



Amendment Listing

The following list, details the sections in the Development Control Plan that have been amended after the 22 December 2000.

There have been sixteen amendments, these amendments are:

- § Amendment No. 1 – operational on 4 April 2001,
- § Amendment No. 2 – operational on 8 August 2001,
- § Amendment No. 3 – operational on 7 November 2001,
- § Amendment No. 4 – operational on 23 January 2002,
- § Amendment No. 5 – operational on 23 April 2002,
- § Amendment No. 6 – operational on 17 July 2002,
- § Amendment No. 7 – operational on 12 March 2003,
- § Amendment No. 8 – operational on 16 April 2003,
- § Amendment No. 9 – operational on 20 September 2004,
- § Amendment No.10 – operational on 20 September 2005,
- § Amendment No.11 – operational on 11 April 2006,
- § Amendment No.12 – operational on 11 March 2008,
- § Amendment No.13 – operational on 6 May 2008,
- § Amendment No.14 – operational on 21 July 2008,
- § Amendment No.15 – operational on 26 August 2008,
- § Amendment No.16 – operational on 11 August 2009.
- § Amendment No.17 – operational on 28 August 2012.

Amendment No.1 has changed or added the following sections:

- § Table of Contents
- § How to use Leichhardt Development Control Plan
- § Section A1.0 – General Information
- § Transfer of Section B5 – Suburb Profiles to Section A10 – Suburb Profiles
- § Section A10.1 – Lilyfield Suburb Profile (including all subsections)
- § Part B – Residential Development – Introduction page
- § Section B1.2 – Design Element 2 – Building Form, Envelope and Siting
- § Section B3.4 – Design Element 20 – Access to Views

Amendment No.2 has changed or added the following sections:

- § Table of Contents
- § Section A1.0 – General Information
- § Section A10.2 – Leichhardt Suburb Profile (including all subsections)
- § Section B1.2 – Design Element 2 – Building Form, Envelope and Siting
- § Section B1.5 – Design Element 5 – Elevation and Materials
- § Section B1.7 – Design Element 7 – Fences



- § Section B2.6 – Design Element 14 – Using solar energy ‘actively’ – Energy efficient water heaters, photovoltaic (solar energy) systems & swimming pool heating
- § Section B2.8 – Design Element 16 – Landscaping
- § Section B3.6 – Design Element 22 – Dormer windows

Amendment No. 3 has changed or added the following sections:

- § Table of Contents
- § Section A10.3 – Annandale Suburb Profile (including all subsections)
- § Section C1.0 Non-Residential Development
- § Section C1.1 Design Element 1 – Site layout and building design
- § Section C1.6 Design Element 6 – Shopfronts
- § Incorporation of Section C 5.0 Area Based Controls into the Suburb Profiles

Amendment No. 4 has changed or added the following sections:

- § Table of Contents
- § Section A2.0 – Urban Framework Plans
- § Section A6.0 – Site Analysis
- § Section A10.4 – Glebe Suburb Profile (including all subsections)
- § Section B1.1 – Design Element 1 – Site Layout, Subdivision and Design
- § Section B1.2 – Design Element 2 – Building Form, Envelope and Siting
- § Section B4.3 – Development Type 3 – Laneway Development

Amendment No. 5 has changed or added the following sections:

- § Section A10.3.1 – Young Street Distinctive Neighbourhood
- § Section A10.3.2 – Annandale Street Distinctive Neighbourhood
- § Section A10.3.3 – Johnston Street Distinctive Neighbourhood
- § Section A10.3.5 – Trafalgar Street Distinctive Neighbourhood
- § Section A10.3.6 – Nelson Street Distinctive Neighbourhood

Amendment No. 6 has changed or added the following sections:

- § Table of Contents
- § Section A10.5 – Rozelle Suburb Profile (including all subsections)

**Amendment No.7 has changed or added the following sections:**

- Table of Contents
- Section A10.6 – Balmain Suburb Profile (including all subsections)
- Section B1.9 - Design Element 9 – Corner Site Controls

Amendment No.8 has changed or added the following sections:

- Table of Contents
- Section A8.0 – Parking Standards and Controls
- Section A10.2.5 – Leichhardt Commercial Neighbourhood, Leichhardt
- Section C1.7 – Design Element 7 – Protective Structures in the Public Domain – Balconies, Verandahs and Awnings.

Amendment No.9 has changed or added the following sections:

- Section B1.2 – Design Element 2 – Building Form, Envelope And Siting
- Section B1.7 – Design Element 7 Fences

Amendment No.10 has changed or added the following sections:

- Table of Contents
- Section C4.9 – Development Type 10 – Licensed Premises

Amendment No.11 has changed or added the following sections:

- Table of Contents
- A4.0 – Urban Form And Design
- A9.0 – Advertising and Signage
- A9a.0 – Colours and Tones
- Section A10.2.5 – Leichhardt Commercial Neighbourhood, Leichhardt

Amendment No.12 has changed or added the following sections:

- Table of contents
- B1.1 - Design Element 1 - Site Layout, subdivision and design

**Amendment No.13 has changed or added the following sections:**

- B3.5 – Design Element 21 – Acoustic Privacy

Amendment No.14 has changed or added the following sections:

- C4.9 – Development Type 10 – Licensed Premises

Amendment No 15 has changed or added the following sections:

- Table of contents
- How to use Leichhardt Development Control Plan
- Section D1 – Site Specific Controls (Balmain Leagues Club Precinct)

Amendment No 16 has changed or added the following sections:

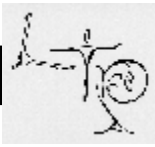
- Table of contents
- How to use Leichhardt Development Control Plan
- Section A3a.0 – Sustainable Water and Risk Management

Amendment No 17 has changed or added the following sections:

- Table of contents
- How to use Leichhardt Development Control Plan
- Section D2 – Site Specific Controls (ANKA Site 118-124 Terry Street, Rozelle)

The latest amendment date is printed on the affected section and users should ensure that the DCP has been updated. It is essential that when amendments are added that they are inserted in order of amendment. For example Amendment No.1 must be inserted prior to Amendment No.2.

Amendments and alterations have affected page numbering throughout the document. However, only those sections that have had content altered are listed above.



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How to use Leichhardt Development Control Plan

Leichhardt Development Control Plan (DCP) should be used together with Leichhardt Local Environmental Plan 2000 (LEP).

Leichhardt LEP provides the legal framework by which development decisions are made. It sets out Council's vision and seeks to implement this by way of objectives, policies, zoning tables and zoning and heritage conservation maps.

The DCP supplements this document by providing detailed reasoning, guidelines, controls and general information relating to the decision making process. Together these documents form the Leichhardt Town Plan.

Leichhardt DCP is divided into 4 parts.

Part A General Information

Part B Residential

Part C Non-residential

Part D Site Specific Controls

Part A

- Provides background information, procedures and standards that apply to all development.

A1.0 General Information

- This section sets the statutory framework for the DCP.

A2.0 Urban Framework Plans

- These are maps which diagrammatically indicate built and natural features and are supplementary to all guidelines and controls.

A3.0 Principles of Ecologically Sustainable Development

- This section sets out the main principles and justification relating to the design elements set out under the Ecologically Sustainable Development sections in parts B & C.

A3a.0 Sustainable Water and Risk Management

- This section contains development standards and requirements for water management.

A4.0 Urban Form and Design

- This section sets out the main principles and justification relating to the design elements within the Urban Form and Design sections in Parts B & C.

A5.0 Amenity

- This section sets out the main principles and justification relating to the design elements in the amenity section in Part B & C.

A6.0 Site Analysis

- This section sets out the reasons for and issues to be considered in preparing a site analysis - the first step in the development process.

A7.0 Heritage Conservation

- Covers the issues of heritage and conservation consideration.

A8.0 Car Parking standards and controls

- This section sets out controls and guidelines relating to the provision of on-site parking.

A9.0 Advertising and signage

- This section outlines what types of advertising signs are permissible and other controls and guidelines relating to signage.

A10.0 Suburb Profiles

- This section sets out specific principles, guidelines and development controls for the suburbs of Lilyfield, Leichhardt, Annandale, Glebe and Balmain and Rozelle.



Parts A7.0 – A9.0 are all divided into 4 sections;

Principles	<i>describe the primary purpose.</i>
Rationale	<i>provides an explanation and supporting information.</i>
Guidelines	<i>provide steps and procedures for best practice and are encouraged by Council.</i>
Controls	<i>provide mandatory controls on all development.</i>

Part A10.0 Suburb Profiles is divided into neighbourhoods which have the following sections:

Landform	<i>describes the history and topographical characteristics.</i>
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Existing Character

describes the existing character in terms of built form, street layout and subdivision pattern.

Desired Future Character

provides desired future character statements in terms of building materials, urban form, landscaping and local area character.

Neighbourhood Controls

provides mandatory controls on development across each neighbourhood.

Additional Controls

provides mandatory controls on development in specific local areas.

Part B - Residential and **Part C** - Non-residential are essentially divided into three main sections;

- Urban Form and Design (B1.0 & C1.0)
- Ecologically Sustainable Development (B2.0 & C2.0)
- Amenity (B3.0 & C3.0)

These 3 sections relate to the main policies in Parts 4, 5, 6 and 7 of the LEP and form the basis for assessing development.

Each section is divided into 'design elements' ('operational elements' in relation to C3.0). These address the various issues for consideration such as site layout and design (Urban Form and Design), using solar energy (Ecologically Sustainable Development), or visual privacy (Amenity). Each 'element' consists of principles, rationale, guidelines and/or controls. Each element should be considered with the information contained in Part A to ensure the most satisfactory design solution.

Both Part B and Part C have additional sections in the form of development types (B4.0 & C4.0), and area based controls (Part C5.0) to assist in the design and decision making process.

A Glossary and Bibliography complete the DCP.

Information sheets and policy statements are incorporated and are referenced throughout the document.

Part D1 relates to Site Specific Controls. It currently provides a planning and urban design framework to guide the redevelopment of the Balmain Leagues Club Precinct.

Part D2 relates to Site Specific Controls. It currently provides a planning and urban design framework to guide the redevelopment of ANKA Site 118-124 Terry Street, Rozelle.



A1.0 General Information

1.1 Adoption date

Leichhardt Development Control Plan (DCP) was adopted by Leichhardt Council on 18 April 2000 and came into operation on gazettal of Leichhardt Local Environmental Plan 2000. This DCP is subject to amendment from time to time and users should refer to the Amendment Listing.

1.2 Land to which Leichhardt Development Control Plan applies

Leichhardt DCP applies to the development of all land in the Leichhardt Local Government Area.

1.3 Relationship to Leichhardt LEP and other Council Plans and Policies

Leichhardt DCP supplements the controls of Leichhardt *Local Environmental Plan 2000 (LEP)*. Leichhardt DCP is a comprehensive plan, and incorporates previous DCP's for the Leichhardt area.

This DCP has been prepared in accordance with the provisions of section 72 of the Environmental Planning & Assessment Act (EP&A Act) 1979, and clauses 19-25 of the Environmental Planning & Assessment Regulation, 1994.

EP&A Act Section 79c:
Under section 79c of the Environmental Planning and Assessment Act 1979, Leichhardt Council is required to take Leichhardt DCP into consideration, when determining development applications.

EP&A Act Section 94 Contributions Plans:
Under a contributions plan Council may require the dedication of land, the carrying-out of buildings or works or the payment of a monetary

contribution towards the provision of services and facilities to meet the needs of Leichhardt's growing population. Refer to the Contributions Plans to determine if the proposed development is required to make a contribution.

Tree Preservation Order (TPO):
The TPO order protects trees by prohibiting the ring-barking, cutting down, chopping, lopping, removing, injuring or wilful destruction of any tree without the consent of Council. The order is set out in Policy Statement 1.

Other development control plans which may need to be referred to include:

DCP 21 - Wharf Road (Birchgrove)

DCP 27 - Balmain Power Station (Rozelle)

DCP 31 - Ampol (White Bay)

DCP 32 - Design for Equity of Access

DCP 35 - Exempt and Complying Development

DCP 36 - Notifications under the EPA Act.

DCP 38 - Waste, Avoid, Reuse and Recycle.

DCP 42 - Land Contamination

DCP 47 – Jane Street, Balmain

DCP 48 –Managing Activities on Footpaths and Street Verges

DCP 51 – Telecommunications and Radiocommunications



A2.0 Urban Framework Plans

Leichhardt's streets and suburbs have distinctive character generated by a rich mix of street patterns, building types and architectural styles. Whilst elements of this character are constantly changing, there is need to guide overall changes. Leichhardt's *Urban Framework Plans* (UFP) draw together key urban and environmental elements that contribute to overall character and provide the strategic framework upon which Leichhardt's future development depends.

The *Urban Framework Plans* should be addressed by every development in Leichhardt. Natural and built features, as identified should be accentuated by design, and the strategies for the future must be recognised and acted upon in all new proposals.

The Urban Framework Plans consist of 3 diagrammatical plans which specifically identify the following features and initiatives.

UFPA2.1 Environment and open space;

- topography, hills, valleys, creeks and ridgelines,
- existing and potential open space network,
- headlands and promontories,
- stormwater,
- ecological restoration,
- existing and proposed public waterfront.

UFPA2.2 Urban character and identity;

- key buildings and urban spaces,
- civic and community precincts,
- key townscape and landscape elements,
- key links/roads,
- key views and vistas,
- gateways to important centres/areas,
- water and land connections.

UFPA2.3 Urban Strategy;

- strategic sites,
- town centre / main street improvement project,
- light rail corridor,
- major pedestrian and cycle links,
- arterial and primary roads,
- key open spaces and links,
- recreation corridor,
- gateways to the Municipality,
- corridor strategy,
- bays precinct



A3.0 Principles of Ecologically Sustainable Development

Leichhardt LEP and DCP are based upon principles of Ecologically Sustainable Development (ESD). These principles provide a broad framework of planning and design controls for all used, and aim to achieve a more ecologically responsible design of the built and natural environment.

The following four principles are recognised by Intergovernmental Agreement on the Environment (IGAE), as being those which should inform policy making and program implementation.

1. “Precautionary principle – where there are threats of serious or irreversible environmental damage, lack of scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation...”
2. “Intergenerational equity – the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations...”
3. “Conservation of biological diversity and ecological integrity should be a fundamental consideration...”
4. “Improved valuation, pricing and incentive mechanisms” – this principle includes the concepts of:
 - (i) ‘polluter pays’
 - (ii) full-cycle costing for goods and services, including the use of natural resources and assets and the disposal of wastes
 - (iii) cost effective pursuit of environmental goals, via use of incentive structures – including market mechanisms.

The policies contained in the LEP when implemented together with the detailed policies in the DCP should ensure that development in Leichhardt contributes to a sustainable future.

Integration of the principles of ESD into urban design and management could make a significant contribution to the less wasteful use of natural resources. Sustainable design seeks to minimise the negative effects of urban development on the natural environment and embrace energy efficient buildings, ‘clean’ technology and ‘green’ management practices. It aims to achieve more conservative use of resources so that they can be harvested at a sustainable rate that allows for healthy regeneration. Sustainable design seeks to ensure that natural resources are replenished and available to support future generations rather than being depleted.

Council’s development controls require energy efficient design for new buildings and renovation, encourage good-quality landscaping, aim to increase open space, reduce the negative social and environmental impetus of traffic and create a pedestrian friendly and diverse urban environment.



A3a.0 Sustainable Water and Risk Management

Part A General Information

1. Land to which this Plan applies
2. Relationship of this Plan to other LEP's and DCP's
3. Relationship to BASIX
4. Aims and Objectives
5. Water Sensitive Urban Design
6. Reports to be submitted with DA's

Part B Water Management

- B1 Water conservation
- B2 Managing stormwater within the site
- B3 On-site detention of stormwater
- B4 Stormwater treatment
- B5 Water disposal
- B6 Building in the vicinity of the public drainage system
- B7 Wastewater management
- B8 Managing the construction site

Part C Hazard Management

- C1 Flood risk management
- C2 Foreshore risk management

Part D Glossary

Part E Annexures

- A Information on the preparation of reports required by this DCP
- B Flood Control Lot Maps
- C Foreshore Flood Control Lot Map



PART A – GENERAL INFORMATION

1. LAND TO WHICH THIS PLAN APPLIES

This DCP applies to all land within the Leichhardt Local Government Area.

2. RELATIONSHIP OF THIS PLAN TO OTHER LEP'S AND DCP'S

This DCP supplements the controls of Leichhardt Local Environmental Plan 2000 and the accompanying Development Control Plan 2000.

This DCP has been prepared in accordance with the provisions of s.74C of the Environmental Planning and Assessment Act (EPA) 1979, and clauses 16-21 of the Environmental Planning and Assessment Regulation, 2000.

3. RELATIONSHIP TO BASIX

This DCP operates alongside State Environmental Planning Policy – Building Sustainability Index (Building Sustainability: BASIX) 2004, applying water conservation measures to non-BASIX affected development

4. AIMS AND OBJECTIVES

The aim of this DCP is to set out Council's requirements for water management to provide for the more sustainable water management outcomes in the long term across Leichhardt. The controls seek to ensure *water sensitive urban design* that:

- Integrates water management appropriate to the site and its surroundings
- Provides more sustainable management and use of water
- Allows for the management and conservation of natural and built assets in the catchments.
- Responds to the heritage character of the area.

Water sensitive urban design

Water sensitive urban design seeks to ensure that development is carefully designed, constructed and maintained so as to minimise impacts on the natural water cycle. It is part of the contemporary trend towards achieving development that is more environmentally sustainable than previous eras of urban development.

Water sensitive urban design can help counteract many of the negative impacts of urban development on the natural water cycle by utilising measures in the design and operation of development that:

- maintain and restore natural water balance
- reduce and manage the social, environmental and economic risks and impacts associated with major flood or tidal inundation events
- reduce erosion of waterways, slopes and stream banks
- improve water quality in streams and groundwater



- make more efficient use of water
- reduce the cost of providing and maintaining water infrastructure
- protect and restore aquatic and riparian ecosystems and habitats.

Traditional water supply, stormwater and wastewater practices are largely based on centralised collection, conveyance, treatment and disposal of water flows. By contrast, water sensitive urban design promotes a more decentralised approach that is more attuned to natural hydrological and ecological processes. It gives greater emphasis to on-site collection, treatment and utilisation of water flows as part of an integrated 'treatment train' that may be applied in addition to, or in lieu of conventional stormwater measures. Elements of water sensitive urban design may include:

- use of roof water in place of mains supply especially for toilet flushing, laundry use, irrigation
- reuse of surface runoff for irrigation purposes
- use of greywater treatment systems to supplement water supply
- infiltration of stormwater to underground aquifers
- landscaping designed for cleansing runoff and conserving water
- protection of native vegetation to minimise site disturbance and conserve habitat
- protection of stream corridors for their environmental, recreational and cultural values.

Water sensitive urban design calls for designers to respond to the constraints and opportunities of each site. Consequently, careful consideration must be given to site characteristics such as soil type, slope, groundwater conditions, rainfall, position within the catchment and upon the floodplain, and the scale and density of development.



REPORTS REQUIRED WITH DEVELOPMENT APPLICATIONS

A1 Water Management Statement

All Applications will require a Water Management Statement that addresses the provisions of this DCP. A Water Management Statement is a summary of the proposed water management measures to be integrated into the development, including:

- Water conservation measures
- Stormwater management and treatment
- Stormwater disposal method
- Any additional wastewater measures, if proposed
- On site stormwater detention facilities design, if applicable
- Flood or foreshore risk management, if applicable

The Water Management Statement must demonstrate that all provisions of this DCP have been considered and addressed.

Specifically regarding water conservation measures in BASIX-affected development, the BASIX certificate is acknowledged as the appropriate water conservation response for the residential component of such development and the Water Management Statement should specifically address management measures described above including water conservation measures for non-residential components of a Proposal.

A2 Integrated Water Cycle Plan

An Integrated Water Cycle Plan (IWCP) is required for all Applications for:

- 15 or more dwellings or residential lots, or
- the provision of accommodation for 50 or more residents, occupants or employees, or
- is expected to generate a water demand of 5,000 litres per day or more, or
- the creation of 2,500 square metres of impermeable surface or more, or
- the subdivision of 2,500 square metres of land or more for commercial or industrial purposes.

The Integrated Water Cycle Plan is a design, management and implementation plan for large-scale developments.

Where an IWCP is required for BASIX-affected development then, specifically regarding water conservation measures, the BASIX certificate is acknowledged as the appropriate response for the residential component of such development proposals and the IWCP should respond to remaining aspects of water management, including water conservation measures for non-residential components of a Proposal.

Refer to Annexure A for more information on the preparation of an IWCP.

A3 Stormwater Drainage Concept Plan

A Stormwater Drainage Concept Plan is required for all Applications that include alterations or additions to existing roof areas, or as required elsewhere in this DCP.

The purpose of the Stormwater Drainage Concept Plan is to demonstrate how stormwater will be managed on the site and at a minimum show how it will be collected, conveyed and disposed from the site. Where any stormwater management measures are required by this DCP, the Plan must



be to an adequate level of detail to demonstrate that those measures can be achieved and how they will be integrated into the development.

The Stormwater Drainage Concept Plan is not intended for use as a construction plan. In most cases a detailed stormwater drainage design and specifications will only be required for the issue of a Construction Certificate.

A4 Flood Risk Management Report

Applications for a site identified as flood control lot on the maps in Annexure B will require a Flood Risk Management Report.

A Flood Risk Management Report is not required where the assessed value of the works is under \$50,000; except where, in the opinion of Council, those works are likely to substantially increase the risk of flood to the subject or adjoining sites.

The Flood Risk Management Report must establish the following:

- the Flood Planning Level
- the Probable Maximum Flood Level
- the Hazard Category
- an on site response and evacuation plan

Some Applications for sites identified as a flood control lot will require both a Flood Risk Management report and a Foreshore Risk Management report.

Refer to Annexure A for more information on the preparation of this Statement.

A5 Foreshore Risk Management Report

Applications for a site identified as foreshore flood control lot on the maps in Annexure C will require a Foreshore Risk Management Report.

A Foreshore Risk Management Report is not required where:

- the assessed value of the works is under \$50,000; or
- there are no new works proposed below RL 3.5m AHD; or
- there are no existing habitable structures or buildings below RL 3.5m AHD; or
- any proposed Jetties, Bridging Ramps or Pontoons are located on the seaward side of the foreshore edge;

except where, in the opinion of Council, those works are likely to substantially increase the risk of flood to the subject or adjoining sites

The Foreshore Risk Management Report must address the general requirements for development and establish:

- the Foreshore Planning Level
- an on site response and evacuation plan

Some Applications for sites identified as a flood control lot will require both a Flood Risk Management report and a Foreshore Risk Management report.

Refer to Annexure A for more information on the preparation of this Statement.



PART B – WATER MANAGEMENT

B1 Water Conservation

Principles

To design development to improve water conservation and increase on-site storage of rainwater for reuse.

Rationale

Given the limited supply of potable water supply systems and increasing urban population there is a need to use water more efficiently.

These controls are complementary to the requirements of BASIX.

Controls

B1.1 For all applications where BASIX is not applicable, including small residential alterations and additions, the following water efficiency design elements must be included *and be indicated on plans*:

- new or altered showerheads must have a flow rate no greater than 9 litres per minute or a 3 star (or better) water rating
- new or altered toilets must have a flow rate no greater than 4 litres per average flush or a 3 star (or better) water rating
- new or altered taps must have a flow rate no greater than 9 litres per minute or a 3 star (or better) water rating

B1.2 For all applications, site landscaping should be designed with water efficient gardens that minimise the need for watering. A list of suitable indigenous and low water use species is provided at the website: http://www.basix.nsw.gov.au/pdf/indigenous_species/84.pdf. Planting schedules should select from these species.

Note:

Where On Site Detention (OSD) is required by this DCP, Council may consider a reduction in the storage volume where there is *On Site Retention* (OSR) facilities for *rainwater reuse* and/or *stormwater reuse* installed to service all toilets, laundries and outdoor usage (eg irrigation and car washing). Calculations to justify this reduction must be provided to Council.

B2 Managing stormwater within the site

Principles

To integrate site layout and the drainage system design to avoid nuisance flows and flooding within the development and onto neighbouring properties.

Rationale

New buildings and structures or alteration to the existing topography can block or redirect the natural flow of stormwater runoff, potentially causing nuisance flows or flooding through the site or neighbouring properties. These effects should be minimised by integrating the general site layout with the design of the stormwater drainage system.

Typical considerations should include:

- Minimising disturbance to the natural surface landform



- Allowing a gap between buildings or structures and the boundary to allow excess surface flows to pass
- Using lightweight or paling fences to allow excess surface flows to pass through
- Providing a step up to the building entrances from external finished ground levels

Controls

- B2.1 The site layout must be designed to minimise disruption or disturbance of land surfaces or natural drainage patterns. Where natural surface flows from upstream properties currently pass through the property, they must not be blocked or redirected as a consequence of the proposal.
- B2.2 Solid or masonry boundary fences should not be proposed where they will divert stormwater runoff from one property onto another. Boundary fences should be of lightweight or partially open construction so that excess surface flows can pass through.
- B2.3 Where the development blocks or diverts the natural surface flows, the site drainage system must be designed to collect and convey those flows through the site by gravity. The site drainage system must consist of a pipe system to convey flows from more frequent rainfall events, combined with an overland flow path to convey larger flows generated during storms.

Where an overland flow path cannot be provided due to the position of existing buildings/structures that are to be retained, the capacity of the pipe system must be significantly increased.

- B2.4 Where the development would cause the existing and/or natural drainage patterns in the vicinity of the site to be blocked or diverted or otherwise concentrate flows onto another property, an interallotment drainage system must be constructed to collect and convey those flows, and an associated drainage easement created.

B3 On-Site Detention of Stormwater

Principle

To reduce the peak stormwater flows into the public drainage system and to reduce the probability of downstream flooding.

Rationale

Urban development increases the area of impermeable surfaces and causes significant alterations to the hydrological cycle. As urban areas become larger and denser, the area taken up by buildings, footpaths, driveways, paved areas and other impermeable surfaces also increases. This 'hardening' of the urban landscape acts to reduce the quantity of rainwater that can infiltrate the soil, thereby causing most rainfall to become runoff.

As older buildings are redeveloped and new more efficient drainage systems are installed, the rate of discharge from those sites is also increased.

These changes can cause the peak flow rates to be increased along the downstream drainage systems which can increase the likelihood of flooding to adjacent properties.

These impacts can be mitigated by providing 'detention storage' on the development site to temporarily store stormwater before slowly releasing it into the public drainage system.

**Controls**

- B3.1 On-site detention (OSD) facilities are required except where:
- the site drains directly into Parramatta River or Sydney Harbour
 - only minor works to a single dwelling, commercial or industrial building are proposed and the impervious area across the total site is not increased by more than 40 square metres
 - subdivision of existing or currently approved dwellings is proposed
- B3.2 The OSD facilities should be designed by a relevantly qualified civil engineer and set out the calculation of the volume of storage and permissible site discharge.
- B3.3 The volume of OSD storage can be reduced where On Site Retention (OSR) facilities for rainwater reuse and/or stormwater reuse are provided.

Note:

Where On Site Detention (OSD) is required by this DCP, Council may consider a reduction in the storage volume where there is *On Site Retention* (OSR) facilities for *rainwater reuse* and/or *stormwater reuse* installed to service all toilets, laundries and outdoor usage (eg irrigation and car washing). Calculations to justify this reduction must be provided to Council.

Additional OSD may be required where the site does not drain naturally to any street frontage.

B4 Stormwater Treatment**Principle**

To minimise the transport of pollutants into the harbour and other waterways.

Rationale

Increased runoff during rainfall events flushes pollutants from paved and other impermeable surfaces into the stormwater system. This results in a greater pollutant load reaching streams, waterways and the harbour. The main pollutants of concern are litter, sediment, suspended solids, nutrients, oil and grease and toxicants.

Controls

- B4.1 For all applications other than for single dwellings, a water quality filtration basket or equivalent primary treatment device must be installed on the site stormwater drainage system.
- B4.2 For major or significant development, advanced water quality treatment techniques should be utilised such as gross pollutant traps, sediment traps, filter strips, grass swales, porous pavers, infiltration trenches, rain gardens and sand filters where appropriate.
- B4.3 Applications for open carparking areas with 9 or more parking spaces, including loading bays, must install an additional device to remove oil and greases from the driveway and carpark stormwater runoff.
- B4.4 Multi unit residential developments must include car wash bays.

Multi unit residential developments for more than 3 but less than 16 dwellings, the car wash bay may be provided separately or in one of the visitor car spaces (dual signage).



Multi unit residential developments for 16 or more dwellings, a dedicated carwash bay must be provided at a rate of one bay per 60 dwellings or part thereof.

B4.5 In addition to the above, for applications that:

- incorporate 15 or more dwellings or residential lots, or
- provide accommodation for 50 or more residents, occupants or employees, or
- generate a water demand of 5,000 litres per day or more, or
- involves the creation of 2,500 square metres of impermeable surface or more, or
- involves the subdivision of 2,500 square metres of land or more for commercial or industrial purposes,

water quality treatment measures must be installed that meet the following environmental targets for stormwater runoff leaving the site:

Pollutant	Baseline Annual Pollution Load (kg/ha/yr)	Retention Criteria
Gross pollutants, including trash, litter and vegetation matter greater than 5mm	500	90% reduction of average annual load
Total suspended solids, including sediment and other fine material less than 5mm	900	85% retention of average annual load
Total Phosphorous	2	65% retention of average annual load
Total Nitrogen	15	45% retention of average annual load
Hydrocarbons (Oils and Greases)		90% reduction of annual load – no visible discharge
Toxicants		100% containment of toxicants

Table 4.1: Environmental Targets

(Source Catchment Management Authority Sydney Metropolitan: Draft Managing Urban Stormwater: Environmental Targets, October 2007)

The design of the Stormwater Treatment system must be incorporated into the Integrated Water Cycle Plan in accordance with *Section A2 Integrated Water Cycle Plan*.

B5 Water Disposal

Principle

To maintain existing natural drainage patterns and avoid nuisance and flooding to the drainage system and downstream properties.

Rationale

The public stormwater drainage system is made up of minor and major drainage infrastructure; both piped and unpiped, with different components owned and managed by either Council or Sydney Water. The systems can generally be described as follows:

- Council minor drainage – kerb and gutter, dish gutters, surface drains, and small pipes to take water through road intersections
- Council trunk drainage – pits and pipelines below the road, or passing through private property and overland flowpaths



- Sydney Water trunk drainage – Pipelines, culverts, open channels and Whites Creek, Johnston's Creek and Hawthorne Canal

All properties should be connected to the public drainage system, unless they can discharge stormwater directly to Parramatta River or Sydney Harbour. The scale and nature of the development should determine whether the site discharge should be connected to the minor or piped (trunk) drainage system.

The discharge should always be in the same direction and within the same catchment as the site naturally drains, which will sometimes mean that drainage easements must be acquired through downstream properties. Directing the site runoff into different catchments can lead to an increased risk of flooding to properties downstream of the point of discharge.

As easements can be difficult to obtain, there should be scope for consideration to vary this requirement where the development does not significantly intensify the landuse.

The discharge of subsurface waters from basement structures to the public drainage system should be avoided as they can cause nuisance or public health risks to the receiving drainage system. Where possible subsurface water should be retained on site otherwise, be connected to the piped trunk drainage system.

Controls

- B5.1 Where the majority of the site naturally drains towards any street frontage, stormwater runoff from all roof and paved/impermeable areas must be drained by gravity to the public drainage system of that street frontage.
- B5.2 Where the site naturally drains away from all street frontages and can not discharge stormwater directly to, Parramatta River or Sydney Harbour, stormwater runoff should be drained to:
- a piped (trunk) drainage system if it passes through the site
 - an existing (registered) drainage easement benefiting the site

Where neither of the above options are available but the roof area of the development may be drained to the street:

- B5.2.1 For minor alterations and additions that result in the addition or alteration of more than 20 square metres, but less than 40 square metres of roof area, as much roof and surface area as practicable should be drained by gravity to the street frontage above.
- B5.2.2 For alterations and additions to a single dwelling, that result in the addition or modification of more than 40 square metres of roof area, the entire roof area of the existing dwelling should be drained by gravity to street frontage above.
- B5.2.3 For new single dwellings, discharge to the street frontage above the site, subject to at least 80% of all paved/ impermeable surfaces being drained by gravity to street frontage above.

Note

For minor alterations and additions that result in the addition or alteration of less than 20 square metres of roof area (including a garage or carport), the existing site drainage system may be utilised.



The drainage of any roof and surface areas that cannot drain to the street must be adequately designed to cause no concentration of flows or nuisance to downstream properties. The requirements to achieve this outcome are specified in the Water Management Section of Council's Engineering Code.

B5.3 Where the controls in B5.2 cannot be met, a drainage easement over a downstream property to the street below should be sought. Council will not consider alternative solutions unless detail evidence of the efforts to obtain an easement are provided.

B5.4 Connection to the Public stormwater drainage system

B5.4.1 Once the site stormwater outlet location has been established, the outlet pipeline must be connected directly to the public piped drainage system, where it is available.

B5.4.2 Where the piped drainage system is not present, and the works are minor alterations and additions or single dwellings, connection may be made to the street kerb.

B5.4.3 Where the piped drainage system is not present, and the works are not minor alterations and additions, the existing public system must be extended to the frontage of the site, as specified by Council.

B5.5 Basement Drainage

Basements must be of fully tanked construction such that pump-out systems are not required to drain the subsurface drainage system.

Consideration will only be given to the provision of a pump-out system where it can be demonstrated by detailed geotechnical investigation that groundwater flows are minimal/intermittent. For basements other than for car parking purposes, this exception will only be considered where the sump and pump facilities can be housed and accessed for maintenance from an area external to the building above.

B5.6 Where the basement is associated with car parking facilities, a pump out system is permitted for minor surface areas that drain to the basement, such as from the access driveway. All other forms of access to the basement, including fire access stairs, must be protected from the weather, such that the entry of stormwater runoff to the basement is minimised.

B6 Building in the Vicinity of the Public Drainage System

Principle

To ensure development in close proximity to the public drainage system provides adequate access for its future management.

Rationale

The public stormwater drainage system often passes through private property. The system will be owned by Council or Sydney Water and will generally be carrying out dual functions, whereby water from more common rainfall events is carried by the pipelines below the ground, while the water generated during larger storm events is carried across the surface.

It is important that new development in close proximity to these drainage systems does not compromise its functionality or limit the capacity of the responsible authority to manage the



system. Typically the management of the system will include construction or reconstruction, maintenance, repair or cleaning; with access required for manual or electronic inspection and use of equipment, from hand held up to large earth moving machinery.

While approval is required from Sydney Water for construction in the vicinity of their piped drainage system, Council must still consider the wider implications, such as the flood risk considerations defined in the Flood Risk Management Section of this DCP.

Controls

- B6.1 The construction of permanent structures or placing of fill over Council's piped drainage system is not permitted. Permanent structures include buildings, eaves, balconies, garages, impervious fences, swimming pools and retaining walls.
- B6.2 Where the drainage system is located within a drainage easement, the above restrictions extend over the width of the easement. Where the drainage system is not located within an easement, the above restrictions extend by 1500mm to both sides of the centreline of the drainage structure.
- B6.3 The above restrictions may be extended further due to flooding considerations associated with *Flood Risk Management*.
- B6.4 Council may consider permitting open structures such as carports or open parking spaces where it can be demonstrated that they will not increase the risk of flooding to the subject or adjoining properties or to Council property. Any structures must not unreasonably prevent or hamper future access to the drainage system for construction, reconstruction, maintenance, repair or cleaning.

Note:

The construction of structures over or adjacent to the Sydney Water piped stormwater drainage system must be approved by Sydney Water. Further the requirements of this DCP may be in addition to any conditions imposed by Sydney Water.

B7 Wastewater Management

Principle

To encourage recycling of the water resource in a safe and sustainable manner.

Rationale

In addition to the installation of water saving devices and rainwater tanks, water may be conserved by treating wastewater on the site, and where appropriate, reusing it.

Controls

- B7.1 All developments must be connected to the centralized sewerage waste disposal system operated by Sydney Water.
- B7.2 On site wastewater treatment must be designed and installed to meet all relevant statutory requirements (eg Sydney Water, NSW Health) and any relevant Australian Standards.



PART C – HAZARD MANAGEMENT

C1 Flood Risk Management

Principle

To manage development of flood control lots and flood prone land to reduce the risks and costs associated with flooding.

Rationale

The larger part of the Council and Sydney Water owned stormwater drainage systems throughout the Leichhardt LGA were constructed during the 1800s and early 1900s. While development has flourished in the subsequent years, there has not been a corresponding upgrading or updating of the drainage system.

The piped component of the system is generally designed to carry the runoff generated during frequent rainfall events, while during larger storm events stormwater will flow across the surface generally following the natural valleys and depressions.

With the increase in stormwater runoff that invariably follows development, and the greater number and concentration of buildings and dwellings along the creeks and natural depressions, there has been a gradual rise in the flooding risk throughout the LGA.

If not carefully designed, further development on flood-prone land can increase the exposure of new and existing properties to flooding, through redirection or removal of flow paths.

The NSW Governments Flood Prone Land Policy dictates that further development in the vicinity of the creeks and natural depressions must be managed to ensure that the risk of flooding to current and future landowners, occupiers and the community are not increased as a consequence of development.

Note:

Council's Flood Study to be published in late 2009 will provide extensive information to assist in the preparation of the Flood Risk Management Report.

Exempt Development may still be permissible on a *Flood Control Lot*.

Controls

Applications for a flood control lot must be accompanied by a Flood Risk Management Report supported by a flood study prepared by a relevantly qualified civil engineer. The Report must establish the Hazard Category of site.

Subject to that Report, the following controls will apply:

C1.1 Single Dwelling Residential or Dual Occupancy Development

All floor levels, including any existing components to be retained, are to be at or above or raised to the Flood Planning Level.

The following exceptions/ variations apply:



C1.1.1 For alterations and additions to a residential dwelling, some or all of the existing floor levels may be retained below the Flood Planning Level provided that each of the following controls is complied with:

- a) The floor levels of the additions and any significantly altered floor areas must be at or above or raised to the Flood Planning Level.
- b) Where the proposed works involve alterations to less than 60% of the total existing habitable ground floor areas, those existing areas that are not to be significantly altered may be retained below the Flood Planning Level.
- c) Where the alterations and additions affect greater than 60% of the total existing habitable floor areas, but raising some or all of the existing floor levels is impracticable due to Heritage or Conservation Area constraints, those areas so constrained may be retained below the Flood Planning Level.
- d) The additions must be designed and constructed such that they do not preclude the raising of the existing floor areas to the Flood Planning Level at a future date or when further additions are proposed.
- e) For a second storey addition to the dwelling, the floor level of the second storey must be at a height that allows for the ground floor below to potentially be raised in the future to the Flood Planning Level, whilst maintaining minimum floor to ceiling height requirements.
- f) Any floor areas of the existing dwelling to be retained at the existing level, below the Flood Planning Level, must be satisfactorily flood proofed (either wet or dry) to the Flood Planning Level.

C1.2 Multiple Unit Residential Development – 3 or more Dwellings or Units

All floor levels are to be at or above the Flood Planning Level.

C1.3 Commercial, Industrial and Mixed Use Development

All floor levels, including any existing components to be retained, are to be at or above the Flood Planning Level or raised to the Flood Planning Level.

Where constructing the floor level, or raising the floor level of existing development, to the Flood Planning Level may be impracticable due to site and access constraints (eg within a shopping precinct), consideration may be given to some or all of the non-residential floor levels having a freeboard of less than 500mm above the 100 year ARI flood level provided that satisfactory flood proofing (either wet or dry) is achievable to the Flood Planning Level. All entrances and evacuation routes servicing any residential components must be above the Flood Planning Level.

C1.4 Subdivision

Subdivision is only permitted where it can be demonstrated that as a result of the development or future anticipated development on the proposed lots, that there are adequate building platforms or developable areas including carparking facilities that can be provided above the Flood Planning Level.



For subdivision of an existing or previously approved (with current consent) building, flood risk management options must be implemented, where practicable, including at a minimum, suitable evacuation and emergency response measures.

C1.5 Special uses

All floor levels for uses associated with emergency services, accommodation or treatment of children, the aged, disabled or vulnerable (defined here as Special Uses), are to be at or above the Probable Maximum Flood level or Flood Planning Level, whichever is the highest.

C1.6 All Other Developments

The above controls for Commercial, Industrial and Mixed Use Development (C9.3 and C9.4) apply to all other development.

C1.7 All Development on Land with High Hazard Category

Development on land with a High Hazard Category (as identified in the Flood Risk Management Report) must demonstrate that:

- there is no net loss in flood storage and floodway area, as a result of the development,
- the development will not increase velocity, volume or direction of flood waters;
- for subdivisions, there are adequate building platforms or developable areas including carpark facilities and access which are not affected by the High Hazard Category;
- the underside of all new floors are above the Probable Maximum Flood level or Flood Planning Level, whichever is the highest, and all structures designed to withstand the High Hazard condition; and
- the principle entries to all dwellings and common areas are located above the Probable Maximum Flood level or Flood Planning Level, whichever is the highest, and an evacuation route is provided clear of the floodway.

C1.8 Carparking Facilities/ Basements

- The floor level of new enclosed garages must be at or above the Flood Planning Level. Consideration may be given to a floor level at a lower level, within 500mm of the Flood Planning Level, where it can be demonstrated that providing the floor level at the Flood Planning Level is not practical within the constraints of compliance with AS/NZS 2890.1.
- The floor levels of open carpark areas and carports are permissible below the Flood Planning Level, subject to being raised as high as practical within the constraints of compliance with AS/NZS 2890.1.
- Basement (ie below natural ground level) carparking must have all access and potential water entry points above the Probable Maximum Flood level or Flood Planning Level whichever is the higher, and a clearly signposted flood free pedestrian evacuation route from the basement area separate to the vehicular access ramps.

C1.9 Flood Mitigation/Modification Works

Flood mitigation works that modify the stormwater drainage system or flood behaviour within the development site, may be permitted subject to the following:

- The works do not have an adverse impact on any surrounding property.



- A Section 88B notation is to be placed on the title of the land that informs future landowners that flood protection measures, and the associated locations, have been undertaken on the property and/or the dwelling and of the need to retain and maintain these structures and works for future flood mitigation.
- Where it is demonstrated that flood mitigation works result in the safe diversion of the floodwater away from the proposed development, the floor level may be located below the Flood Planning Level.

C2 Foreshore Risk Management

Principle

To manage development along the Parramatta River and Sydney Harbour foreshores to reduce the long term risks associated with tidal inundation and wave impact.

Rationale

Leichhardt Council is responsible for local planning and land management along approximately 17 kilometres of foreshore land bordering Parramatta River and Sydney Harbour.

Properties along the foreshore can be affected by inundation and wave impact during storm events due to a combination of high tides and larger waves. The impact of future global sea level rise will see an increase in this effect.

It is important that the floor levels of development along the foreshore are constructed high enough to minimise the potential for inundation in the long term. All structures along the foreshore should also be structurally designed to withstand the impact of waves during storm events.

Note:

Council's Estuarine Planning Levels Study to be published in late 2009 will provide extensive information to assist in the preparation of the Flood Risk Management Report.

The Draft NSW Government Sea Level Rise Policy Statement will also assist in the preparation of the Flood Risk Management Report.

Exempt Development may still be permissible on a *Flood Control Lot*.

Controls

Applications for flood control lots on the foreshore must be accompanied by a Foreshore Risk Management Report prepared by a relevantly qualified civil engineer. Subject to that study the following controls will apply:

C2.1 Floor Levels – New Development and Additions

All floor levels, including the floor levels of existing components of the development, but excluding open balconies (with open balustrades), must be at, or above, or raised to the Foreshore Planning Level.

The following exceptions/ variations on the requirements will be considered:

- C2.1.1 For alterations and additions to existing residential dwellings, existing floor levels may be retained below the Foreshore Planning Level provided that each of the following controls are complied with



- a) The floor levels of the additions and any significantly altered floor areas must be at or above or raised to the Foreshore Planning Level.
- b) Where the proposed works involve alterations to less than 60% of the total existing habitable floor areas, those existing areas that are not to be significantly altered may be retained below the Foreshore Planning Level.
- c) Where the alterations and additions affect greater than 60% of the total existing habitable floor areas and raising some or all of the existing floor levels is impracticable due to Heritage or Conservation Area constraints, those areas so constrained may be retained at the existing level.
- d) The additions must be designed and constructed such that they do not preclude the raising of the existing floor areas to the Foreshore Planning level at a future date or when further additions are proposed.
- e) For a second storey addition to the dwelling, the floor level of the second storey must be at a height that allows for the ground floor below to potentially be raised in the future to the Foreshore Planning Level, whilst maintaining minimum floor to ceiling height requirements.
- f) Any floor areas of the existing dwelling to be retained at the existing level, below the Foreshore Planning Level, must be satisfactorily flood proofed (either wet or dry) to the Foreshore Planning Level.

C2.2 All other developments

Where constructing the floor level, or raising the floor level of existing development, to the Foreshore Planning Level may be difficult to achieve due to site and access constraints, consideration may be given to some or all of the floor levels being up to 300mm lower than the Foreshore Planning Level provided that satisfactory flood proofing (either wet or dry) is achievable to the Foreshore Planning Level.

C2.3 Subdivision

Subdivision of foreshore land will only be permissible where it can be demonstrated that adequate building platforms or developable areas, including carparking facilities and access, can be provided above the Foreshore Planning Level.

C2.4 Floor Levels – Boatshed Facilities

All floor levels must be at or above the Foreshore Planning Level.

C2.5 Carparking Facilities/ Basements

- The floor level of new enclosed garages must be at or above the Foreshore Planning Level.
- The floor levels of open carpark areas and carports are permissible as low as 300mm below the Foreshore Planning Level, subject to them having been raised as high as practical within the constraints of compliance with AS/NZS 2890.1.



- Basements (ie below natural ground level) for carparking or other purposes, must have all access and potential water entry points above the Foreshore Planning Level and a clearly signposted pedestrian evacuation route from the basement area separate to any vehicular access ramps.

C2.6 General Requirements

Mitigation works that modify the wave action or tidal inundation behaviour within the development site, including the filling of land, the construction of retaining structures and the construction of wave protection walls, may be permitted on a merit basis subject to satisfying the above criteria.

A Section 88B notation under the Conveyancing Act 1919 may be required to be placed on the title of the land describing the location and type of mitigation works with a requirement for their retention and maintenance.



PART D GLOSSARY

Australian Height Datum (AHD)	The level from which heights in Australia are measured and which is based upon an approximation of mean sea level.
Average Recurrence Interval (ARI)	The long-term average number of years between the occurrence of a flood or storm event that is equal to or larger than the selected event.
Building Sustainability Index (BASIX) and BASIX Certificate	The Building Sustainability Index is defined by the BASIX SEPP and the BASIX Certificate is generated by the applicant on the NSW Department of Planning website: www.basix.nsw.gov.au .
Catchment	An area of land from which all runoff water flows to the same low point in a waterbody or drainage depression (creek, river, harbour, etc) and always relates to an area above a specific location.
Conservation	The use, management and protection of resources so that they are not degraded, depleted or wasted and are available on a sustainable basis for present and future generations.
Drainage Easement	The legal rights attached to land whereby another parcel has the right to use part or all of the land for the purpose of draining water.
Flood Control Lot	A lot identified as a flood control lot on the maps in Annexures B & C of this DCP
Foreshore Planning Level	A combination of the tidal and wave levels generated during the designated storm event with a freeboard applied above.
Foreshore Risk	The potential danger to personal safety and potential damage to property resulting from tidal levels and wave impacts.
Foreshore Risk Management Report	A report detailing the foreshore risks associated with a particular property or area, along with recommendations on measures to address those risks.
Foreshore Risk Study	An analysis of the tidal and wave characteristics of a water body such as Sydney Harbour to establish how they impact on a particular property or area.
Floodplain	An area of land which is subject to inundation by floods up to and including the probable maximum flood event, that is, flood prone land.
Flood Planning Level	A combination of the flood level with a freeboard applied above.
Flood proofing	A combination of measures incorporated in the design, construction and alteration of individual buildings or structures subject to flooding, to reduce or eliminate flood damages.
Flood Risk	The potential danger to personal safety and potential damage to property resulting from flooding.
Flood storage areas	Those parts of the floodplain that are important for the temporary storage of floodwaters during the passage of a flood. The loss of flood storage can increase the severity of flood impacts by reducing natural flood attenuation.



Flood Risk Management Report	A report detailing the flood risks associated with a particular property or area, along with recommendations on measures to address those risks.
Flood Study	An analysis of the local stormwater drainage catchment to determine the flood characteristics affecting a particular property or area.
Floodway areas	Those areas of the floodplain where a significant flow of water occurs during floods and they are often aligned with naturally defined channels. Floodways are areas that even if only partially blocked, would cause a significant redistribution of flood flow, or a significant increase in flood levels.
Freeboard	A factor of safety typically used in relation to the setting of floor levels and is included in the Flood Planning Levels and Estuarine Planning Levels. Freeboard tends to compensate for factors such as wave action localised hydraulic effects, 'greenhouse' and climatic change, as well as sensitivity of flood modelling data.
Greywater	Waste water that does not contain human excreta, such as water from the laundry or from the bathroom (but not toilet).
Gross Pollutants	Materials made up of litter and debris that is transported by urban runoff and that is not less than 5mm in diameter and/or is retained by a 5mm mesh screen.
Gross Pollutant Trap (GPT)	A structure that acts as a water pollution control measure by intercepting and retaining gross pollutants.
Habitable Room	In a residential situation, is a living or working area, such as a lounge room, dining room, rumpus room, kitchen, bedroom, bathroom, laundry or workroom. In a commercial or industrial situation, it is an area used for offices or to store valuable possessions susceptible to flood damage in the event of a flood.
Hazard	A source of potential harm or a situation with a potential to cause loss. In relation to this DCP the hazards are flooding, inundation or wave impacts which all have the potential to cause damage to the community.
High Hazard Category	A hazard where there is potential danger to personal safety; evacuation by trucks is difficult; able-bodied adults would have difficulty in wading to safety; and there is potential for significant structural damage to buildings.
Hydraulics	The term given to the study of water flow in stormwater drainage systems and waterways. In particular, it relates to the evaluation of flow parameters such as water level and velocity.
Hydrology	The term given to the study of the rainfall and runoff process. In particular, it relates to the evaluation of peak flows, flow volumes and the derivation of hydrographs for a range of floods.
Impermeable surfaces	Those surfaces that are not readily penetrable by water.
Interallotment drainage	A private stormwater drainage system that carries stormwater from one property, or a number of properties, through other properties.



Integrated Water Cycle Plan	A design, management and implementation plan for large-scale developments detailing the proposed stormwater management measures that are to be integrated into the development.
Invert	The lowest point of a channel or gutter, or the internal base of a pipe.
Litter	All material of human origin that is capable of being mobilised by stormwater runoff.
Natural water balance	The relative balance between runoff, infiltration and evapotranspiration under natural (pre-development) conditions, so as to maintain appropriate groundwater, soil salinity and streamflow characteristics.
Nutrients	Substances that provide nourishment to another organism. In the context of stormwater, they consist primarily of Total Phosphorous and Total Nitrogen.
On site Detention (OSD)	A facility used to temporarily store stormwater on site so that it can be released at a controlled discharge rate.
On Site Retention (OSR)	A facility used to temporarily store stormwater on site so that peak and total volume discharges during and after storm events can be reduced by ensuring that water is reused on the site.
Orifice plate	A thin sheet of stainless steel metal that has a hole with a set diameter to restrict the discharge to a predetermined rate.
Overland Flowpath	A section of land that carries stormwater or flood flows across the surface; usually those flows that cannot be contained in the piped drainage system.
Peak Discharge	The maximum discharge occurring during a flood or storm event.
Permissible Site Discharge (PSD)	The maximum rate of stormwater discharge from a site, often controlled by the orifice plate in an on site stormwater detention facility.
Pervious surface	A surface that is penetrable by water.
Porous pavement	A type of pavement that is designed to allow the infiltration of water to an underlying sub-base, thereby producing less surface runoff than conventional (non-porous) pavements. The permeability of porous pavement declines with time unless it is adequately maintained.
Potable water	Water fit for human consumption.
Probable Maximum Flood (PMF)	The PMF is the largest flood that could conceivably occur at a particular location.
Public stormwater drainage system	Made up of minor and major drainage infrastructure; including kerb and gutter, dish gutters, pits and pipelines and open channels, with different components owned and managed by either Council or Sydney Water.
Rainwater Reuse	Collection of water discharged from non-trafficable roof areas within a development site to use for purposes such as toilet flushing, laundry, garden irrigation and other household end uses.



Runoff	The rainfall that does not ends up as stormwater.
Sediment	Solid material, either mineral or organic, that is in suspension, is being transported, or has been moved from its site of origin by air, wind, water or gravity.
Site Area	The area of land contained within the title boundaries of the site or the area of the property on which the development is proposed to be carried out.
Stormwater	Untreated rain water that runs off the land onto which it falls.
Stormwater Drainage Concept Plan	A plan that shows how stormwater will be managed within a development site, in particular demonstrating how the measures required by this DCP will be implemented.
Stormwater Management	The means by which stormwater is collected, conveyed, treated or utilised within a particular property or area.
Stormwater Reuse	Collection of water discharged from trafficable surfaces, including paved or ground surfaces, within a development site. When untreated, the water can be used for garden irrigation, and should not be applied to edible plants. When treated, the water can be used for purposes such as garden irrigation, toilet flushing and cold water washing machine supply, providing it meets the requirements set by NSW Health.
Sydney Water	Sydney Water Corporation or any organisation that replaces it.
Total Nitrogen	Total Nitrogen is the sum of nitrate (NO ₃), nitrite (NO ₂), organic nitrogen and ammonia (all expressed as N).
Total Phosphorous (TP)	A nutrient essential to the growth of organisms, and is commonly the limiting factor in the primary productivity of surface water bodies. Total phosphorus includes the amount of phosphorus in solution (reactive) and in particle form.
Total Suspended Solids (TSS)	Very small particles remaining dispersed in a liquid due to turbulent mixing that can create turbid or cloudy conditions.
Trunk Drainage	A component of the public stormwater drainage system, owned by either Council or Sydney water, that includes pits and pipelines below the road, or passing through private property, culverts, open channels and Whites Creek, Johnston's Creek and Hawthorne Canal.
Waterbody	A natural or man made system for carrying or holding water, including watercourses, creeks, rivers, open channels, lakes, bays, lagoons or harbours.
Water Management Statement	A summary of the proposed stormwater management measures that are to be integrated into the development.
Wastewater	Sewage, and can be greywater or water that is contaminated by human or commercial processes, and includes water from a domestic pool.
Water Sensitive Urban Design	An integrated approach to urban planning and design to ensure that development is carefully designed, constructed and maintained so as to minimise impacts on the natural water cycle.



ANNEXURE A

Integrated Water Cycle Plan

An Integrated Water Cycle Plan (IWCP) is a design, management and implementation plan for large-scale urban development projects that integrates all issues and responses affecting the water cycle. It is required for proposals that:

- incorporate 15 or more dwellings or residential lots, or
- accommodate 50 or more residents, occupants or employees, or
- are expected to generate a water demand of 5,000 litres per day or more, or
- involve the creation of 2,500 square metres of impermeable surface or more, or
- involve the subdivision of 2,500 square metres of land or more for commercial or industrial purposes.

The purpose of the IWCP is to ensure an integrated development response and must address the following matters:

1. Existing environment – a summary of the current condition of the land and its catchment context, with particular reference to the following issues:
 - catchment hydrology and hydrogeology
 - soil conditions
 - vegetation cover, remnant native vegetation and vegetation condition
 - groundwater depth and chemistry
 - site constraints and hazards such as flooding, slope stability, reactive soils, coastal hazards, erosion hazard, urban salinity, acid sulfate soils and land contamination
 - water quality conditions
 - stream flow regime.
2. Objectives and performance standards – water cycle outcomes that are to be achieved during construction and throughout the life of the development. These should be consistent with those contained in plans, strategies or policies adopted by relevant agencies, including regional plans and strategies, water management plans, catchment blueprints, stormwater management plans and joint statements of intent.

The following matters should be addressed:

- water consumption
- flood risk
- stream erosion
- water balance (relative balance between runoff, infiltration and evapotranspiration)
- salinity
- stream flow and environmental flows
- water quality
- water-dependent ecosystems such as streams, riparian zones, wetlands and estuaries
- erosion and sedimentation
- biodiversity and habitat conservation
- groundwater conditions
- public health
- recreational use of waterways and related areas
- aesthetic, visual and landscape issues



- indigenous and European cultural issues.
3. Planning and design principles – general principles to be adopted at the sub-catchment, precinct, street and lot levels that seek to promote achievement of the objectives and performance standards. These principles will shape the overall planning, design and staging of the project. They should be compatible with principles outlined in strategies and plans adopted by relevant agencies, including:
 - regional strategies
 - settlement, economic, housing and infrastructure strategies
 - biodiversity, catchment, environmental and open space strategies
 - structure plans and master plans.
 4. Water management measures – management measures that are to be applied so as to meet relevant objectives and performance standards.
 5. Community partnerships – community and educational initiatives that will support the objectives and performance standards.
 6. Infrastructure program – an infrastructure program that integrates all aspects of water cycle management, including water supply, sewerage, drainage, wastewater treatment and reuse, water quality control, flood risk management, open space provision and ecological protection.
 7. Developer contributions – proposed arrangements regarding section 94 contributions, headworks charges, etc.
 8. Ongoing operation – strategies to ensure effective ongoing maintenance of on-site water management measures, maintenance requirements and proposed enforcement mechanisms.
 9. Monitoring program – arrangements for monitoring the achievement of objectives and performance standards.

Consultation

You should consult with relevant agencies regarding the issues that should be addressed and the level of detail required. Relevant agencies include:

- Council
- Sydney Water
- Department of Environment & Climate Change
- Department of Environment and Conservation

The IWCP must be prepared by a qualified practicing Civil Engineer with demonstrated relevant experience in stormwater and environmental engineering.



Flood Risk Management Report

A Flood Risk Management Report is required for potentially flood prone lots and is required to ensure that the risks associated with flooding are clearly identified and where appropriate, the development is modified to minimise those risks.

The Report must be prepared by a qualified practicing Civil Engineer with demonstrated relevant experience in flooding and floodplain management. The Report must address the relevant controls of this DCP and is to provide at a minimum, the following details:

1. Description of the existing stormwater drainage system, including catchment definition.
2. Extent of the 100 year Average Recurrence Interval (ARI) flood event in the vicinity of the development.
3. Long and cross sections demonstrating that 500mm freeboard has been provided above the 100 year ARI flood event, to all proposed floor levels.
4. Note that a reduced freeboard to the floor level of the proposed carport/garage/parking space may be considered where an acceptable level of risk to damage and safety can be demonstrated.
5. Long and cross sections demonstrating that 500mm freeboard has been provided above the 100 year ARI flood event, to the floor levels of all existing and proposed components of the development.

Note that a reduced freeboard to the floor level of the proposed [carport/garage/parking space] may be considered where an acceptable level of risk to damage and safety can be demonstrated.

6. Recommendations on all precautions to minimise risk to personal safety of occupants and the risk of property damage for the total development to address the flood impacts on the site of the 100 year ARI and Probable Maximum Flood (PMF) storm. These precautions shall include but not be limited to the following:
 - (i) Types of materials to be used to ensure the structural integrity of the development for immersion and impact of velocity and debris for the 100 year ARI event.
 - (ii) Waterproofing methods, including electrical equipment, wiring, fuel lines or any other service pipes or connections
 - (iii) A flood evacuation strategy
 - (iv) On site response plan to minimise flood damage, and provide adequate storage areas for hazardous materials and valuable goods above the flood level.
7. Details of any flood mitigation works that are proposed to protect the development.
8. Provide supporting calculations.
9. Specify architectural/engineering plans on which the assessment is based.
10. Specify date of inspection.
11. Specify professional qualifications and experience of the authors.



Foreshore Risk Management Report

A Foreshore Risk Management Report is required for potentially flood prone lots and is required to ensure that the risks associated with wave action and tidal inundation are clearly identified and where appropriate, the development is modified to minimise those risks. The Report must be prepared by a Civil Engineer with demonstrated relevant experience in coastal engineering. The Report must address the relevant controls of this DCP and is to provide at a minimum, the following details:

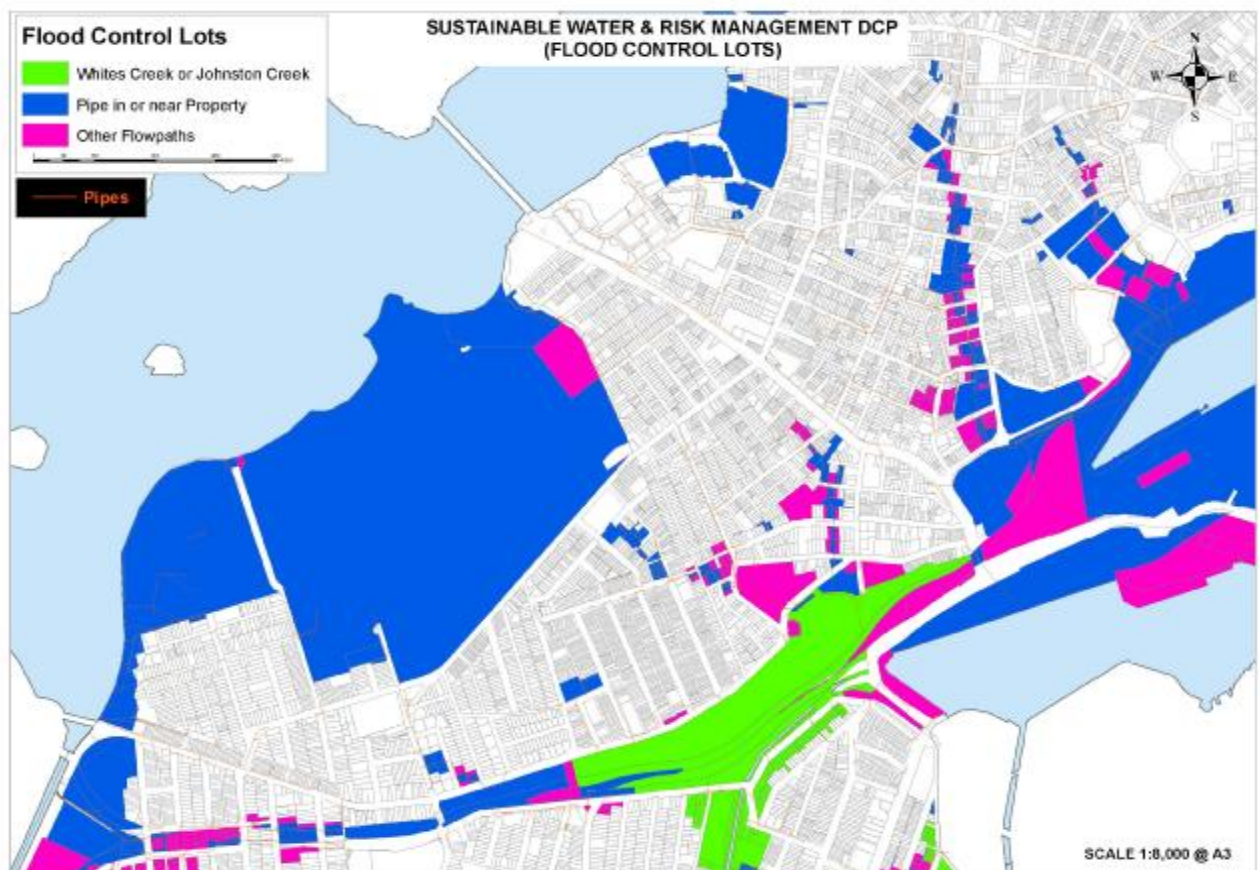
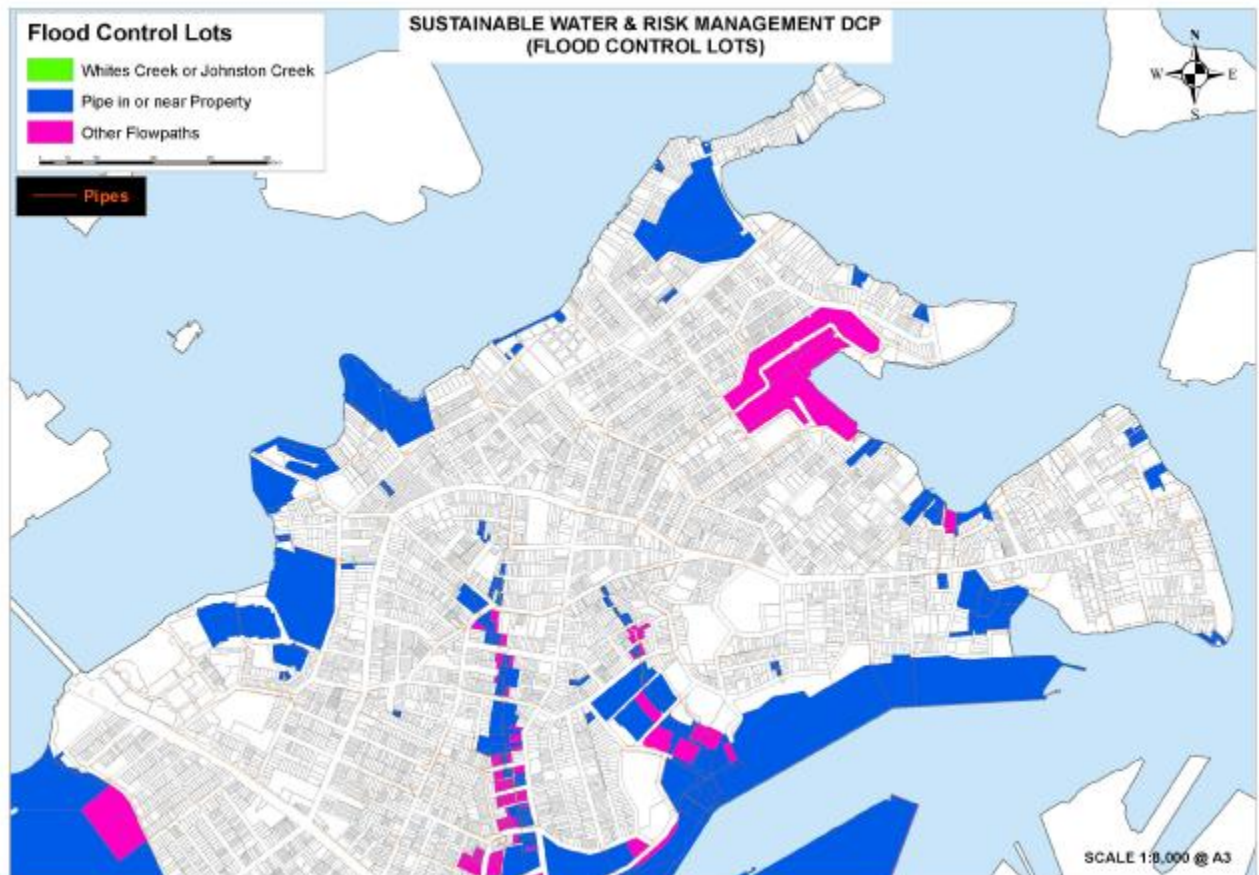
1. Description of the site and surrounding geotechnical and coastal/estuarine features.
2. Description of the existing and proposed development.
3. Identification of the geotechnical constraints on the land including assessment of the sub surface conditions geomechanics, slope stability and ground water conditions.
4. Identification of the constraints due to coastal/estuarine processes on the land including an assessment of storm wave impact, coastal processes, erosion and tidal inundation likely to occur during a 100 year ARI storm event.
5. Establishment of the 100 year ARI flood level associated with storm wave action and tidal inundation, including provision of adequate freeboard.
6. Assessment of the stability of the existing seawall adjacent to the boundary of the site with the harbour. The report must include recommendations to ensure continued stability of the wall during the construction process and in the long term.
7. Recommendations for the design of the stormwater drainage system for the site, including subsurface conditions, collection of runoff and its disposal to the Harbour.
8. Certification that there is a low risk of instability of the site over the economic life of the development, including the proposed development and existing structures that are to be retained.
9. Where any floor levels of the proposed development and/or existing structures are proposed to be retained below the 100 year ARI flood level, the report must address whether and how the proposal is to be either flood proofed to protect the overall development or justify that periodic water inundation will not cause any adverse risk to the development, its occupants or uses. Note that inundation of habitable components of the development is not permissible and must be provided with adequate freeboard.
10. Where any part of the proposed and/or existing development is below the flood level, the Report must make recommendations on all precautions to minimise risk to occupants and the risk of property damage. These precautions shall include but not be limited to safe evacuation, ensuring all structures, electrical equipment, wiring, fuel lines or any other service pipes and connections shall be waterproofed below the flood level, and be capable of withstanding the effects of wave action and tidal inundation.
11. Certification that the proposed development will not cause adverse impacts on surrounding lands, coastal environment and public amenities.

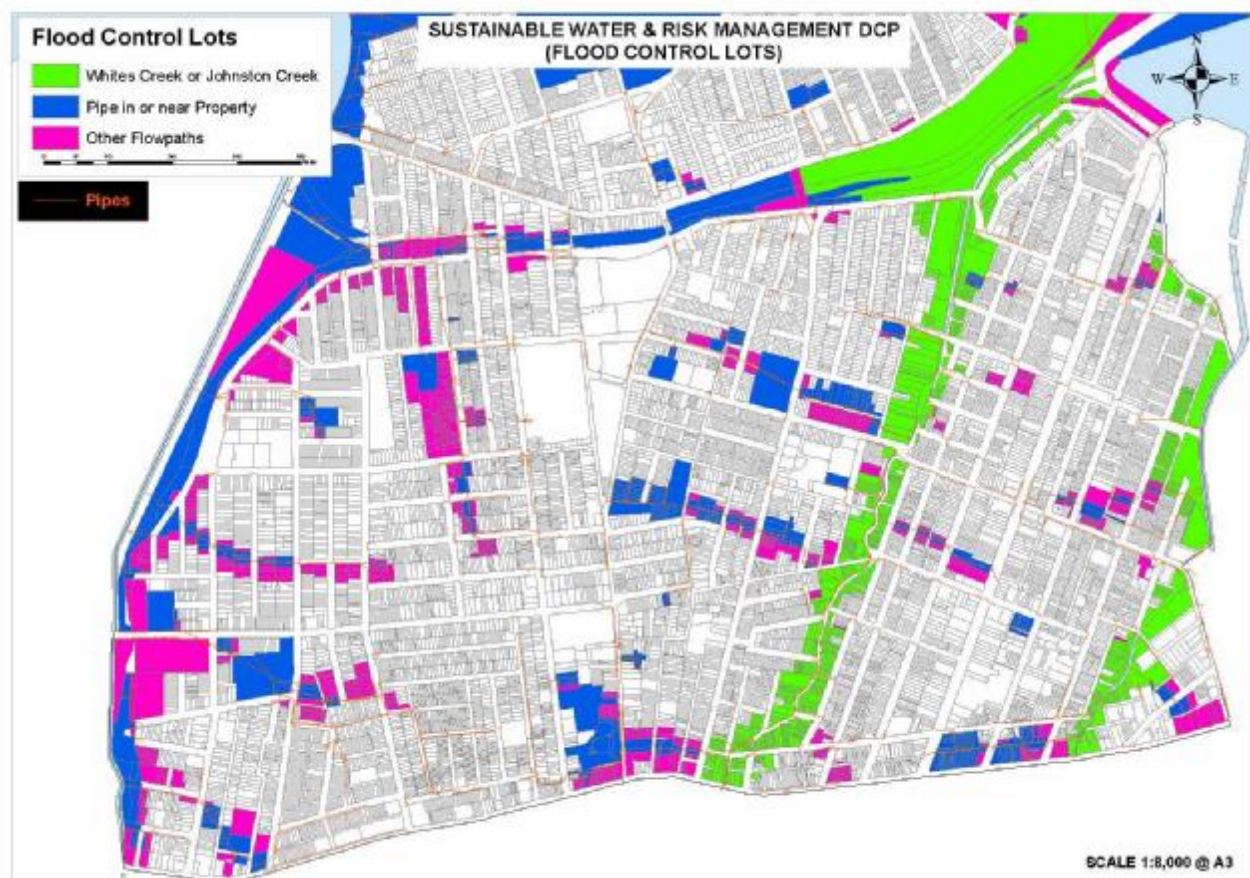


12. Specify the architectural/engineering plans on which the assessment is based.
13. Specify the date of inspection
14. Specify professional qualifications and experience of the authors



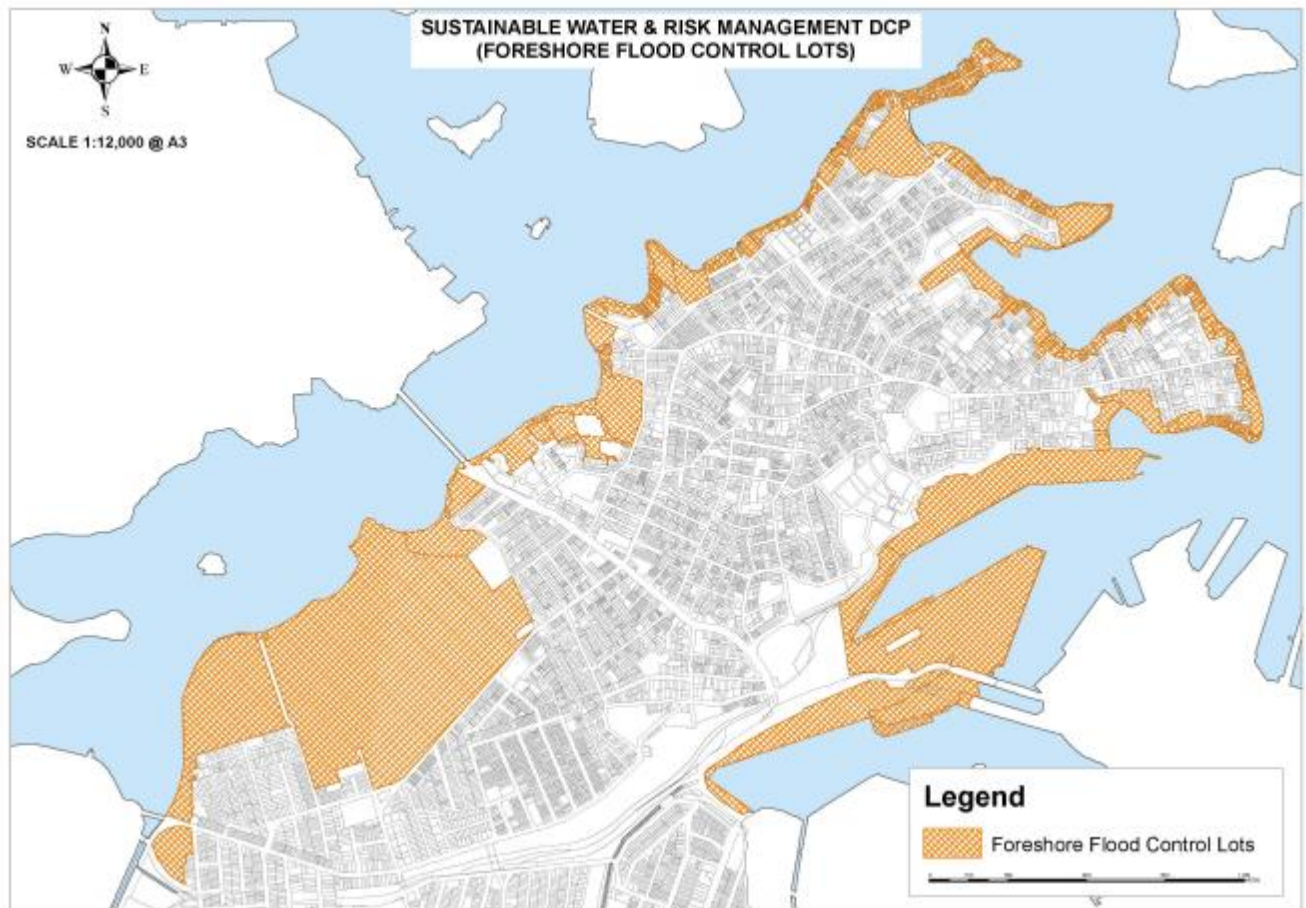
ANNEXURE B – Flood Control Lot Maps







ANNEXURE C – Foreshore Flood Control Lot Map





A4.0 Urban Form and Design

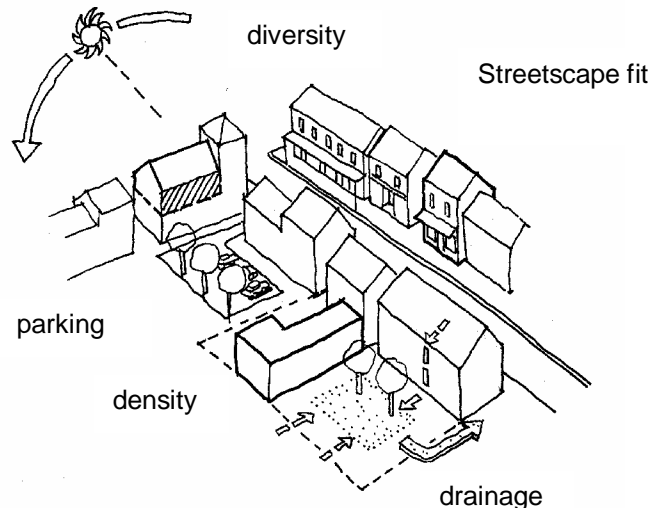
A sense of community, privacy and safety are often evident in the older parts of towns and cities which are characterised by traditional street patterns.

In these areas, streets and spaces are well-defined with buildings that directly access and overlook them, providing good surveillance. The buildings and their surrounds are integrated and compatible with each other.

The built environment has more than just a visual impact on our lives. The form, layout and design of urban spaces shapes the way we interact with each other and carry out our day to day activities. It has been demonstrated that a poorly designed urban environment can directly affect personal well-being and contribute to increased crime and the loss of a sense of place and community which may lead to isolation and segregation. Inhuman scale and lack of visual interest and variety in the built form are contributory factors to poor urban design. Consequently it is important to ensure that the built environment grows in a way that best accommodates future needs and requirements by having consideration to the design elements that are essential to good urban form and design.

The design elements which are addressed in more detail in separate sections provide guidance and controls relating to features of good urban form and design and include:

1. undertaking a site analysis;
2. ensuring the design of the proposal relates to the site and the prevailing street subdivision pattern;
3. having regard to the bulk, size, heights, massing and proportions of the proposed buildings in relation to surrounding development, and ensuring that adequate space is provided around buildings to provide an appropriate setting;



4. ensuring that the car parking provided is appropriate to the development and site circumstances and that the layout is sympathetic and practical;
5. ensuring that the elevational detail and materials are sympathetic to the surrounding development;
6. consideration of front walls, fences, out-buildings, landscaping and building entries, site facilities and utility installations.

Some of these design elements have implications for the amenity enjoyed by the future occupants of the new development and that of neighbouring occupiers. Additionally, the design and layout of buildings is important in terms of providing ecologically sustainable development.

Each design element does not stand alone but is intrinsically linked to other design elements relating to urban form, design, amenity and ecologically sustainable development. A balance between these issues needs to be reached in order to produce the best development.



A4.1 Development at the Business Zone/Residential Zone interface

For development at the Business Zone/Residential Zone interface, any proposal for development on land zoned Business must recognise and take into account the form of existing development, and/or development likely to occur, in adjoining land zoned Residential.

Where development is proposed in excess of 2 storeys in land zoned Business at a Business Zone/Residential Zone interface, any storey above the second storey should not be visible (or at most, partially visible) from the rear yards of adjoining land zoned Residential.

Applicants for development in the Business Zone must also consider amenity impacts upon adjoining land owners in the Residential Zone.



A5.0 Amenity

Amenity is defined in Leichhardt Local Environmental Plan 2000 as

"Amenity means the enjoyment of the environment, whether by the community as a whole or by an individual, arising from the day to day use of property, including dwellings or publicly accessible land, community facilities or open space, and includes, but is not limited to, the enjoyment of:

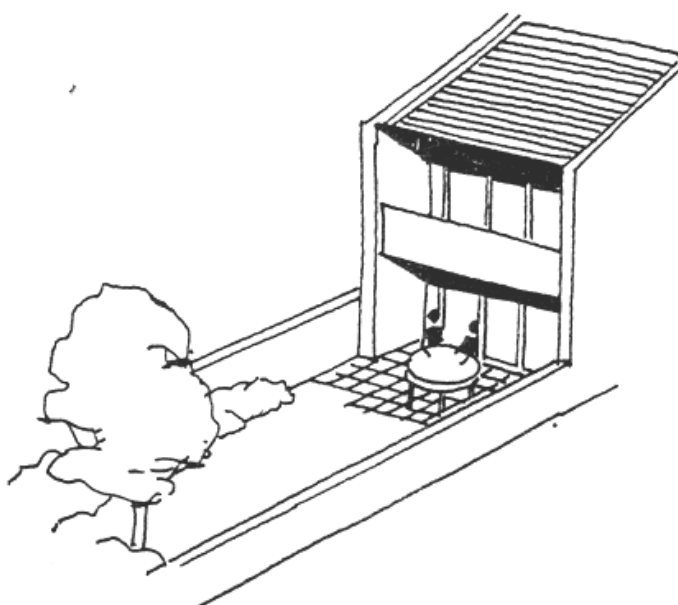
- (a) sunlight, privacy and views, and
- (b) residential and community life free from nuisance arising from the emission of noise, vibration, smell, fumes, smoke, vapour, steam, soot, ash, dust, waste water, waste products or grit."

Reasonable amenity should be ensured to future occupants of new development and maintained to residents in their existing homes. It is not the function of the planning system however, to ensure the protection of one person's amenity to the detriment of another, but to balance the needs of the community as a whole.

The amenity of a resident is determined by many factors including urban form and design, access to services and the principles of ecologically sustainable development. However, specifically, solar access, private open space, visual privacy, acoustic privacy, access to views and the activities of non-residential development are seen to impact directly on the enjoyment of residential amenity.

Whilst the design elements in this development control plan have been separated into sections to enable easy reference they are nevertheless intrinsically linked. Together the application of these design elements will enable the provision and maintenance of an environment that meets the future and current needs of the community.

Providing privacy for one dwelling may result in the loss of solar access or outlook to another dwelling. Frequently the achievement of the ultimate outcome in one design element will result in a less than satisfactory outcome in another. Consequently all the issues need to be balanced and innovative design solutions incorporated to ensure that the best all round solution is achieved.





A6.0 Site Analysis

A site analysis is the first step in considering the development potential of a site. It is a prerequisite to all new development proposals and should be completed before a development is designed. For alterations and/or additions, a site analysis will be left up to the discretion of the Assessing Officer. Council will exercise its judgement about the extent of information required in a site analysis depending on the nature of the development proposal.

A site analysis must be to scale and should identify development opportunities and constraints offered by a site, and the potential impact of a development on its surroundings. This is fundamental to the process of achieving good urban ecologically sustainable development and enhancing amenity.

The site analysis is a concept plan. It not only addresses the constraints and opportunities of the development site but also the context within which the site is set. It is essential to consider the wider picture when preparing a site analysis, including

neighbouring developments, the street and locality.

How to Prepare a Site Analysis

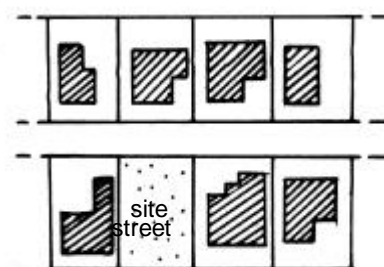
Use an annotated plan to show key characteristics and relationships to adjacent buildings and streets, as set out below. For large residential sites, address issues such as orientation of streets and buildings.

Refer to the Urban Framework Plans for the strategic context and Leichhardt *Suburb Profiles* (A10.0) to assess local area character.

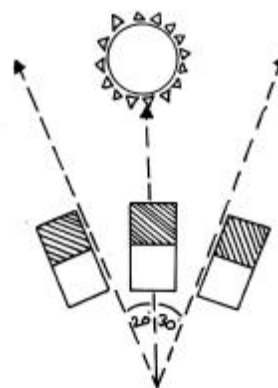
A site analysis at its most exhaustive would address the following in relation to:

The site, its context and surroundings

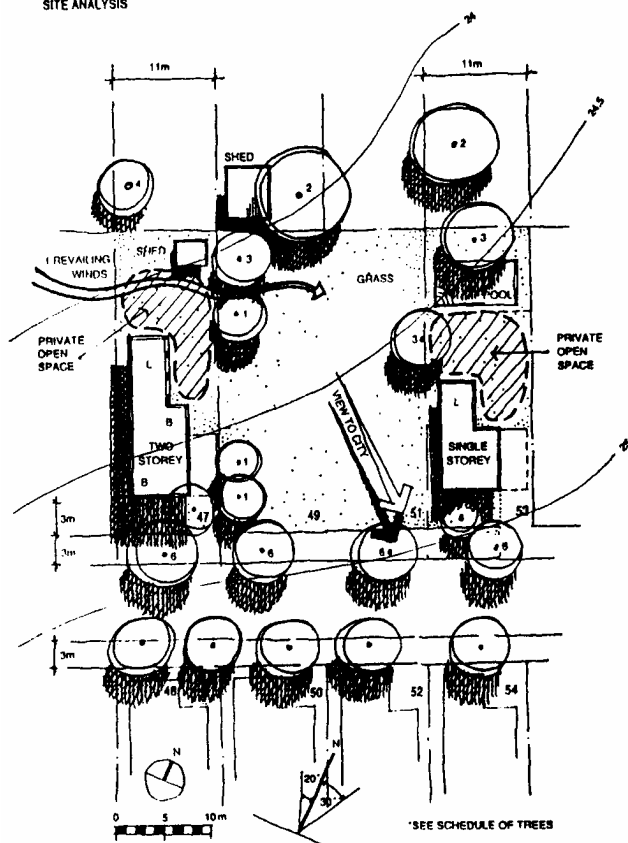
- The site context in relation to neighbouring sites, street patterns and lot sizes and orientation.



- Drainage lines across the site.
- True North, and a range of 30° east and 20° west of true North.

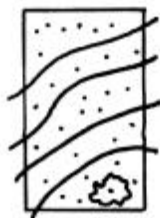


SITE ANALYSIS





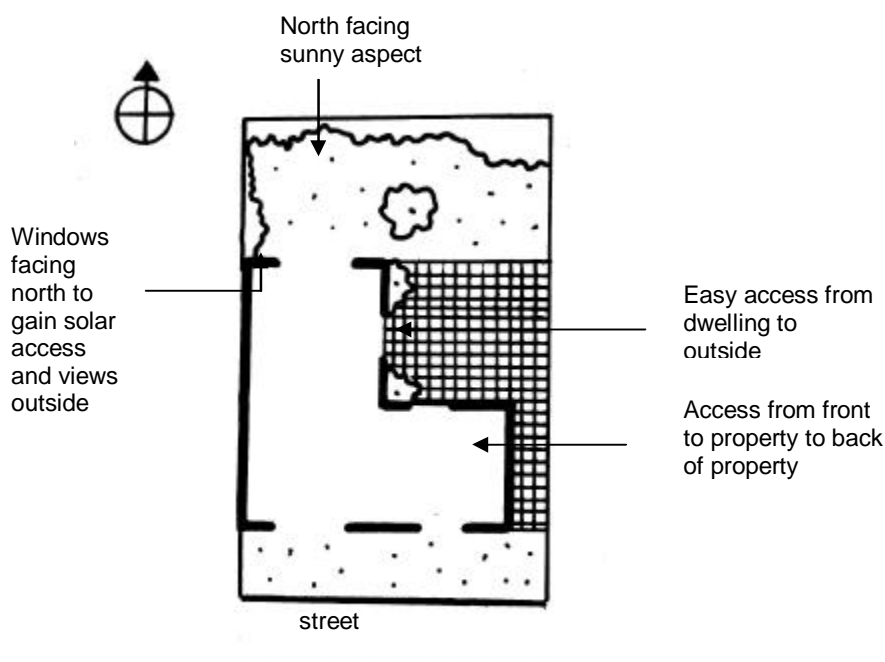
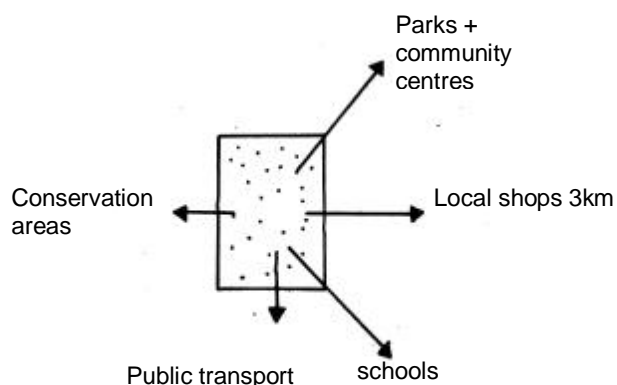
- Sun and Shade characteristics and prevailing winds.
- Contours and topographical features the location and characteristics of any adjacent public open space.



- Location of utility services
- Potential noise sources, eg swimming pool, railway lines.
- The location of Heritage Items and Conservation Areas in the vicinity.
- The location status and use of adjacent buildings or structures.
- Private Open Space
- Street frontage features such as poles, street trees, kerb crossovers, bus stops, services, and existing building features

such as balconies and verandahs.

- Access and connection points
- The direction and distances to local shops, schools, public transport, parks and community facilities.





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A7.0 Heritage Conservation

Principle

To protect, conserve and enhance Leichhardt's heritage, and ensure that changes to this heritage take place in an appropriate manner.

Rationale

Leichhardt's character is largely determined by its heritage. As heritage considerations underpin the Leichhardt Town Plan, the principles and guidelines set out in the Burra Charter have been adopted as the basis for assessment of carrying out work to places of heritage value. This includes items of individual value known as Heritage Items, and areas of overall conservation value, known as Conservation Areas. Specific requirements are set out in Part 3 – Heritage Conservation, of Leichhardt LEP 2000.

Guidelines

Parts B and C of this DCP contain detailed guidelines and controls relating to designing buildings that will respect the heritage of Leichhardt. These parts should be referred to. Here you will find a description of acceptable building forms as well as instruction for identifying features and materials that should be recognised when designing new development and when proposing alterations and additions to existing buildings.

The heritage value of a building is not only its contribution to the streetscape. Other external and internal features may also be important. Consider allotment shape and size, building footprint, setting, a past use or occupant, technological achievements, the internal layout and dimensions of rooms or special fixtures.

This list is certainly not exhaustive but indicates the broad nature of features relating to heritage significance.

The applicant should:

- Determine the significance by understanding the history of a place, and the changes that have been made over time.
- Determine why the fabric of a place is important.
- Determine the most appropriate way to conserve and retain the heritage significance of the fabric.
- Before making decisions about change, clearly set out why a place has heritage significance.
- Base decisions on an understanding of the place.
- Assess the impact of proposed changes to the established significance of a place.

Controls

- **Only undertake work necessary to conserve the place, or to comply with safety or other regulations.**
- **Retain the existing fabric wherever possible, and maintain rather than replace the fabric.**
- **Minimise any alterations to the building and setting required for occupation.**
- **Make a record of the place before making changes, and maintain a record of the changes made.**
- **Changes to a building's fabric are to be complementary to the architectural period and style of the building.**

Key References:

Summary of illustrated Burra Charter,
Courtesy of Peter Marquis-Kyle & Meredith Walker
Australia ICOMOS.

Refer to:

- B4.1 Alteration and additions to existing dwelling houses.
- B4.2 Conservation of small detached houses
- B5.4 Leichhardt Suburb profiles



A8.0 Parking Standards and Controls

Principle

To ensure that safe and sufficient parking for all modes of transport is provided to meet anticipated demands.

Improve access by walking, cycling and public transport to housing, jobs and services.

Ensure access for people with disabilities.

Increase the choice of available transport and reducing dependence on cars.

To make cycling a viable transport alternative.

To restrain employee off-street parking provisions to discourage car travel.

To improve the design and quality of the urban environment.

Rationale

Council requires that parking be provided to meet the needs of the proposed use. This should be designed to meet the relevant code and standards set at the Local, State and Federal levels. This section deals with the standards and controls which should be addressed in relation to the provision of access, parking and servicing of a development.

Applicants are required to demonstrate with their application that their proposed parking provisions are consistent with the objectives and principles of the DCP.

The rates in the following table are intended as a generic guide and may need to be adjusted for local circumstances, employee densities, public transport accessibility and reduced car mode share targets, where appropriate.

The staff parking rates are based on the principle of providing parking supply up to 20% lower than observed or calculated demand to discourage car usage for journey to work travel.

Controls

- The parking rates in the following table are generic and are included to demonstrate the principles outlined in the DCP for determining parking requirements for new development.

- Developments that are not tabled will be assessed having regard to the following criteria and any demonstration of parking requirements from surveys of comparable establishments:
 - the person capacity of the premises;
 - the proportion of visitors or patrons likely to arrive by car;
 - the availability and level of service of public transport (AMCORD research suggests proximity of 400 metres or less to rail stations and main bus routes may reduce parking for residential uses by at least 25%);
 - the number of full-time and part-time employees;
 - the hours of use;
 - the location of the premises particularly in relation to schools, local services, employment, retail and recreational facilities and where these services will reduce the need for vehicle use;
 - the number of occasions during the year when the facility is fully used;
 - the availability and affordability of public parking;
 - the availability of additional parking areas to cover peak demands.



Generic Parking Rates

Land Use	Car Parking					Bicycle Storage	
	Staff/ Residents		Visitors/ Shoppers		Mobility Impaired	Staff/ Residents	Visitors/ Shoppers
	Maximum	Minimum	Maximum	Minimum	Minimum	Minimum	Minimum
Residential							
– Bed-sit	0.5 spaces per unit	Nil	0.2 spaces per unit	0.1 spaces per unit	See note (1)	0.33 spaces per unit	0.08 spaces per unit
– 1 bedroom	1 space per unit	0.5 spaces per unit	0.2 spaces per unit	0.1 spaces per unit	See note (1)	0.33 spaces per unit	0.08 spaces per unit
– 2 bedrooms	1.6 spaces per unit	0.8 spaces per unit	0.2 spaces per unit	0.1 spaces per unit	See note (1)	0.33 spaces per unit	0.08 spaces per unit
– 3 + bedrooms	2 spaces per unit	1 space per unit	0.2 spaces per unit	0.1spaces per unit	See note (1)	0.33 spaces per unit	0.08 spaces per unit
– Dwelling	2 spaces per dwelling	Nil	N/A		See note (1)	Nil	Nil
Amusement Centre	0.4 spaces per employee	Nil	0.2 space per machine plus 1 space per pool/ snooker table	Nil	See note (1)	0.2 spaces per employee	2 spaces plus 5 spaces per 1000m ² GFA
Bulky Goods Retail	See note (4)		see note (2)		See note (1)	See note (2)	See note (2)
Child Care Facility	0.55 spaces per staff	0.44 spaces per staff	0.125 spaces per child	Nil	See note (1)	2.5 spaces per 1000m ² GFA	5 spaces per 1000m ² GFA
Clubs							
– Lounge and Bar Areas	See note (4)		10 spaces per 100m ² GFA	5 spaces per 100m ² GFA	See note (1)	4 spaces per 100m ² of bar area, plus 1 space per 100m ² of lounge area	4 spaces per 100m ² of bar area, plus 1 space per 100m ² of lounge area
– Dining & Auditorium	See note (4)		Greater of 0.2 spaces per seat or 8 spaces per 100m ² GFA	Greater of 0.1 spaces per seat or 4 spaces per 100m ² GFA	See note (1)	Nil	Nil



Land Use	Car Parking					Bicycle Storage	
	Staff/ Residents		Visitors/ Shoppers		Mobility Impaired	Staff/ Residents	Visitors/ Shoppers
	Maximum	Minimum	Maximum	Minimum	Minimum	Minimum	Minimum
Commercial Premises	Overall parking requirement (including staff and shoppers parking): Minimum: 1.5 spaces per 100m ² Maximum: 3 spaces per 100m ²				See note (1)	5 spaces per 1000m ² GFA	1.33 spaces per 1000m ² GFA
Hotels	See note (4)		10 spaces per 100m ² GFA plus 5 spaces per 100m ² of outdoor/semi outdoor seating area	5 spaces per 100m ² GFA plus 3 spaces per 100m ² of outdoor/semi outdoor seating area	See note (1)	4 spaces per 100m ² of bar area plus 1 space per 100m ² of outdoor/semi outdoor seating area	4 spaces per 100m ² of bar area plus 1 space per 100m ² of outdoor/semi outdoor seating area
Industry	Overall parking requirement (including staff and shoppers parking): Maximum: 1 space per 4 employees, or 1 space per 100m ² GFA whichever is greater Minimum: 1 space per 2 employees or 2 spaces per 100m ² GFA, whichever is greater				See note (1)	1 space per 1000 m ² GFA	Nil
Motels	See note (4)		1 space per room	1 space per room	See note (1)	0.025 spaces per room	Nil
Motor & Retail Showrooms	See note (4)		See note (2)		See note (1)	1.33 spaces per 1000m ² of sales floor	1 space per 1000m ² of sales floor
Passenger Terminal	See note (4)		see note (3)		See note (1)	see note (3)	see note (3)
Professional Consulting Rooms	0.55 spaces per staff	0.44 spaces per staff	4 spaces per 100m ² GFA	2 spaces per 100m ² GFA	See note (1)	0.125 spaces per practitioner	0.25 spaces per practitioner
Restaurants	0.55 spaces per staff	0.44 spaces per staff	10 spaces per 100m ² GFA plus 5 spaces per 100m ² of outdoor/semi-outdoor seating area	5 spaces per 100m ² GFA plus 2.5 spaces per 100m ² of outdoor/semi-outdoor seating area	See note (1)	4 spaces per 100m ² of public area	2 spaces



Service Stations	See note (4)	4 spaces per work bay plus 10 spaces per 100m ² ancillary retail	2 spaces per work bay plus 2 spaces per 100m ² ancillary retail	See note (1)	1 space per 20 staff	Nil
Shops	See note (4)	3 spaces per 100m ² GFA	1.5 spaces per 100m ² GFA	See note (1)	3 spaces per 1000m ² of sales floor	2 spaces per 1000m ² of sales floor
Warehouse	<p>Overall parking requirement (including staff and shoppers parking):</p> <p>Maximum: 2 spaces per 100m² GFA for first 100m² GFA, plus 1 space per 100m² GFA for the next 100m² GFA, plus 0.5 spaces per 100m² GFA for the next 1,800m² GFA, plus 0.33 spaces per 100m² GFA for any GFA over 2,000m².</p> <p>Minimum: 1 space per 100m² GFA for first 100m² GFA, plus 0.5 spaces per 100m² GFA for the next 100m² GFA, plus 0.25 spaces per 100m² GFA for the next 1,800m² GFA, plus 0.17 spaces per 100m² GFA for any GFA over 2,000m².</p>			See note (1)	1 space per 1000m ² GFA	Nil

Notes:

- 1) For required disabled parking provisions, refer to Development Control Plan 32 – Design for Equity of Access and Adaptability.
- 2) The requirements are to be determined by comparative survey.
- 3) The requirements are to be determined in consultation with local transport operators, relevant transport agencies and Leichhardt Council.
- 4) Staff parking shall be restricted to a minimum of 80% of the total staff parking demand and a maximum of 100% of total staff parking demand generated by the development, depending on local circumstances and public transport accessibility. The calculation of staff parking demand is to be based on current journey to work mode share patterns for the locality.
- 5) When calculating the number of spaces, rounding up to the nearest whole number should be used. For stage and segmented development, parking requirements for each component should be calculated separate.



- Parking spaces must be kept free of obstructions at all times and shall only be used for the purposes of car parking.

Mixed Uses

- Some mixed uses such as commercial and residential may have overlapping or complementary parking demand. In such cases where maximum demand varies throughout the day, parking provisions may be reduced.
- Council may require taxi, private vehicle and coach drop off/set down areas where the proposed development warrants the facility.

Bicycle Storage

- Bicycle storage facilities should be secure having regard to the type of use and visibility of the parking areas.
- Bicycle storage facilities should be located in convenient locations, be clearly visible and accessible to pedestrian entries so as to encourage their use.

Advisory:

It is recommended that the design of bicycle storage facilities have regard to Austroads Guide to Traffic Engineering Practice (Part 14- Bicycles).

Landscaping

- Landscaping shall not hinder visibility of either drivers or pedestrians.
- Clear sightlines must be maintained between parking areas, public roads and paths.
- Landscaping must not conflict with lighting and services.
- Plants species used for landscaping in and near parking areas should not be prone to drop fruit, branches, sap or bark and should have minimum long term maintenance requirements.
- Car Parking areas shall be well lit and visible allowing for casual surveillance.

- Car parking areas are to be well ventilated if enclosed as well as being safe and secure. Hidden and enclosed areas should be avoided. In areas where this is not possible such as staircases and lift lobbies, mirrors or similar devices should be used.
- Large parking areas must be broken up with the use of soft and hard landscaping features and different surface treatments.
- Parking areas and accessways are to be designed, surfaced and graded to reduce run-off and allow stormwater to be controlled within the site.
- Car parking, access and service areas shall be in accordance with guidelines prescribed by AS2890.1 – Off Street Car Parking 1993.
- Parking spaces shall be provided in accordance with Council's Parking Policy. Council may permit a departure from the Parking Policy if the applicant can demonstrate that the departure will not be inconsistent with the principles of the plan and will not detrimentally affect amenity.

Refer to:

- B1.3 Car Parking (Residential development)
- C1.2 Parking layout, servicing and manoeuvring (Non-residential development)

Use Of Existing Buildings

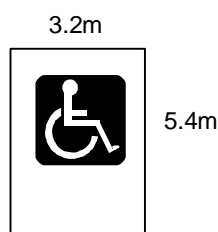
- Where a development proposal involves additions to an existing building, a change in use or an intensification of use, the required parking is to be based on the generated demand arising from the additional component or intensification of use as assessed by Council.
- Additional parking provision may not be required if the redevelopment does not result in any increased floor space and the use of the building is not



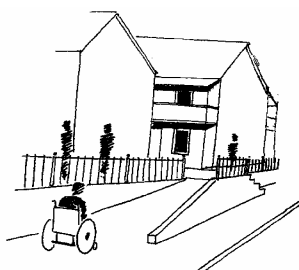
- significantly changed in the opinion of Council.

Parking for persons with disabilities

- Minimum dimensions for parking for persons with disabilities shall be 3.2 metres by 5.4 metres.



- Minimum dimensions for parking for adaptable housing units shall be 3.8 metres by 6 metres.
- Unimpeded access shall be provided between each parking space for disabled persons and the adjoining walkway.
- Parking spaces for disabled persons shall be located close to wheelchair accessible entrances or lifts.



- Parking spaces for disabled persons shall be identified by a sign incorporating the international symbol of access for persons with disabilities. The sign shall be readily visible from a vehicle at the entrance to the carpark, or guide signs indicating the direction of the parking spaces shall be provided.
- Parking spaces for disabled persons shall be provided in accordance with Development Control Plan No. 32 – Design for Equity of Access and Adaptability.



A9.0 Advertising and Signage

Principles

Ensure that advertising and signage is in keeping with the size, scale, character and architectural treatment of the building to which it is attached or the development with which it is associated.

Design and locate outdoor advertising signs in a manner which conserves the heritage of significant places, protecting and enhancing what is valued about the building or the place.

Rationale

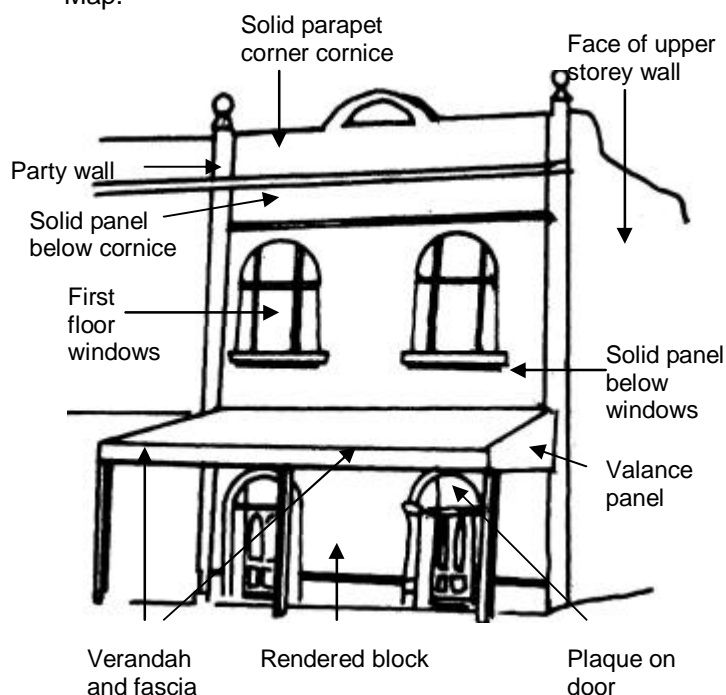
Advertising is a feature of the urban townscape. However, whilst it is necessary for advertising to be visible, it should not dominate the townscape and streetscape. Competition between businesses for the more dominant advertisement creates a situation where the character of an area is eroded and masked by a sea of advertising.

Industrial areas vary in architectural expression, scale and siting of buildings, landscaping and mix of uses.

Many industrial areas are not visually attractive, and the management of sign design and location can enhance the visual quality of an area, as well as more effectively advertise individual businesses.

Advertising signs can be intrusive and out of character in residential areas. However, they are often necessary to ensure the principles of ecologically sustainable development are maintained especially with regard to home occupations, home based employment or other permissible uses within the residential zone. It is essential that the signs are designed in such a way that they do not detract from the residential character or amenity of the area and are kept to a maximum one sign per site.

Leichhardt has a wealth of places and buildings of special significance, which are worthy of conservation. Leichhardt Town Plan identifies Conservation Areas in all suburbs of Leichhardt – refer to Leichhardt LEP – Heritage Conservation Map.



Typical sign locations on buildings in conservation areas.

Conservation Areas and suburb profiles are the primary method of control to preserve the distinctive historic character of each area. These Conservation Areas include the main business areas of Leichhardt's suburbs and, therefore, advertising and signage should be designed to enhance the historic character of these areas. Surviving early signs may contribute to the significance of a building and should be conserved.



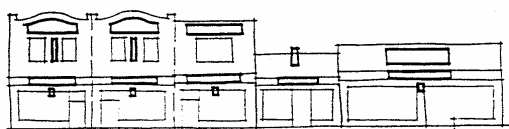
Guidelines – Appropriate sign opportunities

To identify sign opportunities, subdivide the facade using the main design lines to form a series of panels. Many traditional building designs can be easily broken into a grid based on the alignments of the parapet (skyline), cornice, verandah, window and door.

The scale of advertising signs should be compatible with the buildings they are on, as well as with nearby buildings, street widths and other existing signs. In most cases, appropriate dimensions are achieved by restricting signs to panels. This ensures that the original architectural character (set by the lines of awnings, window and door openings, parapet lines and setbacks) remain dominant.

Generally, sign panels can be identified as follows:

- a solid parapet above a cornice;
- the horizontal entablature or panel below a cornice;
- verandah (ground or upper floor) fascia as well as the possible side valance panel formed by the roof profile;
- spandrel panels below windows;
- ground floor or first floor windows;
- notice boards or plaques on ground floor piers;
- string courses;
- small signs limited to individual architectural elements such as a rendered block;
- on side upper storey walls;
- party walls able to be viewed above adjacent buildings.



An advertising sign should;

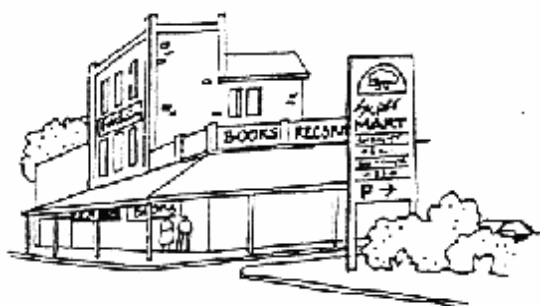
- conform to the desired future character of the zone as described in the relevant suburb profile within this DCP;
- complement the streetscape character;
- complement the architectural character of the building or area;
- convey the advertiser's message or image while conforming to the surrounding urban character;
- rationalise or reduce the number of existing signs;
- not adversely affect traffic safety;
- not adversely affect the environmental amenity of residential areas;
- be compatible with the scale of building, street widths and other existing signs;
- be capable of being removed without causing damage to the fabric of the building.

The following points offer matters to consider when designing signage.

- Heritage lettering styles may involve shaded letters, the mixing of sizes and styles of letters and ornamental scrolls, as relevant to the period of the building;
- The external colours applied in different historic periods for advertisements varied and were more limited in range than today. It is therefore necessary to research appropriate colour ranges for buildings in heritage areas.
- For a terrace or series of buildings, develop patterns and themes, and achieve visual continuity with neighbouring buildings.
- Develop themes by placing signs in locations compatible with those on adjoining buildings.

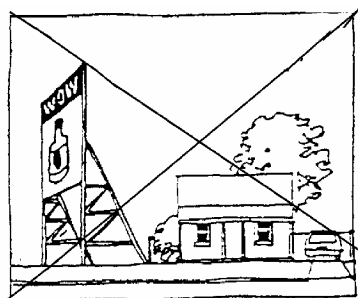


- Where illumination is necessary, floodlighting is preferred. Large backlit signs will be appropriate only on buildings and items constructed during the period when neon was used. Small neon signs hanging inside the windows of shops may be appropriate as they form part of the window display rather than a dominant townscape element.
- Consider the use of natural materials such as wood and metal.



Aim to co-ordinate sign locations of adjacent facades by placing signs in similar locations on adjacent building, eg on parapets, above window heads or beside entrance doors. The signs should contribute to the character of the area.

Ensure signs do not visually dominate the area of building walls and parapets or landscaped surroundings.

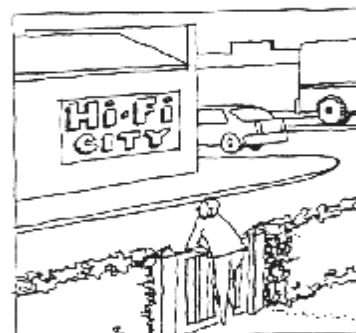


Where a building is set back from the street alignment incorporate a freestanding sign into an architectural feature. A low level sign of about one metre in height, mounted on posts or a low wall whether parallel or at an angle to the approach road is acceptable. Alternatively, one double

sided pole sign – freestanding and possibly internally illuminated may be acceptable.

Controls

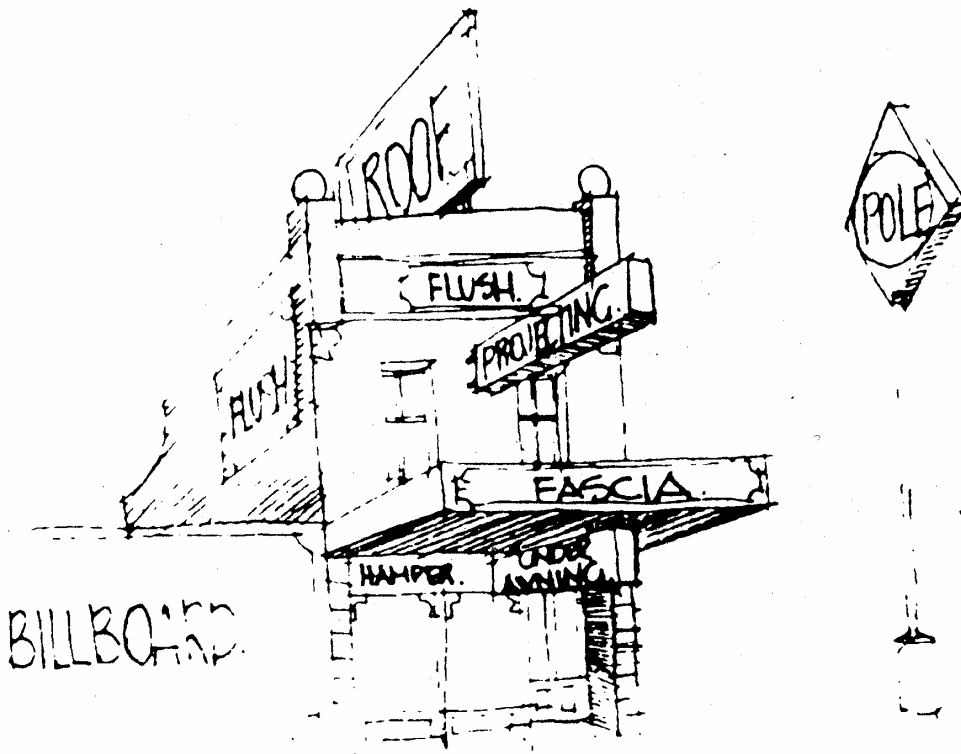
- Refer to area based controls.
- No signs should break a parapet or roofline of a building. A possible exception is single-storey verandah roof-lines.
- On buildings with decorative facades, signs should not be placed on the decorative forms or mouldings. They should appear on the undecorated wall surfaces.
- Flashing signs or fluorescent and iridescent paints are not permitted.
- When designing new buildings, signs or space for signs should be incorporated into the architecture of the buildings or site, and form part of the original development application.
- Identify the entrance of multiple occupancy developments by a sign or directory board identifying the name of the site and the occupants.
- Signs in residential areas should be discrete and carefully designed to respect residential character.



- Internally and externally illuminated signs are not permitted, except where spillage of light does not detract from amenity of neighbouring properties.



- The only sign permissible on a building used primarily as a residence is one nameplate or “commercial sign”:
 - identifying the office of a professional person, a home occupation or homebased employment
 - located wholly within the boundary of the subject property
 - having a maximum dimension of 600mm x 300mm.



Council will direct the alteration, obliteration, demolition or removal of advertisements and their associated structures, where such are unsightly, objectionable or injurious to the local amenity only after due consideration of complaints from residents has been given.



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**ADVERTISING TABLE**

The development of signage is limited to one (1) under awning sign for each shopfront, with any additional advertising area not to exceed 1 square metre for each 1.5 square metres of street frontage.

As standard signage modules may not be considered by Council to be appropriate in particular business centre, applicants are advised to consult Council prior to submitting an application for the development of signage (particularly where the proposed signage is generic corporate signage typically associated with franchises).

The number of permissible internally illuminated advertising signs is limited to one (1) per building.

Advertisements are to be erected in accordance with this table below where:

DA = permissible with consent (ie submission of a DA for erection of sign required).
YES= permissible without consent
NO = prohibited

TYPE OF SIGN	DEFINITION	CONDITIONS	PERMITTED
Advertising Panel	Includes billboards, multi-sheet poster signs and the like, but does not include hoarding for a construction site.		NO
Advertising Board	Includes a hoarding enclosing a construction site or bulletin board, whether or not attached to a building.	<ul style="list-style-type: none"> • must not extend laterally beyond the wall. • must not project vertically above the wall or parapet. • must not cover any window or architectural feature. 	DA
Under Awning Sign	A sign attached to the under side of an awning (other than the fascia or return end).	§ 1 per premises. § Max. size 0.5 x 2.5m § Erected horizontal to ground and perpendicular to the building. § Illuminated or not § Not to project beyond the awning § If over a public area, must be suspended at a height no less than 2.6m above ground/pavement level.	YES <ul style="list-style-type: none"> • Requires consent if attached to a heritage item.
Fascia Sign	Sign attached to the fascia or return end of an awning	§ Flush with fascia. § Not to project above or below the existing fascia or return end of the existing awning.	YES <ul style="list-style-type: none"> • Requires consent if attached to a heritage item.
Above Awning Sign and Fin Sign	Sign attached to the top of an awning (other than the fascia or return end); sign erected on or above the canopy	§ Main supports attached to the awning but may have guy wires attached to the front of the building. § Must not project beyond the awning. § Must be securely fixed.	DA
Flush Wall Sign	Attached to the wall of a building (other than a dwelling), not projecting more than 300mm from the wall, and located under the awning level.	§ Must not be illuminated. § Maximum size up to 0.75m ² . § Must not project above or beyond the wall. § Must not cover any window or architectural feature. § 1 per occupation.	YES <ul style="list-style-type: none"> • Requires consent if attached to a heritage item.



TYPE OF SIGN	DEFINITION	CONDITIONS	PERMITTED?
Painted Wall Sign	Painted onto the wall of a building (other than a dwelling).	\$ Max size up to 0.75 ^{m²} \$ Must not be illuminated. \$ 1 per wall	YES • Requires consent if attached to a heritage item.
Projecting Wall Sign	Attached to the wall of a building (other than a dwelling) and projecting horizontally more than 300mm.	• Must be at least 2.6m above the ground. • Shall not be illuminated if it is located 4.6m above ground level or above the level of the first floor window (whichever is lower). • There shall not be more than one sign for each 3 metres of the length of the premises. • Must not exceed the dimensions of 2.5m by 0.5m. • Must not be erected at a right angle to the wall of the building to which it is attached.	DA
Pole, Pylon, Totem Sign	Erected on poles, pylons or comprising a totem independent of any building or other structure but associated with the business upon that site.	• The minimum height for Pole or Pylon signs shall be 2.6m above the ground where it projects. • Totem signs shall not exceed 2m in width. • Totem signs shall not exceed 10m in height.	DA
Roof Sign	Erected on or above the roof or parapet of a building (other than a dwelling).		NO
Top Hamper Sign	A sign attached to the transom of a doorway or display window of a building.	\$ Not to extend below the head of the doorway or window to which it is attached. \$ Flush with the surface. \$ Not to project beyond the building. \$ One per premise/occupation.	DA • Does not require consent if all of the conditions (left) are met, the site is not in a conservation area, and, the maximum area is not greater than 2.5m ² .
Window Sign	Attached to or displayed on a shop window.	\$ Not to cover more than 25% of the window surface. \$ One sign per occupation/premise.	YES • Requires consent if the site is within a conservation area.
Real Estate Sign	A sign advertising the sale or let of a property.	\$ One sign per premises. \$ Not exceed 2.5m ² . \$ Non-illuminated. \$ Removed after 14 days of sale or let.	YES
Miscellaneous Advertisement	Flags, streamers, inflatable structures and the like which announce any local event or a religious, educational, cultural, political, social or recreational character or relate to any temporary matter in connection with such an event, and which do not include any advertising of a commercial nature (except for the names of the event sponsor).	• Must not be displayed earlier than 28 days before the event to which it relates is to take place. • Must be removed within 14 days after the event.	DA

A9a.0 Colours and Tones

Principles

To provide guidance on the use of colour and tone for new buildings or to change the colour of existing buildings in the commercial distinctive neighbourhoods of Leichhardt, Rozelle and Balmain.

Guidelines – Appropriate Colours and Tones

- Colours and tones should reflect, complement and be part of the design characteristics of the building and streetscape in general
- 'Earth' and 'natural' colours are encouraged; strong primary colours on large and prominent areas of walls and roofs are generally inappropriate.
- Any unpainted stone and unrendered brick walls should remain unpainted.
- Large, brightly coloured surfaces should be avoided. Small areas of strong colour may be allowed in some cases.
- Architectural details may be highlighted to contrast with their background. Colours and tones should be used to emphasise the architecture, such as mouldings around openings, cornice lines etc. Generally, joinery to openings are painted in dark colours and tones to reinforce the articulation of walls and windows as solids and voids.
- Visible roofs should generally be painted darker than the walls (except metal roofs which should use light non reflective colours and neutral tones).
- Railings, balconies, ornamental ironworks and joinery should generally be painted in darker colours.
- The colour and tone of shop frontages should be sympathetic to the treatment and character of the main facade and adjoining properties.
- Most successful colour schemes employ up to three colours. Usually the use of two or more tones of the main wall colour is preferable to the use of more colours.
- Owners should aim to achieve a balance of colours between their individual units and the streetscape as a whole
- Muted colours that will fit in with the already existing colours of buildings from the relevant building period are encouraged.
- Corporate colour schemes on buildings are discouraged unless they are consistent with the guidelines and controls in this Plan.



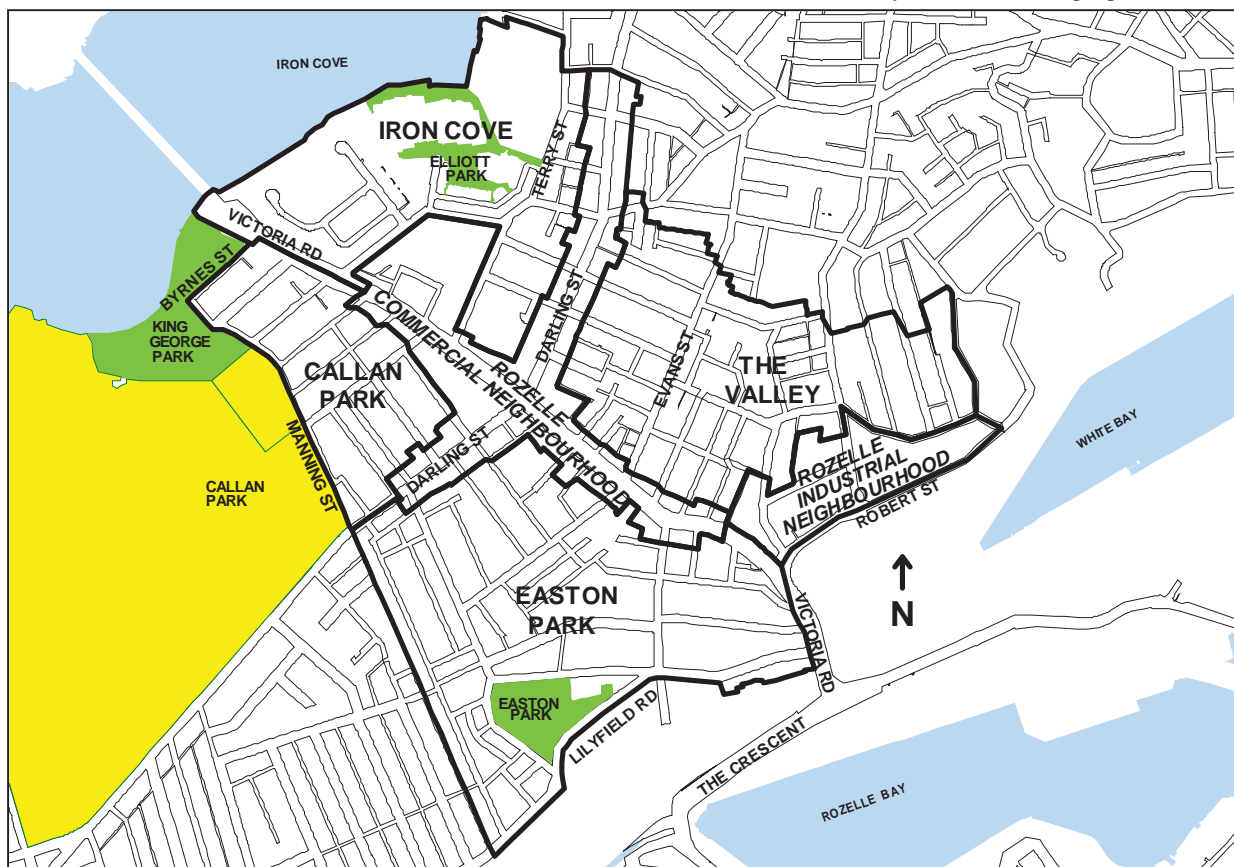
A10.5 ROZELLE Suburb Profile

Introduction

Rozelle is located in the north of Leichhardt Municipality, between the suburbs of Balmain and Lilyfield. Rozelle is defined by Victoria Road and is further bisected by Darling Street. Straddling these two main roadways, the suburb has numerous built forms, ranging from disused heavy industry, new medium density housing, historical

commercial/retail and low density housing. Rozelle is bordered by the Rozelle Goods Yard to the south east, Foucart Street to the south west, Iron Cove in the north west and at the northern end is defined by the postcode boundary with Balmain.

The Rozelle Suburb is shown on the map below surrounded by thick black edging





Rozelle forms part of the Balmain Peninsula. The topography is typical Sydney sandstone up to 45m above sea level with wetlands (now filled) and rock faces below the ridge. The landform is a combination of ridges and valleys, which provide extensive views over Iron Cove, Rozelle Hospital (Callan Park), other suburbs and the Sydney CBD.

The road pattern of the suburb is based on the Victoria Road and Darling Street. Minor roads tend to follow the Victorian tradition, often taking little reference to the topography and crossing the contours of the area. Main transport links including water based, heavy rail, road and tram have further shaped the character of Rozelle.

The character of development in the suburb has been defined by industrial development along the shore and commercial development above, on the ridge. Residential development covers the majority of the area between the ridge and the harbour. The suburb is characterised by its diversity in style and form. Unity in the residential form is achieved by small lot subdivision and small-scale development, usually not more than 2 storeys, tight enclosed streetscapes and repetition of verandahs and pitched roof forms.

History of development in Rozelle

Rozelle was part of an original land grant of 550 acres made to William Balmain in 1800. Referred to as Balmain West, development in this area was geared towards housing for

tradesmen while the eastern end of Balmain catered to the wealthier residents.

The location of the government abattoir on Glebe Island had substantial influence on the way in which Balmain West was developed. The combination of the abattoir, other animal based noxious trades and refuse dumping on the foreshores of White Bay and Rozelle Bay resulted in lower bids for subdivision and the sale of smaller blocks at substantially low prices to working men.

Between 1867 and 1880, Alfred Hancock a migrant from London, began purchasing large blocks of land in Balmain West for subdivision and sale. A number of speculators joined his ventures in initiating the 'Homes for the People' scheme that enabled many people of limited means to own their own property. The scheme was advertised to attract mechanics and tradesmen to the area, offering housing close to work, which involved building Callan Park and the Iron Cove Bridge.

The Character of Rozelle

The built environment of the suburb includes residential uses from all eras as well as commercial and industrial development. The residential component of the suburb comprises examples of Edwardian, Victorian, Federation and various interwar bungalow styles. Housing ranges from grand residences in prominent locations to humble



rows of workers cottages. More recent housing includes converted industrial buildings and infill within existing housing stock. Notable characteristics in the area are small lots, tree lined streets and former retail streets now used for residential uses.

Another major feature of the area is the axis formed by Victoria Road and Darling Street. Victoria Road is a main arterial road and has a character unlike other parts of the suburb. The sites around the Balmain power station and the Elliot Brothers Chemical works on Iron Cove have been redeveloped for medium density housing while the White Bay power station has been included in the SREP 26 precinct for future redevelopment by the NSW State Government. Lands covered under SEPP 26 have not been included in this suburb profile. These former industrial sites represent a significant increase in land available for urban release and add a new dimension to the character of the suburb.

The changing nature of the built environment has further highlighted the need to preserve and encourage employment generating development in the area. This has been addressed in the commercial and industrial neighbourhoods of the Rozelle Suburb Profile.

Rozelle: Distinctive Neighbourhoods

The following areas within Rozelle are identified as 'Distinctive Neighbourhoods' by virtue of topography, estate development and street pattern or building form.

- 1. The Valley**
 - i. Evans Street former commercial precinct.
 - ii. Smith Street
- 2. Easton Park**
- 3. Callan Park**
- 4. Iron Cove**
- 5. Rozelle Commercial Neighbourhood**
 - i. Industrial area
 - ii. Darling Street
 - iii. Victoria Road
- 6. Robert Street Industrial Neighbourhood.**



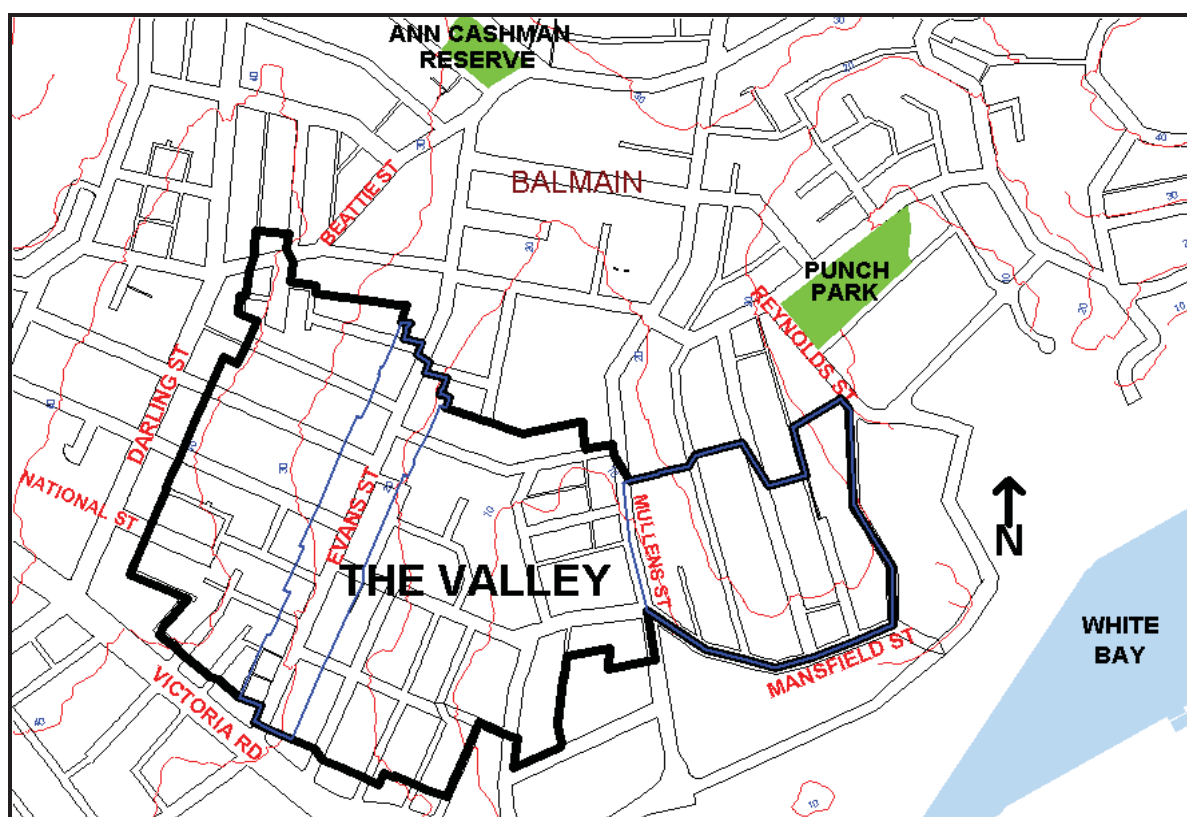
A10.5.1 THE VALLEY DISTINCTIVE NEIGHBOURHOOD (ROZELLE)

1. LANDFORM

The Valley Distinctive Neighbourhood (Rozelle) is located on the Balmain Peninsula between the rear of the properties fronting Darling Street in the west, Clare and Goodsir Streets in the north and Reynolds and Batty Streets to the east.

The south east corner of the neighbourhood is bounded by Mansfield Street with the rear of the Robert Street industrial estate forming a boundary to the residential area. The Neighbourhood has a range of topography including gentle and steep sites.

The Valley Distinctive Neighbourhood is shown on the map below surrounded by thick black edging.





This distinctive neighbourhood forms a valley generally looking south, towards the (disused) White Bay power station. The landform is a typical Sydney sandstone peninsula and the lower portion of the Valley includes reclaimed estuary.

EXISTING CHARACTER

The built environment of The Valley consists mainly of housing below the commercial areas along Darling Street, with Industrial uses along the bottom of the valley, now centred around Robert Street areas. The Darling Street and Robert Street industrial uses are considered elsewhere in the Rozelle suburb profile.

The development pattern for The Valley follows the local topography with the road pattern responding to the constraints of the area. Victoria Road and Darling Street form the basis of the local road pattern however there are three main roads connecting to Victoria Road, these being Darling Street, Evans Street and Robert Street.



Photo: lanescape in the Valley

Laneways were included in the road pattern adjacent to the two original commercial Streets (Evans Street and Darling Street) and are also

situated around the steeper sites on the eastern side of the Neighbourhood. These laneways are generally linked to the denser lot patterns of the area.

Throughout the neighbourhood there are numerous former shops and other local commercial sites that display a distinctive built form of 19th century mixed commercial/residential development.

The Valley Distinct neighbourhood retains a varied and rich character reflecting its multi layered pattern of development. There is a predominantly single storey scale character and form in the neighbourhood. The main phases of development are; mid Victorian single storey cottages, with two storey terraces and shops later in the 19th century.

Two storey development is generally found along main thoroughfares or where views are available over The Valley. Additionally, more recent housing development has seen an increase in two storey development replacing older dwellings or disused industrial sites. Currently, housing in the Valley consists of a mix of Mid Victorian era workers cottages and Victorian Italianate dwellings. Mixed throughout are a variety of postwar styles including suburban weatherboard, contemporary lightweight additions and masonry terraces.

Dwelling forms are generally free standing with rows of cottages interspersed throughout. Within The Valley distinctive Neighbourhood, distinct stylistic components can be found which reflect the style of individual builders. Houses in this area are characterised by 1-3m setbacks, painted masonry, corrugated iron



roofing and picket fencing. Roof forms tend to be hipped or gabled and parapets are less common for dwellings but more prevalent for commercial buildings. Roof forms tend to follow the slope of the land and permit access to views for higher sites. Remnant stone buildings are also a feature of the neighbourhood.

Larger, more elaborate houses can be found in prominent locations throughout the neighbourhood. These tend to be Victorian era houses, however some ornate houses from earlier periods can still be found.

Lower down the slope of the Valley, the development is more modest, with many sites having historically been affected by drainage from the higher slopes. Due to the drainage pattern, larger remnant sites were created in the centre of the neighbourhood between Roseberry and Goodsir Streets. These lots had traditionally been difficult to build on, however they were later developed for industrial uses and have more recently been re-developed for multi unit residential uses. A certain unity of built form is achieved by incorporating consistent scale, setbacks, materials and roof forms. Where housing stock has been replaced or houses have been upgraded, the essential scale, siting, materials and form have largely been maintained.

Street trees and trees in front yards play an important part in the streetscape of this Distinctive Neighbourhood. Numerous species of trees are planted throughout, giving shade and providing visual interest.

Mature landscaping, uniform low-scale development and lack of driveway crossings as well as the absence of non-residential land uses gives the neighbourhood a strong residential and pedestrian oriented character. Additionally, high canopy trees provide visual relief in tightly enclosed townscapes on the lower slopes.

Evans Street Former Commercial Precinct

Prior to the construction of trams along Darling Street, Evans Street was the main shopping Street on the peninsula. Consequently the street retains many commercial and retail buildings, most of which have been converted for residential use.

Photo: Former commercial building along Evans Street, now used as a residence.



Significant features of this streetscape are the many corner sites occupied by former commercial buildings and balconies over the footpath. In addition, nil setbacks are common with a generally higher scale of building



comprising walls above 6m, many with parapets and skillion roofs.

Smith Street Hill

The Smith Street Hill area is significant for having spectacular views over the city as well as forming the edge of the residential area where it meets the White Bay Port Facility.

This area of the neighbourhood is defined by a natural rise located between Reynolds and Mullens Streets. The hill rises 20 m above surrounding land and is notable for its steepness on the east and west sides. This area has expansive views to the south and east and has been developed with several significant homes built towards the crest, a number of which are Heritage Items.

The central focus of this location is the former Smith Street Public school built at the top of the hill between Smith and Rosser Streets. The site of the school is notable for its prominent Ficus trees.



Photo: Mature trees growing in the rock face at the former Smith Street Public School

3. DESIRED FUTURE CHARACTER

Urban Form

- ◆ conserve and complement the existing styles of housing with special regard to the simple timber cottages and Victorian terraces.
- ◆ conserve and complement the established streetscape with regard to setbacks, street trees and general lack of driveway crossings.
- ◆ buildings should step with the slope in order to facilitate view sharing.

Building Elements

- ◆ preserve the consistency and simplicity of built form, style and materials of the neighbourhood.
- ◆ complement the existing pitched, hipped or gabled roof forms as well as setbacks and fencing styles prevalent in each street.
- ◆ conserve stone cottages and stone walls throughout the neighbourhood.
- ◆ maintain the established open low timber and iron picket front fences.
- ◆ restore or replace cantilevered or posted balconies/ verandahs where such elements were original features.

Landscape

- ◆ maintain the prevalence of mature trees in both private and public spaces.
- ◆ preserve and integrate natural rocky outcrops into the landscaping of the area, particularly where visible from public



places. Cutting into such outcrops for any purpose including parking is to be avoided.

Local area character

Smith Street Hill

- ◆ preserve view lines from the hill to the south, east and west.

Evans Street

- ◆ preserve the commercial architecture of this street, with nil setbacks, parapet roof forms and posted balconies where appropriate.

Setbacks

- **Front building setbacks within the neighbourhood are to be a minimum of 1m however, where the prevailing setbacks in the immediate area (within 3 houses) is different, the setback for new development should be consistent with the prevailing setbacks.**

Other controls

- **The use of traditional timber, stone or masonry finishes as well as iron roofing and timber windows is encouraged.**

4. NEIGHBOURHOOD CONTROLS

These Neighbourhood Controls apply across the whole of The Valley Distinctive Neighbourhood in Rozelle.

All of the controls listed in the Suburb Profiles section of this DCP are supplementary to all other Controls within the DCP.

Building Envelope

- **The building wall height generally applying to the neighbourhood is 3.6m.**
- **A 6m building wall height applies along Evans Street.**



10.5.2 EASTON PARK DISTINCTIVE NEIGHBOURHOOD

1. LANDFORM

The Easton Park Distinctive Neighbourhood forms part of the Rozelle suburb and is located at the south eastern corner of the Balmain Peninsula. The Neighbourhood is further defined by Foucart Street on the western boundary and Lilyfield Road to the south.

The neighbourhood is defined by its topography, with a valley overlooking Annandale and Glebe towards the south and

east. The neighbourhood rises toward Darling Street and there is another smaller rise located in the north east of the neighbourhood around Hornsey Street. In several locations, cutting for road construction has resulted in houses being elevated up to 4m above the street level.

The Neighbourhood contains some significant vegetation, with larger trees growing in the thicker soils at the bottom of the slopes.

The Easton Park neighbourhood is defined on the map below surrounded by thick black edging.





Currently in the neighbourhood are a mix of mature trees including native eucalypts, paperbarks and bottlebrush as well as a range of exotic species. Trees form a major visual element in the neighbourhood and it is served by three parks. These being Easton Park, O'Connor Reserve and Rozelle Common.

The neighbourhood was first developed in the mid 1840s with commercial activity along Darling Street and industrial development along White Bay. In addition to fishing, the industrial development that established in White Bay consisted primarily of industries such as boiling down works, sawmills and abattoirs which were moving out of the increasingly congested central Sydney area.

The original development pattern was based on industrial uses that were originally along the foreshores and later also occupied filled estuaries. Two major developments at the end of the 19th century were the introduction of electric trams along Darling Street and Victoria Road, as well as the reclamation of estuary land for the Rozelle rail marshalling yards. Housing for those employed in the local industries was built on the slopes above the Industrial land. After 1920 the industrial base in the area declined due to relocation, changing technology and changing land values.

An important hub for the neighbourhood is located at the corner of Denison and Alfred Streets, at the top of Easton Park. This corner forms a community focal point with a corner shop, Smiths Hall and Easton Park. The visual focus of the neighbourhood is the park after which the Neighbourhood is named. Additionally the dense mature trees along Burt

Street form the green heart of the neighbourhood.

The road pattern generally follows the topography of the neighbourhood with roads running down and across the slopes. Along the lower half of the neighbourhood, roads predominantly cross from east to west. On the upper slopes, the roads are predominantly laid out to run up and down the slopes.



Photo: Smiths Hall, adjacent to Easton Park

Several narrow streets serve as laneways due to the adjoining lots having two street frontages. Such streets tend to have laneway uses on one side and street frontages uses for properties on the other side. Examples of such streets include Cook Street, Charlotte and Alice Streets as well as the unnamed roads behind the Darling Street commercial properties.



2. EXISTING CHARACTER

The Easton Park Neighbourhood has a primarily residential character with commercial development along Darling Street and Victoria Road. The existing and original scale of development is predominantly single storey, freestanding cottages. There are also numerous two storey houses along the higher elevations and adjacent to the Park at the foot of the hill. The former industrial uses have largely been replaced with townhouses. Remnant industrial land is located on Gordon and Lilyfield Roads.

The neighbourhood has a varied residential character created by differing residential styles. Typical housing types include timber cottages, Victorian terraces, stone detached houses and scattered multi-unit developments which include blocks of flats and townhouses. The original (1850s – 1870s) style of housing was modest timber and stone cottages followed by Victorian semis and terraces. 20th Century housing types include interwar bungalows and post war blocks of walk-up flats. In addition, more recent development includes townhouse development on Alfred Street and numerous smaller infill developments consisting of single houses and semi-detached dwellings throughout the neighbourhood.

All of the housing styles are spread throughout the Neighbourhood with most multi-unit developments being located in the lower part of the neighbourhood. Other patterns occurring in the neighbourhood are: East of Gordon Street are more substantial masonry houses and terraces; the mid slopes accommodate mostly

freestanding dwellings; higher slopes contain smaller terraces reflecting the pre 1890s development pattern.

Lot sizes tend to be smaller close to Darling Street and Victoria Road and such smaller lots of about 80 m² tend to be associated with terraces housing. In the centre and west of the neighbourhood the lots are larger, ranging from around 180 m² to 250 m².

Three distinct areas in the neighbourhood are located within Conservation areas. These are; Evans Street, most of the area east of Gordon Street and the knoll west of Easton Park.

Identifiable characteristics of the neighbourhood include setbacks of 0 – 3 m and mature trees on private land which contribute significantly to the streetscape. The scale of buildings is mixed between single storey (3.6m wall height) and two storey (6m wall height). The height and scale of housing is affected by sandstone outcrops in the lower half of the Neighbourhood.

Photo: Traditional rock wall fronting Alfred Street





Housing in the area generally has a scale of 3.6m, with pitched hipped or gabled roofing. Materials for dwellings includes mostly timber with some rendered brick and iron roofing. Front verandahs, often to the front boundary, are narrow with widths of approximately 1 m. Timber picket fencing is prevalent throughout. Most properties do not have on site parking available.

SREP 26 – CityWest

The land to the south and south east of the neighbourhood, including the Rozelle marshalling yards, the White Bay Power Station, James Craig Road and Glebe Island (excluding houses at No's 10 – 66 Lilyfield Road) is covered by Sydney Regional Environmental Plan No 26. This land is not under Leichhardt Council's planning control and the consent authority for all land affected by REP 26 is the NSW Minister for Planning.

3. DESIRED FUTURE CHARACTER

Urban Form

- ◆ preserve the existing varied styles of housing with special regard to the modest scale and simple, unadorned nature of the architecture.
- ◆ preserve view lines to the south and east by stepping buildings with the prevailing topography.
- ◆ preserve the rhythm of the neighbourhood by maintaining the lot sizes, housing style and prevalence of hipped and pitched

roofs. Preserve the established setbacks for each street.

Building Elements

- ◆ preserve the consistency and simplicity in built form, style and materials of the neighbourhood.
- ◆ maintain the existing roof forms, setbacks and fencing styles prevalent in each street.
- ◆ preserve stone cottages and stone walls throughout the neighbourhood.
- ◆ maintain the established open low timber and iron picket front fences.

Landscape

- ◆ cutting into rockface for any purpose including driveway crossings, is to be avoided;

4. NEIGHBOURHOOD CONTROLS

These Neighbourhood Controls apply across the whole of the Easton Park Distinctive Neighbourhood in Rozelle.

All of the controls listed in the Suburb Profiles section of this DCP are supplementary to all other Controls within the DCP.

Building Envelope

- **The building wall height applying to the neighbourhood is 3.6m.**



- A 6m building wall height may be suitable where two story terraced development is dominant.

Setbacks

- Front building setbacks within the neighbourhood are to be a minimum of 1m however, where the prevailing setbacks in the immediate area (within 3 houses) is different, the setback for new development should be consistent with the prevailing setbacks.

Other controls

- Maintain roof forms with pitched, gable or hipped roofs.
- The use of traditional timber, stone or masonry finishes, iron roofing and timber windows is encouraged.
- Posted verandahs over footpaths may be considered on corner sites where the established setback is nil and the established scale is two storey.
- Where structures are proposed to be built on top of exposed rock face, they shall be timber or rendered masonry and shall be coloured to complement the sandstone.



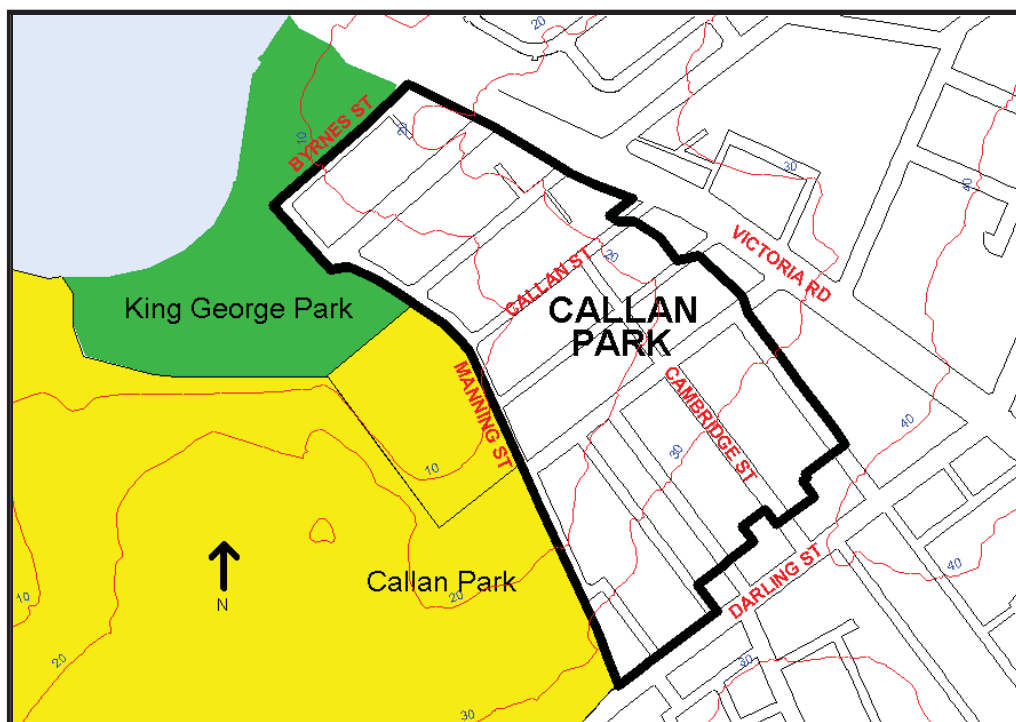
A10.5.3 CALLAN PARK DISTINCTIVE NEIGHBOURHOOD

1. LANDFORM

Callan Park Distinctive Neighbourhood is located in the south west corner of the suburb of Rozelle. The neighbourhood is bounded by King George Park and The Rozelle Hospital Grounds to the west and south and by two main arterial roads, Victoria Road and Darling Street, in the north and east.

The topography slopes steeply from Victoria Road and Darling Street down to King George Park, creating a west facing valley. At the lower end of the slopes, along the street frontages, are sandstone outcrops remaining from where roads were originally cut.

The Callan Park Distinctive Neighbourhood is shown on the map below surrounded by thick black edging.





The road layout is at right angles off Victoria Road and Darling Street, providing extensive views over the adjoining parklands and Iron Cove. In the middle of the neighbourhood there are views over the Kirkbride building within the Rozelle Hospital site, now used as the Sydney College of the Arts.

2. EXISTING CHARACTER

Callan Park has evolved as a neighbourhood with a distinct uniformity of scale and character. The area is made up primarily of modest single storey detached houses dating from the late 19th and early 20th centuries. There are additionally, numerous two storey dwellings located at the top of the rise in the vicinity of Darling Street as well as some two storey houses at the bottom of the hill adjacent to King George Park.

The scale in the neighbourhood is predominantly single storey with some two storey dwellings located along Cambridge and Waterloo Streets along the top of the Balmain ridge. On the slopes of the neighbourhood, second storey additions have been largely restricted to within the roof form. Since the 1970s, two storey townhouses and infill development has been built at the bottom of the valley along Manning, Toelle, Callan and Clubb Streets. The materials used in construction along the top of the ridge tend to be painted masonry

with tile roofs mixed with simpler timber and iron cottages. This ridge area is characterised by late Victorian housing with more ornate finishes, arched openings, stained glass and ornate cast iron balustrading on verandahs.

On the slopes the character is more modest with cottages in a tight development pattern utilising limited setbacks (1-2m). Materials used in this area are predominantly timber and iron. These houses present simple forms mostly without ornamentation

The area was laid out with a generally consistent pattern of lot sizes. Along the top of the ridge and in the vicinity of the Darling Street/ Victoria Street intersection (including Waterloo and Cambridge Streets) lots range in size up to 300 m² while in the lower parts of the neighbourhood, the lot sizes are generally consistent at 225 m². The smaller lots have a width of approximately 4.75 m. and the larger, lower lots tend to be of double (8.5 – 9m).

The roads in the neighbourhood have widths varying from 6 m carriageways to 12 m and primarily serve local traffic. The block between Oxford Street and Park Street is one lot deep and many houses use Park Street as a laneway, with garages fronting the upper part of this road.

The neighbourhood slopes away from Darling Street and Victoria Road, with commercial uses along these main roads and residential development extending down



the slope. The commercial and retail component of the neighbourhood is concentrated on these main roads. These roads are discussed as a separate distinct neighbourhood within the Rozelle suburb profile.

The traditional street pattern in the area had few driveway crossings. These have been added where redevelopment has occurred, generally at the bottom of the valley.

The precinct has varied tree cover, with most mature trees being in the bowl of the valley. The mature Fig trees in the Rozelle Hospital site form a distinct green back drop for the lower parts of the precinct and along upper Manning Street. Street trees have been planted along the wider streets such as Clubb and Moodie Streets. Most front yards throughout the neighbourhood have vegetation which adds to the streetscape. When viewed from higher slopes, the lower and middle slopes have a dense canopy of trees.

DESIRED FUTURE CHARACTER

Urban Form

- ◆ Development should follow the topography of the area and maintain the single storey scale on the mid slopes and mixed 1 and 2 storey scale at the top and bottom of the slope.
- ◆ Conserve and promote the consistent rhythm within the streetscape created by

regular lot sizes, subdivision pattern and the predominance of detached and semi-detached houses with a prevalence of hipped and gabled roofs. Preserve the established setbacks for each street.

- ◆ Preserve and enhance public and private views over the Rozelle Hospital site, King George Park and Iron Cove.

Building Elements

- ◆ Conserve the single storey, freestanding cottage form, style and materials characteristic of the neighbourhood.
- ◆ Preserve the consistency of architectural style appropriate to the existing style of each street.
- ◆ Retain stone cottages where they occur throughout the neighbourhood.
- ◆ Maintain the character of the area by ensuring new development is complementary in terms of its architectural style, built form and materials.

Landscape

- ◆ Maintain sandstone outcrops and remnant stone wall footings.
- ◆ Retain and encourage street trees on the wider streets.



4. NEIGHBOURHOOD CONTROLS

These Neighbourhood Controls apply across the whole of the Callan Park Distinctive Neighbourhood.

All of the controls listed in the Suburb Profiles section of this DCP are supplementary to all other Controls within the DCP.

roof materials such as corrugated iron.

- Retain existing stone houses, allowing sensitive development on those sites utilising appropriate materials and styles.

Building Envelope

- 3.6m building wall height applies to the neighbourhood.

Urban Form

- Changes to the front facades of existing dwellings shall be kept to a minimum with additions to the rear of dwellings preferred.
- Driveway crossings shall be minimised and are generally discouraged.
- New development shall maintain the use of hipped or gabled roof forms and designs shall be complementary to the existing unadorned built form.
- Building materials used shall be consistent with the existing character of the streetscape, including rendered and painted surfaces and



A10.5.4 IRON COVE DISTINCTIVE NEIGHBOURHOOD

1. LANDFORM

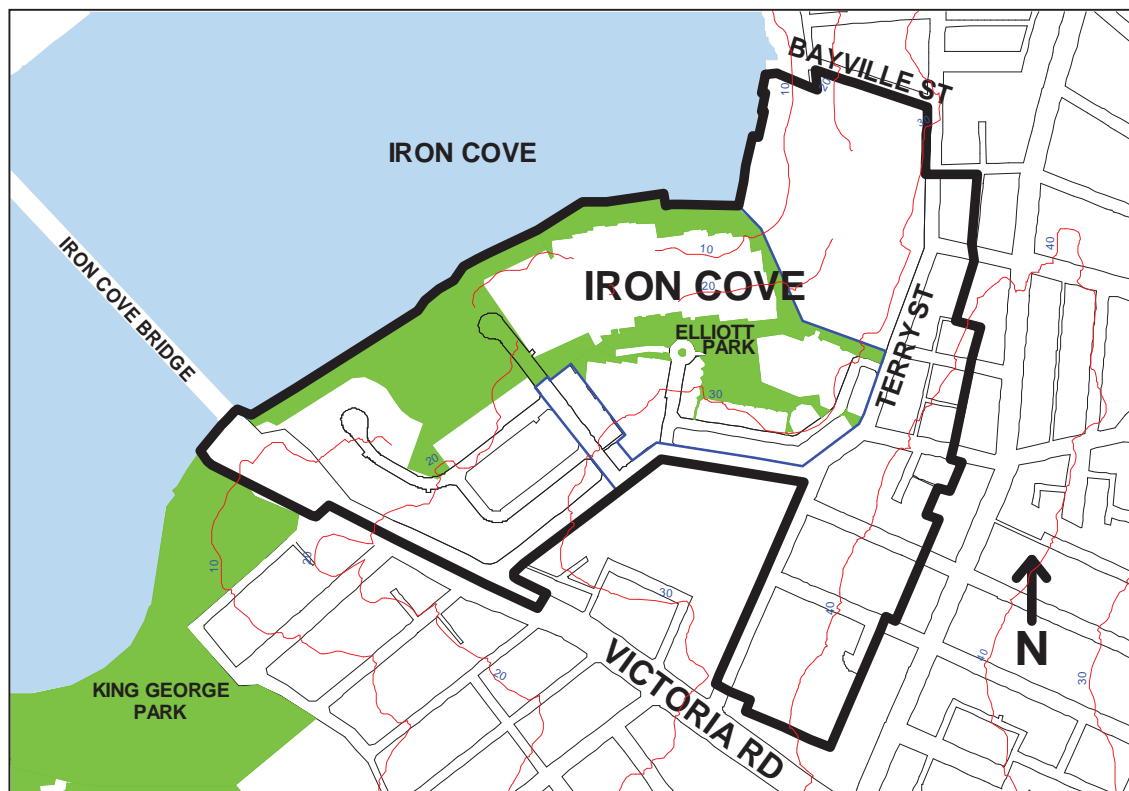
The Iron Cove Distinctive Neighbourhood is located on the western side of the Balmain Peninsula in the suburb of Rozelle. The area is further bounded by Victoria Road and to the west by Iron Cove.

The topography slopes steeply from Darling Street down to Iron Cove, creating a valley overlooking Birkenhead Point.

The western shore of the neighbourhood was excavated and filled in the early 20th century to cater for industrial developments including the Balmain power station.

Above the former Power Station site, the land has a gentle slope toward the centre of the peninsula.

The Iron Cove Neighbourhood is shown on the map below surrounded by thick black edging.





2. EXISTING CHARACTER

The road pattern in the neighbourhood is based around three main roads these being Victoria Road, Terry and Darling Streets. The minor roads in the neighbourhood connect Darling and Terry Streets and cross the contours affording views over Iron Cove and further west.

The main Rozelle commercial areas along Darling Street and Victoria Road are considered in the Rozelle Commercial Suburb Profile.

The street pattern and traffic flow in the suburb is strongly influenced by its proximity to Darling Street and Victoria Road. Terry Street and the connecting roads are subject to traffic control measures such as one way flows, restricted parking and various traffic calming measures.

The original development patterns in the neighbourhood included industrial uses along the waters edge and commercial uses along Darling Street.

The current development pattern is similar to the original pattern with commercial development remaining along Darling Street and Victoria Road. The two major industrial uses in the neighbourhood were the Balmain Power Station and the Elliot Brothers Chemical Works, however both of these sites have been redeveloped into multi unit residential development (Balmain Shores

and Balmain Cove residential developments).

These sites contain residential development in a series of buildings up to eight storeys high and are the most significant component of the suburb when viewed from the west. Public open space has been established along the foreshore of these sites.

North of this site is Balmain High School and the school buildings are located on the lower portion of the site, with playing fields and tree lines on the upper slopes. This layout allows significant views over the school site to Iron Cove. The school site represents a major area of open space area within the neighbourhood and the trees on this site contribute significantly to the amenity of the neighbourhood.



Photo: Balmain Cove

The more traditional low density residential component of the neighbourhood consists of only four blocks on the upper slopes of the peninsula. This residential area is confined



to the area between the commercial strip along Darling Street and Terry Street. This area consists of primarily single storey freestanding houses, with some pockets of two storey scale.

Along Terry Street housing at the north end of the neighbourhood is single storey in scale with an intact row of interwar bungalows. Toward Wise Street the scale of residences increases to two storey with Victorian era terraces occurring. This scale and form of residential development is matched on the western side of Terry Street by the contemporary two storey townhouses which form the upper edge of the Balmain Cove development.

3. DESIRED FUTURE CHARACTER

Urban Form

- ◆ Preserve the rhythm of the neighbourhood by maintaining the lot sizes, housing style and prevalence of hipped and pitched roofs. Preserve the established setback and street crossing patterns for each street.
- ◆ To ensure that any intensive, multi use development along Darling Street does not overwhelm the capacity of the laneways. Any such development should involve the upgrading of laneways to current engineering standards if appropriate.

Building Elements

- ◆ Conserve the single storey, freestanding cottage form, style and materials characteristic of the neighbourhood.
- ◆ Preserve the consistency of architectural style appropriate to the existing style of each street.
- ◆ Retain stone cottages where they occur throughout the neighbourhood.
- ◆ Maintain the character of the area by ensuring new development is complementary in terms of its architectural style, built form and materials.

4. NEIGHBOURHOOD CONTROLS

These Neighbourhood Controls apply across the whole of the Iron Cove Distinctive Neighbourhood in Rozelle.

All of the controls listed in the Suburb Profiles section of this DCP are supplementary to all other Controls within the DCP.

Building Envelope

- A building wall height applying to the Neighbourhood is 3.6m.
- A 6m building wall height may be considered where two storey terraced development is dominant.



Other controls

- **Maintain roof forms with pitched, gable or hipped roofs. Roof forms are to be designed to preserve view lines for adjoining properties.**
- **Continue use of traditional timber, stone or masonry finishes as well as Iron roofing and timber windows.**
- **Driveway crossings shall be minimised and are generally discouraged.**



Note: Refer to Section D2.0 for site specific controls for 118-124 Terry Street, Rozelle being Lot 3 Sec D DP 119, Lot 2 DP 234045 and Lot 1 DP 540118 (DCP Amendment 17 – August 2012).

A10.5.5 ROZELLE COMMERCIAL NEIGHBOURHOOD

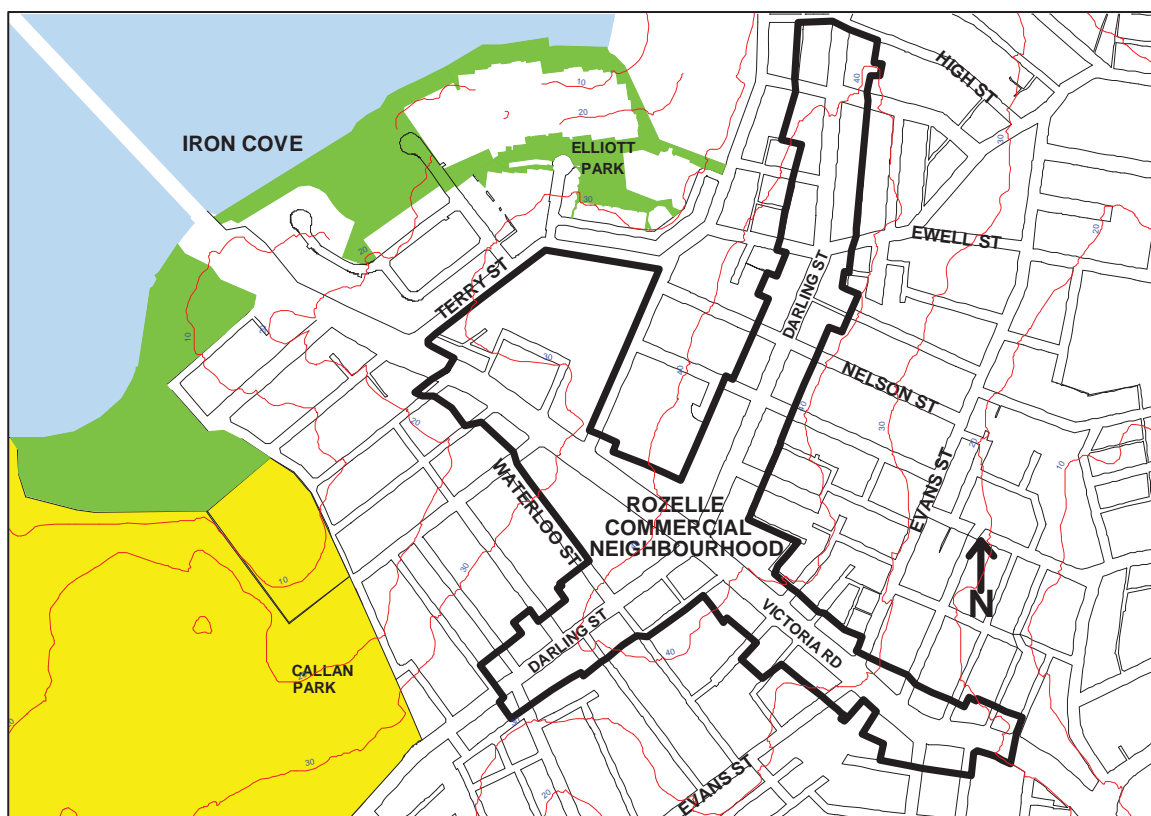
1. LANDFORM

The Rozelle Commercial Neighbourhood centres on the intersection of Victoria Road and Darling Street. The neighbourhood comprises the length of Darling Street from Park Street to Norman Street. Along Victoria Road the Neighbourhood extends from the City West Link Road to Clubb Street. This neighbourhood also encompasses the industrial/employment areas around Crystal and Terry Streets. The Neighbourhood includes residential development on both sides of Darling Street between Wise and Schultz Streets.

The Rozelle Commercial Neighbourhood is defined on the map below surrounded by thick black edging.

Darling Street runs along the ridge of the Balmain Peninsula and Victoria Road bisects the peninsula. The neighbourhood forms a rough cross at the south western end of the Balmain Peninsula.

The boundary of the Rozelle Commercial neighbourhood is defined by the rear of properties fronting onto these main roads and generally includes those properties within the business and industrial areas. Other than residential, Some properties are served by rear service laneways and some are served by rear rights of way. Many other sites are serviced via the front street or front driveway.





EXISTING CHARACTER

The Rozelle Commercial Neighbourhood is formed around the intersection of two busy thoroughfares. Victoria Road forms a main arterial road into and out of Sydney. Darling Street is the main thoroughfare on the Balmain peninsula, serving as a connector between the Inner West and Balmain.

Darling Street was developed as the primary roadway on the Balmain Peninsula soon after the granting of land to William Balmain in 1800. By the 1840's, Victoria Road had been established as a route to connect the residents of Drummoyne and Balmain with the ferry to the city. The current pattern of subdivision and development was established by the 1870's and the formal division between the two parts of Rozelle occurring when Victoria Road was widened in the 1950's.

Since the development of the Balmain Peninsula, the intersection of Victoria Road and Darling Street has been a transport hub for access to and from the city. Over time, the Rozelle area has been served by ferries, punts, buses, trams and private vehicles.

The development along Darling Street and Victoria Road has a two storey scale with a mix of traditional shop top housing, single purpose commercial buildings and more recent mixed development. The scale tends to increase to three stories at key intersections.

Commercial premises generally have vehicular access and servicing to the rear (via right of ways and side streets), however some properties are serviced primarily from the street frontage as the neighbourhood does not have well defined laneways.

Darling Street

The Darling Street component is bisected by Victoria Road and is characterised by a vibrant mix of restaurants, retail shops, community facilities and commercial enterprises.



Photo: Darling Street; outdoor café seating

The character of the buildings south west of Victoria Road has remained largely unchanged. The area has an established two storey scale with occasional larger buildings, and the predominant style of buildings is two storey with shops at ground level and residences above. The architectural style is mostly late Victorian with some early 20th century Federation styled buildings.

North east of Victoria Road, the scale increases with buildings having tall parapets and comprising a 3 and 4 storey scale, adding to the imposing church buildings and sandstone school buildings in this locality. Setbacks for commercial sites are generally nil, while houses, public buildings and churches have varied setbacks including small front yards. In the Rozelle Commercial precinct, most shops



have full width suspended awnings and several buildings have restored the traditional posted verandahs over the footpath. This restoration has added a traditional element to the streetscape and is generally encouraged as part of the renewal of commercial activity along Darling Street.

In recent years there has been a revival of the local and pedestrian orientation of the area. This change is currently evolving and is characterised by the emergence of numerous restaurants /cafes (in addition to the numerous existing takeaway eateries) as well as 'lifestyle' boutiques. This evolution of the character is most notable in the leisure retail strip north of Victoria Road.

Development along Darling Street is a mix of residential and commercial. The northern end, near Wisbeach Street, is all residential with one former Cinema converted into three levels of residential units. Commercial development includes a petrol station, a strip of 1950s shops in the process of being replaced by mixed commercial/ residential developments. The scale and character of development on the western side (up to the converted cinema at No. 549 Darling Street) is generally consistent with commercial land along Darling Street.

Along the eastern side of Darling Street the residential zoned land generally has a 6 m building envelope. Adjacent to Norman Street, along Darling Street are some remnant two storey stone shops. These are unrenovated and worthy of preservation. Traditional development along Darling Street has a nil setback, while more recent housing north of Wisebeach Street has a setback of 3 m. The

Darling Street frontage in this suburb has a mixed, generally two storey form with single and multi unit residential, commercial, retail and poorly regulated signs.

Residential development along Merton and Nelson Streets is freestanding single storey, with tiled, hipped roofing. Fencing throughout the neighbourhood generally consists of palings on top of low brick walls.

The portion of the neighbourhood north of Victoria Road has several short strips of street trees as well as benefiting from the mature trees in the Rozelle Public School. In addition there are a few palm trees on the footpath at the north end of the neighbourhood. Adding to the streetscape amenity is the landscaping of intersection traffic management facilities. The area around the school has the potential for further development as public space and broader community usage.

Another element of Darling Street in Rozelle is a succession of buildings erected for public service uses. These buildings include Police Stations, Fire Stations, Post offices, banks and Churches.

Photo: Traditional commercial façade along Darling Street





Further information on the upgrade of Darling Street may be sought from the Darling Street Masterplan Study.

Victoria Road

Victoria Road is characterised by the high vehicle volume flow rates through the municipality to and from the city. The road reserve ranges from 30m to 60 m wide, varies from 6 to 8 lanes and is primarily designed as an arterial road. There are 7 sets of traffic lights on Victoria Road in Rozelle.

Development along Victoria Road is a mixture of scales ranging from single storey to three stories. The subdivision pattern on the northeastern side of the road is characterised by shallow lots with wide street frontages to Victoria Road. Closer to the City West Link Road are numerous car related premises including dealerships, petrol stations and tyre retailers. These businesses tend to be set back a minimum of 10 m from the road and have areas set aside for customer parking.

The built form along the southwestern side of the road is a mix of Victorian two storey shops and residences together with later 20th century industrial style buildings. Other building forms include traditional pubs, housing from the interwar years and a church building currently used as a Community College. O'Connor Reserve and Hanan Reserves provide a landscape relief to this highly urbanised environment, while a row of 30 palm trees in the traffic island provides greenery near the junction of Darling Street.

To the northwest of Darling Street, the Balmain Leagues Club makes a significant impact on the streetscape with a three storey bulk for the full depth of the lot. This contemporary building is an aggregate style of commercial premises which is further compromised by the addition of mobile phone antennas along the western edge of the roof.

Many buildings fronting onto Victoria Road have nil setbacks and access is restricted due to the lack of a formal lane structure. They also incorporate a high level of original shop front detailing and weather protection through the incorporation of cantilevered awnings.

Industrial Area

The industrial area of this Distinctive Neighbourhood is made up of the service and industrial areas surrounding Crystal Street and bounded by Terry and Wellington Streets. Part of the north eastern section of Victoria Road, south east of Darling Street also presents as a predominantly industrial area.

This is a distinct employment area with numerous uses ranging from light manufacturing, warehousing, ancillary commercial and retail uses and car related uses along and adjacent to Victoria Road.

The area has a diverse range of subdivision patterns varying from small redundant residential lots to large industrial lots such as the Carrier site that fronts onto Terry Street.

The built form also varies extensively throughout the neighbourhood due to changes in landuses and topography, from original workers cottages to post war industrial and



ancillary commercial buildings. There are also examples of contemporary industrial/commercial architecture along Terry Street.

Accordingly building heights, setbacks, and access arrangements differ depending on the age and function of the building and the size and location of the lots.

3. DESIRED FUTURE CHARACTER

Urban Form

- ◆ to improve the streetscape amenity by encouraging improved design and layout of buildings as well as increased attention to site usage, signage and ancillary uses.
- ◆ promote a mix and variety of uses and building styles that enhance and contribute to the character and identity of the neighbourhood whilst protecting significant prominent buildings and the townscape;
- ◆ promote a residential/commercial mix in the retail part of the neighbourhood by allowing shop top residential development subject to density and streetscape controls.
- ◆ maintain the predominant bulk, scale and siting of buildings consistent with adjoining development and the neighbourhood generally.
- ◆ improve pedestrian and cycle accessibility, safety and facilities to take full advantage of low cost/public transport services in the area.

- ◆ protect and enhance the residential amenity of dwellings in and adjoining the neighbourhood.

Building Elements

- ◆ maintain and enhance the character of the area by retaining original buildings where appropriate and keeping new development complementary in architectural style, form and materials.
- ◆ retain traditional shopfronts and reinstate shopfront elements including awnings and balconies where appropriate.
- ◆ encourage appropriate lighting and signage consistent with the predominant type along each local area section. Advertising should not become a dominant element in the streetscape.
- ◆ encourage sympathetic colour schemes, corporate identity and signage for buildings that define the character of the area, yet retain the individual identity of each property.
- ◆ discourage additional vehicle access to sites from Darling Street and Victoria Road.

Economic Viability

- ◆ promote the continuing development of the Neighbourhood and encourage land uses and development that contribute to the needs of the local community.
- ◆ promote a greater connection and cohesion between the northeastern and southwestern portions of Darling Street,



- ◆ further develop the areas with tourism potential by facilitating tourist attractions such as markets, pubs, cultural activities and tourist accommodation, and
- ◆ enhance and promote the viability and potential for a range of non-commercial activities and services that compliment the core of the Rozelle neighbourhood and its surrounds.

Local Area Character

Darling Street

- ◆ preserve and improve the pedestrian safety, amenity and focus of Darling Street and adjacent streets,
- ◆ landscaping and the public domain should be enhanced to include upgraded disabled access, improved footpaths (including widening where possible), improved street furniture, improved pedestrian lighting, improved public artwork and decorative elements,
- ◆ encourage street trading where it does not obstruct the public use of the footpath and does not detract from the visual amenity of the area.

Victoria Road

- ◆ encourage development that relates well to the street. The vibrancy and visual interest of Victoria Road should be enhanced.

- ◆ promote uses appropriate to Victoria Road that utilise high visibility without compromising traffic flow.
- ◆ view sharing between existing and proposed developments is important.
- ◆ encourage appropriate materials that relate to the established built form. Visual privacy and acoustic amenity shall be incorporated into the design of all developments
- ◆ improve the streetscape by limiting inappropriate signage, colour schemes or other promotional displays.
- ◆ prevent additional driveway access to sites along Victoria Road and generally minimise any traffic disruptions along the road. Any provision for parking should be hidden from the streetscape.
- ◆ encourage and maintain key pedestrian crossings across Victoria Road to prevent the fragmentation of the suburb and the commercial neighbourhood.
- ◆ preserve the current residential character and uses along the part of Darling Street zoned residential.
- ◆ maintain a two storey scale for residential development along Darling Street. Where sites are developed for mixed commercial/residential uses, a 7.2m building envelope is permissible.
- ◆ encourage signage and colour schemes that complement the streetscape.
- ◆ encourage the retention and reinstatement of all private and public trees along Darling Street.



- ◆ replacing cantilevered or posted balconies / verandahs is encouraged for buildings where such elements were original features.

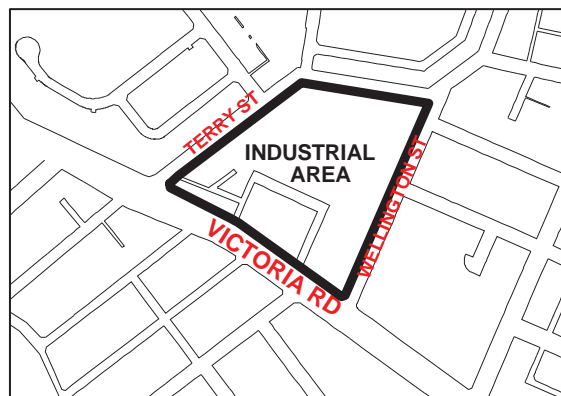


Photo: Inappropriate signage and view towards the CBD.

Industrial Area

- ◆ improve the landscaping quality of the area by encouraging appropriate landscaping of development
- ◆ encourage industrial activities to be located within buildings to minimise noise and excessive street activity.
- ◆ encourage consolidation of smaller lots to facilitate the industrial activities within the Neighbourhood;

The industrial area within the Rozelle commercial Neighbourhood is shown on the map below surrounded by thick black edging.



4. NEIGHBOURHOOD CONTROLS

These Neighbourhood Controls apply across the whole of the Rozelle Commercial Distinctive Neighbourhood.

All of the controls listed in the Suburb Profiles section of this DCP are supplementary to all other Controls within the DCP.

Building elements

- Shopfronts, balconies and parapets shall complement adjoining development. Suitable contemporary interpretation of the original character is acceptable.

Signage

- Above awning or above building signage will not be supported except where it forms an integral part of the building and is designed in conjunction with the building.

Vehicular access



- Where properties are serviced by laneways or Rights of Way, vehicular access should be achieved in this manner.

5. ADDITIONAL CONTROLS

There are a number of areas in the Rozelle Commercial Distinctive Neighbourhood, which due to particular characteristics or specific conditions affecting development, necessitate a unique set of controls and/or development guidelines.

These Additional Controls only apply to the areas specifically described below.

- Buildings should cover the full width of the lots and should be built with a nil setback to Victoria Road.
- Developments shall be serviced and vehicle access provided from side streets and laneways and openings to service bays. Work areas and storage areas should not be directly visible from the street.

Industrial Area

- ◆ Industrial uses shall be predominantly located within the building area, to minimise noise and ensure that streetscape amenity is maintained.
- Appropriate off street servicing facilities (loading bays etc) shall be provided.

Darling Street

- Building envelopes of 7.2m are permitted fronting onto the western side of Darling Street up to Wisbeach Street.

Victoria Road

- A maximum building wall height of 10m, taken from the street frontage, shall apply to buildings along Victoria Road.



A10.5.6 ROBERT STREET INDUSTRIAL NEIGHBOURHOOD

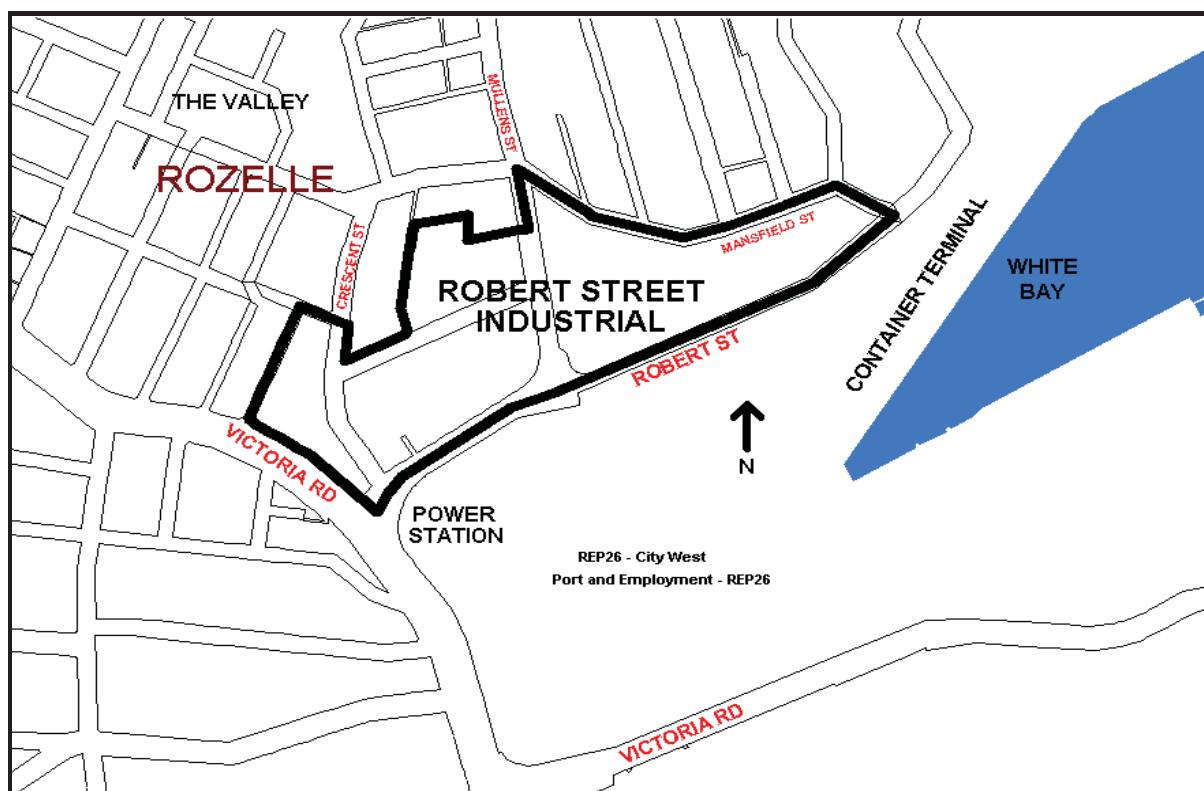
1. LANDFORM

The Robert Street Industrial Neighbourhood is located on the south side of the Balmain Peninsula adjacent to White Bay.

The Neighbourhood is bounded by Victoria Road, Robert Street, Mansfield Street and Loughlin Street. The main street in the neighbourhood is Robert Street which is accessed from Victoria Road, however, the neighbourhood is also accessible via Mullens Street from Darling Street.

The Robert Street Industrial Neighbourhood is an integral component of the maritime industrial precinct that includes Rozelle Bay, the Glebe Island silos, the White Bay Power Station and the White Bay Container Terminal

The Robert Street Distinctive Neighbourhood is defined on the map below surrounded by thick black edging.





2. EXISTING CHARACTER

The Robert Street Industrial Neighbourhood represents a distinct pocket of industrial land within the Leichhardt Municipality.

This area was part of the original development pattern of the Balmain Peninsula. During the mid 19th century several significant employment generating industries relocated to this area when pollution and space constraints forced them out of Sydney. Integral to the early development of this precinct was the direct access to shipping and broader markets.

The construction of the White Bay Power station and Rozelle rail marshalling yards confirmed the entire precinct as a regional rail/shipping and industrial hub. Within the neighbourhood the main industrial use was the steel products manufacturing plant located in the block between Mansfield Street and Robert Street, west of Mullens Street. This business was in operation from the 1930s to the late 1960s.

The building formerly housing the steel processing plant forms the largest feature in the industrial neighbourhood and is now used for a wide variety of employment generating purposes. This building has an imposing 10 – 15 m wall height built to the boundary, with a sawtooth factory roof behind a parapet. Currently the building is divided into multiple units, accessed from Robert Street. The layout, ease of access and internal dimensions of this current configuration is highly suitable for a multitude of configurations and employment generating uses.

Other development in the neighbourhood includes renovated single storey Victorian terraces with rear workshops along the western end of Robert Street, traditional 5-8m scale industrial buildings and a relatively new multi unit industrial development on former residential land along Parsons Street. The bulk of the area maintains a two storey built form to the street frontage.

In the western portion of the neighbourhood the bulk and scale forms a sympathetic interface between the industrial uses and the adjacent residential form. This part of the neighbourhood has frontage to Victoria Road between Robert Street and Loughlin Street. These sites are predominantly industrial based with some showroom uses.

Along the eastern end of Robert Street the scale of the built environment in the neighbourhood ranges up to 15 m wall height (with 8m wall height at the rear of the building, along Mansfield Street). Along the western end of Robert Street and Parsons Street the scale of development is 6–8 m with single storey scale adjacent to The Crescent and along Victoria Road. Along the western side of The Crescent are a few remnant houses. These sites have a significantly compromised residential amenity and an expanded residential use would be difficult.

Overall, the area retains a strong industrial character, with many of the original manufacturing buildings having been adaptively reused to address more contemporary industrial requirements and largely housed within the buildings themselves rather than



taking place in the open, ensuring that amenity impacts are kept to a minimum.



Photo: Industrial building facing White Bay

Located adjacent to main transport routes, this industrial area is a valuable asset to the wider community in that it provides a base for local business' as well as employment opportunities. It also serves as a buffer between the residential neighbourhood and the heavy industries contained along the waterfront and within the adjacent area.

DESIRED FUTURE CHARACTER

Land Uses and Economic Viability

- ◆ Encourage developments that take account of existing and proposed Master Plans for land currently managed by Sydney Ports Corporation and the Sydney Harbour Foreshore Authority.
- ◆ encourage a range of industrial uses which contribute to the ongoing viability of the surrounding uses.
- ◆ Provide for a range of industrial spaces that encourage diversity of industrial uses.

- ◆ Retain and enhance the industrial areas to maximise its continuance for employment opportunities.
- ◆ maintain the integrity of the neighbourhood by discouraging residential development in the area.
- ◆ discourage uses that may compromise the viability of which will cause nuisance to adjoining/nearby uses.
- ◆ promote the viability of compatible industrial activity at street level to provide an active street frontage

Urban Form

- ◆ encourage the adaptive reuse of existing buildings whilst allowing for a range of contemporary and compatible industrial uses;
- ◆ allow for increased building scale, especially at the corner of Mullens and Roberts Streets;
- ◆ encourage industrial activities to be located within buildings to minimise noise and excessive street activity;
- ◆ allow industrial development to be built to the street alignment to continue the prevalent setbacks and provide a "hard edge" along the street;
- ◆ locate driveway openings such that industrial based traffic is kept away from residential areas.
- ◆ new development shall provide appropriate off street servicing facilities (loading bays etc).
- ◆ encourage uses that are compatible with surrounding industrial uses.

***Building Elements***

- ◆ ensure that new development is complementary to the scale and character of existing industrial development;
- ◆ ensure that new development continues the symmetrical and articulated facades and predominant horizontal proportions that characterise more recent industrial development;

Victoria Road

- ◆ promote uses appropriate to Victoria Road that utilise high visibility without compromising traffic flow.

4. NEIGHBOURHOOD CONTROLS

These Neighbourhood Controls apply across the whole of the Robert Street Distinctive Neighbourhood.

All of the controls listed in the Suburb Profiles section of this DCP are supplementary to all other Controls within the DCP.

Land Use and Urban Form

- Industrial uses shall be predominantly located within the building area, to minimise noise and ensure that streetscape amenity is maintained.

Siting and Setback

- Where provided, front setbacks and internal areas should be appropriately landscaped to provide a visual buffer to the street.

Signage

- Signage must be consistent with the established character of the

streetscape. Signage visible from residential areas should be compatible with residential amenity in terms of location, size, illumination and content.

Materials and Painting

- Where a building retains its original unpainted or rendered face brick facade, this shall be retained and conserved.
- Where a building has been painted or rendered, an appropriate heritage-derived colour scheme should be used to ensure compatibility with the prevailing streetscape character.

Vehicular Access

- Where properties are serviced by a lane, vehicular access should be achieved via the lane and not from the primary street frontage.
- Appropriate off street servicing facilities (loading bays etc) shall be provided.



B1.0 RESIDENTIAL DEVELOPMENT





PART B – RESIDENTIAL DEVELOPMENT

How DCP Part B – Residential applies

DCP Part B – Residential applies to all new housing irrespective of the zoning of the land.

Use DCP Part B – Residential along with DCP Part A – General Information. Particular reference should be made to Leichhardt Local Environmental Plan 2000.

Part 2 – Environmental Management and Part 4 – Housing.

DCP Part B is divided into 2 distinct parts:

- General guidance and controls (Sections B1.0 – B3.0) and
- Controls for development types (Section B4.0)

Before commencing any design work, applicants should be familiar with these controls, the Suburb Profiles at Section A10.0 and the structure of the DCP.

Structure of controls

Within the General guidance sections, planning and design issues are divided into 'Design Elements' set out in the following format:

Principles

describe the primary purpose and intent of each element.

Rationale

provides an explanation and supporting information for the design element.

Guidelines

provide steps and procedures for best practice, and are encouraged by Council.

Controls

provide mandatory controls on all development.

Applicants should discuss proposals with Council staff prior to lodging a Development Application. This can save time and expense and enable Council to explain the contents of the plan, address potential conflicting controls and consider solutions to achieve the best outcome.

For Development Application submission requirements, refer to DCP Policy Statement No.1.

If you have any queries regarding Leichhardt *TownPlan*, please phone the Council's Division of Environmental Management on 9367 9222.



B1.1 Design Element 1 – Demolition, site layout, subdivision and design

Principle

Design new housing to integrate well with the neighbourhood and be consistent with and enhance existing street subdivision patterns, street character and maintain amenity to adjacent residents.

Only allow demolition of existing residential buildings where the replacement buildings are capable of satisfying the suite of controls for residential development in Leichhardt LEP 2000 and this Development Control Plan

Rationale

Leichhardt is an area characterised by diverse street patterns. The development of suburbs at different periods has ensured that street and subdivision patterns vary distinctly, both within and between areas. A varied topography and mixture of land uses adds to this complexity.

Local area characteristics are set out in the *Suburb Profiles* (A10.0). In designing the layout of new housing development, consideration of the prevailing street patterns and lot subdivisions is the first step. The scale of the proposal will determine the extent to which the controls outlined below are necessary and applicable.

To enhance the character of the area by encouraging the restoration of existing buildings where those existing buildings make a positive contribution to the streetscape.

To encourage environmentally sustainable development by providing controls that support the restoration of existing buildings.

Where demolition is appropriate, to ensure that infill development:

- meets the desired future character of the area;
- is of high quality urban design;
- provides a better contribution to the area than the existing building;
- meets the amenity impact provision of this DCP in regard to adjoining properties;
- is compatible with the apparent subdivision pattern (as opposed to any underlying paper subdivision);
- meets current amenity standards.

Guidelines

Before designing the layout and siting of the development, use the Urban Framework Plans and your site analysis to consider the opportunities and constraints such as:

- The maintenance of subdivision patterns that are unique to each Distinctive Neighbourhood of the municipality;
- buildings and landscape features that need to be retained;
- impact on adjacent or neighbouring Heritage Items;
- site contamination;
- potential overshadowing and loss of privacy to neighbours;
- the need to retain and provide solar access;
- and possible sources of noise disturbance to future occupiers and existing residences.
- The ability of a new residential development on any subdivided lot to

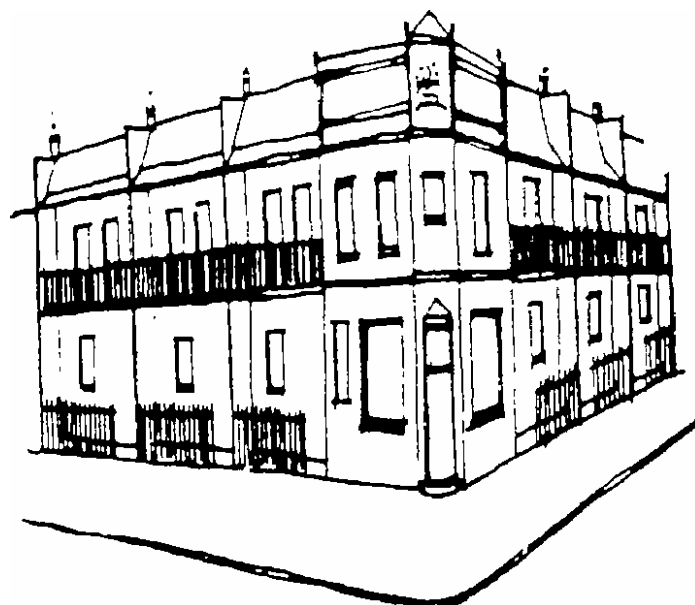


- comply with the suite of controls in Leichhardt LEP 2000 and this DCP.
- Before proposing demolition, the following should be considered:
 - The contribution of the existing building to the area;
 - The structural adequacy of the existing building;
 - Options for restoration and renewal;
 - Maintenance of the (apparent) subdivision pattern unique to the Distinctive Neighbourhood rather than seeking to rely on an historic paper subdivision;
 - Impacts of the existing building on surrounding properties.

Design to optimise existing site characteristics, including topography, landscape, use of on-site materials and solar access to land and buildings.



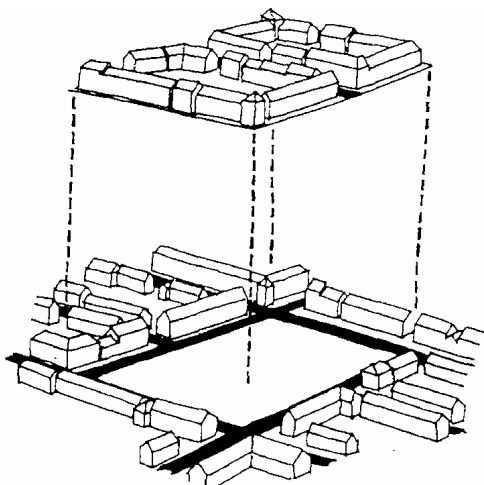
Some corner sites and sites located on the termination of vistas, provide an opportunity to improve townscape and streetscape features by providing a focal point as illustrated above and below. These opportunities should be explored at the outset and the development designed accordingly.





Controls

- Maintain a grid pattern consistent with the locality, and avoid winding cul-de-sacs on large sites where new roads are proposed.

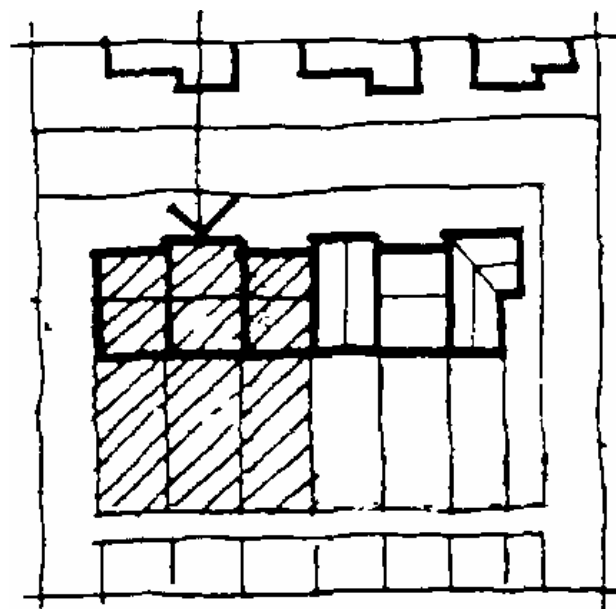


- Subject to the minimum lot size of 200m², future lot subdivision should be consistent with the prevailing subdivision pattern and shape of the surrounding development as described in the Distinctive Neighbourhoods.
- Design the layout of open space in accordance with the Open Space Strategy.



- Where buildings front streets or back on to streets in the locality, new streets should be designed to ensure that this characteristic is respected.

- Development should have an east-west orientated street pattern to achieve greater energy efficiency.
- The layout of new housing development should respect the pattern, orientation and shape of allotments in the area.
- When determining the siting of buildings and the area and dimensions of allotments, enable the provision of private open space, vehicle access and parking to the standards required by this plan.
- Orientate buildings to address streets and public spaces.
- Ensure that adequate arrangements are made for the provision of water, sewerage and drainage services.
- Where development coincides with a major knoll or significant ridgeline design to reinforce these features
- Locate dwellings with ease of access to local services and facilities.



- Ensure streets and footpaths are well lit at night and avoid right angles and 'blind corners' in footpath layout to improve safety and security.



- Council will generally require a Development Application for subdivision to include an application for the buildings to be erected on the new lots in a subdivision (or re-subdivision).
- Council will generally require a Development Application for demolition of all, or a substantial part of, residential buildings on a site to include an application for the replacement buildings on the site.



B1.2 Design Element 2

Building Form, Envelope and Siting

Principles

Plan and design new housing, and additions and alterations to existing housing, to maintain and enhance the established scale and character of the streetscape. Match and complement existing building forms, private open space and landscaped areas.

Plan new housing to provide a balance between building and spaces which respects the character of the area.

Rationale

It is important that new development and extensions relate to the established setting and character of neighbouring buildings, and the wider locality. This character is determined by the scale, massing, siting, size, height, spacing, form, intensity and use of surrounding buildings. Apart from establishing the character of an area, design that addresses these issues serves to minimise visual impacts, preserve outlooks and protect privacy.

Guidelines and Controls

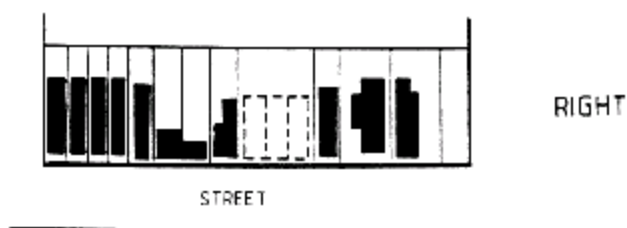
- Siting and Orientation
- Building Location Zone
- Building Envelope
- Side Setbacks

Siting and Orientation Guidelines

An important element of an area's character is the amount of space around and the distance between buildings. New buildings and alterations and additions to existing buildings need to be designed so that they respect the proportions of neighbouring developments, the streetscape and amenity of neighbouring residents.

Established buildings are almost always oriented to their street frontage, often have relatively uniform spaces between them, maintain the existing setback from the street alignment and have similar building heights. Such relationships and existing features and details (e.g. verandahs and roof forms) are together responsible for streetscape character and should provide the basis for new development.

Buildings that are orientated across sites, contrary to the established development pattern, are intrusive and often overlook adjoining properties (see below).





Building Location Zone Guidelines

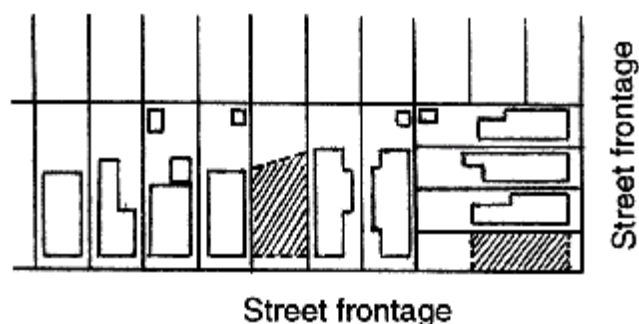
- Front and Rear Setbacks

In addition to the siting of a building, the setbacks proposed must respect existing setbacks on adjoining properties and the street alignment. They should ensure the efficient use of the site, protect the amenity of residents, maintain established private open space and landscape patterns and reinforce the character of the neighbourhood. Space around the building must be designed to accommodate access, useable private open space, landscaping requirements, site facilities and parking, where required.

New development or an extension to an existing dwelling is to be located within the Building Location Zone (BLZ). This is a zone defined by the average front and rear setbacks of both the adjacent buildings on either side of the subject site. The BLZ is that part of the subject site where it can be reasonably expected that a building will be located (see below). This includes 2 storey development and first floor extensions to existing dwellings, however in most circumstances development above the first floor may not occupy the entire area of the BLZ, due to the resulting bulk and scale issues.



Building Location Zone



Note: With the exception of corner sites, depending upon circumstances, the extent of the BLZ does not refine or relate to side setbacks.

The BLZ is determined only by the main buildings on the adjacent properties. The location of front fences or intervening walls, ancillary sheds, garages, external laundries, toilets or other free-standing structures on the site is not relevant in determining the BLZ.

Where it is proposed to build outside of the BLZ, the onus is upon the applicant to justify that the proposed building footprint is appropriate. Issues which must be addressed in justifying a building footprint extending outside of the BLZ include, but are not limited to:

- visual aspect of the bulk and scale, as viewed from adjoining properties;
- amenity to adjacent properties (ie sunlight, privacy, views);
- location and retention of existing significant vegetation;
- compliance with applicable statutory controls, including Floor Space Ratio and minimum landscaped area of 40% of the site;
- the existing streetscape and character and scale of surrounding development; and
- the adequacy of the size, dimensions, privacy and solar access of private open space for outdoor recreation and landscaping.

On corner sites, the primary street frontage may not necessarily be the widest street frontage. The BLZ of a corner site may be determined by the location of the building on the adjacent property that most resembles the orientation, frontage width and site layout of the subject site (refer to BLZ diagram opposite). Council may exercise some flexibility in relation to the side setback to the secondary street frontage, depending upon the relative importance of this frontage. For example, if the second frontage is to a laneway, a zero setback would be acceptable.



Building Envelope Guidelines

The building envelope determines another main element of character. It ensures that development is appropriate to the local character, the setting and the context of the development. Wall height, width, depth and roof form and pitch of a building define the building envelope. Wall height is the key control over the building envelope, and roof form is one of the most important features that determines the overall appearance of residential buildings.

The envelope roof control is aimed at encouraging the use of pitched roofs, which is characteristic of most housing in the Municipality. The most typical roof forms are hipped, gabled or parapet designs, often with a skillion roof to the rear. The roof pitch or plane is generally between 30° and 45°, depending on the characteristic style of the local area.

How to determine a building envelope

The Suburb Profiles give an indication of the general height and roof form of buildings in the area. This is a general guide and the prevailing circumstances should be paramount in assessing a building envelope.

In addition to the information given in the Suburb Profiles, consider the following aspects of surrounding development in relation to the proposal:

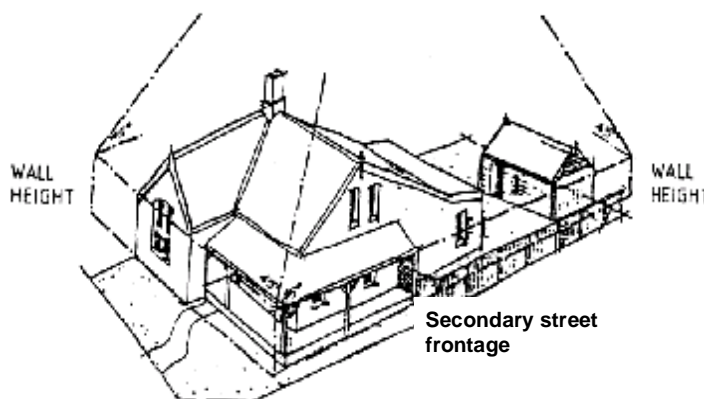
- ridge heights;
- eaves heights;
- roof form and pitch;
- proportion of the street frontage covered by the building elevation;
- any articulation of the front elevations.

The building envelope defines the maximum potential volume of a development above ground level. It applies to the whole area of a building defined by external walls. It includes covered areas such as verandahs and balconies, but does not include open decks and paved areas.

The envelope has two height components, a wall height and a roof control comprising of an inclined plane at 45 degrees from the top of the wall height.

The wall height is related to the average in the area (see Suburb Profiles for the relevant wall height). **The wall height is measured from existing ground level, at the front of the building.** For the purposes of determining a building envelope, wall height does not always relate to the actual height of the front building wall, as shown in the diagrams on the next page. Combined with the roof control, the wall height is simply a means of setting an appropriate height at the front elevation and hence controlling the overall bulk of a building. On a sloping site, wall height shall be measured from several points along the building to provide an average height and split-level solutions must be applied.

The roof control applies 45 degree inclined planes to significant (eg street) elevations of the building to permit compatible roof forms. The inclined plane also encourages the use of traditional building elements such as verandahs and balconies, which would assist in minimising the bulk of front elevations, presenting a smaller roof line at street level. Normally the height of a development including wall height and roof form should not exceed the ridge heights of adjoining development. Minor architectural elements such as chimneys, dormer windows, gables and sub-gables can penetrate the envelope.





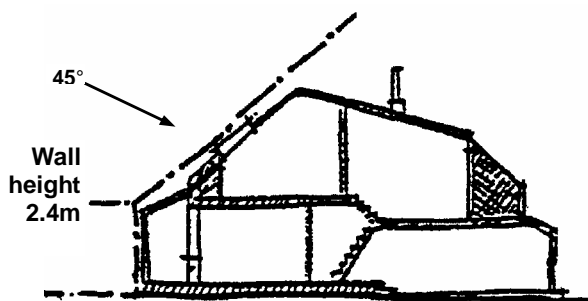
On corner sites, the inclined roof plane must be applied to both street elevations to encourage a building in scale with adjoining development (see diagram above). The above diagram does not reflect the situation of a terrace house on a corner block, where Council may allow for greater bulk fronting onto the secondary street and hence a larger building envelope.

The front wall of the building should be located in accordance with the building location zone. The building envelope is to be measured from the front of the building or attached building elements such as verandahs and balconies.

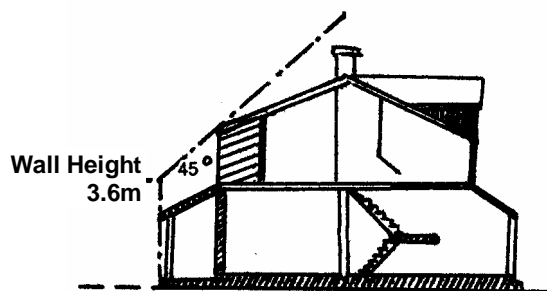
Building Envelopes – 2.4m, 3.6m, 6.0m and 7.2m

Four basic building envelopes apply to housing in the Leichhardt area, based upon existing dwelling types:

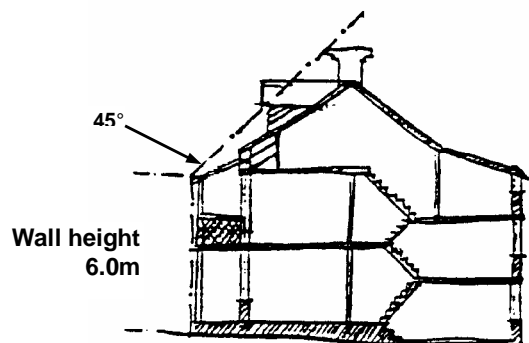
2.4m wall height – Single storey, similar to the scale of a workers' cottage.



3.6m wall height - Single storey, or low 2 storey dwelling utilising the roof space.

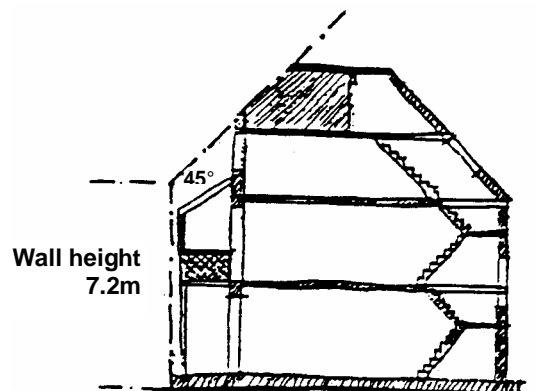


6.0m wall height - 2 storey, similar to the scale of



a 2 storey Victorian terrace.

7.2m wall height - 3 storey, to a scale compatible with grander terraces or mansions, or when the wall height is used as a parapet.





Side Setback Guidelines

Setbacks are a key component of the streetscape. They provide rhythm and add character to residential streets, provide views and glimpses of local and distant landmarks and vistas from public places and can provide access to the rear of properties.

Setbacks also provide amenity to existing and proposed housing through the maintenance and provision of privacy, ventilation and sunlight access. As access to sunlight and privacy can be severely affected by tall buildings erected close to or on side boundaries, greater setbacks are required for taller buildings than for low scale single storey buildings.

Where it is proposed to reduce existing side setbacks, the proposal must meet the side setback controls and be designed to ensure that gaps between buildings do not appear to be filled when viewed from the street. Side extensions visible from the street or a public place should appear subordinate to the existing building.

Council encourages a varied side setback in order to provide articulation and relief to side elevations as well as enhance solar access, privacy and air circulation to internal living spaces and adjoining development.

The Suburb Profiles give an indication of the desired character and general setbacks of buildings in the area. This information and the prevailing circumstances should be paramount in assessing the appropriate side setbacks for the proposal.

Controls

Siting

- **Siting for new development in streets with an established siting pattern must be oriented in accordance with the Siting and Orientation Guidelines.**

Building Location Zone

- **All new development is to be located within the boundaries set by the Building Location Zone. Any departure from this control must be clearly justified in accordance with the Building Location Zone (BLZ) Guidelines.**

Building Envelope

- **All new development must fit within the relevant Building Envelope, as set by the relevant Suburb Profile.**
 - **Building wall height must be measured from ground level and applied at the front building elevation.**
 - **Any departure from this control must be in accordance with the Building Envelope Guidelines.**
- **The ridge height of a development shall not exceed the ridge heights of adjoining development. The development needs to respect the adjoining and local roof form.**
- **Except where a higher building wall height is permissible, Neighbourhood shops or buildings originally designed for non-residential use may use a maximum building wall height of 7.2m in order to incorporate a parapet wall.**

Side setbacks

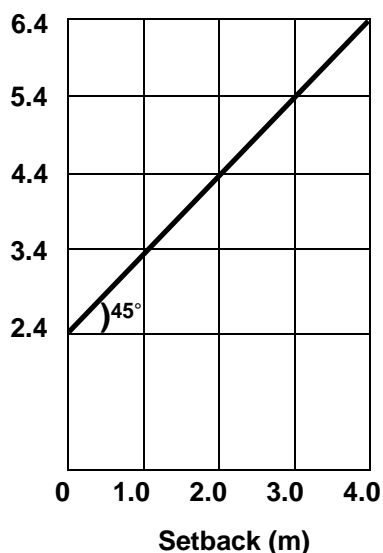
- **Side setbacks for new development are to be of sufficient width, and designed such that the following issues are properly addressed to the satisfaction of Council:**



DCP Amendment No.4 – 23 January 2002
DCP Amendment No 9 – 20 September 2004

- The requirements of the Suburb Profiles;
- Ensure that the development is sympathetic to and respects the rhythm of the streetscape created by the lot width and side setbacks of adjoining development;
- Amenity concerns of adjoining properties, in particular solar access, visual privacy, noise transmission and air circulation;
- Existing external access to the rear of the property with a minimum width of 900mm is to be retained; and
- The retention and enhancement of views to significant and local landmarks and vistas from a public place through gaps created by existing side building setbacks.

Minimum setbacks from the side boundaries shall be determined according to the following graph:



Council may allow buildings to side boundaries where:

- The pattern of development is not compromised;

- **Higher portions of buildings are setback in accordance with the above control;**
- **The bulk and scale of development is minimised by reduced floor to ceiling heights;**
- **The potential impacts on amenity of adjoining properties, in terms of sunlight and privacy and bulk and scale, are minimised;**
- **Reasonable access is retained for necessary maintenance of adjoining properties.**



B1.3 Design Element Car parking

Principles

Development must comply with the car parking requirements set out in Part A.

Ensure that where on site car parking is required the layout and design:

- *respects the quality and integrity of the streetscapes of Leichhardt; and*
- *is safe and efficient; and*
- *has regard to the layout, siting and use of neighbouring buildings; and*
- *is integrated with the overall site and building design.*

Rationale

The layout and design of parking areas should ensure that the amenity of residents, both existing and future is retained. Account should be taken of potential noise disturbance, pollution and light spillage. Car parking areas can have a significant visual impact on the streetscape and should therefore be carefully designed having regard to landscaping, layout and location to ensure that car parking is integrated sympathetically with the development and locality. Where car parking is

provided it must be in a safe and efficient manner, allowing for easy access to residents, visitors and service vehicles, whilst ensuring the safety of pedestrians and other road users.

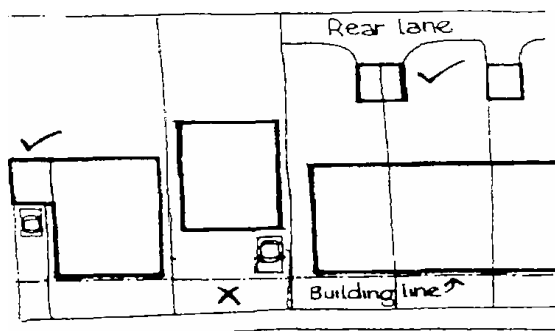
Guidelines

Use the site analysis to plan car parking and road layouts to take account of; existing road layout and widths, availability and location of footpaths,

existence and location of street trees and furniture and proximity of bus stops and traffic calming devices. Refer to 'site drainage and stormwater control', 'landscaping' and 'elevations and materials' design elements to ensure that any parking takes account of these principles. Ensure road and parking layouts preserve visual and acoustic privacy of residents.

Controls

- **Car parking layout and design is to comply with numerical standards set out in DCP Part-A 8.0.**
- **Integrate the design of car parking into the overall site and building design.**
- **Where rear lane access is achievable, design car parking to be accessed from the rear lane only.**
- **Where only front access is available, provide car parking areas (such as garages and carports) behind the main building alignment, (the front wall of the dwelling).**



- **Where any dwelling is remote from a public street, access for service, emergency or delivery vehicles should be provided.**

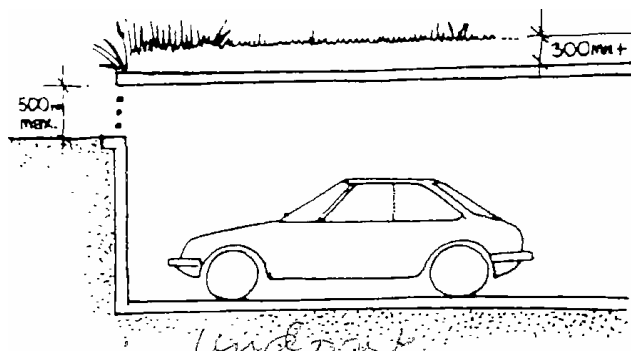


- No on-site parking is allowed for single dwellings on one allotment where vehicular crossings disrupt the continuity of the footpath and verges and reduce on-street parking capacity.
- Where garaging access forms part of the main front wall of a dwelling it must be;
 - 1) less than half the width of the building; and
 - 2) subordinate to the main elevational detail.
- Integrate into the streetscape the design of any paved area. This may best be achieved by either open paved areas, preferably porous or open block paving.

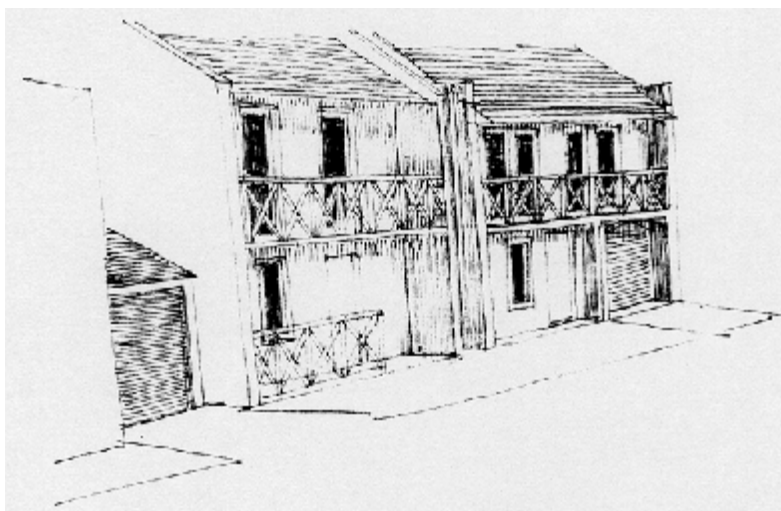
Additional Controls for underground parking

- Design access driveways for underground car parking to:
 - minimise the visual impact of the entrance to the street;
 - maximise pedestrian safety; and maintain pedestrian access and access for people with special needs.
-

Design parking levels to be kept as low as possible with a maximum of 500mm above ground level. Minimise protrusion of end walls above ground level where end walls are situated on or close to property boundaries/street frontages.



- Where landscaped areas are located above parking areas provide;
 - 600mm soil depth for trees/shrub planting, and 300mm for ground cover planting.
 - Car parking spaces and accessways should not be provided directly outside dwelling doors or windows to habitable rooms





B1.4 Design Element 4 Site drainage and stormwater control

Principle

Design to reduce stormwater runoff and pollution.

Rationale

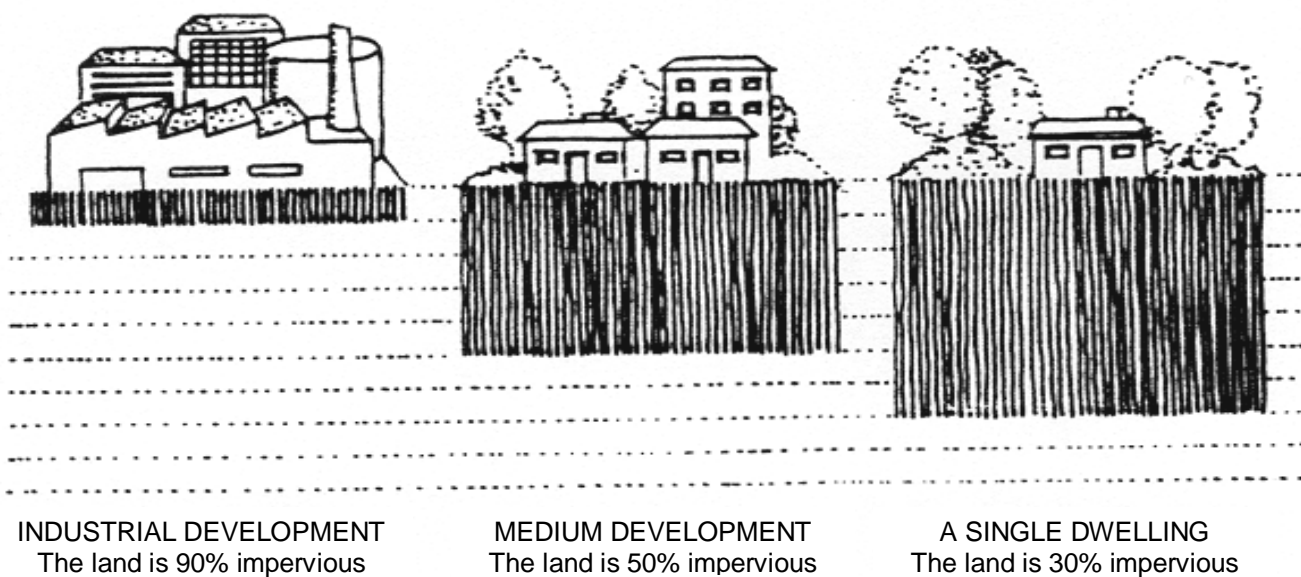
Stormwater pollution is caused by litter, debris and dust which is washed off the streets and other surfaces during rainfall. Pollution is increased by chemicals and products that are poured or leak into drains and also by sewer overflows. Leichhardt's polluted stormwater flows into the harbour and contaminates soil sediments and reduces water quality. This in turn, affects the habitats of fish, water birds and other marine life and reduces our recreational opportunities.

The amount of stormwater runoff in an area relates directly to the intensity of development in that area. For example, due to high site coverage, industrial development is up to 90% impervious to water. With medium density development, the land is around 75-85% impervious. For a single

dwelling on a large lot, the land is approximately 60% impervious.

The imperviousness of an urban area means that stormwater runoff flows more rapidly, and in larger quantities. Stormwater runoff flows faster over smooth, hard surfaces, and its speed is compounded by the volume of water. In summary, more buildings and hard surfaces in an urban area means less natural drainage.

More building means less natural drainage





Guidelines

Ensure large development sites 'fit' as much as possible, within the hydrology of the natural system, reduce discharge of pollutants into the stormwater system, increase peak flow lagtimes and reduce erosion and sedimentation.

Stormwater infrastructure in large residential developments should provide maximum infiltration and retardation of peak stormwater flows.

Controls

- Use Urban Framework Plans to determine relevant contours, valleys and ridgelines in relation to the site.
- Use on-site detention, preferably on unpaved or grass surfaces to trap and remove contaminants from stormwater and increase infiltration into the ground.
- Incorporate detention or retention basins.
- Where possible use open space for stormwater control and site drainage, where integrated as part of a large development.



B1.5 Design Element 5 Elevation and materials

Principle

Design to respect the elevational character and appearance of the streetscape and locality.

Rationale

The elevational design of a building is as important as the building bulk and scale. The arrangement of openings in walls is visually important to the quality of the streetscape, especially the placement and proportions of windows and doors.

A building may often comply with the building envelope controls, but does not necessarily 'fit', as the elevational details do not relate to the style and character of the setting. However, simply providing the 'openings' may not in itself be adequate to ensure character is preserved as functionless openings provide 'dead frontages'.

The design of new housing should respond to the vertical and horizontal rhythms established by existing buildings and streets. Rhythms are recurrent design lines that establish a design pattern and reinforce the character of a particular street. Elevational relief and modelling detail also contribute to fitting in with the streetscape.

The architectural diversity of housing in Leichhardt often permits the use of a considerable range of building materials. The careful selection of materials can result in innovative design solutions without compromising the principle of this design

element. However, some modern building materials and external finishes are unsympathetic to neighbouring buildings, and in some cases may detract from the character of the streetscape. In areas of homogeneous character, such as the Bishopsthorpe Estate in Glebe, selection of building materials and finishes requires greater sensitivity.

Traditional building materials for dwellings are smooth face brick in deep red/brown colour with terra cotta tiles, corrugated iron or equivalent roofing; or timber weatherboards with corrugated iron roofing; or where the predominant style is Victorian, rendered and painted brickwork.

Guidelines

Vertical control lines are set by such elements as blade/party walls, nib walls, exposed down-pipes, attached piers, setbacks and changes in facade planes.

Divide the facades of new buildings into vertical bays or units of dimensions appropriate to the scale of the building proposed and that of adjoining development. Bays are established by vertical control lines.

Horizontal control lines are set by such elements as ground level, string courses, cornices, balconies, balustrades, roofs, eaves lines and door/window heads. Use horizontal control lines to align elements of new buildings with adjoining buildings.

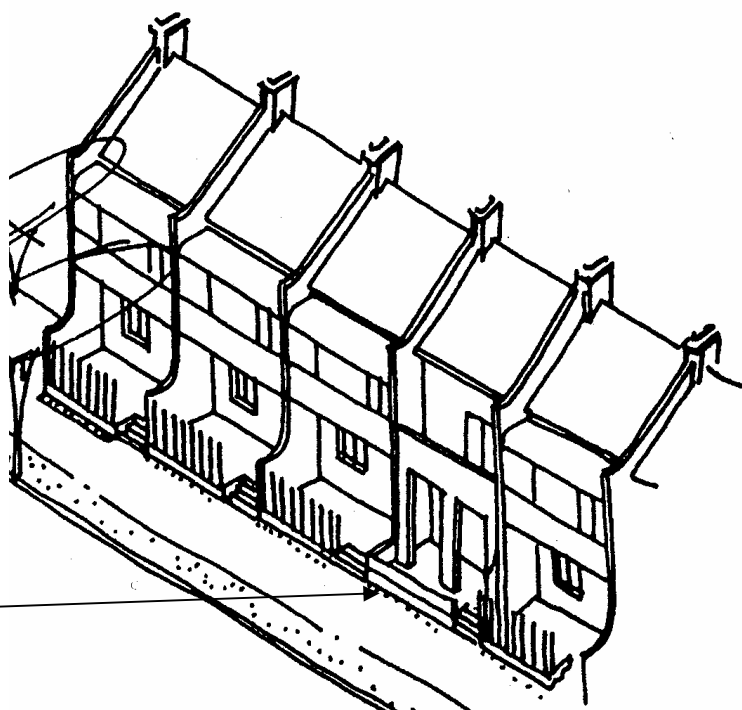
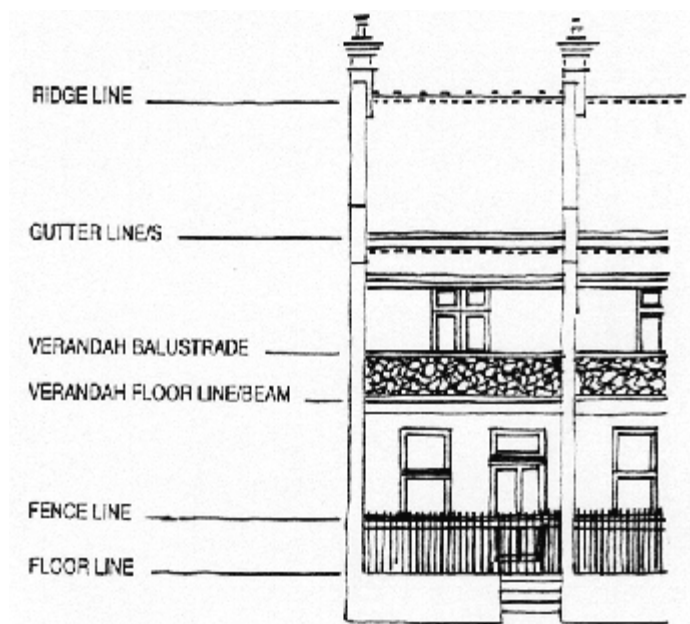




Controls

- Where new buildings are proposed, elevational design shall respect the size, location and proportions of windows and doors of neighbouring buildings.
- When designing extensions or buildings next to heritage items, ensure the modelling and relief is respected.
- Provide articulated elevations to new building where the streetscape dictates and where wide frontages are proposed.
- Ensure elevations which front a public space are not dominated by windows or doors to non-habitable rooms.
- Development should take reference from and complement the existing character of the streetscape in terms of scale, architectural style and materials. Alternatives may be considered at the discretion of Council.
- Preferred roof forms are hipped and gabled with a pitch between 30° and 45°. Other roof forms may be appropriate and these will be considered at the discretion of Council.
- New townhouse and multi-unit developments shall submit a sample board with the proposal.

New development should follow streetscape patterns.





B1.6 Design Element 6 – Front Gardens and Dwelling Entries

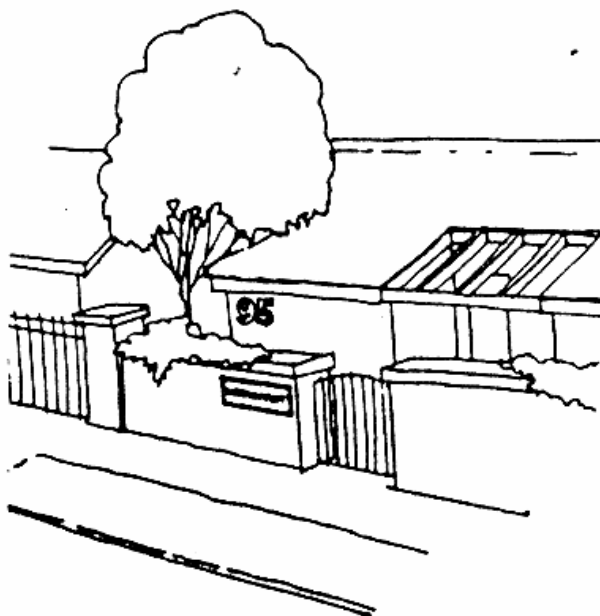
Principles

Design practical dwelling entries which improve security.

Design front gardens to act as transitional spaces between the public street and private dwelling which improve security and contribute to the streetscape.

Rationale

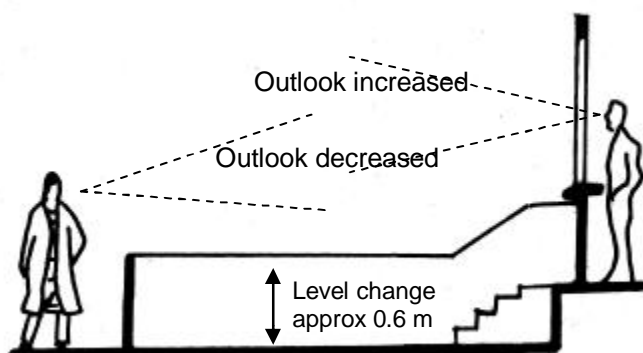
Traditionally, the front garden or yard has functioned as a semi-public space, performing a variety of physical and cultural roles. Front gardens provide a transition from the public space of the street to the private spaces within dwellings. Security and a sense of personal address can be provided by ensuring a clearly defined transitional space where dwelling entries are identifiable. This is characteristic of traditional areas where front gardens and porches delineate the change from public to private space.



Guidelines

Promote safety and casual street surveillance by:

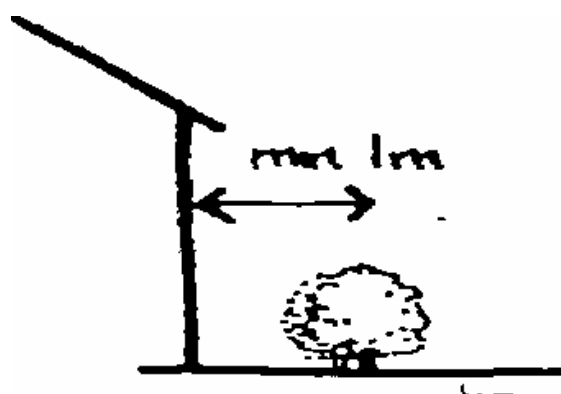
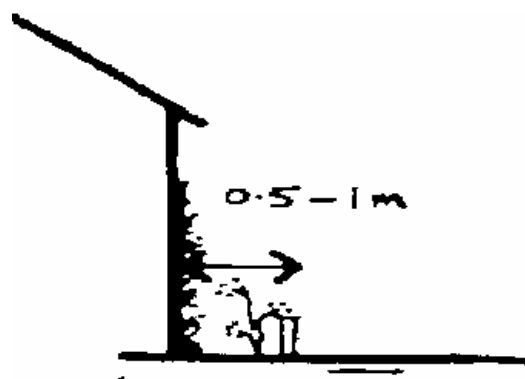
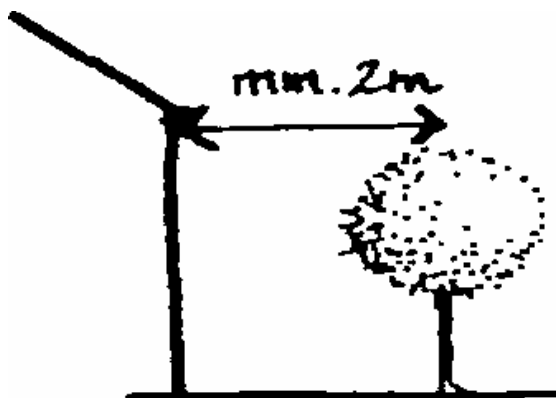
- ensuring visitors can be seen from the inside of the dwelling without opening the door; and
- designing dwelling entries and their adjacent windows to ensure casual and mutual surveillance from the street, site and other dwelling entry points, pathways, play areas and other public areas.
- Allow for privacy by separating publicly accessible paths from dwelling windows.





Controls

- Ensure the dwelling entries are clearly visible and easily identifiable from streets, public areas and internal driveways.
- Design dwelling entries to provide a sense of personal address and incorporate a transitional space around the entry.
- Incorporate shelter at main dwelling entries without compromising elevational detail and the character of the streetscape.
- Public or shared paths should not abut any dwelling wall. A minimum 1 m strip should be allowed for planting of flowers and climbers. Substantial bushes should not be planted closer than 1m and decorative trees no nearer than 2m.
- Where the front garden functions as the main private open space for the dwelling, use trees to act both as street trees and also shade trees for the garden. Ensure the space is designed to meet user requirements for solar access and private open space.





B1.7 Design Element 7 Fences

Principle

Design fences to complement the architectural styles of the building and the local area.

Rationale

In Leichhardt, fences help achieve architectural uniformity and cohesion, being related to buildings and styles of particular periods. For example, cast iron picket fences were traditional in the Victorian era, with timber picket, brick and timber and brick and iron fences popular during the Federation period. More recently, low brick fences have also been popular. These issues are important to the character of an area, especially in Conservation Areas.

The intention of controlling fences is:

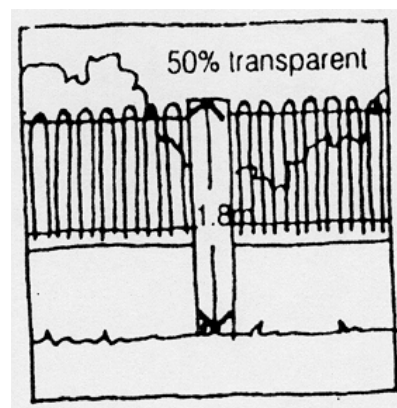
- to maintain the character of the existing streetscape;
- to ensure that fencing heights and material types are similar to existing fences in the street;
- to ensure that fencing heights allow for privacy between dwellings and public accessible paths, while not obstructing the view of the building façade and street surveillance; and
- to encourage sympathetic restoration and removal of unsympathetic fencing.

Guidelines

Design fences to respect the architectural character of the house and heritage context. Design fences to take account of streetscape, privacy and security issues, and to enhance entrances to the site and building. Use fences to define the edge

between the street and semi-public front garden space.

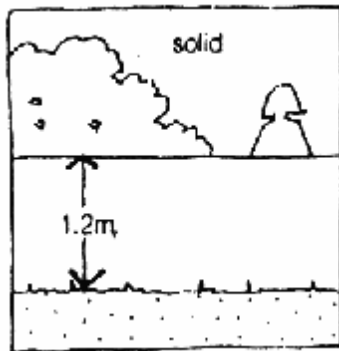
Fencing should not block views from the dwelling out towards the street. Where the main private open space of the dwelling is orientated to the street frontage screening higher than 1.2 metres is permissible. However, a minimum of 50% of the screen is to be transparent, and some surveillance of the street should be maintained from the dwelling.



In this situation, use screens that adequately enclose the space, but enable some outlook from the building and the space to the street. **Fences used in this manner should be located on the front property boundary.**

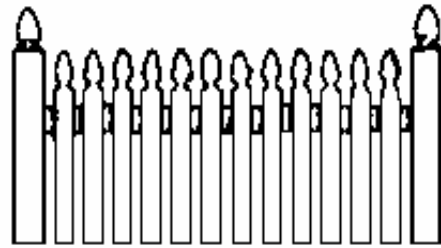
Controls

- Fencing shall complement any original fencing relating to the architectural style of the dwelling or found on adjoining properties and in the wider streetscape in terms of style, height and materials;
- Where side fences project in front of the building line ensure that they complement the scale of the adjoining front fence and function of the front yard;
- The height limit for front fences is 1.2 metres, measured from the finished footpath level at any point adjacent to the fence to the top of the main part of the fence. This does not include supporting posts or mailboxes;

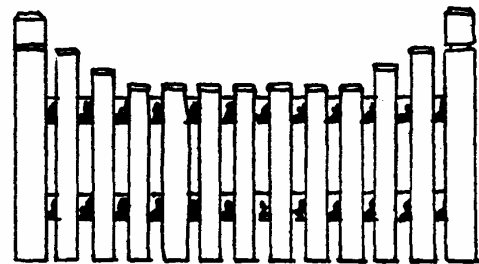


- Where there is a change in ground level along the street boundary, the higher of the two levels will be taken when measuring fence heights, however a fence in this circumstance should not exceed 1.8m in height;
- Fencing over 1.2m in height shall be 50% transparent;
- Where there is dual street frontage, consideration may be given for the allowance of a higher side fence to ensure privacy;
- All controls are subject to the provision of adequate sight lines for emerging vehicles to enable surveillance of pedestrians;
- Integrate the design of fences, with the location of mail boxes, nameplates and street numbering.

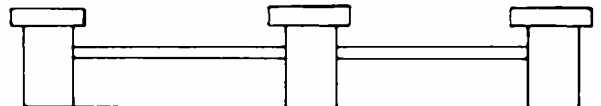
Note: The use of intervening fences/walls setback from the front property boundary is discouraged and should not be used to determine the measuring point for the building envelope.



Example: Victorian style picket fence



Example: Federation style picket fence



Example: Matching low brick fence



B1.8 Design Element 8 Site facilities

Principles

Design to integrate adequate and convenient site facilities, such as storage, recycling and collection areas and clothes drying areas into the overall development.

Ensure site facilities are practical and easily maintained.

Rationale

Poorly designed site facilities can significantly detract from the image and amenity of housing. The efficient and practical use of a dwelling and its associated residential activities should be a primary consideration in the design of new housing. The absence of adequate private storage is often a problem leading to spaces which best serve another function being utilised for storage. These problems are best solved early in the design process.

Guidelines

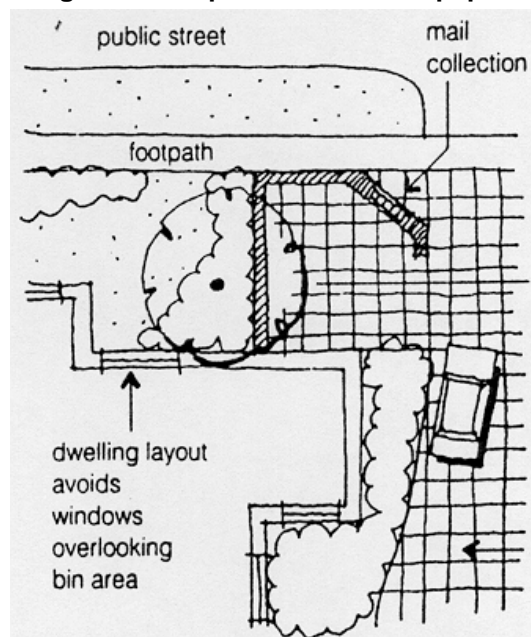
Garbage bin and waste recycling areas, mail boxes, outdoor drying areas and external storage facilities should be adequate in size, durable, waterproof, blend in with the development, avoid visual clutter and be conveniently located for residents, visitors and service people.

Controls for site facilities

- Provide adequate internal storage space, of at least 6 cubic metres per dwelling.
- Provide useable externally accessed storage space for the accommodation of bicycles and large goods which may be incorporated as part of a carport or
- Ensure garbage storage and waste recycling areas, especially glass

recycling bins are not located adjacent to habitable rooms.

- Mailboxes big enough to cope with large envelopes and newspapers



should be provided and located for convenient access. Provide a mailbox for body corporate correspondence where applicable.

- Refer to DCP No. 38 – Waste, Avoid, Reuse and Recycle for further controls relating to the design and provision of waste facilities.



B1.9 Design Element 9 – Corner Site Controls

Principle

To control the scale of development affecting corner sites in residential and business areas.

Rationale

Corner sites often form the junction of two distinct scales and built forms. In some circumstances development on corner sites does not conform with the scale or form of the streetscape on one street while matching the form and scale of the other street. New development can inappropriately seek to maintain the larger form and scale of the two streetscapes. This can lead to poorly proportioned and out of scale development for one streetscape.

Guidelines

Throughout the municipality, corner sites have played a pivotal role in delineating form and scale. Due to their visual prominence, corner sites are often the focal point of the public domain. This visual prominence has traditionally been promoted for commercial as well as architectural reasons. Various architectural elements are used to emphasise the dominance of buildings on corner sites. These elements include; the use of awnings or verandahs, reduced or nil setbacks, increased bulk & height as well as the use of articulated building elements, corner pediments, parapets etc.

In situations where development involves a corner site and two distinct streetscapes, it is necessary to provide guidelines to restrict the scale and form of development on to the street with the lesser scale. For the purposes of this design element, building scale consists of the following building elements: wall height, roof form, front setback and

the following architectural features: balconies, awnings, verandahs, parapets and dormers.

Controls

- **These controls apply to development on corner sites in residential and business zones.**
- **1) Development extending to two distinct streetscapes should maintain the existing pre dominant character and adjoining building scale on each frontage.**
- **2) A higher building scale on the frontage with the lower scale may be permitted where the following applies:**
 - a) **Where a variation in scale is permitted under the Town Plan DCP and:**
 - b) **The variation in scale will not adversely impact on the streetscape, surrounding properties or areas of public domain by virtue of:**
 - **Amenity;**
 - **Solar access;**
 - **Views;**
 - **Privacy; and**
 - **Urban Design.**
- **Any variation in scale must include a transitional area to enable the development proposal to blend with the existing scale within the street frontage.**
- **Where awnings or balconies are incorporated into the design of a corner building, they are to reflect the controls in Design Element 7 – Protective Structures in the public Domain.**



Examples of corner development and the principles that they have utilised to achieve a successful design solution in these exposed locations are shown below.



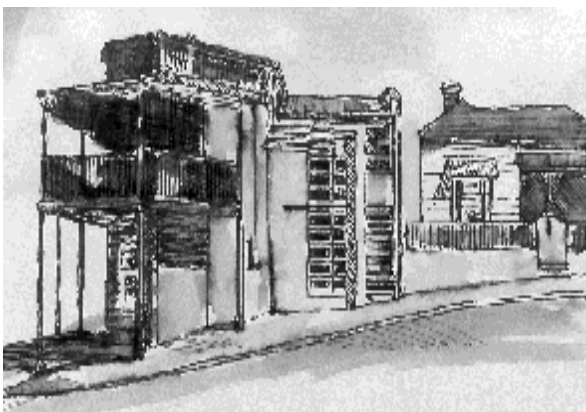
PRINCIPLES

- The building addresses the major street.
- Nil setback to side street follows established pattern.
- Gables echo the form of the adjoining building.



PRINCIPLES

- Contemporary corner building built to street alignment follows traditional corner layout.
- Verandah adds interest to corner.
- Scale suits both street frontages, with single and double storey heights and form.



PRINCIPLES

- The slope assists compatibility with the single storey scale of the street.
- The verandah frames the corner and breaks the bulk of the building.
- Contemporary house bridges differing scales.



B2.0 Ecologically Sustainable Residential Development

Energy efficient design and the use of alternative (non-fossil fuel) energy sources helps to reduce air pollution such as sulphur dioxide, nitrous oxides and photochemical smog. Important Carbon Dioxide (CO₂) and other greenhouse gas emissions can be reduced.

Energy efficient building design minimises the human consumption of energy such as gas, electricity and fossil fuel in a building by utilising the sun's natural energy. Windows are designed to direct sunlight into a building which warms the inside rooms during winter. In summer, shade and natural ventilation keep the building and garden cool and prevent overheating.



B2.1 Design element 9 - Building construction Thermal mass and materials

Principles

Improve the energy efficiency and thermal comfort of housing, by maximising thermal mass.

Choose housing construction materials that are of an ecologically sustainable nature.

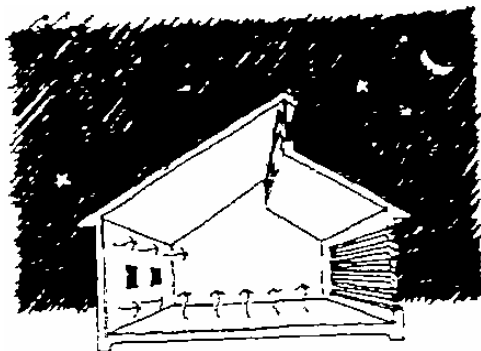
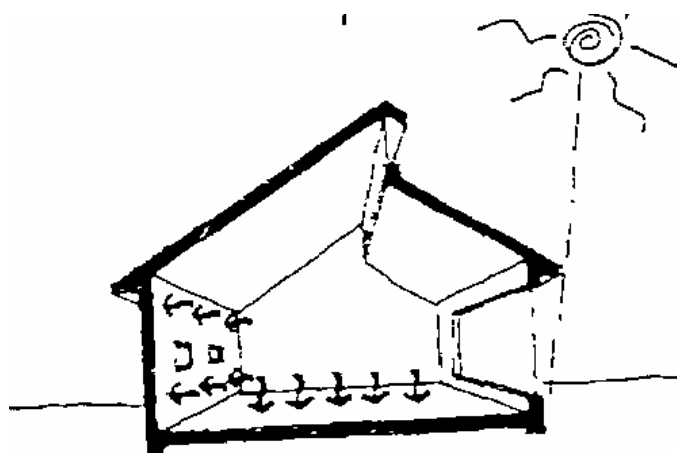
Rationale

The principles and properties of thermal mass, glazing and insulation are important in achieving energy efficient housing. Thermal mass is a measure of a material's ability to absorb and store heat. Generally, the heavier and more dense a material is, the more heat it will store, the longer it will take to release it and the higher its thermal mass value / rating. Materials commonly used in housing, such as bricks, concrete and stone, have a high heat storage capacity.

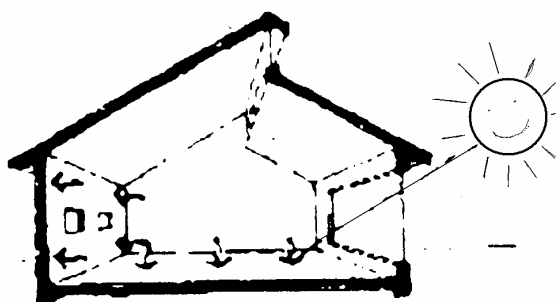
Maximising thermal mass is important to both heat-gain, and heat-release during the seasons.

During the night, this heat is released back into the rooms.

In summer, the thermal mass soaks up excess heat in the building. During the night this heat is slowly released into the rooms, or to any cooling breezes.



In winter, internal walls with a high thermal mass value can soak up heat from the sun through north-facing windows.





Guidelines

Leichhardt Council promotes greater energy efficiency and ecologically sustainable development by requiring the careful choice of building materials. Choose building materials that take account of the following environmental considerations:

- energy efficient materials with low embodied energy;
- recyclable and reusable materials;
- renewable or abundant resources;
- durable materials with low maintenance;
- non-polluting materials;
- environmentally-acceptable production methods.

Controls

- Use materials that have a higher 'thermal mass' value, such as bricks, concrete and stone, where they can benefit thermal comfort and energy efficiency.
- To be most effective, locate materials with a higher thermal mass:
 - inside the house;
 - in north-facing rooms, where they can benefit from winter heat gain, and where they are shaded from direct summer sun.
- In the construction of housing, specify plantation or regrowth timbers, timbers grown on Australian farms or state forest plantations or recycled timbers.

- Rainforest timbers or timbers cut from old growth forests are not to be used in Leichhardt.

Key References

Refer to Appendix 2,3,5 & 6



B2.2 Design Element 10 - Solar control - External window shading

Principle

Integrate external window shading into the design of the building to improve the comfort and energy efficiency of housing.

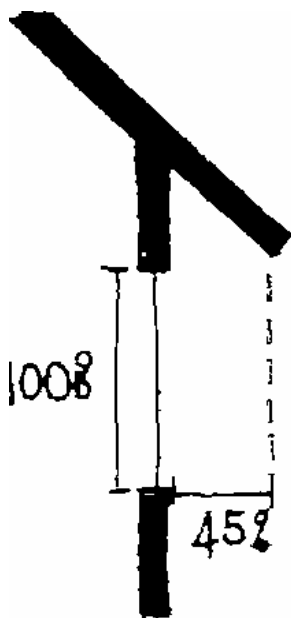
Rationale

Housing design should take advantage of winter sun and provide protection from the severity of summer sun. The most effective way of controlling the overheating of a dwelling, is to prevent summer sun from reaching glazed areas. Unshaded glass will typically allow 86% of summer heat into a building, whilst shaded glass will only allow around 25%.

The effectiveness of external shading devices is illustrated by construction of a section through a window/wall.

Guidelines

For north facing walls, a general rule of thumb suggests that overhangs or shading devices, should be $0.45 \times$ height of the glazed area, measured from the bottom of the glass to be shaded. In Sydney, this will provide shading from mid-October to late February. Landscaping can also contribute to energy efficiency by providing shade for the dwelling. Consider location, shape, type and height of fully grown trees. Examples of horizontal shading devices are awnings, upper floor balconies, pergolas, eaves and overhangs.

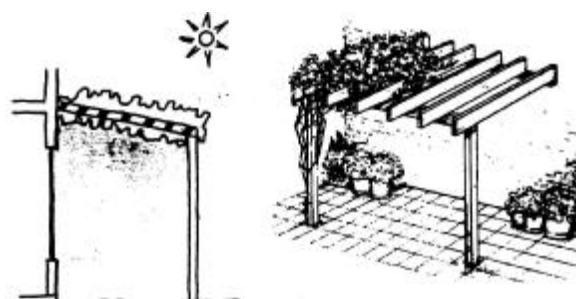


Examples of vertical, shading devices are blinds, shutters, adjustable external awnings and landscaping.

Where practical, and without compromising the design elements, reduce the extent and size of east and west facing windows to reduce low summer sun penetration into the dwelling.

Controls

- Provide for external shading to a dwelling's north, east and west facing windows.
- For north facing windows, use horizontal shading devices (adjustable or fixed) that maximise winter sun penetration and reduce summer sun penetration.
- For east and west facing windows, use vertical shading devices to block the low rays of the rising and setting summer sun.
- Use landscaping to reduce summer heat gain, by controlling sun penetration and shading the house and outdoor spaces, without reducing solar access in winter.





B2.3 Design Element 11 Insulation

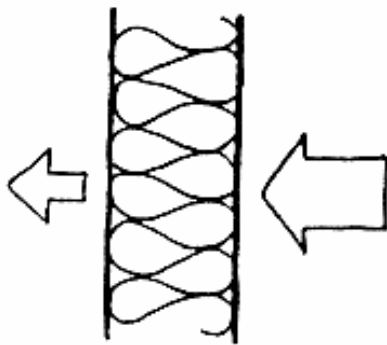
Principal

Improve the energy efficiency and thermal comfort of housing through the use of insulating materials in walls, floors, ceilings and roofs.

Rationale

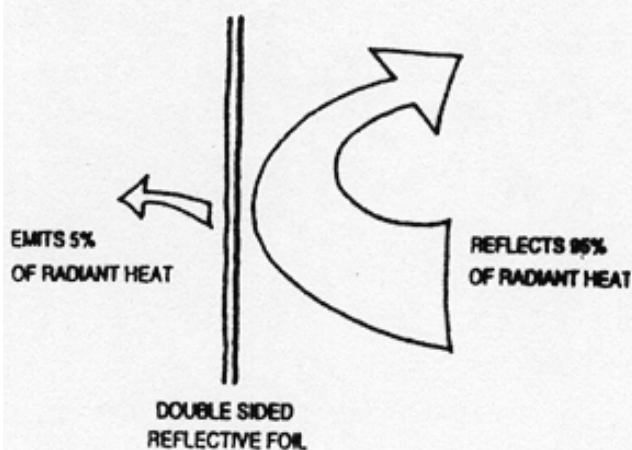
Insulation alters the rate at which a building loses or gains heat. Insulation is not a heat store, it just makes it harder for heat to pass through a wall, roof or floor.

BULK INSULATION AND HEAT FLOW



Thermal insulation will help make your building easier to heat in winter, by reducing the rate at which heat is lost, and also help to retain any solar heat gain achieved.

REFLECTIVE INSULATION



In summer insulation will help reduce heat entering through the walls or the roof, thereby increasing the thermal comfort of the home.

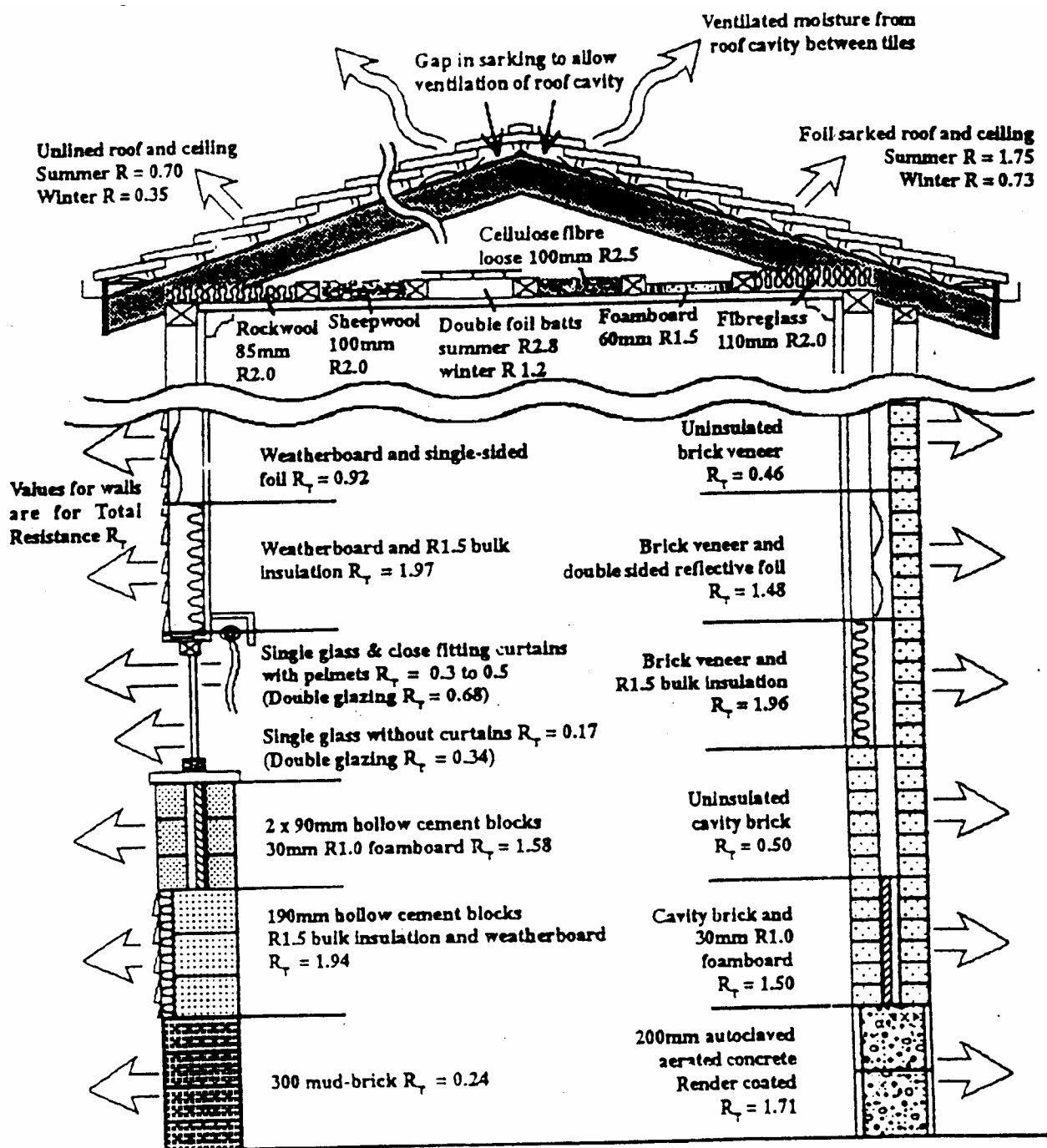
Insulation can be equally effective for all types of housing. It will not, however, significantly improve the heat storage capacity of a timber frame cottage with wooden floors, which will be warm during the day, but still cool down at night.

Controls

- Insulate to achieve greater energy efficiency in the home.
- Use bulk insulation and reflective insulation to walls, ceilings and roofs. Construct housing to achieve a combined 'R' value for insulation to the following standards:
- R3.0 for roofs and ceilings
- R1.5 for walls



Ceiling insulation R values are for resistance of specified thickness of insulation material only and should be added to roof and ceiling R values to give total resistance R_r .



Typical ' R_t ' values. The higher ' R_t ' rating indicates higher thermal efficiency.



B2.4 Design Element 12 Natural Ventilation

Principle

Improve the energy efficiency and comfort of housing by designing to make the best use of natural ventilation.

Rationale

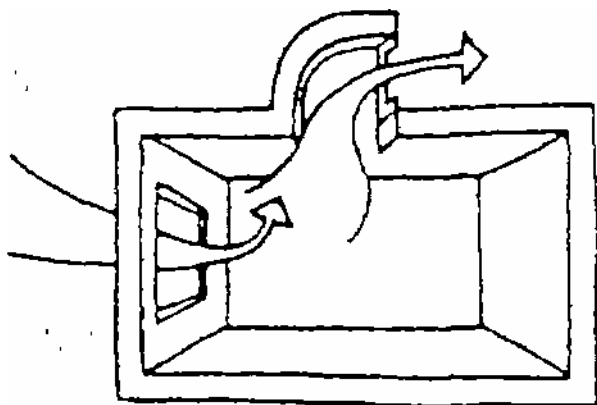
Ventilation in housing is a factor often overlooked at the design stage. Too often, attention is focused upon achieving warmth during winter and not ventilation/ cooling during summer. Natural ventilation relies only on natural air movement and can save significant amounts of fossil fuel-based energy by reducing the need for mechanical ventilation and air-conditioning. It can also help in protecting the ozone layer by reducing the risk of leakages into the atmosphere of the Chlorofluorocarbon (CFC) gases that are still used in many air-conditioners.

Significant factors affecting natural air movement are:

- building form and the location of windows;
- site and landscaping features;
- internal planning and design.

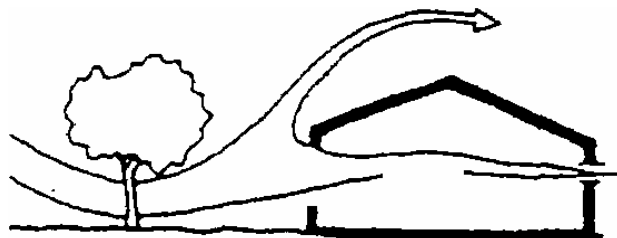
Ventilation can be achieved in the following ways:

Cross ventilation, where air enters a building from one side passing out on the other, replacing warm inside air with cooler outside air.



Hot air rises

Cool air in



The stack effect, where warm air rises through the height of the house, and is replaced by cool air at the base of the house.

Artificial ventilation, where fans are used to extract warm air allowing it to be replaced by cool air.

Guidelines

Use the site analysis to orientate and design dwellings to benefit from cooling summer breezes.

For effective ventilation:

- locate openings on opposite sides of the room;
- locate windows and openings in line with each other, and where possible, in line with prevailing breezes a low level inlet and high level outlet is preferable;
- use water features such as fountains in strategic positions to cool breezes;
- consider strategic positioning and type of vegetation to modify wind direction;
- use ceiling fans to provide a high level comfort on most hot days, at low running costs.
- Use window types that provide security while allowing for good ventilation



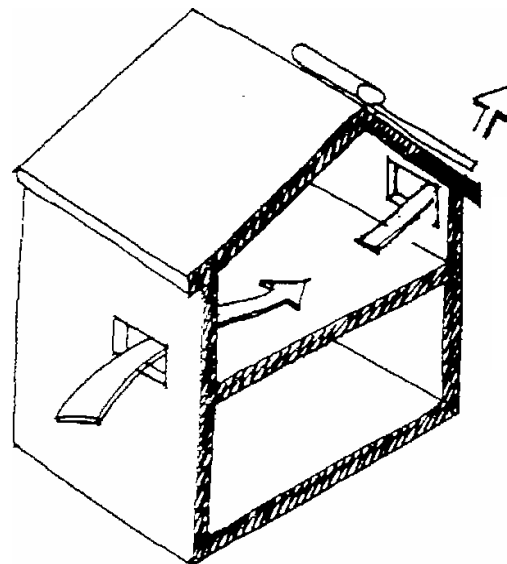
Controls

Low inlet and high outlet produce a good pattern of air movement

- Designing buildings with a maximum internal dimension between openings of 14m to maximise natural ventilation without compromising other design elements.
- Ensure ventilation of residential buildings can be achieved by permanent openings, windows, doors or other devices, which have an aggregate opening or openable size of not less than 5% of the floor area of the room.

Key references:

*For information on wind speeds refer to the Bureau of Meteorology, for local variations refer to Australian Standard AS1170 Part 2 – 1898 – Wind Loads
Leichhardt DCP No. 35 – Exempt and Complying Development*



Low inlet and high outlet produce a good pattern of air movement.



B2.5 Design element 13 Heating and Cooling

Principle

Where thermal comfort cannot be achieved through building design elements choose energy-efficient and environmentally-friendly space heating and cooling systems.

Rationale

The implementation of design elements should ensure internal comfort in new buildings. However, where the heritage context or site restraints prevent the achievement of these design elements, thermal comfort should be addressed by the installation of energy-efficient and environmentally-friendly services. Similarly these guidelines should be used when refurbishing existing houses.

The choice of heater-type is a very significant factor affecting the cost of heating and environmental impact, such as emission efficiency. Emission controls for open fires, solid or oil fuel heaters are subject to the Clean Air Act 1961 and Regulations.

The following list of heating/cooling systems compares the efficiencies of different heating systems.

Solid fuel heating - depending on their design, open fires only produce heat at about 25% efficiency. However, this can be increased to up to 60% if designed with an air circulation system.

Stoves and heaters - non airtight appliances operate at an efficiency of around 30%. An airtight version could operate at between 40-60% efficiency.

Oil Heaters - these fall into two categories, flued and flue-less. Flued oil heaters have an efficiency of up to 75%. If a flue-less oil heater is used, up to 95% efficiency is possible, but adequate room ventilation must be provided, which effectively lowers its overall efficiency.

Gas Heaters - gas heaters operate at an efficiency level of approximately 75% for flued models. This rises to up to 95% to flue-less models, which also require room ventilation.

Electric Heating - this is the most common source of space heating in New South Wales. Its efficiency of heating is often measured as 100%, but this refers only to the heating units itself. There are considerable energy inefficiencies in the generation and transmission of electricity. Overall efficiency at the point of end use is only up to 35% of original energy available.

The types of heater available are: radiators, convection heaters, fan heaters, night storage (block heaters), under floor heating (electrical or water).

'Heat pump' - *reverse cycle air conditioning*. The heat pump provides a very efficient form of heating, that can provide both winter heating and summer cooling.



Space Cooling

In Sydney, the number of days which are uncomfortably hot do not justify the cost of installation and operation of air-conditioning (A/C) systems.

A/C systems increase CO² emissions into the atmosphere enhancing the greenhouse effect.

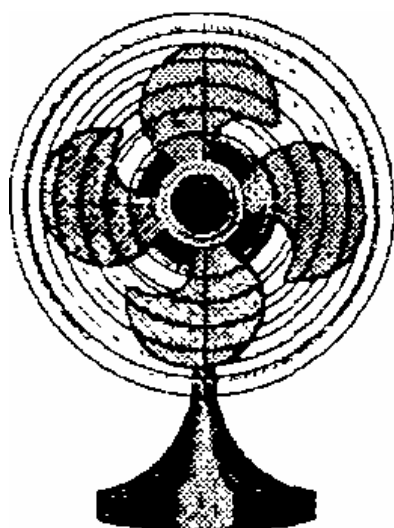
Guidelines for space cooling

Use passive methods of minimising heat gain. Design housing with window shading, appropriate insulation, and sealed against hot air infiltration

during the day, incorporating ventilation and natural cooling.

Control for space heating

- **Install energy-efficient and environmentally friendly space heating / cooling systems in all new dwellings, and major renovations. Where other design methods are not possible and more heating / cooling is required.**





B2.6 Design element 14

Using solar energy ‘actively’ – Energy efficient water heaters, photovoltaic (solar energy) & systems & swimming pool heating

Principles

Promote the use of renewable energy and energy-efficient technology in the design of new and existing housing in order to: reduce greenhouse gas emissions from the residential sector, reduce dependence upon non-renewable energy consumption and increase the use of renewable energy.

Minimise any negative visual impacts of renewable energy systems on streetscapes and neighbouring properties while maximising positive attributes of such technology, including promoting such technology by enabling public visibility of systems.

Rationale

In addition to well established passive solar design measures to make homes more comfortable and ‘energy smart’ (see B2.1-B2.4), increasing advances in technology are enabling the provision and use of solar energy as a domestic energy source. The use of solar energy in the home significantly assists in the reduction of the use of non-renewable energy resources and the negative environmental impacts of their extraction and consumption.

Water heating typically accounts for around 30 percent of all traditional (electrical and gas) energy imported into a Sydney home. However, with the use of a well installed and operated solar water heater it is possible for over 60 percent of water heating through the year to be provided from the sun alone. The remainder of water heating needs are usually met via an electrical or gas boosting element within the storage tank.

Heat pump water heaters use a different technology to solar water heaters but still make use of renewable energy source – ambient air temperature (see diagram on following page).

While heat pump, electrically boosted solar, and high efficiency gas hot water systems are all more efficient water heating methods than traditional electrical storage, instantaneous electric and low efficiency gas systems, the most efficient commercially available water heaters, in terms of reducing greenhouse gas emissions and consumption of non-renewable energy are gas boosted solar hot water systems. High efficiency gas systems do not generally make use of renewable energy sources.



Solar water heaters on new homes in Glebe

Guidelines

To operate efficiently, solar water heaters need to be installed with due regard to orientation (a strongly north facing aspect is desirable) and inclination (the angle of inclination should ideally be close to that of the latitude of location). The visual impact of solar systems needs to be carefully considered. Streetscape and neighbour



amenity can usually be protected by well-planned solar water heater installation. Where necessary (for example where the best north-facing roof presents directly to the street) the water storage tank may be separated from the panels and installed on the reverse roof pitch, on the ground or within the roof space. On rare occasions, roof top solar water heaters may not be appropriate due to the degree of visual impact and the inability to resolve this by design. Solar water heaters may also not be appropriate if solar access to the panels is insufficient due to roof orientation or shading by trees.

Insufficient solar access is defined as more than a 30% reduction in total solar radiation to the solar panels over the year.

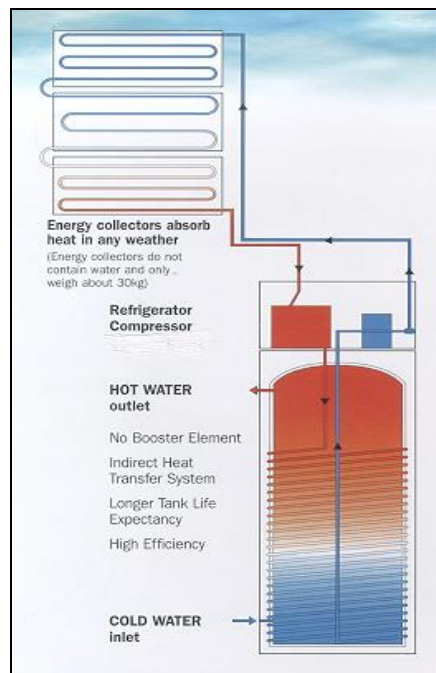
The average family household (2 adults, 2 children) generally needs a hot water tank with a 300 litre capacity, which will require a solar collector area of about 4 square metres (4m²). This will provide about 1.5 days supply of hot water.

Storage tank size for close-coupled solar systems:	Dwelling Size	Appropriate for usual dwelling occupancy of:
180 litres – 1 panel	< 85 m ²	2 people
220 litres – 2 panel	86-120 m ²	2-3 people
300 litres – 2 panel	120-300m ²	2 - 5 people
440 litres – 3 panel	300-500m ²	5 - 8 people
600 litres – 4 panel	500+ m ²	10 people



*How solar water heating works
A typical close-coupled thermosiphon solar water heater*

Bracket-mounted solar water systems (i.e. systems that are not flush to roof) should generally be avoided unless visual impact issues can be resolved. However, installations on rear skillion roofs are often acceptable.



How a heat pump water heater work. Some models have roof panels, others do not.

Summary Of SWH Exemptions:

Council will exempt the normal solar water heater requirements for new dwellings:

- Where the applicant installs (a) photovoltaic system(s) to a minimum capacity of 450 watts per dwelling
- For development applications for a single bedroom dwelling
- When there is no appropriate roof orientation (i.e. within 45° of True North) for dwellings with pitched roofs
- Where significant over-shadowing will impact on water heater efficiency.
- Where solar-gas systems would normally be required but gas is not provided to the site, a solar-electric or heat pump system is to be installed.



Grid connected photovoltaic (solar electricity generating) systems

These systems use solar panels to generate electrical power that is then usually consumed by lighting, appliances etc. within the building the photovoltaic (P.V.) system is installed upon. In urban areas it is logical to connect residential P.V. systems to the existing electricity grid system rather than use the more complex battery storage systems used in remote areas. Surplus power can be exported to the grid system.



A photovoltaic system on a Lilyfield home

Council encourages but does not mandate installation of roof-top or other, grid-connected P.V. systems. Note that P.V. systems may also be integrated into building design features such as window awnings, entry canopies or skylights – Council encourages such innovation.

N.B.: Submitted plans must show the location of solar water heaters and P.V. systems, drawn accurately to scale, when such systems are required by Council policy or when applicant elects to install such systems

Controls

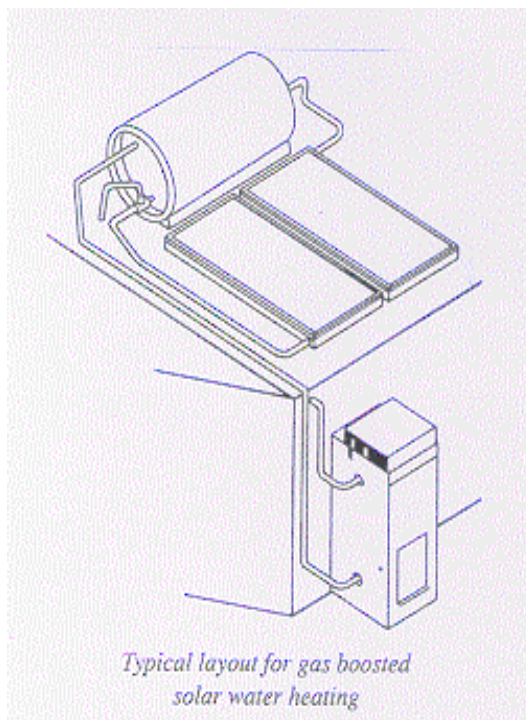
(SEE ALSO 'GENERAL CONTROLS' SECTION)

New Residential Development – Terrace / Townhouse Style, 1–2 dwellings

- For new house/townhouse type developments comprising a single dwelling or two dwellings (excepting one-bedroom dwellings), Council requires adequately sized gas or electric-boosted solar water heaters, or heat pump water heaters to be installed.

New Residential Development – Terrace / Townhouse Style, More than 2 dwellings

- For new terrace / townhouse / infill type developments comprising more than two dwellings (excepting one-bedroom dwellings) Council requires adequately sized gas-boosted solar water heaters to be installed.



Typical layout for gas boosted solar water heating

A gas-boosted solar water heater. Other options feature no roof tank but single or twin tanks on the ground.



New Residential Development – Residential Flat Buildings

- For new multi-unit type development (residential flat buildings / apartments), Council requires the installation of centralised or in-sequence close-coupled solar water heater systems with gas boosting, or centralised heat-pump water heating with gas boosting (if boosting is required).



Centralised solar water heating on new housing at White Bay, Rozelle

- Ø Where solar water heater systems are installed a minimum of 50% of the annual hot water demand is to be derived from solar energy input.
- Ø The non-solar portion is to be provided by heat pump or high efficiency gas hot water services of adequate capacity.
- Ø Separate metering is required for each dwelling.
- Ø Where heat pump technology is to be installed Council encourages 'dual-use' technology whereby (i) air cooling is achieved for some space within the building as a by-product of water-heating and/or (ii) return (waste) air from air conditioning is captured and used for water heating.

Modifications to existing single dwellings

- For existing dwellings (including detached, semi-detached, town houses and terrace forms) undergoing alterations / additions, the re-use of the existing water heater is permissible if:
 - Ø The system(s) proposed for re-use is a solar, heat pump, gas storage, or instantaneous gas system, or, if an electric hot water system, is a model less than 7 years old (as evidenced by receipt, product service history or other evidence to Council's satisfaction)
- Where a new hot water service is to be installed in an existing dwelling it must be selected from the following list:
 - Ø Solar (gas or electric boosted)
 - Ø Heat pump
 - Ø Gas storage high efficiency (5 energy-star rated minimum)
 - Ø Instantaneous gas high efficiency (5 energy-star rated minimum)

Gas appliance star ratings refer to Australian Gas Association rating system (<http://www.gas.asn.au>).

- Timer switches and/or manual over-ride switches must be installed in a prominent location to enable the system user to eliminate unnecessary boosting
- Water heaters should be located as close to the kitchen (the most frequent point of water use) as possible without compromising visual amenity.

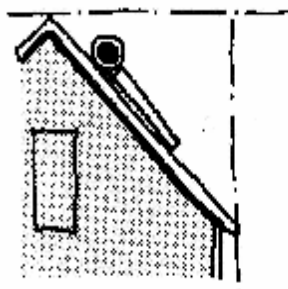


Modifications to Existing Multi-Unit type Development: residential flat buildings / apartments

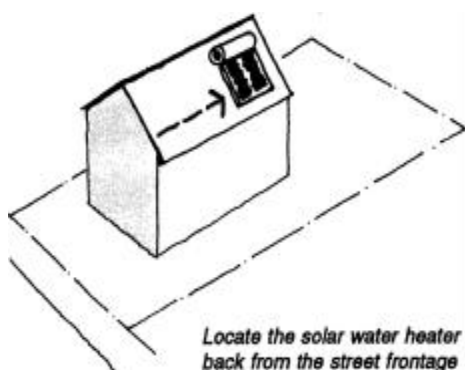
- For existing multi-unit type development (residential flat buildings / apartments), being retro-fitted, re-use of the existing hot water service is permissible if the systems can meet the new hot water demand. If the hot water service is to be replaced, Council requires the installation of adequately sized, centralised or in-sequence close-coupled solar water heater systems with gas boosting, or centralised heat-pump water heating with gas boosting (if boosting is required). 'Dual-use' technology is encouraged (see previous page).
- For centralised solar water heater systems the *solar* contribution to water heating over the year must be a minimum of 50 percent.
- The non-solar portion is to be provided by heat pump or high efficiency gas hot water services of adequate capacity.

General Solar Water Heater controls

- *Option to install photovoltaic system in lieu of solar water heating:* Where solar or heat pump water heating would normally be required, applicants may elect to install a photovoltaic system or systems (see controls for photovoltaic installations at end of this section) to provide electrical power to the development from a renewable source in lieu of the solar water heater requirements. The photovoltaic system(s) must be sized to contribute a minimum of 450 watts per dwelling *and* water heating must still be achieved via an energy efficient (i.e. not traditional electric boosting) method.
- Where a solar water heater would normally be required but is deemed unsuitable for reasons of excessive shading, heritage building protection or roof form/orientation, energy-efficient natural gas systems (minimum 5 star-rated on AGA scale), or heat pump water heaters shall be installed.
- Where solar-gas systems would normally be required but gas is not provided to the site, a solar-electric or heat pump system is to be installed.
- Any water heater installed must be of adequate capacity to meet the anticipated hot water demands of the dwelling, based on bedroom numbers and size and associated likely occupancy
- Solar water heaters should be integrated into the building design. Where close-coupled (tank-on-roof) systems are to be installed, position the units to be as unobtrusive as possible, both to the street and neighbouring properties. (see diagrams below).
- On housing with a north-facing street frontage, specify and locate solar water heaters to minimise the visual impact of the system on the street
- Ensure that mature trees will not shade solar water heaters, both on the proposed development, and on adjoining properties.
- Hot water pipes are to be insulated with the equivalent of 6mm thickness of closed cell nitrile rubber or better. Higher levels of insulation are required in centralised systems with longer pipe runs than single dwellings.
- Position solar water heaters fully below the ridgeline of the roof and back from the street frontage (see the following two diagrams).



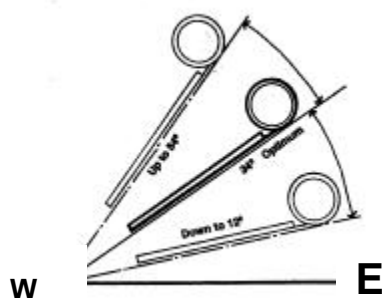
Reduce the visual impact of the system



Locate the solar water heater back from the street frontage

For optimum water heating angle solar panels at 34° to horizontal. Variations between 12° and 54° are acceptable:

- Solar Panels must be orientated within 45° either side of True North:



- The building work and installation itself must not reduce the structural integrity of the building or involve structural alterations.
- Hot water pipe runs should be minimised to avoid heat loss and energy demands.
- Details of the water heater system, including capacity, to meet the demands of the occupants, based on dwelling size, are to be submitted to the Principal Certifying Authority prior to the issue of a Construction Certificate.
- Any opening created by the installation is to be adequately weather proofed.

Key References – Water Heaters

- A.S.2712-1993 Solar Water Heaters: Design and Construction
 - A.S.2813-1985 Solar Water Heaters – Method of test for thermal performance – Simulator method
 - A.S.2984-1987 Solar Water Heaters – Method of test for thermal performance – Outdoor test method
 - A.S. 3500.4 1990 National Plumbing and Drainage Code, Part 4, Hot Water Supply Systems
 - A.S.4234-1994 Solar Water Heaters – Domestic and Heat Pump – Calculation of Energy Consumption
 - A.S./NZ 3663-1993 Water Supply: Water Efficiency, Main Pressure, Shower Spa Heads
- Leichhardt DCP No. 35 – Exempt and Complying Development.

**Swimming Pools**

Private and commercial swimming pools using water heating are required to use either solar or heat pump water heating.

Key References – Swimming Pool Heating

- A.S.2369.1-1990 Materials for Solar Collectors for Swimming Pool Heating – Rubber Materials
- [A.S.2369.2-1993 Materials for Solar Collectors for Swimming Pool Heating - Flexible or Plasticized polyvinyl chloride](#)
- [A.S.3634-1989 Solar Heating Systems for Swimming Pools](#)

Controls For Photovoltaic (P.V. Electricity Generating) Systems

The following conditions apply to applicants wishing to install P.V. systems in Leichhardt.

- Photovoltaic systems must be installed so that the module orientation is within 45° either side of True North unless the applicant can demonstrate reason for designing the system otherwise, or can show that the electrical output is at least 75% of that which would be achieved from orientation of the same-sized system to true north (see footnote **).
- Photovoltaic systems must be installed to all relevant Australian Standards, Sustainable Energy Industry Association (SEIA) Guidelines, and the specification and standards of the manufacturer(s) of all equipment installed. P.V. systems must be installed by a person holding accreditation from SEIA, or by a person who can demonstrate equivalent knowledge and experience of design and installation of P.V. systems. Grid-connected systems must meet the Guidelines of the Electricity Supply Association of Australia (ESAA), and specifically, grid-connected inverters must have been tested against, and fulfilled the

requirements of ESAA Guidelines for Grid-Connected Inverters.

- Roof mounted P.V. systems shall be installed in the same plane as the roof itself, unless the applicant can demonstrate that to do so would adversely affect the electrical output, and that the aesthetics of the building and visual amenity of neighbours and public domain will not be adversely affected.
- For P.V. tiles that act as the roof surface itself, heat build-up in the roof cavity or apex of living spaces must be controlled by insulation and/or adequate venting. This heat may be gainfully used elsewhere in the dwelling space by use of ducting and a low energy fan to redistribute tempered air. This may reduce the need for additional energy demand to heat / cool a dwelling.
- Any opening created by the installation must be adequately weather proofed.

** Note that an adequate electrical output would be 1200kWh per annum per kW installed, averaged over the whole system.

Key References - P.V. and other energy matters

- A.S.1170.2 Wind Loads
- A.S.1359.51 Noise Level Limits
- [A.S.2915-1987 Solar Photovoltaic Modules - Performance Requirements](#)
- [A.S.3595-1990 Energy Management Programs - Guidelines for Financial Evaluation of a Project](#)
- [A.S.3596-1992 Energy Management Programs - Guidelines for Definition and Analysis of Energy and Cost Savings](#)
- Draft Australian Standards for Grid Connection of Energy Systems Via Inverters, July 2001:
 - Part 1 installation requirements (DR 01212)
 - Part 2 inverter requirements (DR 01213)
 - Part 3 grid protection requirements (DR 01214)



B2.7 Design element 15 Water conservation and management

Principle

Design and specify to improve water conservation and increase on-site storage of rainwater.

Rationale

In Sydney, outdoor water usage accounts for an average of 30% of total household use. In some areas, usage is as high as 50%. The amount of water used, on average per household, for general outdoor activities is:

–	Hosing driveway	100 litres
–	Car washing with hose per car	200 – 300 litres
–	Garden sprinkler	1500 litres/hour
–	Garden dripper	4 litres/hour

Indoor activities use similarly as much water:

–	Toilet flush (single flush cistern)	12 litres
–	Bath	100 litres
–	Shower (10 mins)	200 litres
–	Dishwasher load	50 litres
–	Washing Machine	150 litres
–	Brushing Teeth (with tap running)	5 litres
–	Drinking/cooking/cleaning per person per day	10 litres
–	hand basin per use	5 litres

The practice of collecting rainwater ended in Sydney with the advent of reticulated water supplies. Using a rainwater tank can save water by providing an extra source of water for outdoor use, such as gardening, washing the car and other cleaning purposes.

Guidelines

Many opportunities also exist inside the dwelling for conserving water. These range from selecting water saving appliances such as front loading washing machines and dual flush toilets to adopting conservative practices. This includes

minimising the time taps are left running, eg when brushing teeth or in the shower.

Rainwater Tanks

Details of the tank

When selecting a suitable tank you should obtain detailed information to make the right choice. You need to consider the following details of the proposed tank to assess whether the tank can comply with Council's guidelines.

- product specification for standard tanks;
- size, shape and capacity;
- material;
- colour and appearance;
- a certificate of compliance of the tank with Australian Standards AS/NZS 2179-1994 and AS 2180 1986;
- a suitable location for the tank on property;
- consideration for the owners of the properties directly adjacent to the tank location.

Plumbing Connections

Sydney Water requires that the water connected in a tank is to be kept entirely separate from the existing mains water supply system and allows no direct cross connection with water mains plumbing. This means that tank water cannot be fed into your existing plumbing system but must be kept in separate pipes.

- The tank tap can be directly connected with a hose to a sprinkler (a wide bore hose is recommended, eg 19 mm) basin or washing machine, as long as the tank water pipe is not connected with any other pipe that brings in water from the mains system or drains into the sewage system.

Plumbing codes specify the methods allowed for indirect connections to the tank, which are not connected with the plumbing of the water mains



system. All plumbing works must be carried out by a licensed plumber.

Taps

Tank water supply taps are to be marked *“Tank Water Only – do not use for human consumption”* to prevent use for drinking water and cooking.

Overflow

Overflow from the tank is to be piped directly into a stormwater detention basin or the stormwater drainage system serving the building. Overflow is not to be directed into a sewer pipe.

Visual Appearance

The rainwater tank, its associated drainage, plumbing and supporting structure, should be of a suitable appearance and should be compatible with the surrounding housing style and open space. The tank should be designed and placed so as to be unobtrusive and in harmony with the immediate environment. Installation should not adversely affect neighbouring properties. You should select compatible materials, colours and shapes that blend in with, or compliment the existing building, adjoining properties and streetscape. Shrubs or climbing plants can be used to screen tanks if required.

Materials

Rainwater tanks can be made from galvanised steel, polyethylene, fibreglass, concrete or masonry. Metal tanks can be finished in colourbond or painted externally or lined internally with Aquaplate, a long lasting polymer lining. Many new models are being designed in shape and colour to blend in with your chosen location. Some retailers offer customised systems to suit your needs.

Standard Tank Installation

Note: Polyethylene tanks can stand on level ground, eg. a bed of 50 mm of sand. Make sure that ground or surface water cannot wash out this

base. Metal tanks should be installed on a tank stand or concrete slab to prevent corrosion.

Water Protection

First Flush Systems and Mesh Screens to Protect Your Water. Often rain washes dust and leaves off your roof, which could end up in your rainwater tank. To prevent this from happening, a first-flush rainwater diverter can be installed. It drains away the first 50 litres of water (approximately) which can contain these pollutants. Fitting all openings with fine mesh also prevents mosquitoes and some contaminants from entering the tank and is highly recommended.

Support Structure

The support structure for any water tank must be in accordance with the requirements of a qualified practicing structural engineer. You can seek advice from the manufacturer, a builder, or a structural engineer.

Installation

The tank and support structure must be set on a suitable foundation. A person licensed by the NSW Department of Fair Trading must carry out installation and plumbing.

Safety

The water tank needs to have suitable contaminant screens to prevent the entry of any animals or sediment into the water. The tank must be covered or enclosed entirely and any lid must be designed to prevent children from wilfully or accidentally entering, climbing or falling into the tank.

Mosquito Proofing

The tank must be mosquito proof to prevent the breeding of mosquitos. This can be achieved by installing a strainer with mosquito net in all openings including inlet and outlet pipes.



Pump

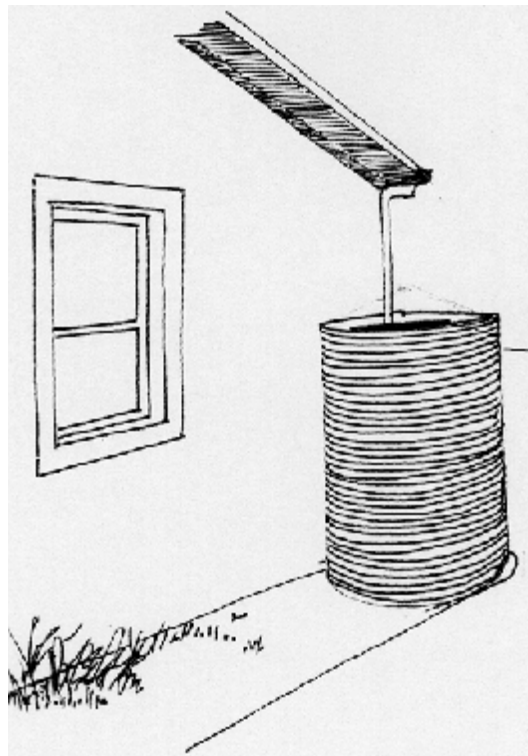
If the installation of a pump is required, it should not cause noise disturbance to the neighbours and any pump should be located away from the adjoining property or should be encased in sound insulation material.

Controls

- For new single dwelling houses (and major renovations to existing dwellings) and multi unit development, install rainwater tanks for outdoor usage, such as watering gardens, car washing and general cleaning
- Ensure the rainwater tank meets the requirements of the above guidelines.
- Install hot water systems with water saving shower roses or shower flow restrictors, with a water conservation rating of 'AA' or better.

Install:

- dual flush toilets
- low flow tap roses
- drip-irrigation for the watering of landscaped areas



Key references:

AS/NZ 2179 – 1994
“Specification for rainwater goods, accessories and fasteners”.

AS 2180 – 1986
“Metal rainwater goods – selection and installation”
Infosheet No.9 – Rainwater tank installation

Developed Control Plan No. 35 Exempt and Complying Development

Australian Standards;
AS 2179 – 1986 “Metal rainwater goods-Specification”
AS 2179 – 1986 “Metal rainwater goods-Selection and installation”



B2.8 Design Element 16 Landscaping

Principles

Design landscaping to:

- *enhance the visual setting of buildings;*
- *increase the use of native landscape species;*
- *reduce the need for irrigation, thereby conserving water resources;*
- *maximise vegetation to regulate and increase rainwater infiltration, thereby increasing nutrient recycling and reducing surface run-off;*
- *preserve or retain natural features which contribute to the landscape of the area.*

Rationale

Landscaping provides a setting for development and enhances its appearance from the street. It also provides interest and colour contributing significantly to the sense of well being and amenity of residents and visitors. Landscaping also plays a significant role in achieving sustainable development. New development should be designed to incorporate landscaping, of a minimum of 40% of the total site area, which enhances the natural features of the site and relates to the scale of other elements of the streetscape and the landscaping of adjoining development.

Guidelines

Use the site analysis to identify existing landscape elements such as rock formations, location and type of trees and vegetation, watercourses and hard landscaping features.

Landscaped areas should also provide for suitable soft/porous areas to increase rainwater absorption. Landscape area includes parts of the site at ground level, not occupied by a building, used for recreation, lawns, gardens and substantial planting. This does not include

balconies, driveways and parking areas, but does include decks with direct connection to the ground no more than 500 millimetres above ground level.

Integrate the design of landscaping with the design and energy efficiency of the building and its private open space:

- use as many native species as possible whilst also achieving the other objectives;
- use shading to improve outdoor comfort levels in summer, by using trees and vegetation (deciduous plantings and vines) in conjunction with built elements such as pergolas and screens;
- consider the natural ventilation of buildings when deciding on the type and location of hard and soft landscaping features;
- use deciduous trees located on the northern side of the building, the wide canopies of which can provide shade in summer, and allow sun to penetrate in winter; and
- exclude plants known to be toxic.

New development should:

- provide for the retention of existing, or planting of additional, trees with spreading crowns;
- retain and protect existing trees;
- protect neighbouring trees from root damage;
- provide semi-mature trees in open space along boundaries adjacent to neighbouring open space;
- use footings that allow root growth for large trees;
- contribute appropriate street tree plantings;
- ensure the re-establishment of street trees and restoration of native species whenever possible;



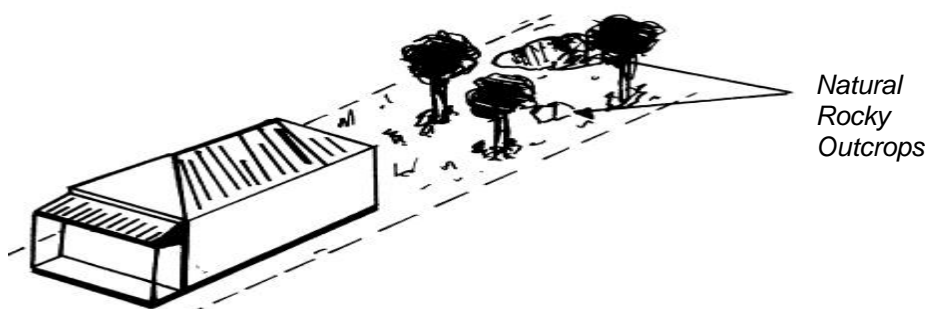
- retain natural rocky outcrops where they occur;
- ensure solar access and seasonal shading;
- provide shading for open parking areas; and
- provide a safe, attractive and functional environment for residents and enhance the neighbourhood.

Controls

- Ensure that 85% of plantings in new development are native species from the Sydney locale.
- Ensure one tree of at least 4m mature height is planted for each dwelling with ground level access.
- Design areas of open space suitable for trees taller than 1m in height when mature.
- A landscape plan shall be submitted showing planting, paving and other details of external areas of the site. Where appropriate, streets and parks, vegetation, species type and numbers, together with size and location are to be specified in the

plan along with details of all external finishes and colours.

- 25% of the landscaped area is to be on natural or un-paved ground that is not overhung by or on top of any structure and is permeable and appropriate for substantial planting.
- Street trees must be retained where possible.
- Natural rocky outcrops shall be preserved in their existing form and integrated into site landscaping.





B3.0 Residential Amenity





B3.1 Design element 17

Solar access

Residential amenity and energy efficiency

Principles

Design to optimise solar access to habitable rooms and private open space of new housing to improve amenity and energy efficiency.

Minimise overshadowing of the habitable rooms and private open space of existing housing.

Rationale

Solar access to dwellings and areas of private open space is essential to both the amenity and energy efficiency of new and existing housing.

Sunlight is a valued component of residential amenity as it enhances people's sense of well-being, has a demonstrated psychological value and promotes the growth of gardens and plants.

The sun can also provide a free yet valuable source of energy in your home by providing thermal benefits and solar energy for generation of hot water and electricity.

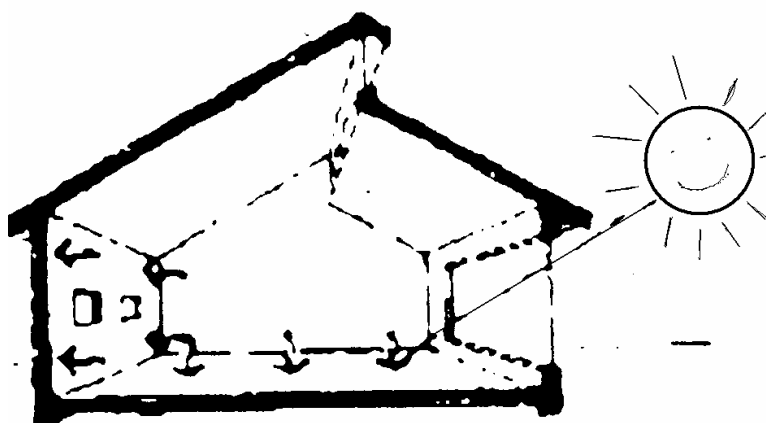
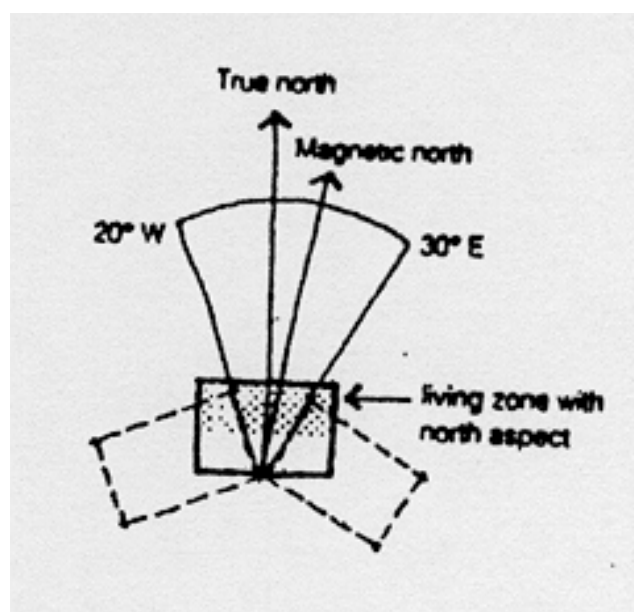
In order to reap the benefits of this energy source, it is imperative that living spaces, structures, walls and roofs all have maximum access to sunlight.

The winter solstice (21 June) is the most critical time to assess solar access, where at 12 noon the sun's altitude (32°) casts shadows 1.6 times the height of an object.

During winter, the north face of the building receives significantly more solar energy than east and west sides. The northern side of the building is a good location for living spaces that are continually occupied during the day, and which usually have the largest heating and lighting requirements.

Guidelines

Orientate the living areas of a dwelling within a range of 30° east and 20° west of True North in order to optimise solar access.

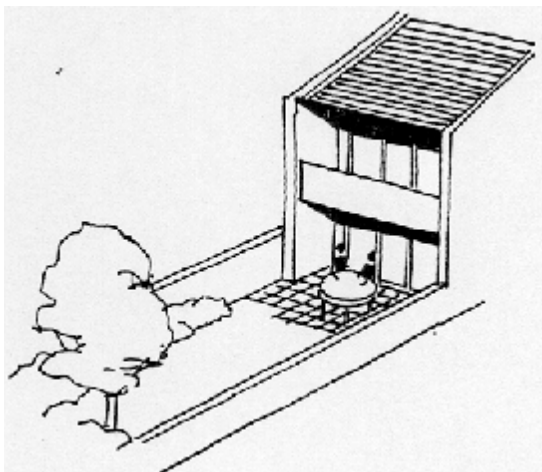


Use glass roofs and walls, skylights or clerestory windows to improve solar access and provide shared light to poorly lit parts of a house.

Use double glazing to improve heat retention in winter especially with regard to south facing living areas.



Aim to achieve a glazed area of up to 30% of rooms with a northerly aspect to optimise solar access and thermal benefits.



Controls

- Prepare a shadow diagram in plan and elevation (showing impact on habitable rooms) with all Development Applications for new built development, and major alterations and additions to existing dwellings.
- Design to ensure solar access for a minimum of 3 hours between 9.00 a.m. and 3.00 p.m. at the winter solstice, to the living areas of new dwellings.
- Maintain solar access to existing housing
- Where an existing adjacent building has an east - west orientation:
 - Maintain solar access to the habitable side rooms for a minimum period of 2 hours between 9.00 a.m. and 3.00 p.m. at the winter solstice.
 - Where less than 2 hours solar access is currently available to the habitable side rooms of existing dwellings, no additional overshadowing shall be permitted.



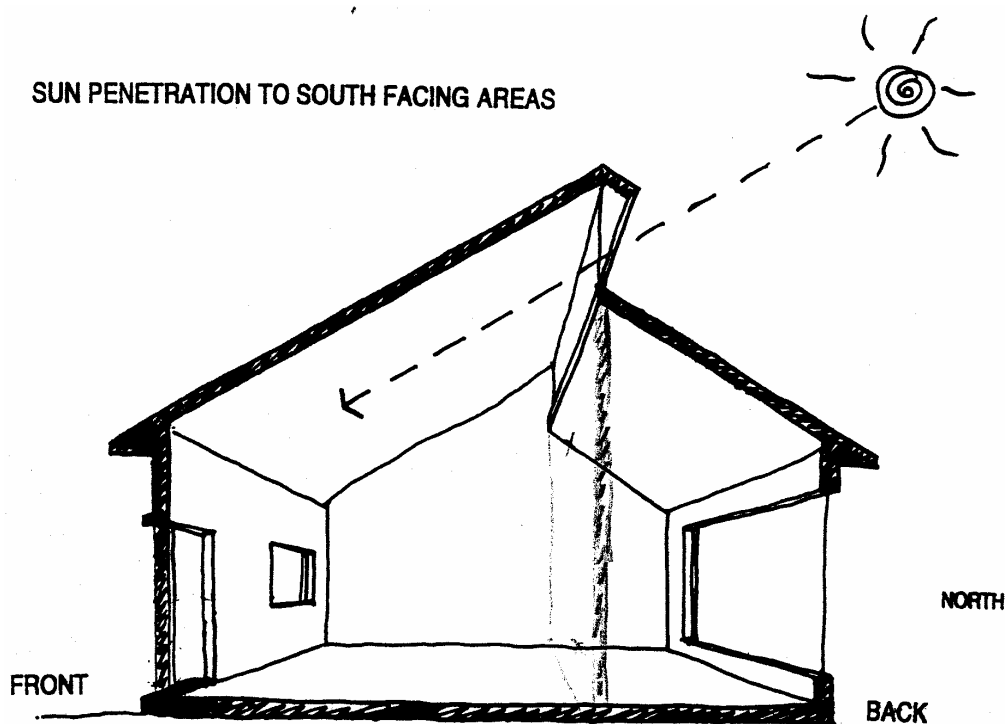


- Where an existing adjacent building has a north - south orientation:
 - Maintain solar access to the front and rear habitable rooms for a minimum period of 4 hours between 9.00 a.m. and 3.00 p.m. at the winter solstice.
- Where solar access already exists to the private open space of adjacent dwellings, ensure it is maintained over a minimum of 50% of the private open space for a minimum period of 3 hours

between 9.00 a.m. and 3.00 p.m. at the winter solstice.

Solar water heaters

- Maintain solar access to existing solar water heaters throughout the day at all times of the year.
- Maintain solar access to the north facing roofs of existing dwellings (45° West to 45° East variation is possible) to a fixed minimum area of 10 sqm, capable of accommodating solar water heater panels.





B3.2 Design Element 18 Private Open Space

Principle

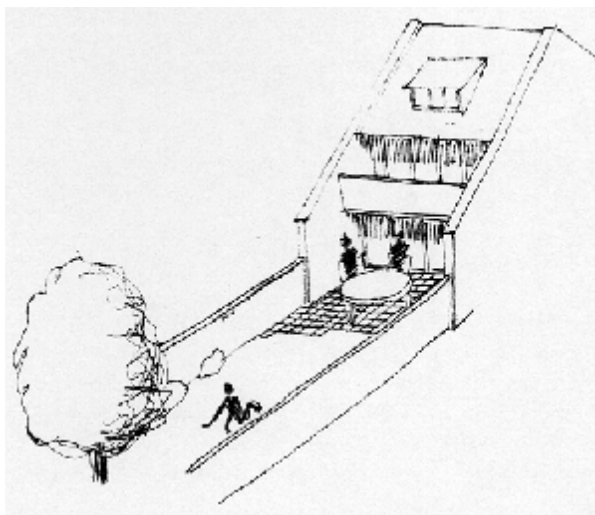
Design private open spaces to be of a size and shape that meets user requirements for recreation, service and storage needs, solar access and is well integrated with living areas.

Rationale

Private open space forms a component of the landscaped area, but focuses on the useable spaces. It is a necessary component of residential life and a major contributing factor to the amenity of residents. The amount of private open space per dwelling will depend on the type of accommodation proposed and its location. Private amenity space should be provided in some form or other to all accommodation.

Guidelines

Design outdoor seating areas as an extension of the indoor living area, with provision for shade and privacy.

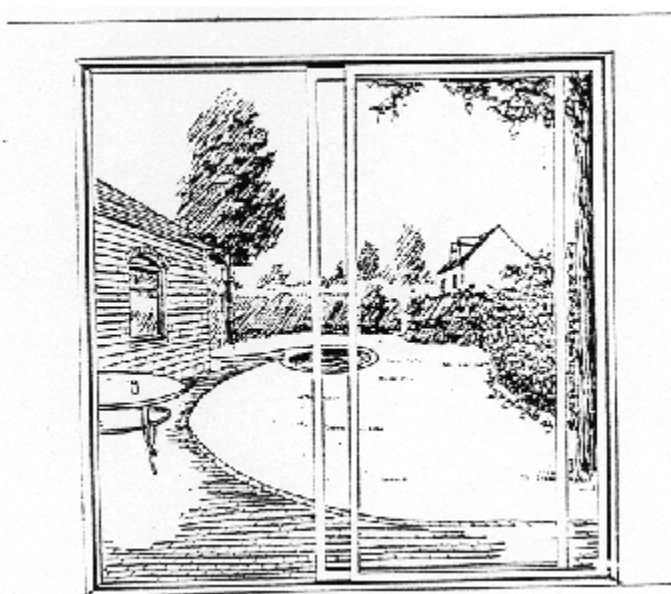


Design to maximise solar access and natural breezes, improving efficiency and user comfort.

Secluded private open spaces may be reduced where communal open space or recreation facilities will better serve the needs of the

residents. Provide an area for an outdoor clothes drying line.

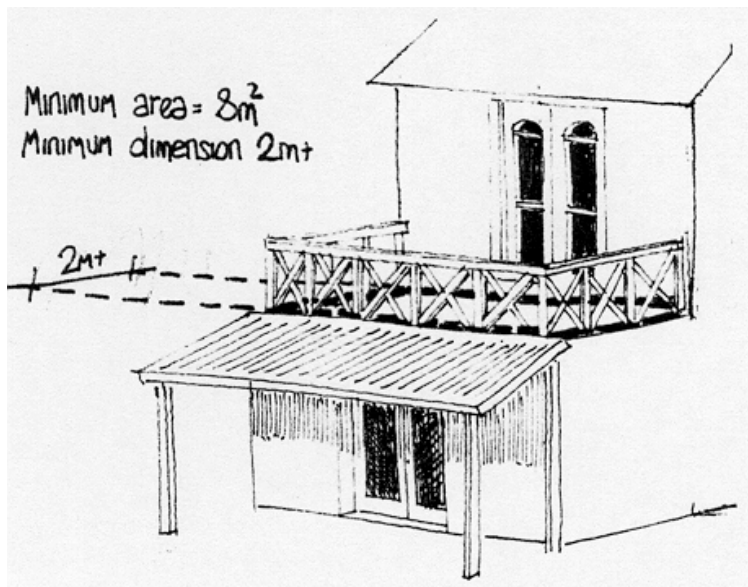
Integrate the landscaping design to improve the appearance, amenity and energy efficiency of the space.



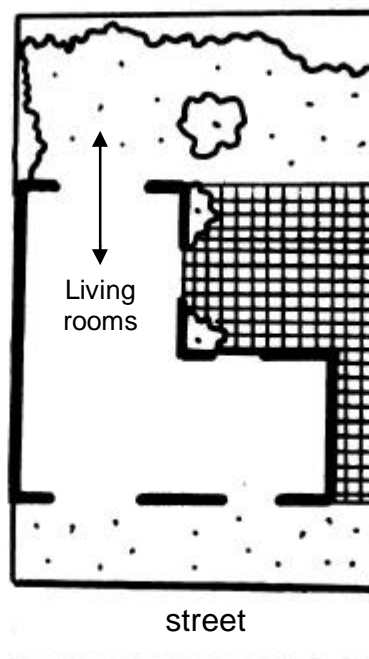


Controls

- Private open space which connects directly to dwellings at ground level shall:
 - have a minimum area of 16 m^2 with direct access to the principal indoor living areas;
 - have a minimum dimension of 3 metres;
 - not be steeper in gradient than 1 in 20 (5%).
- Where there is no direct access to ground level open space, above ground level private open space, designed as a balcony or deck, should have:
 - a minimum area of 8 m^2 , and
 - a minimum dimension of 2 metres with direct access to the principle living areas of the dwelling.
- Roof top spaces should have a minimum area of 10 m^2 and a minimum width of 2m which has safe and convenient access.
- Design above ground private open space to ensure privacy of the occupants of adjacent buildings, and the new occupants within the proposed development.



N





B3.3 Design Element 19 Visual privacy

Principle

Protect visual privacy of adjoining dwellings by minimising direct overlooking of principal living areas and private open space.

Rationale

Visual privacy is a highly valued component of residential amenity. The privacy needs of both existing and future residents needs to be considered in the design of new development.

Planning for privacy should be considered at the site analysis stage. However the detail cannot really begin to be considered until the site design layout, building form and setting stages have been considered. It is not possible to consider all the stages in isolation and the detail of design and outcome should be considered throughout the design process. The privacy needs of both new residents and existing neighbours should be considered when deciding the location of dwellings, their windows and private open space.

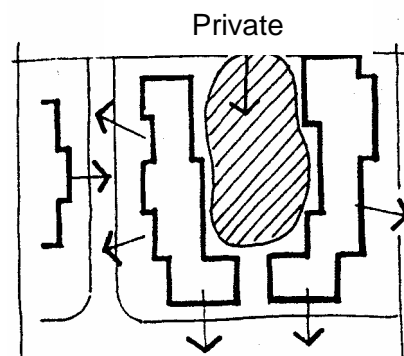
Guidelines

Place as few windows as possible along side boundaries or close to rear boundaries unless they face a street or are necessitated through the requirement of solar access.

Consider levels when designing to ensure maximisation of visual privacy.

Controls

- Ensure habitable room windows of one dwelling are not located opposite the windows of another dwelling within 15m unless direct views are restricted or they are separated by a street.
- Restrict views in this situation by:
 - staggering the location of windows so that viewing is
 - oblique rather than direct; or
 - providing sill heights of 1.6m above floor level; or

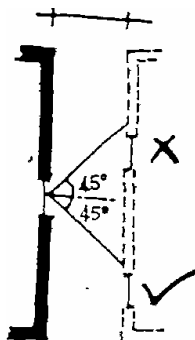


- glazing in any window pane below 1.6m above floor level.



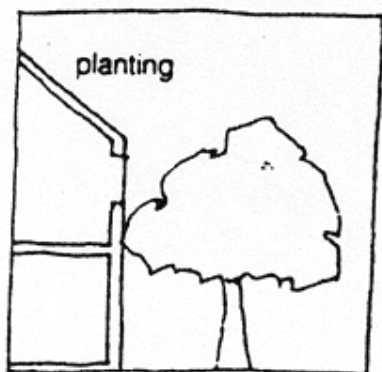
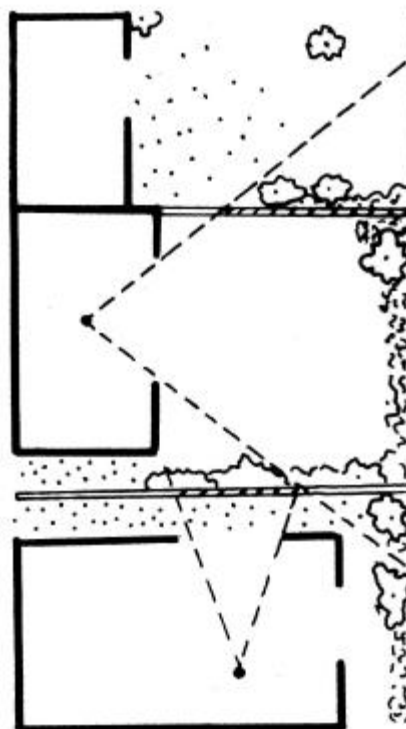
- Obscure outlook by providing screening if habitable room windows or private open space is overlooked:

- within 15m,
- within an angle of 45°, measured perpendicular to the face of the opening from a height of 1.6m above floor or deck level.



- Screening is not required where:
windows are to bathrooms, toilets, laundries, storage rooms or other non-habitable rooms;
- windows are to habitable room which face a property boundary where there is a visual barrier at least 1.8m high and the floor level of the room is less than 0.5m above ground level at the boundary.

- Screening devices should be 75% obscure, permanently fixed and made of durable materials. Use screening devices such as obscure glazing, timber lattice screens, external ventilation blinds, canvas blinds, window hoods and shutters.



- Provide landscape screening either by using existing dense vegetation or new planting that can achieve a 75% screening effectiveness within three years. Specify mature height to provide effective screening, while retaining access for light, sunlight and views. Deciduous planting may be used to screen outdoor living areas, decks, etc, which are less likely to be used in winter.



B3.4 Design element 20 – Access to Views

Principles

Ensure existing views and vistas are protected and enhanced where possible.

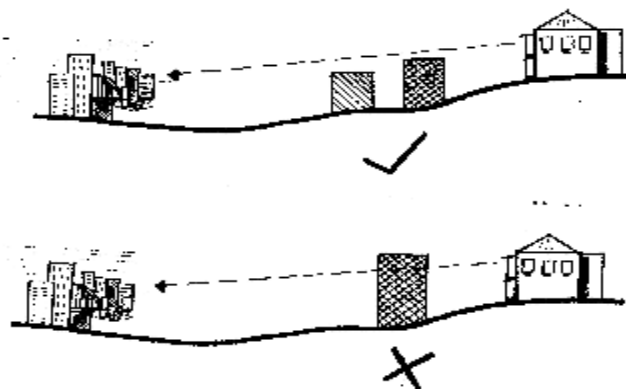
Provide view sharing between new and existing residential development.

Rationale

The distant view over land that does not belong to the 'viewer', may not be a right in itself, or for the exclusive benefit of certain individuals. However it is a desirable aspect of amenity and contributes significantly to the sense of well being and enjoyment of property occupiers and the general public.

Views available in Leichhardt vary from significant vistas of the city skyline and Harbour Bridge, water and foreshores of Sydney Harbour, to outlooks and glimpses of water and parks from many vantage points. Often these views, outlooks and glimpses are available from public places and private properties situated a considerable distance from the proposed development.

The significance and importance of a view is a highly personal and subjective matter. For these reasons it is not possible to predict where and how views should be established or maintained, however, a fair sharing of the benefits of pleasant views and outlooks should prevail. View sharing seeks to maximise the number of people who can benefit from a view.



Guidelines

Use the Site Analysis and Suburb Profiles to identify the nature and extent of views available from buildings and public places in the vicinity of the development. In particular, consideration should be given to available views of landmarks (eg Sydney Harbour Bridge, Anzac Bridge, City skyline, local landmarks such as church spires or significant chimney stacks) and significant vistas.

Where views are currently enjoyed from existing buildings or public places, new development should minimise obstruction of those views. Where access to new views may be created, new development should maximise access to those views both from within the new development and from existing buildings and public places in the area thus sharing the benefits.

In addition, it is recognised that secondary views may exist from private or public buildings and spaces. Secondary views are those of local or district features, as opposed to obvious Sydney landmarks such as the City or Harbour. Obstructions of secondary views must be minimised by new development.

Where a proposed development is likely to obstruct views, measures must be introduced to promote the sharing of these views. Such measures include:

- reducing the height and bulk of the building;
- incorporating more generous setbacks, particularly where strategic view corridors can be created;
- introducing greater gaps between proposed buildings;
- breaking up the proposed built form;
- minimising floor to ceiling heights;
- using raked ceilings to upper floors;
- using hipped or gabled roof forms.



However, access to views should not unduly compromise any other design element.

The applicant must satisfy Council that appropriate view sharing has been achieved by the design of the proposal. Development that results in the monopolisation of views should be avoided.

Controls

- **Where views are currently enjoyed from existing buildings or public places, new development is to be designed such that any obstruction of these views is minimised.**
- **Development should maximise access to views both from within the development and from existing buildings and public places in the area thus sharing the benefits.**



B3.5 Design element 21 Acoustic privacy

Principles

Contain noise within each dwelling, and ensure noise from communal areas or shared facilities has minimal impact on nearby dwellings.

Protect internal living and sleeping areas from high levels of off-site noise.

Rationale

Acoustic privacy is a major element in maintaining and/or providing reasonable amenity. The issue must be considered at the design stage, as it is difficult and expensive to retrofit dwellings to improve acoustic privacy. Most problems can be minimised through appropriate layout and design combined with the use of sound insulating materials.

Developments near existing noise sources such as busy roads, railways or industry, need to be designed to achieve satisfactory internal noise levels, using a combination of construction techniques and internal layout to locate the most noise sensitive rooms (such as bedrooms) away from the noise source.

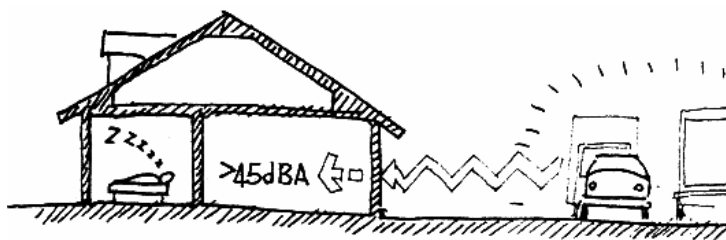
Guidelines

Where dwellings abut major roads, railway lines or other uses that emit high levels of noise, locate noise sensitive uses away from the source and protect by appropriate noise shielding devices.

Key references:
Including AS3671 – Road Traffic;
and AS2021
Aircraft Noise

Controls

- Use Urban Framework Plans to establish potential noise producing sources such as rail and road in the vicinity of the site.
- Ensure living rooms, activity areas, parking and service equipment are located away from bedroom windows of adjacent dwellings.
- Construct dividing walls and floors between dwellings, to limit noise transmission to 40-45 dBA.



- Ensure electrical, mechanical or hydraulic equipment or plant does not generate a noise level greater than 5dBA above background sound level at the boundaries of any development
- Ensure internal habitable rooms of dwellings affected by high levels of external noise, are designed to alleviate internal noise levels in accordance with Australian Standard 2107 – Recommended Design Sound Levels and Reverberation Times for Building Interiors.
- Separate and contain the plumbing for each dwelling to prevent the transmission of noise between dwellings using appropriate noise resistant wall, ceiling and floor treatments.



B3.6 Design element 22 Dormer windows

Principles

Additions to roofs to obtain light and ventilation in converting roof spaces for accommodation, particularly where visible from the street, should be compatible with the character of the house and streetscape.

Where part of a row or group, the character should be consistent in all respects, to conserve the unity of the group.

Rationale

Steeply pitched and complex roofs are a major attribute of Leichhardt's buildings. While the roofs offer opportunities to increase the floor space, it is essential that conversion and changes to the roof form respect the character of the building or group of dwellings. These conversions usually involve additions such as skylights, rooflights, dormer windows, or new roof elements seeking to obtain light and ventilation.

Such changes should be minor, and complementary to the building in terms of scale, detail, and materials.

In the nineteenth century most attic rooms were lit by single window dormers, usually with a window matching a window used elsewhere in the building. The windows were usually vertically proportioned and double-hung, clad in weatherboards to the sides. Single fronted houses or terraces usually had a single central dormer. Double fronted houses may have had a pair of single window dormers, or sometimes a wider central dormer. The total width of dormers rarely exceeded 25% of the width of the roof.

In the early twentieth century, the Federation style, and then later suburban house forms, more complex roof forms were used, with windows in gable ends, or gabled, or skillion roofed type dormers. To harmonise with the more horizontal and spreading roofs, dormers and attic windows were often wider with lower heads than earlier. Casement windows or an array of casements

were the norm. The total width of attic windows was greater than earlier, up to 50% of the width of the roof.

The conversion of roof spaces for accommodation by making additions to obtain light and ventilation or increase floor space, particularly where visible from the street, should be compatible with the character of the house and streetscape.

There is scope for increased flexibility with roof additions to the rear in terms of size, style and detail. However additions should be compatible, and simple boxing out from the existing ridge line should be avoided. Roof form at the rear of dwellings, in particular along ridge lines, may be important to the streetscape, and controls applied to street frontages should also be applied at the rear. It is preferable for such additions to be modelled within a form complementary to the existing form, such as a wide dormer, or sub-gable, or as a separate roofed pavilion.

If compatible with the style and form of the building and the street, and the amenity standards, it may be reasonable to allow a modest raising of wall heights in association with a new roof- form. This shall not apply to Heritage Items.



Controls for front dormer windows and changes to roof elements:

- Where the height of the roof as measured from the gutter to the ridge is less than 2.5m, windows should be flush to the roof; and
 - limited to one on single fronted houses, or a pair on double fronted houses, usually centred on the roof.
- Where a house is not part of a row, semi-pair or group of like-houses, then it may be appropriate to change the roof form provided that it is compatible with the character of the house and the amenity controls. Changes that may be considered include:
 - a change of roof form;
 - an increase in pitch to a maximum of 45°; and
 - a modest increase in wall height.
- Where the house is part of a row, semi-pair or group of like houses, any change should respect the unity of the group.
- The existing ridgeline shall be maintained.
- Any dormer or roof element shall be in style with the adjoining group of houses.
- Where there is an existing dormer or roof element consistent with these controls, it shall be replicated in all respects.

- The roof of any dormer or sub-roof shall be a minimum of 300mm below the main ridge.
- The window pattern should generally reflect the windows used elsewhere in the building (but often smaller).

Traditional Dormer Window (19th century):

- The roof should have no eaves or gutter.
- For terrace, semi-detached, or single fronted houses, pre-Federation in period and style, use a single window type dormer.
- For a double fronted house, use:
 - a pair of single window dormers, equally spaced across the face of the roof, or a wider central dormer; and
 - the total width of dormers should not be greater than 25% of the width of the roof.

For a twentieth century dormer or windows to an attic storey:

- Eaves and a gutter may be appropriate.
- A sub-gable or sub-roof complementary to the main roof form, or skillion roof form may be appropriate.
- The total width of dormers or attic storey windows should not be greater than 50% of the width of the roof.



B4.0 Development Types

The Site Analysis and Design Elements contained in Part B provide the guidelines and controls necessary for any form of residential development. However, certain types of development require particular attention to the detail of their design. The following sections address particular development types and highlight their specific requirements over and above the consideration of design elements C1.0 -C 3.6.



B4.1 Development Type 2

Alterations and additions to existing dwelling houses

Principles

Design alterations and additions to dwelling houses to:

- *be complementary to the scale, form and appearance of the existing and adjacent buildings, and the density and character of the local area, and*
- *maintain existing residential amenity.*

Rationale

Leichhardt's changing population profile is placing increased pressure on the dwelling stock, with modestly designed housing being adapted for today's living requirements. In most cases, this involves a considerable increase in floor space, often to the detriment of the building form itself, and the quality of the streetscape. Traditional worker's cottages are particularly prone to these pressures for change.

Guidelines have been prepared indicating the general limits to the expansion of existing dwellings. These guidelines offer examples of appropriate 'alterations and additions' to existing dwellings for typical dwelling types in Leichhardt. Whilst they focus on the more common dwelling forms, design innovation is encouraged as long as the intent of the guidance is met by other means.

The controls for the *conservation of small detached houses* are set out in B4.2. These guidelines offer advice over and above the controls in Part B1.0 –B3.0 of this DCP.

Guidelines

Roof Forms

Roof forms are a key element in the character of Leichhardt's buildings. Design roof alterations and additions to respect the scale, form and pitch of the existing roof. Extensions should be subordinate to the existing roof.

Changes to roofs should be minimal and roof lights are preferable to dormer windows. Dormers should be traditionally vertically proportioned, with a height 1.5 x width. With rows of terraces or houses which are Heritage Items, only use dormers on roofs with greater than 2.5m vertical height between the top of the wall and the ridgeline. Where less than 2.5m, use a roof light.

Dormers to front

The introduction of dormer or roof lights should be determined by the street and building context. The form, scale and style of dormer depends upon the building being altered.

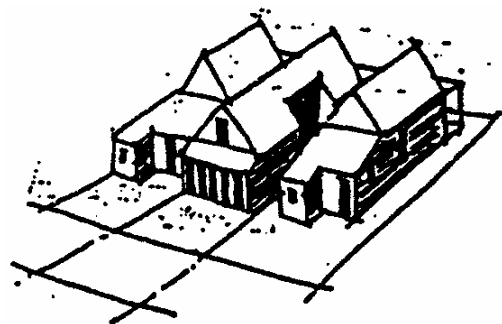
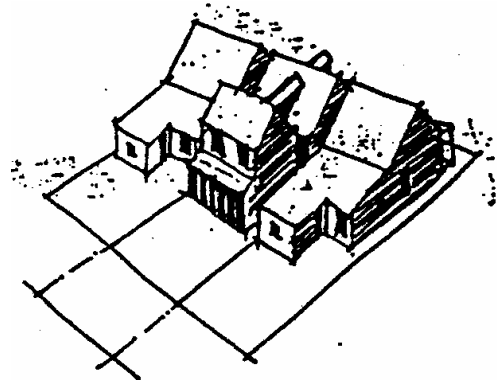
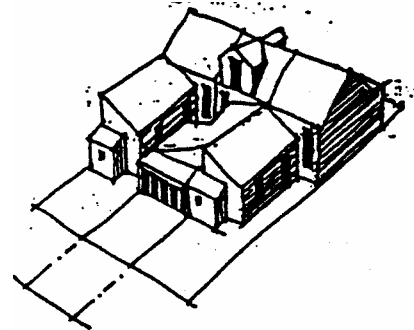
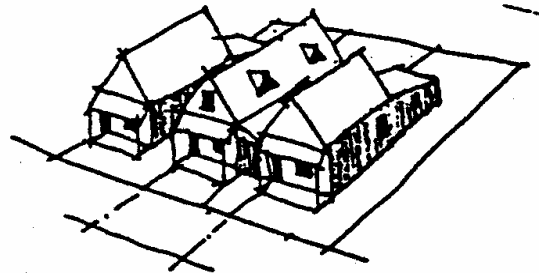
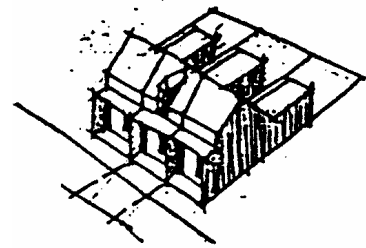
Dormers to rear

The rear of a building is generally not visible from the street, and provides latitude for increased space. However, conservation of building style should always be respected. Use either a wider dormer form, or a sub roof. A boxing out form is not favoured particularly where the side gables are visible from the street. Generally, boundary walls should not be extended. Where backs are visible from a public place or street and significant in terms of streetscape, a traditional dormer should be used.

**Extensions to rear**

The height and site coverage of an extension is determined by

- ensuring consistency in the wall height and roof form of existing and adjacent buildings
- respecting the site layout characteristic in the area.
- ensuring adequate solar access and private open space to the dwelling
- minimising impact on residential amenity of nearby properties
- minimising visibility of the extension from the street





Alterations to front

Avoid enclosing existing balconies. Reinstate balconies and verandahs where appropriate. Retain significant front gardens and landscaping. Retain and restore historic fences and walls.

Materials and details

Take note of any relevant architectural ornamentation, material or detailing on the building. Refer to Leichhardt Suburb Profile (A10.2) for local information. Design and specify additions or alterations to be complementary to existing form and detailing.

Side extensions

Two storey side extensions should incorporate a roof structure that respects the main roof the building and does not appear incongruous. Avoid closing gaps between buildings. Ensure roofs are subordinate. Take account of views.

Where a side extension is visible from the street or public place, ensure that the form and scale of the extension is subordinate to the main building and the extension appears as a sympathetic

continuation of the original building. Where the street comprises detached buildings, ensure that side extensions do not appear to close the gap between buildings by either:

- providing a 1m setback of the side extension from the main front wall, and consequently a subordinate roof form, or
- setting the extension away from the boundary by a minimum of 1m.

Controls

- **Dormer windows should be set below the ridgeline and up from the eaves.**
- **Ensure windows to not overlook adjacent private open space or habitable rooms.**
- **Ensure the materials match the existing building and that window and door proportions are respected.**



B4.2 Development Type 2 Conservation of small detached houses

Principles

To prevent the demolition of or unsympathetic alterations to small houses that contribute to the heritage streetscapes and diversity that characterise Leichhardt's residential areas.

To encourage the restoration of small houses.

To encourage the innovative adaptation of small houses for contemporary needs.

Rationale

Modest houses in their garden settings usually single storeyed and often timber, contribute to the character of the bulk of Leichhardt's residential areas. Small houses are under increasing threat of unsympathetic enlargement with increasing pressure to maximise floor space, or demolition for larger houses, or multi-dwelling development.

The intent in part is to conserve the diversity of houses both in terms of the variety in a particular street, and the contrasts within the suburbs making up Leichhardt.

The principal aim is to prevent demolition where retention is desirable, at the same time as giving guidance on complementary alterations and additions.

A small house is a free standing dwelling generally less than 100m² in its original form and often around 75m². Configured with a living space, usually two bedrooms, kitchen and ancillary spaces such as a wc, pantry, laundry, etc. Room sizes are generally less than 12m².

Guidelines

Alterations and Additions

Adaptation shall be done in accordance with the controls and principles of this DCP and the Guidelines. Council's 'Guidelines for the Conservation and Design of Alterations and Additions to Small Detached Houses' should be consulted, when work is proposed. The Guidelines consist of a brochure setting out principles, and a folio of built worked examples.

Council's intention is to retain small houses without substantial change to the significant elements. If alterations and additions are required to these buildings they should generally conform to this DCP and consider the Guidelines, and adhere to the following principles:

- 1) retain major form, scale and materials of existing structure;
- 2) additions generally should be to the rear and, depending on context, may be one or two storey but should not overshadow the existing building or substantially change the relationship of the building to the street when viewed from the street;
- 3) roof additions should either not alter the overall roof form, or should alter it in a complementary fashion with rooms within the existing roof form;
- 4) the use of dormers or roof windows should be determined by the context;



- 5) significant established gardens and plantings including early fences should be retained;
- 6) building extensions should be complementary in terms of size, height, form and materials with the existing building;
- 7) extensions do not have to imitate the existing house but should complement the existing detailing and form.

Demolition

An applicant who proposes to demolish a small house must establish to Council's satisfaction that the house should not be conserved in terms of its heritage value, its contribution to the streetscape **and townscape**, its suitability for housing, or due to irredeemable structural failure. These criteria must be addressed in a conservation assessment, submitted with the application.

Where demolition is proposed:

Criteria for Conservation Assessment

If the house does not meet the heritage **and streetscape criteria**, criteria (3) and (4) need not be addressed.

(1) Heritage Value of Building & Site

- The applicant must provide a statement on the heritage significance of the house. This should include a brief history of the building and site including garden and site elements, comments on the historic, aesthetic, social and scientific value of the place, a report on the intactness of early or original fabric and a statement of significance.

(Terminology used is from the Burra Charter, it is recommended that the applicants consult the Charter for information on how to assess significance)

(2) Streetscape Setting

- The applicant must include, with the application to demolish, an assessment of the existing streetscape to establish whether the house contributes positively to the streetscape and determine how demolition would impact on the streetscape.
- It must be established that the demolition of the building will not adversely effect on the streetscape or townscape value of the area.

(3) Viability for Residential Purposes

- Where demolition of the entire house is proposed, it must be established that the building cannot accommodate residential use either within the existing building envelope or through sympathetic additions. Applicants should refer to DCP1 as well as the 'Guidelines for the conservation and design of alterations and additions to Small Detached Houses'. Council will not consent to demolition where it is possible to adapt the existing structure, in an appropriate way, for the desired use.
- Matters relating to building function that are not to be taken into consideration in determining applications for demolition:
 - Inadequate size of existing rooms or spaces.
 - The desire to provide on-site parking.



(4) Structural Condition

- It must be established, if structural failure is cited as a reason for demolition, that the structural integrity of the building has failed to the point where it cannot be rectified without major reconstruction of the building.

It is noted that structural condition does not include:

- cladding elements such as roof covering or wall cladding;
- verandahs;
- internal finishes;
- site conditions including garage.

A certificate from a registered structural engineer, certifying that the building has structurally failed, is a minimum requirement if the case for demolition is based on the structural condition of the building.

As structural problems are rectifiable this is not grounds alone for demolition.

Controls

- **An application for alterations or additions must address each of the guidelines specified above.**
- **A Conservation Assessment addressing the criteria must be included with an application for demolition.**
- **For the restoration and adaptation of small dwelling houses, apply the guidelines and controls set out B4.2 Alterations and additions to existing dwelling houses.**

Disclaimer:

In its determination of the application proposing demolition of a small house, Council shall take into account this Plan including its objectives without being bound by any conservation assessment of the house.

Key references:

Burra Charter



B4.3 Development type 3 Laneway Development

Principle

Ensure that building uses are appropriate based on a Laneway Hierarchy in order to achieve acceptable levels of amenity, landscaping, building design, access and security.

Ensure that the existing and desired building form and character within a lane is considered and reflected in the design of new laneway development.

Rationale

Lanes historically provided secondary access to properties and consequently are narrow, often with limited vehicular access. These constraints limit the type of development achievable.

The construction of additional buildings on lanes, in particular, dwellings poses a number of potential issues and conflicts. These include an erosion of amenity, reduction in landscaped area and reduced access.

Consequently a Laneway Hierarchy has been developed to provide guidance on the preferred type of developments and uses that may be appropriate depending on a lane's width and existing character.

Buildings fronting onto lanes should clearly read as secondary to the primary residence on the same allotment. Lane development should respect this established hierarchy by ensuring that the bulk and scale of new development does not significantly diminish the dominance of the primary residence.

Lanes contrast with primary roads in character, with simple brick buildings including gable roofs, or a skillion behind parapets, being most common. Buildings have a general lack of adornment and dormer windows and the like are foreign to lanes. This simple, unadorned built form is a significant element in the character of lanes,

as are zero set backs that provide a hard edged form in contrast to the front gardens that dominate primary street frontages.

A key function of a lane is the provision of access to and from a site. This access should not be compromised but should be improved in any future development. Development can provide the opportunity to improve pedestrian security through increased lighting and surveillance. Consequently, where a dwelling is proposed an active interface with the lane is encouraged.

Backyards contain a large proportion of the trees that add to the landscape quality of the area. Consequently it is important to avoid a cumulative loss of significant trees as a result of lane developments. Natural features such as rock outcrops can also be important elements of a lane and should be protected where possible.

Guidelines

In order to retain the secondary service character of lanes, controls are applied to new development based upon the width and existing development on the lane. In most cases, the scale of existing development is the best reference for assessing the potential of a development site fronting a lane. However, where there is inappropriate and out of scale development existing in lanes, this should not be used as justification for any further inappropriate development.



A 'laneway', also referred to as a 'lane', is defined as a way open to the public for passage of vehicles, persons and animals which:

- is secondary in that the allotments, which it serves, generally address another road;
- has a minimal width;
- has little or no footpath or nature strip; and
- has a predominantly service character.

The following table defines the class of laneways within the Leichhardt Municipality.

<u>LANEWAY HIERARCHY</u>	
<u>Class and Characteristics</u>	<u>Width</u>
<u>Pedestrian/service lane</u>	<u>Less than 2.5m</u>
<u>Narrow lane:</u> <u>- service character</u> <u>- garages</u> <u>- wide enough for single car to drive through and access garages</u> <u>- no standing</u>	<u>2.5m-5m</u>
<u>Medium lanes:</u> <u>- service character</u> <u>- garages</u> <u>- some dwellings</u> <u>- parking to one side with room to drive through and access to garages</u>	<u>5m-8.1m</u>
<u>Wide lanes:</u> <u>- garages</u> <u>- dwellings</u> <u>- parking either side</u> <u>- two way driving</u>	<u>8.1m +</u>

The width of lanes shall be measured at three points and then averaged to provide an average lane width. The first point shall be from the subject site frontage, and the remaining two points shall be measured from a position of 15m from the side boundaries of the subject site. This will provide an average lane width figure for the Laneway Hierarchy table, thereby defining the class of lane.

Suggested types of development, along narrower lanes, less than 5m, can include garages, workshops, garden sheds, and storage rooms.

In wider lanes, above 5m in width, development may include garages, workshops, garden sheds or storage rooms. Dwellings should only be considered where there are existing dwellings fronting onto a lane and the amenity of the lane is not compromised.

Innovative design techniques shall be developed to ensure that sufficient on-site parking is provided without compromising the prevalent building form, set back, character and appearance of the area. Development must provide sufficient maneuvering space to allow vehicular access within the lane an appropriate turning circle.

Development along lanes should maintain the prevalence of mature, regularly spaced and predominantly native street trees and bushes, as well as mature and visually significant trees on private land.

As lanes were originally designed for a low scale service use and not as residential streets, development should provide for additional safety, such as lighting and street observation.

Laneway development should not contravene the density, subdivision and landscaping controls set out under the LEP section of the Town Plan 2000



Laneway Hierarchy Controls

Pedestrian/service Lane - less than 2.5m

- Development along lanes that are less than 2.5m in width is discouraged.

Narrow Lanes - 2.5m - 5m

- Dwellings fronting onto narrow lanes are discouraged.
- The service character of the lane must be retained.

Medium Lanes - 5m - 8.1m

- Dwellings fronting onto medium lanes are discouraged where they do not already exist,
- Dwellings may be considered if other lane-fronting dwellings are located within 15m from the property boundaries of the proposed dwelling.
- The service character of the lane must be retained.

Wide Lanes - 8.1m+

- Dwellings may be considered on wide laneways.

General Laneway Controls

Urban Form

- Development shall be designed with simple built forms and not be visible from the primary street frontage and should be at or very close to the lane alignment.

§ Use painted and bagged finishes to walls or plain brick and timber

- Roof forms should include gabled roofs pitched from sides, or skillion roofs located behind parapets. Use corrugated iron, slate or terracotta tiles for roofing materials

- Roof openings shall be flush to the roof and should not represent dormer windows or the like, whether or not they are visible from a public place.

- The scale of building envelopes for development fronting onto lanes shall not be higher than the prevailing building envelopes within the lane.

- For narrow lanes, the side wall height shall be limited to a maximum of 3m with a 45° envelope control, allowing a roof height limit of 5m.



Existing



Envelope for Infill

- For medium lanes, the side wall height shall be limited to a maximum of 3.6m with a 45° envelope control, allowing a roof height limit of 6m.



Existing



Envelope for Infill

- For wide lanes the proposed development shall have a height consistent with surrounding development or be a height that is an intermediate between two abutting buildings.



Existing



Envelope for Infill

Access

- Vehicular, pedestrian and servicing access (including garbage collection), where existing, must be retained to the rear of all existing properties and dwellings,
- New development shall not result in increased laneway parking and the potential to provide car parking space(s) must be retained.
- Where the proposal incorporates a dwelling on the lane, separate pedestrian access to the lane must be provided directly into the new dwelling.

Security

- Entrances to dwellings shall be provided with overhead lighting.
- The placement of windows on the lane frontage is encouraged for the purposes of street surveillance.

Landscaping

- Trees more than 6m in height which make a significant contribution to the lanescape must be retained.
- Where natural rock outcrops or rock cuttings are visible from the lane, these must be preserved in their natural or existing state.
- Side gardens adjacent to buildings shall be included where appropriate.



B4.4 Development Type 4 Foreshore development

Principles

Design foreshore development to present a coherent waterfront vista which is compatible with the appearance of the existing foreshore.

Ensure the development does not detract from the amenity of neighbouring residents or have a detrimental impact on the views to or from the foreshore.

Rationale

Foreshore development comprises not only residential dwellings and extensions but associated ancillary development often associated with the waterfront location, such as boat sheds, jetties and launching ramps. All this development can impact detrimentally on the appearance of the foreshore from the water. The foreshore is an environmental feature which crosses many Local Government Areas boundaries. These boundaries should not be distinguishable when viewed from the Harbour and Parramatta River. It is therefore important to preserve this shared amenity and ensure that the continuity and visual coherence of the foreshore is maintained.

Guidelines

Due to the publicly visible nature of development on the foreshore the sensitive and sympathetic design of buildings and structures is imperative. Building form, scale and setting, and elevations and materials should be given particular attention.

Works or development below mean high water mark may require consent from the port authority.

Controls

- **Respond to foreshore topography. Design sensitively to preserve and enhance the natural features and vegetation, and minimise the intrusion of built structures.**



- **Limit the scale, building form and overall visual impact of development that affect the foreshore and adjacent dwellings.**
- **Design to achieve shared views, maximising the number of residents who can benefit from a view. Maintain views from public roads and public spaces.**
- **Where development is permissible under clause 34 of Leichhardt LEP 2000, design low scale buildings with minimum impact on the foreshore setting. Design 'light' structures using steel, glass and wood. Avoid the use of bulky or 'heavy' structures and materials.**





B4.5 Development Type 5

Conversion of existing non-residential buildings

Principle

Encourage re-use of the non-residential buildings in residential zones for either residential or community purposes.

Rationale

Leichhardt's *TownPlan* advocates the recycling of buildings in the interests of Ecologically Sustainable Development and energy efficiency. This requires an approach to regeneration and building utilisation that embodies the principles of 'Long life, low energy, loose fit'.

Where non-residential buildings can no longer be used for the purpose for which they were built, alternative uses should be sought.

Non-residential buildings in residential areas provide a valuable supply of land that can be used for development which is complementary to residential areas. Given the need to retain existing residential building for dwellings, non-residential buildings should be utilised for purposes which are permissible with consent in the residential zone.

Guidelines

Whilst all the design elements should be considered in the process of re-using existing buildings, innovative design techniques may be necessary to achieve the principles.

Council encourages the use of non-residential buildings for conversion to:

- **boarding houses;**
- **child care facilities;**
- **community facilities;**
- **educational establishments;**
- **places of public worship;**
- **hospitals;**

having regard to the design elements controlling amenity, ecologically sustainable development and urban form and design.

Minimise the amount of demolition undertaken in the reuse of buildings.

Maximise the recycling of site and building materials.

Integrate a mix of uses into the building, especially at ground level, whilst ensuring that residential amenity is maintained and the uses are easily and effectively serviced.

Development will need to respect the visual privacy of gardens, courtyards, balconies and habitable rooms of adjacent dwellings. Specific attention may need to be focused on visual privacy and addressed in an innovative manner without compromising the appearance/character of a building.

In the adaptation of existing buildings for residential use, maximum private open space should be provided in the form of courtyards, balconies, roof gardens and communal open space. Due to layout constraints, building reuse may require a design approach that provides private open space at standards below those set out B4.1 of this Plan.

Maximise solar access to the living spaces of all dwellings. If orientation and limitations in the adaptation of the building fabric dictates, and justification is provided, solar access may be provided at standards below those set out in B3.1 of this Plan.

Where existing buildings have a deep floor plan, the subdivision and design of deep spaces requires an energy efficient approach to ventilation. Natural ventilation methods should be used such as cross or stack ventilation, by incorporating atria and courtyards.



Council encourages the installation of centralised gas-boosted solar water heater systems, with separate meters for each dwelling.

Integrate garbage bin and waste recycling areas, mail boxes, outdoor drying areas and external storage facilities into the overall development, with convenient access for residents.

Controls

- For specific controls, see Clause 19(5)
LEP 2000 – Building Conversion and
Adaptation





B4.6 Development Type 6

Residential development in business areas

Principles

Enhance the vitality and safety of business areas by increasing residential activity.

To Promote Ecologically Sustainable Development by allowing services and employment uses in proximity to residences.

Rationale

By providing housing in business areas the need for car travel is potentially reduced. The proximity of places of work, leisure and services to residences improves quality of life, enhances the vitality and improves the safety of business areas which would otherwise be devoid of activity. These factors in turn contribute to a more ecologically sustainable environment.

Guidelines

When designing residential development for integration into business areas, the emphasis of each design element in relation to 'residential amenity' may change. For instance, there may be greater potential for access to views without the loss of privacy to neighbouring residents. However, there may be less potential for the provision of ground floor private open space. Acoustic privacy becomes paramount and solar access will often require innovative design solutions.

The re-use of shop-top housing is encouraged.





Controls

- Ensure separate and clearly defined dwelling entries where mixed use development is proposed.
- Innovative design solutions such as central light wells / atria and articulated facades should be incorporated to maximise solar access.
- No car parking should be provided.
- Design new development to allow conversion to other uses.
- Noise insulation measures should be incorporated into all development with particular attention to shared ceiling / floors and walls and mixed use development.
- Residential development should be integrated with business development and not developed as separate 'enclaves' within a business zone.



B4.7 Development Type 7 Diverse and Affordable Housing

Principles

Encourage a mix of housing types to match the housing needs of the diverse social and economic groups who wish to live in Leichhardt.

Provide incentives for the provision of affordable housing in the form of rental and boarding house accommodation.

Rationale

The provision of diverse and more affordable housing assists Council's strategy for maintaining a historical mix of dwellings and household types in the Leichhardt area. The controls set out below were derived from a Triple R' housing study, which investigated mechanisms by which Council can improve housing choice, cost, accessibility and security of tenure for local households.

Diverse and affordable housing controls have been developed in recognition of recent development trends in the Leichhardt area, where large sites are being developed for relatively large, well-appointed housing for wealthier groups of the community. Such developments do not account for future changes to demographic, economic and social trends. This rigidity of design limits the 'lifespan' of a house and it is for this reason that the following guidelines and controls should be incorporated into the design of new housing.

Guidelines

Diverse housing encompasses housing which, because of type and size, can satisfy the needs of diverse household types. This is achieved through dwelling mix requirements.

Diverse housing also includes the development of adaptable housing in accordance with the provisions in Council's DCP No. 32 - Design for Equity of Access, and Australian Standards 4299 (1995). Adaptable housing is a flexible design

concept which has the potential to meet a broad range of housing needs. Adaptable housing is specifically designed to be easily modified at a later stage to cater for an occupant, or visitor who may become frail, develop a disability or has an existing disability which may worsen progressively.

Dwelling mix requirements ensure new housing reflects the mix of household sizes currently found in Leichhardt, as a means of retaining Leichhardt's diverse social mix.

Larger dwellings should have layouts that are able to be adapted to suit a variety of household types.

Design suggestions:

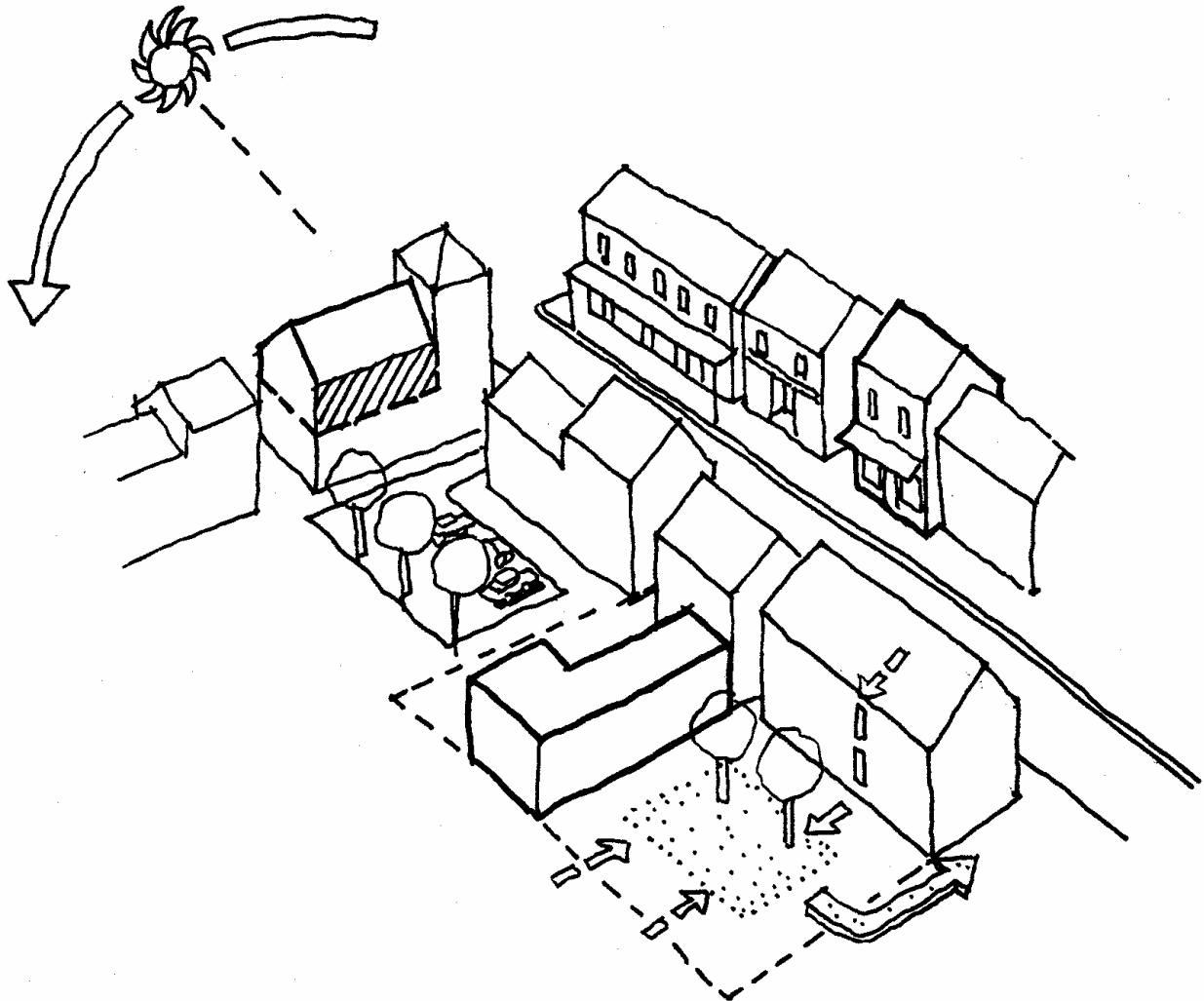
- Have at least 2 bedrooms of similar size and amenity.
- Separate bedrooms by built-in wardrobes, hallways, bathrooms or other non-habitable rooms so as to reduce noise transmission between bedrooms.
- Provide more than one living room or living/kitchen/dining areas that can be functionally divided.
- Design the basic shell of a dwelling to allow each occupant to have fit outs designed to their own needs.
- Design ground floor dwellings to allow access by people of limited mobility.
- Avoid public areas of the site that are only accessible via steps and steep gradients.

Controls

- **Ensure adaptable housing is designed in accordance with Council's DCP No. 32 - Design for Equity of Access and Australian Standard 4299 (1995).**
- **Ensure housing meets the requirements of Clause 19(6) Diverse Housing and Clause 19(7) Adaptable Housing in Leichhardt LEP 2000.**



C1.0 NON - RESIDENTIAL DEVELOPMENT





How DCP Part C – Non-residential applies

DCP Part C - Non-residential applies to new business, industrial and other non-residential development irrespective of the zoning of the land.

Use DCP Part C- Non-residential along with DCP Part A - General Information. Particular reference should be given to Leichhardt Local Environmental Plan 2000 Part 2 – Vision, General Objectives And Planning Principles, Part 5 - Employment, Part 6 - Open Space, Recreation and Leisure and Part 7 - Community Uses.

DCP Part C is divided into 2 parts:

- *General guidance and controls, (Sections C1.0 to C 3.0)*
- *Controls for development types (Section 4.0) and*

Before commencing detailed design work, applicants for development should be familiar with these DCP controls and the structure of the DCP.

Structure of controls

Within the *General guidance and controls* section, planning and design issues are divided into '*Design Elements*', and set out in the following format;

Principles

describe the primary purpose and intent of each element.

Rationale

provides an explanation and supporting information for the design element.

Guidelines

provide for best practice, and are encouraged by Council.

Controls

Provide mandatory controls on development.

Applicants should discuss proposals with Council staff prior to lodging a Development Application. This can save time and expense and enable Council to explain the contents of the plan, address potential conflicting controls and consider solutions to achieve the best outcome.

For Development Application submission requirements, Refer to Appendix 1.

If you have any queries regarding Leichhardt *Town Plan*, please phone the Environmental Management Division of Council on 9367 9222.



C1.1 Design Element 1 Site layout and building design

Principle

Design new development to integrate well with the locality and respect the streetscape, general built form and character of the area.

Rationale

Existing business development in Leichhardt is generally linear in character, aligned along street frontages and covering a large proportion of the allotment. It generally forms 2-3 storey buildings with parapet walls and provision for residential accommodation. Industries are generally located in clusters covering large irregularly shaped allotments although pockets of industry are interspersed with business and follow a regular subdivision pattern.

Other non-residential development is scattered throughout the LGA on varying sized and shaped allotments and located within different zones.

The site layout and design of development for non-residential purposes will depend on the size, shape, location of the site and the purpose for which it is to be developed. It is important that new development respects the prevailing streetscape and townscape in terms of alignment to the street edge, building envelope, orientation and impact on existing and future residential amenity.

Guidelines

Where appropriate, design landmark or gateway buildings on corner and junction sites.

On large sites where redevelopment for non-residential purposes is proposed, the development should respect the existing street pattern and provide buildings which front streets, integrating with the surrounding existing development rather than creating isolated enclaves.

New buildings should respect the height and building envelope of neighbouring existing buildings and should be graded and articulated in such a manner as to harmonise with the new and existing surroundings.





The Suburb Profile (in Part A) includes specific characteristics of an area and may identify opportunities for development including types of use, building form and bulk.

Where sites offer the opportunity for development for multiple commercial purposes, playgrounds and youth facilities should be provided.

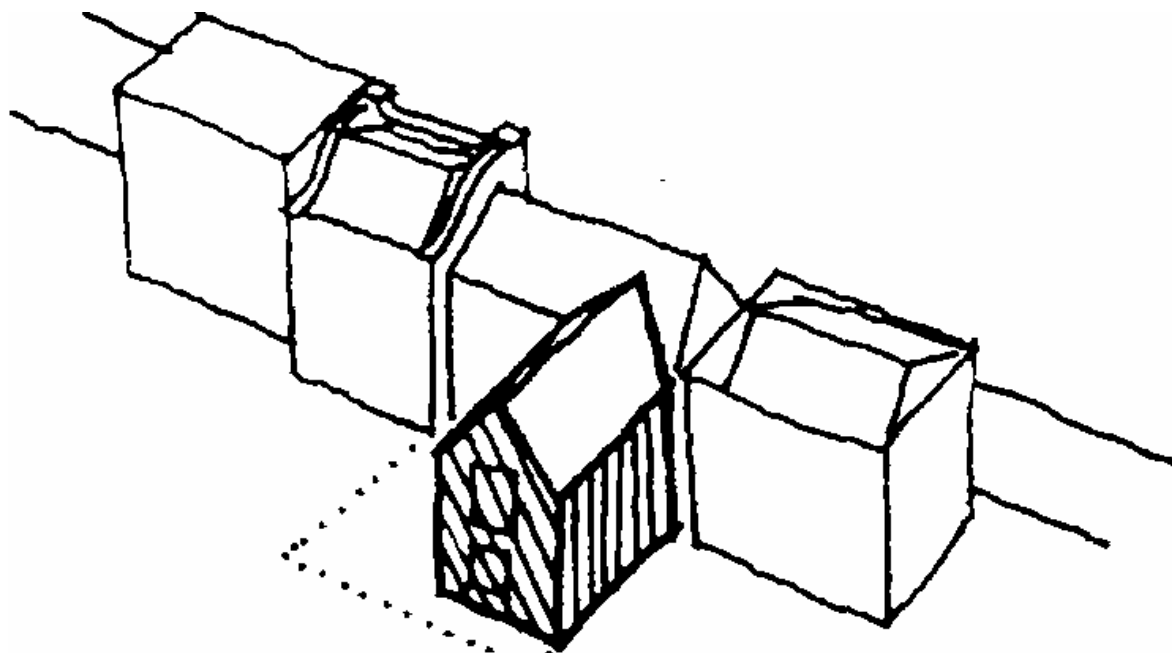
Use the Site Analysis to identify the location and size of existing mature trees and shrubs. Ensure protection of tree trunks and roots is provided during construction and in the completed layout.

Controls

- **Orientate new development to address the street.**
- **The building envelope is determined on a site by site basis, subject to the following principles;**
 - **The envelope control ensures new development fits with the height and scale of adjacent development, and provides for a balanced streetscape.**
 - **The building form and design responds to the nature of the streetscape.**
 - **The wall height is used as the key envelope control, and applied to the 'front' of the building only. A specific wall height may be**

identified in the Suburb Profile.

- **When determining the siting of buildings, enable the provision of access, servicing and parking facilities to the standards required in the Plan.**
- **Ensure that adequate arrangements are made for the provision of water, sewerage and draining services.**





C1.2 Design element 2 - Parking layout, servicing and manoeuvring

Principles

Where on-site car parking or service areas are required, ensure that the layout and design does not detract from the amenity of adjoining areas.

Ensure the design of parking and servicing areas is efficient, safe, convenient, discrete and suitably landscaped.

Minimise nuisance caused by traffic movement, generation and servicing

Rationale

The layout and design of access, parking and service areas should address the needs of the site occupants and visitors as well as respecting the amenity of the area. Account should be taken of potential noise disturbance, pollution and light spillage. Car parking areas can have a significant impact on the streetscape and should therefore be carefully designed having regard to landscaping, layout and location to ensure that parking and service areas are integrated sympathetically with the development and locality.

Provision should be made for various modes of transport for employees and visitors to the site. Where parking is provided it must be in a safe and efficient manner, allowing for easy access for occupants, visitors and service vehicles, whilst ensuring the safety of pedestrians and other road users.

Guidelines

Parking, accessing and servicing requirements of non-residential development can vary considerably depending on the type of use proposed. The requirements relating to each development will need to be assessed on a case by case basis. However, the following guidelines must always be considered:

- Ensure the visual impact of any parking, servicing and accessing is limited to respect the streetscape and amenity;

- Design to improve safety by ensuring adequate sight lines, safe and convenient pedestrian crossing points, well lit areas and avoidance of hidden areas;
- Locate access to and exit from a site for minimal interference with vehicular and pedestrian movement on public roads;
- Design to ensure that loading vehicles are capable of leaving in a forward direction, and where they relate to new buildings, that loading vehicles are capable of both entering and leaving the site in a forward direction;
- Design new non-residential developments to enable a standard truck to complete a 3-point or semi-circular turn on the site without interfering with parking areas, buildings, landscaping or outdoor storage and work areas;
- Avoid on-street loading and unloading where possible. Ensure service areas are dedicated, and not used for other purposes such as the storage of goods and equipment;
- Avoid conflict between service vehicles, cars and pedestrian movement.

Controls

- **Parking layout and design is to comply with numerical standards set out in DCP Part A8.0.**
- **Provide sufficient and convenient parking to satisfy the potential demand generated by the development, and avoid spill-over parking onto public streets.**
- **Integrate the design of car parking into the overall site and building design.**
- **Design access driveways for underground car parking to:**
 - minimise the visual impact of the entrance to the street;



- maximise pedestrian safety;
 - maintain pedestrian access and access for people with special needs.
- Design parking levels to be kept as low as possible with a maximum of 500mm above ground level.
- Parking within a building should be contained below ground level where it fronts a street or public place.
- Where non-residential development is within or adjoining a residential zone, locate and design parking areas, servicing areas and the means of access/egress to:
 - minimise conflict between non-residential, residential and pedestrian traffic;
 - provide off-street parking and servicing of premises;
 - respect the character of the existing residential areas and streetscape character by means of siting, design and landscaping.
- Surface parking should be visually articulated by the use of soft and hard landscaping and the use of different surface treatments.
- Parking areas and accessways should be designed, surfaced and graded to reduce run-off and allow stormwater to drain into the site.
- Ensure access and parking areas are well lit by using energy efficient solar technology.
- Ventilate enclosed parking areas using natural ventilation techniques.
- Mechanically assisted parking facilities should not be provided.
- Ensure public car parking and service areas are well signposted or otherwise identified from the entry point.



C1.3 Design element 3 Landscaping

Principles

- 1) *Ensure that new non-residential development provides landscaped areas that:*
 - a) *improve the quality of the development: and,*
 - b) *reduce the impact of the development on adjacent residential areas.*
- 2) *Provide open spaces and landscaped areas that accommodate the needs of the users and relate to the function of the development.*

Rationale

Landscaping performs many functions and the extent of landscaped areas and open spaces associated with a development will depend on the size of the site and nature of the development. For example redevelopment of a large site for a number of commercial premises should be provided with open spaces and landscaped areas to serve both functionally as recreation areas and visually as a context and setting for the development. However, where a small or infill development is proposed, landscaping could serve to enhance the appearance and assist in the ecological sustainability of the development and preserve and enhance the amenity of neighbouring residents.

Landscaping can comprise 'soft' landscaping in the form of plants and 'hard' landscaping in the form of paths, water features, outdoor furniture and the like. The provision of hard landscaping can often be in the form of public works of art and can significantly contribute to the "sense of place" and "community pride" surrounding a development.

Guidelines

Consider the natural ventilation of buildings when deciding on the type and location of hard and soft landscaping features.

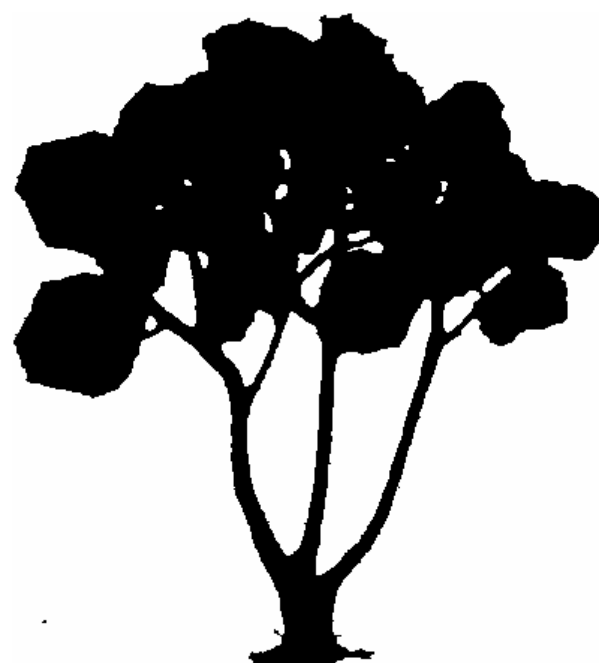
Landscaping can also assist in controlling solar radiation into non-residential buildings. Deciduous

trees located to the north of buildings, vined pergolas and so on assist in improving energy efficiency.

Integrate public works of art and other hard landscaping features with soft landscaping where new development would offer a contextual setting.

Controls

- **Provide a landscaping plan with each development application indicating the number, type and location of plants and hard landscaping features.**
- **Landscaping and open spaces shall be provided to all development to meet the principles of this Plan.**
- **Where an 'Interface' situation occurs, use landscape screening, (such as latticework) or plant a 'landscape buffer' of trees and shrubs, to reduce visual impact of the development, and maintain visual and acoustic privacy of residential areas.**





- Ensure that 85% of plantings in common open spaces in new non-residential developments are native species from the Sydney locale.
- Landscape surface car parking areas with trees that provide adequate shading for vehicles and screening.
- Introduce areas of soft landscaping to improve infiltration of rainwater.
- Where a building is set back from the street, provide a landscaped entrance.





C1.4 Design element 4 Elevation and materials

Principle

Design to respect the elevational character and appearance of the streetscape and locality.

Rationale

The business areas of Leichhardt are typically characterised by major civic and religious buildings, with the retail and commercial buildings following the main roads and ridges around these elements. The linear nature of Leichhardt's shopping streets makes the use of horizontal and vertical control lines an appropriate guide for infill development.

Leichhardt's industry is generally located in clustered pockets or interspersed singularly throughout business areas. Whilst the function of an individual building often dictates size and setting the elevational detailing of new development in these areas should complement the surrounding buildings.

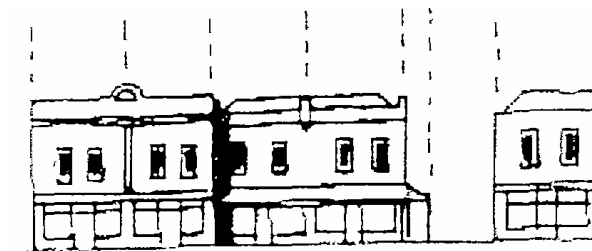
New development should provide interesting, articulated and proportioned facades where elevations to the street and public places do not comprise 'dead frontage' but provide openings where activity behind can be perceived.

Larger commercial development sites offer an opportunity to create their own character. However the edges of these sites should respect the existing adjacent elevational details.

In order to achieve compatibility of elevational detail, proportions and scale of new or altered buildings, and maintain the existing characteristics of 19th and 20th century development it is necessary to respond to the vertical and horizontal rhythms established by existing buildings and streets. Rhythms are recurrent design lines that establish a design pattern and reinforce the character of a particular street or section of street. Elevational relief and modelling detail also contribute to fitting in with the streetscape.

Guidelines

Vertical control lines are set by such elements as blade/party walls, nib walls, exposed downpipes, attached piers, setbacks, changes in facade



planes, etc. Bays are established by vertical control lines.

Divide the facades on new buildings into vertical bays or units of dimensions appropriate to the scale of the building being proposed and that of adjoining development.

Horizontal control lines are set by such elements as ground level, string courses, cornices, balconies, balustrades, roofs, eaves lines, door/window heads, etc.



Use horizontal control lines to align elements of new buildings with similar elements on adjoining buildings.

Where alterations and additions are proposed to an existing building, remove inappropriate facades and additions, and achieve unified colour schemes to groups of terraces.

Design the vertical elements of facades of new buildings to relate to the scale of the building proposed and that of adjoining development.

Relate the horizontal elements of the facade of new buildings to the horizontal control lines of adjoining development.



Use vertical and horizontal control lines along with guidelines and controls on shopfronts and advertising signs.

The painting of brickwork should be avoided and the rendering of elevations should be in a neutral colour.

Controls

- **Design elevational features such as fenestration and doors to be in proportion with the scale and size of the new building and any adjoining buildings and the streetscape.**
- **Building materials and finishes should complement the finishes predominating in the area.**
- **When designing extensions on buildings next to Heritage Items ensure the modelling and relief is respected.**
- **Provide articulated elevations to new buildings where the streetscape dictates and where wide elevations front the street.**
- **Where buildings front the street or other public space the facade should contain windows which allow activity within to be perceived from outside and which offer visual surveillance of the streets or public space.**



C1.5 Design element 5 Site facilities

Principle

Design to integrate adequate and convenient site facilities such as storage, recycling and collection areas into the overall development.

Ensure site facilities are practical and easily maintained.

Rationale

Different types of development have different requirements in their proposed functioning and servicing. Site facilities provide the 'accessories' to ensure that these varying needs are met. All development will generate garbage of some degree and this needs to be accommodated, easily deposited and collected. Similarly other site facilities will need to be provided in a development. It is important that the needs of the users and the efficiency and ecological sustainability of the development is considered at the design stage. The facilities to accommodate these needs should be incorporated into the design in an efficient, practical and aesthetic manner.

Guidelines

Garbage bins, waste recycling areas and external storage facilities should be adequate in size, durable, waterproof, blend in with the development, avoid visual clutter and be accessible to the users of the building and service vehicles.

Bicycle storage, showers, changing rooms and lockers should be provided to all new developments. Consider the need for appropriately placed mailboxes.

Provide adequate internal storage and design internal layouts to allow the building to be re-used for other purposes in the future.

Avoid designing buildings where large areas do not receive direct natural daylight.

Provide drinking water fountains in multiple commercial and community developments and where 'transitional space' is proposed.

Controls

- **Where drinking water fountains are provided, ensure they are accessible and useable by children and physically disadvantaged people.**
- **Ensure garbage storage and waste recycling areas are not located adjacent to any residential habitable rooms.**
- **Refer to DCP No. 38 – Waste, Avoid, Reuse and Recycle for further controls relating to the design and provision of waste facilities.**

Key references:
Leichhardt DCP No. 35 –
Exempt and Complying
Development



C1.6 Design element 6 Shopfronts

Principle

Design shopfronts to respect streetscape, elevational proportions of the building and heritage/conservation value.

Provide functional shopfronts that contribute to the vitality of the area and are accessible to all.

Rationale

Shopfronts contribute significantly to the appearance of Leichhardt's business centres and there is constant pressure to update and modify existing frontages. Well designed shopfronts using good quality materials are essential if the visual quality and integrity of Leichhardt's shopping streets are to be maintained and enhanced. It is important that the proportion and scale of the shopfront relates to both the building of which it is part, and to adjoining buildings.

Traditional shopfronts provide a variety of materials and a richness of period details. The preservation of existing traditional shopfronts, is encouraged.

The business centres of Leichhardt contain a wide variety of shops with individual character and traditional styles. A large number of original shopfronts exist in Leichhardt. There are many significant examples dating from the 1850's. These are of timber construction, often incorporating splayed recessed entrances. From 1910 to 1940, metal framed shop windows were used, combined with tiling.

The 'frame' of the shopfront is the most important element and defines the overall design. Such a frame can consist of pilasters, often with decorative details including corbels, the cornice and the stallriser or stallboard. Within this frame the arrangement and detailing of fascias, doors, windows, mullions and sills can be articulated to give a shop individual character and identity.

Guidelines

With the preservation or reconstruction of a traditional shopfront, it is important that the frame for the shopfront remains intact. The retention or reinstatement of traditional fascia lines, can make a significant contribution to the appearance of a row of shops. In most cases, the use of natural materials is preferred to materials such as plastic or aluminium.

The re-instatement and replacement of shopfronts offers the opportunity to provide entrances that allow access to all.

New development which does not form infill development provides the opportunities for innovative design that characterises the locality and creates a commercial area that has vitality and interest.

Shopfronts and windows should remain visible at night with the use of internal lighting. Security can be achieved by incorporating any roller shutters behind the window display area, or alternatively, using open grill shuttering or see through screen, behind the line of glazing.

New shopfronts should provide glazing that presents an "active" area to the street. Painted, blank or screen shop windows should be avoided. Where shopfronts are provided to buildings that are not selling goods such as service providers, windows should allow clear vision of the activity within to maintain the vitality of the streetscene.

Design new shopfronts to allow for safe and convenient access for all members of the community, in particular people with limited mobility.

**Controls**

- **New shopfronts should:**
 - be of a high standard of design, using materials that complement the architectural character of the building;
 - relate to the building's architectural form and structure;
 - relate to the surrounding streetscape, scale and elevational proportions of adjacent buildings; and,
 - provide a 'frame' for the shopfront, generally formed by pilasters, fascia and stallboard.
- **Council will not allow the loss of traditional shopfronts on Heritage Items. Where alterations are necessary, use traditional materials for the period.**
- **Where buildings are located in Conservation Areas (but are not**

Heritage Items), alteration or replacement of original shopfronts is not encouraged. Where alterations are necessary, use traditional materials for the period.

- **Design new shopfronts to ensure that shop signs and projecting signs are located within the traditional fascia area, utilise appropriate methods of illumination and comply with this Plan.**
- **Design new shopfronts to allow for safe and convenient access for all members of the community, in particular, people with limited mobility.**
- **The use of roller shutters over shop fronts is discouraged. Shutters or other security devices should be located behind the window display.**



C1.7 Design Element 7

Protective structures in the public domain- Balconies, verandahs and awnings.

Principles

Any structures within the public domain should principally serve to enhance public use and amenity in terms of shade, shelter, comfort, egress and safety.

The structure should enhance the building and streetscape.

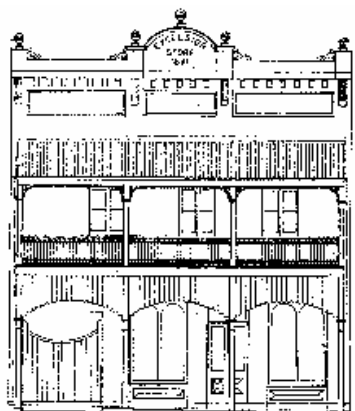
Where restoring a lost structure this should be done on the basis of the known evidence and Burra Charter principles.

Structures that are new to the building should be identifiably modern whilst complementing the style and form of the building.

Structures can provide other benefits such as improved private open space or commercial opportunities such as outdoor dining, providing that these do not compromise the public interest principles.

Rationale

Generally all buildings in a commercial centre should have permanent protective structures over footpaths. The only exceptions are where such structures are not compatible with the heritage or architectural values of the building. This is usually the case with civic buildings, with churches, and often with banks.

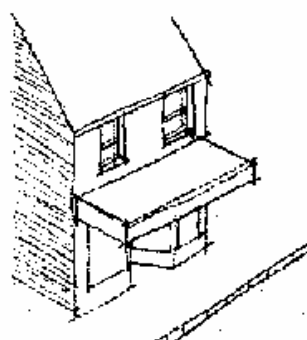


Where a building has heritage value either as a Heritage Item or is contributory to a heritage precinct or Conservation Area, the approach should be to restore on the basis of known evidence, preferably

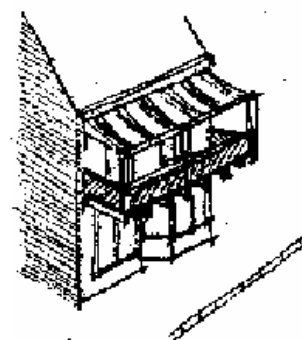
photographic, as well as by the detailed examination of the structure and surrounds. Where the evidence is lacking, appropriation of conjectural detail from a nearby structure of

similar form and style may be reasonable. Where the evidence is scant, then the new structure should adopt a simplified and indicative form, that avoids a pretence of restoration.

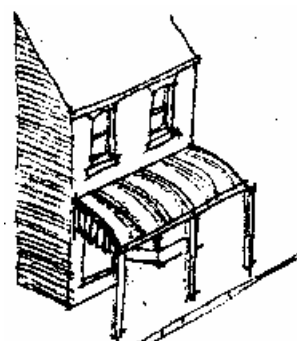
Where an existing building is not consequential in heritage terms, or a new building is proposed, the protective structure should be complementary to the building in terms of form, material, detail etc, and compatible to the row if it is in a row of like buildings. The options are:



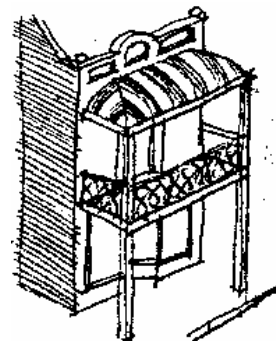
A cantilevered awning



A cantilevered balcony



A posted single storey verandah



A posted multi-storey verandah

Generally protective structures over footpaths are light, open, timber or steel structures. The structural members are normally exposed and the structure unlined so that any upper floor is exposed and any roofing is exposed to the underside. This gives them a light and airy appearance, appropriate to their function and location. All structures need to be carefully crafted as with a piece of joinery or street furniture, as the

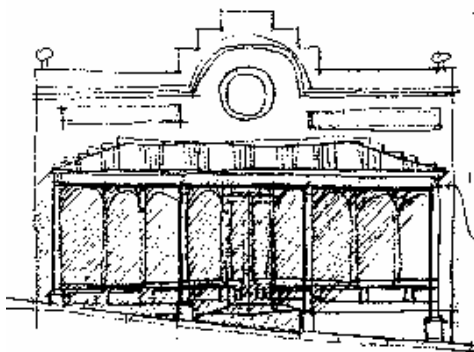


whole structure is exposed to view. All structures also need to be robust given their exposure to public use and risk.

The traditional materials are usually timber for the structure with often metals including cast iron for decorative elements. The timbers are always planed and usually shaped such as with stop chamfering, with hardwood tongue and groove flooring which falls to the kerb, and corrugated profile roofing. These materials are appropriate for reinstatements. It may be appropriate to use other materials such as steel and metals, or glass and acrylics with new structures.

While boxed awnings became the norm during the second half of the twentieth century, they are considered visually heavy and are not a favoured option for new structures within the public domain.

Post supported structures are often appropriate in heritage precincts and Conservation Areas both for new structures and restorations. Posts can enhance the rhythm and composition of a building and streetscape, provide a protective edge to the pedestrian space, and frame the views in and out. They should be placed so as to minimise obstruction of pedestrian access, and the structure designed so that it will continue to stand intact even if a corner post or posts are damaged or removed due to a vehicle or similar collision.



Controls

- All retail frontages shall include permanent structures over the footpath to provide shade and weather protection.
- The setback from the kerb shall be the minimum required for safety; between 300

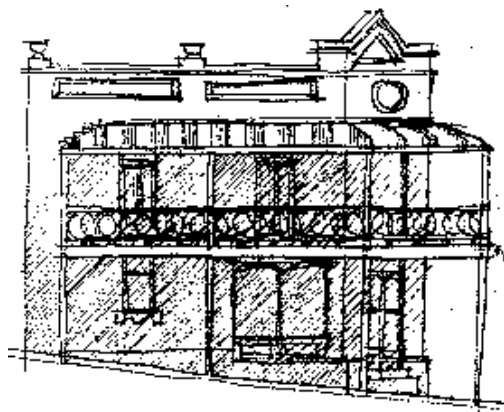
and 600 mm depending on the exposure to vehicles and site particulars.

- With respect to heritage buildings the original form of the protective structure shall be restored/reconstructed on the basis of known evidence. With conjectural reconstruction, details from comparable examples in terms of form, period and style may be used, or a stripped or simplified form adopted. Such structures shall be researched by a heritage specialist and documented by a heritage architect, including certification for purposes of the Construction Certificate.
- With respect to protective structures on existing buildings that are not contributory in heritage terms, or on new buildings, the choice of structure shall hinge on it being complementary to the building, and compatible with the particular streetscape.
- All structures shall be visually light with an exposed structure, unlined soffits etc.
- Heritage structures may only be enclosed by drop down blinds, and the like; other structures only by frameless glazing and louvres, so as to maximise transparency and open-ness. A minimum of 50% of the vertical sides of upstairs verandahs or balconies shall be open or openable, including the balustrading and returns against the building. Solid balustrading and walling is not acceptable. Side screens for privacy should be a maximum of 50% solid, lattice or the like.
- All protective structures shall be documented with 1/20 scale plans, and elevations, with half to full size details of critical details such as column/beam junctions, and joinery sections, so as to fully describe the structure.
- Verandahs shall be designed to remain standing in the event of removal of any one post or both corner posts with respect to a street corner. Where exposed to heavy traffic or where the posts/columns



will interfere with pedestrian flows, the structure may be required to be cantilevered. All structures shall be certified by a structural engineer.

- A licence agreement must be executed with Council for all structures over public land which sets out mutual responsibility. This shall be executed before issuance of a Construction Certificate. The licence is linked to the CC and the documentation of the structure. All structures shall be verified by a registered architect. With respect to restored structures, the documentation and the execution of the structure must be verified by a heritage architect.





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C2.0 Ecologically Sustainable Non-residential Development

"...ESD is not clear-cut, and there are no easy or obvious choices. A series of compromise decisions will invariably be made due to the simple fact that each of the ESD principles are not mutually exclusive and that, when implemented, they can actually obstruct each other. This is not to say that architects should just discard ESD as too difficult and unresolvable. It is difficult, but it is also extraordinarily important. Quite simply, as a profession we can no longer avoid the responsibility. Our planet's survival depends on it."

Andrew Nimmo, Lahz and Nimmo;

November 1995, Architecture Bulletin



C2.1 Design element 8

Site drainage and stormwater control

Principle

Improve water conservation, reduce stormwater run-off and pressure on the existing stormwater system, and increase on-site storage of rainwater.

Rationale

Stormwater pollution is caused by litter, debris and dust which is washed off the streets and other surfaces during rainfall. Pollution is increased by chemicals and products that are poured or leak into drains and also by sewer overflows. Leichhardt's polluted stormwater flows into the harbour and contaminates soil as well as reducing water quality. This in turn, affects the habitats of fish, water birds and other marine life and reduces our recreation opportunities.

Traditionally, the management of urban stormwater has relied upon engineering hard pipe and channel systems. Whilst these systems have minimised the social and economic costs of flooding, and have mostly been effective at removing stormwater at speed, there have been considerable environmental costs. Furthermore, many parts of our stormwater systems need upgrading because of inadequate maintenance, changes in design standards or increased urban settlement in catchment areas. Upgrading is very costly.

The amount of stormwater runoff in an area relates directly to the intensity of development in that area. For example, due to high site coverage and the extensive surface area dedicated to roofing and carparking, industrial development is up to 90% impervious to water. The imperviousness of an urban area means that stormwater runoff flows more rapidly, and in larger quantities than it does from other land uses. Stormwater runoff flows faster over smooth, hard surfaces. and its speed is compounded by the volume of water. In summary, more buildings

and hard surfaces in an urban area means less natural drainage.

Guidelines

Use perforated pavement materials, such as paving with wide bands of gravel aggregate, to allow the water to be absorbed into the ground.

Ensure large non-residential development sites 'fit' as much as possible, within the hydrology of the natural system. Reduce the possibility of pollutants entering the stormwater system, increase stormwater detention and reduce erosion and sedimentation.

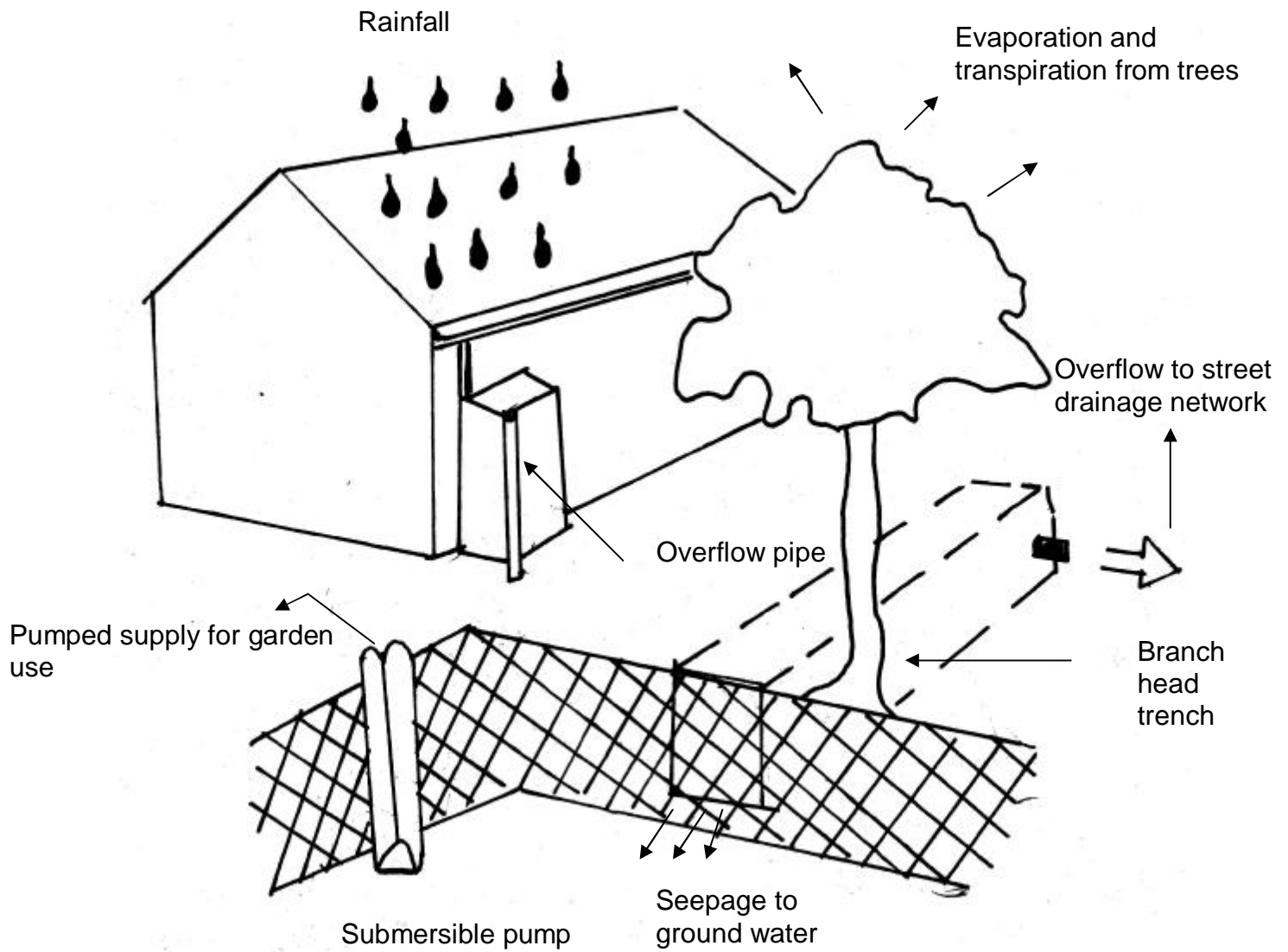
Stormwater infrastructure in large developments should provide maximum infiltration and retardation of peak stormwater flows.

Where open spaces are integrated as part of a large development, investigate their dual use for site drainage by means of infiltration and / or delayed release to the stormwater system.

On-site detention, especially when used on unpaved or grass surfaces, can trap and remove contaminants from stormwater and increase infiltration into the ground.

Controls

- **For non-residential developments, install rainwater tanks.**
- **Incorporate on site detention in accordance with Council's Stormwater Management Policy.**





C2.2 Design element 9 Energy efficient siting and layout

Principle

Achieve improved energy efficiency through the siting and design of buildings.

Rationale

Building shape and orientation have a high impact on the energy performance of a building. A well designed building has the potential to reduce energy costs by up to 50%. The improved performance does not have to add to the project cost or change the appearance of a building.

Correct design of the building envelope is the first line of defence to reduce the negative impacts of the external climate, yet retain the positive elements such as day lighting. Proper design of the envelope can have a significant effect by improving occupant comfort.

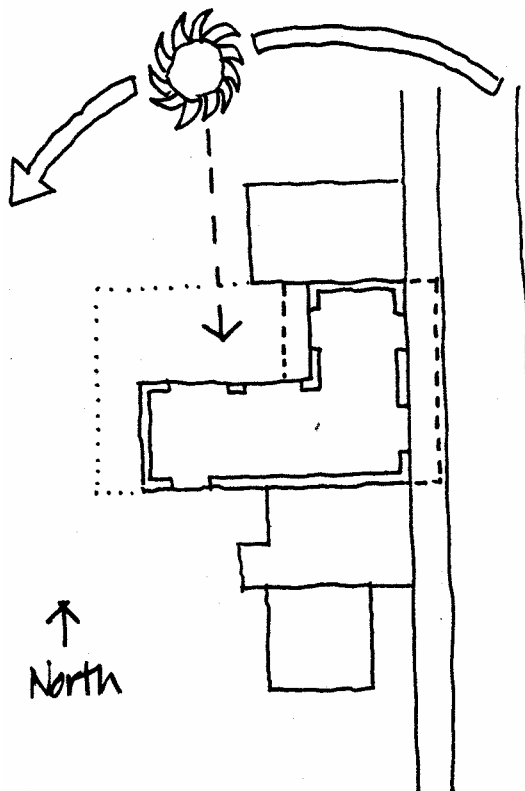
Building shape and orientation are major influences that affect energy consumption. The most critical element of a building's form is the size and orientation of its windows. The shape of a building influences the amount of floor area that can benefit from daylight through windows. Daylight is generally useful to a depth of 4-6 metres from a window.

The existing site constraints of Leichhardt's business centres and industrial areas, will constrain the degree of flexibility of building shape and orientation.

Guidelines

Buildings should be designed to ensure that much of the floor area is within a 4-6 metre distant of an external window. An elongated plan shape produces this characteristic, as will the use or atria and courtyards.

Maximise north and south facades, whilst minimising east and west facades.



Where site conditions allow:

- plan for an elongated shape of a building, orientated in an east-west direction; or
- incorporate atria and courtyards in the building design, to maximise solar access.

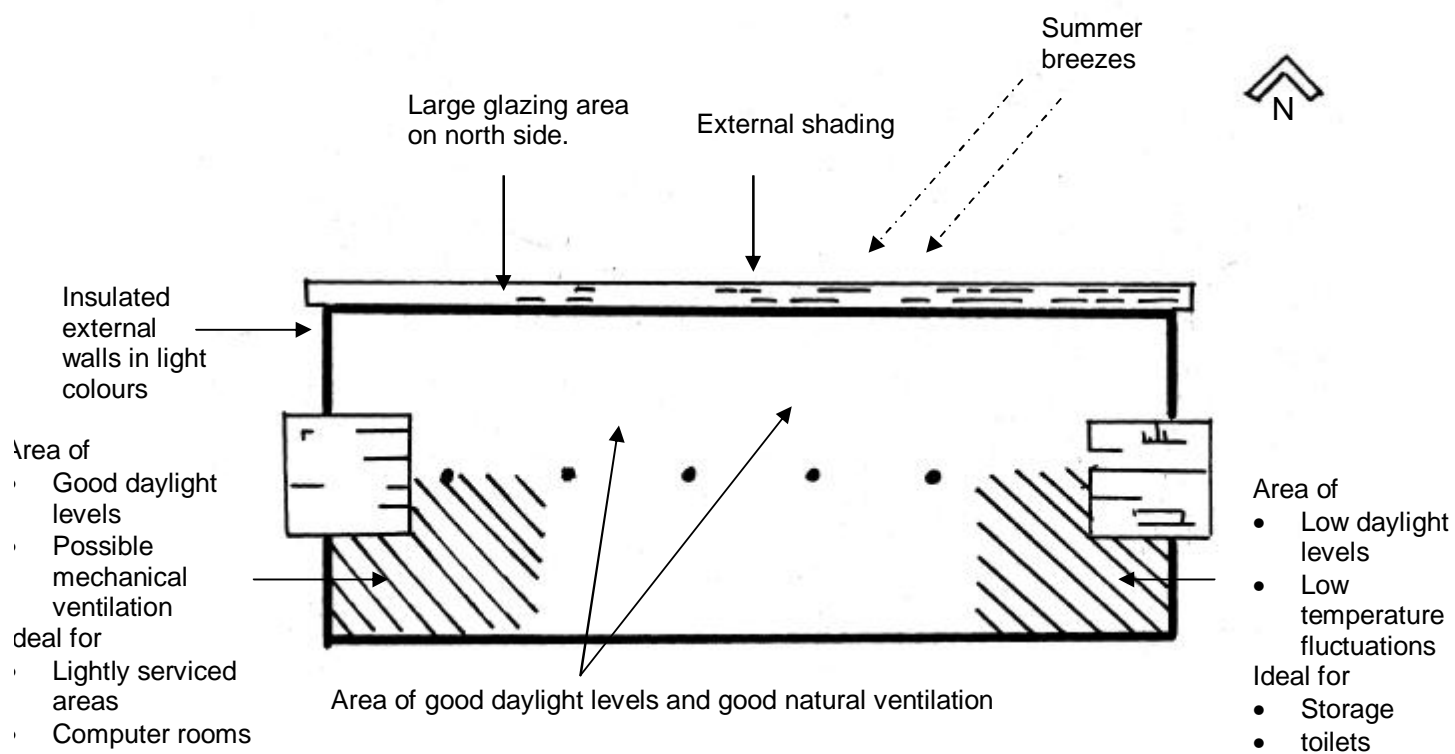
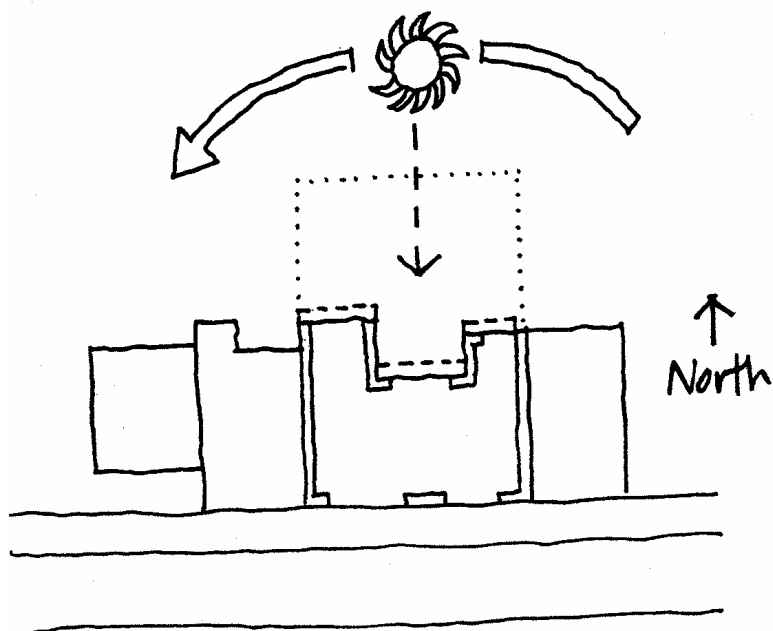
Design commercial buildings to ensure that much of the floor area is within 4-6 metres of an external window.

Where practical, reduce the areas of east and west facing glass to the smallest practical amount in order to still permit views, daylight and market appeal.

Provide vertical external shading to east and west windows.



Typical Low Energy Building –
Floor Plan





C2.3 Design element 10 Building construction Thermal mass and materials

Principles

Improve the energy efficiency and thermal comfort of buildings, by maximising thermal mass.

Choose construction materials that are of an Ecologically Sustainable nature.

Rationale

The principles and properties of *thermal mass, glazing and insulation* are important in achieving energy efficient buildings. *Thermal mass* is a measure of a material's ability to absorb and store heat. Generally, the heavier and more dense a material is, the more heat it will store, the longer it will take to release it and the higher its thermal mass value / rating. Materials commonly used, such as bricks, concrete and stone, have a high heat storage capacity.

Maximising *thermal mass* is important to both heat-gain, and heat-release during the seasons.

In winter, internal walls with a high thermal mass value can soak up heat from the sun through north-facing windows. During the night, this heat is released back into the rooms.

In summer, the thermal mass soaks up excess heat in the building. During the night this heat is slowly released into the rooms, or to any cooling breezes.

Guidelines

Leichhardt Council promotes greater energy efficiency and Ecologically Sustainable Development by requiring the careful choice of building materials.

Choose building materials that take account of the following environmental considerations:

- thermal mass of materials;
- energy efficient materials with low embodied energy;
- recyclable and reusable materials;

- renewable or abundant resources;
- durable materials with low maintenance;
- non-polluting materials;
- environmentally-acceptable production methods.

Maximise the size of north facing walls without reducing solar access to adjoining properties.

Use lighter, more reflective colours for external walls and roofs to reduce heat gain in summer. This is particularly effective if insulation levels in a building are low.

Controls

- **Use materials that have a high 'thermal mass' value, such as bricks, concrete and stone, where they can benefit thermal comfort and energy efficiency.**
- **To be most effective, locate materials with a higher thermal mass:**
 - **inside the building;**
 - **in north-facing rooms, where they can benefit from winter heat gain; and,**
 - **where they are shaded from direct summer sun.**
- **Specify plantation or regrowth timbers, timbers grown on Australian farms or state forest plantations or recycled timbers.**
- **Rainforest timbers or timbers cut from old growth forests are not to be used in Leichhardt.**

Key References;

- Appendix 2 Goodwood Guide for lists of recommended plantation and regrowth timbers, and timbers not recommended in Leichhardt.
- Appendix 3 Embodied Energy and Thermal Mass
- Appendix 6 Typical 'R' Values



C2.4 Design element 11

Solar Control

External window shading and internal and external lighting

Principle

Integrate external window shading into the design of buildings to improve energy efficiency and comfort.

Maximise natural light to buildings and reduce the use of non-renewable energy resources.

Rationale

Windows account for much of the loss and gain of heat in a building, as well as the quantity of daylight, which is let in.

The orientation, size and shading of windows can control the access of sunlight into a building throughout the year. It is important to maximise the benefit of winter sun and minimise the effect of summer sun to achieve thermal comfort and a building, which is energy efficient.

In non-residential buildings the use of artificial lighting can consume considerable non-renewable energy resources. It is therefore recommended that buildings be designed to maximise natural daylight. It is also important to consider the types of appliances, lighting types and controls used within a building in order to maximise the energy efficiency of the building.

Guidelines

Ideally, shading devices should be external.

North facing windows can provide valuable heat gain and light in winter but should be shaded from direct sunlight in summer.

East and west facing windows are difficult to shade in summer and should be minimised. South facing windows require no shading but can cause substantial heat loss in winter.

Maximise north and south windows and minimise those facing east and west.

For north facing walls provide horizontal shading devices such as awnings, upper floor balconies, pergolas, verandahs, eaves and overhangs.

Where windows face east or west, vertical shading devices such as blinds, shutters, adjustable awnings and landscaping should be used.

Consider the location, shape, type and height of fully grown trees when using landscaping as a shading device.

Shading materials are to comply with C1.10 of the Building Code of Australia.

The choice of glass depends upon whether you want to maximise the sunlight or heat loss, or minimise heat gain into the building. Appendix 5 provides a guide to the properties of different glazing types.



The use of skylights, light wells, and atria can let additional daylight into a building although provision of shading in summer and possible heat loss in winter will need to be considered.

The need for artificial lighting can be reduced by the correct orientation and design of the building and the size and placement of windows and service areas which require high lighting levels, eg desks or workstations, by individual task lights.



Lighting costs can be reduced by selecting low energy lamps, ballasts and fittings which provide the desired level of illumination but consume 75% less energy. Lighting controls can be fitted to ensure that lights are not left on when not required. For instance, switches should be provided for separate zones within a large room and for task lights. Time switches or movement sensors should be employed for areas with sporadic use.

Lighting systems should be designed to supplement daylight in order to provide appropriate lighting levels for specific tasks (see Appendix 4).

Controls

- **Where high artificial lighting is necessary for specific tasks, specify task lighting.**
- **Ensure that maximum use is made of daylight to provide appropriate lighting levels.**
- **Provide for external shading to north, east and west facing windows.**
- **For north facing windows, use horizontal shading devices (adjustable or fixed) that maximise winter sun penetration and reduce summer sun penetration.**
- **For east and west facing windows, use vertical shading devices to block the low rays of the rising and setting summer sun.**
- **Use landscaping to reduce summer heat gain, by controlling sun penetration and shading the building and outdoor spaces, without reducing solar access in winter.**
- **Use compact fluorescent or tubular fluorescent lamps with electric, high frequency ballasts instead of tungsten light bulbs (i.e. standard bulbs). Use compact fluorescent or low voltage tungsten halogen lamps instead of tungsten spotlights.**
- **Use solar, metal halide or sodium discharge lamps for outside areas such as carparks.**
- **Ensure lighting controls are sufficient to enable lights to be used only in areas where and when needed. Consider zones which may require a different amount of artificial lighting and have these on a separate switch, eg. windows in cafes or offices. Use time switches and automatic presence detectors for rooms or areas which have sporadic use e.g. changing rooms in retail premises, or after offices are vacated.**



C2.5 Design element 12 Insulation

Principle

Improve the energy efficiency and thermal comfort of buildings through the use of insulating materials in walls, floors, ceilings and roofs.

Rationale

Insulation alters the rate at which a building loses or gains heat. Insulation is not a heat store, it just makes it harder for heat to pass through a wall, roof or floor.

Thermal insulation will help make your building easier to heat in winter, by reducing the rate at which heat is lost, and also help to retain any solar heat gain achieved. In summer, insulation will help reduce heat entering through the walls or the roof, thereby increasing the thermal comfort of the building.

Guidelines

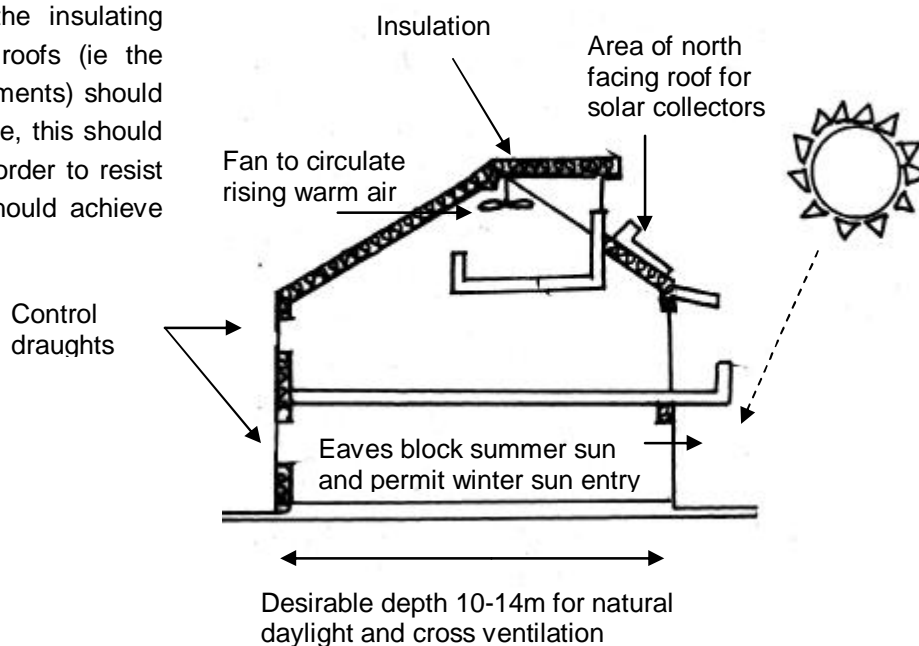
Insulation should be used in external walls and roofs to reduce heat escaping from the building in winter and to maintain lower internal temperatures in summer. The effectiveness of insulation can be measured by its resistance to heat flow, known as a material's 'R' value. The greater the 'R' value, the less heat will flow through the insulating material. The total 'R' value for roofs (ie the combined total of the individual elements) should be at least 2.5R and, where feasible, this should include the use of reflective foil in order to resist inward heat flow. External walls should achieve an 'R' value of at least 1.5R.

Insulation materials are available to suit every situation and can be retrofitted to existing buildings. Examples of the 'R' values achieved by different forms of construction are included in Appendix 6.

Controls

- **Insulate to achieve greater energy efficiency in buildings.**
- **Use bulk insulation and reflective insulation to walls, ceilings and roofs. Construct buildings to achieve a combined 'R' value for insulation to the following standards:**
 - **R2.5 for roofs and ceilings**
 - **R1.5 for walls**
- **Insulate pipes and storage tanks for hot water systems.**

Key references:
Leichhardt DCP No. 35 –
Exempt and Complying
Development





C2.6 Design element 13 Ventilation

Principle

Improve the energy efficiency and comfort of buildings by designing to make the best use of natural ventilation

Rationale

Most people prefer the flexibility of naturally ventilated buildings where windows or vents are easily opened to provide controlled ventilation when needed. However, ventilation is a factor often overlooked at the design stage. Too often, attention is focused upon achieving warmth during winter and not ventilation/ cooling during summer. Natural ventilation relies only on natural air movement and can save significant amounts of fossil fuel- based energy by reducing the need for mechanical ventilation and air-conditioning. It can also help in protecting the ozone layer by reducing the risk of leakages into the atmosphere or the Chlorofluorocarbon (CFC) gases that are still used in many air-conditioners.

Guidelines

Windows should be oriented to take advantage of the cooling summer breezes (predominantly from the NE in Sydney). The position of internal walls and partitions should allow the passage of air through the building although, in some cases, ceiling fans may be required.

In cases where mechanical ventilation is necessary, eg, kitchens, some computer rooms or areas where external noise levels are high, ensure that the system installed has appropriate controls which can cater for the particular use of the building whilst maximising the conservation of non-renewable energy.

Significant factors affecting natural air movement are:

- building form and the location of windows;
- site and landscaping features;
- internal planning and design.

Ventilation can be achieved in the following ways:

- **Cross ventilation**, where air enters a building from one side passing out on the other, replacing warm inside air with cooler outside air.
- **The stack effect**, where warm air rises through the height of the house, and is replaced by cool air at the base of the house.
- **Artificial ventilation**, where fans are used to extract warm air allowing it to be replaced by cool air.

Use the Site Analysis to ascertain wind conditions. Orientate and design buildings to benefit from cooling summer breezes.

For effective ventilation:

- locate openings on opposite sides of rooms;
- locate windows and openings in line with each other, and where possible, in line with prevailing breezes - a low level inlet and high level outlet is preferable;
- use water features such as fountains in strategic positions to cool breezes;
- consider strategic positioning of vegetation to modify wind direction; and
- use ceiling fans to provide a high level comfort on most hot days, at low running costs.

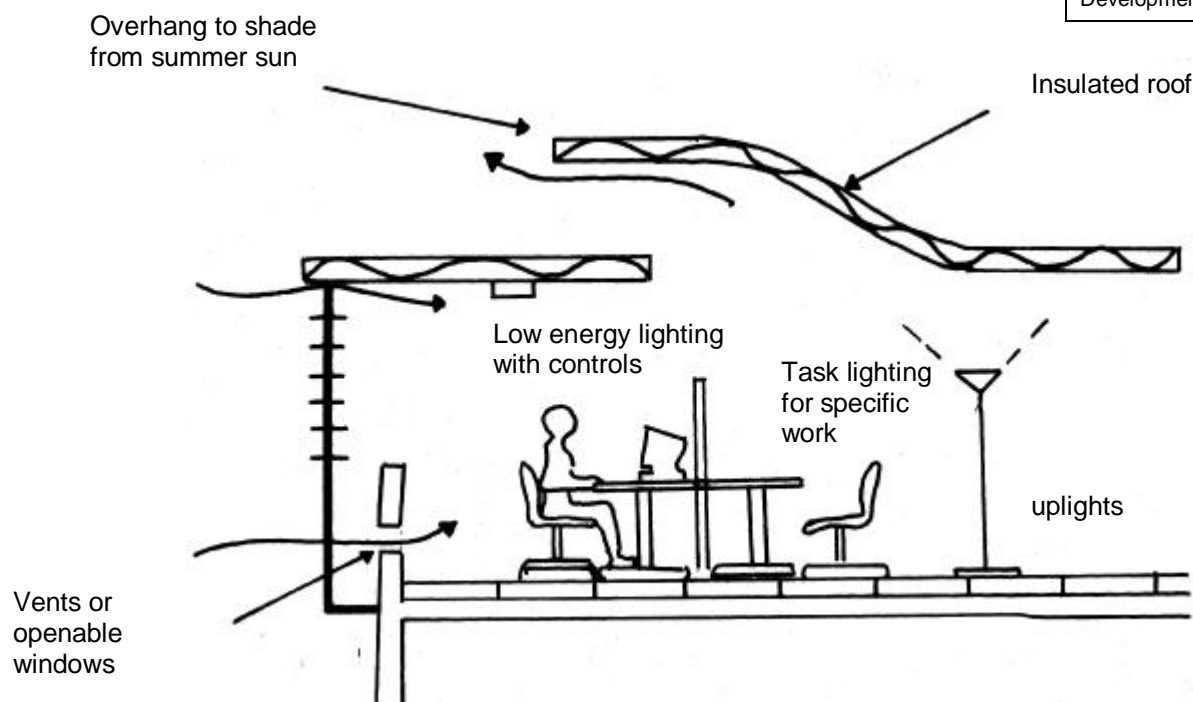
Use window types that provide security while allowing for good ventilation.



Controls

- Design buildings with a maximum internal dimension between openings of 14m to maximise natural ventilation without compromising other design elements.
- Ensure ventilation can be achieved by permanent openings, windows, doors or other devices, which have an aggregate opening or openable size of not less than 5% of the floor area of the room.
- In restaurants or buildings with kitchens where mechanical ventilation is needed, use those which operate directly above cookers, rather than designing high ventilation rates through the whole kitchen.
- Where mechanical ventilation is needed for specific office equipment, or specific plants in industrial unit or warehousing, locate these separately from other activities.

Key references:
Leichhardt DCP No. 35 –
Exempt and Complying
Development



TYPICAL LOW LEVEL ENERGY BUILDING SECTION



C2.7 Design element 14 Space heating and cooling

Principle

Where thermal comfort cannot be achieved through building design elements choose energy-efficient and environmentally-friendly space heating and cooling systems.

Rationale

People, lighting and appliances contribute to the heat generated inside a building. Buildings with good insulation, window shading, effective natural ventilation and high efficiency equipment will provide comfortable workplaces without the need for air conditioning.

Areas of north-facing glazing, good insulation levels and appropriate use of thermal mass, will help reduce the need for additional heating.

Guidelines

If air conditioning is necessary, install a unit with sufficient controls to ensure that it is used only when required. Consider partial air-conditioning directed to areas, rooms where it is needed, whilst the rest of the building remains naturally ventilated.

When choosing heating, consider which type is most suited to your particular needs, i.e usage patterns, location of staff etc. As with other equipment select heating devices that have appropriate controls to cater for the particular use of the building whilst maximising the conservation of non-renewable energy.

Use passive methods of minimising heat gain.

Design buildings with window shading, appropriate insulation, and sealed against hot air infiltration during the day, incorporating ventilation and natural cooling.

Controls

- Install energy-efficient and environmentally friendly space heating systems in all new buildings, conversions and major renovations where needed.
- In industrial units and warehousing, ensure that any goods doors are located away from areas which may require heating or cooling and ensure that they can be closed. Depending on the amount of traffic expected, rapidly closing doors, plastic strip curtains or pneumatic seals should be considered.





C2.8 Design element 15 – Using Solar Energy

Principles

Maximise the use of solar technology in the design of new buildings in order to reduce non-renewable energy consumption and increase the use of renewable energy.

Minimise the visual impact of solar water power collectors and heaters on streetscapes and neighbouring properties.

Rationale

Increasing advances in technology are enabling the provision of solar energy as an energy source. The use of solar energy significantly assists in the reduction of the use of non-renewable resources and the consumption of ecologically degrading energy sources.

The installation of solar water heaters will ultimately reduce cost and provide a constant supply of energy. Such a system enables businesses and organisations to be self sufficient in their energy consumption.

Guidelines

The use of solar technology should be paramount in the design of new buildings and encouraged in major renovations and conversions.

The need for solar water heaters needs to be balanced against the harm that may be caused to the visual appearance of a building and the streetscape by their installation.

Consider appropriate design measures to address their impact.

Solar water heaters may not be beneficial if solar access is insufficient due to orientation or overshadowing. Insufficient solar access is defined as more than 30% reduction in total solar radiation to the solar panels.

Council encourages the use of solar water heaters which also have the capacity to heat and cool spaces. This dual use of a water heating system further increases the energy efficiency of

the building and the positive environmental effects.

Photovoltaic cells (PV's) which convert sunlight into electricity can be incorporated into a building as a cladding or shading element. The electricity produced may be used to meet all or some of the energy needs of the building. The use of PV's is likely to become more commonplace around Australia in the next few years and their use in Leichhardt is encouraged.

Ensure water heaters have efficient thermostatic controls and hot water tanks and pipes are well insulated.

Controls

- **Install solar water heaters of a suitable size for the proposed use in new buildings and in major renovations and conversions that require a new hot water system.**
- **Integrate solar water heaters as part of the building design. Position the units to be as unobtrusive as possible, both to the street and neighbouring properties.**
- **On buildings with a north-facing street frontage, specify and locate solar water heaters to minimise the visual impact of the system on the street. Where possible, set back solar water heaters from the street frontage.**
- **Specify the colour of a solar water heater to be complementary to the roofing materials of the building.**
- **Ensure that mature trees will not shade solar water heaters, both on the proposed development, and on adjoining properties.**



C2.9 Design element 16 Appliances and Equipment

Principle

Minimise the use of non-renewable energy by installing energy efficient equipment and appliances.

Rationale

Light and power is usually the building service that contributes the most to the energy consumption used in buildings.

The energy consumption of non-residential development can be reduced by the application of design guidelines and the careful selection of energy efficient appliances and equipment and management and control of the building spaces.

In catering establishments or shops selling food, cooking and refrigeration can be a major cost. In a modern office, basic equipment such as vending machines, computers, printers, photocopiers and fax machines, can also add considerably to the overall energy costs.

Equipment and appliances consume energy and they give off heat when operating. This may cause the building to require additional cooling. Ways to minimise energy use by equipment and appliances must be considered during the process of building design.

Guidelines

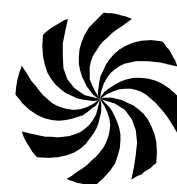
Locate equipment with high heat outputs where they can be easily and discreetly ventilated, and ensure that equipment can be easily maintained.

Energy efficient equipment is available for most tasks. Select those that consume the least energy per unit output. Control mechanisms such as thermostats and regular maintenance of equipment and thermal seals, can often significantly reduce overall running costs. Select office equipment with options for automatic or manual switching to low energy mode.

Energy Management Systems (EMS) are devices used to monitor environmental conditions and control all or some of the building services, such as heating, cooling and lighting. While they vary in sophistication, Energy Management Systems enable desired comfort levels to be achieved within a building while minimising energy consumption. Their use in Leichhardt is encouraged.

Controls

- **Select low energy plant, office equipment and appliances (such as washing machines and dryers in laundrettes and fridges, freezers and dishwashers in restaurants) with automatic or manual switching to low energy mode.**
- **In catering establishments:**
 - **where chest and cabinet freezers are installed use insulated covers over doors/lids, especially at night;**
 - **ensure that refrigerators and freezers are located away from sources of heat and direct sunlight;**
 - **specify highly insulated coolwares for food storage;**
 - **use microwave or fan assisted ovens;**
 - **use an induction hob as an alternative to an electric hob;**
 - **use steamers and fryers with reliable and accurate temperature controls and a high degree of insulation.**





C3.0 Interface Amenity

Interface amenity controls are mandatory for the operational aspects of business, industrial and other non-residential development. They apply to new development, and impose a high standard of control in order to ensure that the amenity of residential areas are protected.

Use these controls and guidelines where non-residential development is located within or adjoins a residential use or area.

These principles are also appropriate for non-residential development in all locations. The application of these guidelines and controls will ensure an improved amenity for the occupants of the industrial and commercial areas as well.



C3.1 Operational Element 1 Noise and vibration generation

Principle

Minimise the impact of noise and vibration by proposed operations and on proposed developments of existing and projected future sources of noise and vibration.

Rationale

To ensure that the quality of life enjoyed by residents and people engaged in business and community pursuits is not hampered by excessively noisy activities.

The State Government has set down standards in relation to acceptable noise levels for all operations and land uses. These standards are set out in the Environmental Protection Authority's Environmental Noise Control Manual and apply in all cases.

Guidelines

The impact of noise generated by a proposal can be minimised to comply with the statutory requirements in different ways. The following guidelines address means of achieving the standards.

Incorporate sound proofing for machinery or activities considered likely to create a noise nuisance during design development.

Locate noisy operational equipment within a noise insulated building away from residential areas.

Design logistically efficient business practises to minimise the use of equipment, movements per site, and number of vehicles movements per site per day.

Where sites adjoin a residential area, limit the number of hours and times at which mechanical plant and equipment is used in conjunction with the measures described above.

Ameliorate the noise and vibration impact of transport operations by using appropriate paving or track mounting and installing acoustic barriers

as required to meet EPA standards on neighbouring uses.

Incorporate appropriate noise and vibration mitigation measures into the site layout, building materials, design, orientation and location of sleeping recreation/work areas of all developments proposed in areas adversely impacted upon by road or rail related noise and vibration must.

Controls

- **All development must comply with the guidelines set down in the NSW EPA Environmental Noise Control Manual, as amended from time to time.**
- **This Manual sets out the acceptable noise levels for all different kinds of uses in different areas. It also takes account of background noise and its measurement. A qualified acoustics consultant may be required to verify techniques and the methodology for assessing the proposal's possible noise generation and compliance with the Manual.**
- **Using the Site Analysis establish residential, business and community pursuits that would need to be protected against noise generated from the site.**
- **Using the Site Analysis, ensure that all proposed residential, business and community related developments in close proximity to sources of noise and vibration, including road and rail corridors, meet requirements of the Manual.**



C3.2 Operational Element 2 Air pollution

Principle

Minimise air pollution caused by new development

Rationale

The air quality in the inner city is the result of many polluting factors. A number of these are increasing -particularly motor vehicle emissions from the ever increasing number of cars on the roads.

Wherever possible Council must attempt to reduce air pollution by reducing the processes and machinery that contribute to it.

Guidelines

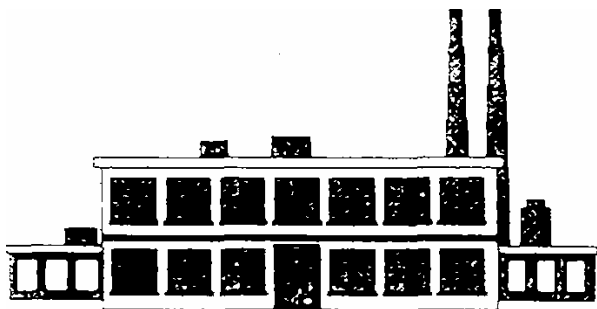
The operation of any new premises and any machinery or plant to be installed or any process to be used must not cause emissions contrary to the Clean Air Act and Regulations. Applicants will need to demonstrate that these Statewide standards are met. Approvals may also be required from the Environment Protection Authority (EPA) for some types of development.

Machinery and operations should be designed to minimise the emission of air impurities. This includes minimising vehicular movements to and from the site.

Restricting the hours of operation may reduce any emissions to an acceptable level.

Controls

- All development must comply with the provisions of the Clean Air Act and its Regulations, as amended from time to time.





C3.3 Operational Element 3 Water Pollution

Principle

Minimise water pollution caused by new development.

Rationale

As a community we must recognise the value of water. It is an essential resource. Council must ensure that all the activities undertaken attempt to improve water quality - not contribute to the pollution of it.

"Waters" include rivers, ponds, streams, wetlands and channels. The water arrives at these places over land, down roads & footpaths and through stormwater drains. This means that all surface water leaving a site and all on-site drain connections have the potential to pollute.

Guidelines

During construction the potential to pollute is high. To reduce this risk Council may require:

- on-site wheel and vehicle base cleaning facilities to reduce soil and contaminated material leaving the site;
- protection of as much existing vegetation as possible to reduce erosion;
- storage of building materials on site to minimise stormwater contamination.

To ensure all potential water pollutants are controlled and dealt with on site. Council may require devices such as:

- effective bunding;
- retention pits;
- grease traps;
- booms and trash racks;
- silt and litter arrester pits;
- siltation ponds.

These lists are not exhaustive and may vary as innovative products and methods are developed.

Controls

The pollution of any waters is prohibited. Discharges from premises of any matter, whether solid, liquid or gaseous into any waters is required to conform with the Clean Waters Act and its Regulations, or a *pollution control approval* issued by the EPA for Scheduled Premises.

Developments must also comply with the Sydney Coastal Councils Stormwater Pollution Control Code, Council's Stormwater Management Policy, and any other requirements of Sydney Water, the EPA and the Sydney Ports Authority. These requirements may change or be updated from time to time.

Key References; Clean Waters Act Sydney Coastal Councils Stormwater Pollution Control Code Leichhardt Stormwater Management Policy
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C3.4 Operational elements Working Hours

Principle

Ensure the operations of the proposed development will not cause nuisance to residents by way of working hours.

Rationale

Where residential and business uses are located close to each, there is potential for activities associated with the business uses to have a detrimental impact on the amenity of the neighbouring residents.

Guidelines

Council seeks to ensure that the hours of operation of businesses, commercial premises and places of work are compatible with the type of activities carried out on the premises and the relationship with neighbouring residential occupiers.

Where residential buildings are physically attached to non-residential buildings, hours of operation should not normally fall outside the hours of 7.30am and 6.00pm Monday to Friday and 7.30am and 1pm on Saturday having regard to the provisions of design elements C3.1 – C3.4.

Hours of operation will depend on the type of use proposed, its location in relation to residential properties and the impact of extended hours on the occupiers of those properties.

Where development sites are within a residential area, hours of work during site preparation and construction should not normally fall outside the hours of 7.30am and 6.00pm Monday to Friday and either 8.00am to 2.00pm on Saturday or 8.00am to 2.00pm on Sunday.



C4.0 Development Types

C4.1 Development Type 7 Home based employment

Principle

To guide the development of home based employment and occupation in a manner that is commensurate with residential areas.

Rationale

Council is committed to the principles of FSD. Providing opportunities to work from home fulfils the implementation of some of those principles and those of Council's Environment Strategy. There are many modes of employment which, with the use of new technology, do not interfere with the amenity enjoyed by residents. Additionally businesses which do not require personnel are also suitable to be based in the home. Cottage industry and craft production could be located within a residential site, which may require noise insulation but could be accommodated without harm to the amenity. Above all, home based employment should not harm amenity and should be capable of integration into a residential environment.

Guidelines

Use the Site Analysis to assess the general nature and character of the neighbourhood in relation to buildings as well as functions.

Hours of work should comply with Operational Element 5 - Working Hours.

Home based employment must not result in the generation of traffic movements over and above those normally associated with residential areas.

Controls

- Ensure that alterations, additions and new buildings respect the scale and character of the residential area.
- The primary use and appearance of the building must remain as residential.
- Home based employment should not result in the need for additional on-site parking or the loss of existing parking facilities.
- The amenity provisions in "DCP Part B -Residential" must be met.



C4.2 Development Type 2

Motor showrooms and service stations

Principles

Design motor showrooms and service stations to positively contribute to the streetscape.

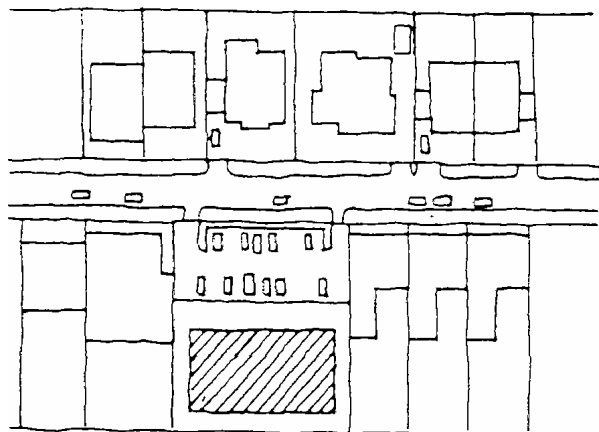
Design, specify and construct service stations to maximise safety and minimise risk to human health, life, property and the natural environment.

Rationale

Businesses and services that require large sites or have other specific requirements can have a significant impact on urban areas. The impact of large buildings can be suitably controlled through the urban form and design guidelines and controls. However, the design of motor vehicle, retail and service facilities may benefit from further guidelines.

Service stations require ease of access for both customer and service vehicles.

The protection of the environment is a key consideration in the development and



construction of service stations, and in particular underground storage tanks. Specific controls are set out below.

Motor vehicle sales establishments have traditionally been located on large sites with a high degree of exposure to a main street. This has often resulted in a forecourt lined with cars and an administration building located at the rear. This has created an anomalous and incongruous feature in the streetscape often exacerbated by bunting, flags and advertising.

Guidelines

Motor showrooms should be contained within a building which addresses the street. The scale and form of the building should be guided by the Site Analysis and sections C1-C3.

Car sales should be contained within a building to positively address the character of the street.

Vehicular movements through the site should be in one direction with a separate entrance and exit point to maximise pedestrian safety. Clear directional signs will assist in the coordinated flow of traffic through the site.

All stormwater should be trapped within the site to reduce the risk of stormwater pollution caused by spilled contaminants. Drainage and waste disposal should be to the levels specified by the EPA.

If car detailing equipment such as vacuums, and car washing facilities are provided, locate these away from residential properties or provide suitable sound attenuation (see Operational Element C3.1).

Improve the service station's contribution to the streetscape with the use of landscaping.



Controls

- Ensure ventilation flues are located away from site boundaries, in particular any adjacent residential properties.
 - Vehicle washing facilities must incorporate water-recycling technologies.
 - Construct new underground storage tanks in primary steel and fibreglass. (The primary steel inner tank provides structural strength, whilst an outer fibreglass shell protects the tank from erosion).
 - Ensure the interstitial space between the outer fibreglass shell and the inner steel tank is vacuum-sealed and monitored by a permanently fixed vacuum gauge. (This allows for periodic inspection of the tank seal throughout its operating life, and indicates any tank damage due to handling, transportation, construction and installation).
 - Locate the fill point for each tank within a spill containment box. Construct the containment box in steel to retain any minor product spills, and drain via a valve into the appropriate storage tank.
 - Ensure all new tank installations are surrounded only by sand or gravel as backfill material. (*The chemical properties of clay-like materials are known to promote the corrosion of steel, whereas sand and gravel are relatively inert*).
- Install all new tanks in strict accordance with The Dangerous Goods Code (1992) and AS1940-1993, "The Storage & Handling of Flammable and Combustible Liquids."





C4.3 Development Type 3 Non-residential Foreshore Development

Principle

Design new development and alterations and additions to respect the function of the site, heritage significance, and cohesive appearance of the foreshore as viewed from the water and land.

Ensure the development does not detract from the amenity of neighbouring residents.

Rationale

Not all land which fronts the foreshore is residential or open space. Industrial land has long been associated with the waterfront for practical reasons and certain business land also has waterfront locations. The redevelopment of this land for purposes permissible in the business and industrial zones can have impact on the appearance of the foreshore both in terms of increased building bulk or inappropriate form and siting and the erosion of the historical context of the foreshore. The foreshore is not only a shared amenity but also an important interface between leisure and employment. It is necessary to preserve the balance between these land uses and physical landscape attributes.

Guidelines

Design buildings to be compatible with the scale and form of surrounding development.

Design buildings which respect the function of the site.

Design landmark buildings that respect the character of Leichhardt in a coherent and sympathetic manner when viewed from the water.

Use articulation and 'light' materials to create a 'transition' between land and water.

Controls

- Ensure site layout provides access to the foreshore where redevelopment allows.
- Respond to foreshore topography. Design sensitively to preserve and enhance the existing natural features and vegetation.
- Design to achieve shared views maximising the number of surrounding residents who can benefit from a view.



C4.4 Development Type 4 Playgrounds

Principle

To encourage the integration of playgrounds into business areas. To ensure the playgrounds provided are safe, stimulating and educational.

Rationale

Playgrounds can take on many forms and can be provided in a variety of locations. They can be indoor, outdoor, attached to a service or commercial enterprise or stand alone, perhaps in parkland. They can range from the provision of a single climbing frame, for example, to small playgrounds or even large adventure playgrounds. The choice, extent and combination of stimulatory and educational equipment for children is vast. It is imperative that these facilities are safe and conveniently located.

The introduction of playgrounds into business areas complements the function and encourages greater use of the area's facilities leading to a more vital and efficient business area.

Guidelines

Where new development involves a series of linked commercial uses, provide playgrounds either internally or externally.

Use the Site Analysis to ensure the natural features of the site are incorporated into the design of outdoor playgrounds.

Ensure playgrounds are overlooked from public places or buildings to encourage the integration of playgrounds into non-residential developments.

Indoor playgrounds have more recently been integrated into private retail outlets and family restaurants. These facilities could be provided on a share basis at commercial centres or office developments. Ensure appropriate soft and hard surfaces are provided for access, impact absorption, interest and drainage.

Ensure landscaping serves the purposes required for the type and function of the playground. Consider scale, screening, shading, shapes,

security, permanent or mobile, indoor or outdoor, sand, mounding and so on.

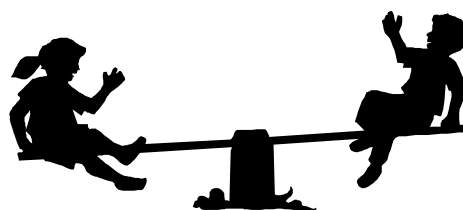
Provide adequate security systems i.e fencing, railings, buffer and safety areas etc, for the expected users.

Ensure playgrounds do not pose a safety threat at night.

Control

- **The design and construction of all equipment must comply with AS 1924.2-81 as amended from time to time.**
- **Comply with the NSW standards and licensing requirements. (Information available from Council's Community Services Department)**

Key References;
Walsh, Prue "Plan it! Guidelines for planning Early Childhood Outdoor Supervised Play Environments In NSW."





C4.5 Development Type 5 Public Domain

Principle

To ensure an integrated, safe, efficient and usable urban environment.

Rationale

The public domain forms that part of the urban fabric shared by the community. Much of the land is in public ownership and forms streets, roads, footpaths, squares and parks. The quality and appearance of these areas has a direct impact on the enjoyment of the places in which we live and work. Street furniture, lighting, public amenities, public works of art and landscaping form an intrinsic part of the public domain and attention to the detail of their design and siting is most important.

The public domain is a transitional area, partly comprising land owned and used by the public, land owned privately and used publicly and land privately owned and used but contributing visually to the public domain.

Guidelines

Public works of art should be provided wherever possible.

Controls

- On development sites in excess of 1000 sq. m 1% of the value of the development should be contributed to the provision of public art.
- Street furniture should be durable and respect the character of the street. It should be recessed where possible to avoid obstacles in the footpath.
- Lighting should sympathetically respect the street scene and use solar technology and it should be strategically placed to avoid light spillage to residential properties whilst providing a safe environment.

- Street trees and landscaping should be provided wherever new roads are proposed.
- Pedestrian crossings should be clearly marked in a highly visible position, at right angles to the kerb and with dropped kerbs. They should be located in a safe and convenient place.
- Avoid clutter in the street and on pavements created by street furniture, public amenities and public utilities.
- Development in open space which is ancillary to the proper functioning of the open space such as 'kiosks' and 'club-houses' should be of a scale, bulk and size appropriate to the setting. Elevational detail and materials should respect the landscaping and the natural setting and complement the appearance of the open space.
- Provide open space, parking and access to the standards of this plan.

Key References:
Parks Plans of Management
and Open Space Strategy
Advertisements



C4.6 Development Type 6 Smash Repairs

Principle

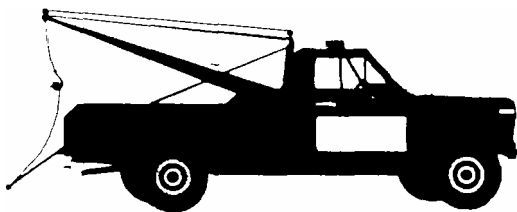
To minimise potential environmental harm caused by smash repair operations.

Rationale

Smash repairs are only permitted in the industrial zone, which should minimise any potential impact on amenity. However, by nature smash repair businesses are noisy and use toxic chemicals, paints etc. Special attention is needed for the design and operation of these facilities.

Guidelines

Specific reference should be made to WorkCover requirements and the trade waste removal guidelines from the EPA.



All stormwater should be trapped within the site to reduce the risk of stormwater pollution caused by spilled contaminants.

Controls

- All work spaces must be contained within a building, appropriately ventilated.
- All client vehicles must be kept on site at all times.
- New buildings are to address the street complying with urban form and design principles.



C4.7 Development Type 7 Transport Facilities

Principle

Allow for a safe, convenient and efficient public transport system and establish a hierarchy of facilities to use, store, garage and service public transport vehicles, which minimises the impact on amenity.

Rationale

Leichhardt is well served by public transport but improvements to the whole system are needed to ensure an efficient public transport network for the future. Leichhardt is currently served by buses, ferries and a light rail system. Freight rail also occupy land in Rozelle which may become available for use by the public transport network.

Other means of public transport may become available to the community in the future. It is important that these services are well integrated and convenient to users to ensure their efficiency. Safety, in terms of location and design of facilities is essential to their continued effectiveness and ultimate contribution to ecologically sustainable development.

Guidelines

In residential areas *Public Transport Stations* are allowable. These are essentially bus, rail, ferry or other public transport stops. They may comprise a simple shelter or a more elaborate structure; vehicle access and parking may also be included.

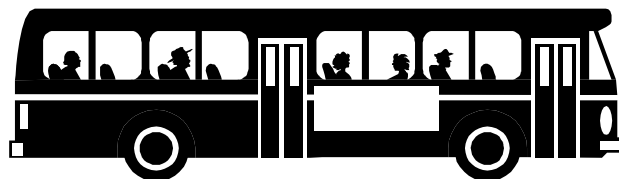
In business areas larger facilities are also allowed. These *Passenger Transport Terminals* provide for transport interchanges. They are areas of major activity with a high rate of passenger throughput. The terminal may offer facilities for staff and travellers, car parking and minor servicing for the public transport vehicles such as refuelling and lubricating (with appropriate should be well lit at night. Clear directional environmental safeguards). Storage of the vehicles may occur but the main function of the terminal is a passenger interchange.

Industrial areas can suitably provide for the major servicing and storage of public transport vehicles. It is more appropriate that this *Transport Dept* be located in the industrial zone rather than the more 'valuable' commercial land where retailing and employment generate passengers.

Pedestrian and passenger safety should be utmost in the consideration of the design. Walkways should be protected from vehicular movements and all areas signs for vehicles and pedestrians should provide easy access to, around and out of the site. Drop off and pick up points should also be provided.

Controls

- **Locate new facilities with direct access to major public transport routes.**
- **Ensure design and operation comply with amenity requirements incorporating the enclosure of noisy machinery and visual screening.**
- **Buildings are to address the street complying with the urban and design principles.**





C4.8 Development Type 9 Youth Facilities

Principle

To provide programs, supervised facilities and open space which caters to the current and emerging needs of young people as documented in the Council's Social Plan.

Rationale

The importance of neighbourhood level services and facilities is growing, particularly as young people attempt to find peer support and contract their identity in a world where everything else is in a state of flux, especially work and education. Given that many young people do not relate to school as a source of personal identity because of alienation, or to paid work because of high levels of youth unemployment, the notions of 'territory' and relationship to place has major implications for how these young people see themselves. The development of local pride through provisions of well maintained or unique amenities can bolster general confidence and self esteem for young people in these areas, particularly when amenities are tied to activities which the young people can directly engage in.

Any commercial venue which is publicly accessible and which involves significant 'public space' would be conceived of in terms of 'community space', and as having multiple uses beyond that of commercial activity per se.

Young people (20-25) make up approximately 20% of the community. Provisions for young people must acknowledge that young people have essential rights, including the right to meet together, to recreate and to be free from unnecessary interference by authority figures.

Currently there is a dearth of youth specific venues. Council should ensure that young people have adequate social, leisure and recreation services and facilities in suitable and accessible locations. The dispersal of venues and services is crucial to giving young people in specific areas a sense of local identity and belonging. Provisions should cater to the diversity of young people,

recognising their social, economic and cultural backgrounds.

Guidelines

Where new development involves the creation of 'public space', developers should consult with Community Services staff to ensure 'youth facilities are planned and accounted for in the development.

Young people should be actively encouraged and constructively involved in the design and management of youth facilities in conjunction with, and with respect of, appropriate authority figures, including youth and community workers.

Provision of services and facilities must take into account the specific needs of certain population groups, such as people from non-English speaking backgrounds, indigenous young people, young people with disabilities and young women.

Key References: Leichhardt Social Plan



C4.9 Development Type 10 Licensed Premises

Principle

Introduce area based controls relating to licensed premises to ensure the amenity of surrounding areas are protected and maintained.

Establish a two tier layer of control that clearly defines areas where Council would consider, on merit development applications for licensed premises to operate longer trading hours and areas where extended trading hours are not encouraged due to the potential impacts from licensed premises.

Rationale

The 'identified longer trading hours precincts' identified in this section (see attached maps) have been identified as areas where night time commercial activity is appropriate and it is therefore appropriate that in certain instances licensed premises be permitted to trade beyond midnight Thursday to Saturday. Licensed premises outside these areas are not considered appropriate for trade after midnight due to the potential interface issues with residential areas. While there are licensed premises both in and outside these areas that are currently permitted to trade beyond midnight, controls for licensed premises within these designated areas reaffirms the desired future character of these areas.

Guidelines

Development applications for new licensed premises as well as applications to increase trading hours for existing licensed premises must comply with conditions that are designed to ameliorate adverse amenity impacts that the proposal could cause. Given the mixed residential/commercial context of much of the Leichhardt local government area applications for extended trading hours for licensed premises are often unable to achieve

acceptable business hours while addressing residential amenity issues to the satisfaction of all parties. The 'identified longer trading hours precincts' indicate the locations where Council will consider the extension of trading hours beyond midnight. Applications for licensed premises outside these locations will still need to address the relevant controls listed below.

Controls

Hotels and Nightclubs

- All development applications for hotels or nightclubs or for extension of trading hours for hotels and nightclubs must include the following:
 - A comprehensive management plan including but not limited to the following:
 - responsible service of alcohol
 - non-admission of intoxicated persons
 - prevention of underage drinking
 - erection of appropriate signage
 - erection of an external sign with a 24 hour contact number for management, for the use of members of the public concerned about the hotel operation
 - closure of outdoor areas of premises after certain hours
 - ensuring the availability of food at all times
 - designating a member of staff as responsible for security at all times
 - maintaining an Incident Book
 - measures to reduce waste and rubbish generated from the premises
 - measures to address the availability of public transport to patrons leaving the premises at closing times



- measures to ensure the impacts of cleaning operations after closure are minimised.
- Noise Abatement Report
 - A noise abatement report shall be prepared by a suitably qualified acoustic consultant detailing existing and proposed noise attenuation measures to ensure the following:
 - § The L10 noise level emitted from the premises, when assessed at any residential boundary, shall not exceed the L90 ambient background level in any Octave Band Centre frequency (31.5 Hz to 8 kHz inclusive) by more than 5 dB(A) between the period 7am to midnight;
 - § The L10 noise level emitted from the premises, when assessed at any residential boundary, shall not exceed the L90 ambient background level in any Octave Band Centre frequency (31.5 Hz to 8 kHz inclusive) between the period midnight to 7am.
 - § Notwithstanding the above, noise emission from the premises shall not be audible inside any habitable room of any residential premises between the period 12 midnight and 7am.
 - § L10 may be taken as the average maximum deflection on a sound level meter.
- Security Management Plan
 - A security management plan is to be prepared detailing the measures that are to be employed to ensure the safety of patrons and methods to ensure the orderly behaviour of patrons both in and outside the subject premises.

- Social Impact Plan

- A Social Impact Plan is to be prepared including an assessment of the potential impacts of any proposal on the local community.

- Parking and Traffic Study

- A comprehensive parking and traffic study is to be prepared detailing the potential impacts on local parking and traffic networks as a result of the proposal and means that will be undertaken to ameliorate any potential impacts.

- Other programs or plans as may be required by Council.

- Hours of operation

Where premises are within 50m of residential properties, any outdoor seating area should cease trading & use by 10pm except where the seating is fronting a main commercial street. Outdoor seating areas should not be used for functions at any time and music (live or amplified) should not be audible outside the premises.

Extending hours of operation beyond midnight for licensed premises outside the 'identified longer trading hours precincts' are not supported.

The maximum hours of operation that will be considered for hotels and nightclubs within the 'identified longer trading hours precincts' are as follows:

- 10am to 12 midnight Monday, Tuesday, Wednesday and Sunday
- 10am to 1.00am (the following morning) Thursday, Friday and Saturday

The controls for hotels and nightclubs must be met to the satisfaction of Council otherwise extension of trading hours beyond midnight will not be permitted.



Restaurants

- All development applications for new restaurants or for extension of trading hours for existing restaurants must include the following:
 - A comprehensive management plan including but not limited to the following:
 - measures to reduce waste and rubbish generated from the premises
 - measures to ensure the operation of the business does not adversely impact the surrounding neighbourhood
 - Parking and Traffic Study
 - A comprehensive parking and traffic study is to be prepared detailing the potential impacts on local parking and traffic networks as a result of the proposal and means that will be undertaken to ameliorate any potential impacts.
 - Other programs or plans as may be required by Council.
- Hours of operation

Extending hours of operation up to midnight for licensed premises outside the 'identified longer trading hours precincts' are not supported.

The maximum hours of operation that will be considered for restaurants within the 'identified longer trading hours precincts' are as follows:

 - 10am to 12am (the following morning) Thursday, Friday and Saturday
 - Normal trading hours apply on Sunday, Monday, Tuesday and Wednesday.

The controls for restaurants must be met to the satisfaction of Council otherwise extension of trading hours up to midnight will not be permitted.

Smoking Terraces

- The following will need to be confirmed with any application for smoking terraces for licensed premises:
 - the purpose of the application is to establish a short stop or short term 'breakout area' for smokers;
 - there will be no music or entertainment in the area;
 - appropriate ashtrays will be installed and the area regularly cleaned;
 - smokers will be discouraged from remaining in the area longer than necessary than to have a cigarette.
- Signage is to be provided advising patrons that the use of the outdoor terrace is subject to their behaviour being appropriate to meet the noise parameters of the LAB. Failure to behave appropriately will result in access to the area being denied.
- Other than those required by emergency systems, PA or audio systems are not to be installed in the outdoor terraces.
- The outdoor area shall be designed to be visually connected to the interior spaces to enable passive surveillance by floor staff and general patrons. In addition, a closed circuit security system should be considered to ensure the outdoor areas are fully monitored, thus inappropriate behaviour will not only be recorded for disciplinary purposes, but identified to enable floor staff to rectify the problem.
- Where necessary, the terrace must incorporate the added feature of an air lock to minimise the potential for noise spill from the Club's interior. Doors to air locks are to be fitted with appropriate door closing hardware to ensure that they are not 'held open' which could negate the acoustic benefits.
- Where appropriate, the smoker's terrace is not to be used as an



additional place for drinking and dining. No tables, chairs or service are to be provided on the smoker's deck. Service to patrons is to be restricted to internal areas. Staff should not serve patrons in the outdoor terrace, in the aim of discouraging patrons from remaining in the smokers' terrace and encourage them to return to the primary facilities inside the premises. The applicant should initiate staff training & procedures to administer their responsibilities under the Smoke-free Environment Act.

- In instances where there is uncertainty over the appropriateness of the smokers' terrace that the consent only be granted for a limited time i.e. 12 months. This would enable the applicant to lodge a Section 96 application after 12 months of the release of an Occupation Certificate seeking the removal of the condition imposing the trial. The application must be accompanied by an Acoustic report providing details of acoustic testing carried out and the results of such tests in comparison to the acoustic criteria as noted in the conditions of consent.

Additionally the applicant can also be requested to undertake a further parking survey at the midpoint of the trial period and a further one just prior to the lodgement of the application to extend the life of the trial or to make the hours trialled permanent ones.

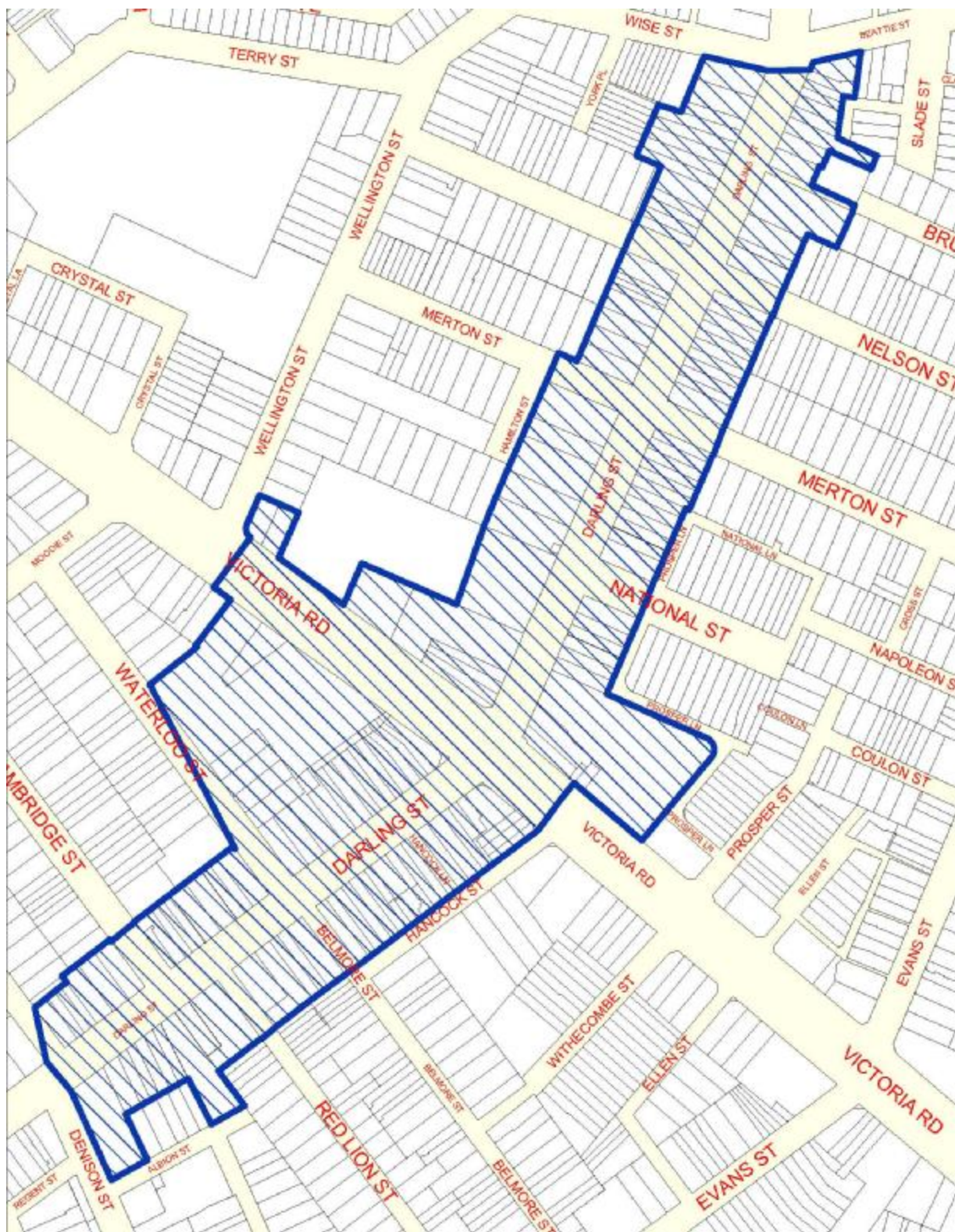
A copy of the 'Incident Book' as required by the Plan of Management shall also be submitted with the subsequent Section 96 application.



The map displays a residential area in Parramatta, New South Wales, with a blue outline highlighting a specific area. The streets are labeled with names such as Allen St, Macaulay St, Carlisle St, Marlborough St, Marion St, Day St, Cary St, Reuss St, Rosey St, Excelsior St, Jarratt St, Fenwick St, Norton St, Short St, Arthur St, Wetherill St, Leichhardt St, and Balmain Rd. The map also shows the locations of various schools, including St. John's School, St. Mary's School, and St. Peter's School. The map is oriented with North at the top.



Area 2 - Rozelle



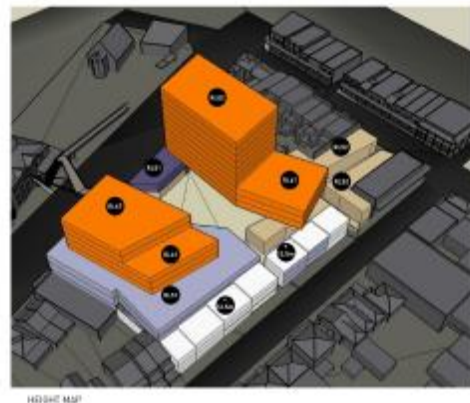


Area 3 - Balmain





D1.0 SITE SPECIFIC CONTROLS BALMAIN LEAGUES CLUB PRECINCT





Balmain Leagues Club Precinct

D1.1 Land to which this Section Applies

This section applies to the properties identified below and illustrated in Figure 1.1 herein referred to as the Balmain Leagues Club Precinct.

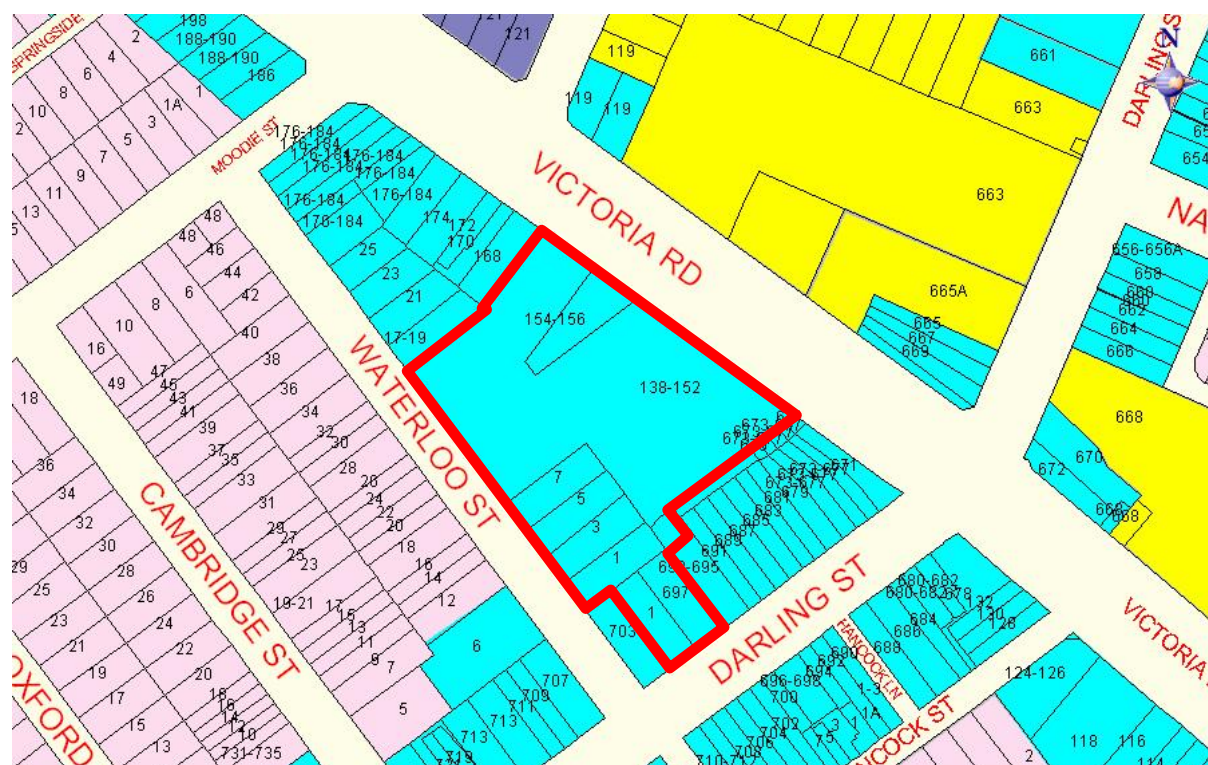
Properties to which this development control plan applies:

- 138-152 Victoria Road Rozelle (being Lot 1 DP 528045)
- 154-156 Victoria Road Rozelle (being Lot 1 DP 109047)
- 697 Darling Street Rozelle (being Lot 104 DP 733658)
- 1-7 Waterloo Street Rozelle (being Lots 101 & 102 DP629133, Lot 37 & 38 DP 421 and Lot 36 DP190866)

These properties are the subject of a site specific amendment to Leichhardt Local Environmental Plan 2000 (Amendment No.16).

For ease of description, these properties are called the “*Balmain Leagues Club Precinct*”.

Figure 1.1 Area to which this Development Control Plan applies (*Balmain Leagues Club Precinct*)





D1.2 Background

This section of Leichhardt Development Control Plan 2000 has been designed to guide the redevelopment of the subject lands in conjunction with the site specific amendment to Leichhardt Local Environmental Plan 2000.

D1.3 Relationship with other Standards Contained within this Development Control Plan

This section of the Development Control Plan applies to the *Balmain Leagues Club Precinct* only, and is not applicable to any other site(s) within the Area.

Development within the *Balmain Leagues Club Precinct* is subject to the relevant objectives, guidelines and controls contained in Leichhardt Local Environmental Plan 2000, as amended by Amendment No.16, Development Control Plan 2000 as amended by the addition of this section. Where there is a direct conflict between the site specific controls in this section and any other sections of Leichhardt Development Control Plan 2000, this section shall prevail.

D1.4 General Objectives

- To provide a planning and urban design framework that guides the redevelopment of the *Balmain Leagues Club Precinct*.
- To enable the redevelopment of the *Balmain Leagues Club Precinct* as a consolidated parcel.
- To encourage well designed development with articulated height and massing.
- To promote development that links to and contributes to the ongoing vibrancy and viability of the Rozelle Commercial Centre.
- To promote the long term viability of the Balmain Leagues Club on the site, for the benefit of the local community.
- To promote low and moderately priced housing through a mix of dwelling types.
- To ensure an integrated and well designed public domain environment that supports the existing Rozelle commercial area.
- To promote ecologically sustainable development.



D1.5 Layout and Massing

Objective

Enable the redevelopment of the site whilst minimising impacts on the surrounding area.

Rationale

Development within the *Balmain Leagues Club Precinct* represents a varied building scale from the surrounding area. In facilitating this development, it is integral that the design process seeks to manage and mitigate impacts on surrounding properties.

Design or Planning Principles

The scale, bulk and placement of buildings should be designed with reference to the following:

- **Scale and Form:** where the height and scale of development departs from the scale and form of the surrounding area, transitional elements, such as setbacks and variable heights are to be used to reduce impacts, particularly along Waterloo Street and to the rear of the Darling Street properties.
- **Block Pattern:** buildings (particularly at the lower levels) are to be placed around the perimeter of the block to promote the formation of a street edge that encourages formation of street walls, maximises surveillance of the public domain and facilitates active street frontages.
- **Open areas:** open plaza/courtyard areas are to be provided in the centre to reduce density and increase solar access within the development.
- **Pedestrian movement:** pedestrian movement through the site is to be encouraged and integrated by accessible means with established pedestrian routes including Darling Street and Victoria Road.
- **Solar Access:** Larger scale buildings are to be orientated to maximise solar access to areas of open space, whilst minimising the impacts of overshadowing on adjoining properties.
- **Visual and Acoustic Privacy:** Separation distances between buildings are sufficient to ensure a satisfactory degree of privacy is achievable within all residential dwellings.



Controls

- Development (including balconies) may only occur within the building envelopes as shown in Figures 5.1 and 5.2 below.
- There is to be no additional overshadowing after 10:30 AM for any Waterloo Street residential properties on the winter solstice.
- Limit overshadowing of surrounding properties to that cast by building envelopes shown at Figures 5.1 and 5.2.
- Provide a 1.5 metre setback at ground level and an additional 1.5 metre setback above the podium level from the private right of way at the rear of the Darling Street properties.
- Minimise visual impacts of the development from Darling Street.
- Provide a setback or architectural treatment to new buildings along Waterloo Street to enable an appropriate transition to new development.
- Reflect the fine grain residential character of Waterloo Street, the building forms in Waterloo Street should be vertically articulated to reflect the pattern of residential lot development and step with the topography.

Figure 5.1 Height map

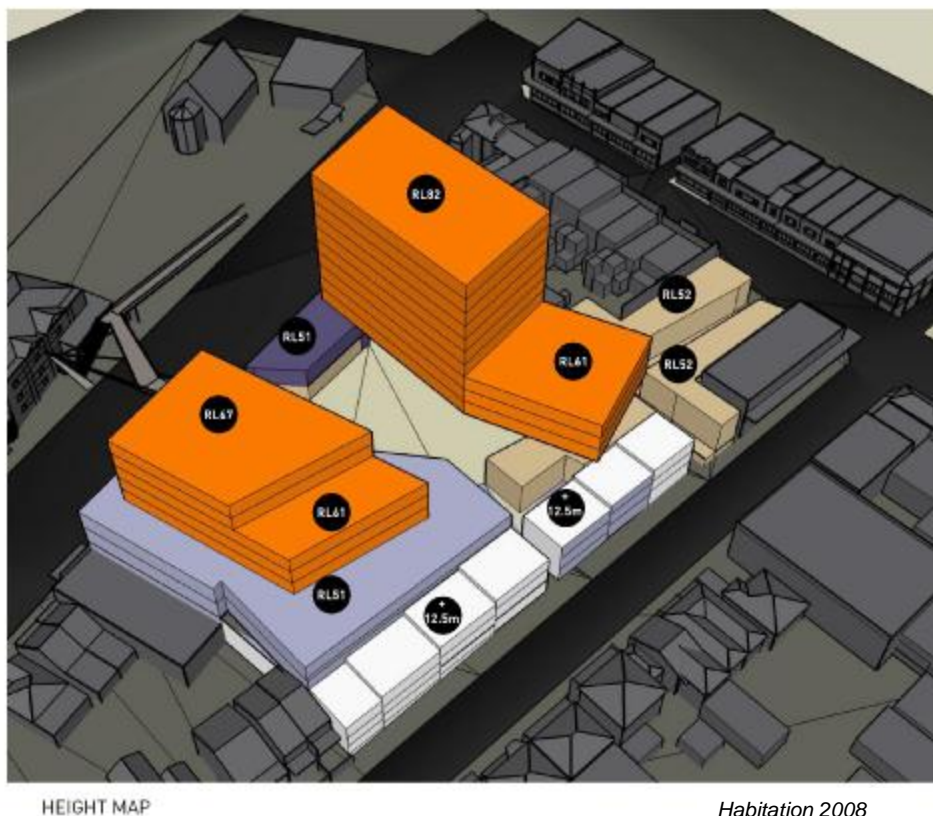




Figure 5.2 Major setback map



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D1.6 Land Use

Objective

Provide a diverse range of uses and distribute them in a manner that:

- Contributes to the development of a vibrant Rozelle commercial centre.
- Reduces reliance on motor vehicles and encourages pedestrian use.

Rationale

Land use mix refers to the types of uses to be provided on site and their distribution within building envelopes. The Business Zone allows for a range of land uses to be provided on the site. This creates the opportunity to provide a vibrant mix of uses. The mix and distribution of land uses should be guided by the site analysis process to promote a sustainable and integrated addition to the Rozelle Commercial Centre and to address the contrasting characters of Waterloo Street and Victoria Road.

Design or Planning Principles

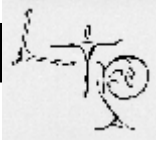
- Provide a range of land uses to promote the development of a vibrant Rozelle commercial centre that meets the needs of the local community. The range of uses shall include:
 - Commercial
 - Retail including a supermarket and fresh food market
 - Restaurants and cafes
 - Residential
 - Car parking
 - Leagues Club
 - Plaza and other public accessible spaces.
- Locate smaller scale retail units, in particular cafes and restaurants, around the central plaza and internal pedestrian routes to enhance activity levels.



- Locate larger scale retail development, which require larger servicing areas within basement levels.
- Reinforce Waterloo Street as a transition between residential and commercial land uses.
- Locate commercial development (other than access) along the Victoria Road frontage.
- Provide a broad unit mix and adaptable accommodation.

Controls

- Residential unit mix shall be consistent with Part 4 Clause 19(6) Diverse Housing and Clause 19(7) Adaptable Housing in Leichhardt Local Environmental Plan 2000.
- Noise sensitive areas (such as bedrooms) shall be located away from noise sources. (Refer to State Environmental Planning Policy (Infrastructure) and other relevant planning policies).
- Noise sensitive shielding or attenuation techniques shall be provided as part of the design and construction of the building.
- Safe and accessible paths of travel shall be provided from established retail and commercial areas along Darling Street and Victoria Road to the central plaza area.
- The development shall include all of the following:
 - o direct pedestrian access to Darling Street
 - o Pedestrian bridge over Victoria Road accessed directly from the development and via lift and stairs or ramp from both sides of Victoria Road
 - o Free home delivery from all shops located on site to within a five kilometre radius of the centre
 - o Community bus (minimum 25 seater, accessible & free) operating the same hours as the shops and travelling the major roads of the municipality from East Balmain to Parramatta Road. A travel route map and timetable shall be submitted with any development application
 - o Bike facilities for both shoppers and staff - a minimum of 55 bike spaces, with lockers and shower facilities



- o Bike facilities for residents at a rate of 1 per every 5 units plus a minimum of 5 visitor spaces
 - o A minimum of six marked car spaces for the exclusive use of car share scheme
 - o A designated area, in an easily accessible place within the development, for taxis to pick up and drop off.
- Any pedestrian overpass shall not prevent paths of travel along Victoria Road.

D1.7 Building Language

Objective

To provide an iconic landmark development through high quality design, the use of innovative architectural forms and high quality materials and finishes.

Rationale

Development within this precinct will form an integral part of the Rozelle commercial centre and will be widely recognisable. The development will need to display iconic qualities and promote a strong sense of place. A contextual view will also need to be employed throughout the design process that seeks to integrate development of the site with the surrounding built environment.

Planning Principles

- Employ high quality architectural expression that is innovative and contemporary, with reference to the following:
 - o Contemporary forms: embrace modern forms that are based on recent construction methods and the incorporation of ecologically sustainable development principles
 - o Articulation: use articulation to break up the bulk of larger buildings and provide a greater sense of transition between the site and the surrounding area. For example greater levels of articulation levels should be provided along the Waterloo Street frontage to reflect the small lot development of surrounding residential streets
 - o Materials and finishes: use high quality materials and finishes that highlight architectural features and enhance articulation. Encourage the use of materials that are durable, produce low glare and do not require high levels of maintenance, particularly around public spaces
 - o Legibility: use balanced variations in form, articulation and materials/finishes to highlight individual buildings and enhance the visibility of entrances



- o Fenestration: reflect the function of buildings through fenestration patterns. Avoid expansive areas of blank glass especially along Waterloo Street, Moodie Street and internal public spaces. Avoid solid walls throughout.
- o Roof structures: carefully integrate roof structures into the architectural style of the building and minimise the impact of any plant or telecommunications equipment
- o Street pattern: reinforce the fine grained residential character along Waterloo Street through residential development height conforming to the topography of Waterloo Street
- o Street interface: maximise activity level and surveillance along main pedestrian routes by placing small retail units around the plaza and pedestrian links. Encourage greater surveillance along Waterloo Street by providing individual entryways to residential dwellings.

Controls

- The design of the built form is to be developed by the applicant in accordance with Leichhardt Development Control Plan 2000 and in consultation with a Design Review Panel appointed by Council.
- In accordance with State Environmental Planning Policy 65, a Design Statement is to be submitted in support of any development application comprising residential flat development. The Design Statement is to address relevant issues relating the design of all buildings (with reference to the *Residential Flat Design Code* (where appropriate)).
- The non residential component of the building shall have an Australian Building Greenhouse Rating of a minimum of 4 stars.
- The proposal should demonstrate compliance with the objectives for energy efficiency and water conservation as provided in State Environmental Planning Policy 65.
- Unit depth shall be a maximum of eighteen metres to maximise opportunities for natural ventilation. Where unit depth exceeds eighteen metres, the design must demonstrate how natural ventilation can be satisfactorily achieved particularly in relation to habitable rooms.
- Living rooms and private open spaces for at least 70% of apartments should receive a minimum of three hours direct sunlight between 9AM and 3PM on the winter solstice.
- A maximum of 10% of single-aspect units may have a southerly (SW-SE) aspect.
- Balconies should be a minimum area of ten square metres with a minimum depth of 2.4 metres and directly accessible from main living areas.



- All roof structures, such a plant, lift overruns and telecommunications equipment shall be integrated into the design of the development and setback a minimum of five metres from any external building facade.
- A minimum articulation zone of four metres shall be provided within the perimeter of the building envelope. Of this articulation zone up to 75% of this zone may contain floor space. However, the remaining 25% articulation space shall not wholly be used for balcony area.

D1.8 Development within the Conservation Area

Objective

Ensure new access ways and infill buildings along Darling Street enhance the character of the streetscape.

Rationale

Development within the conservation area would provide an essential pedestrian link from Darling Street to the central plaza area. Infill development within the conservation area would be designed to sensitively relate and minimise impacts to the broader conservation value of the locality.

Planning Principles

For the *Balmain Leagues Club Precinct* to become an integral part of the Rozelle commercial centre, a direct link between Darling Street and the central plaza area is needed. The Darling Street streetscape is of conservation significance. Replacement buildings which frame the new access point and pedestrian link between Darling Street and the plaza area need to be designed so that the significance of the streetscape is maintained and enhanced.

- Retain the contributory features of properties fronting Darling Street however allow the demolition of No. 697 Darling Street and No. 1 Waterloo Street to facilitate the pedestrian link between Darling Street and the central plaza area.
- Promote infill replacement buildings at Nos No. 697 Darling Street and No. 1 Waterloo Street which are designed to maintain and enhance the character of Darling Street with reference to the following:
 - o Contemporary design: the buildings should clearly read as new



- o Massing and scale: setbacks and floor levels should align with those of adjoining buildings at all levels to promote a sense of streetscape continuity
- o Materials and finishes: materials should be of lightweight construction to highlight the contemporary design of infill development and provide a bridging element between older structures
- o Articulation: heavy articulation should be avoided and buildings should be vertically proportioned in keeping with the predominant streetscape pattern.

Controls

- The design of infill development is to be addressed as part of a State Environmental Planning Policy 65 Design Statement that takes in account the guidelines listed above.
- Development within the conservation area shall be restricted to a maximum height of RL 52.0 AHD and consistent with adjoining properties with particular respect to height and scale.
- For any major redevelopment proposal on the subject lands, a heritage impact statement is to be provided with development application submitted to Council to assess the impact of the proposed works on the conservation area and heritage items in the vicinity of the proposal.

D1.9 Public Domain and central plaza area**Objective**

Provide major public domain improvements in conjunction with the redevelopment of the *Balmain Leagues Club Precinct*.

Rationale

The intensive redevelopment of the *Balmain Leagues Club Precinct* will place greater pressures on the surrounding area in terms of both vehicular and pedestrian traffic management and will also create greater demand for publicly accessible open space. Given the scale of development, new public domain areas and improvements to existing pedestrian infrastructure need to be incorporated into the design of the development.



Planning Principles

- Provide new public domain and improvements to existing pedestrian infrastructure including the following.
 - o Plaza area: a publicly accessible plaza shall be located in the centre of the Balmain Leagues Club Properties that is designed to accommodate a range of such as outdoor restaurants and cafes, stalls, kiosks and display areas
 - o External pedestrian environment: upgrade surrounding footpaths around the perimeter of the Balmain Leagues Club properties with planting, materials and furniture consistent with the Council's public domain strategy/masterplan for the locale
 - o Pedestrian bridge: provide an attractive and artistically designed pedestrian bridge that connects the northern and southern sides of Victoria Road and provides an alternative and safe crossing point
 - o Through site links: provide unrestricted pedestrian access between Victoria Road, Darling Street and Waterloo Street to increase permeability and enhance the local pedestrian network.

Controls

- New public domain and improvements to existing pedestrian infrastructure are to be provided as illustrated in Figure 9.1. Note a Landscape Masterplan with full details of all improvements is required to be lodged with the development application.
- The plaza area is to have a minimum area of 1,700 square metres and shall be accessible at all times.
- A maximum of 500 square metres of the plaza area may be used for retail purposes (eg. outdoor seating/dining and kiosks) and must not conflict with paths of travel.
- The pedestrian bridge is to be accessed from the southern and northern sides of Victoria Road and allow direct access from Victoria Road via the plaza. The pedestrian bridge is to comply with Australian Standard AS 1428.
- Any advertising on the pedestrian bridge over Victoria Road is to comply with the requirements of State Environmental Planning Policy 64.



Figure 9.1 Public domain plan



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Note: Extent of footpath works would be subject to development consent.



D1.10 Access and Management

Objective

Configure parking areas and entrances so that the focus of heavy vehicle movements is Victoria Road, and that traffic impacts on neighbouring residential areas is contained.

Rationale

Vehicular access to the site is constrained by heavy traffic flows along Victoria Road, the residential nature of streets to the north and west and the existing built form. Access to the site will need to be carefully considered. A balanced approach will be required to protect the amenity of surrounding residential streets and minimise any disruption to the surrounding street network.

Planning Principles

- Vehicular access to the site shall:
 - o minimise the impact of additional vehicular movements in surrounding residential streets, in particular heavy vehicles
 - o concentrate retail and commercial vehicle movements to and from Victoria Road
 - o provide ease of ingress/egress for vehicles to and from Victoria Road
 - o minimise potential pedestrian and vehicular conflicts
 - o identify the physical works to the surrounding road network to accommodate the proposed development.

Controls

- Vehicular access to and from the site is to be provided in accordance with *Table 10.1* below.

**Table 10.1** Vehicular ingress/egress

Land use	Ingress	Egress
Residential	Waterloo Street and Victoria Road	Waterloo Street and Victoria Road
Club	Waterloo Street and Victoria Road	Waterloo Street and Victoria Road
Retail	Waterloo Street and Victoria Road	Victoria Road only
Commercial	Waterloo Street and Victoria Road	Victoria Road only
Servicing un/loading	Victoria Road only	Victoria Road only

- A Traffic Management Plan that addresses issues relating construction and operation phase of development shall be prepared. The Traffic Management Plan shall assess additional traffic generated by the development, including issues raised above.
- Direct pedestrian movement is to be provided through the central plaza area and is to be unobstructed (with a minimum path width of five metres that is clear of all obstructions).
- Where buildings or other structural elements overhang the central plaza area or primary pedestrian routes between the plaza area and Darling Street, there shall be a minimum overhead clearance of six metres.
- Service areas and loading docks for all land uses (such as deliveries, waste and recycling collection) which require access by heavy vehicles are to be directly accessed from Victoria Road only.
- Access, vehicle circulation, parking, un/loading and service areas are to be wholly separated for residential and non-residential uses.
- Lifts to/from basement and entry/access points are to be separate for residential/non-residential uses.
- Egress for retail and commercial traffic to be limited to Victoria Road only.
- Adequate loading, unloading, waste and recycling collection and management facilities are all provided in a discrete manner, such as to the rear of buildings or within basement levels only. Provision of garbage collection for all uses shall be limited to within the site.

Note: any reasonable works deemed necessary by the Roads and Traffic Authority and Council to facilitate the redevelopment of the *Balmain Leagues Club Precinct* in addition to those identified in the Traffic Management Plan are to be provided in conjunction with the redevelopment of the Balmain Leagues Club properties at the applicants expense.



D1.11 Traffic Management

Objective

To ensure traffic generated by the development is within environmental limits and is well managed throughout the local network.

Rationale

The site is located adjacent to Victoria Road, a State road that currently operates under congested levels of traffic during peak times.

Planning Principles

- Balance the mix of uses to ensure traffic has acceptable impacts on the area
- The development incorporates all necessary and desirable traffic management facilities.

Controls

- The final mix of uses within the development must ensure traffic does not significantly impact the road network in the area
- Subject to Roads and Traffic Authority and local traffic authority approval where necessary, the development is to incorporate (if not already provided) the following:
 - Extension of existing dual land right turn bay from Victoria Road eastbound into Darling Street
 - Deceleration lane (~60m) into the development
 - Relocation of the southbound Darling Street bus stop (subject to State Transit Authority approval).

D1.12 Parking

Objective

To provide parking on site that reflects the site's proximity to public transport and promote choice in available transport modes and reduce dependency on cars.

Rationale

The site is located along a strategic bus corridor with direct access to bus routes that include access to Sydney CBD, Balmain Peninsula through to Darling Street Wharf and Leichhardt.



Together with demand management strategies to be delivered by the proponent, parking rates have been designed to discourage vehicles and encourage alternative transport forms.

Planning Principles

- Integrate required quantum of vehicular parking within the design of buildings
- Parking for bicycles should be provided for workers, shoppers and residents of the development
- Parking facilities for people with mobility impairment must be provided. Adequate provision and appropriately located car parking will facilitate easy access for people with mobility impairment.

Controls

- That at the time any Development Application is lodged, any:-
 - (a) further reduction in on site parking; or
 - (b) compensation for loss of on-street parking from Darling Street;be addressed as part of the Traffic Management Plan.
- That retail and commercial traffic ingress and egress from Waterloo Street be restricted to peak hour (peak hour as determined by the RTA for the area).

The maximum number of car spaces for each nominated use in Column 1 is set out opposite that purpose in Column 2 of Table 12.1 below.

Table 12.1 Car Parking

Type of proposed use	Maximum number of car spaces to be provided
Amusement centre	Nil
Child care centre	Nil
Club	
Lounge and bar	5 spaces per 100m ² gross floor area
Dining and auditorium	1 space per ten seats or 4 spaces per 100m ² gross floor area whichever is less.
Commercial	1.5 parking spaces to be provided for every 100m ² of gross floor area.
Gymnasium	4.5 parking spaces to be provided for every 100m ² of gross floor area. ¹
Professional consulting room	2 parking spaces to be provided for every 100m ² of gross floor area.
Residential ²	



Residents	The total number of car spaces for residents and/or visitors to dwellings shall equate to the minimum in the DCP2000 – 0.6 spaces per 1 bedroom, 0.9 spaces per 2 bedroom, and 1.1 spaces per 3 or more bedrooms.
Visitors	

Restaurant, café or other refreshment rooms	5 parking spaces per 100m ² of gross floor area plus 2.5 parking spaces per 100m ² of outdoor/semi-outdoor seating areas.
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Shops and other retail	1.5 parking spaces per 100m ² of gross floor area.
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Uses not defined above	1.5 parking spaces per 100m ² of gross floor area.
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¹ Based on RTA minimum parking requirements for specific land uses.

² This parking rate does not require each dwelling to be provided with a parking space.

- Retain separate parking and servicing areas for residential and non-residential uses on site. Appropriate security measures are to be made on site for residential parking areas.
- Wholly separate un/loading areas from parking areas and pedestrian routes.
- No parking permits will be issued to workers or residents.