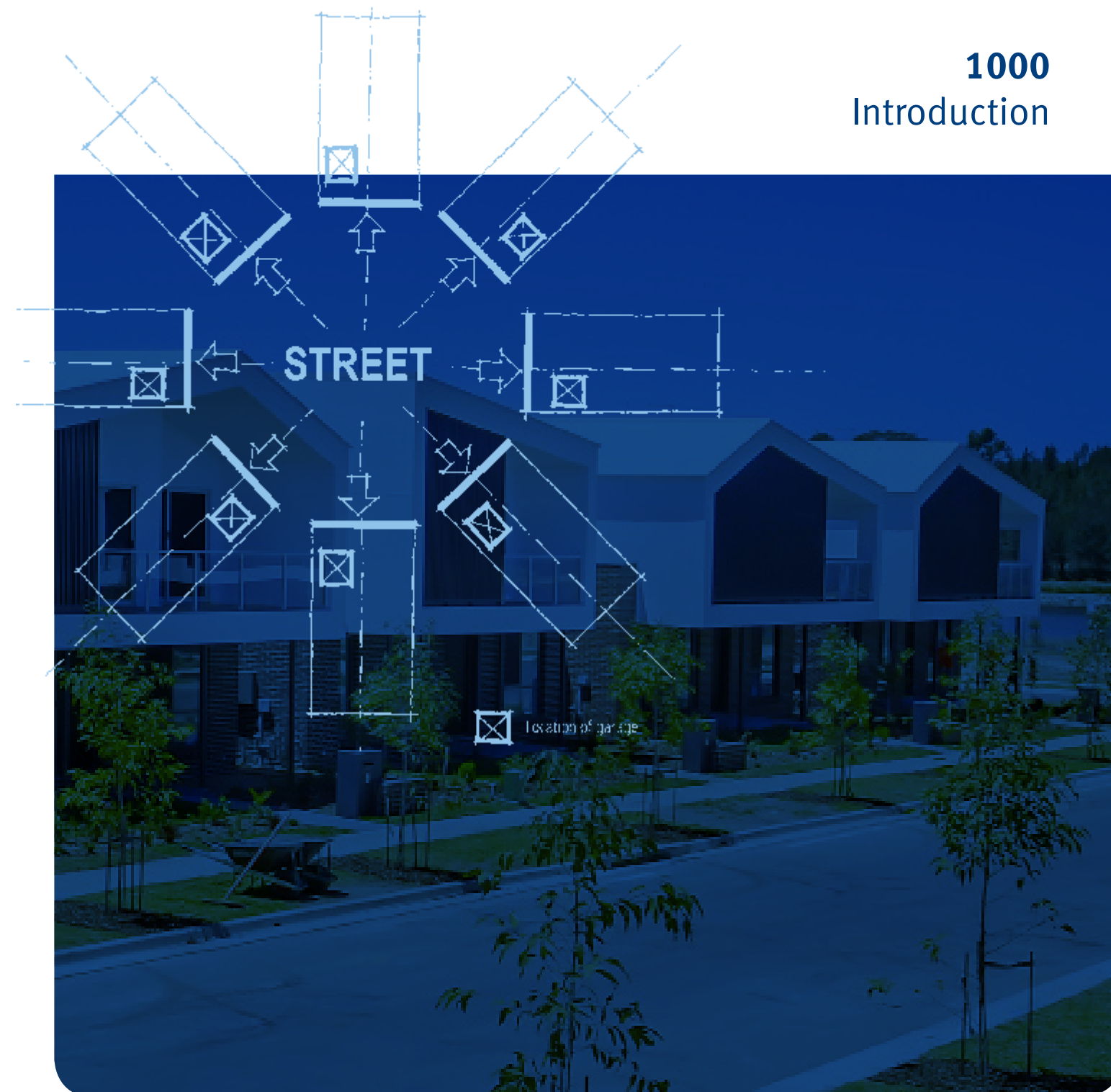
VERSION	RELEASE DATE	NOTES
Version 1.1	October 2007	Original
Version 2.0	January 2009	Corrections and revisions
Version 2.1	February 2009	Amended for clarification (page 21 Garage and Storage)
Version 2.2	February 2009	Amended for clarification (various clauses)
Version 3.0	April 2009	General review (all clauses)
Version 3.1	April 2009	Re-added regional requirement Darwin, Tindal and Alice Springs (eaves increased to 900mm)
Version 3.2	June 2009	General revision (following review of version 3 within DHA and by builders)
Version 3.3	August 2009	Reorganised content, revised document name (document was "Performance and design requirements for construction of DHA residences"). Content also modified
Version 4.0	December 2011	Reorganise and modify content
Version 5.0	October 2014	Modify content in line with CIC changes

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1000 Introduction

This document contains general requirements for low and medium density housing projects. Site specific requirements are provided in the *Invitation to Tender* documentation.

Defence Housing Australia (DHA) is committed to providing quality housing for Defence personnel and their families. This document assists in ensuring DHA dwellings are well designed and sustainable through the incorporation of these design guidelines and performance requirements.

This document is not intended to replace the consenting authority's controls, but rather to complement them to produce quality new constructions in keeping with community standards. This document is to be used by housing construction companies that are tendering for DHA projects.

A checklist to ensure that tenderers are compliant with DHA design requirements is provided at Appendix 4 for contractors to complete and return with their tender submission.

2000 Design guidelines



2010 Streetscape

The streetscape is a major contributor to the overall quality and amenity of the neighbourhood. Generous front verandahs and well-articulated entry porches should be considered as additional living areas enabling residents to engage with neighbours and passers by.

The landscape character of the street is created by well-defined front gardens, street trees and the visibility of rear garden trees beyond the house.

In order to provide a diverse and attractive streetscape, the facade should be dominant. The garage should be setback by at least 1.0 metre from the building line and represent less than 50 per cent of the facade. Where site conditions allow, garages should be located to allow solar access to the private open space and internal living areas of the home. They should be located on the southern side of east-west facing lots and the western side of north-south facing lots.

INTENT: STREETSCAPE	PERFORMANCE INDICATOR
<ul style="list-style-type: none"> › Create attractive landscaped front gardens that include mature trees and shrub plantings › Larger trees in rear gardens that can be seen from the street add a significant landscape quality to the street as well as to the garden › Letterboxes should be incorporated into the design and constructed from the same materials used in the construction of the dwellings › The landscape plan must indicate the extent of hard and soft landscaping, tree size and locations 	<ul style="list-style-type: none"> › Where practicable, front gardens to include a minimum of two small trees between 8 and 15 metres at maturity › Wing gates to be set back 1.8 metres from the building facade with a max height of 1.2 metres › Rear gardens to include a minimum of one large deciduous tree. Lots in excess of 12.5 metres wide to have a minimum of two large deciduous trees in rear garden › Hard surfaces to be limited to 15% of the site area › The landscaped area to be limited to 40% of the site area › Maximum building footprint is 55% for single storey dwellings and 50% for two-storey dwellings › Use drought resistant plantings



2020 Building design – facades and roofs

The design of each dwelling shall enhance the streetscape and amenity of the neighbourhood and local area. Facade designs shall possess individuality with no two houses appearing the same. There shall be diversity of facade treatments and appearance and in keeping with the existing neighbourhood.

INTENT: FACADES	PERFORMANCE INDICATORS
<ul style="list-style-type: none"> Provide a building facade and entry clearly articulated from the street or access point A combination of hard and low maintenance lightweight building materials to be used on front facades Dwellings need to be designed to address the street and provide windows to living areas overlooking the street and other public places Garages shall not dominate the streetscape and shall account for a maximum of 50% of the facade Dwellings on corner lots are to address both street frontages with garages located off the secondary street 	<ul style="list-style-type: none"> Garages to be set back a minimum of one metre from the building line Garages shall not exceed 50% of the front facade Garage doors not to exceed 2.4 metres in height Double garages only permitted on lots 12.5 metres wide or greater Single fronted tandem garages with one space behind the other are permitted Garages on corner lots to be accessed from the secondary street Driveway cross-overs to be a maximum of 4 metres Driveways to be a minimum of 1.5 metre clearance from street trees Provide garden beds between driveway and side fence Front patios to be clearly articulated and the dominant feature of the facade
INTENT: ROOFS	PERFORMANCE INDICATORS
<ul style="list-style-type: none"> Roofs are to be predominantly simple gable, hip or skillion Colorbond roofs are to represent 50% of new dwelling constructions in subtropical and temperate climates Skillion or flat roofs are considered appropriate for all dwelling types All new constructions are to have eaves with the exception of when dwellings are built to the boundary 	<ul style="list-style-type: none"> Pitched roofs are to be between 22.5° and 26° Eaves to be a minimum of 450mm from external wall except where walls are built to the boundary/ zero lot line

Figure 1 Building setbacks



2030 Amenity

INTENT: ORIENTATION	PERFORMANCE INDICATORS
<ul style="list-style-type: none"> Undertake a site analysis to identify north, prevailing breezes, views and slopes, and design accordingly 	<ul style="list-style-type: none"> Wherever possible locate garages, laundries and bathrooms on the western elevation
<ul style="list-style-type: none"> Locate private open space to take advantage of appropriate aspect 	<ul style="list-style-type: none"> Wherever possible use the western elevation as a utility corridor for the placement of rain water tanks, air conditioners, hot water system, bins etc
<ul style="list-style-type: none"> Ensure primary living spaces are located adjacent to private open space 	<ul style="list-style-type: none"> Design to ensure cross-ventilation
<ul style="list-style-type: none"> Design for comfortable living all year round to minimise the use of heating and cooling systems 	<ul style="list-style-type: none"> Ensure living areas (lounges, dining, family and meals) are orientated to the north/north-east in temperate climates
<ul style="list-style-type: none"> All designs should facilitate natural ventilation 	<ul style="list-style-type: none"> Ensure living areas (lounges, dining, family and meals) are provided with adequate shade in tropical climates
<ul style="list-style-type: none"> Avoid overshadowing of neighbouring properties 	<ul style="list-style-type: none"> Use natural screening such as landscaping to optimise privacy between dwellings

Figure 2 Site analysis/building envelopes



Figure 3 Garage and driveway locations

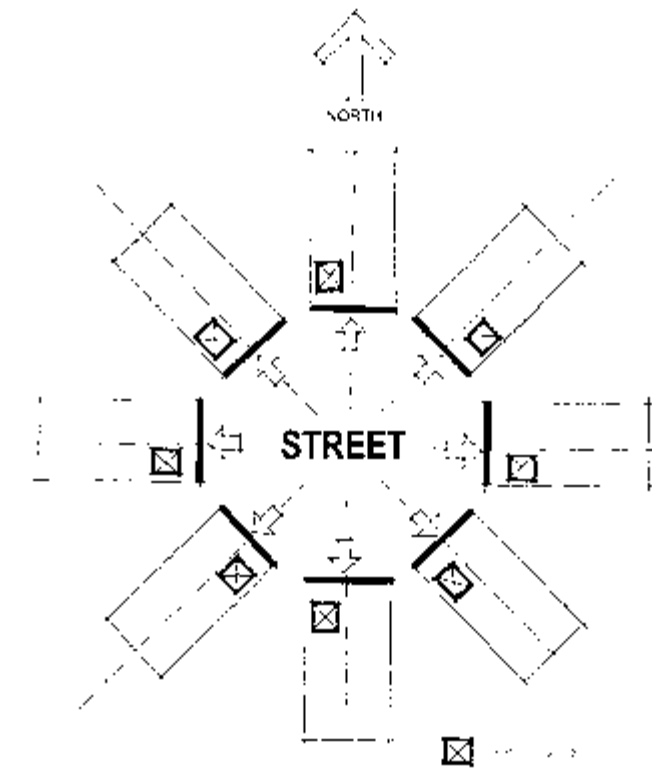
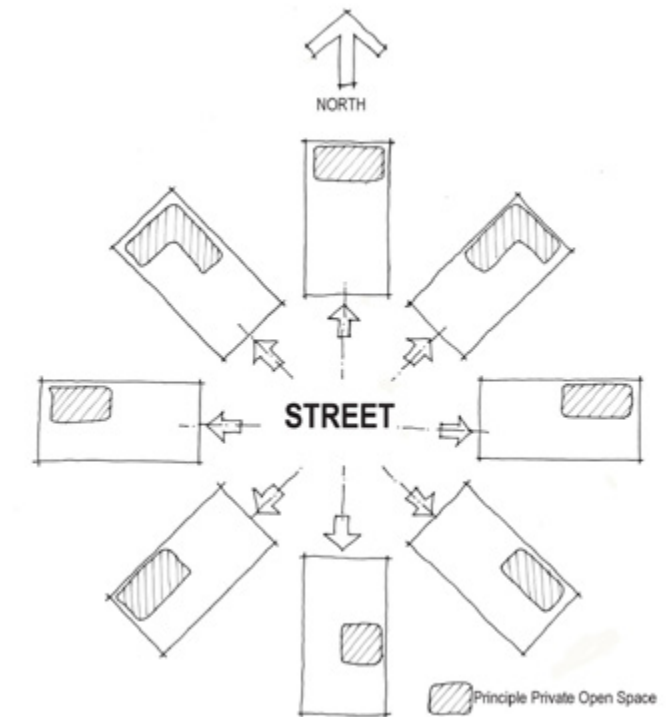


Figure 4 Private open space



INTENT: PRIVACY AND SURVEILLANCE	PERFORMANCE INDICATORS
<ul style="list-style-type: none"> › Ensure adequate privacy is provided within the home while also providing passive surveillance of the street 	<ul style="list-style-type: none"> › Use natural screening such as landscaping to optimise privacy between dwellings
<ul style="list-style-type: none"> › Minimise overlooking of adjoining open space, particularly at the upper level 	
<ul style="list-style-type: none"> › Consider screening for privacy and ventilation 	

INTENT: DIVERSITY – INDIVIDUALITY	PERFORMANCE INDICATORS
<ul style="list-style-type: none"> › Respond positively to sloping lots. Don't just bench the entire site 	<ul style="list-style-type: none"> › Consider suspended flooring systems as an acceptable solution in lieu of retaining walls
<ul style="list-style-type: none"> › Respond to local material palettes where appropriate 	<ul style="list-style-type: none"> › Use light, natural and earthy colours for all external walls
<ul style="list-style-type: none"> › Consider pergola treatments to provide shade, particularly on north or west facing facades 	<ul style="list-style-type: none"> › Highlight colours for articulation. Window frames, doors, screening elements, guttering, downpipes and letterboxes should complement the base and roof colours while creating contrast
<ul style="list-style-type: none"> › Consider balcony placement to upper floors front facade 	<ul style="list-style-type: none"> › Dark roof colours to be avoided
<ul style="list-style-type: none"> › Provide variation in porches/entry statements 	<ul style="list-style-type: none"> › Garage doors should match roof colour except where timber-look garage doors are used
<ul style="list-style-type: none"> › Alternate roof forms and materials 	

Example Building to the contours



2040 Design for higher amenity

Higher ranking Defence personnel and their families are entitled to a higher level of amenity. Higher amenity can be achieved with the provisioning of larger living areas, upgraded kitchen and bathroom appliances, fixture and fittings or a combination of these.

INTENT: TO ACHIEVE HIGHER AMENITY	PERFORMANCE INDICATORS
<ul style="list-style-type: none"> Higher amenity can be achieved with the inclusion of additional architectural features, upgraded materials, (both internally and externally), and/or upgraded appliances 	<ul style="list-style-type: none"> Larger living areas and/or additional rooms, such as an extra bedroom, formal study, dining room or rumpus Upgraded kitchen and bathroom appliances Upgraded face bricks and roofing materials Additional soft landscaping

Example Optimising indoor/outdoor living



2050 Sustainability

Well planned homes bring a feeling of spaciousness, sunlight and privacy to living. Good design should incorporate outlooks toward landscaped areas and provide opportunities for natural breezes to circulate throughout the dwelling.

Contractors are encouraged to adopt as many principles of sustainable design as possible.

2051 Heating and cooling

All elements of the design and construction (layout, orientation, interiors and landscape) should be integrated and suited to the site to minimise the need for active heating and cooling.

2052 Insulation

Insulation to wall and ceiling cavities and slab or sub-floor spaces along with draught exclusion.

2053 Thermal mass

In cool climate regions, select areas of floor and wall surfaces can act as thermal 'banks' to provide thermal stability by re-radiating solar energy in the cooler months. The placement of windows and shading devices as well as the selection of interior materials and finishes can be designed to enable this effect.

2054 Shade

The eave overhang can be constructed to admit winter sun into the house while excluding summer sun. Pergolas or deciduous trees can reduce heat gain in summer but permit light all year round.

2055 Ventilation

Maximise cross ventilation to ensure breezes flow through the house by locating operable windows to capture prevailing breezes. This is particularly important in tropical regions.

2056 Light

Maximise natural daylight into the house and minimise the use of artificial lighting during the day by location and size of windows. Use LED lighting where appropriate.

2057 Water

Sustainable use of water means reducing the use of potable water and facilitating water to soak into the ground (gardens and lawns) wherever possible.

INTENT: SUSTAINABILITY

- › Orientate living areas to the north (facing landscaped areas where possible)
- › Plan for several generously designed outdoor spaces rather than left over spaces around the dwelling
- › Provide good solar access to internal and external living areas
- › Provide generous ceiling heights to allow sufficient daylight, increase feeling of spaciousness, air circulation and to accommodate ceiling fans
- › Provide a minimum eave overhang of 450mm in temperate and sub-tropical climates and 900mm for tropical
- › Avoid west facing living areas
- › Provide shaded openings to west facing windows

Figure 5 House type A – stages of development

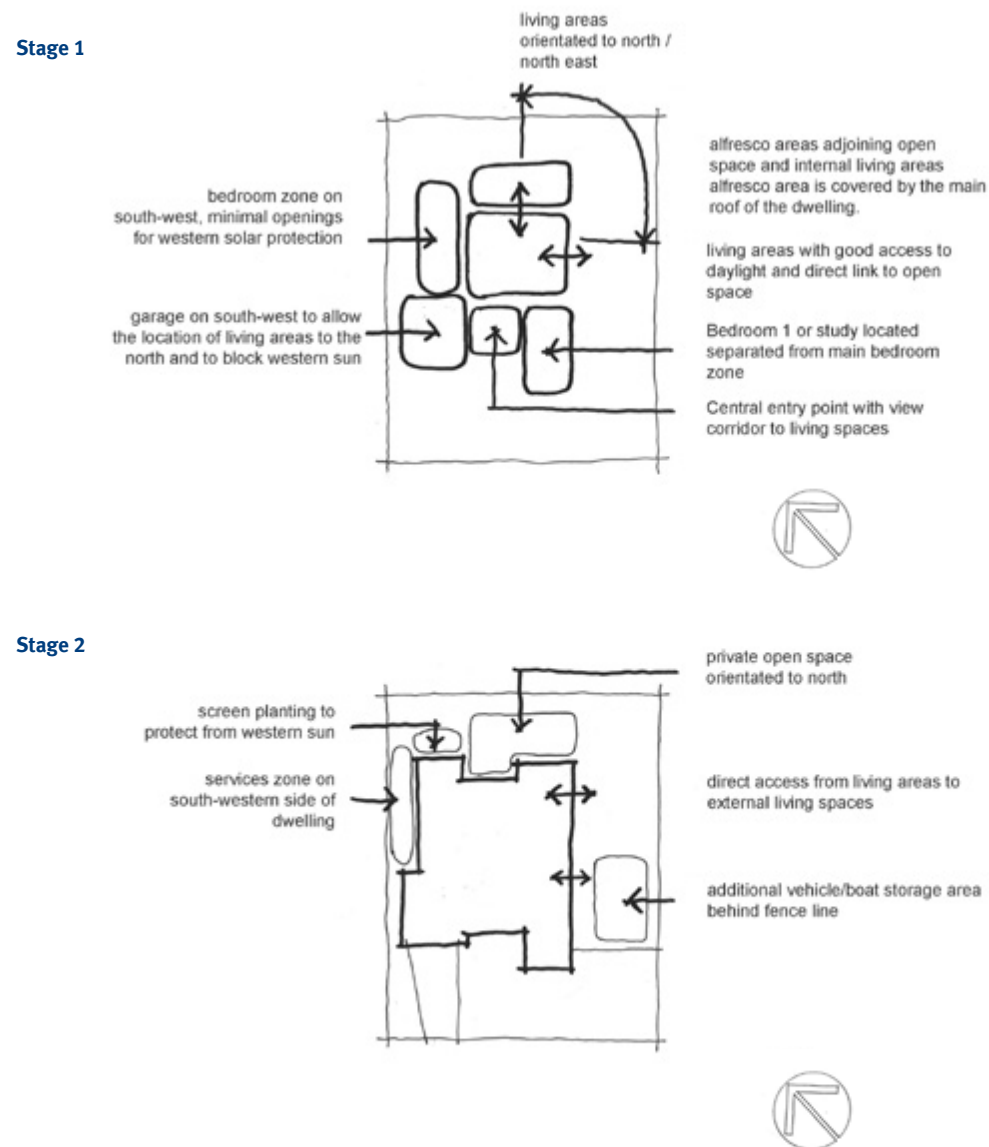


Figure 6 House type A – floorplan

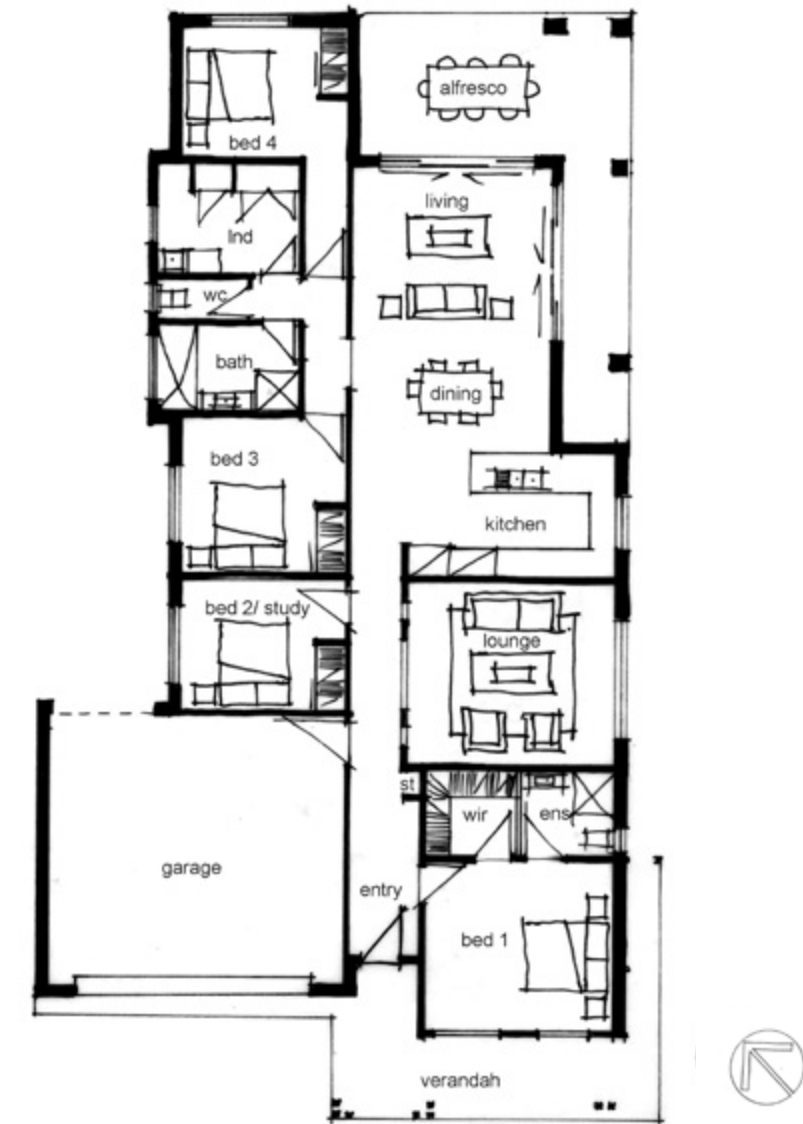


Figure 7 House type B – stages of development

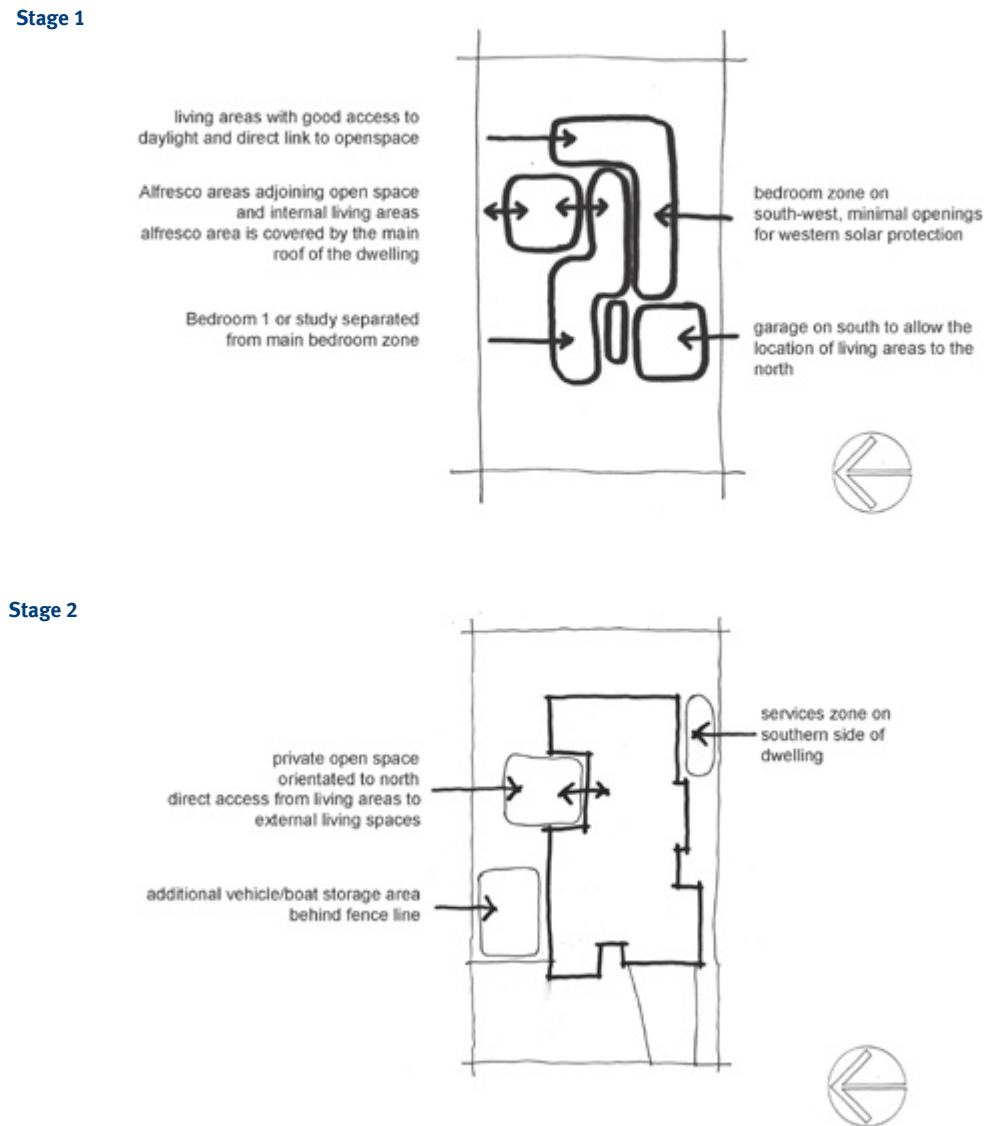
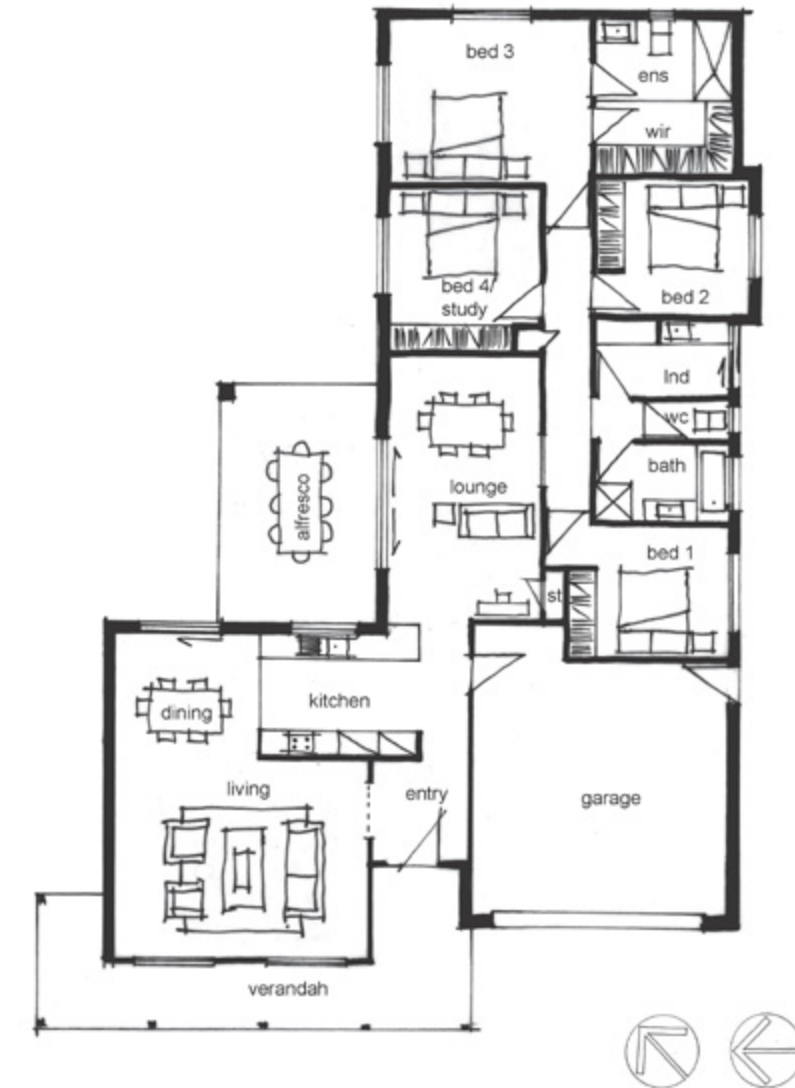


Figure 8 House type B – floorplan



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Design requirements



3010 Minimum sizes – rooms, areas and spaces

The rooms, areas and spaces or their components that have mandatory minimum sizes are listed in the following tables. All dimensions in this section are measured internal plate to plate unless otherwise stated.

3020 Mandatory requirements – low density

NAME	REQUIREMENT(S)	MIN DIMENSION (MM)	MIN AREA (M ²)
BEDROOMS			
Bedroom 1	Must fit a queen size bed and side tables (area is exclusive of built-in robe or walk-in robe)	Minimum dimension of 3600	16
Other bedrooms	Must fit a king size single bed and side tables (area is exclusive of built-in robe)	Minimum dimension of 3000	9
Wardrobe (bedroom 1)	Hanging depth Hanging length (refer Appendix 1 for details)	700 3000	none stated
Wardrobe (other bedrooms)	Hanging depth Hanging length (refer Appendix 1 for details)	600 1500	none stated
LIVING			
Kitchen	Refrigerator space clear of all obstructions e.g. skirtings Minimum bench top dimensions of 3600x600 (island bench – 800)	W 1050 H 1850	none stated
Dining	Must fit a table and seating for at least six people	none stated	none stated
Lounge	Must enable seating for at least five people plus entertainment unit and coffee table	Minimum dimension of 3600	16
Study nook	Must fit a (computer) desk, chair and shelf	none stated	none stated
STORAGE			
Garage – single	One car space (plus 9m ² storage located in garage if achievable, alternatively, sourced internally under the main roof. If neither can be achieved, then a 9m ² shed installed in accordance with 6089 Storage shed .)	D 6000	21
Garage – double	Two car spaces inclusive of storage Distance from wall to wall Distance from wall to engaged pier Depth (a) Where practicable, depth to include lockable storage facility and shelving at rear of garage	W 6000 W 5890 D 6600	39.6

Linen press	A minimum of one linen press with 4 shelves	1800x450	none stated
Internal storage	In the event that (a) cannot be achieved, a minimum of 3m ² located in close proximity to the garage/laundry	none stated	3
Coat cupboard	Located close to entry with hanging rail and shelf over rail	W 700 D 600 (minimum)	none stated
Coat hooks	Mounted on a board within close proximity to front door	Minimum of 4 hooks	none stated
OUTDOORS			
Fenced yard	Measured from house wall to boundary line, excludes sheds and services	2000	35
	Nominated locations in Sydney	2000	25
Covered outdoor area	Must fit table and chairs for four to six people plus BBQ. Locations south of Tropic of Capricorn Locations north of Tropic of Capricorn	Minimum dimension of 3000	15 20
Driveway	Minimum area to enable safe access to the garage door(s) and must accommodate one car parked on the driveway within the block	none stated	none stated

3030 Mandatory requirements – medium density

Requirements for low density apply, with the following changes:

NAME	REQUIREMENT(S)	MIN DIMENSION (MM)	MIN AREA (M ²)
OUTDOORS MEDIUM DENSITY			
Covered outdoor area	Must fit table and chairs for four people plus BBQ	Minimum dimension of 2500	10
STORAGE MEDIUM DENSITY			
Coat cupboard	Located close to entry with hanging rail and shelf over rail	W 700 D 600 (minimum)	none stated
Coat hooks	Mounted on a board within close proximity to front door	Minimum of 4 hooks	none stated
Storage near car accommodation	Shed or fully secured, waterproof area with lighting and lockable gate	none stated	9

More detailed design information regarding higher density housing can be found at Appendix 2.

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Regional requirements



4010 Australian Capital Territory

ITEM	REQUIREMENT
CANBERRA AND QUEANBEYAN	
Heating and cooling	Ducted heating Ducted evaporative cooling Reverse cycle, split system air-conditioning to service entire dwelling (alternatively, fully-ducted, reverse cycle air-conditioning) For bathrooms and ensuites, heating to be supplemented via infrared lamps embedded within exhaust fans
Security	Security screens to all opening windows

4020 New South Wales

ITEM	REQUIREMENT
ARMIDALE AND TAMWORTH	
Heating and cooling	Ducted heating Ducted evaporative cooling Reverse cycle, split system air-conditioning to service entire dwelling (alternatively, fully-ducted, reverse cycle air-conditioning) For bathrooms and ensuites, heating to be supplemented via infrared lamps embedded within exhaust fans
Security	Security screens to all opening windows
HUNTER AND NORTHERN NSW	
Heating and cooling	Reverse cycle split system bedroom 1 and living rooms plus ceiling fans to all bedrooms and living rooms For bathrooms and ensuites, heating to be supplemented via infrared lamps embedded within exhaust fans
Security	Security screens to all opening windows
NOWRA	
Heating and cooling	Reverse cycle split system bedroom 1 and living rooms plus ceiling fans to all bedrooms and living rooms For bathrooms and ensuites, heating to be supplemented via infrared lamps embedded within exhaust fans
Security	Security screens to all opening windows
RIVERINA	
Heating and cooling	Ducted heating Ducted evaporative cooling Reverse cycle, split system air-conditioning to service entire dwelling (alternatively, fully-ducted, reverse cycle air-conditioning) For bathrooms and ensuites, heating to be supplemented via infrared lamps embedded within exhaust fans
Security	Locks to all opening windows
SYDNEY AND BLUE MOUNTAINS	
Heating and cooling	Reverse cycle split system bedroom 1 and living rooms plus ceiling fans to all bedrooms and living rooms (alternatively, fully-ducted, reverse cycle air-conditioning plus ceiling fans to all bedrooms and living rooms). For bathrooms and ensuites, heating to be supplemented via infrared lamps embedded within ceiling fans
Security	Security screens to all opening windows

4030 North Queensland

ITEM	REQUIREMENT
TOWNSVILLE, ROCKHAMPTON AND CAIRNS	
Ceilings	Internal ceiling height must be a minimum 2700mm
Drainage	All down pipes to be directly connected to the stormwater system
Cooling	Refrigerated air-conditioning (central or split system) plus ceiling fans to all bedrooms and living rooms
Security	Security screens to all opening windows
Covered outdoor area	Covered outdoor area (20m ²) to be placed under roofline. Circulation fan required
Eaves (Soffit)	Eaves width minimum 900mm (where practicable) to meet DHA shade expectations and local authority and estate requirements. Materials, finishes and colour to coordinate with walls

4040 South-East Queensland

ITEM	REQUIREMENT
BRISBANE AND IPSWICH	
Heating and cooling	Reverse cycle split system bedroom 1 and living rooms plus ceiling fans to all bedrooms and living rooms (alternatively, fully-ducted, reverse cycle air-conditioning plus ceiling fans to all bedrooms and living rooms) For bathrooms and ensuites, heating to be supplemented via infrared lamps embedded within exhaust fans
Security	Security screens to all opening windows and doors
Ceiling heights	Internal ceiling height must be a minimum 2550mm
Layback kerbs	Mandatory to cut-out all layback kerbs to comply with council's requirements
TOOWOOMBA	
Heating and cooling	Reverse cycle split system bedroom 1 and living rooms plus ceiling fans to all bedrooms and living rooms (alternatively, fully-ducted, reverse cycle air-conditioning plus ceiling fans to all bedrooms and living rooms)
Security	Locks to all opening windows

4050 Northern Territory

ITEM	REQUIREMENT
DARWIN	
Ceilings	Internal ceiling height must be a minimum 2700mm
Drainage	Roof guttering over entry ways, with associated stormwater management. Any downpipes to be fitted with 2 x 45 degree elbows at the bottom to ensure stormwater is discharged with minimum 75mm clearance between elbow and surface of gully pits
Cooling	Refrigerated air conditioning (central or split system) plus ceiling fans to bedrooms and living rooms
Covered outdoor area	Covered outdoor area (20m ²) to be placed under roofline. Circulation fan required
Security	Security screens to all opening windows
Eaves (Soffit)	Eave width minimum 900mm to meet DHA shade expectations and local authority and estate requirements. Materials, finishes and colour to coordinate with walls
Blinds	Holland blinds or equivalent are mandatory to all window/louvre openings
KATHERINE	
Ceilings	Internal ceiling height must be a minimum 2700mm
Drainage	Roof guttering over entry ways, with associated downpipes. All downpipes to be fitted with 2 x 45 degree elbows at the bottom to ensure stormwater is discharged with minimum 75mm clearance between elbow and surface of gravel filled soakage pits
Cooling	Refrigerated air conditioning (central or split system) plus ceiling fans to all bedrooms and living rooms
Covered outdoor area	Covered outdoor area (20m ²) to be placed under roofline. Circulation fan required
Security	Security screens to all opening windows
Eaves (Soffit)	Eave width minimum 900mm to meet DHA shade expectations and local authority and estate requirements. Materials, finishes and colour to coordinate with walls
Blinds	Holland blinds or equivalent are mandatory to all window/louvre openings
TINDAL – AS FOR KATHERINE EXCEPT	
Security	Insect screens to all opening windows
ALICE SPRINGS	
Heating and cooling	Reverse cycle split system air-conditioning to entire dwelling Circulation fan under covered outdoor area
Security	Security screens to all opening windows
Eaves (Soffit)	Eave width minimum 900mm to meet DHA shade expectations and local authority and estate requirements. Materials, finishes and colour to coordinate with walls

4060 South Australia

ITEM	REQUIREMENT
ADELAIDE	
Heating and cooling	Ducted heating Ducted evaporative cooling Reverse cycle, split system air-conditioning to service entire dwelling (alternatively, fully-ducted, reverse cycle air-conditioning) For bathrooms and ensuites, heating to be supplemented via infrared lamps embedded within exhaust fans
Security	Security screens to all opening windows
ADELAIDE HILLS	
Heating and cooling	Reverse cycle split system bedroom 1 and living rooms plus ceiling fans to all bedrooms and living rooms For bathrooms and ensuites, heating to be supplemented via infrared lamps embedded within exhaust fans
Security	Locks to all opening windows

4070 Victoria and Tasmania

ITEM	REQUIREMENT
MELBOURNE, SALE, FRANKSTON, QUEENSLIFF	
Heating and cooling	Ducted heating Ducted evaporative cooling Reverse cycle, split system air-conditioning to service entire dwelling (alternatively, fully-ducted, reverse cycle air-conditioning) For bathrooms and ensuites, heating to be supplemented via infrared lamps embedded within exhaust fans
Security	Security screens to all opening windows
PUCKAPUNYAL	
Heating and cooling	Ducted heating Ducted evaporative cooling Reverse cycle, split system air-conditioning to service entire dwelling (alternatively, fully-ducted, reverse cycle air-conditioning) For bathrooms and ensuites, heating to be supplemented via infrared lamps embedded within exhaust fans
Security	Security screens to all opening windows
TASMANIA	
Heating and cooling	Minimum reverse cycle split system to entire dwelling (alternatively, fully-ducted reverse cycle air-conditioning) For bathrooms and ensuites, heating to be supplemented via infrared lamps embedded within exhaust fans
Security	Locks to all opening windows

4080 Western Australia

ITEM	REQUIREMENT
PERTH AND GERALDTON	
Heating	Suitable heating to living rooms
Cooling	Minimum ducted evaporative cooling to service entire dwelling (alternatively, reverse cycle split system air-conditioning or fully-ducted reverse cycle air-conditioning)
Security	Security screens to all opening windows
KARRATHA AND NW REGION	
Ceilings	Internal ceiling height must be a minimum 2700mm
Cooling	Refrigerated air conditioning (central or split system) plus ceiling fans to all bedrooms and living rooms
Security	Security screens to all opening windows
Covered outdoor area	Covered outdoor area to be placed under roofline. Circulation fan required
Eaves (Soffit)	Eave width minimum 900mm to meet DHA shade expectations and local authority and estate requirements. Materials, finishes and colour to coordinate with walls

5000

Performance specifications



5010 Standards

Contractors must comply with all applicable national, state or local requirements. All design and construction activities must comply with, but are not limited to, the requirements of:

- › Building Code of Australia (BCA) and the Deemed to Satisfy provisions
- › Australian Standards (AS and ASNZ) relevant to the work
- › State or Territory, Local Authority and Statutory Requirements
- › House Building Certification Fund, owners and contractors contributions
- › Federal Safety Commissioner Accreditation for project costs exceeding \$3 million
- › *Building and Construction Industry Improvement Act 2005*
- › utility companies: power, water, gas, telecommunications
- › specific estate design guidelines, encumbrances and covenants.

All houses must achieve a minimum six star Energy Efficiency Rating (EER) as certified by an independent accredited assessor, using AccuRate (NatHERS replacement) or other equivalent method (e.g. state systems such as BERS Pro and BASIX), or where permitted, BCA Deemed-to-Satisfy Provisions.

5020 Fees and charges

The contractor shall be responsible for obtaining all approvals and permits, fees, applications, notices, inspections, approvals etc in respect to all public and other authorities. The contractor is to pay all fees including, but not limited to:

- › Developer Encumbrance Assessment fees
- › Building Application and Assessment fees
- › Water Connection fees
- › Electricity Connection fees
- › Sewerage Connection fees
- › Initial telephone line connection fees. Incoming tenants will be responsible for the re-connection fees after handover.

DHA will not be responsible for any fees in relation to the execution of the building works.

6000

Trades section



All preliminary tasks, such as site works and provision of temporary power or water, are to be undertaken without additional costs to DHA. The contractor is expected to be familiar with the site physical conditions and subsurface conditions.

Temporary fences must include the adjacent public land (verges) except where they have been developed (paths and landscape works) or they are required for public access. The work site is to be securely locked at all times when workers are not present. All activity and all materials storage must be within the fenced area.

6010 Site construction

6011 Groundworks

- › The contractor must not disturb or damage any land outside the block boundaries. Healthy existing trees on the block that have been retained as part of the estate development should be retained wherever possible.
- › Excess earthworks are to be avoided. The contractor is expected to strip and stockpile (for later re-use) the existing site topsoil as part of the site works and remove vegetation from the topsoil prior to both earthworks and prior to re-use.
- › Following execution of site works, access to the site for all construction works is restricted to the location of the driveway, unless otherwise agreed by DHA and local authorities.

6012 Footings

- › The contractor must design all required footings and nominate type. The depth and extent of all site works must be sufficient to prepare the house and driveway 'platform' to suit the site's geotechnical conditions and consequent design.

6013 Floors

- › Contractor to nominate type.

6014 Detailed excavation (cut and fill)

- › The levels of the house and adjacent landscape surfaces must be designed to ensure that water drains away from house sufficient to avoid flooding in storm events. Wherever possible, excavation should be kept to a minimum to avoid the need to construct structural retaining walls.
- › The contractor must complete the following earthworks as part of the construction lump sum and these are not to be included in the provisional sum for soft landscaping:
 - › All clearing and grubbing of the site.
 - › All bulk earthworks required to achieve benching levels including landscape surface levels (allowing for topsoil refilling).
 - › All detailed excavation associated with retaining walls and to achieve the nominated fall requirements.
- › All contaminants, construction debris and rubble to be removed prior to site shaping and other works. Contractor's rubble and debris must not be buried or covered over on the site.

- › It is desirable for all external spaces and surfaces to achieve the following different gradients (slopes):
 - › Fenced yard: 1:6 maximum to 1:50 minimum.
 - › Garage: finished floor level (FFL) slopes from back to front (street) with a fall of 1:100.
 - › Driveways: 1:6 maximum.
 - › Plant (garden) beds: 1:4 maximum to 1:100 minimum.
 - › Pavements (pedestrian): 1:6 maximum (short runs only) to 1:100 minimum with crossfall of 1:33 maximum.
- › Sloping blocks must be terraced with retaining walls and a maximum of five associated steps.
- › Shaping to be undertaken prior to other exterior and landscape works, with placement of stormwater systems and retaining walls/steps. These works form part of the build cost and are not to be included in the provisional sum for soft landscaping. Leftover spoil must be disposed of by the contractor at their cost.

6015 Stormwater

- › The treatment of stormwater within the block must be designed to suit the climate, soils and local authority requirements. The stormwater system must have grated pits, soakage drains or other piped systems to disperse surface water from the site in the event of a storm surge to ensure no flooding of the house. All systems elements, i.e. soakage drains, grated pits and pipes must be adequately sized for purpose and local conditions.
- › Where it is required by local authorities, all roofs must have gutters that are connected to the stormwater system and/or to water tanks. The exception being the Northern Territory.
- › No sumps to be installed within gardens. Covered outdoor area design and materials must be integrated with stormwater drainage.

6015 (A) Drainage

- › Surface flows must be diverted away from the house and off paved areas onto garden beds and lawn areas. Excess stormwater runoff must not be directed onto adjoining properties. On site temporary (i.e. two hours) ponding of rain is acceptable where it is a deliberate detention area with suitable disposal of overflow stormwater.
- › A grated drain connected to the stormwater system must be installed at the garage opening where the driveway slopes towards the garage.
- › Retaining walls to have suitably placed agricultural drains behind walls, backfilled with blue metal aggregate with geotextile fabric applied to back of wall.

6015 (B) Irrigation

- › Irrigation systems will be installed only in locations where nominated in regional requirements or to meet estate covenants.

6016 Roofing and roof plumbing

6016 (A) Fascias and gutters

- › Sheet colour bonded metal. Colour to coordinate with, or match, roof and or walls.

6016 (B) Downpipes

- › Sheet colour bonded metal or PVC. Colour to coordinate with, or match, roof and or walls. Covered outdoor area roof plumbing must be connected to stormwater.

6017 Driveways

- › Driveways must be impermeable pavements constructed from unit pavers or reinforced, uncoloured concrete, unless otherwise required in specific estate covenants or local authority regulations.
- › The driveway must stop at the property boundary so that any installed public footpath is continuous and not cut by the driveway. Vehicle access over the verge to the kerb crossing, if installed as part of the scope of work, is to match the driveway and any local authority requirements.
- › Cross-overs should not exceed 4 metres in width at the boundary.

6018 Pavements

- › Impermeable pavement surfaces with subsurface preparation and base course as required for:
 - › Minimum 800mm wide pedestrian access linking front entry to driveway and letterbox.
 - › Access from the laundry to the clothesline (a path to the clothesline as a continuous pavement with no steps).
- › Use of permeable pavements is preferred wherever possible in any other necessary areas. No mowing strip or pedestrian pavements around the house perimeter are required.
- › The path to a rotary hoist clothesline must be a minimum 800mm wide and extend past the post. Wall attached clotheslines and extended clotheslines must have pavement underneath the lines and the pavement must extend 600mm past the side furthest from the wall and the side adjacent to the path. Clothesline to have minimum 1 metre clearance to any obstruction.

6019 Fencing and gates

Fenced yard must meet the following requirements, unless other requirements are nominated in estate covenants or local authority requirements:

- › Minimum one pedestrian (single) gate: This may be increased to double gate wherever possible or specified by estate guidelines.
- › All gates constructed to swing open to a minimum of 90 degrees.
- › Gates must not obstruct services.
- › No side boundary fence forward of the front building line.
- › Wing fences and gates located behind meter boxes with height of 1.2m
- › Completed fence height to be 1.8m maximum when measured from the adjacent finished ground levels.
- › Base of the fence clear of ground surfaces, including mulch materials, for its entire extent, with a bottom gap no greater than 50mm.

Fences and gates must be designed with materials as per local conditions and practices. If timber is used, it must be durable and treated. Metal components must be galvanised or zinc and or powder coated e.g. steel posts, bracket fittings and nails. Posts and stays must have concrete footings designed to suit site specific conditions and functional requirements.

Fences and gates must be designed and constructed to last at least 15 years.

6020 Concrete works

6021 Concrete slab finish

- › Brickwork must extend to ground level with no slab edge shown.

6022 Termite treatment

- › A physical barrier system in addition to Building Code of Australia requirements, compliant with relevant Australian standards. Liquid chemical treatments prohibited unless mandated by local authority. Top-up systems not required, unless mandated by local authorities.

6023 Utilities

- › Concrete pads must be placed under the hot water system, water tanks, air conditioners and other externally located utilities.

6024 Covered outdoor area

- › The covered outdoor area is to have a minimum of 15m² of useable space (10m² of useable space for medium density dwellings) and be placed under the main roofline. Its design and materials are to complement the house utilising stormwater drainage and impermeable pavements. Finished surface pavement is impermeable with 1:100 slope away from the house (minimum standard is in-situ concrete with light broom finish).

6030 Masonry

6031 Retaining walls

- › The use of structural retaining walls is to be avoided wherever possible by minimising the amount of excavation. However, where retaining walls must be included as part of the works, ensure outdoor spaces are functional and meet the gradient requirements detailed elsewhere. Retaining walls to be designed to AS 4678 – Earth Retaining Structures. Retaining wall materials must be robust masonry.
- › Retaining walls must have steps incorporated except when the upper area is not a children's play area and the wall is a crescent shape to allow access via the sides. The maximum is 5 risers per flight. Walls over 1.0m height must be certified by structural engineers and are to have integrated child safety barriers or handrails.
- › Nominate location, construction details and top and bottom levels of walls and slopes. The use of natural stone (rocks) to form retaining walls is permitted. The materials must be finished in a colour to match the walls of the house or in an earth or vegetation colour.
- › The materials and construction must last at least 20 years.

6040 Construction systems

6041 Wall framing and facades

- › Contractor to nominate wall framing system. Sisalation must be applied to all external wall framing systems.
- › Some regions specify ceiling heights, refer to regional requirements.
- › Garage exterior construction must be same materials as house; fully enclosed and secured. Garage interior construction may be either timber stud walls or engaged piers.
- › Facades must complement the streetscape and have a diversity of materials, including lightweight materials and complementary colour palettes.

6042 Roof trusses

- › Contractor to nominate type.

6043 Roofs

- › Sheet colour bonded metal or tile. In temperate climates, 50% of roofs must be constructed from colorbond. All tiled roofs must be sarked.

6044 Eaves

- › Eaves minimum plate to fascia width of 600mm, or to meet local authority and estate requirements. Materials, finishes and colour to coordinate with walls. Ventilated eaves must be used in all sub-tropical and tropical regions.
Some regions specify greater fascia widths, refer to regional requirements.

6045 Thermal insulation

- › Insulating sheet materials and or batts as required to meet statutory energy and fire rating requirements.

6046 Waterproofing/wet sealing

- › Waterproofing required in all wet areas, in accordance with Building Code of Australia. An accredited waterproofing contractor must be used.
- › There must be a minimum seven year warranty on products and workmanship.

6050 Joinery

6051 (A) Kitchen

- › Maximise storage and bench space, include cupboards overhead and under bench, 3 x cutlery drawer, a bulkhead to overhead cupboards is required.
- › Separate pantry (cupboard) in or immediately adjacent to kitchen.
- › Bench tops: minimum width of 600mm or 800mm for island benches.
- › Cupboard doors and drawers: minimum standard laminate with rigid thermoplastic (ABS) 1-2mm edge.
- › Cavities required for dishwasher, microwave (above bench) and refrigerator (vented).

6051 (B) Vanities

- › Bathroom vanity unit: minimum 900mm length, with hand basin and storage cupboards underneath, all constructed of high moisture resistant sheeting/materials. Vanity unit with integrated basin is acceptable.
- › Ensuite: all inclusions as for bathroom except no bath, vanity nominal 900mm length.

6051 (C) Wardrobes

- › Bedroom 1: built-in robe with sliding doors or walk-in robe with either swing or sliding doors. Dimensions: hanging depth 700mm (plate to plate), hanging length 3000mm minimum to maximise full height hanging. Include shelf over head, plus minimum 2 x 4 shelves located in wardrobe. Refer to diagram in Appendix 1 for details.
- › Other bedrooms: built-in robe with sliding doors, hanging depth 600mm (plate to plate), hanging length 1500mm minimum to maximise full height hanging. Include shelf overhead, plus minimum 1 x 4 shelves located in wardrobe. Refer to diagram in Appendix 1 for details.

6051 (D) Cupboards and miscellaneous joinery

- › Linen cupboard must have a minimum of four shelves. Minimum width 1500mm.
- › Coat cupboard must have a hanging rail, plus shelf over rail. Minimum width 700, minimum depth 600mm.
- › Utility cupboard (where required) must have a high shelf. Minimum width 800mm.
- › Broom cupboard is to be located in laundry, with high internal shelf. Minimum width 600mm.
- › A dryer support board also to be provided in laundry, width 800mm x height 800mm x depth 19mm, high moisture resistant board sheeting screw fixed to wall, painted to match wall.

6060 Doors and windows

6061 (A) Doors

- › Internal: swing doors, hollow core. Sliding doors: internal cavity sliders with jump proof roller track.
- › External: solid core for all doors. Weather seal to bottom of doors only.
- › Door between garage and house is a solid core door. Door between garage and fenced yard is a weatherproof door. Where door from house to fenced yard is glazed, external sliding doors must be powder coated aluminium frame.

6061 (B) Door security

- › All doors leading from the house to the outside must have combined security insect screens. Sliding doors must have powder coated aluminium frames fitted with interior expanded mesh. Crimsafe or equivalent security screen doors are to be used on all door and window openings on the front facade only.

6061 (C) Door hardware

- › Solid core doors fitted with double cylinder deadlocks, entrance set and all keyed alike.
- › The internal door between house and the garage must be fitted with double cylinder deadlock, entrance set and keyed to solid core doors.
- › Security screen doors fitted with door closers, all locks keyed alike. No requirement for door closer on sliding doors.
- › Glass sliding doors, fitted with latch and double cylinder deadlock, all locks keyed alike.
- › Passage sets to all internal doors (no ceramic or sharp pointed handles).
- › Privacy sets to bathroom, toilet, powder room and bedroom 1.
- › All doors with stops or hold open devices.
- › All hardware must have a minimum five year warranty.

6061 (D) Panel lift doors

- › Panel lift doors must be powder coated sheet metal colour coordinated with and visually recessive to house, walls, and roof. Access to street: all panel lift doors are to be automated with a minimum provision of two handsets.

6061 (E) Windows/glazing

- › Windows (fixed and opening) must have powder coated aluminium frames. All opening windows must have insect screens to match security screens where security screens are fitted.
- › Above Tropic of Capricorn, windows can be louvre style with built-in insect screen and security bars, a proportion of powder coated aluminium louvres can be considered in lieu of glazing for privacy. Glazing above Tropic of Capricorn is required to meet WERS 2 stars cooling rating.
- › Obscure glazing minimum to all laundries, front door side panels, ensuite and bathroom. Where obscure glazing is used then window coverings are not required except in the ensuite and bathroom. No glazing for garage or garage door to fenced yard, unless security screens are fitted as well.

6061 (F) Window furnishings

- › All external glazing (except side windows to front door) to have blinds in light, neutral colours for privacy and light control, mounted internal to window reveals where possible. Maximum light block for bedrooms.
- › Wet areas: slim line (mini) venetians, fixed at base.
- › All other areas must have vertical blinds, polyester, rated at 100% block out, child safe chords and chainless bottom, with weights sewn into each blade.

6061 (G) Window security

All opening windows on the ground floor to have either:

- › security screens with powder coated aluminium frames with interior expanded aluminium mesh. It is mandatory to use crimsafe or equivalent on front facades only. Fly screens to be used in lieu of security screens on upper floors, or
- › window locks (all keyed alike). Where evaporative cooling is installed, windows should be lockable in an open position.

Refer to regional requirements as to which option applies.

6070 Applied finishes

All external materials and finishes must be durable, robust and well constructed and not requiring regular maintenance such as painting. Interior design schemes must be with materials and finishes that are robust to ensure reduced costs over the whole lifecycle of the house.

6071 Plastering

- › Affix plaster board internally to stud wall and ceiling batten system and or single skin masonry as per manufacturer's specification, then sealed by paint systems. For all internal wet areas the minimum is water resistant plasterboard with paint systems.
- › Install plasterboard sheeting on all stud walls within garage.

6072 External render

- › Patch coat and top coat with mineral/polymer based system applied as per manufacturers recommendation with texture finish minimum of 1.5mm thick, then sealed with paint system.

6073 Ceramic tiling

Ceramic tiles – non porous, non slip with coloured sealant as necessary to joints with kickboards and skirtings and metal join strips to adjoining surfaces if levels are not flush.

- › Bathroom and ensuite: walls to be tiled 1200mm above the finished floor level.
- › Baths: 600mm above the top of the bath.
- › Shower recess: 2000mm minimum.
- › Toilet: skirting 150mm minimum.
- › Laundry: skirting 150mm and over tub 450mm minimum.

Laundry, bathroom, graded to floor waste with grate to meet Building Code of Australia (BCA) requirements.

6073 (A) North of Tropic Capricorn

- › Ceramic floor tiles to all bedrooms, living areas, and wet areas.

6073 (B) South of Tropic Capricorn

- › Ceramic floor tiles to all areas except bedrooms and separated lounge rooms.

6074 Splashbacks

- › Kitchen splashback (from bench to underside of over head cupboards), either ceramic, glass or stainless steel.
- › Bathroom, ensuite, and powder room splashbacks must meet mirror.

6075 Painting

6075 (A) Internal

- › The palette of interior colours, materials and finishes should be contemporary and timeless in style with an emphasis on neutral tones to accommodate the furnishings of tenants. Coloured paints must be prepared by the manufacturer from a recognised colour pallet, and as per the colour schedule approved for the contract. Excessive use of grey tones should be avoided. No mixing of colours on-site.
- › Paint system is primer/undercoat plus two coats. Coats to be applied as per manufacturer's directions to achieve recommended dry film thickness. If paints are applied by spraying, the top coat must be rolled.
 - › Ceilings: white, flat.
 - › Walls: wash and wear low sheen.
 - › Trims and architraves: gloss or semi gloss.
 - › Doors: gloss or semi gloss to all vertical surfaces; top and base to be primer plus minimum one coat.
 - › Wet areas (including their ceilings): mould resistant, wash and wear semi gloss.

6075 (B) External

- › External high quality domestic systems fit for purpose, with primer/undercoat plus two coats.
- › Walls: matt or low sheen.
- › Doors and trim: gloss.

6076 Carpet and underlay

- › Carpet only installed South of Tropic Capricorn to all areas not tiled. Carpets must be a minimum four star rating (residential) as set out the Australian Carpet Classification System (ACCS). Underlay to be minimum 7.5mm thick for rubber, 9mm thick for foam.
- › Carpet and underlay must have a minimum five year warranty.

6080 Specialties

6081 Whitegoods

- › Cooktop: 4 x positions, mandatory gas where gas is reticulated.
- › Overhead range hood with exhaust fan and light that is externally vented.
- › Electric oven: 600mm width with minimum 55L capacity. Must, as a minimum, have timer and fan forced cooking mode.
- › Appliances must have a minimum two year warranty, access to spare parts and warranty service is crucial.

6082 Toilets

- › Toilets required for toilet, ensuite and powder room (when powder room is specified). Dual flush 6/3 litre cisterns.
- › All toilets must have a minimum two year warranty.

6083 Shower

- › Separate hobless recess minimum 900mm x 900mm. Screen frame chrome/powder coated metal, with pivot door.

6084 Tapware

- › Kitchen: stainless steel sink 1080 nominal length, one and half bowls, single side drainer, plug, single flick mixer tap.
- › Cold water connection to dishwasher, include capped perforations to carcass panel to facilitate service connections.
- › Laundry: swivel spout, separate hot and cold water taps outlets to wash tub and separate connections for washing machine. Wash tub in a cabinet of 45L capacity, washing machine by-pass drain, and plug.
- › Shower: contractor to nominate tapware; no sharp edges.
- › Bathroom: bath minimum 1500mm long, contractor to nominate tapware.
- › When powder room specified: provide hand basin with plug, (vanity unit with integrated basin is acceptable).
- › Contractor to nominate other tapware not detailed. All tapware must be minimum three star WELS rating with a minimum two year warranty.

6085 Miscellaneous sanitary fittings

- › Bathroom and ensuite towel rail(s): double rail, chrome or powder coated metal, minimum 900mm length (to fit two large towels).
- › Towel ring for ensuite, and powder room (when powder room specified). Materials: chrome or powder coated metal.
- › Soap holder/recess for bath and shower, no ceramic soap holder.
- › Toilet roll holder for every toilet installed. Materials: chrome or powder coated metal to match bathroom fittings. Plugs required for all sinks.

6086 Mirrors

- › Bath and ensuite mirror: placed above vanity, sized to be full width of vanity and height aligned with top of shower screen.
- › Bedroom 1 mirror: minimum width 400mm x height 1200mm.
- › When powder room is specified, place mirror over hand basin.

6087 Clothesline

- › The clothesline should not be visible from the street and must be as near as practicable to the laundry door. The clothesline should receive sunlight for most of the day in temperate climates, and be shielded from the sun in tropical climates.
- › Clothesline must have minimum 33 lineal metres of unobstructed hanging length. Contractor to nominate type of line (rotary hoist preferred where space allows).

6088 Letterbox

- › The letterbox must be directly accessible on pavements from the front door and/or driveway. Australia Post approved type and position of letterbox (located on the street address side of the house and just inside property boundary), sturdy construction built with the same masonry material and colour scheme as the dwelling and have large metal number(s) fixed to street face. As a minimum, it must have provision for a padlock.

6089 Storage shed (when provided)

- › A storage shed must be provided when storage is not provided in the garage or carport. Storage shed must be powder coated sheet metal, waterproof, with access door that has provision for a lock, located within fenced yard. The shed must be fixed down to a rebated concrete slab.

6090 Mechanical services

6091 Hot water systems

Natural gas should be used where reticulated. Install one of the following:

- › Instantaneous gas system sized for house (locations with reticulated gas).
- › Gas: minimum storage 130L (locations with reticulated gas).
- › Electric: minimum storage 300L
- › Heat pumps: minimum storage 250L, or
- › Solar: minimum storage 300L with electric booster (150L in tropical areas).

6092 Heating

- › The requirements for active (powered) heating vary around Australia.
- › Refer to regional requirements as to which option applies.
- › Where heating is specified and specific rooms are not nominated, all bedrooms, living areas, wet areas (except the laundry) are to be heated.
- › Where placement of the units and the enclosure is in a constructed housing or within wing walls, the location of units and the enclosure must be marked on the house plans to be submitted to council. If mechanical units are located within the roof space, the contractor must provide a suitable platform/walkway and a light for ease of maintenance.
- › All units must comply with noise level restrictions applicable in the jurisdiction.
- › All systems must be a minimum five star energy rating. All products and systems must be selected to be robust, with minimum five year warranties, and have maintenance service (call out) available in that location.

6093 Cooling

Refer to regional requirements for cooling systems applicable.

- › Systems serving bedrooms must have a minimum five star rating for cooling. Reverse systems dedicated to shared rooms must be a minimum of five stars for cooling except where such units are not commercially available, and then a minimum energy rating of four stars for cooling applies (there is no relaxation of the requirement on the overall house energy rating as a result). All units must comply with noise level restrictions applicable in the jurisdiction.
- › Warranty to be a minimum of three years on parts.

6094 Water tanks

Water tanks are not a mandatory item. If nominated in the house configuration, supply and install in accordance with regulatory requirements, such as BASIX. Elsewhere use the following as a minimum:

- › 3000 litre slimline tank with colour to match house.
- › First flush diverter, stopcock fitted to tank base and upturned.
- › Submersible pump.

Catchment to be a minimum of 35% of roof area.

6095 Hosecocks

- › Install two wall mounted taps (hosecocks), with one per yard area.

6100 Electrical services

Provide all electrical works necessary with installation by certified installer.

	GPO (ALL DOUBLES)	TV	PHONE/DATA*
Lounge	4	1	1
Dining	1		
Meals	1		
Family	4	1	1
Rumpus	2		
Kitchen	3		1
	Plus one additional GPO for island bench, dishwasher, microwave and refrigerator		
Bathroom	1		
Ensuite	1		
Powder room	1		
Laundry	1		
Master bedroom	3		1
Other bedrooms	2		
Study/study nook	2		1
Garage	1		
Covered outdoor area	1 waterproofed		

- › For any rooms not listed, install a minimum of one GPO per room.
- › All GPOs to be double, except appliances hardwired or requiring a dedicated GPO, including refrigerator, dishwasher, microwave, air conditioning, hall, hot water system, garage door motors, water tanks, reticulation units and heating units.

*See item **6105 Telephone systems/Data**

6101 External lighting

- › Lights suitable for external use (e.g. bunker style), with all components and switches, eaves or soffit mounted to provide adequate light levels to following minimum areas: 1x front door, 1x laundry door, 1x clothesline area. Covered outdoor area to have fluorescent lights.

6102 Internal lighting

- › All LED lights need to be fit for purpose for the size and function(s) of the room. Provide two-way switching where appropriate (hallways and living areas). Use only down lights (2 off) where ceiling fans to be installed (to avoid strobe effect).

6103 Ventilation

- › For bathrooms and ensuites, install heating infrared lamps embedded within exhaust fans. Refer regional requirements for when ceiling fans are included.
- › All ceiling fans to have variable speed control. Where covered outdoor area requires a circulation fan, the ceiling and mounting height is to be minimum 2700mm.

6104 TV systems

- › Television: minimum two outlets provided adjacent to GPOs in lounge and family, located to suit indicative furniture layout.
- › TV aerial (digital antennae): install and test the signal strength to ensure the highest quality reception for all TV stations to suit digital reception (gutter mounted aerials not permitted). The results of the signal strength to be recorded for each new construction and included in the handover documentation.

6105 Telephone systems/data

The contractor is responsible for the following:

- › Connection of telephone and payment of all fees associated with connection.
- › Provision of combined data/phone points in the following locations: kitchen, bedroom 1, lounge and bed4/study/study nook, where applicable. The data and phone lines are to be clearly labelled on each face plate. The data/phone point in the family and lounge rooms are to be located next to the TV aerial point.
- › Provision of battery back-up for telephone where service is provided via 'smart communities' or similar optic fibre networks such as the National Broadband Network (NBN).
- › Provision of a communication cabinet for home networking use to meet the following minimum standards:
 - › finished flush (rebated into timber frame) on the internal garage partition wall
 - › large enough to house the NBN or smart community equipment, double GPO, patch panel(s) and a switch/router.
 - › installed complete with an 8 port patch unit and provisional space for additional port patch units
 - › patch panel to clearly identify internal locations
 - › supply as a minimum Cat6 data cabling
 - › where NBN or smart community network services are not immediately available, install a phone point.

6106 Smoke detectors

- › Installed to meet Australian standards and local regulations.

6107 Doorbell

- › A hard-wired doorbell to be installed on the external wall within close proximity to the front door.

6200 Soft landscaping

6201 General

- › The landscape design documents must be prepared by a qualified landscape contractor. The contractor must allow for the production of the landscape documents as part of the lump sum. The construction of the landscape works must be undertaken to meet industry standards by a qualified landscape contractor.
- › The only earthworks to be undertaken as soft landscaping is the shaping and cultivation associated with plant beds and grass.

6202 Ground preparation

- › Prior to undertaking any landscape works the block must be appropriately prepared for the intended surface treatments and plants. Where there is insufficient quality or quantity of stockpiled site topsoil, areas must have imported topsoil blended to make up quantities required. Prior to placement of soil additives or topsoil, all weeds must be sprayed or removed and the ground must then be ripped and cultivated to achieve de-compaction to the depths to enable plant growth.

6203 Grass preparation

- › Remove or kill weeds and grasses on site prior to cultivation. Areas to be grassed to be ripped to minimum 150mm depth and rock picked.
- › Topsoil for grass: minimum 100mm depth, comprised of stockpiled site topsoil spread to 50mm depth if available, plus imported topsoil.
- › Final shaping and cultivating to minimum 100mm depth with addition of soil additives prior to turfing, seeding or stolon sprigging.

6204 Grass

- › Grassed areas to be turfed. Turf is mandatory outside the property boundaries. Nominate species and cultivar and provide certification for supply source.
- › Grass: species and cultivar plus method (turf, seed, stolons) to be nominated and provide certification for supply source.
- › All lawn grass species must be suited to the climatic area. Summer active grass must be planted in summer; winter active grass must be planted in winter. Supply should be weed free. Area within property boundaries must be fully established on completion of the four weeks establishment period.

6205 Plants

- › Preparation: areas to be planted to be ripped to minimum 150mm depth and rock picked. Stockpiled site topsoil or imported topsoil to be respread to minimum 300mm depth.
- › Plants must be drought resistant, native to the area, suitable for the soil type and climate, hardened off, of good form consistent with species or variety, free from disease and insect pests, with healthy roots and shoots and no evidence of having been restricted or damaged.
- › Plants that have a short life, (less than ten years) must be avoided or minimised. Climbing plants must not be planted against walls and fences. Plant beds must not be placed against house walls.
- › Spacing of plants must achieve a 'semi-mature look', i.e.. fully covered plant beds – after five years growth and 'established look' after 15 years growth. Plants that form hedges must be spaced to suit the natural growth habits of the plant and not rely on frequent clipping or shaping to form the hedge. There must be deep root zones (areas of unimpeded natural ground) for trees to grow.
- › Nominate plant numbers, sizes and species in the Landscape Plan (substitutions may be considered). Plant species if nominated on lists provided in estate or council guidelines must be used.
- › Planting includes excavation of plant holes, placement of soil additives, staking and tying as required and construction of watering basins as part of backfilling.

6206 Topsoil

- › Remove or kill weeds and grasses prior to respraying of stockpiled site topsoil to areas to be grassed and or planted. Certification of imported topsoils is required for supply source and composition.
- › Fertilisers: type and quantity of soil additives are to suit site specific conditions and plants proposed. Nominate specific products such as fertilisers, composts plus additives such as water absorbing crystals, soil wetters and minerals.

6207 Edge strips

- › Edge strips must be installed between lawn and plant beds, and between lawn and gravel pavements. All edge strips must be constructed to finish flush with surrounding surfaces and where adjacent to grass, must serve as a mowing edge and inhibitor of grass crossing into adjacent areas.
- › Edge strips: hardwood timber 50mm width x 75mm depth and or masonry (in-situ concrete or unit pavers on a mortar bed) 75mm width x 100mm depth. Edge strips to be constructed to finish flush with surrounding surfaces.

6208 Mulch

- › All areas, except for lawns and pavements, must be mulched plant beds. Mulch must be placed as the finished surface treatment to all garden beds. Organic mulch products must be a weed free product. Inorganic mulches, such as washed gravel or pebbles may be used.
- › Mulched areas to be minimum 75mm thickness for wood based system, minimum 50mm for gravel or pebble based system. Supply should be weed free, and provide certification as to type, supply source, composition.
- › Weed mat or other geotextiles must not be used under mulch materials in any planted areas. However, where washed gravel or pebbles are used as a permeable pavement, weed mat or other geotextiles must be used.

6209 Establishment period

- › Following achievement of practical completion, an establishment period (period) will commence for plants and lawn. The contractor must undertake all work during this period to ensure the plants and lawns healthy and continued growth.
- › This work may include, but is not limited to, replacement of dead/dying plants or lawn, topdressing, weeding, staking, pruning/tying, mowing, fertilising and watering, all activities as relevant to the season. The contractor must supply and apply at their cost adequate water to plants and lawns during the period. All local water restrictions apply.
- › The period continues for a duration of four weeks. If more than 20% of either the plants or the lawn is replaced within the first two weeks of the period, the period will extend. The period will extend until:
 - › 80% of either the plants or the lawn areas have been in place for four weeks.
 - › Any replaced items have been in place for two weeks.
- › No additional payment is due for any costs incurred by the contractor for the extension of the period.



At the practical completion inspection, the contractor must ensure the following:

- › The house and site cleaned (inside and out) to a standard sufficient for tenants to move in.
- › All temporary fencing removed.
- › Any damage of public and/or private land/or property adjacent to the site repaired.
- › Any verge restoration (if required) completed.
- › Telephones connected and working.
- › All services including electricity, gas, water, sewer connected, approved and tested ready for occupation.

As part of the requirements for practical completion, the contractor must provide DHA with documents and items described in Appendix 3. In addition, the contractor must provide the following:

- › An occupants 'folder' (to stay in the house) with appliance (or fittings) manuals and the house telephone number.
- › Two complete sets of keys each on three separate key rings that have labels for purpose plus the address (lot and house number), as follows:
 - › Key ring 1: all external doors including security screens.
 - › Key ring 2: all windows.
 - › Key ring 3: garage, letterbox (and any others).
- › Certificates and plans uploaded on a USB (see Appendix 3), these include:
 - › Occupancy certificate from relevant body or approved Private Certifier.
 - › Building certificate from relevant body or approved Private Certifier AccuRate (or equivalent) certificate.
 - › Energy Performance Rating Certificate
 - › Termite treatment warranty and certificate.
 - › Truss manufacturer certificate.
 - › Structural design compliance and inspections, incl. retaining walls if required.
 - › Plumbing and gas certificate.
 - › Electrical certificate.
 - › Waterproofing certificate.
 - › "As constructed" version of plans for site, house, electrical, landscape.
 - › "As constructed" house survey (house outline and block boundaries).
 - › Glazing certificate.
 - › Insulation certificate (not applicable for Darwin).
 - › Inspection and test plan
 - › Clean fill certificate.

All requisite appliance guarantees/warranties (paper or electronic), must be filled in and nominating DHA as the beneficiary and must be dated as per day of installation (not purchase date).

All documents must be supplied at handover (in the handover folder and/or USB) and clearly labelled, as advised above.

Upon practical completion certification, the telephone, electricity and gas accounts must be terminated by the contractor to allow connection by the tenant.



Within the defects liability period, DHA will advise the contractor of defects as they arise.

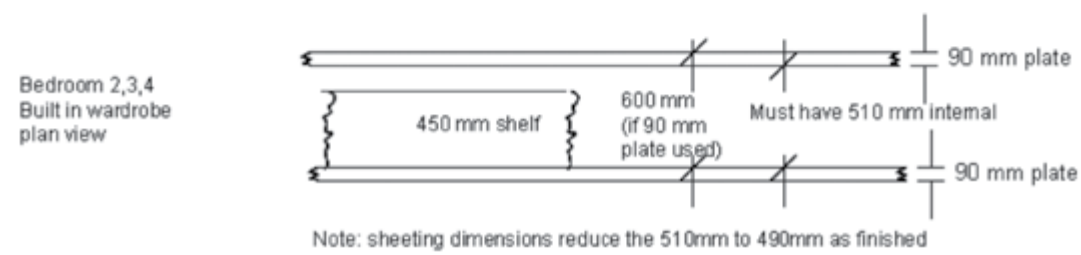
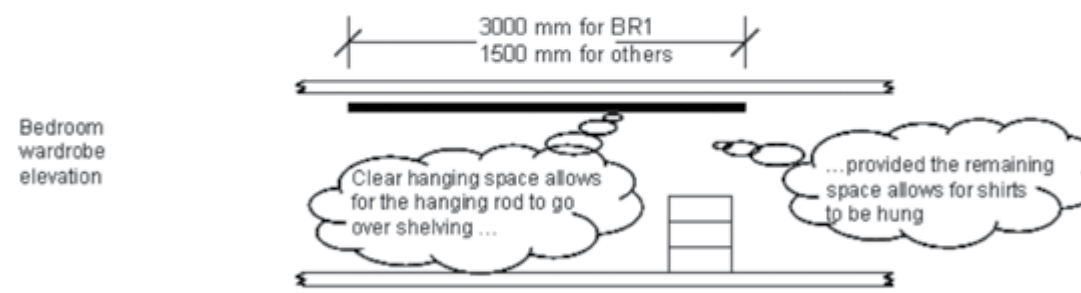
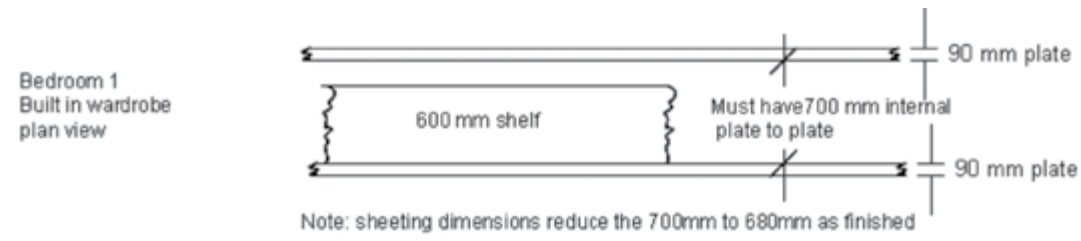
Defects affecting health, safety or security must be rectified within 24 hours and all other defects must be rectified within 10 business days.

Note: should the contractor not be available or contactable for health, safety or security works, DHA shall allocate the works to a DHA contractor and seek reimbursement of costs.

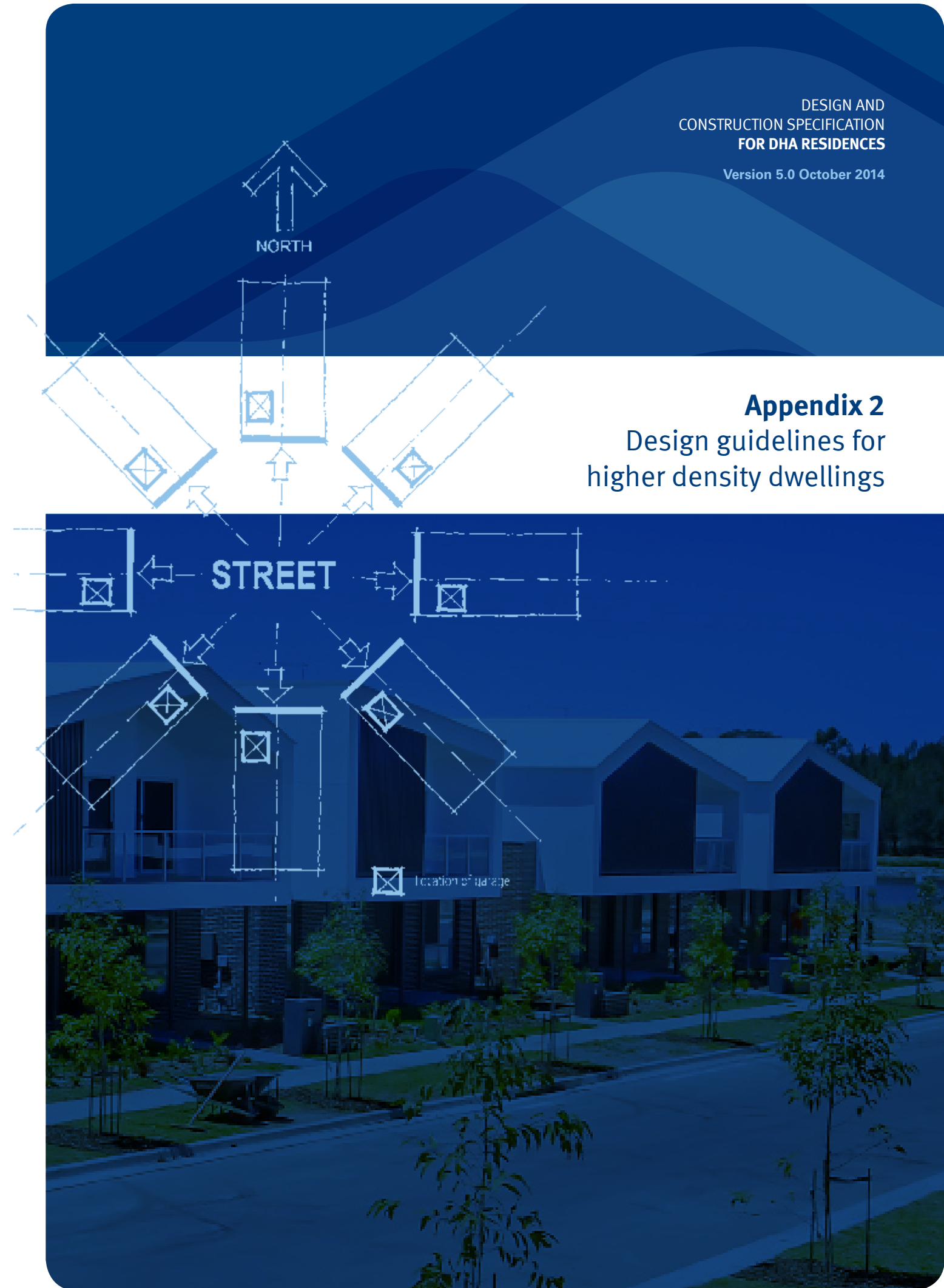
Appendix 1 Wardrobe details



Appendix 1 Wardrobe details



Appendix 2
Design guidelines for
higher density dwellings



Multi-dwelling housing lots

INTENT	PERFORMANCE INDICATOR
Minimum lot size	1000sqm
Minimum frontage width	24 metres
Minimum lot depth	45 metres
Maximum site coverage	60% Overall Gross Floor Area (GFA) of the upper floors shall be a maximum of 65% of the total GFA at ground level
Public open space	Sites exceeding 4500 sqm must provide 4% of their site area for public open space. (Only those sites adjoining a public open space may be excluded from this requirement) The public open space must be accessible from all dwellings within the development. It should be possible for residents of at least two dwellings to visually monitor this space A detailed landscape master plan must be submitted with the development approval application
Private open space	Refer to the individual dwelling types for detail controls. Private courtyards and private open space is not permissible in the front setback area. Private open space and fences are not to diminish the surveillance of public open space.

SETBACKS	PERFORMANCE INDICATOR
Street frontage (building)	Refer to individual dwelling types for detail controls
Street frontage (garage)	Refer to individual dwelling types for detail controls
Lots fronting open space	Refer to individual dwelling types for detail controls
Side boundary	Refer to individual dwelling types for detail controls
Rear boundary	Ensure privacy is maximised for neighbours of the development and those who will occupy the dwellings. 4 metres: single storey 8 metres: two-storey
Side and rear garage (corner lots with secondary street frontage)	Refer to the individual dwelling types for detail controls

FORM	PERFORMANCE INDICATOR
Upper level wall length	For non-party walls (end terraces) 14 metres maximum length of unarticulated upper level facade to the front, side or rear of a dwelling. The length may be increased at the discretion of council where sufficient articulation and change of materials is proposed. Blank unarticulated walls are not acceptable
Floor level above 1 in 100 year flood	500mm minimum
Height	Performance Indicator
Building height	Two to three storey – refer to the individual dwelling types for detail controls



Attached housing

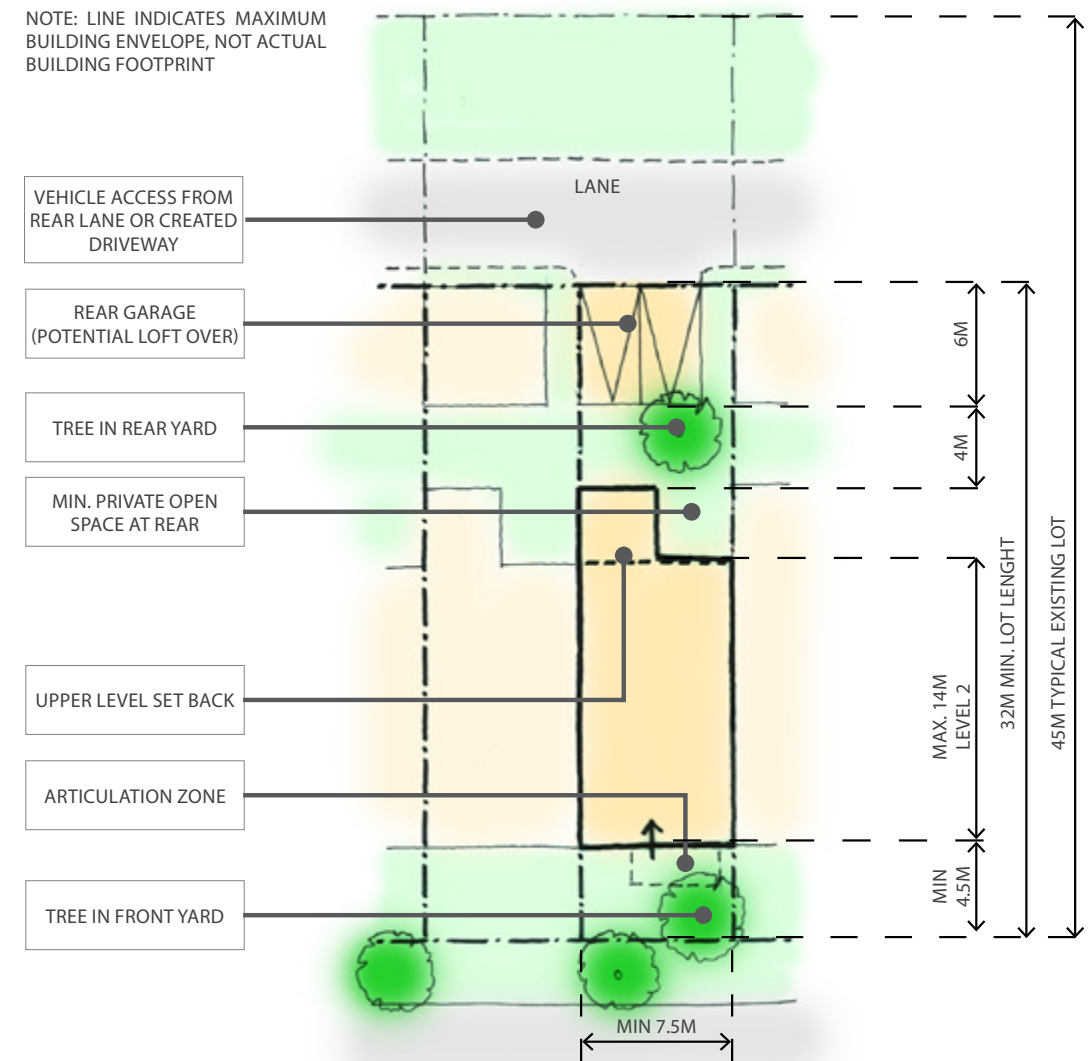
Dual-occupancy housing adds a further dimension to the housing mix.

Where a single land title is held, a dual occupancy can add value and land efficiency to areas where the proximity to local amenities and transport links warrants a higher density approach.

INTENT	PERFORMANCE INDICATOR
Minimum frontage width	26 metres: applications proposing the development of irregular shaped sites will be treated on their merits in terms of their compliance within the spirit of the site requirements
Maximum depth	No greater than 2.75 times the width of the site. On sites approaching the maximum depth ratio, council may require buildings to be offset to create a development that is aesthetically pleasing
Maximum site coverage	70%
Minimum landscaped area (excluding parking and driveways)	20%
Distance between groups of attached dwellings comprising two or more dwellings per group	4 metres minimum
Distance between groups of attached dwellings and a detached dwelling	2.5 metres minimum
Private open space	Minimum 25m ² for all dwellings Located at the side or rear of dwelling with a minimum dimension of 4m x 6m and directly accessible from living areas

Site plan Attached housing

NOTE: LINE INDICATES MAXIMUM BUILDING ENVELOPE, NOT ACTUAL BUILDING FOOTPRINT



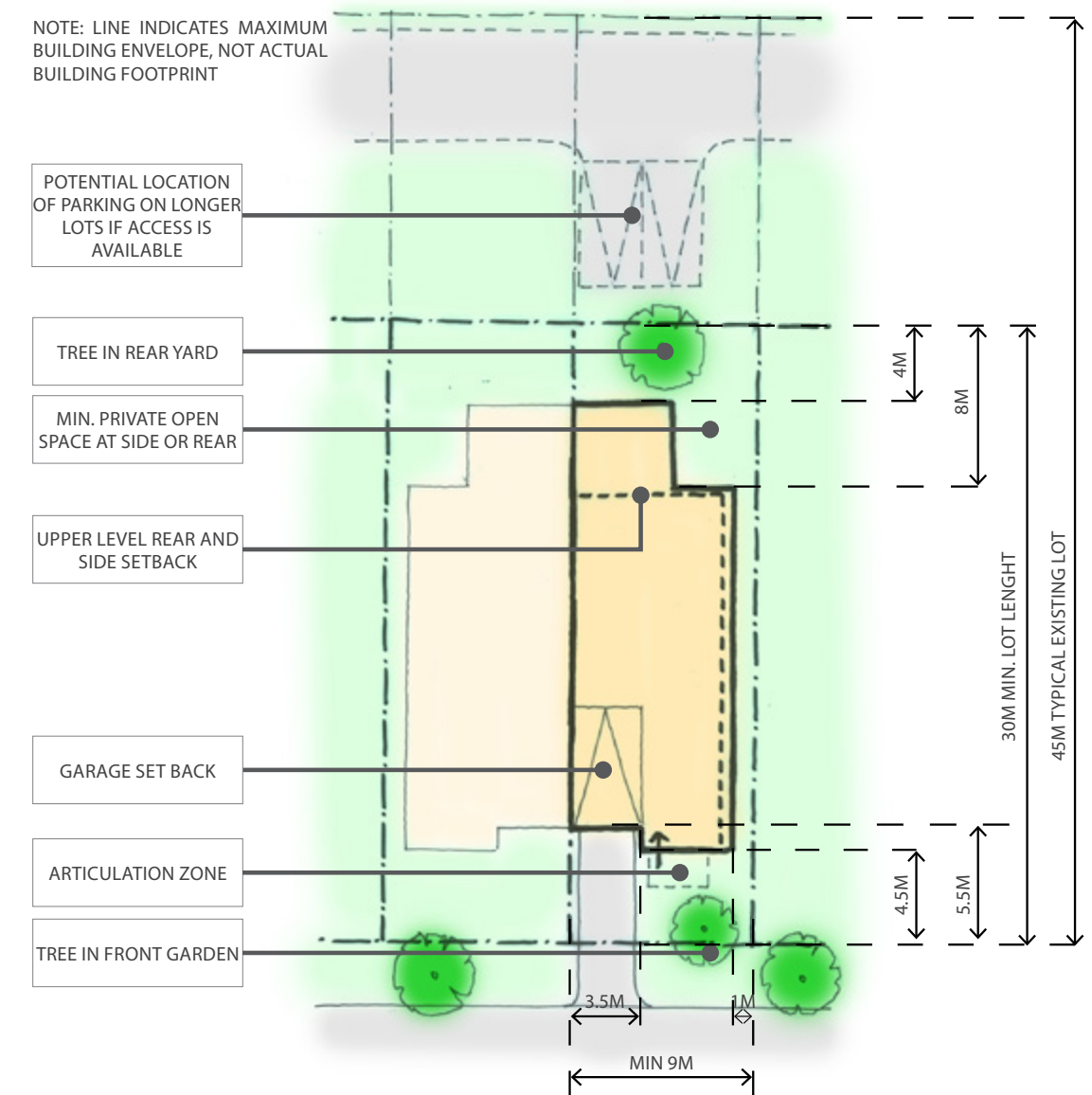
Semi-detached housing

Semi-detached housing is envisaged in lower to medium density areas.

Semi-detached lot controls are similar to detached housing as they will frequently appear in the same vicinity. To ensure that a cohesive and integrated streetscape is achieved. Development is to be approached in a comparable way.

INTENT	PERFORMANCE INDICATOR
Minimum allotment size	270m ²
Minimum frontage width	9 metres or 12 metres where there is a double garage to the street
Floor space ratio	0.65:1 – measured as an average over entire development and excludes garages
Maximum site coverage	60%
Minimum landscaped area (excluding parking and driveways)	25%
Private open space	Minimum 25m ² for all dwellings Private open space is to be located at the side or rear of dwelling with a minimum dimension of 4m x 6m and directly accessible from living areas
SETBACKS	PERFORMANCE INDICATOR
Street frontage (building)	4.5 metres minimum to building facade 2 metres minimum to articulation zone (minor architectural feature) The consenting authority may vary setbacks to integrate with existing adjoining dwellings to ensure a cohesive streetscape
Street frontage (garage)	5.5 metres minimum
Lots fronting open space	3.5 metre minimum to building facade
Side boundary	1 metre for single storey dwellings 1.5 metres for two storey dwellings
Rear boundary	4 metres for single storey dwellings 8 metres for two storey dwellings
Side and rear garage (corner lots with secondary street frontage)	Zero on party wall 3 metres for a maximum length of 9 metres on the secondary street facade 4 metres on both street frontages for length of frontages beyond 9 metres 3 metres on both street frontages beyond 9 metres where frontage is to open space

Site plan Semi-detached housing



Appendix 3 Handover proforma



Handover proforma



BLOCK	SECTION	LOT	SUBURB
STREET ADDRESS			

KEYS:	KEYS:EM	NUMBER OF KEYS	KEY NUMBER
External doors			
Sliding doors			
Security doors			
Windows			
Letterbox			
Roller door			
Garage remote control			
Manhole			

CERTIFICATES AND WARRANTIES (ON USB):	
Certificate of Occupancy	
Compliance Certificate (ACT)	
Approved Plans	
Amended Plans	
Retaining walls (approved if required)	
Energy Rating Certificate	
Electrical Certificate	
Plumbing Certificate	
Drainage Plan	
Survey Certificate	
Wet Area Waterproofing Certificate/Warranty	
Termite Protection Certificate/Warranty	
Insulation Certificate	
Roof Truss Certificate	
Glazing Certificate	
Gas Certificate	

Handover proforma



MANUALS	MAKE/MODEL	INCLUDED
Oven		
Cooktop		
Rangehood		
Smoke detectors		
Hot water system		
Garage remote control		
Heating system		
Air-conditioning system		
Sensor lights		
Water pump		

Telephone number:

Telephone number (phone to be tested)	
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Note: Serial numbers for appliances must be recorded on the PAL spreadsheet.

Appendix 4 Contractors checklist



PLANNING YOUR HOUSE	REQUIREMENT	YES	NO	N/A
Building area	Maximum 45% of site for lots less than 550m ² (55% single storey) Maximum 40% of site for lots greater than 550m ² (50% single storey)			
Landscaped area	Minimum 40% of sites less than 550m ² Minimum 45% of sites greater than 550m ²			
Paved area	Maximum 15% of site area			
Private open space Principal open space	Minimum 35m ² for low density housing and 25m ² for medium density dwellings Minimum 4m x 6m directly assessable from living areas excluding covered outdoor area			
Garages – double Single	Double garage to have minimum internal dimensions of 6m x 6m (36m ²) or 6m x 6.6m where possible Single garage to have minimum dimensions of 6m x 3.5m (21m ²) plus 9m ² of storage space			
Garage door width	Maximum 50% of front facade with a max dimension of 2.4m x 5m			
SOLAR ORIENTATION, SHADING AND PRIVACY	REQUIREMENT	YES	NO	N/A
Solar orientation	Main living area windows to receive a minimum of three hours of winter sun Private open space – a minimum of three hours winter sun to 50% of area			
Shading	Protection of west facing windows			
Overshadowing	Minimise overshadowing to neighbouring properties			
Privacy	Design to minimise viewing neighbour's bedrooms and living areas			
Energy	All houses must achieve six star NatHERS certification			

STREETSCAPE	REQUIREMENT	YES	NO	N/A
Building articulation	Elevational interest – stepped walls, varied finishes, materials and a max of three colours Simple contemporary design Pitched roofs to be between 22.5° and 26° Flat/skillion roofs are also permissible Minimum eave width of 450mm (900mm in tropics)			
Street address	A minimum of two habitable rooms addressing street No obvious bathroom/laundry windows facing the street Legible entry facing street Sheltered porch to be a minimum of 4m ² Corner lots – ensure dwelling addresses both streets Garage setback a minimum of one metre from building line Garage door to be simple design and plain coloured Ensure all utilities (aerials, hot water system, metres rain water tank) are inconspicuous and located on western elevation wherever practicable			
Landscaping	Landscape plan to address whole site including verge to kerb Use drought resistant/native plants Minimum two small trees in front yards and one large tree in rear yard setback away from house, where practicable Letterbox to constructed from materials complementary to dwelling Plant beds in front yard and alongside driveway			
Driveway	Maximum 4 metres at front boundary. Minimum 1.2 metres from side boundary Plain uncoloured concrete at crossing unless otherwise stated in developers covenant/encumbrances			
Fencing	Maximum 1.8m high starting 1.5m from building line Preferably timber or otherwise stated in developers covenant/encumbrances All non-structural retaining walls to be masonry			

