

Design requirements

The *Land and Housing Corporation (LAHC) Design Requirements* inform the design and development of the LAHC social housing property portfolio. These requirements apply to all new LAHC developments and are driven by tenant wellbeing, design quality, environmental performance and operational effectiveness within cost parameters.

This document is a benchmark tool to establish minimum requirements, standardise decision-making and enable project-specific innovation. It is for the use of LAHC staff, external consultants, project managers and development partners.

Legislation and code reference

Legislation and policies that impact the design of LAHC projects:

Environmental Planning and Assessment Act 1979, Housing Act 2001 (NSW), Residential Tenancies Act 2010

State Environmental Planning Policy (Housing) 2021 (Housing SEPP) and other environmental planning instruments (SEPPs and LEPs)

National Construction Code (NCC) and referenced Australian Standards BASIX, NatHERS

State Environmental Planning Policy No 65 – Design Quality of Residential Apartment Development and Apartment Design Guide 2015 (ADG)

Local development control plans and council guidelines (DCPs etc)

Seniors housing design guidelines given effect by the Housing SEPP

Livable Housing Design Guidelines

Good Design for Social Housing and LAHC Design Requirements (this document) are required to be considered by NSW Land and Housing Corporation before carrying out certain developments without consent, as required under ss30, 43 and 108C of the Housing SEPP.

These documents further inform the design of any LAHC development:

LAHC development brief (project specific)

LAHC policies including the LAHC Heating and Cooling Policy and the LAHC Lift Policy

LAHC specification with associated schedules

Key design principles

These principles from *Good Design for Social Housing* apply to all design decisions and material selections for LAHC developments:

Good for tenants

Our housing considers the needs of our tenants, has low running costs and is flexible to adapt to future requirements.

Whole of life cycle approach

New homes are considered for their whole-of-life costs, including operation and maintenance efficiency. Reducing the cost and burden of maintaining property benefits everyone.

Mixed tenure

LAHC aims to create an enduring, high-quality property portfolio that is a source of pride for our tenants. Our housing is indistinguishable from private housing and is well-integrated within diverse communities.

Continuous improvement

The next project is better than the last through learning from others, our experience and incorporating new practices.

Sustainability and resilience

Our housing is environmentally, culturally, socially and economically sustainable, and resilient to anticipate future challenges.

Quality homes

Create a sense of dignity by providing housing that tenants are proud to call their home.

Environmental performance principles

LAHC developments integrate contemporary passive design to ensure tenant comfort, reduce ongoing operational costs, improve environmental performance, and move towards delivery of net zero ready homes.

This section applies to all new dwellings and significant modifications to Class 1A dwellings in the LAHC portfolio.

These targets will deliver lower home utility bills, reduce carbon emissions, and ensure homes are healthy, thermally comfortable, well-lit, well-ventilated and maximise amenity for residents.

Passive design	Implement passive design techniques: maximise northern orientation to living spaces, calibrate eaves and solar shading on eastern, western and northern facades, relate glazing design to orientation, use deciduous trees for shading, and position windows to improve airflow and capture prevailing breezes.
Net zero	Optimise roof design to accommodate solar panels. Preference electricity as the power source for all energy requirements associated with normal operations for both new projects and modifications. Aim for 'net zero ready' homes: high-performance homes with a level of energy efficiency that enables the annual energy consumption to be offset by a renewable energy system.
NatHERS targets	Target minimum 7 Star NatHERS rating as an average within each new development, with a target for each dwelling of minimum 6 Star NatHERS rating for Class 2 and minimum 7 Star NatHERS rating for Class 1 and Class 1A. Higher NatHERS ratings are encouraged.
BASIX	All new dwellings and significant modifications must comply with BASIX. Note tenant supplied appliances (fridge, dishwasher, microwave, washing machine and dryer) cannot be included in BASIX calculations.
Healthy home targets	Use products that are low-VOC and low-allergenic with high recycled content. Ensure adequate air flow to limit mould, maximising the number of dwellings that are naturally cross-ventilated, i.e. dwellings where openings are in facades facing alternate aspects to maximise wind exposure. Include natural ventilation to wet areas where possible. Plan for retrofit of air conditioning (AC), where not installed from the outset.
Daylighting targets	Varied, quality daylighting is essential in all dwellings to provide amenity. Apply ADG minimum solar access standards (i.e. 70% of dwellings receive a minimum of 2 hours solar access to living spaces and private open space), and exceed this standard where possible. Avoid any dwellings receiving less than 15 mins of solar access to living areas and private open space. Ensure adequate daylighting to common areas to eliminate artificial lighting during the day.

Universal design principles

To support a diverse tenant cohort, LAHC aims for best practice in access and liveability.

Universal design principles equally apply to site planning, common areas and individual dwellings.

Design teams are to consider universal access at the outset of the project in, for example, preferencing walkways to ramps to reduce the extent of tactiles and handrails, and integrating access circulation into the architecture and landscape design.

The LAHC development brief defines the mix of dwellings and the percentage of dwellings that are to be delivered as adaptable, accessible, or to meet *Livable Housing Design Guidelines* performance levels (silver, gold or platinum).

Unless otherwise noted in the brief, apply the following as a minimum:

Baseline provision: general housing	Apply <i>Livable Housing Design Guidelines</i> (LHDG) silver level to all new LAHC dwellings where level access is available, including at ground level and on floors serviced by a lift. For upper level dwellings without lift access, include silver-level features in each dwelling, to allow for future adaptation where a lift is retrofitted.
Baseline provision: seniors housing	Housing SEPP Schedule 4 requirements apply to all new LAHC dwellings in seniors housing developments where level access is available, including at ground level and on floors serviced by a lift. For the upper level of 2-storey seniors housing developments without lift access, match arrangements on the ground floor, including latchside clearance, and ensure common circulation is designed in such a way that a lift can be retrofitted to access the upper level.
Adaptable dwellings	Provide the percentage of adaptable dwellings required by local planning controls, at the standard defined by AS4299 Class C.

External character

LAHC dwellings sit well with their neighbourhood context and provide high levels of amenity for residents. Siting balances a sense of community and arrival with individual privacy and equitable access for all tenants. Use siting and layout to minimise overlooking between dwellings and to neighbours.

Site planning

Context	Consider neighbouring buildings in the distribution of site density and open space, particularly for infill developments or where there is a change of use. Sensitive built form transitions contribute to place-making and amenity for residents and neighbours.
Site access and circulation	Use site planning, building design and landscaping to provide clear wayfinding, and legible and safe circulation. Building entries to be clearly defined and accessible. Consider direct street access for ground floor dwellings. Develop a comprehensive wayfinding strategy that includes spatial cues, lighting and signage. Avoid conflicts between pedestrian pathways and vehicle access and ensure good sightlines are available for safety. Minimise the length of on-site driveways.
Topography and grades	Minimise retaining walls or steps, and target site benching with maximum 1:10 slopes to turf and garden beds. Where retaining walls are necessary, provide them at a suitable height to allow use as incidental seating. Avoid the requirement for fall protection on retaining walls.
Parking	Provide parking in accordance with the development brief and applicable codes. Integrate landscape design with any surface car parking. Where possible provide landscaped break(s) and shade trees between parking spaces or rows, and between surface parking and adjacent built structures and site boundaries.
Public and private space	Express the hierarchy of spaces in the design, ensuring clear separation of public, semi-public (communal) and private space. Incorporate crime prevention through environmental design (CPTED) principles and allow for passive surveillance of common circulation and gardens.
OSD and storm-water	Comply with local planning controls in the management, storage, treatment and disposal of stormwater on site. Where on-site detention (OSD) tanks are required, consider location to avoid impact on deep soil, e.g. under surface car parking and driveway, or in a basement within the building footprint.

Green infrastructure

Deep soil	Prioritise provision of appropriately sized and located deep soil, connected where possible to deep soil in the public domain or on neighbouring sites.
Tree canopy	Retain existing healthy and well-structured established trees where possible and where beneficial to the project. Locate new trees at least 3 metres from built structures and major services, including on neighbouring properties, to avoid structural damage and reduce maintenance burden.
Plant selection and landscape design	Provide landscaping that is low maintenance and drought tolerant. Select species that are appropriately scaled for the application. Preference endemic native species to contribute to fauna habitat and biodiversity, but use exotic planting if required to achieve neighbourhood character, or where specific qualities are required, such as deciduous shade trees. Plant out boundary setbacks to achieve amenity for neighbours and residents, for outlook and visual privacy. Provide planting in private open space equal in quality to common area planting. Where possible, screen private open space on street frontages with common area planting.

Communal open space (COS)	Where communal open space (COS) is provided: <ul style="list-style-type: none"> – Maximise winter solar access. – Provide passive surveillance of COS from dwellings, common circulation or the public domain. – Integrated furniture is preferred, to reduce vandalism. – Locate COS to minimise impact of potential noise generation on residents and neighbours. – Community gardens may be considered for large-scale developments.
Private open space	All dwellings are to have a useable, weather-protected balcony or private outdoor area, associated with and accessed from the primary living area. Provide maintenance access where possible from common circulation to landscaped private open space, to avoid taking maintenance equipment through dwellings. Avoid small areas of turf in private open space and where regular lawn maintenance is not practical due to access or limited area for equipment storage.

Exterior fixtures and finishes

Fences and boundary treatments	Ensure fences are provided to rear and side boundaries and private open space between 1.5 and 1.8 m high for privacy. Front fence height and design to be appropriate to the context; refer local council guidance. Use planting in addition to fencing to soften and screen.
Roofs and rainwater goods	Permitted roof falls range from 3–25 degrees and depend on dwelling type, local character and roofing technical specification. Minimise use of box gutters and plan overflows for all gutters. Prefinished light-coloured metal roof sheeting and rainwater goods are preferred; use tile roofing where appropriate for the context or if required by the consent authority. For flat roofs, provide roof planning and waterproofing details for LAHC review.
Walls	Use hard-wearing and self-finishing materials such as face brick, integral finished metals or precast concrete. Minimise painted or rendered finishes that will require scaffolding to maintain. Bird nesting, efflorescence, graffiti and other sources of staining to be designed out as much as possible.
Doors and windows	Glazed doors and windows to be powder-coated or anodised aluminium, and be secure, weathertight, and easy for the tenant to clean. Provide fly screens to all openings, and security screens to any openings which can be accessed from ground level or from balconies or climbable elements. For carports and garages in single dwellings and townhouses, use garage doors if contextually appropriate. Use dead latches with key operation and release feature for external doors (including garage). Key all windows alike and ensure windows can be locked in minimum open position for secure natural ventilation.
Balconies and screens	Fall balconies away from interiors, and include overflows. Floor wastes can be cast into balcony slabs, but avoid downpipes cast into structure. Integrate rainwater goods into design; avoid visible branch pipes. Design balconies, balustrades, privacy screening and solar shading to contribute to built form articulation. Screen visible utilities and clothes drying.
Building entries and mailboxes	Common pathway to main entry minimum 1.2 m wide; wider for apartment buildings. Provide rain protection to building entries. Provide mail boxes for each dwelling in accordance with Australia Post's Point of Delivery Policy.

Interior configuration and detailing

LAHC interiors are contemporary, healthy and comfortable at the same time as being robust and easy to maintain. Select materials that are easy to clean and enable safe access. Dwelling layouts should maximise privacy for residents, connect to private outdoor space, and benefit from excellent outlook, access to sunlight and fresh air.

Dwelling configuration

Dwelling types and mix	The LAHC development brief will define the target dwelling mix, and the number of livable, adaptable or accessible dwellings. The areas and dimensions provided below are a minimum. Where dual key apartments are briefed, each apartment should comply individually without including the shared entry. Projects should balance spatial efficiency with best practice for tenant comfort and flexible furniture layout.	
Title and tenure	For future title arrangements and subdivision, refer to the LAHC development brief. Design all projects to enable full strata subdivision, regardless of whether this will be formalised in the short term. The brief will also nominate if the project will be managed by LAHC or by a community housing provider (CHP).	
Minimum areas and configuration	Studio – 35 m² Balcony 8 m ² Open plan living/dining/kitchen/bedroom Single bathroom including laundry	1 Bed – 50 m² Balcony 8 m ² Open plan living/dining/kitchen Single bathroom including laundry
Min area excludes stair and stair void in 2-storey dwellings.	2 Bed – 70 m² Balcony 10 m ² Open plan living/dining/kitchen Single bathroom including laundry	3 Bed – 90 m² Balcony 12 m ²
Livable, adaptable or accessible dwellings may need to be larger than these minimums to achieve required clearances and circulation.	2-storey townhouse: As above + WC with handbasin on alternate level to bathroom	4 Bed – 110 m² Balcony 14 m ² Open plan dining/kitchen Separate living Full bathroom WC with handbasin Laundry room
	Definitions: Single bathroom including laundry: vanity basin, WC, shower; integrated laundry preferred but can be separate if necessary. Full bathroom: vanity basin, WC, shower and separate bath. WC with handbasin and laundry room can be combined, if handbasin still provided separately to laundry tub.	
Balconies and private open space	Balconies to have a minimum weather-protected depth of 2 m, to accommodate an outdoor dining suite. For dwellings at ground level or on a podium/terrace where a private open space is provided instead of a balcony, the minimum area is 15 m ² with a minimum depth of 3 m. Include a weather-protected paved area equivalent to the balcony sizes nominated above. Consider providing an additional 2 m ² of balcony space to allow for clotheslines and on-balcony bicycle storage, particularly if justifying non-compliance with bicycle parking targets. Minimise likelihood of AC condensers being located on balconies, including where provisioning for future retrofit. Where there is no alternative location possible, ensure balcony arrangement considers climbability and impact of heat rejection on balcony amenity. Provide each dwelling with an accessible clothesline on the balcony or within courtyard. Refer LAHC specification for size.	
These dimensions represent a minimum requirement. SEPP controls (e.g. ADG, Housing SEPP) take precedence where those requirements are greater than these.		
Minimum dimensions	Minimum room widths to support flexible furniture layout: 3.6 m (living) and 3 m (bedroom excl robe). Minimum area of primary bedroom 10 m ² . SEPP controls (e.g. ADG) take precedence where minimums are greater. All layouts to be tested with furniture.	
Ceiling heights	Generally minimum 2.7 m ceilings for all types. 2.4 m ceilings are only permitted in upper level habitable rooms (excluding living rooms) for 2-storey dwellings approved under <i>State Environmental Planning Policy (Exempt and Complying Development Codes) 2008</i> (Codes SEPP).	
Note	This dwelling configuration section does not apply to boarding houses or group homes.	

Common areas and entries

Common circulation	All foyers and corridors to have hard floor finishes and be naturally ventilated. Where possible, provide stormproof openings at either end of enclosed corridors to allow natural cross-ventilation. Maximise natural daylighting in common areas and install LED lighting with movement sensors to reduce operating costs. Ensure common corridors are sized for easy movement of furniture. Ensure any external or breezeway stairs and corridors are covered for weather protection.
Communal indoor space	Where common rooms are required by codes or the LAHC development brief: – encourage positive social interaction through the design of the space – maximise amenity and outlook by locating common rooms near any communal open space – provide natural cross-ventilation and daylighting.
Common entries	Refer to the LAHC development brief for secure entry and intercom requirements for apartment buildings. Where the development does not have an intercom system, each dwelling entry is to be fitted with a hard-wired door bell and door viewer.

Interior fitout and finishes

Finishes generally	Unless noted otherwise in the development brief, all living areas are to have tiled floors or resilient flooring, and all bedrooms carpet. Ensure threshold transitions comply with LHDG or AS1428.1 where dwellings are required to be adaptable or accessible, including to access the private open space.
Kitchens	Benchtops to be laminate or composite stone, with 20 mm overhang to cupboard fronts. Island benches with sinks must be 800 mm deep or include a splashback. Refer to the LAHC development brief for detail on minimum bench lengths and other provisions. Allow fridge space minimum 800 mm wide (studio / 1 bed) and 900 mm wide (2 bed+), 600 mm wide pantry (studio/1B underbench, 2B+ full height), minimum 450 mm wide drawer unit, and include removable 600 mm wide dummy cupboard adjacent to sink cupboard, with tiled floor under, and GPO/stopcocks in sink cupboard, suitable for tenant-supplied dishwasher.
Bathrooms	Unless noted otherwise in the development brief, floors and walls to be fully tiled, including behind any storage units. Provide vanity units with leg supports (no cantilevers) and bathroom storage in vanity or behind mirror. Showers to be hobless. Review waterproofing extent and details with LAHC.
Laundries	Floors tiled, as well as walls around tub and machine. Where laundry is separate to bathroom, provide dedicated floor waste in front of space for washing machine, and exhaust fan linked to GPO that will be used for tenant-supplied dryer. Provide minimum 35 L tub with integrated cabinet and bypass in all dwellings. Any doors to laundry cupboards are to be hinged not bifold.
Storage	Provide linen cupboard (600 x 450 mm with shelves) and broom cupboard (600 x 450 mm) in all dwellings. All bedrooms to have built-in wardrobes with 0.6 m minimum depth and 2.4 m minimum height, 1.8 m wide to primary bedroom and 1.5 m wide to all other bedrooms, fitted with shelf and rail at minimum.
Window furnishings	Provide internal window furnishings for privacy and glare control to all windows and doors, except for bathrooms, where translucent glass is preferred.

Services and maintenance

LAHC dwellings are low maintenance and future proof, reduce utility costs for tenants and support clean, sustainable and operational dwellings. Utilities, components and operational systems support net zero ready homes and align with LAHC sustainability policies.

Generally

Services integration	All services and utilities, including substations (kiosk or chamber), power poles, distribution boxes, sewer vents, hydrants, plumbing and drainage and communications infrastructure, are to be integrated into the overall design and located to be as unobtrusive as possible. Accessible externally mounted fittings and fixtures should be tamper proof.
Metering	Electricity, gas and potable water are to be individually metered to each dwelling as the tenant is responsible for utility costs, unless otherwise noted in the LAHC development brief.
Safety in design	There are a number of hold points in the design and construction program for key reviews, including statutory 'safety in design' reviews. Refer to the LAHC development brief for details.
Maintenance	Provide a detailed maintenance and access plan for discussion with LAHC during design development. Service access to lifts and other equipment, as well as facade, roofs, landscaping etc, to be carefully considered to avoid unauthorised access, fall from heights and other hazards. Include this as part of mandatory safety in design reviews at key milestones.

Hydraulic services

Water service	Provide garden tap(s) in both private and common garden areas, including upper balconies. Avoid situations where a hose would need to cross common pathways, driveways or on-grade car parking. Irrigation systems are not to be installed.
Rainwater tanks	Rainwater tanks and rainwater re-use to be incorporated only when required by BASIX.
Pits and pipes	All grates in trafficable areas to be fitted with anti-slip heelguard. Infill on blind pit covers to match surrounding material.
Hot water service	Install heat pumps for hot water wherever possible, otherwise provide individual instantaneous gas HWU located within each dwelling's private open space, with concealed pipework and recessed box surround, finished to match adjacent surfaces. Refer LAHC development brief for arrangements for apartments.

Mechanical services

Air conditioning (AC)	AC is to be provided, with solar power, for certain climate zones, refer LAHC Heating and Cooling Policy. For all other dwellings, make provision for AC to be installed by the tenant. Ensure condensate drains are provided to appropriate locations and drained using falls to tundish over sewer service (no pumps). Detail facade penetrations to retain facade weathertightness. Refer to the LAHC Specification for further detail.
Exhaust fans	Provide externally ducted exhaust fans to bathrooms, WCs and laundry rooms, fitted with humidity sensors or linked to light switch or dryer GPO in accordance with the LAHC Specification.
Car park exhaust	Wherever possible, design basement car parking to allow for natural ventilation. If mechanical ventilation is required, preference plenums over jet fans.

Electrical services

Photovoltaic (PV) arrays	Required provision of solar systems, extent of service and metering conditions are set out in the LAHC Heating and Cooling Policy and LAHC development brief.
Boards and subboards	All dwellings to be protected by residual current devices (RCDs). Where dwellings are LHDG silver level, seniors housing or are adaptable, locate distribution boards in a cupboard at an accessible height.
Appliances	Provide electric cooktop, wall oven and externally ducted rangehood, refer to the LAHC specification.
Light fittings and ceiling fans	Allow at least one surface-mounted light point per room and per balcony to suit furniture layout, fitted with LED lamp. Provide LED strip lights to underside of overhead kitchen cupboards, switched with above-bench GPO. All LED lighting to be 3000°K (warm white). Ceiling fans to be provided to living areas and bedrooms in line with LAHC Heating and Cooling Policy.
Switches and general power outlets (GPOs)	All light switches to be 1000 mm above finished floor level (AFFL) (± 100 mm) and aligned with door handle. GPOs to be located between 600-1100mm AFFL. Provide 2 x double 10-A GPOs per room; with additional outlets in kitchen and laundry where required for appliances.
Comms (data + TV)	Provide NBN network termination device (NTD) in each dwelling. Install data point and TV point in living room and main bedroom.
Security + CCTV	Provide CCTV, intercom and access control only when required by LAHC development brief. Strategic use of external LED lighting with movement sensors to be discussed with LAHC during design development.
Smoke alarms	All required smoke detectors to be hard-wired.

Vertical transportation

Lifts	Refer to the LAHC Lift Policy for appropriate lift type, numbers and minimum dimensions for the range of LAHC developments. Provide redundancy for developments 4 storeys or greater.
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Waste services

Waste servicing and facilities	Provide waste facilities in accordance with local council requirements and to ensure waste can be collected within council's regular service. Allow for source separation of waste from recycling, including organic (green and food) waste recycling. Plan waste storage to minimise amenity impacts (odour, acoustic) on neighbours, residents and communal space. Minimise the visual impact to the street through careful integration, and consider accessibility for tenants with mobility issues. Waste chutes are appropriate for developments of 4 storeys or greater. Avoid E-diverter chutes which can cause maintenance issues when misused.
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