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4. Site Use And Operation

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Part 4 of this DCP provides detailed locational requirements for land uses within a site or within the Town Centre. These further the direct land uses which are made generally permissible in zones within the Centre by the Holroyd LEP 1991. It is important to understand these controls before proceeding to the detailed design of a building in accord with Part 5.

This Part also provides controls for the size and extent of particular uses within the building envelopes indicated in Part 3. Finally, Part 4 clarifies operational matters and the form of interim development that would be permitted.



4. Site Use and Operation

4.1 DETAILED LAND AND BUILDING USE CONTROLS

The Merrylands Town Centre Precinct permits a mixture of different uses. The location of specific uses within the Town Centre is subject to further detailed locational requirements with the intention of delivering a structure and function that benefits the Centre as a whole.

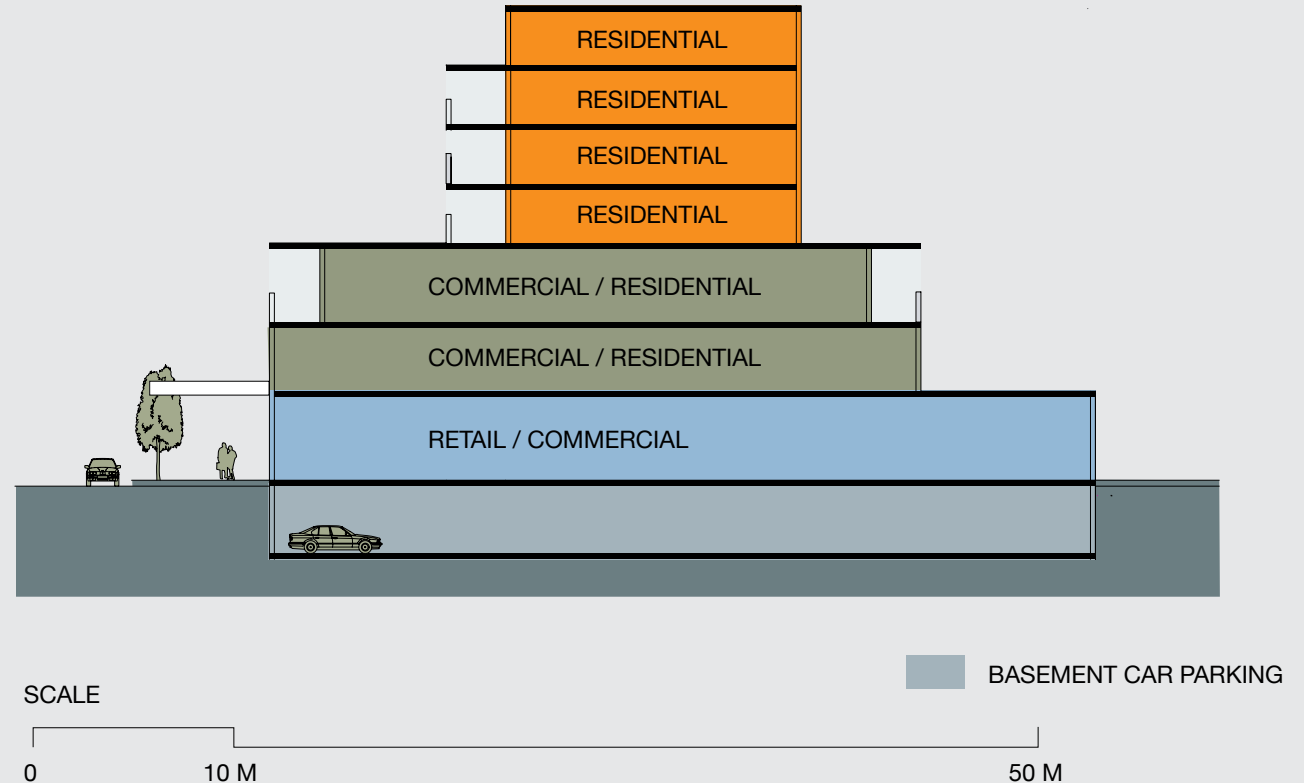
4.1.1 Objectives

- Maintain retail, commercial and community activity at street and ground floor level to deliver an active Town Centre.
- Facilitate a concentration of commercial offices and professional suites within the Commercial Hub Locality.
- Ensure that important civic uses are retained in the Civic Locality at the southern end of the Town Centre where they balance the attractors at the northern end.

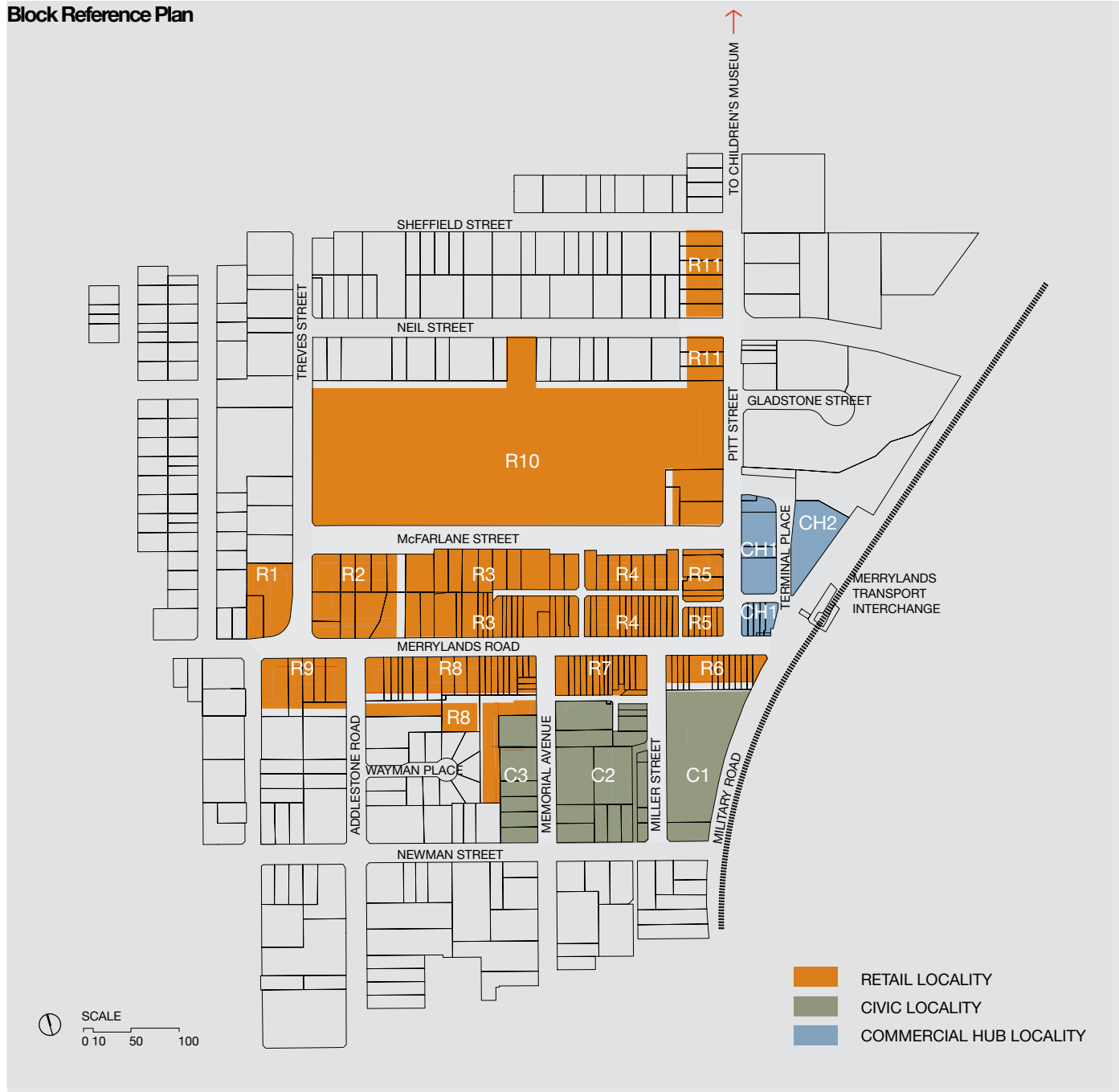
4.1.2 Controls

- a Residential dwellings are not permitted at the ground floor level of any development within the Town Centre.
- b Commercial office space (or other suitable non-residential uses) must be provided at the first floor level of development within the Commercial Hub Locality.
- c Post offices and libraries should be retained in the Civic Precinct and are not permitted within 180m distance from any part of the Mall site (being Lot 1, DP 1010290).
- d Residential and retail shop uses are not permitted on any part of Lot 11 DP 1002830 that is over 40m from a Public Street (not including a laneway).

Figure 36. Uses Within a Building



Block Reference Plan



4.2 RETAIL FLOOR AREA

The extent of retail activity is important in determining a centres role within the metropolitan landscape and the relationship that particular centre would have on surrounding centres. The location and dispersion of retail activity across a centre is also critical to the function of a centre and the impact of one area or a particular site on another area. In a mixed use centre where complimentary residential and commercial office activity is envisioned, it is not practical to regulate the dispersion or concentration of retail activity through building envelopes or conventional floor space ratio controls.

Controls are introduced to limit the amount of net leasable retail floor space only. This does not include: commercial offices, professional suites, medical uses, community facilities, cinemas or post offices (located in the Civic Locality only).

These controls will maintain a reasonable spread of retail across a centre, while also providing opportunity for office and residential development. They will reflect the role of the centre and prevent an unreasonable economic impact upon other centres

- 4.2.1 Objectives**
- Limit the centre to no more than double its current retail floor area of 50,000m² (NLA);
 - Ensure equitable opportunity for growth of retail across the Retail Locality;
 - Ensure a rate which falls within the 60% flexibility for supply over next 15 years (compared to the average provision of retail across the wider Sydney region);
 - Concentrate retail in the Retail Precinct and Commercial Hub Precinct, providing only half the rate in the Civic Precinct; and
 - Ensure no site should have more than double the current rate of retail floor area (NLA).

- 4.2.2 Controls**
- Sites in the Retail Locality should have a maximum retail Net Leasable Area (NLA) of 0.7:1.
 - Sites in the Commercial Hub Locality should have a maximum retail Net Leasable Area (NLA) of 0.5:1.
 - Sites in the Civic Locality should have a maximum retail Net Leasable Area (NLA) of 0.3:1.

4. Site Use and Operation

4.3 RESIDENTIAL MIX

Residential mix is encouraged to allow social and economic equity of inhabitants within a residential complex. The provision of adaptable and accessible dwellings is an integral component of achieving desirable residential mix in new developments.

4.3.1 Objectives

- To ensure development provides a mix of residential unit types and sizes to accommodate a range of family types.
- To require apartment sizes and room proportions to be adequate to meet the needs of the occupants and to afford a range of activities.
- To require the provision of adaptable housing units in developments to accommodate for a range of occupants.

4.3.2 Controls

- Provide a variety of residential unit mix, sizes, and layouts within each residential development. Comply with the mix and size outlined below.
- Provide a mix of residential unit accommodation involving no less than 10% of either: studio/one-bedroom, two-bedroom and three-bedroom units. Net unit area as follows:
 - Minimum studio size of 40m²;
 - One-bedroom unit minimum size of 50m²;
 - Two-bedroom unit minimum size of 70m²; and
 - Three-bedroom minimum size of 95m².
- Studios and one-bedroom units are not to be greater than 20% of the total mix within each development.
- The applicant will be required to demonstrate that a studio unit can be combined with other units to form large units.
- Provide the required number of adaptable dwellings in accordance with the table below.

Adaptable Housing Class A (AS4299-1995)	Adaptable Housing Class C (AS4299-1995)	TOTAL Adaptable Housing
10% of dwellings	10% of dwellings	20% of dwellings

4.4 OPERATIONAL MANAGEMENT

4.4.1 Objectives

- Ensure the operation of a commercial or retail use does not cause an undue disturbance in the Town Centre or to the surrounding neighbourhood;
- Clarify the expected operation of activities appropriate to the Town Centre location; and
- Ensure reasonable public access is maintained while the Town Centre is operating.

4.4.2 Controls

- In the case of an intensification of use within a building the number staff, patrons or customers onto a premises will be limited by the number of car parking spaces provided in the initial development of that component of the building/site.
- Hours of operation (customer trading) for retail and commercial uses within blocks adjacent to residential zones (Blocks R1, R9, R11 and C3) is generally as follows:
 - Monday – Saturday 6.00am to 9.00pm
 - Sunday 7.00am to 8.00pm
- Hours of operation (customer trading) for retail and commercial uses within blocks near to residential zones (Blocks R2, R8, R10, C1, C2, CH1 and CH2) is generally as follows:
 - Monday – Saturday 6.00am to 1.00am
 - Sunday 7.00am to 12.00pm
- Hours of operation (customer trading) for retail and commercial uses within blocks adjacent to residential zones (Blocks R3, R4, R5, R6 and R7) is generally as follows:
 - Monday – Saturday 12.00am to 12.00am (24 hrs)
 - Sunday 12.00am to 9.00pm
- Pedestrian access via a link from McFarlane Street to Neil Street must remain open while ever any shop is open within the Mall site (typically between 6am - 12midnight).

4.5 INTERIM DEVELOPMENT

Throughout the process of implementing this plan it is expected that development applications associated with existing uses will continue to be received. Acceptable design outcomes for the application for such minor development (eg. alterations and additions) will be mostly merit assessed, however the must comply with the vision, locality statements and objectives, outlined in Part 2 of this DCP. Design solutions for development associated with existing uses must not restrict or prevent any site within the Merrylands Town Centre area from achieving their development potential, as prescribed in this DCP.

4.5.1 Objectives

- To enable ongoing development works in the Town Centre that are associated with existing uses, without compromising the implementation of the longer term vision and objectives, as outlined in this DCP.
- To permit a reasonable amount of interim development while maintaining the viability of implementing this plan as an attractive future option.
- To ensure any development works provides a positive design outcomes that contributes to the urban character of the Town Centre.

4.5.2 Controls

- All minor development associated with existing buildings including, but not limited to, alterations and additions, change of use, outdoor dining, subdivision and signage must not restrict or prohibit an adjoining landowner from developing their site in accordance with this DCP.
- Development is to ensure activation of the streetscape, and high urban design outcomes.
- Alterations and additions must not exceed 60m² of additional floor space on to, or associated with, an existing building. Only 1 application for this addition, per lot, is permissible, as from the date of adoption of this DCP.
- Additions of less than 60m² will not require additional car parking spaces.

Existing Civic Square



Artists impression - Civic Square





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5. Private Domain Controls

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Part 5 of this DCP provides the building design controls for each new building within the Merrylands Town Centre. In contrast to Part 3 of this DCP, which provides controls relating to height, bulk, scale and location, Part 5 provides the detail design guidelines for the building within the building envelopes.

Part 5 specifically addresses issues relating to the private domain such as: site access and parking; building design; building configuration and form; landscape and environmental management. These controls apply to both the Retail Locality, Civic Locality and the Commercial Hub Locality.



5. Private Domain Controls - Access and Parking

5.1 ACCESS AND PARKING

Access to buildings and parking facilities refer to both pedestrian access and vehicular access. Appropriate access must be provided to accommodate all users including customers, workers and residents.

Access to each building must be barrier free and designed to enable easy and direct access for all users.

Access to buildings and car parking, particularly in the Retail Locality is to be designed to ensure that the shopping strip character, pedestrian safety and commercial viability are maintained.

5.1.1 Building Entries

Clear and legible building entries orientated pedestrians and drivers. Well designed building entrances can assist in creating active street frontages, which are critical to the viability and vitality of the Town Centre as direct, easy access from the footpath draws the street into shops and other uses.

The mix of retail, civic, commercial and residential uses with direct access to the street will activate the street at different times and periods of the day.

Building entrances provide the interface between the public and the private domain and needs to be clearly legible, barrier free. Building entries occur both at grade and in basement parking areas and are required for people, services and vehicles.

Objectives

- To retain and reinforce the continuity of activities along the main streets in the Town Centre.
- To allow access to commercial and/or residential uses above retail from the street.
- To provide legible and clearly defined building entries to the retail, commercial and residential uses in a building.
- To clearly define building access points from the street.
- To ensure safe and secure entries which restrict unauthorised access from commercial uses to residential levels.
- To delineate between commercial and residential floors where access into the building is via shared lifts.
- To provide access to ground floor uses from the street.

Controls

- a** Residential entries must be secure where access eg. lifts, is shared between commercial and residential uses.
- b** The street address for retail, commercial and residential uses within each building is to be separated.
- c** Multiple cores which access above ground uses are to be provided where the street frontage is greater than 30m. A single core may be permissible where the street frontage is less than 30m only where access is available via above ground communal open space areas.
- d** Where achievable, apartments off communal open space should have direct private entries.
- e** Ensure entrances and lifts can accommodate movement of furniture and loading bays, which are accessible to residential entrances, are available to be accessed and used by residents for moving furniture.
- f** Appropriate materials and treatments such slip resistant materials, tactile surfaces and contrasting colours are to be used at building entries to ensure legibility and safety for all users.
- g** Ground floor uses are to be orientated towards and open directly onto the primary street fronts.
- h** Blank or solid walls and the use of dark or obscured glass on primary street frontages are prohibited. On secondary streets or laneways, blank or solid walls are not to be greater than 20m in depth and .9m in height.
- i** Solid roller shutters that obscure windows or entrances are not permitted as they restrict casual surveillance and reduce the general amenity of the street.

5.1.2 Pedestrian Access

Pedestrian access within and between the private domain and the Town Centre is vital to ensure economically and socially sustainable development. Access to buildings must focus on pedestrian accessibility, safety and convenience through the entry and exits of buildings to create environments where all users in the community feel safe and comfortable.

Objectives

- To ensure pedestrian access and movement entering and exiting from buildings is barrier free and designed to provide easy and direct access for all users.
- To ensure all access points to buildings are clearly visible and well-lit to ensure safety and security for the user.
- To require pedestrian access through the Town Centre, via pedestrian arcades be maintained and enhanced in the Retail Locality.
- To ensure high levels of activity and surveillance in pedestrian arcades and off-street pathways.

Controls

- The main entrance of buildings must be accessible for all members of the community.
- Provide all developments with access for all users in accordance with Australia Standards AS 1428 (Parts 1 & 2) Design for Access and Mobility.
- Provide direct and unimpeded access from the car parking area to all residential units and commercial uses.
- Provide separated access to from commercial components and residential components. If access is provided by shared lifts, access to residential levels must be secure.
- Access points must be appropriately lit and clearly legible from adjoining circulation spaces.
- Maintain existing arcades, including the Merrylands Arcade, to provide pedestrian permeability through the Town Centre at all times.
- Pedestrian access via a link from McFarlane Street to Neil Street must remain open while ever any shop is open within the Mall site (typically between 6am - 12midnight).

5.1.3 Vehicle Access

Managing vehicular access is a primary concern within the Merrylands Town Centre, as vehicle access to buildings is currently limited. To ensure the maintenance of the retail strip, particularly within the Retail Locality, vehicular access will be required from rear access ways, some of which are existing and some which will be required to be created through the process of redevelopment.

In the Civic Locality, where vehicular access is more accessible, minimising the impact of vehicle entry points will be a primary objective.

Objectives

- To restrict private access onto Merrylands Road by requiring the creation of rear laneways or private access ways for sites fronting Merrylands Road.
- To ensure vehicular traffic generated from access points from developments onto primary streets do not significantly impede the traffic circulation within the Town Centre.
- To prohibit the use of wide and dominating access ways as they impact on the streetscape and interrupt active uses along retail street frontages.

Controls

- A minimum driveway width of 6m is required unless service vehicle access is required for an internal loading dock, then the minimum driveway width is 8m.
- For sites fronting Merrylands Rd, all vehicular access must be from the rear. Where a public laneway does not exist, a private access way, being a minimum of 8m in width, must be provided to the rear.
- One two-way driveway is permitted per development site of up to 10,000m².
- Driveways to underground parking facilities must be designed to minimise the visual impact and dominance on the street.
- The treatment of driveways must maximise pedestrian safety particularly at shared pedestrian and vehicle access points.

5.1.4 Parking

All new developments within the Town Centre will be required to include provisions for on-site parking for commercial and residential components of the development. Car parking will be required at grade and within the basement of the development. Council may consider above ground parking on sites which are either over 3,000m², constrained by culverts, identified as being contaminated or severely flood affected.

Objectives

- To ensure the required amount of on-site parking is provided on every site.
- To ensure on-site parking is appropriately designed, treated and landscaped.
- To ensure car parking does not address a primary street front.

Controls

- Incorporate parking within and/or behind the building. No on-site parking is to be visible from the primary street frontage.
- Appropriately screen surface parking areas with the use of planting and fencing in accordance with "safety by design" controls.
- Design parking areas to ensure pedestrian safety.
- Ensure well-lit parking areas for night time use.
- Provide secured residential parking.
- Where dwellings are designed to be accessible, the car spaces associated with those dwellings must also be for accessible parking.
- Required visitor spaces must be capable of being accessed by visitors with a disability.
- Dimensions for car parking facilities are to comply with DCP No 1 – Parking.
- Requirements for car parking are on the following page:

5. Private Domain Controls - Access and Parking

- Vehicle and bicycle parking requirements are as follows :

Car parking dimensions		
Minimum length	5.5m	longer for parallel parking
Minimum width	2.5m	open
	3.8m	disabled/accessible parking
	3.0m	enclosed
	5.5m	double garage
	plus an additional 0.6m	where the space is used for access to storage, for waste bins or access to a courtyard
Minimum clearance height	2.3m	
	2.5m	disabled/ accessible parking

Vehicles				
Use	Measure	Minimum Spaces Required	Maximum Spaces Required	
Shopping centres	GLFA: <30,000m ²	1 space per 20m ²	1 per 15m ²	
	GLFA: >30,000m ²	1 space per 20m ² + 1 space per additional 25m ² over 30,000m ²		
Retail and ground floor commercial uses	GLFA	1 space per 20m ²	1 per 15m ²	
Commercial uses above ground (including offices and professional consulting rooms)	GLFA	1 space per 40m ²	1 per 30m ²	
Residential uses	Residential unit:			
	Studio	1 space	1 space	
	1 bedroom	1 space	1 space	
	2 bedrooms	1 space	1.2 spaces	
	3 bedrooms	1 space	1.5 spaces	
	+ Visitors per unit	0.05 spaces	0.2 spaces	

Bicycles				
Use	Measure	Minimum Spaces Required	Maximum Spaces Required	
Shopping centres, retail and ground floor commercial uses	GLFA: Employee	1 per 300m ²	Unlimited	
	GLFA: Visitor	1 per 2500m ²	Unlimited	
Commercial uses above ground (including offices and professional consulting rooms)	GLFA: Employee Visitor	1 per 200m ²	Unlimited Unlimited	
	GLFA: Visitor	1 per 750m ²	Unlimited	
Residential uses (provide bicycle storage)	Residential unit:			
	Studio	None	Unlimited	
	1 bedroom	0.5	Unlimited	
	2 bedrooms	0.5	Unlimited	
	3 bedrooms	0.5	Unlimited	
	+ Visitors per unit	0.1	Unlimited	

Note: GLFA is Gross Leasable Floor Area

5.1.5 Site Servicing

Site servicing is required to improve the amenity within a development. It is important that site servicing is achieved with minimal impact on the residential uses in adjoining buildings.

Site servicing facilities include:

- Garbage storage and collection areas;
- Mail boxes; and
- Ventilation stacks from shops and basements.

Objectives

- To provide adequate servicing to the building and all uses within the development.
- To minimise the impact of site servicing access on pedestrians and the retail activity by locating site servicing areas to the rear of properties.
- To ensure site servicing does not interfere with pedestrian access and retail frontage.
- To minimise the noise impact of site services on adjoining buildings and the residential and commercial components of the development.
- To encourage efficient waste management practices including waste separation and recycling.

Controls

- a All developments are to provide adequate provisions for site servicing that in accordance with Council's Development Control Plan No. 35 - Guidelines for Planning for Less Waste.
- b Mail boxes must be designed such that they are integrated with building, are convenient and safe access for mail delivery and residents and do not clutter the street.
- c Facilities must be provided for the separation of waste and recyclable materials. Such facilities must be located away from openable windows to habitable rooms to avoid amenity issues related with smells.
- d Where garbage chutes are provided in a building, the provision of recycling rooms must also be incorporated into the development. Recycling 'shoots' are not permissible.
- e Locate waste service areas where they are screened from adjoining properties and the public view, are safe and accessible for residents and still practically accessible for servicing vehicles.
- f Service access is to be provided, where possible, from rear lanes, side streets or right of ways.
- g Provide acoustic privacy and improved amenity by separating residential and commercial uses from site servicing areas.
- h A Waste Management Plan is required as part of the development application.

5.1.6 Configuration of Laneways and Private Access Ways

Laneways and rear access ways within the Merrylands Town Centre provide a vital service including:

- Vehicular access to buildings; and
- Loading/servicing areas.
- The way a building address laneways and private access ways is important to ensure the area is functional, as well as a safe place for vehicles and pedestrians.

Objectives

- To provide access to buildings from the rear so as to maintain primary street amenity.
- To provide areas for loading bays and servicing.
- To provide both elements of a built edge and for building articulation along the laneway/private access way.

Controls

- a Rear laneways/private access ways must be used as the principle point of access for private, customer and service vehicles for building fronting Merrylands Road.
- b Building edges at ground along a laneway/private access way have a 0m minimum and 6m maximum setback requirement to allow for some elements of built edge as well as area for services areas, parking and loading bays.
- c Where private access ways are required, a minimum setback is 8m to enable the creation of the private access way.
- d Loading/services bays off laneways and private access ways must be provided to services commercial and residential parts of mixed-use buildings. Minimum of one per development is required.
- e Easements for right of ways will be required where a private access way is required.

5. Private Domain Controls - Landscape and Open Space

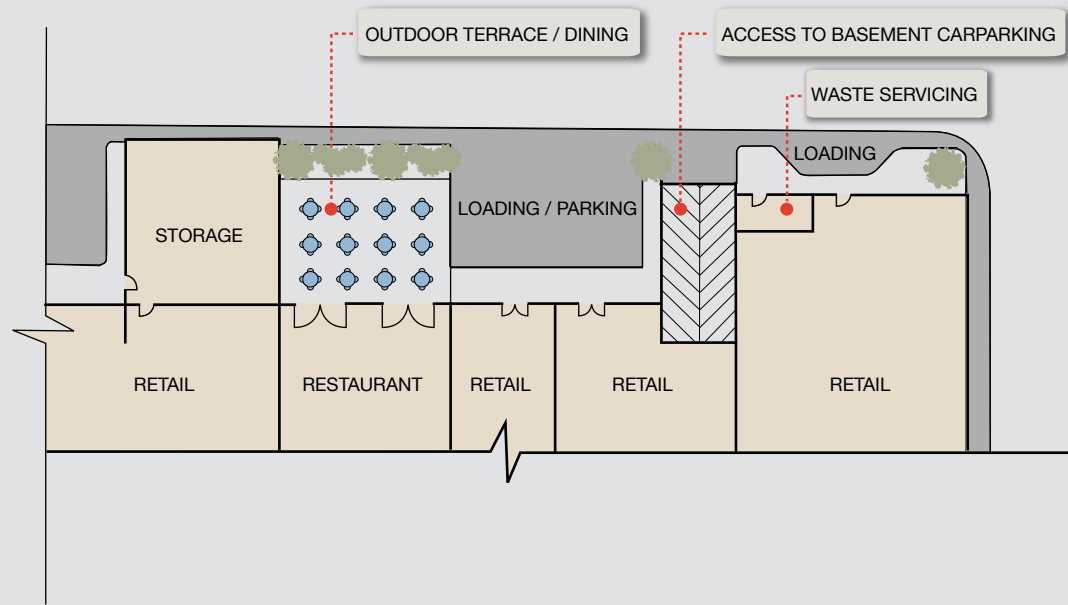
5.2 LANDSCAPE AND OPEN SPACE

The landscape builds on the existing site's natural and cultural features to contribute to a development's positive relationship to its context and site. Landscape design should optimise usability, privacy, social opportunity, equitable access and respect for neighbours' amenity. It has a significant role in improving the amenity of open space and the visual quality for the residents in the Town Centre.

Merrylands Town Centre generally has two types of landscaped areas including deep soil and on structure planting. Deep soil zones within the Town Centre are primarily located within the Civic Locality. New developments will be required to maintain and reinforce the landscape character of the locality. Additionally, there are opportunities within new developments to improve residential amenity by incorporating on structure planting into the landscape design.

Open spaces, in design terms, are those places that do not have a roof, but are useable recreation spaces for people. The size of open spaces can vary from large parks to small courtyards. Car parks are not considered open space because they are used to store cars and are not conducive for human recreation.

Figure 37. Address to Laneways



5.2.1 Landscape Design

Objectives

- To enhance the amenity within the development for residents.
- To retain existing deep soil zones and significant trees as identified in Figure 11.
- To maintain the existing contiguous front gardens in the Civic Locality.
- To maximise site infiltration through the use of on-site storm water detention and permeable surfaces.

Controls

- Submit a landscape plan prepared by a suitably qualified Landscape Architect.
- Landscaping plan must show areas the landscape design for communal open space areas, located on the podium of developments.
- Paving is required to utilise porous materials wherever possible to contribute to on-site stormwater management.
- Use evergreen material to enhance visual privacy between adjoining buildings.
- A landscape plan must be prepared detailing landscape treatments proposed along the street frontage (particularly within the Civic Locality).
- Planting and pavement treatments along the street frontage are to maintain the landscape character of the locality. Integrating the development with adjoining properties by using plant species appropriate to the scale of the streetscape is required.
- Minimum maintenance of landscaped areas through the use of robust materials and treatments is required.
- All landscape treatments are to be provided by and at the cost of the developer.
- Provide a landscape buffer along the northern boundary of the Stockland Mall car park to maintain visual and acoustic privacy to adjoining residential uses.

5.2.2 Communal Open Space

Communal open spaces are those spaces within the site that are accessible to and benefit all residents and users. These spaces are places that afford active and passive recreation activities as well as areas of planting to enhance the visual amenity of development as a whole.

Objectives

- To ensure every development that contains more than 10 units has access to an area of communal open space.
- To ensure communal open space is accessible to all users and allow for passive recreation.
- To provide landscaping within communal open space areas.
- To ensure that communal open space is designed to be useable.

Controls

- Locate communal open spaces, to the rear of buildings on podium areas which are accessible for residents.
- Provide communal open space on a podium level where the opportunity exists within a development.
- Communal open space must be useable and allow for passive recreation. The minimum dimension of communal open space in any one direction is 6m.
- Dwellings must be orientated towards communal open space areas to provide ensure passive surveillance.
- Dwellings off communal open space may provide private entries with adequate fencing to ensure a suitable level of privacy.

5. Private Domain Controls - Landscape and Open Space

5.2.3 Private Open Space/Balconies

Private open space in mixed use development is generally provided by balconies, however, where development is over podiums, there is opportunity for private courtyards/terraces on podiums.

Balconies are outdoor spaces, which enhance the amenity and lifestyle choices of apartment residents. They provide private open space, extend the living spaces of the apartment and take full advantage of orientation. Balconies are also important architectural elements, contributing to the form and articulation of apartment buildings.

Objectives

- To ensure every dwelling has access to a private, useable and functional private open space directly adjacent to living areas providing an extension of the living spaces.
- To provide balconies and terraces of sufficient size and proportion, which are large enough to accommodate an outdoor dining table and seating.
- To contribute to the articulation and modulation of the building façade through the use of balconies and terraces.
- To ensure balconies are functional and responsive to the environment thereby promoting the enjoyment of outdoor living for residents.
- To ensure balconies provide an opportunity for planter boxes, which enable planting within private open space.
- To ensure that balconies are integrated into the overall architectural form and detail of residential flat buildings.
- To contribute to the safety and liveliness of the street by allowing for casual overlooking and address.

Controls

- a** A minimum of one (primary) balcony and/or terrace must be provided for each residential unit.
- b** Primary balconies must :
- Be located adjacent to the main living areas, such as living room, dining room or kitchen to extend the dwelling living space;
 - Provide sufficiently large and well proportioned to be functional and promote indoor/outdoor living (ie include provision of a table and chairs). Primary balconies and terraces have a minimum dimension of 2.4m with a minimum area of 10m²; and
 - Provide for planter boxes to allow for plantings within private balconies.
- c** Consider secondary balconies, including Juliet balconies or operable walls with balustrades, for additional amenity and choice:
- In larger apartments;
 - Adjacent to bedrooms; and
 - For clothes drying, site balconies off laundries or bathrooms; they should be screened from the public domain.
- d** Design and detail balconies in response to the local climate and context thereby increasing the usefulness of balconies. This may be achieved by:
- Locating balconies facing predominantly north, east or west to provide solar access;
 - Utilising sun screens, pergolas, shutters or louvres and operable walls to control sunlight and wind;
 - Providing balconies with operable screens, Juliet balconies or operable walls/sliding doors with a balustrade in special locations where noise or high winds prohibit other solutions – along rail corridors, on busy roads or in tower buildings;
 - Ensure the long face of the balcony is oriented to the outside of the building;
 - Choose cantilevered balconies, partially cantilevered balconies an/or recessed balconies in response to daylight, wind, acoustic privacy and visual privacy; and
 - Ensuring balconies are not so deep that they prevent sunlight entering the apartment below.

- e** Design balustrades to allow views and casual surveillance of the street while providing for safety and visual privacy. Design considerations may include:
- Detailing balustrades using a proportion of solid to transparent materials to address site lines from the street, public domain or adjacent development. Full glass balustrades do not provide privacy for the balcony or the apartment's interior, especially at night; and
 - Detailing balustrades and providing screening from the public, for example, for a person seated looking a view, clothes drying areas, bicycle storage or air conditioning units.
- f** Use mechanisms to reduce noise impacts such as glass shutters to balconies.
- g** Additional balconies should have a minimum depth of 1.5m.
- h** Provide drying cupboards within balconies.
- i** Provide water and gas outlets on the main balconies, terraces and courtyards.
- j** Furniture layouts must accompany all development applications to ensure the useability of the balconies and terrace.
- k** Coordinate and integrate building services, such as drainage pipes and utilities/fixtures, with overall facade and balcony design, for example, drainage pipes under balconies are often visible from below in taller buildings and negatively impact the overall facade appearance.

5.2.4 On Structure Planting

A majority of landscaped areas within the Merrylands Town Centre will consist of on structure landscape planting. On structure planting occurs on top of built structures including basement car parking, podiums and on roofs within the confines of artificial soils, drainage and irrigation.

Objectives

- To improve the quality and amenity of private and communal open space areas within the development.
- To ensure private and communal open space areas are adequately landscaped and able to accommodate a range of plant species.
- To provide appropriate soil conditions, drainage and irrigation measures that encourage plant growth.

Controls

- a Planter boxes must be adequate in size, shape and design to ensure the optimum growth of plants.
- b The minimum requirement for soil provision is as follows:

Plant type	Minimum soil requirement	
Large Trees (up to 16m canopy diameter at maturity)	Volume Depth Area	150m ² 1.3m 10m x 10m
Medium Trees (8m canopy diameter at maturity)	Volume Depth Area	35m ² 1m 6m x 6m
Small Trees (4m canopy diameter at maturity)	Volume Depth Area	9m ² 800mm 5m x 3.5m
Shrubs	Depth	500-600mm
Ground Cover	Depth	300-450mm
Turf	Depth	100-300mm

5.2.4 Fences and Walls

Fences and walls include all vertical landscape elements used to define spaces and can contribute to the image and identity of the place.

Objectives

- To define boundaries between properties with different owners or functions.
- To provide privacy by screening views and security by restricting access.
- To characterise a place within the built environment by marking the landscape.

Controls

- a The design of all walls and fences must be appropriately integrated into the architectural design of the building.
- b Fences and walls surrounding private and communal open spaces, particularly on structure open spaces above the ground level are to be a minimum height of 1.2 m. Fences may extend to 1.8m, however these fences may only be partially opaque.
- c Front fences should be low, at a maximum height of 1.2m and are only permissible in the Civic Locality. A maximum of 20% opaque materials is permitted to facilitate surveillance of the street.
- d Materials must be durable, easily cleaned and graffiti resistant.

5. Private Domain Controls - Site and Building Amenity

5.3.1 Safety and Security

A safe and secure environment encourages activity, vitality and viability, which in turn encourage a greater level of security. The primary principles of safety and security include the casual surveillance of public spaces and minimising the physical threats to safety in an area.

Objectives

- To provide personal and property security for all users.
- To provide pedestrians with direct and well used traffic routes with good night lighting.
- To provide a high level of passive surveillance by ensuring clear views of the street and passing traffic from the building.

Controls

Suitable design will be achieved by:

- a The interface between public and private spaces must be clearly defined by the built form or design elements such as the location and treatment of building entries and the use of fences and walls.
- b Landscape planting should avoid opportunities for concealment where possible. Planting within the Civic Locality should be either low or a clean trunk to a height of at least 2m.
- c The design of roads and location of street furniture must ensure adequate sight lines for drivers.
- d The design and maintenance of paving and other ground plane treatments are required to prevent trip hazards in pedestrian walkways.
- e Driveway entry-exits must provide adequate sight lines to adjacent footpaths, streets and cycleways.

Casual surveillance of public open spaces will be achieved by:

- f Ensuring active uses in commercial or mixed-use areas and the main living areas in residential developments are oriented towards the street and overlook public spaces to enhance the perception of safety.
- g Optimising the visibility, functionality and safety of the interface between public and private spaces such as building entrance by:
 - Locating entrances along public street fronts;
 - Provide clear lines of sight between entrances, foyers and the street;
 - Provide direct entry into ground level uses from the street rather than through a common foyer that services uses above ground level; and
 - Provide direct, well-lit and secure access between car parks and lift lobbies to all floors of a development.
- h Blind or dark alcoves near lifts and stairwells at the entrance and within car parks, along corridors and walkways are not permitted.
- i Provide well-lit routes within the development.
- j Provide appropriate levels of illumination for all common areas, including communal open space.
- k Lighting in car parks and building entrances are required to be well illuminated which draw attention to these areas and increase the level of perceived safety for users.
- l Lighting must be provided under awnings to ensure pedestrian safety.

5.3.2 Visual and Acoustic Privacy

Buildings should be designed in such a way that visual and acoustic privacy is maximised, thus increasing the amenity for residents and visitors to the development.

Objectives

- To minimise the direct overlooking of internal and external living areas through appropriate site layout and building layout, location of windows and balconies, design of windows and use of screening devices.
- To maximise acoustic privacy to residential developments in the Town Centre as well as associated private open space.
- To mitigate noise from external sources such as railway, traffic or commercial activities, particularly to bedrooms.

Controls

- Screening must be provided between balconies within the development and to adjacent developments to reduce overlooking.
- Windows from one building to another building are to be off set to minimise overlooking.
- Orient the main living spaces within apartments to the street and/or rear gardens to avoid overlooking in adjoining buildings.
- Planting and landscape treatments between private, communal and public spaces are encouraged to minimise overlooking.
- Design the internal layouts of apartments and the location of courtyards, terraces and balconies, and openings within a development to minimise the noise transmission.
- Locate busy, noisy areas next to each other and quieter rooms next to each other as far as practicable.
- Comply with minimum standards for shared walls and floors:
 - RW rating 55 walls; and
 - RW rating 55 floors.
- Incorporate noise attenuation measures in all new development along major roads.
- Minimise the noise impacts of goods and service delivery as well as waste and garbage collection.
- Locate service equipment such as air conditioning units, in areas where noise can be minimised.
- Minimise the impact of noise associated for uses whose hours may extend outside of normal business hours including restaurants and cafes.
- Provide noise impact assessment with each Development Application submission.

5.3.3 Managing External Noise

The Merrylands Town Centre Precinct is bounded on the eastern side by the southern rail line and is traversed by Neil Street, Pitt Street, Merrylands Road and Treves Street.

Buildings adjacent to, or within 60 metres of, the rail line and immediately adjacent to the mentioned streets will need to consider the impact of external noise and vibration on any building(s) proposed, to ensure the protection of sleep and amenity for the occupying residents. For any development application affecting these sites a report from an appropriate qualified acoustic consultant (or other appropriately qualified professional) is required as a part of the planning documentation, to address matters relating to acoustic and vibration amenity.

Objectives

- To ensure that consent is not granted to development on land affected by external noise if, in the opinion of Council, such development would be affected by noise and vibration, unless the development will incorporate attenuation measures to the satisfaction of Council.
- To ensure development adjacent to either the railway line, or one of the abovementioned streets, mitigates, through the use of appropriate building materials and/or effective design and articulation, the impacts of external noise on the amenity of the residential and commercial buildings to an acceptable level.
- To require all proposed buildings adjacent to or within 60 metres of and operations railway line to comply with the State Rail Authority and Rail Infrastructure Corporation "Interim Guidelines for Applicants – Consideration of Rail Noise and Vibration in the Planning Process" November 2003.

Controls

- Development applications for sites (or parts of sites) that are within 60 metres of an operating railway corridor or are adjoining Neil Street, Pitt Street, Merrylands Road or Treves Street must provide a report from a qualified acoustic consultant (or other appropriately qualified professional). This report must demonstrate that noise and vibration levels will comply with the following criteria in habitable rooms, with external windows and doors closed. If noise levels with windows and doors open exceed these criteria by more than 10dBA, the design of the ventilation of these rooms shall be such that occupants can leave windows closed if they desire.
- Noise criteria for building(s) affected by external noise:

Internal space	Time period	Noise level Laeq (1hr)
Living & Sleeping Areas	<ul style="list-style-type: none"> • Day (7am to 10pm) • Night (10pm to 7am) 	<ul style="list-style-type: none"> • 40 dBA • 35 dBA
Non Residential Developments	Refer to: AS 2107-2000 Acoustics – Recommended Design Sound Levels and Reverberation Times for Building Interiors (Requirements may vary depending on the proposed use).	

Source: RIC and SRE Interim Guidelines for Applicants – Consideration of Rail Noise and Vibration in the Planning Process

- Floor vibration levels in habitable rooms should comply with the criteria in British Standard BS 6472: 1992 Evaluation of Human Exposure to vibration in Buildings (1Hz to 80Hz).
- Prior to the issue of an occupation certificate a noise compliance report shall be submitted to the Principle Certifying Authority confirming that the building(s) comply with the noise criteria specified in this DCP.
- Acoustic reports that are required under this plan must be prepared in accordance with the specified methodology provided in Appendix A.
- Comply with the following Australian Standards:
 - AS 1055-1997 Acoustics – Description and Measurement of Environmental Noise.
 - AS 1259-1990 Acoustics – Sound Level Meters.
 - AS 1633-1985 Acoustics – Glossary of Terms and related Symbols.
 - AS 2107-2000 Acoustics – Recommended Design Sound Levels and Reverberation Times for Building Interiors.

5. Private Domain Controls - Site and Building Amenity

5.3.4 Flexibility

Flexible designs ensure buildings that can accommodate for a wider range of occupants and changing lifestyle needs including but not limited to:

- Changing household types eg. single, couple, family or extended family;
- Mobility and access needs including provisions for the elderly and children in prams; and
- Future changes to use from residential dwellings to commercial offices.

Objectives

- To ensure housing designs meet the broadest range of occupants needs possible.
- To ensure 'long life loose fit' buildings, which can accommodate whole or partial changes of use.
- To provide opportunities for adaptive re-use.

Controls

- a Design commercial uses to permit adaptation and flexibility for future development.
- b Building configurations must be robust and provide multiple entries and circulation cores, especially in larger buildings over 15 m long by adopting the following:
 - Thin building cross sections which are suitable for residential or commercial uses;
 - A mix of apartment types;
 - Higher ceiling heights on the ground and first floors;
 - Separate entries for ground floor uses and upper levels; and
 - Sliding and/or moveable wall systems.
- c Apartment layouts are required to facilitate the change of use of rooms, including the provision of:
 - Windows in all habitable rooms and to a maximum number of non-habitable rooms; and
 - Adequate room sizes or open-plan apartments that enable a variety of furniture layout opportunities.
- d Structural systems are required to support changes in future building use or configuration including:
 - A structural grid that accommodates car parking dimensions, retail, commercial and residential uses vertically throughout the building;
 - The alignment of structural walls, columns and services cores between floor levels;
 - Minimising internal structural walls;
 - Higher floor to floor dimensions on the ground floor and possibly the first floor; and
 - Knock out panels between two adjacent apartments to allow future amalgamation.
- e Facilitate accessibility and adaptability of developments by:
 - Optimising the amount accessible retail, commercial, communal space;
 - Maximising the number of accessible apartments; and
 - Providing adequate pedestrian access and mobility in the development.

5.3.5 Apartment Layout

Apartment layout is critical in determining the quality of residential amenity, including spatial arrangement, access to daylight and natural ventilation and acoustic and visual privacy.

Objectives

- To ensure a quality spatial arrangement reflective of the town centre lifestyle.
- To ensure high a standard of amenity and flexibility for residents.
- To maximise the environmental performance of apartments.

Controls

- a No part of any residential unit should be more than 8m from the glassline.
- b Single aspect apartments are to have a maximum depth of 8m from the glassline.
- c The back of the kitchen should be no more than 8m from a window.
- d The width of any apartment is to be no less than 4.5m.(4.3m internally).
- e Residential apartments are to have the following minimum internal floor areas:
 - Minimum studio size of 40m² with a minimum 4.5m dimension;
 - One-bedroom unit minimum size of 50m²;
 - Two-bedroom unit minimum size of 70m²; and
 - Three-bedroom minimum size of 95m².

5.3.6 Storage

Providing storage space for items ancillary to people's living needs is particularly important in residential developments where the size of dwellings and their configuration are constrained. Storage is conventionally calculated on an apartment by apartment basis, proportional to the size of the apartment.

Objectives

- To provide adequate storage for everyday household items within easy access of the apartment.
- To provide storage for sporting, leisure, fitness and hobby equipment.

Controls

- a** Locate storage conveniently for apartments. Options include providing;
- At least 50 percent of the required storage within each apartment and accessible from either the hall or living area. Storage within apartments is best provided as cupboards accessible from entries and hallways and/or from under internal stairs;
 - Dedicated storage rooms on each floor within the development, which can be leased by residents as required; and
 - Providing dedicated and/or leaseable storage in internal or basement car parks. Leasing storage provides choice and minimised the impact of storage on housing affordability.
- b** Provide storage, which is suitable for the needs of residents in the local area and able to accommodate larger items, such as:
- Sporting equipment (skiing, surfing, golfing etc); and
 - Bicycles.
- c** Ensure that storage separated from apartments is secure for individual use and that the content of the storage space is not visible.
- d** Where basement storage is provided, ensure that it does not compromise natural ventilation in car parks or create potential conflicts with fire regulations.
- e** Consider providing additional storage in smaller apartments in the form of built-in cupboards to promote a more efficient use of small spaces.
- f** In addition to kitchen cupboards and bedroom wardrobes, provide accessible storage facilities at the following rates:
- Studio apartments 6m²;
 - One bedroom apartments 6m²;
 - Two bedroom apartments 8m²; and
 - Three plus bedroom apartments 10m².
- g** Storage area is not included as part of the Net Unit Area.

5.3.7 Facade

A high level of urban design quality is greatly dependent on the design and appearance of buildings. Well-designed, new buildings can improve the character and the appearance, and may contribute to the coherence of the Town Centre.

Objectives

- Building walls addressing the street must be articulated to add interest and to avoid bulky appearance.
- Buildings should be designed to incorporate an even balance between glazed and unglazed areas on floors above ground level.
- Highly reflective and glazed finishes are discouraged above the ground floor.

Controls

- a** Adopt vertical emphasis above awnings and avoid horizontal emphasis, particularly broad opaque, blank walls, and horizontal windows above the awning level.
- b** All buildings to comprise a tripartite vertical arrangement such as bottom, middle and top.
- c** New buildings should express the existing underlying subdivision pattern.
- d** Express vertical elements within the façade rather than floor levels.
- e** Provide a street address to each building.
- f** Distinguish residential entries from commercial/retail entries in the case of mixed use development.

5. Private Domain Controls - Site and Building Amenity

5.3.8 Signage

Signage plays a significant part in indicating retail and commercial uses and in creating a lively retail strip.

In some instances, businesses desire too much signage creating visual clutter detracting from the streetscape quality.

Signage in the Town Centre should be integrated into the design of the new buildings.

Objectives

- To ensure signage complements the built form and character of the Town Centre.
- To ensure signage does not dominate nor detract from the existing architecture.
- To require signage to be integrated into the building design.

Controls

- Comply with Holroyd DCP No 16 – Guidelines for Advertising and Advertising Structures and SEPP No. 64 (Advertising and Signage).
- Protect the visual quality and the amenity of the streetscape.
- Do not locate signage to obscure important architectural features.
- Do not locate signs so that they protrude, or stand proud of the awnings.
- Roof signs and any other advertising structures which project above the parapet of the building or any part of the building to which they are attached is not permitted.
- Fin signs and projecting wall signs are limited to 1 per every 25m street frontage or 1 per site.
- Fin signs and projecting wall signs must not project more than 900mm from the wall (facade) to which they are affixed and no part is to be on or within 300mm of a residential level of a building.
- The size of signs shall not dominate or obscure the architecture of the buildings.
- Painting entire or part of building facades and walls or their coverage with cladding or other material to act as a large billboard is not permitted.
- Size and shape of any other outdoor advertising must relate to the size of the building or space to which it is attached or placed.

5.3.9 Corner Buildings

Building corners are important both in terms of “way finding” and “place making”. They are often used as markers or signs that contribute to making place and or marking an important intersection.

Objectives

- To ensure corner sites are developed as visually significant elements in order to promote a strong and legible character.

Controls

- Articulate street corners by massing and building articulation.
- Design corners to add variety and interest to the street.
- Present each frontage of a corner building as a main street frontage.
- Corners are generally not greater than 18m in depth in any direction and must be designed in accordance with the block by block controls.

5.3.10 Awnings

Awnings assist in providing a pleasant pedestrian environment, weather protection and contribute to the creation of pedestrian-scaled environment.

Objectives

- To provide awnings to ensure weather protection to pedestrians.
- To provide visual interest through a continuous awning theme.

Controls

- Colonnades are not permitted for buildings addressing the main street. Colonnades may be considered only for building facades that address open space areas.
- Provide continuous street frontage awnings to all new developments within the Town Centre along Merrylands Road, McFarlane Street and Pitt Street.
- Provide awnings in modules to match building frontages.
- Wrap awnings around corners on street corner buildings.
- Cantilevered awnings from the buildings with a minimum soffit height of 3.2m – 3.3m.
- Provide almost flat awnings with slim vertical facias and/or eaves (not to exceed 300mm).
- Do not break a continuous run of awnings.
- Canvas blinds along the street edge are permitted.
- Provide under awning lighting in accordance with Council’s public domain strategy for Merrylands Town Centre.
- Awnings are to be located over all building entries to indicate entry points.
- Awnings must be 3m deep. Awnings should be setback from the kerb a minimum of 600mm.
- Awnings should be complimentary to each other.

5.3.11 Roof Form

The relative consistency in roof height and form assists in defining the street wall and the cohesiveness of the retail frontage. The range in forms and parapets contribute to the skyline or silhouette of the Town Centre rooftops.

Objectives

- To contribute to the character of the Town Centre; and
- To incorporate well designed rooftops that add visual interest to the skyline when viewed from street level or surrounding key vantage points.
- To ensure the desired amenity for public spaces is achieved.

Controls

- a The maximum slope of a roof should be 36°.
- b Wherever possible provide landscaped and shaded areas on roofs.
- c Roof space will not be considered as a storey if the angle between the parapet and the roof ridge is less than 36°.
- d Incorporate roof top elements such as lift overruns and service plant into the design of the roof.
- e All roof forms and roof top elements should not exceed more than 300mm above the maximum heights limit for the site.
- f Roof forms selected should not unreasonably prevent direct solar access to the southern side of Merrylands Road and McFarlane Street in the early afternoon.
- g Minimise the bulk and mass of roofs and the potential for overshadowing from roofs.
- h Use parapets in the core retail area.
- i Where flat roofs are proposed, lift overruns, rooftop plant and machinery should be obscured from view by parapets or be incorporated within rooftop activities/features.

5.3.12 Building Form

A high level of urban design quality is greatly dependent on the design and appearance of buildings. Well-designed new buildings not only improve the character and appearance but also contribute to the coherence of the public domain. In particular:

- Building corners are important as markers or signs that contribute to place making and or marking an important intersection;
- Awnings assist in providing a pleasant pedestrian environment and contribute to the creation of a pedestrian scaled built form in the Town Centre;
- The relative consistency in roof height and form assists in defining streets. A range of forms and parapets contribute to the skyline or silhouette of the Town Centre; and
- The palette of materials contributes to the perceived image of the built environment and assists in creating a unified streetscape.

Objectives

- To promote high quality architectural design.
- To ensure corner sites are developed as visually significant elements in order to promote a strong and legible character.
- To provide awnings to ensure weather protection to pedestrians.
- To ensure roof forms contribute to the proposed character of the town centre and residential areas.
- To use materials which reinforce building proportions and façade articulation.

Controls

- a All apartment buildings must be designed by a registered architect in accordance with SEPP 65.
- b All buildings should express internal functions in their facades.
- c Present each frontage of a corner building as a main street frontage.
- d All buildings above 3 storeys should comprise a tripartite vertical arrangement, by expressing clearly the bottom, middle, and top of the building.
- e Limit opaque or blank walls for ground floor uses to 20% of the street frontage.
- f Articulate and fragment building walls addressing the street to add visual interest.
- g Highly reflective finishes and curtain wall glazing are not permitted above the ground floor.
- h Adopt vertical emphasis above awnings and avoid horizontal emphasis, particularly broad opaque, blank walls, and horizontal windows above the awning level.
- i Provide predominantly glazed shop fronts to all ground floor retail areas. Minimise blank walls at ground level.

5. Private Domain Controls - Environmental Management

5.3.13 Colours and Materials

The selection of materials, finishes, and colours should consider the character of the Town Centre and the surrounding area, allowing for unity as well as diversity.

Objectives

- To use new materials which do not detract from the materials found within the Town Centre.
- To use materials which reinforce building proportions and façade articulation.
- To use colours which are in character with the existing buildings.

Controls Materials

- a** Utilise high quality and durable materials and finishes.
- b** Remove any light-weight facades and reveal or reinstate original facades.
- c** The following materials are preferred:
 - Face brick with coloured render;
 - Light-weight material may be used above the fourth floor;
 - Plain glass windows; and
 - Timber window and door joinery.
- The following materials are incompatible:
 - Large wall tiles;
 - Rough textured render;
 - Polished metal and curtain walls; and
 - Reflective glass.
- d** Avoid expanses of any single material.

Colours

- e** Generally, paint all rendered and stucco buildings with flat acrylic paint.
- f** Paint exterior joinery with glossy finish and monochrome schemes.

5.4 ENVIRONMENTAL MANAGEMENT

Environmental management considers detailed building design solutions that are created to ensure the building form responds appropriately to the micro climate in which the site is located. New developments need to minimise their impact on the existing environment through building designs that address the following:

- Solar access, overshadowing and natural daylight;
- Low Energy Living Comfort;
- Water conservation;
- Natural ventilation;
- Stormwater management;
- Materials selection;
- Waste management; and
- Flood management.

5.4.1 Solar Access, Overshadowing and Natural Daylight

Solar access is a major determinant of environmental comfort. Good passive solar design offers a resource and financial benefit by reducing the need for artificial heating and cooling.

Day light contributes to healthy, energy saving and lively environments by heating and lighting the rooms using solar source.

Objectives

- To maximise the use of natural light both direct and indirect to reduce the electricity and increase energy-efficiency.
- To ensure new development will not unduly overshadow public open space, or unduly impact on solar or natural daylight access to habitable rooms or areas in adjacent dwellings.
- To facilitate good solar access to both internal and external living spaces.

Controls

- a** A minimum of three consecutive hours of direct sunlight is to be achieved between the hours of 9am and 3pm, to a minimum of 75% of the public open space areas, as identified in this DCP.
- a** Access to sunlight is to be maintained so that the private open spaces and the windows of habitable rooms in existing and proposed adjoining buildings (as provided for in this DCP) will receive at least 3 hours of sunlight between 9am and 3pm on 21 June.
- a** Living spaces, office spaces and the primary private open spaces are to be located, where possible, on the northern or eastern sides of the development.
- a** North-facing openings are encouraged to gain solar light.
- a** Ensure windows are of adequate sizes and proportions to allow sunlight penetration to interior spaces.
- a** Allow reflected light from light-coloured walls, ceilings and light shelves which direct daylight into interior spaces.
- a** Provide south facing units with alternative orientation to achieve solar access.
- a** Provide adjustable shading devices for shading and glare control.
- a** Single aspect units are not to be greater than 8m in depth.

5.4.2 Low Energy Living Comfort

Passive solar design and the optimisation of thermal performance contribute to the comfort of dwellings, the reduction of greenhouse emissions and reduction of energy costs.

Objectives

- To reduce energy consumption in terms of heating, cooling and artificial lighting.
- To maximise solar gain in winter and to minimise solar gain in the summertime.
- To use energy efficient materials with insulation properties.
- To provide a high level of residential amenity and living comfort with a low on going cost.

Controls

- a Design the building to ameliorate the temperature from the outside to the inside to reduce demand on energy consumption.
- b Orientate the building to maximise solar gain in winter and to minimise solar gain in summer.
- c Comply with mandatory BASIX targets for greenhouse gas emissions and thermal comfort.
- d Balconies, living rooms and dining rooms are to be north and north-east facing wherever possible.
- e Provide south facing units with alternative orientation to ensure the provision of solar access and cross ventilation.
- f Locate non-habitable rooms such as laundries, bathrooms and kitchens in the southern parts of the buildings.
- g Group wet areas such as bathrooms, kitchens, and laundries to minimise pipe runs.
- h Utilise cooling breezes in the summer time to cool living and working spaces.
- i Shade windows to minimise solar gain in the summer time and to allow solar gain during the winter months.
- j Provide an external clothes drying space for each unit in the form of a screened balcony or part of a balcony, at least 2m x 1.5m and with clothes lines or fold out racks. This clothes drying area shall be additional to any private open space.

5.4.3 Water Conservation

Water conservation is a very important part of implementing an Ecologically Sustainable Development (ESD) plan. This can be done at the residential scale by putting a few controls in place.

Objectives

- To minimise water consumption and encourage water reuse.

Controls

- a Comply with mandatory BASIX targets water conservation.
- b Buildings are to provide rainwater tanks connected to outdoor garden watering as a minimum.

5.4.4 Natural Ventilation

Natural ventilation is important in contributing to the internal amenity of new buildings, to achieve a high quality living environment and to reduce energy consumption.

Local conditions such as climate, building orientation, building configuration and building envelope need to be considered in determining the openings, which will enable natural ventilation.

Buildings should encourage the use of natural ventilation, such as cross ventilation. Cross ventilation should be achieved in all sections of the building, including basement car parks.

Objectives

- To ensure buildings are designed to provide direct access to natural ventilation and to assist in promoting thermal comfort for occupants.
- To reduce energy consumption by minimising the use of mechanical ventilation, particularly air conditioning.

Controls

- a 80% of all dwellings within a residential apartment building should be cross ventilated.
- b 25% of kitchens within a development must have direct access to natural ventilation.
- c Ensure each dwelling can be naturally ventilated through the appropriate siting and layout of the rooms.
- d Locate window and door openings to facilitate cross ventilation.
- e Arrange windows, doorways and other openings to allow free internal air movements.
- f Double loaded corridors in apartment buildings are limited to 8 dwellings per floor, unless these are cross-over apartments in which case the maximum number of dwellings shall not be more than 12.
- g All habitable rooms must meet the requirements of natural ventilation in the BCA.
- h Single aspect units are limited to a building depth of 8m. Direct solar access should be maintained all year round to pedestrians on the southern side of Merrylands Road and McFarlane Street during the early afternoon.

5. Private Domain Controls - Environmental Management

5.4.5 Stormwater Management

The Merrylands Town Centre was built along one of the major watercourses that drained towards A'Beckett Creek and as such some parts of the Town Centre are subject to flooding.

Objectives

- To minimise stormwater run off.
- To control the quality and quantity of stormwater, and to reduce impacts on adjoining properties.

Controls

- Minimise run-off by the reuse and recycling of stormwater. Provide soft landscape planting beds, where possible, to assist in the recharge of existing ground water.
- Provide on-site detention to mitigate flow into the existing stormwater system at all sites in keeping with Council's On-Site Detention principles.
- Maintain existing overland flow paths.
- Use gravity drainage connections to stormwater system.
- Submit a stormwater drainage concept plan with each Development Application.
- Permeable paving is to be used to assist the recharge of the existing ground water.

5.4.6 Building Materials

The selection of building materials has consequences for the environment in all phases of a building's life. From the initial manufacture of the materials, through to the construction of the building, and ultimately in the building's demolition, selection of materials should take into account the lifecycle of the material and its impact on the environment.

Objectives

- To minimise the impact of material selection on the environment.

Controls

- Plantation, recycled or Australian regrowth timbers should be used instead of rainforest and old growth forest timber.
- Materials should be selected on the basis of the following criteria. They should:
 - have a low-embodied energy;
 - not pollute during the manufacturing process;
 - be sourced from renewable resources;
 - be recycled, or able to be recycled after its "life".
 - be durable, low maintenance, and non-toxic to the occupants of the building.

5.4.7 Waste Management

The minimisation of waste generated and disposed of during all facets of developments is essential if we are to reduce the environmental impact of the demolition and construction industry.

The incorporation of waste management planning into all stages of development from demolition and construction to end use will make waste minimisation easier and more convenient, ensuring the conservation of valuable resources.

Objectives

- To minimise waste generation and disposal to landfill during demolition and construction works in accordance with the waste hierarchy - promoting source separation and subsequent reuse/recycling of materials over and above disposal.
- To ensure that reuse/recycling options are utilised at every opportunity and that any necessary waste disposal is lawful and efficient.
- To ensure the provision of adequate and appropriate storage areas for waste and recyclables during all stages of development.
- Maximise the amenity of the development and the opportunity for reuse/recycling by future tenants through effective design of facilities.

Controls

- Integrate waste management processes in all stages of development.
- Source separation facilities (eg. waste bays) should be provided on building sites so that different materials may be easily separated during construction and demolition. This will maximise the potential for reuse/recycling during demolition and construction works.
- Garbage/recycling storage areas must be located so as to be easily serviced and not cause any negative impacts in terms of visual appearance, noise or smell, to residents, adjoining properties or to the street.
- Waste separation facilities must be provided in all kitchens to encourage the separation of waste at its source.
- Waste separation facilities must be provided in all kitchens to encourage the separation of waste at its source.
- Ventilation stacks should be utilised wherever possible (and necessary) to vent shops and basements.
- A waste management plan must be submitted with any development application and approved prior to development approval.

5. Private Domain Controls - Flood Management

5.5 FLOOD MANAGEMENT

The Merrylands Town Centre Precinct has been identified as being affected by local flooding. There are existing buildings within the commercial precinct of the Town Centre which are at high risk of flooding. This area is an important part of the Town Centre therefore buildings within the flood affected areas are required to be designed to ensure minimal damage in the event of flooding.

5.5.1 Objectives

- To ensure appropriate flood management and protection of the overland flow path.
- To require buildings within the flood affected areas are designed to ensure minimal damage in the event of a flood.

5.5.2 Controls

- a Buildings within areas identified as flood affected are to use flood compatible materials as stated in Appendix B of this DCP.
- b Basement car parking entrances and all inverts to basement vents are to be a minimum of 150mm above the 100-year ARI flood levels.
- c Ramping up 150mm above the 100-year ARI flood levels and then down to basement level car parking is permitted, provided the ramp is a maximum 700mm above ground level.
- d For all residential and accommodation components finished floor levels are to be a minimum of 500mm above 100-year ARI flood levels.
- e For all commercial and retail components:
 - where practical, set building floor levels with freeboard of at least 500mm above the 100-year ARI flood levels (subject to flood investigations, to be submitted with Development Applications); or
 - on street frontages to Merrylands Road, McFarlane Street and Pitt Street where it is not practical or desirable to achieve floor levels 500mm above the 100-year ARI floor levels, alternative flood management measures (such as flood proofing) must be undertaken.
- f Buildings located within the 100 year ARI flood levels are to have General Power Outlets (GPOs) 300mm above the 100 year ARI flood levels.

Appendix - Acoustic Requirements

Appendix A sets out the technical requirements and data acquisitions methods acceptable to Council for acoustic reports required under this Development Control Plan.

1.0 DEFINITIONS

Façade Noise Level:

The sound pressure level experienced from measurements taken within 1m of the façade of the building or free field measurements adjusted by a correction of +2.5dB(A) to account for façade reflections.

Logarithmic average:

The average obtained using the following formula:
 $10\log_{10}\frac{10^{L_1/10} + 10^{L_2/10} + \dots + 10^{L_N/10}}{N}$

Daytime/night time:

Daytime is defined as between 7.00am to 10.00pm and night time is defined as 10.00pm to 7.00am.

Sound Exposure Level:

(SEL or LAE) is defined in lay terms as the time integral (amount of acoustic energy over time) of a noise event compressed or normalised to one (1) second period and expressed in dB(A).

LAeq:

The value of the A-weighted sound pressure level of a continuous steady sound that, within a measurement time interval has the same mean square sound pressure level as a sound under construction.

ESD:

Ecologically sustainable development. Has the same meaning as prescribed in the Environmental Planning & Assessment Act, 1979.

AADT:

Average annual daily traffic count.

2.0 SOUND INSULATION AGAINST EXTERNAL NOISE

2.1 Quantifying the existing acoustical environment

The external acoustic environment shall be quantified using the methods outlined below. Methods departing from the procedural requirements outlined shall be supported by a scientifically valid rationale to demonstrate that the method is no less accurate than described.

2.1.1 Road Noise

Road noise shall be quantified over a period of not less than three consecutive days of measurement using an instrument complying with the Type 2 requirements of AS1259.2-1990 'Acoustics-Sound Level meters-Integrating Averaging'. The measurements shall be undertaken when traffic movements are relatively indicative of normal volumes. The consultant should note any variations to normal movements that may be caused by road works or school holidays and the like and make valid adjustments where practicable. Weather conditions shall be noted and conducive to the acquisition of valid data. Periods of inclement weather may be deleted from the data set while not reducing the overall period of the measurement.

The data shall be collected as either consecutive LAeq, 1hr periods or in shorter periods that may be manipulated to provide LAeq, 1hr measurements. The design external sound pressure level shall be the highest logarithmic mean (energy average) of the acquired measurements over the daytime and night time period as calculated to be experienced at the relevant residential facades. Where the measurements acquired are free field a façade correction factor of +2.5dB(A) shall be applied.

The measurements shall be made at positions that either represent the relevant façade sound pressure levels or in positions where accurate extrapolation may be made of the façade noise exposures. In any case the positions of the positions of the sound logging meters shall be clearly shown and justified.

2.1.2 Rail Noise

Due to the potential for intermittent movements of rail traffic, rail movements shall be assessed in terms of both amenity and sleep disturbance. This will require the acquisition of acoustic data capable of quantifying the acoustic parameters of LAmax and LAeq, 1hr. Where the rail line features freight traffic the LCmax shall also be acquired to assess the need for a low frequency correction factor.

The sleep disturbance analysis may be dispensed with where it can be demonstrated that the number of rail movements does not indicatively exceed 2 per day and one per night. Daytime being 7.00am – 10.00pm and night time being 10.00pm – 7.00am. The following procedures may be adopted to quantify the rail noise exposure of the relevant facade/s in terms of amenity and sleep disturbance. Alternative methods may be considered where justification is valid.

Amenity Evaluation:

- Measure a representative number of rail events at the site of the relevant residential facade using the acoustic measure of Sound Exposure Level (LAE or SEL). The rail event measurements should be representative of the types of movements experienced on the line ie freight and passenger movements. The SEL is defined in lay terms as the time integral (amount of acoustic energy over time) of a noise exposure event compressed or normalised to a one (1) second period and expressed in dB(A).

NOTE: The LAmax noise levels of the rail event measurements should be acquired at the same time for use in the sleep disturbance analysis. Where it is determined that the rail line under consideration is used for freight purposes LAmax and LCmax data shall be acquired for that particular class of movement.

- Derive the energy average (logarithmic average as opposed to arithmetic average) of the rail events. Where the line usage includes both freight and passenger movement's the energy average for both classes of movement should be derived. Energy averages can be simply derived in the following way:

Energy Average = $10\log_{10}\left(\frac{100 \cdot 10^{LAE/10}}{\text{number in the set}}\right)$

- Contact the responsible authority for the particular rail line and establish a schedule of movements per hour. Subjectively establish the average repeatable maximum hourly rail movements. Using the established energy average LAE and the rail movement number the LAeq, 1hr can be established using the following algorithm. Where the line usage includes both freight and passenger movements the LAeq, 1hr calculation shall have regard for the derived SELs for each class of movement (ie freight & passenger) and the frequency of occurrence obtained from the line authority.

LAeq, 1hr = $10\log_{10}\left(\frac{100 \cdot 10^{LAE/10}}{1}\right) - 35\text{dB(A)}$

- The resultant LAeq, 1hr can be used as the rail noise exposure for the development and used to establish the sound insulation requirements to satisfy the indoor amenity criteria of the policy.

Appendices

Sleep Disturbance Evaluation

- From the acoustic data acquired from the above procedures select the highest LA_{max} measurement from the rail movements.
NOTE: Where the line under consideration includes freight movements a +5dB(A) correction factor shall be applied to the relevant LA_{max} levels where the LC_{max} exceeds the LA_{max} by more than 15dB(A).
- The highest LA_{max} shall be used to establish the sound insulation requirements to satisfy the indoor sleep disturbance criteria for bedrooms only.

2.2 INTERNAL NOISE GOALS

Table 1 presents the indoor noise level goals (or criteria) required to satisfy the requirements of the DCP.

Table 1: Indoor Design Noise Level LA_{eq},1hr, dB(A) (amenity) & LA_{max} (disturbance)

Type of occupancy	Daytime	Night time
Sleeping Areas	40 (amenity) 55 (disturbance)	35 (amenity) 50 (disturbance)
Normal Domestic	45	40

NOTE: Daytime is defined as 7.00am to 10.00pm and night time is defined as 10.00pm to 7.00am. The noise levels presented represent the maximum repeatable LA_{eq},1hr (amenity) or the LA_{max} (disturbance for rail event only) for the period nominated. This information is required for design purposes. Validation measurements could be acquired over a shorter check period.

NOTE: The less stringent criteria for 'Normal Domestic' spaces is intended to promote passive acoustic design principles and to promote the consideration of the acoustic environment early in the design process. That is, a design that maximises shielding to bedrooms will result in less onerous requirements for glazing details and hence a sustainable saving in terms of materials.

2.3 OPERATING CONDITIONS OF THE BUILDING – VENTILATION

Where the indoor design noise levels cannot be satisfied with windows open to 5% of the floor space of the room under consideration alternative means of ventilation are required. The following hierarchy of alternatives should be considered in the options analysis with (i) being most preferred and (ii) least preferred.

- Design the building to ensure that passive ventilation will not seriously compromise the acoustic integrity of the building. Noise sensitive uses should be located as far as practicable from noise sources. Windows should be orientated away from noise sources.
- Provide the building with mechanical ventilation satisfying the requirements of the Building Code of Australia.

For the purpose of design analysis a room by room approach is acceptable and hence assumes that internal doors are closed and that negligible noise transfer between rooms occurs. If a perimeter approach is adopted the lower indoor design noise level shall be adopted for the composite space.

2.4 ACOUSTIC COMPLIANCE REPORTING

2.4.1 Preliminary Report

Development Applications will be required to be accompanied by a Preliminary Report from a suitably qualified acoustic consultant providing the results of preliminary measurements taken at the most exposed façade location to road traffic noise. Preliminary measurements will consist of an LA_{eq},(1hr) taken between 7.00am - 9.00am or 4:30pm - 6:30pm. A sound pressure level exceeding LA_{eq},1hr 60dB(A) will trigger the requirements of the plan. Where the site is located within 60 metres of a land corridor accommodating a rail line the Preliminary Report should include an assessment of rail noise in accordance with Section 2.1.2 of this appendix.

2.4.2 Design Report

The design report shall be submitted with the development application when the preliminary report has demonstrated that the Plan is applicable, that is the preliminary measurements have demonstrated a potential façade exposure level exceeding LA_{eq},1hr 60dB(A).

The design report shall include:

- A site plan of the development proposal showing the location of the noise/ vibration measurement points;
- A graphical representation of the acquired road traffic noise data over the minimum three day period (refer Section 2.1.1);
- A statement quantifying the measured or adjusted façade noise levels derived for design purposes for both road and rail noise, and rail vibration as applicable;
- Recommendations for specific façade upgrades to satisfy the indoor design noise levels of the Plan or vibration 3D viewlation requirements to satisfy the vibration criteria of the Plan. Where appropriate the recommendations shall include a listing of suppliers of recommended elements; and
- A statement indicating that the design noise/ vibration levels will be achieved following the effective implementation of the required noise controls.

2.5 VALIDATION REQUIREMENTS

Following completion of the building a statement from a suitably qualified acoustic consultant will be required clearly indicating that the acoustic recommendation of the design report have been satisfactorily incorporated into the building. Periodic inspections by the acoustic consultant may be warranted to ensure that retrofitting of the acoustic recommendations is not required at the completion of the project. This statement is to be supported by validation measurements within at least two (2) bedrooms and one (1) living room for developments comprising up to ten (10) units. Additional rooms will be required to be validated on the basis of one (1) additional room per ten (10) additional units, or alternatively as nominated by Council.

The validation measurement period may be reduced to an LA_{eq},15min per room. The time of the validation assessment shall be determined from an analysis of the acoustic data obtained under Part 2 of this Appendix in order to determine the time of the maximum external noise period. The time of the validation measurements shall be clearly stated in the validation report and justified. External noise measurements may be used to justify the selected time to demonstrate that the period selected was indicative of the maximum external noise used in the design process. The validation statement shall be submitted to the Principal Certifying Authority (PCA) and approved prior to the issue of occupation certificates.

Appendix B - Flood Compatible Materials

Building component	Flood compatible material	Building component	Flood compatible material
Flooring and Sub-floor Structure	concrete slab-on-ground monolith construction suspension reinforced concrete slab	Doors	solid panel with water proof adhesive flush door with marine ply filled with closed cell foam painted metal construction aluminium or galvanised steel frame
Floor Covering	clay tiles concrete, pre-cast or in situ "concrete tiles "epoxy, formed-in-place "mastic flooring, formed in-place rubber sheets or tiles with chemical-set adhesives silicone floors formed in-place vinyl sheets or tiles with chemical-set adhesive "ceramic tiles, fixed with mortar or chemical-set adhesive asphalt tiles, fixed with water resistant adhesive	Wall and Ceiling Linings	fibro-cement board brick, face or glazed clay tile glazed in waterproof mortar " concrete " concrete block steel with waterproof applications stone, natural solid or veneer, waterproof grout glass blocks glass plastic sheeting or wall with waterproof adhesive
Wall Structure	solid brickwork, blockwork, reinforced, concrete or mass concrete	Insulation Windows	foam (closed cell types) aluminium frame with stainless steel rollers or similar corrosion and water resistant material.
Roofing Structure (for Situations Where the Relevant Flood Level is Above the Ceiling)	reinforced concrete construction galvanised metal construction	Nails, Bolts, Hinges and Fittings	brass, nylon or stainless steel removable pin hinges hot dipped galvanised steer wire nails or similar

Electrical and Mechanical Equipment

For dwellings constructed on land to which this Policy applies, the electrical and mechanical materials, equipment and installation should conform to the following requirements.

Main power supply –

Subject to the approval of the relevant authority the incoming main commercial power service equipment, including all metering equipment, shall be located above the relevant flood level. Means shall be available to easily disconnect the dwelling from the main power supply.

Wiring –

All wiring, power outlets, switches, etc., should, to the maximum extent possible, be located above the relevant flood level. All electrical wiring installed below the relevant flood level should be suitable for continuous submergence in water and should contain no fibrous components. Earth core linkage systems (or safety switches) are to be installed. Only submersible-type splices should be used below the relevant flood level. All conduits located below the relevant designated flood level should be so installed that they will be self-draining if subjected to flooding.

Equipment –

All equipment installed below or partially below the relevant flood level should be capable of disconnection by a single plug and socket assembly.

Reconnection –

Should any electrical device and/or part of the wiring be flooded it should be thoroughly cleaned or replaced and checked by an approved electrical contractor before reconnection.

Heating and Air Conditioning Systems

Heating and air conditioning systems should, to the maximum extent possible, be installed in areas and spaces of the house above the relevant flood level. When this is not feasible every precaution should be taken to minimise the damage caused by submersion according to the following guidelines.

Fuel –

Heating systems using gas or oil as a fuel should have a manually operated valve located in the fuel supply line to enable fuel cut-off.

Installation –

The heating equipment and fuel storage tanks should be mounted on and securely anchored to a foundation pad of sufficient mass to overcome buoyancy and prevent movement that could damage the fuel supply line. All storage tanks should be vented to an elevation of 600mm above the relevant flood level.

Ducting –

All ductwork located below the relevant flood level should be provided with openings for drainage and cleaning. Self-draining may be achieved by constructing the ductwork on a suitable grade. Where ductwork must pass through a water-tight wall or floor below the relevant flood level, the ductwork should be protected by a closure assembly operated from above relevant flood level.

Glossary of Terms

Access way means any internal street or driveway providing local access for shared traffic, pedestrian and/or recreation use.

Acoustic privacy refers to the measure of sound between dwellings, and between external and internal spaces.

Balcony means an open area above ground level, not being an enclosed room or area, attached to or integrated with a dwelling for the exclusive enjoyment of the occupant or occupants of a dwelling. Balconies and eaves may extend beyond the front and rear extent of the envelope by up to 600mm, but may not extend beyond the property boundaries.

Block refers to a group of subdivided lots, the edge of which is bound by public roads, and in some cases, public roads and public open space.

Building envelope means a three dimensional shape within which a development must fit. It defines the limits for the siting (including setbacks) and height of any buildings.

Building footprint means the area of land measured at finished ground level that is enclosed by the external walls of a building.

Building height means the vertical distance between the natural ground level and the ceiling level of the uppermost storey, is defined in terms of storeys and must comply with section 3.2 Building Heights of this DCP.

Communal open space means useable shared open space for the recreation and relaxation of all residents of a mixed use development.

Cornice means decorative moulding around the top of a wall.

Deep soil zone refers to an area of the site that is not to be built upon thereby leaving an area of deep, soft soil for substantial deep-rooted vegetation and natural vegetation, and natural drainage. The zone must be positioned at the rear of the site and/or located to enable the retention of existing mature and/or significant trees.

Development area means that part of the site area capable of having a building constructed on it exclusive of:

- Land where development is not permissible under the LEP; and
- Land that is not constrained by being flood prone or subject to instability.

Dwelling means a room or number of rooms occupied or so used or so constructed or adapted as to be capable of being occupied or used as a separate domicile.

Ecologically sustainable development (ESD) is development that uses, conserves and enhances the community's resources so that ecological processes are maintained and the total quality of life, now and in the future can be increased.

Finished ground level means the level of the finished ground surface.

Ground level means the level of the site that existed at the appointed day, that is, at the day of commencement of this Plan.

Gross floor area means the sum of the areas of each floor of a building where the area of each floor is taken to be the area within the outer face of the external enclosing walls as measured at a height of 1,400 millimetres above each floor level excluding -

- columns, fin walls, sun control devices and any elements, projections or works outside the general lines of the outer face of the external wall;
- lift towers, cooling towers, machinery and plant rooms and ancillary storage space and vertical air-conditioning ducts;
- car-parking needed to meet any requirements of the council and any internal access thereto;
- space for the loading and unloading of goods.

Gross leasable floor area means the sum of the areas of each floor of a building where the area of each floor is taken to be the area within the internal faces of the walls, excluding stairs, amenities, lifts, corridors and other public areas but including stock storage area.

Habitable room means a room used for normal domestic activities, and-

- includes a bedroom, living room, lounge room, music room, television room, kitchen, dining room, sewing room, study, playroom, family room and sunroom; but
- excludes a bathroom, water closet, pantry, walk-in wardrobe, corridor, hallway, lobby, photographic darkroom, clothes-drying room, and other spaces of a specialised nature occupied neither frequently nor for extended periods.

Heritage items can be buildings, street patterns, structures, infrastructure, places, relics or other works of historical aesthetic, social, technical/research or natural heritage significance identified in regional or local environmental plans.

Impervious surface is material that does not allow water to pass through to the soil below.

Appendices

Living area means a room used for normal domestic activities excluding non-habitable rooms and bedrooms.

Lot refers to an individual parcel of subdivided land.

Natural ground level means the level of the ground surface before any changes have been made by human operations such as excavations or filling.

Parapet means a low protecting wall or railing along the edge of the roof.

Private open space means an area of land or of a building suitable for the private outdoor living activities of the occupants of one dwelling, and directly accessible from a living area in that dwelling.

Public open space means land used, or intended for use, for recreational purposes by the public.

Net leasable area means the sum of the areas of each floor of a building where the area of each floor is taken to be the area within the internal faces of the walls, excluding stairs, amenities, lifts, corridors, public areas, toilets, standard service areas and separate stock storage areas.

Roof terrace means the flat roof of a lower level portion of the building, which is both directly accessible for exclusive use from the dwelling it adjoins and also opens to the sky, except for a pergola or similar sun control devices.

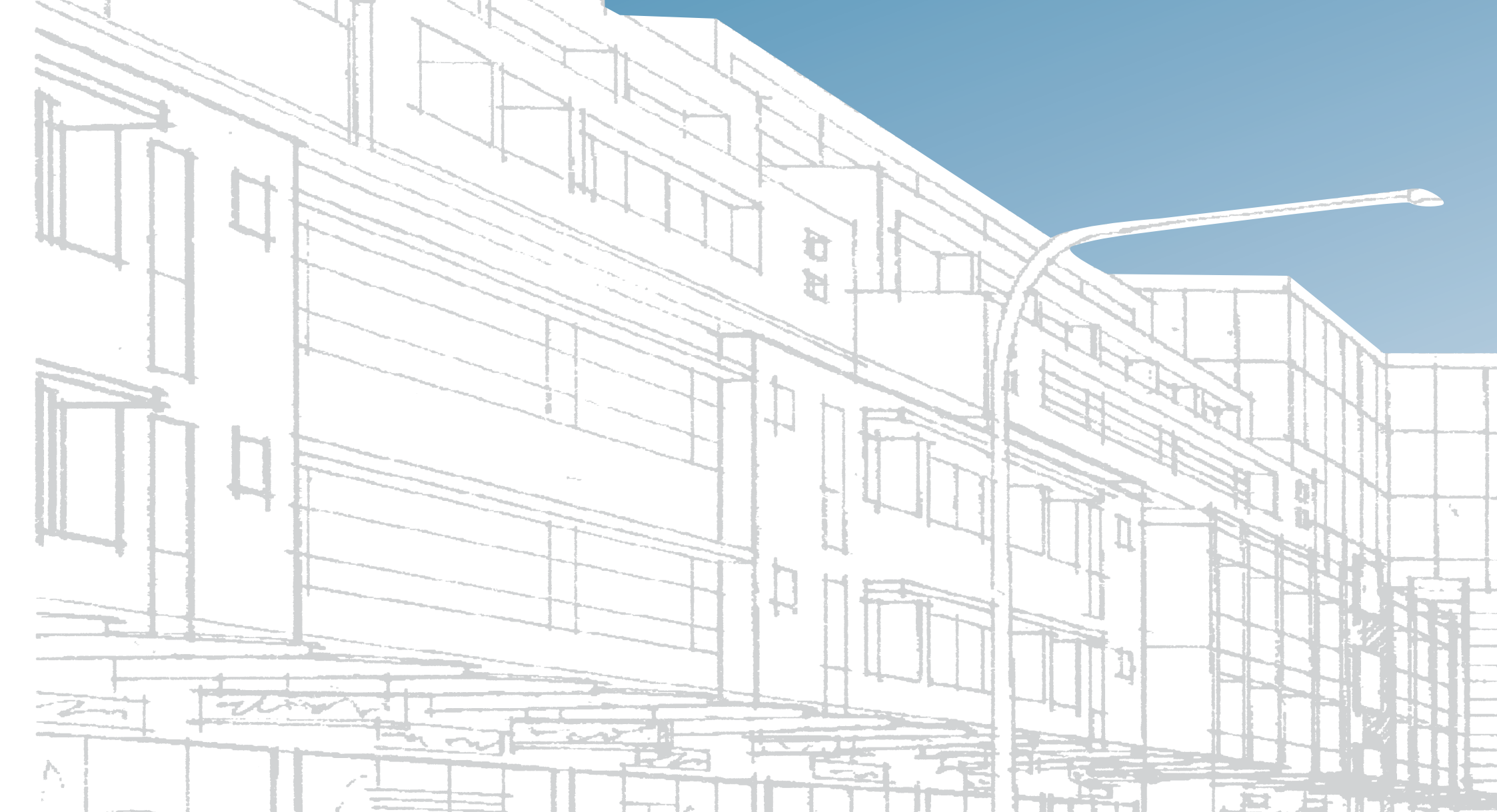
Setback means the distance between the boundaries of a site and the external wall of a building erected or proposed to be erected.

Site area means that area of land to which an application for consent relates.

Soft landscaping consists of pervious areas planted with gardens, trees, lawns and remnants of natural landscape.

Storey means the space within a building between one floor level and the floor level above or, if there is no floor level above, the underside of the ceiling above, but does not include space used for the following (where the space is no more than 1.2 metres above natural ground level, as measured at any point of each boundary of the site on which the building is located):

- car parking,
- basement laundries,
- basement storerooms.



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