

Attachment D

**Draft Design Guide - 242-258 Young Street,
Waterloo**

1 Introduction

This document is intended to guide the design of 242-258 Young Street, Waterloo and provides a resource to assist the evaluation of design quality and excellence.

The 242-258 Young Street, Waterloo Design Guide (Design Guide) outlines the desired design and place outcomes for the site and includes objectives and design guidance for built form, publicly accessible spaces, amenity, movement, connectivity and interfaces between the site and surrounding area. It will help to achieve the design quality outcomes for 242-258 Young Street, Waterloo.

1.1 Land to which this Design Guide applies

This Design Guide applies to the land identified in Figure 1: Land Application Map, being 242-258 Young Street, Waterloo, Lot 1 in DP84655 and Lots A and B in DP 161650.

The site is located at the junction of Young Street, Hunter Street and Powell Street, as outlined in red.

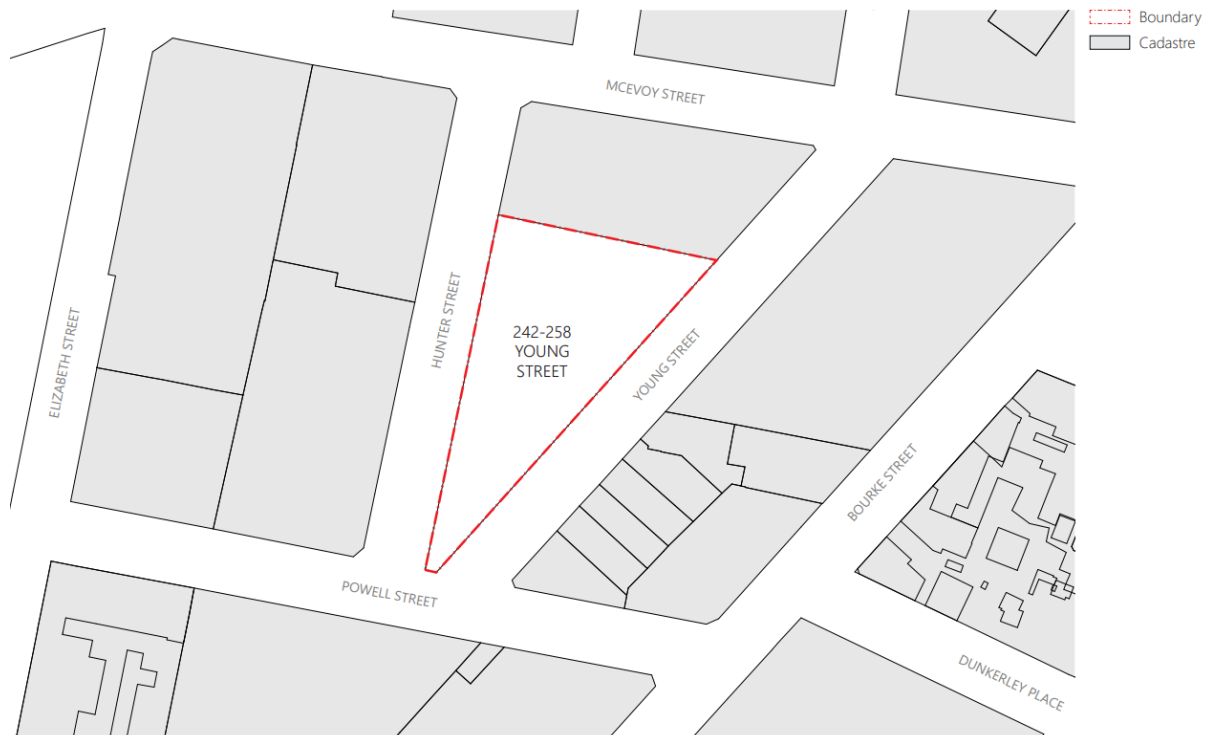


Figure 1: Land Application Map

1.2 Commencement

The Design Guide commences on the day on which the 242-258 Young Street Waterloo amendments to the Sydney Local Environmental Plan 2012 come into effect.

1.3 Relationship to other documents (and instruments)

This Design Guide is to be read in conjunction with the provisions and requirements:

- the Sydney Local Environmental Plan 2012 (Sydney LEP 2012)
- other relevant Environmental Planning Instruments.

The Design Guide is subordinate to the Sydney LEP 2012 and other environmental planning instruments that apply to the site. Where a provision of this Design Guide conflicts with a provision in the Sydney LEP 2012 or a State environmental planning policy, the Sydney LEP 2012 or the relevant State environmental planning policy prevails to the extent of the inconsistency.

1.4 Purpose

The purpose of this Design Guide is to support the implementation of Sydney Local Environmental Plan (LEP) 2012 as it applies to the site by providing more detailed provisions to guide development.

It is given effect by reference in Division 5, Part 6 Site specific provisions of the LEP 2012. This Design Guide replaces the provisions of the Sydney Development Control Plan 2012 in so far as they apply to the site. The sections of this Design Guide inform the preparation, assessment and determination of Development Applications as follows:

Section 1 sets out the land to which the Design Guide applies, administrative matters and the relationship to other elements of the planning framework that apply to the site.

Section 2 contains the Principles for the site, which have informed the planning framework (including this Design Guide and relevant provisions of the Sydney LEP 2012). The vision, desired future character and principles are to be considered when assessing whether a development application will deliver the intended outcomes for the site.

Section 3 contains general provisions and design guidance for development applications in the site. Each subsection in Section 3 includes:

- Objectives that describe the intent of provisions and the anticipated outcomes; and
- Provisions that specify numeric or performance-based considerations to guide detailed design of development within the site.

1.5 How to use this Design Guide

This Design Guide provides a hierarchy of objectives and provisions to guide future development on the site.

The Design Guide sets clear provisions for how the objectives can be practically achieved. If it is not possible to satisfy the provisions, applications must demonstrate what other responses are used to achieve the objectives.

A reference in this Design Guide to any Australian Standard, legislation or policy including to Sydney LEP 2012 or Sydney DCP 2012 is also a reference to any amendment or replacement as made.

This Design Guide is only to be used for development with the primary purpose of an educational establishment.

2 Principles

1. Protect the established street tree canopies along Young and Hunter Streets.
2. Achieve areas of high-quality, deep-soil landscaping within the site.
3. Maximise opportunities for cycling, public transport and walking and minimise on-site parking.
4. Ensure heights of buildings minimise overshadowing to the neighbouring park (south of Powell Street) and properties.
5. Ensure that flood planning effectively manages and mitigates flood risk without exacerbating potential damage and hazards to human life, existing development and the public domain.
6. Ensure building design mitigates noise impacts on surrounding development.
7. Dedicate land to widen surrounding footpaths to create a safe public pedestrian environment for students and members of the public.
8. Ensure rooftop open spaces provide high-quality well-designed landscaping.
9. Ensure development achieves design excellence.
10. Ensure development minimises carbon emissions and manages energy, water and waste effectively.

3 Design guide

3.1 Height, massing and amenity

Objectives

- To ensure the development responds to the site's context.
- To minimise overshadowing of surrounding residential development and open spaces.
- Ensure buildings are appropriately sited in relation to and protect the canopy and roots of existing trees.

Provisions

- Building heights in storeys and building setbacks are to be consistent with Figure 2: Building Heights and Setbacks.

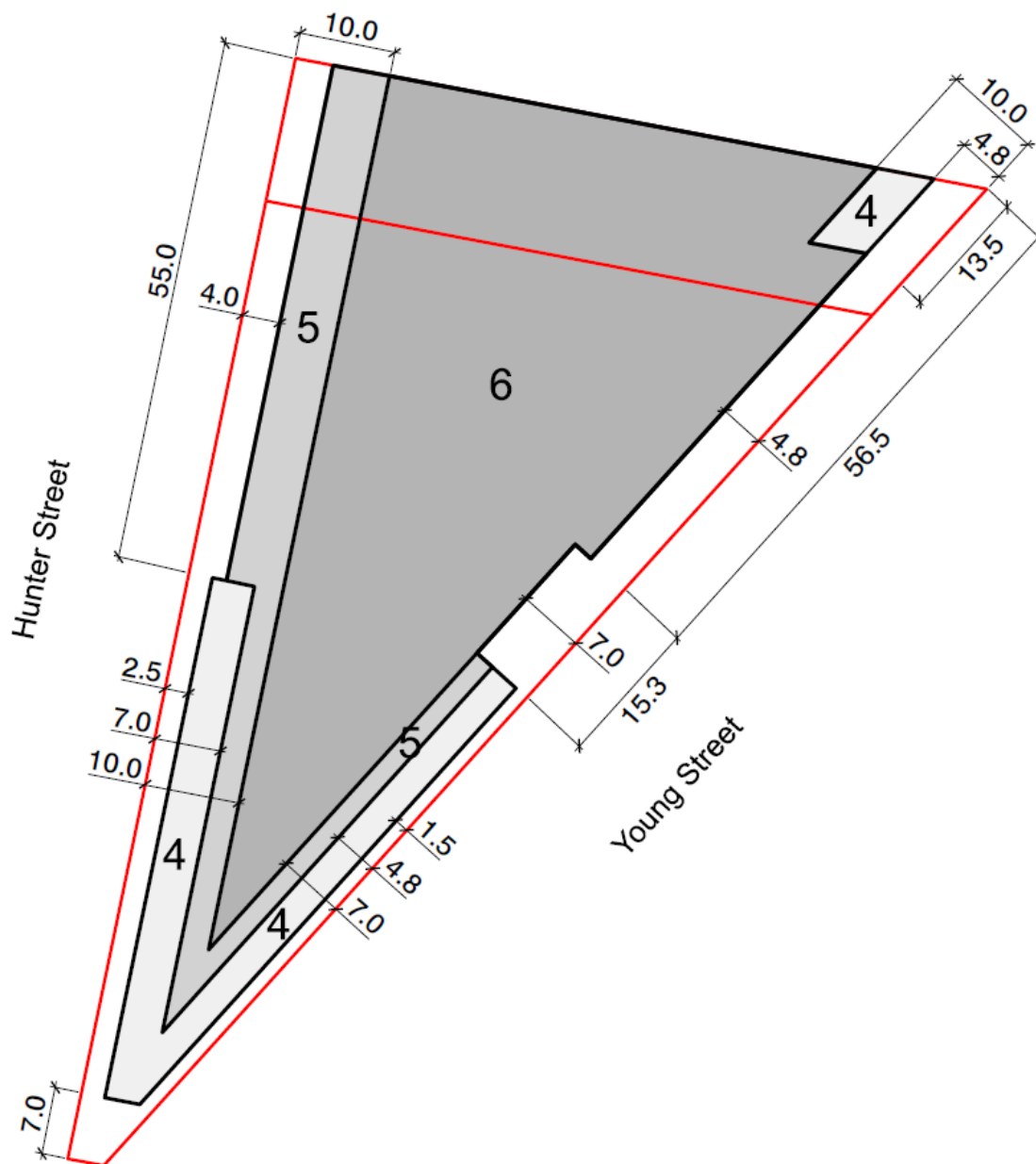


Figure 2: Building heights and setbacks

Large numerals are maximum building heights in storeys above ground.

Small numerals are minimum dimensions in metres.

2. For neighbouring residential apartments, minimise overshadowing as set out in the Apartment Design Guide. Applications must provide solar access (insolation) diagrams and views from the sun showing the period of sunlight with one hour gradients/intervals between 9am to 3pm on 21 June consistent with any City of Sydney guide.
3. Any void that forms or atrium that forms part of a development on the site is to be sealed from above with a roof.

3.2 Public domain

Objectives

- a) Ensure development provides additional public footpath space to comfortably manage student and members of the public.
- b) Ensure development provides areas of deep soil landscaping.
- c) Ensure that development improves the safety, amenity and quality of streets.
- d) Ensure development provides high quality frontages facing public places in terms of scale, massing, finishes and architectural detailing.
- e) Maximise the legibility, visibility and accessibility of entries from surrounding public places.
- f) Minimise and ameliorate the visual effect of blank walls both at ground level and exposed blank side walls above ground level.
- g) Ensure the placement and design of building services, access ramps, fences and walls is integrated into the building design and that their visibility from public places are minimised.

Provisions

1. Deep soil landscaping, footpath widening dedications and basement carpark location is to be in accordance with 'Figure 3: Footpath widening and landscape setbacks' specifically incorporating:
 - a) Footpath widening setbacks along Young Street, Hunter Street and Powell Street as shown in orange. Footpath widenings are to be dedicated to the City of Sydney and are to be free of structures above and below ground.
 - b) A 4.8m deep soil landscape setback along Young Street as shown in green.
 - c) A 2m deep soil landscape setback along Hunter Street as shown in green.
 - d) Basement carparking is to be located as shown in grey to maximise the extent of deep soil tree retention zones.
 - e) The landscape zone on Young Street may include a driveway crossover (see Figure 3) and a pedestrian entry path of a maximum width of 6m.

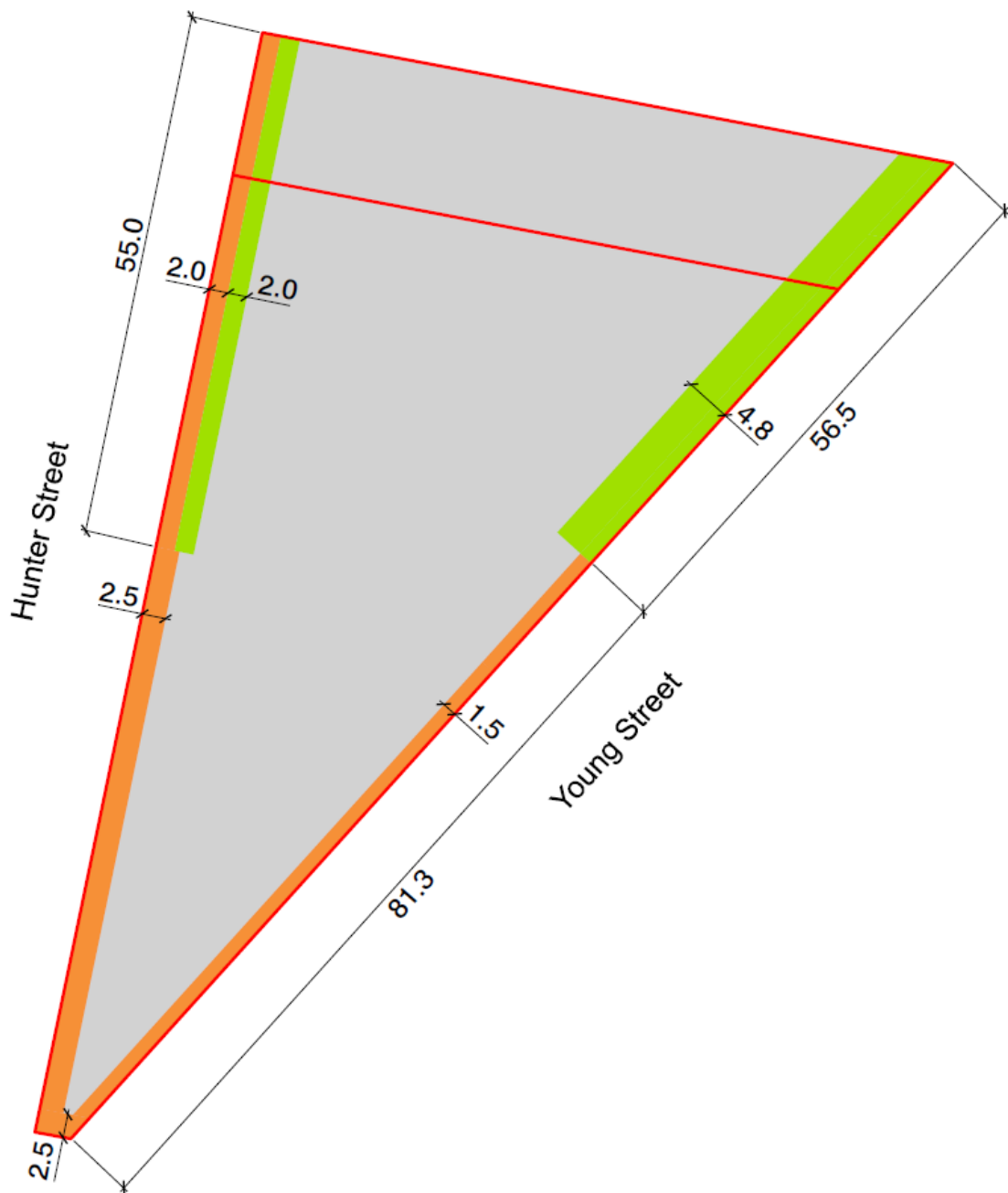


Figure 3: Footpath widening and landscape setbacks

2. Footpath widenings are to be finished in accordance with detailed public domain plans, RLs, cross and longitudinal sections and construction specifications to be supplied by the City of Sydney at detailed development application stage.
3. Footpath widenings are to be clear of all obstructions.
4. The deep soil landscape setbacks identified in 'Figure 3: Footpath widening and landscape setbacks' are to retain existing trees through measures defined by a suitably qualified arborist, and set out in an arboriculture impact assessment.
5. Development that exposes the blank side of an adjoining building or has a party or side wall visible from public space is to be designed with a visually interesting treatment and/or high quality design features applied to that wall.
6. Walls fronting a public place are to be screened from view with plantings with minimum setbacks and minimum soil depths of 500mm where:

- a) the fence or wall has an average height greater than 1.2 metres, or
 - b) the fence or wall has an absolute height greater than 1.5 metres.
7. Level changes near the interface with a street or other public place are to be carefully designed and consolidated. Plans and renders are to show all necessary stairs, balustrades, handrails and tactile surface indicators required by the proposed level changes at a 1:50 scale.
 8. Public or common stairs are to have shallow gradients with 135mm risers and 350mm goings in high use areas and 150mm risers and 300 goings elsewhere.
 9. No built structures (other than landscape elements) are permitted to encroach on the footpath widening or deep soil landscape setbacks for the full height of the building.
 10. Services and facilities such as substations, fire escapes, waste collection areas, meters and on-site detention tanks are to be contained within the building envelope and not located in footpath widening or deep soil landscape setbacks. The location of all required services are to be shown on plans and elevations at a 1:50 scale and in perspectives and illustrations.
 11. Services that require direct street access such as fire hydrant boosters are to be incorporated into the street facing facade, whether that is a fence or the building envelope, and not located in deep soil landscape setbacks. They are to be fully shielded from view from public places within an enclosure that relates to the architectural design of the building. The location of fire hydrant boosters are to be shown on plans and elevations at a 1:50 scale and in perspectives and illustrations.
 12. Building elements visible from public places such as access panels, service enclosures, soffits, wall returns, bollards and elements visible when garage doors are open are to be high quality and well-integrated into the architectural design and materiality of the ground floor street facing facade. These elements are to be shown on plans, sections and elevations at a 1:50 scale.
 13. For publicly accessible open space south of Powell Street, development is to enable 50% of the total area to receive sunlight for a minimum of 4 hours between 9am to 3pm on 21 June (Winter solstice).
 14. Solar access insolation diagrams showing the period of sunlight with one hour gradients between 9am to 3pm on 21 June and the % receiving four hours of sunlight are to be submitted with the development application. Diagrams are to indicate the existing condition and proposed. If required, the consent authority may request additional detail to assess the overshadowing impacts.

3.3 Trees, deep soil and landscaping

Objectives

- a) Retain and protect existing trees to provide amenity and shade.
- b) Ensure that the amenity of occupants is enhanced by high quality landscaping, and open space within the site.
- c) Increase canopy cover. Ensure that tree canopy cover is considered in all development and provided appropriately.
- d) Ensure the provision of sufficient soil volumes and quality to provide for long term tree health.
- e) Increase biodiversity through the provision of shrubs, grasses, native herbs and trees.
- f) Ensure the provision of sufficient soil volumes and quality to provide for long term tree health.

Provisions

1. Retain and protect trees shown in blue both on the site, and the surrounding street trees, in accordance with Figure 4 Tree retention and protection.

2. Trees shown in red, identified in Figure 4 Tree Retention and Protection may be removed for any future development. These trees are 3, 7, 20, 21, 24, 25, 26 and 27.

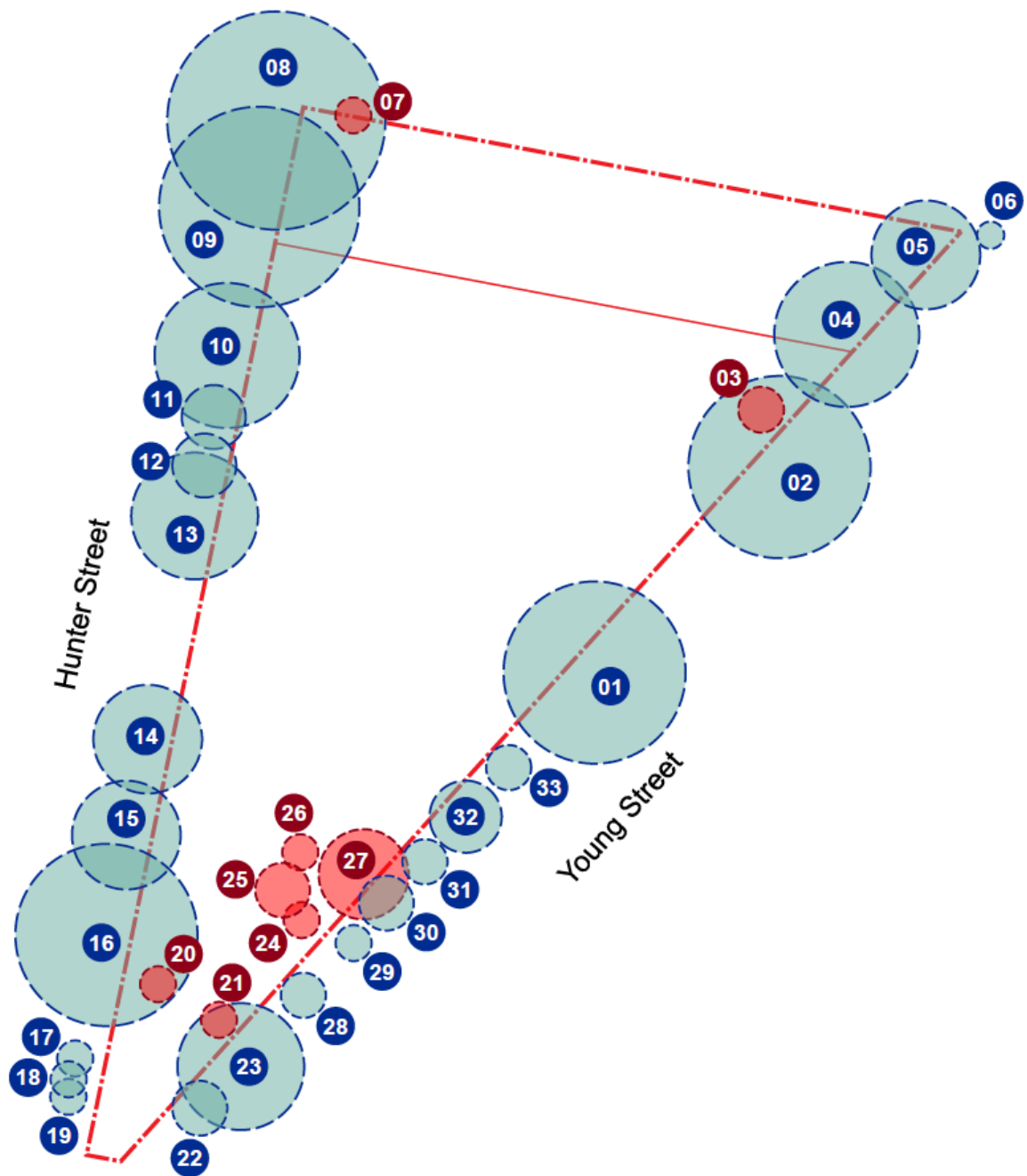


Figure 4: Tree Retention and Protection

3. The root zones of trees to be retained are to be protected in accordance with the Australian Standard 4970 Protection of Trees on Development Sites throughout construction.
4. Any future driveway or pedestrian crossing shall not result in the removal of any street tree or occupy a suitable location for future street tree plantings.
5. Trees to be retained must not have more than 15% of their canopy removed and must be pruned by a qualified Arborist (AQF Level 3 Arboriculture) in accordance with AS4373-2007 Australian Standard.
6. Appropriate tree sensitive construction measures will be put in place to protect all retained trees from damage during building work.

7. Any development application is to provide details of:
 - a) proposed pruning of tree and likely impacts on the ongoing health and viability of the trees;
 - b) proposed extent and effect
 - c) how the massing and location of new development will allow for sufficient aeration and groundwater intake for the long-term survival of trees; and
 - d) the construction methodology and management measures to be put in place to protect existing trees from damage during demolition, excavation and construction, including for piling scaffolding, loading and operation of cranes.
8. A landscape plan is to be prepared by a suitably qualified landscape architect and submitted with the development application. The landscape plan is to show the:
 - a) planting schedule with numbers and species of plants including botanical and common names;
 - b) number and name including botanical and common names of mature trees on site;
 - c) type, levels and detail of paving, fencing, retaining walls and other details of external areas of the site;
 - d) response to other relevant requirements under this Design Guide; and
 - e) proposed canopy coverage with adequate soil volumes for planting on deep soil and on slab.
9. Landscape plans are to incorporate a diverse range of species to increase resilience and diversity and assist the City in achieving overall LGA targets of no more than:
 - a) 40% in any one family is to be used;
 - b) 30% in any one genus;
 - c) 10% in any one species.
10. Landscaping is to give preference to species with low water needs, including native plant species, and trees and shrubs are to be selected and located to manage sun and wind impacts, while also being easily accessed and maintained.
11. While individual species may number more than 10%, consideration should be given to species suitability for the site and ability to thrive long term.
12. A qualified Arborist (AQF Level 5), with experience managing similar projects of this type and scale, is to be engaged to provide tree management advice throughout the design and construction phase of development.
13. Tree management must be in accordance with requirements outlined in the Australian Standard 4970 – Protection of Trees on Development Sites and the City’s Tree guidelines for pruning, reporting and using an arborist.
14. Any development application is to:
 - a) be guided by an Arboricultural impact assessment;
 - b) comply with site-specific tree protection measures;
 - c) include commitment to monitoring the site works to ensure the health and structural stability of existing trees; and
 - d) provide tree protection certification.
15. Green roofs must comply with the recommended soil depths listed in Table 5: Soil Depths of Green Roofs below.

Plant type	Minimum soil requirements
Turf	200mm
Grass and ground covers	300 – 450mm
Shrubs	500 – 600mm
Trees	800 – 1200mm (tree size dependent)

Table 5: Soil Depths of Green Roofs

3.4 Accessible Design

Objectives

- a) Ensure that the public areas of new development provide equitable and safe and legible access for everyone.
- b) Provide equitable access and facilities for all people to all new development and upgraded or intensified uses in existing buildings.
- c) Encourage consideration of access issues early in the development design process.
- d) Raise awareness and understanding of access issues for people with disability through investigation of best practice.

Provisions

- 1. All development must comply with the following:
 - a) all Australian Standards relevant to accessibility;
 - b) the Building Code of Australia access requirements;
 - c) Disability Discrimination Act 1992; and
 - d) the City of Sydney's Inclusive and Accessible Public Domain Guidelines.
- 2. Complex developments where compliance is proposed through alternative solutions must be accompanied by an Access report prepared by a suitably qualified access professional.
- 3. Access for pedestrians and vehicles are to be separated.
- 4. Access arrangements are to be:
 - a) integral with the overall building and landscape design and not appear as 'add-on' elements or as of secondary importance;
 - b) as direct as possible; and
 - c) designed so that a person does not need to summon help.

3.5 Public art

Objectives

- a) Increase the number and improve the quality of public artworks in private developments.
- b) Promote sustainability through public art in new development.
- c) Ensure that public art is an integrated and cohesive part of new development.
- d) Recognise former environmental, historic and contemporary layers through interpretive public art.

Provisions

- 1. Public Art is to be provided in accordance with the City of Sydney Guidelines for Public Art in Private Development and the Public Art Policy.
- 2. Development is to incorporate high quality public art in publicly accessible locations.
- 3. The scale and budget of the public art is to be commensurate with the scale of development.
- 4. Where appropriate, public art should reference the history of the site, or area, recognise and respond to former and existing uses including by traditional custodians of the land and cultural practices.
- 5. Ensure the respectful engagement of First Nations artists and cultural knowledge by following Indigenous Cultural and Intellectual Property protocols.

3.6 Contamination

Objective

- a) Minimise the risk to human and environmental health on land contaminated by past uses.

Provisions

1. Each development application is to include information sufficient to allow the consent authority to meet its obligation to determine whether development should be restricted due to the presence of contamination.
2. Development is to be consistent with the City of Sydney Contaminated Land Policy 2022.
3. Environmental Management Plans are to be avoided where possible.

Note: These obligations are outlined in State Environmental Planning Policy (Resilience and Hazards) 2021 Chapter 4 'Remediation of land'

3.7 Noise and vibration

Objective

- a) To provide appropriate interface and mitigation of noise, to ensure high amenity is preserved for neighbouring properties.

Provisions

1. Development is to be designed with appropriate noise mitigation measures to ensure good amenity for neighbouring properties.
2. An Acoustic Report, prepared by a suitably qualified acoustical consultant, is to accompany any future Development Application. The report is to investigate and identify:
 - a) sensitive noise receivers potentially impacted by the development;
 - b) the existing acoustic environment at the receiver locations;
 - c) suitable assessment criteria;
 - d) proposed acoustic control measures;
 - e) predicted noise at the identified sensitive receivers; and
 - f) whether the development will cause a nuisance or result in an 'offensive noise' as defined in the Protection of the Environment Operations Act 1997.
- 3.

3.8 External Lighting

Objectives

- a) Encourage appropriate external lighting of buildings that adds to the architectural character of the building.
- b) Provide an enhanced level of lighting to the streetscape.
- c) Coordinate appropriate lighting around the building vicinity with a similar light colour and technique, visually linking the lighting design between the spaces.
- d) Ensure future development is inviting, has an increased feeling of safety and security when within the space.

- e) Ensure lighting design is developed in a manner sensitive to ESD and light spill impacts.

Provisions

1. Lighting is to be consistent with the Sydney Lights Public Domain Design Code (City of Sydney),
2. Public lighting design shall enhance wayfinding, safety and orientation, integrating lighting within architecture wherever possible.
3. Public artwork shall be lit appropriately.
4. The external lighting system must be energy efficient and subject to appropriate times of operation.
5. External lighting must not reduce the amenity of residents in the locality.
6. External lighting must not negatively impact areas of habitat for local fauna.
7. External lighting must minimise the light spill into the night sky.
8. LED down lighting is preferred over up lighting to minimise light pollution.

3.9 Ecologically sustainable development and green infrastructure

Objectives

- a) Minimise energy and water use, waste generation and urban heat effects.
- b) Maximise on-site renewable energy generation, water re-use and waste recycling.
- c) Ensure the efficient use of resource in building design, construction and operation.
- d) Ensure that development is resilient against the effects of climate change.

Provisions

1. Development is to be designed and constructed to reduce the need for active heating and cooling by incorporating passive design measures including design, location and thermal properties of glazing, natural ventilation, appropriate use of thermal mass and external shading, including vegetation.
2. The consent authority must be satisfied that educational premises achieves a minimum 4 Star NABERS Energy Commitment Agreement for schools and achieve a minimum 5 Star Green Star – Education v1 rating at certification.
3. Design, performance and features are to be referenced in City of Sydney Design for Environmental Performance Template submitted with the detailed development application.
4. Parking spaces are to be equipped with electric vehicle charging infrastructure as follows:
 - a) power supply and distribution boards for electric vehicle charging in accordance with Section J9D4 'Facilities for electric vehicle charging equipment' in NCC 2022 Volume One – Building Code of Australia.
 - b) 10% of worker car spaces are to be fitted with a Level 2 charger or higher.

3.10 Waste management

Objectives

- a) Reduce the amount of construction, demolition and operational waste going to landfill and maximise resource recovery.
- b) Ensure waste from within developments can be collected and disposed in a manner that is healthy, efficient, minimises disruption to amenity, and is conducive to the overall minimisation of waste generated.

Provisions

Waste and Recycling Management Plans

1. A Waste and Recycling Management Plan, prepared by a suitably qualified consultant, is to be submitted with the Development Application, consistent with the City of Sydney Guidelines for Waste Management in New Developments.

Construction and demolition waste

1. The Waste and Recycling Management Plan is to address construction and demolition waste and include:
 - a) details regarding how waste is to be minimised within a development;
 - b) estimations of quantities and types of materials to be re-used or left over for removal from the site;
 - c) details regarding the types of waste and likely quantities of waste to be produced;
 - d) a site plan showing storage areas away from public access for reusable materials and recyclables during demolition and construction and the vehicle access to these areas;
 - e) targets for recycling and reuse;
 - f) nomination of the role/person responsible for ensuring targets are met and the person responsible for retaining waste dockets from facilities appropriately licensed to receive the development's construction and demolition waste;
 - g) confirmation that all waste going to landfill is not recyclable or hazardous; and
 - h) measures to reuse or recycle at least 80% of construction and demolition waste, either on site or diverted for reuse and recycling with receipts sufficient to demonstrate the target will be achieved.

Collection and minimisation of waste during occupation

1. The Waste and Recycling Management Plan is to address the generation of waste from the occupants of the development and include:
 - a) plans and drawings of the proposed development that show:
 - I. the location and space allocated to the waste and recycling management systems;
 - II. the nominated waste collection point/s for the site; and
 - III. identify the path of access for users and collection vehicles.
 - b) details of the on-going management of the storage and collection of waste and recycling, including responsibility for cleaning, transfer of bins between storage areas and collection points, maintenance of signage, and security of storage areas; and
 - c) a summary document for building management and users to inform them of waste and recycling management arrangements.
2. Waste incineration devices are not permitted.
3. Development is to include sufficient space to separate food waste for collection.
4. Waste management, collection and loading is to be in accordance with the City of Sydney's Guidelines for Waste Management in New Developments, including:
 - a) development applications must incorporate well designed waste management systems;
 - b) the development includes sufficient space for the management and storage of all bins required to manage predicted waste and recycling generation; and
 - c) waste management, storage and collection must be wholly accommodated within the built form.
5. Vehicle access for loading docks and waste collection points must provide for:

- a) a Medium Rigid Vehicle in accordance with Australian Standard 'AS 2890.2:2018', or a larger design vehicle as required including for waste collection;
- b) 2 metres unobstructed space at the rear of the waste collection point to manoeuvre bins between storage and the vehicle;
- c) entry and egress from the loading dock in a forward direction;
- d) a capacity of 30 tonne vehicles for any turntables;
- e) maximum grades and rate of change on ramps in compliance with AS 2890.2:2018 for a Medium Rigid Vehicle;
- f) two-way vehicle movement on driveways using a single lane;
- g) a minimum driveway width of 3.5 metres per lane; and
- h) footpath and cycleway crossings that respect the priority of pedestrians and cyclists and do not employ sirens or flashing lights in the public domain.

3.11 Water and flood management

Objectives

- a) Ensure an integrated approach to water management across the site through the use of water sensitive urban design principles.
- b) Assist in the management of stormwater to minimise flooding and reduce the effects of stormwater pollution on receiving waterways.
- c) Ensure that development manages and mitigates flood risk and does not exacerbate the potential for flood damage or hazard to existing development and to the public domain.
- d) Ensure that development above the flood planning level, as defined in the Sydney LEP 2012, will minimise the impact of stormwater and flooding on other developments and the public domain both during the event and after the event.
- e) Ensure that flood risk management addresses public safety and protection from flooding.
- f) Ensure development minimises risk to human life and damage to property caused by flooding.
- g) Ensure that, in the event of a flood, adequate access to affected properties is available for emergency service personnel and that safe egress is available for occupants.
- h) Ensure that proposed development does not increase the flood inundation in the neighbouring properties.

Provisions

Site specific flood study

1. A development application is to be accompanied by a site-specific Flood Impact and Risk Assessment (FIRA), prepared by a suitably qualified and experienced hydraulic engineer. The FIRA is to be prepared in accordance with the:
 - a) the NSW Government Flood Prone Lands Policy;
 - b) the NSW Flood Risk Management Manual 2023 and accompanying toolkits;
 - c) the NSW Coastal Planning Guideline: Adapting to Sea Level Rise;
 - d) the NSW Coastal Risk Management Guide: Incorporating Sea Level Rise Benchmarks In Coastal Risk Assessments;
 - e) the NSW Flood Risk Management Guide: Incorporating Sea Level Rise Benchmarks In Flood Risk Assessments;
 - f) the City of Sydney Interim Floodplain Management Policy (if still in effect); or
 - g) any other flooding requirements in the Sydney Development Control Plan 2012.

2. The FIRA is to include, but not be limited to:
 - a) a detailed topographical survey that defines flow paths, storage areas and hydraulic controls; and
 - b) flood modelling that uses appropriate hydrological and hydraulic techniques and incorporates boundary conditions.
3. The FIRA shall address impacts of proposed development based on changes in flood levels, duration of flooding, depth and velocity, flood warning and evacuation time and frequency of inundation.
4. The FIRA shall include flood modelling for longer duration PMF events to establish duration of flood inundation for the access / egress road around the site, and period of isolation and its impacts on building occupants.
5. The FIRA is to show pre-development and post-development scenarios, and at a minimum is to include the following information:
 - a) water surface contours;
 - b) velocity vectors;
 - c) velocity and depth product contours;
 - d) delineation of flood risk precincts;
 - e) flood hazard classification for 20%, 10%, 5%, 1% and PMF events, based off the Combined Hazard Curves – Vulnerability Threshold Classification Limits (Smith et al., 2014);
 - f) flood profiles for the full range of events up to and including probable maximum flood for total development including all structures and works (such as revegetation and physical enhancements); and
 - g) flood function mapping for 20%, 10%, 5%, 1% and PMF events.
6. The FIRA should include a comprehensive flood emergency response management plan to address all emergency management issues associated with all events up to PMF.
7. The Flood Emergency Response Management Plan shall be placed on the property title to ensure that the information is effectively transmitted to users, commercial operators, patrons, and wider community and is reviewed and updated, as necessary.
8. The FIRA is to assume the 'worst case scenario' conditions for blockages to pipes, culverts and other infrastructure, such that:
 - a) development minimises risk to human life and damage to property caused by flooding;
 - b) apply a merit-based approach to all development decisions considering ecological, social, and environmental considerations;
 - c) ensure that, in the event of a flood, adequate access to affected properties is available for emergency service personnel and that safe egress is available for occupants; and
 - d) ensure that proposed development does not increase the flood inundation in the neighbouring properties.
9. Building flood planning levels will be set at 1% AEP flood level, and the probable maximum flood level at a closer (1m) interval.

Drainage and stormwater management

10. A local Stormwater Drainage Management Plan, prepared by a suitably qualified engineer with experience in drainage design, is required for any development application on the site.
11. The local stormwater drainage management plan is to address:
 - a) the hydrology of the locality and its relationship to the drainage system;
 - b) the distribution of soil types and the scope for on-site infiltration;
 - c) any expected rise in ground water level due to development;

- d) the role of the principal landscape components on the site for water conservation and on-site detention;
 - e) the scope for on-site stormwater detention and retention, including collection of water for re-use;
 - f) how any detrimental impacts on the existing natural hydrology and water quality are proposed to be minimised;
 - g) how pedestrian safety is to be ensured; and
 - h) integration of drainage management responses and open space areas.
12. The development proposal must demonstrate how the major drainage system addresses any site-specific conditions and connects to the downstream drainage system.
 13. Major drainage systems are to be designed so that public safety is not compromised.
 14. Surface runoff from within the site and neighbouring property is to be conveyed into proposed stormwater drainage system, to avoid flood inundation in the neighbouring properties.
 15. Minor flows from a development site are not to be discharged to the kerb if direct connection to an existing stormwater pipe is available, unless it can be demonstrated there is sufficient capacity within the existing gutter and the flow velocity and depth within the gutter will be limited to 0.6m²/s.
 16. Where the proposed development is located on a floodplain, high level overflows are permitted for roof drainage systems where the overflow is set above the 1% annual exceedance probability level.
 17. The maximum allowable permissible site discharge and minimum on-site detention volume for the development is to be advised by Sydney Water Authority.
 18. The post development run-off from impermeable surfaces (such as roofs, driveways and paved areas) is to be managed by stormwater source control measures that:
 - a) contain frequent low-magnitude flows;
 - b) maintain the natural balance between run-off and infiltration;
 - c) remove some pollutants prior to discharge into receiving waters;
 - d) prevent nuisance flows from affecting adjacent properties; and
 - e) enable appropriate use of rainwater and stormwater.
 19. Stormwater detention devices are to be designed to ensure that the overflow and flowpath have sufficient capacity during all design rainfall events, discharge to the public stormwater system without affecting adjoining properties, and are free of obstructions, such as fences.
 20. Where filtration and bio-retention devices are proposed, they are to be designed to capture and provide temporary storage for stormwater.
 21. Stormwater discharge to the kerb and gutter is to be in accordance with the Sydney Streets Technical Specifications'.

Stormwater quality

22. A Stormwater Quality Assessment, prepared by a suitably qualified engineer with experience in water sensitive urban design (WSUD), is required to be submitted with any Development Application on the site. The Assessment must include:
 - a) modelling of pollutant load standards with an industry standard water quality model;
 - b) the design of WSUD measures used to achieve the post-development pollutant load standards; and
 - c) maintenance schedules of any proposed WSUD measure that requires maintenance or full replacement including the likely recycling or disposal location of any wastes that may be generated.
23. Development must achieve the post-development pollutant load standards indicated below:

- a) reduce the baseline annual pollutant load for litter and vegetation larger than 5mm by 90%;
- b) reduce the baseline annual pollutant load for total suspended solids by 85%;
- c) reduce the baseline annual pollutant load for total phosphorous by 65%; and
- d) reduce the baseline annual pollutant load for total nitrogen by 45%.

Water re-use, recycling and harvesting

- 24. Where there is a commitment to provide a recycled water network in the area, all buildings are to be capable of providing a dual reticulation water system for water services and be capable of fully connecting to a non-potable recycled water network and configured to supply all toilets, washing machine taps, car wash bays, cooling towers and irrigation usage.

3.12 Design Excellence Strategy

Objectives

- a) Ensure high quality design through the use of competitive design process.
- b) Ensure development contributes to the architectural and overall urban design quality of the local government area.
- c) Encourage variety in architectural design and character to provide a fine grain which enriches and enlivens the City's public space.

Provisions

- 1. A competitive design process(es) is to be undertaken across the entire site in accordance with Clause 6.21D of Sydney LEP 2012 and the City of Sydney Competitive Design Policy. The Competitive Design Process is to be undertaken in accordance with this Design Excellence Strategy.
- 2. A building demonstrating design excellence is eligible for up to 10% additional floor space in accordance with the Sydney LEP 2012. No additional height is to be awarded as a result of the competitive design process.
- 3. The proponent is to invite a minimum of five (5) Competitors to participate in the competitive design process.
- 4. The selected competitors will:
 - a) include a range of emerging and established architectural practices;
 - b) require that each competitor will be a person, corporation or firm registered as an architect in accordance with the NSW Architects Act 2003, or in the case of interstate or overseas Competitors, eligible for registration with their equivalent association.
 - c) require each competitor to have demonstrated capabilities in design excellence by being the recipient of an Australian Institute of Architects (AIA) award or commendation, or in the case of overseas competitors the same with their equivalent professional association.
- 5. Where the Minister is the consent authority, the jury will be endorsed by the Government Architect NSW and will be comprised of a 5 -person jury as set out in Section 2.3 Jury composition of the Government Architect NSW Design Competition Guidelines.
- 6. Jury members are to:
 - a) represent the public interest;
 - b) include only persons who have expertise and experience in the design and construction professions and industry; and
 - c) include a majority of registered architects.

7. Ecologically sustainable development benchmarks and outcomes are to be targeted in the competitive design process as prescribed in Sydney LEP 2012 and in this Design Guide.

3.13 Vehicular access

Objectives

- a) Encourage alternatives to private motor vehicle use and support sustainable transport, such as public transport, walking or cycling.
- b) To ensure vehicle access and basement layouts maximise pedestrian safety and create a high-quality ground level relationship with the building and public domain.

Provisions

1. Vehicular access is to be provided from Young Street.
2. The vehicular driveway and crossover are to be clearly visible and include active safety measures.
3. A Traffic Management Plan is to accompany any future Development Application and must include an assessment of potential traffic and safety measures.

3.14 Transport, Movement and Parking

Objectives

- a) Ensure that the demand for transport generated by development is managed in a sustainable manner.
- b) Ensure that bike parking is considered in all development and provided in appropriately scaled developments with facilities such as change rooms, showers and secure areas for bike parking.
- c) Design vehicle access and basement layouts and levels to maximise pedestrian safety and create high quality ground level relationships between the building and the public domain.
- d) Reduce reliance on private car ownership

Provisions

1. A Transport Impact Study, prepared by a suitably qualified consultant, is required to be submitted with any Development Application on the site. The Assessment identify and address the potential impact of the development on surrounding movement systems.
2. A Parking and Access Report is required to accompany a development application.
3. A Transport Access Guide and a strategy for the future availability of the Guide to staff, students and visitors of a development is to be prepared for all developments and provided to the consent authority for review prior to issue of Occupation Certificate:
4. A Construction Management Plan is required detailing:
 - a) predicted construction vehicle routes;
 - b) access and parking arrangements;
 - c) coordination with other construction occurring on the area;
 - d) how impacts on existing traffic, pedestrian and bicycle networks would be managed and mitigated.
5. Vehicular parking spaces for educational establishments are to be provided within the basement and at a rate of no more than one parking space for every two staff members.
6. End of trip and bicycle parking facilities are to be provided at a rate of 10% of all students and staff on the site, with all student spaces and 20% of staff spaces to be provided as horizontal spaces.

7. End of trip and bicycle parking facilities are to be accommodated on-site, weather protected and in a secure location for users.
8. All development is to provide on-site bike parking designed in accordance with the relevant Australian Standards for the design criteria of bike parking facilities.
9. Where bike parking is provided in a basement, it is to be located close to entry/exit points and subject to security camera surveillance where such security systems exist.
10. A safe path of travel from bike parking areas to entry/exit points is to be marked.
11. Access to bike parking areas are to be:
 - a) a minimum of 1.8m wide to allow a pedestrian and a person on a bike to pass each other and may be shared with vehicles within buildings and at entries to buildings;
 - b) accessible via a ramp;
 - c) clearly identified by signage; and
 - d) accessible via appropriate security or intercom systems.
12. Parking spaces for motorbikes are to be included in the allocation of car parking.
13. Each motorcycle parking space is to be designated and located so that parked motorcycles are not vulnerable to being struck by a manoeuvring vehicle.
14. All visitor spaces are to be grouped together in the most convenient locations relative to car parking area entrances, pedestrian lifts and access points and are to be separately marked and clearly sign-posted.
15. Development applications are to indicate how visitor parking is to be accessed, including arrangements for access into a secure area if proposed.
16. Development is to achieve high quality ground level relationships between the buildings and all public open space interfaces even where this will result in inefficient basement car parking layouts including, spilt basement levels or additional excavation.
17. Development proposing less than the maximum number of parking spaces permissible under Clause 7.5 of the LEP must adjust the number of visitor parking spaces in accordance with the reduction of total car parking spaces.
18. Accessible car parking spaces for people with a mobility impairment are to be included in the allocation of car parking for a development and provided in accordance with the following:
 - a) one space for every 20 car parking spaces or part thereof is to be allocated as accessible visitor parking; and
 - b) accessible parking is to be designed in accordance with the requirements of relevant Australian Standards.
19. Accessible parking is not required in car parking areas where a parking service is provided and direct access to any of the car parking spaces is not available to the general public or occupants.
20. Basement parking areas and structures must not protrude above the level of the adjacent street or public domain.
21. Vehicle ramps must not be visible from the public domain and are to be located inside the building.
22. Car parking areas are to:
 - a) be well lit, visible, and avoid hidden and enclosed areas to allow for casual surveillance;
 - b) include, mirrors or similar devices where hidden and enclosed areas such as staircases and lift lobbies cannot be avoided;
 - c) be well ventilated and provide natural rather than mechanical ventilation where practicable; and
 - d) be subordinate in appearance to the main building.
23. Car parking spaces are not to be located in areas used for the manoeuvring of service vehicles.
24. Loading and servicing activities are to be carried out on-site.

