

Part 2
Requirements
Applying to
all Types of
Development

2.1 Application

2.1 Application

This Part contains general design requirements for development.

All development is required to conform to all relevant requirements contained in this Part. Table 2.1 below demonstrates which sections are relevant to the development having regard to the possible environmental impacts of the development by listing thresholds for each section. The table asks specific questions about the development and where the answer to a question is “Yes”, the development shall consider the nominated section of the Plan.

Note: EDGD stands for Engineering Design Guide for Development which is available from Council’s website at www.campbelltown.nsw.gov.au.

Note: The CLEP provides aims, objectives and requirements for a number of matters covered under this part including (but not limited to) heritage, salinity and flooding.

Table 2.1 Thresholds

Section	Question	Threshold
Site Analysis	Will the development involve the construction of a building or the Torrens title subdivision of land?	If yes, refer to 2.2
Views and Vistas	Will the development involve the construction of a building or the Torrens title subdivision of land?	If yes, refer to 2.3
Sustainable Building Design	Will the development involve the construction of a building?	If yes, refer to 2.4
Landscaping	Will the development involve the construction of a building or the Torrens title subdivision of land?	If yes, refer to 2.5
Weed Management	Is the site occupied by any noxious weeds (as listed in Appendix 3)? Will the development involve the construction of a building within land zoned for rural, waterway or environmental protection purposes?	If yes, refer to 2.6
Erosion and Sediment Control	Will the development involve: a) Disturbance of soil on the site? b) Any potential for the disturbance of soil on the site?	If yes, refer to 2.7 and the EDGD
Cut and Fill	Will the development involve: a) Any excavation of the site? b) Any filling of the site? Is the proposed development below or at flood planning level?	If yes, refer to 2.8 and the EDGD
Fill and Floor Levels	Will the development involve the construction of a building?	If yes, refer to 2.8 and the EDGD

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Application

Section	Question	Threshold
Demolition	Will the development involve any demolition?	If yes, refer to 2.9
Water Cycle Management	Will the development involve any of the following: a) A site that is below the flood planning level? b) A site that is within 40 metres of a water course? c) drains directly to a water course? d) is inundated by the predicted 100 year ARI event; or e) Work that is of a large residential scale (> 2000sqm site area) or any new commercial/ industrial building?	If yes, refer to 2.10 and the EDGD
Stormwater	Will the development involve the construction of a building or the Torrens title subdivision of land?	If yes, refer to 2.10 and the EDGD
Water Demand Management	Will the development involve the construction of a building or the Torrens title subdivision of land?	If yes, refer to 2.10
Heritage	Will the development involve: a) A site occupied by a heritage item? b) A site located near a heritage item? c) A site located within a heritage conservation area? d) An area located within an aboriginal place of heritage significance? e) an area that may have aboriginal objects?	If yes, refer to 2.11
Retaining Walls	Will the development involve: a) The construction of a retaining wall? b) The renovation of a retaining wall?	If yes, refer to 2.12 and the EDGD-
Security	Will the development involve the construction of a building?	If yes, refer to 2.13 and the EDGD-

2.1 Application

Section	Question	Threshold
Risk Management - Salinity	Will the development involve the construction of a building?	If yes, refer to 2.14.1
Risk Management - Bushfire	Will the development involve: a) Land identified as bushfire prone land on the Campbelltown Bushfire Prone Land Maps? b) Any activities in areas occupied by or adjoining areas of native vegetation?	If yes, refer to 2.14.2
Risk Management - Mine Subsidence	Will the development involve the construction of a building on a site located within South Campbelltown Mine subsidence district, or Appin Mine subsidence District?	If yes, refer to 2.14.3 and the EDGD
Risk Management - Public Health	Will the development involve the provision of cooling towers?	if yes, refer to 2.14.4
Waste Management	Will the development involve the construction of a building? Will the development involve the change of use of a building?	If yes refer to 2.15 and the EDGD
Provision of Services	Will the development involve land that is not currently serviced by water, electricity and/or waste water sewage services?	If yes refer to 2.16
Work On, Over or Near Public Land	Will the development involve work on, over or near public land?	If yes refer to 2.17
Land adjacent to Water NSW Upper Canal	Will the development involve work near Water NSW Upper Canal?	If yes refer to 2.18
Development near or on electricity easements	Will the development involve work on, over or near electricity easements?	If yes refer to 2.19
Land adjacent to or affected by a gas easement	Will the development involve work on, over or near gas easement?	If yes refer to 2.20
Accoustic Privacy	Will the development involve the construction of a building? Will the development involve the change of use of a building?	If yes refer to 2.21

2.2 Site Analysis

2.2 Site Analysis

The site analysis is the foundation of good design and is used as an initial source of information upon which to base the design and configuration of development taking account of all environmental constraints and opportunities, as they relate to the unique features of the site and nearby land.

Objectives:

- Identify the constraints and opportunities for the development of the site.
- Provide an understanding of how the development relates to the site.
- Identify the capability and suitability of the site for development.

Design Requirements

- a) A Site Analysis Plan shall be lodged with the development application for all development involving the construction of a building and the Torrens title subdivision of land. The scope of the site analysis will depend on the scale and nature of the development and shall address:
- contours, slope and north point;
 - existing landscaping and vegetation;
 - existing buildings and structures;
 - location of windows and other openings on adjoining buildings;
 - roads, access points, parking, and traffic management devices and the like;
 - linkages; open space networks, pedestrian/cycle paths and the like;
 - easements, services, existing infrastructure and utilities;
 - hydraulic features, drainage lines, water features, drainage constraints, and the like;
 - natural hazards (e.g. flooding, bushfire);
 - solar orientation, overshadowing,

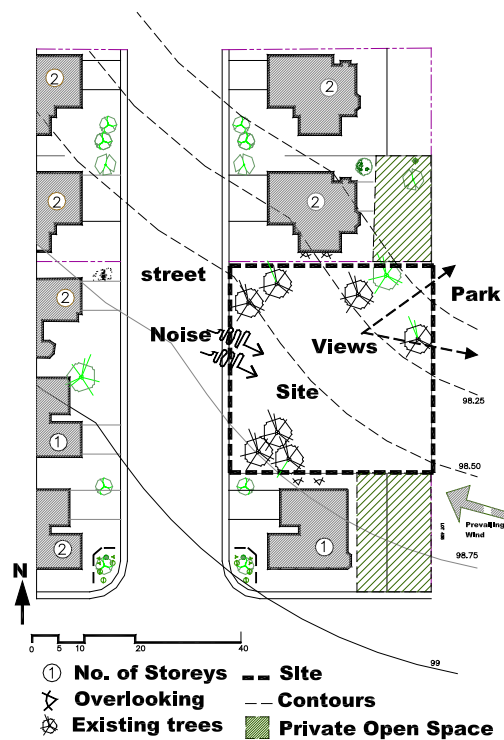


Figure 2.2.1 - Example of a site analysis plan.

2.2 Site Analysis

- prevailing winds;
- xi) views and vistas to, from and within the site;
- xii) a streetscape analysis;
- xiii) special environmental features such as threatened species habitat, endangered ecological communities and wetlands;
- xiv) items and relics of and/or aboriginal place of heritage significance ; and
- xv) any identified road widening applying to the subject land.

2.3 Views and Vistas

2.3

Views and Vistas

Objectives:

- Protect the scenic value of Campbelltown's natural and built environment.
- Protect significant views and vistas from and to public places.

Design Requirements

- Development shall appropriately respond to Campbelltown's important views and vistas to and from public places. These include views and vistas to and from:
 - the Scenic Hills;
 - rural/semi rural landscape areas;
 - the Georges and Nepean River corridors;
 - areas of significant public open space (formal and informal); and
 - heritage items.
- District views and existing significant view corridors as viewed to and from public places shall be protected.
- The opportunity to create new view/vista corridors shall be taken wherever possible and appropriate.



Figure 2.3.1 - Example of a significant view corridor.

Note:

In certain circumstances Council may require the preparation of a visual analysis study as part of a development application or a planning proposal.

2.4

Sustainable Building Design

2.4 Sustainable Building Design

Objectives:

- Encourage building design and siting to reduce energy consumption.
- Encourage the use of solar power in building design.
- Encourage the use of water recycling.
- Ensure that residential buildings meet the requirements of BASIX.

2.4.1 Rain Water Tanks

- In addition to satisfying BASIX, residential development is encouraged to provide a rain water tank for new buildings.
- A rain water tank shall be provided for all new buildings containing a roof area greater than 100sqm for all development not specified by BASIX. The rain water tank shall have a minimum capacity in accordance with Table 2.4.1.
- All rainwater tanks shall comply with *AS3500 (as amended) - National Plumbing and Drainage Code Guidelines for Plumbing Associated with Rainwater Tanks in Urban Areas* and *Sydney Water's Guideline for Rainwater Tanks on Residential Properties*.
- The rainwater tank incorporated in new commercial and industrial development exceeding 5,000sqm shall be connected to the plumbing in the building to provide water for toilets.
- Where it is intended that the development be strata title subdivided, the tank shall be sited in a location to be common property.
- Above ground water tanks shall be located behind the primary or secondary building line.



Figure 2.4.1 - An example of a domestic rainwater tank.



Figure 2.4.2 - Solar hot water panels facing north.

2.4.2 Solar Hot Water

- All new buildings are encouraged to provide a solar hot water system.

2.4

Sustainable Building Design

- b) Where the site is connected to the gas main, the solar hot water system is encouraged to be gas boosted.

2.4.3 Natural Ventilation

- a) The design of new buildings shall be encouraged to maximise opportunities for cross flow ventilation, where practical, thus minimising the need for air conditioning.

2.4.4 Light Pollution

- a) Outdoor lighting shall be -designed to minimise pollution from the unnecessary dispersion of light into the night sky and neighbouring properties.

2.4.5 BASIX

The Building Sustainability Index (BASIX) is an interactive, internet-based planning tool designed to assess the potential performance of residential development against a range of sustainability indices. The focus of BASIX is on the key indices of water and energy, and the related indices of landscape, stormwater and thermal comfort, reflecting the NSW Government's decision to establish water consumption and greenhouse gas emission reduction targets for all new dwellings built in NSW.

For Development standards requirements for a BASIX certificate refer to www.basix.nsw.gov.au

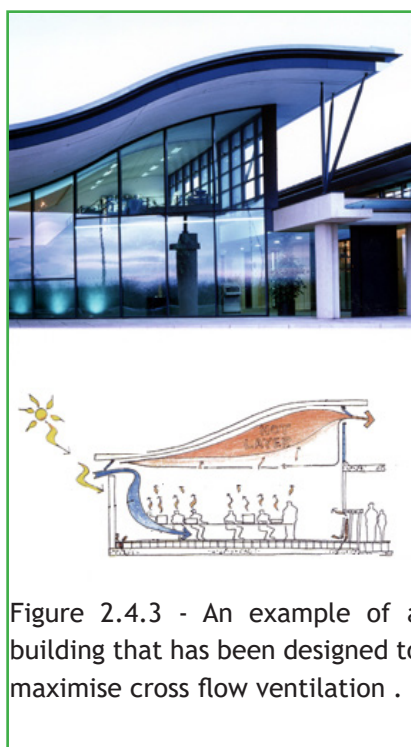


Figure 2.4.3 - An example of a building that has been designed to maximise cross flow ventilation .

Note:

A BASIX Certificate is not required for relocatable homes. However, a BASIX Certificate would be required as part of a development application (or complying development certificate application) to install a flat-pack kit. For more information on this matter, refer to the Department of Planning and Environment website at:

www.planning.nsw.gov.au

Table 2.4.1 Rainwater Tank Capacity

Roof Area	Capacity of Rainwater Tank
101 m ² to 200 m ²	3,000L
201 m ² to 1,000 m ²	5,000L
1,001 m ² to 5,000 m ²	10,000L
5,001 m ² to 10,000 m ²	20,000L
10,001 m ² to 20,000 m ²	50,000L
above 20,000 m ²	100,000L

2.5

Landscaping

2.5 Landscaping

Objectives:

- Maintain and rehabilitate the natural environment and assist in the conservation of Campbelltown’s landscape character.
- Provide landscaping that complements the scale of development.
- Enhance the appearance of development.

Design Requirements

- a) Landscape design shall enhance the visual character of the development and complement the design/use of spaces within and adjacent to the site.
- b) Landscape design shall retain and enhance the existing native flora and fauna characteristics of a site wherever possible.
- c) Landscape design shall add value to the quality and character of the streetscape.
- d) A Landscape Concept Plan is required to be submitted with a development application for:
 - i) Semi-detached dwellings;
 - ii) dual occupancies;
 - iii) attached dwellings;
 - iv) multi dwelling housing;
 - v) residential flat buildings;
 - vi) mixed use development;
 - vii) boarding houses;
 - viii) shop top housing;
 - ix) child care centres;
 - x) places of Worship;
 - xi) commercial development;
 - xii) industrial development;and
 - xiii) any other development that in the opinion of Council a landscape plan



Figure 2.5.1 - Example of appropriate landscape treatment within the primary building setback.

Note:

An invasive species is a species occurring, as a result of human activities, beyond its accepted normal distribution and which threatens valued environmental, agricultural or other social resources by the damage it causes.

Note:

For information on native species refer to Council’s Native Gardening Guide and Tree Planting Guide which are available at:

www.campbelltown.nsw.gov.au

2.6

Weed Management

is required.

- e) The Landscape Concept Plan shall illustrate mature height, spread of species, trees to be removed/retained and shall be prepared by a suitably qualified person.
- f) Landscaping shall maximise the use of locally indigenous and other drought tolerant native plants and avoid the use of invasive species.

2.6 Weed Management

Objectives:

- Ensure that weeds within Campbelltown LGA are managed in an ecologically sustainable manner.

- a) A Weed Management Plan shall be submitted with any DA within land zoned for rural, environmental protection or waterways purposes that:
 - i) is proposed on site of two (2) or more hectares in area; or
 - ii) have a significant infestation of noxious or environmental weeds present
 - iii) is within 100 metres of a watercourse;
- b) Despite Clause 2.6 a) above, a weed management plan shall be prepared and submitted as part of a DA where Council is of the opinion that such a plan is needed.

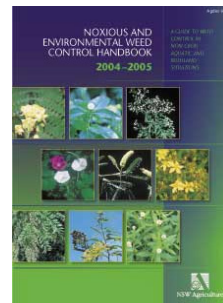


Figure 2.6.1 - Noxious and Environmental Weed Control Handbook (available for download from: www.dpi.nsw.gov.au/agriculture/pests-weeds/weeds/publications/noxious-enviro-weed-control)

Note : Refer to Appendix 2 of Volume One the Plan for the requirements of a Weed Management Plan.

Note : Refer to Appendix 3 of the Volume One of the Plan for a list of Noxious Weeds within the Campbelltown Local Government Area.

2.7

Erosion and Sediment Control

2.7 Erosion and Sediment Control

Objective:

- Ensure that any potential loss of soil from a site and/or into the stormwater system is prevented by means of:
 - appropriate planning prior to the start of construction works; and
 - the effective interception, diversion and control of stormwater within the site.

Design Requirements

- a) An Erosion and Sediment Control Plan (ESCP) shall be prepared and submitted with a development application proposing construction and/or activities involving the disturbance of the land surface. For requirements relating to the preparation of an ESCP, refer to Appendix 5 of Volume 1 and *Council's Engineering Design Guide for Development available from Council's website at www.campbelltown.nsw.gov.au*.
- b) Site activities shall be planned and managed to minimise soil disturbance.
- c) Catch drains or diversion banks shall be designed and constructed to divert water around any area of soil disturbance.
- d) All stockpiles shall be located within the sediment control zone and shall not be located within an overland flow path.



Figure 2.7.1 - Example of a stabilised, all weather access point.

2.8 Cut, Fill and Floor Levels

2.8

Cut, Fill and Floor Levels

Objectives:

- Minimise the extent of earthworks associated with development.
- Ensure that development appropriately responds to site conditions with proper consideration given to land capability and privacy/amenity of adjoining properties.
- Ensure that excavation is minimised and properly retained.
- Ensure that adequate freeboard is provided to protect development from overland flows and flooding.

2.8.1 Cut and Fill

Design Requirements

- a) A Cut and Fill Management Plan (CFMP) shall be submitted with a development application where the development incorporates cut and/or fill operations.

Note: For the requirements relating to a CFMP refer to Appendix 6.

- b) For any dwellings within residential zones, the maximum level of cut shall not exceed 1.0 metre below the ground level (existing) and the maximum level of fill shall not exceed 1.0 metre above ground level (existing), when measured at any corner of the building platform.
- c) Any excavation within the zone of influence of any other structure requires a 'dilapidation report' (prepared by a suitably qualified person) demonstrating that adequate ameliorative measures are to be implemented to protect the integrity of any structure.
- d) Development incorporating any cut or fill shall comply with the following requirements:
- minimum cross fall of 1% to any adjoining waterway; and
 - batters to be no steeper than 2H:1V ('H' stands for the term 'horizontal distance' and 'V' stands for the

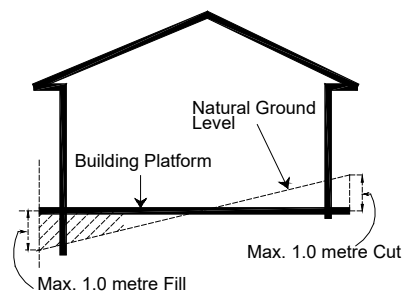


Figure 2.8.1 - Cross section of cut and fill on a residential site.

Note:

For additional information and requirements on how to address salinity, refer to Salinity Section of *Council's Engineering Design Guide for Development* (available from Council's website at www.campbelltown.nsw.gov.au)

2.8

Cut, Fill and Floor Levels

- term 'Vertical distance';
- iii) batters to be no steeper than 6H:1V for public areas.
 - e) All fill shall be 'Virgin Excavated Natural Material' (VENM).
 - f) No fill shall be deposited in the vicinity of native vegetation.
 - g) All basement excavation shall be setback a minimum of 900mm from the property boundaries.
 - h) Provisions of basements shall not result in non-compliance with deep soil planting controls contained within this plan.

2.8.2 Surface Water and Floor Levels

Design Requirements

- a) Development shall not occur on land that is affected by the 100-year ARI event unless the development is consistent with the NSW Floodplain Development Manual.
- b) All development on land affected by stormwater flow from main stream, local creek or over land flow shall satisfy the relevant fill and floor level requirements as specified in Table 2.8.1.
- c) All development shall have a ground surface level, at or above a minimum, equal to the 100-year 'average recurrence interval' (ARI) flood level.
- d) For development on land not affected by an overland flow path the minimum height of the slab above finished ground level shall be 150 mm, except in sandy, well-drained areas where the minimum height shall be 100mm. These heights can be reduced locally to 50mm near adjoining paved areas that slope away from the building in accordance with *AS 2870 (Residential Slabs and Footings Construction)*.
- e) Buildings involving basements,

Note:

All filling works shall satisfy Council's Specification for Construction of Subdivision Roads and Drainage Works and AS 3798 Guidelines for Earthworks for Commercial and Residential Development (refer to Council's Engineering Design Guide for Development available from Council's website at www.campbelltown.nsw.gov.au).



Figure 2.8.2 - Proposed building platform.

Note:

The minimum heights refer to under Clause 2.8.2 d) are to the top of the finished ground level after completion of paving and similar.

Note:

The development shall satisfy Sydney Water's requirements for 150mm clearance between finished floor level and the surface of the sewer surcharge gully.

2.8

Cut, Fill and Floor Levels

hospitals, seniors living dwellings and educational establishment with more than 50 students shall comply with the provisions of Council’s Engineering Design Guide for Development available from Council’s website at www.campbelltown.nsw.gov.au.

- f) Any solid fence constructed across an overland flow path shall be a minimum 100mm above the finished surface level of the overland flow path.
- g) Where underground car parking is proposed, measures shall be taken in design and construction to ensure escape routes, pump out drainage systems (which include backup systems) and location of service utilities (including power, phone, lifts) are appropriately located in relation to the 100 year ARI event, in accordance with Section 4.13.8 of Council’s Engineering Design Guide for Development available from Council’s website at www.campbelltown.nsw.gov.au.

Note:
Any allotments located on land that has been filled, shall be burdened by an 88B restriction regarding that fill and shall be noted on the respective Section 149 certificate.

Table 2.8.1 Floor Level Requirements

Development Criteria	Where the depth of flow is:	Minimum Freeboard above the predicted 100yr ARI Flood level
Floor Level for any dwelling room* including all commercial or industrial areas	< 300mm	300mm
	> 300mm	500mm
Floor Level in relation to any creek or major stormwater line including detention basins for any dwelling room# including all commercial or industrial areas	Any depth	500mm
Garage or shed Floor Level**	<300mm	100mm
	>300mm	300mm
Underside of solid fencing where overland flow is to be accommodated	Any depth	100mm (min)

* For the purpose of Clause 2.8.2 b) ‘a dwelling room’ is any room within or attached to a dwelling excluding a garage or shed.

** Garages and sheds with floor levels set to these standards will not be permitted to be converted to dwelling rooms at any time in the future.

2.9 Demolition

2.9 Demolition

Objectives:

- Ensure that demolition is carried out in accordance with the relevant legislation and guidelines.
- Ensure that demolition does not have an adverse impact on the environment, buildings, footpaths and roadways or upon the safety, health and well being of the community.

Design Requirements

- a) A development application involving demolition shall be considered having regard to the following information:
 - i) a detailed work plan prepared by a suitably qualified person, in accordance with AS2601-2001- The Demolition of Structures (as amended);
 - ii) details of the licensed demolition contractor engaged to carry out the work (including name, address and building licence number);
 - iii) a hazardous materials report that lists details of methods to prevent air, noise and water pollution and the escape of hazardous substances into the public domain;
 - iv) details of any asbestos or other hazardous substances to be removed from the site and/or damaged during demolition; and
 - v) a dilapidation report where any demolition work is to be undertaken within the zone of influence of any other structure.
- b) Where appropriate, demolished materials shall be recycled for reuse on site.

Note: All demolition work shall comply with AS2601-2001 - The Demolition of Structures (as amended).



Figure 2.9.1 - Demolition waste materials separated and stored on-site until they are safely removed for reuse, recycling or disposal.

2.10 Water Cycle Management

2.10

Water Cycle Management

Objectives:

- Ensure that water cycle management appropriately responds to site and water catchment conditions.
- Ensure that Water Sensitive Urban Design (WSUD) principles are incorporated into development.
- Retain and reinstate (where appropriate) the natural water course into stormwater management measures.
- Ensure that the development is protected from mainstream, local catchment and overland flow aspects of flooding.

2.10.1 Water Cycle Management

Design Requirements

- a) A comprehensive Water Cycle Management Plan (WCMP) shall be prepared and submitted as part of a development application.

Note: For requirements relating to the preparation of a WCMP refer to Council's Engineering Design Guide for Development available from Council's website at www.campbelltown.nsw.gov.au.

Note: Refer to Table 2.1 Thresholds for when a WCMP is needed.



Figure 2.10.1 - Example of a WSUD approach to water quality.

2.10.2 Stormwater

Design Requirements

- a) All stormwater systems shall be sized to accommodate the 100-year ARI event (refer to Section 4 of Council's Engineering Design Guide for Development available from Council's website at www.campbelltown.nsw.gov.au).
- b) The design and certification of any stormwater system shall be undertaken by a suitably qualified person.
- c) Water quality control structures shall be located generally off line to creek paths or other watercourses. Major

2.10 Water Cycle Management

detention storages shall not be located on areas of native vegetation or within riparian areas.

- d) Development shall not impact on adjoining sites by way of overland flow of stormwater unless an easement is provided. All overland flow shall be directed to designated overland flow paths such as roads.
- e) Safe passage of the Probable Maximum Flood (PMF) shall be demonstrated for major systems.
- f) A treatment train approach to water quality shall be incorporated into the design and construction of major systems.
- g) A major/minor approach to drainage is to be taken for stormwater flows. Generally the piped drainage system shall be sized to accommodate the difference between the 100-year ARI flow and the maximum safe overland flow, with minimum requirements as set out in section 4 of *Council's Engineering Design Guide for Development available from Council's website at www.campbelltown.nsw.gov.au*.
- h) Stormwater collected on a development site shall be disposed of (under gravity) directly to the street or to another Council drainage system/device. Where stormwater cannot be discharged directly to a public drainage facility, a drainage easement of a suitable width shall be created over a downstream property(s) allowing for the provision of a drainage pipe of suitable size to adequately drain the proposed development to a public drainage facility.

Note: Rubble pits and charged lines are not generally considered a suitable drainage solution.

- i) All proposed drainage structures incorporated within new development



Figure 2.10.2 - Water quality devices can improve water quality and give an important visual enhancement to a development area.

Note:

Refer to Appendix A14 - Obtaining a Stormwater Easement for additional information.

2.10

Water Cycle Management

shall be designed to maintain public safety at all times.

- j) Development shall not result in water run-off causing flooding or erosion on adjacent properties.
- k) Stormwater run-off shall be appropriately channelled into a stormwater drain in accordance with *Council's Engineering Design Guide for Development available from Council's website at www.campbelltown.nsw.gov.au*.
- l) Where applicable, the development shall incorporate the creation of an appropriate easement to manage stormwater in accordance with *Council's Engineering Design Guide for Development available from Council's website at www.campbelltown.nsw.gov.au*.

2.10.3 Stormwater Drainage

Design Requirements

- a) A stormwater Drainage Concept Plan shall be prepared by a suitably qualified person, and submitted with all development applications, involving construction (except for internal alterations/fitouts), demonstrating to Council how the stormwater will be collected and discharged from the site.
- b) The stormwater concept plan shall include the following information as a minimum:
 - i) locations, layouts and sizes of stormwater pipes and pits;
 - ii) minimum grades and capacity of stormwater pipes; and
 - iii) existing and proposed easements, site contours and overland flow path/s.

2.11

Heritage Conservation

2.11 Heritage Conservation

Objectives:

- Ensure that new development takes appropriate account of the significance of heritage items, heritage conservation areas, relics and their settings.
- Respect the City’s heritage resource.
- Promote the protection or conservation of those resources wherever possible.
- To conserve the environmental and cultural heritage of the City in accordance with the the principles contained within the Burra Charter.

2.11.1 Aboriginal Heritage

Design Requirements

- a) All developments that have the potential to impact upon Aboriginal cultural heritage must provide an assessment in accordance with the “Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW”, published by the Office of Environment and Heritage (OEH). This requires an initial investigation of the potential impact of a development on Aboriginal Cultural Heritage in circumstances where the proposed development involves disturbance to cultural sites (eg. Aboriginal culturally modified trees), or the ground surface. This initial investigation is to be undertaken by the applicant and requires an assessment of whether there are:
- i) any known Aboriginal sites within the development site (determined by undertaking a search of the Aboriginal Heritage Information Management System (AHIMS) database (which is maintained by the Office of Environment and Heritage); and/or
 - ii) any other sources of relevant information of which a person is already aware; and/or
 - iii) Whether the development is on a site that is not disturbed land and

Note:

The controls provided under this section are in addition to the requirements provided under Clause 5.10 *Heritage Conservation* of the CLEP.



Figure 2.11.1 - Aboriginal rock art.

2.11 Heritage Conservation

is:

- within 200m of waters, or
 - located on a ridge top, ridge line or headland, or
 - located within 200m below or above a cliff face, or
 - within 20m of/or in a cave, rock shelter, or a cave mouth.
- b) Where the initial investigation confirms the presence or likely presence of Aboriginal objects or the above landscape features, further assessment and visual inspection must be conducted in accordance with the “Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW” by a person with expertise in Aboriginal cultural heritage management.
- c) If this assessment indicates that there are, or are likely to be, Aboriginal objects, and/or an Aboriginal Place in the area of the proposed activity, more detailed investigation and an impact assessment shall be required and must be prepared by a person with expertise in Aboriginal cultural heritage management. Where it is determined that harm could occur to Aboriginal objects then an Aboriginal Heritage Impact Permit application must be made to the OEH (and be approved prior to works occurring).
- d) The assessment shall be prepared in accordance with the following documents:
- i) Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW (2010);
 - ii) Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (2010); and
 - iii) Aboriginal cultural heritage consultation requirements for proponents 2010. Part 6 National

Note:

Land is disturbed if it has been the subject of a human activity that has changed the land's surface, being changes that remain clear and observable. Examples of activities that may have disturbed land include the following:

- i) soil ploughing,
- ii) construction of rural infrastructure (such as dams and fences),
- iii) construction of roads, trails and tracks (including fire trails and tracks and walking tracks),
- iv) clearing of vegetation,
- v) construction of buildings and the erection of other structures,
- vi) construction or installation of utilities and other similar services (such as above or below ground electrical infrastructure, water or sewerage pipelines, stormwater drainage and other similar infrastructure),
- vii) substantial grazing involving the construction of rural infrastructure,
- viii) construction of earthworks associated with anything referred to in paragraphs (ii-vii).

Source: National Parks and Wildlife Regulation 2009

2.11

Heritage Conservation

Parks and Wildlife Act 1974 (2010).

- e) The assessment shall take into account the following documents:
 - i) Operational Policy: Protecting Aboriginal Cultural Heritage (February 2009);
 - ii) OEH Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW (2011).

Note: The Office of Environment and Heritage web site has further information about how to do a detailed investigation and Aboriginal Heritage Impact Permit applications (www.environment.nsw.gov.au).

Note. For the purpose of this Section:

Aboriginal culturally modified tree means a tree that, before or concurrent with (or both) the occupation of the area in which the tree is located by persons of non-Aboriginal extraction, has been scarred, carved or modified by an Aboriginal person by:

- (a) the deliberate removal, by traditional methods, of bark or wood from the tree, or
- (b) the deliberate modification, by traditional methods, of the wood of the tree.



Figure 2.11.2 - Rock shelters often contain artefacts in the form of rock art or occupation deposits.

2.11

Heritage Conservation

2.11.2 Heritage

Design Requirements

- a) Any development application made in respect to development on land that is:
- i) occupied by a heritage item; or
 - ii) adjoining land occupied by a heritage item; or
 - iii) located within a heritage conservation area,
- shall provide a Statement of Heritage Impact (SHI) that assesses the impact of the proposed development on the heritage significance, visual curtilage and setting of the heritage item or conservation area.
- b) Any development on land occupied by an item of heritage, or land located within a heritage conservation area shall be designed by a suitably qualified person and have regard to the provisions of any relevant study or Conservation Management Plan (CMP) .
- c) Unless otherwise advised by council, a Conservation Management Plan (CMP) shall be required for all proposed development involving the adaptive reuse of a heritage item, or major alterations and additions.

Note: The CMP shall be prepared by a suitably qualified person in accordance with the relevant guidelines of the NSW Office of Environment and Heritage.

Note: For requirements relating to the preparation of a heritage impact assessment report refer to Appendix 9.

Note: A Heritage Impact Statement must be prepared by a suitably qualified person in accordance with the document "Statements of Heritage Impact" published by the NSW Heritage Branch and available for view at: www.environment.nsw.gov.au

Note:

Additional site specific heritage development controls are included under Volume 2 Part 4 Site Specific Heritage Controls. The site specific heritage controls apply to the following heritage conservation area/heritage items and their curtilage:

- Queen Street Heritage Conservation Area;
- Woodcrest Heritage Item; and
- Raith Heritage Item.

Heritage Impact Statement

is a document consisting of a statement demonstrating the heritage significance of a heritage item or heritage conservation area, or of a building work, archaeological site, tree or place within a heritage conservation area, an assessment of the impact that proposed development will have on that significance and proposals for measures to minimise impacts.



Figure 2.11.3 - Careful consideration shall be given to any development that has the potential to impact on items of heritage and their setting.

2.12

Retaining Walls

2.12 Retaining Walls

Objective:

- Ensure that retaining walls visible to a public place are compatible with the character and scale of development within the streetscape and other public domain areas in the locality.

Design Requirements

- a) Any retaining wall that is not complying or exempt development as specified in the E&CDC shall be designed by a suitably qualified person.
- b) In the case of retaining walls constructed to support proposed fill on an allotment, the following design criteria shall apply:
 - i) No filling shall be permitted within 2 metres of any property boundary unless sufficient details are submitted to Council illustrating how privacy, overshadowing, stormwater management and access issues have been addressed to Council's satisfaction.
- c) In the case of retaining walls constructed to support proposed cut on an allotment, the following design criteria shall apply:
 - i) The retaining wall shall be setback a minimum of 450mm from the rear and side boundary of the lot containing the cut.

Note: Council will consider on merit, a zero setback of retaining walls, only where neighbours' consent has been obtained and submitted as part of the DA. This must include consent for the creation of a 900 mm maintenance easement over the neighbouring property.

- d) Any retaining wall shall not adversely alter surface flows to adjoining private land.
- e) Any retaining wall and associated



Figure 2.12.1 - Example of a retaining wall.

2.12

Retaining Walls

structures shall be designed to be located wholly within the property boundary, except where written or legal agreements have been reached between relevant parties to Council's satisfaction.

- f) Any excavation within the zone of influence for any other structure or building requires a Structural Engineering Report (prepared by a suitably qualified professional) demonstrating that adequate and appropriate measures are to be implemented to protect the integrity of any structure.
- g) Where retaining walls are proposed along the side boundary of the property, the side setback where the retaining wall is proposed shall be increased from 0.9 metres to 1.2 metres.
- h) Any retaining wall requiring work on neighbouring properties shall require the consent of the adjoining owner/s.
- i) Retaining walls higher than 600mm shall be designed by a structural engineer and made from appropriate material.
- j) Any retaining wall(s) proposed on land designated as being bush fire prone must be constructed of non-combustible materials.

2.13

Security

2.13 Security

Objective:

- Ensure that development incorporates security features in accordance with the principles of Crime Prevention Through Environmental Design (CPTED) to:
 - minimise opportunities for crime; and
 - enhance security.

Design Requirements

- a) Development shall be designed to:
 - i) maximise, where possible, casual surveillance opportunities to the street and surrounding public places;
 - ii) minimise dead ends and other possible entrapment areas;
 - iii) clearly identify and illuminate access points to buildings and designated public places; and
 - iv) clearly differentiate between private and public space.
- b) External lighting shall be designed to:
 - i) encourage the use of safe areas;
 - ii) define safe corridors for movement of people; and
 - iii) allow facial recognition of approaching pedestrians at 15 metres.
- c) Development shall incorporate appropriate landscaping, fencing and security devices to assist in crime prevention.
- d) Commercial and industrial buildings that are not secured from public access after close of business shall have external finishes that are graffiti resistant.
- e) Development applications for multi dwelling housing, attached dwellings residential flat buildings, mixed-use

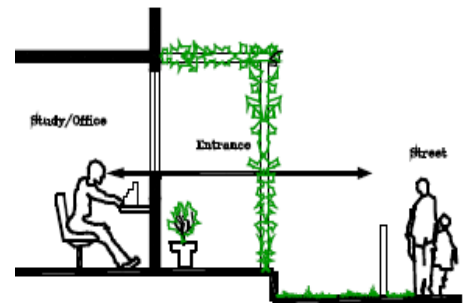


Figure 2.13.1 - Illustration of how buildings may be designed to provide for passive surveillance to and from a public place.

2.13

Security

development, boarding houses, shop top housing, commercial development, industrial development and large scale subdivision comprising more than 10 dwellings/units allotments or incorporating works to be dedicated to Council shall be accompanied by a crime prevention plan to be prepared by a suitably qualified person addressing how the development embraces the principles of Crime Prevention Through Environmental Design.

Note: For requirements relating to the preparation of a Crime Prevention Plan refer to Appendix 13.

2.14

Risk Management

2.14 Risk Management

Objective:

- Ensure that hazards of the site are addressed so as to minimise the risk of:
 - injury to persons/property;
 - damage to the environment; and
 - financial loss.

2.14.1 Salinity

Design Requirements

- a) Any development :
- i) within 50 metres of the top of the bank of a watercourse;
 - ii) located in an area that has bare soil patches or salt scalds;
 - iii) occupied by soils that appear 'puffy' when dry, or greasy when wet;
 - iv) located in an area that is occupied by salt tolerant plant species;
 - v) located in an area that has white staining on nearby house foundations or walls; or
 - vi) located on soils that are derived from Wianamatta Shale;

shall be designed in accordance with Section 5.8 *Council's Engineering Design Guide for Development available from Council's website at www.campbelltown.nsw.gov.au.*

- b) A detailed Salinity Analysis and Remedial Action Plan shall be prepared and submitted with the development application if:
- i) the site has been identified as being subject to a salinity hazard; or
 - ii) an investigation reveals that the land is saline.

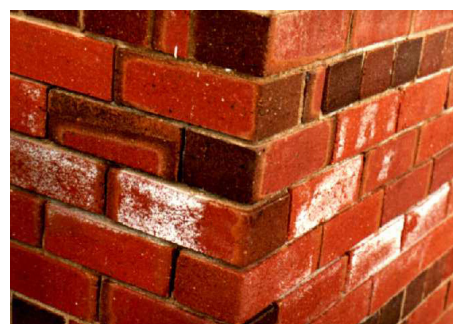


Figure 2.14.1 - Salt damage in the brickwork of buildings identifies a possible salinity problem in the area.

2.14.2 Bushfire

Design Requirements

- a) Development shall be designed and located so as to minimise the risk of loss of life or property from bushfire.
- b) Development on bush fire prone land (as detailed on the Campbelltown Bush Fire Prone Lands Map) shall comply with the requirements of *Planning for Bushfire Protection, (NSW Rural Fire Service) as amended*.
- c) Development applications relating to land identified on the Bushfire Prone Land Map shall be accompanied by a Bushfire Hazard Assessment Report prepared by a suitably qualified person.
- d) All 'Asset Protection Zones' shall be provided within the boundary of the subject land. National Parks, Crown Reserves, water catchments, easements, Council managed reserves, riparian corridors other private land shall not be considered as part of asset protection zones unless approved by the NSW Rural Fire Service.
- e) Adequate water reserves for fire fighting shall be available and accessible on site as specified in *Planning for Bushfire Protection, as amended*. Hazard reduction (burning or mechanical) proposals shall be in accordance with the *Campbelltown Bush Fire Risk Management Plan and the Bush Fire Environmental Assessment Code*. Landowners wishing to undertake hazard reduction shall contact the *NSW Rural Fire Service (NSWRFS)* for any requirements. Applications to undertake hazard reduction will be assessed by the *NSWRFS* under the *Bushfire Environmental Assessment Code*. Guidelines for hazard reduction include:
 - i) as far as possible, the frequency, time of year and intensity of any

2.14

Risk Management

hazard reduction burning in native vegetation is to approximate the natural regime; and

- ii) periodic weed monitoring and control shall be undertaken after bushfires and hazard reduction burning, and appropriate action taken as necessary.
- f) Any development proposing the removal of native vegetation for APZ purposes shall investigate the environmental impact of the removal of that vegetation.

2.14.3 Subsidence

Design Requirements

- a) Any development on a site located within South Campbelltown Mine Subsidence District, or Appin Mine Subsidence District may be at risk of the effects of subsidence from past and/or future underground mining. An appropriate engineering outcome shall be achieved.
- b) An applicant shall make appropriate enquiries and have plans stamped with the Mine Subsidence Board regarding any construction requirements for any type of development involving the erection of a building within a mine subsidence district prior to a development application being submitted to Council.

Note: A copy of the South Campbelltown Mine Subsidence District map can be inspected at Council's Civic Centre or at www.minesub.nsw.gov.au.

2.14.4 Public Health

Design Requirements

- a) Cooling towers shall be located in accordance with the requirements of the following standards:
 - i) Australian Standard No. AS/NZS 3666 Part 1, *Air-Handling and Water Systems of Buildings-Microbial Control Installation and*

Note:

Refer to Volume 1, Part 4 Rural Residential Development and Ancillary Rural Residential Structures—for additional specific requirements in relation to bushfire requirements.

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Risk Management

Commissioning (as amended).

- ii) Australian Standard No. AS/NZS 3666 Part 2, *Air-Handling and Water Systems of Buildings-Microbial Control Operation and maintenance (as amended).*
- iii) Australian Standard No. AS/NZS 3666 Part 3, *Air-Handling and Water Systems of Buildings-Microbial Control Performance-based maintenance of cooling water systems (as amended).*

2.15

Waste Management

2.15 Waste Management

Objectives:

- Ensure waste systems are easy to use and that, where necessary, collection vehicles are able to access buildings to remove waste.
- Ensure that developments meet requirements for long term sustainability and best practice.
- Ensure developments achieve effective waste and resource recovery management.
- Ensure that developments protect and enhance the quality of life for the community.
- Ensure healthy and safe practices for the storage, handling and collection of waste and recycling materials.
- Prevent stormwater pollution that may occur as a result of poor or incorrect storage and management arrangements for recyclables and waste.
- Promote the principles of Ecologically Sustainable Development through appropriate resource recovery and recycling, leading to a reduction in the consumption of finite natural resources.

2.15.1 Waste Management Plan

Design Requirements

- a) A detailed Waste Management Plan (WMP), prepared by an appropriately qualified waste management professional, shall accompany development applications for certain types of development/land uses, as detailed in Table 2.15.1 and for any other development that in the opinion of Council a WMP is required.
- b) Plans submitted with a development application shall detail the following (as applicable):
 - i) the size and location of waste and recycling storage areas;
 - ii) routes for occupants to access waste and recycling areas;
 - iii) collection point and/or access route for collection vehicles;

2.15 Waste Management

- iv) ventilation of waste and recycling storage areas;
- v) location of garbage chute and service rooms;
- vi) bin and storage area washing facilities; and
- vii) occupants' disposal points for all waste streams.

Note: Waste Management Plan forms are available on Council's web site at www.campbelltown.nsw.gov.au.

2.15.2 Waste Management During Demolition and Construction

Design Requirements

- a) Waste and recyclable streams shall be stored separately on site.
- b) All storage areas/containers for each waste and recycling stream shall be kept on the site at all times and shall be indicated on the site plans/drawings as part of the WMP.
- c) Where material cannot be reused or recycled, it shall be disposed of at an



Figure 2.15.1 - Example of management of construction waste.

Table 2.15.1 - Requirements for submitting a WMP

Development Type	Demolition	Construction	Ongoing
Dwelling houses (including secondary dwellings and out-buildings)	✓	✓	✗
Dual occupancies, semi-detached dwellings	✓	✓	✗
Multi dwelling housing, manor houses, attached dwellings	✓	✓	✓
Residential flat buildings and boarding houses	✓	✓	✓
Mixed use development	✓	✓	✓
Centre-based child care facilities	✓	✓	✓
Seniors housing and housing for people with a disability	✓	✓	✓
Building fit out	✗	✓	✓
Commercial development	✓	✓	✓
Industrial development	✓	✓	✓

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appropriately licensed waste management or recycling facility. Details of disposal arrangements shall be specified in the WMP for each material type.

- d) Convenient and safe heavy vehicular access to waste and recycling material storage areas shall be provided.
- e) The removal, handling and disposal of asbestos or other hazardous materials shall be carried out in accordance with WorkCover NSW, NSW Environment & Protection Authority (EPA), Office of Environment and Heritage and other regulatory authority guidelines and requirements.

2.15.3 On-going Waste Management

Design Requirements

- a) Provision shall be made for all waste and recycling storage containers to be located behind the primary and secondary building line and out of public view.
- b) Any room(s) for storing garbage and recycling receptacles shall be located in a position that provides convenient access for residents, maintenance and waste collection staff. Bin storage rooms shall complement the development and not be visibly obtrusive when viewed from any public place.
- c) A waste collection point shall be nominated demonstrating that waste-loading operations can occur on a level surface not adjacent to steep gradients, vehicle ramps and pedestrian access points.
- d) The path for wheeling bins between waste storage area(s) and the collection vehicle shall be free of steps or kerbs and have a maximum gradient of 1V:8H.
- e) For safety and ease of manoeuvrability, the distance required for residents, building managers and caretakers to wheel bins to their collection point shall be the minimum achievable.
- f) Where the bin-carting route from the storage area to the collection point exceeds the maximum distance or gradient, or a large

number of bins need to be moved around the site, a dock leveler, bin lift or tow tug device may be used.

- g) Where any such device listed above is proposed to be used, details of the device and its proposed operation must be provided. This information must demonstrate that the device can be used safely by a nominated competent person, and that the use of the device will not conflict with other activities to be carried out on the site (such as vehicle access).
- h) The maximum travel distance between any storage area/point and the collection point for all bins shall be 30 metres.

(Note: In accordance with Part 2.7 the EPA's "Better practice guide for resource recovery in residential development", dated April 2019.)

- i) Where it is intended that collection vehicles are to drive onto private property to collect waste and recycling, the development shall be designed to provide for:
 - i) the safe and efficient service of the development with minimal need to reverse;
 - ii) adequate clearance to accommodate waste collection by a heavy rigid vehicle, in accordance with the dimensions detailed in Table 2.15.2.
 - iii) vehicles to enter and exit in a forward direction;
 - iv) pavement construction that is sufficient to withstand a heavy rigid collection vehicle of 24 tonnes gross vehicle mass.

Note: No waste incineration or waste compaction devices shall be located on the site.

- j) Where bins are to be collected from the kerbside, at least 1.5m of clear and unobstructed footpath area per dwelling must be provided within the confines of the site's frontage (not impeding driveways or neighbouring lots) to allow for the presentation of bins and kerbside clean up material.
- k) The bin storage area must be located in a

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position that does not require any bins to be transported through any habitable room to reach the collection point.

- l) A development must be designed in a manner that allows for servicing by Council's waste collection vehicles, regardless of the intended servicing arrangements.

2.15.4 Environmental Sustainability and Best Practice

Design Requirements

- a) Systems shall be designed to maximize waste separation and resource recovery;
- b) Innovative and best practice waste management collection systems and technologies shall be supported where appropriate; and
- c) Designs shall be flexible to allow for future changes in waste generation rates, materials collected and methods of collection.

2.15.5 Effective Waste and Resource Management

- a) Collection services shall occur in a safe and seamless manner;
- b) Access to resource recovery and waste disposal services shall be safe and convenient for all residents; and
- c) Functional and adequate storage spaces be provided for all waste and recycling streams, including temporary storage areas for bulky waste materials.

2.15.6 Clean, Safe and Healthy Living Environments

- a) Negative impacts on amenity for residents, neighbours and the general public such as visually unpleasant waste storage areas, bad odours and noise from bin collection shall be minimised.
- b) Illegal dumping and litter from bins shall be minimised through good planning and installation of adequate storage and waste recovery infrastructure.

- c) Safe and easy access to waste and resource recovery storage areas shall be provided for residents, building managers and collection service providers.
- d) All resource recovery and waste systems shall be easy to use and, where necessary, collection vehicles shall be able to safely enter sites and access buildings to remove waste and recyclables.
- e) Healthy and safe practices for the storage, handling and collection of waste and recycling materials shall be provided.

2.15.7 Vehicle Turning Circles

- a) Turning circles and clearances to kerbs, existing buildings or other obstructions shall be designed to accommodate the largest collection vehicle that could service the property (heavy rigid class in most cases).
- b) Any turning circle considerations shall also include allowances for driver steering error (manoeuvring clearance) and overhangs. Better practice design always requires vehicle entry and exit from a development with the vehicle travelling in a forward direction.
- c) Where there is a requirement for collection vehicles to turn at a cul-de-sac head within a development, the design shall incorporate either a bowl, T- or Y-shaped arrangement.
- d) Vehicles shall not be required to make more than a three-point turn.
- e) Vehicle turning circles can be reduced from those in the Table 2.15.3 by using mechanical turntable (or similar) equipment (subject to Council approval).

Note: A manual override will be required for any turntable. Turntables allow safe entry and exit for heavy vehicles in a forward direction where space is limited. Some RFBs have turntables fitted for cars and other small vehicles. A turntable for a waste collection vehicle needs to have an additional minimum 12.5m diameter circular clearance zone.

2.15.8 Improving Resource Recovery



Figure 2.15.2- Example of Rear-loading waste collection vehicle



Figure 2.15.3 - Example of Side Loading Vehicle



Figure 2.15.4 - Example of Front-lift waste collection vehicle

2.15

- a) Waste management systems shall be convenient and simple to use.
- b) Effective systems shall encourage proper use, reduce illegal dumping, maintain cleanliness and amenity of the building and its surrounds and reduce contamination.

Note: Contamination occurs when the incorrect items are placed in the wrong bin. High levels of contamination in recycling or organic bins are likely to result in materials being rejected at the recycling facility and ending up in landfill.

Table 2.15.2 - Indicative dimensions of waste collection vehicles

	Side loading collection vehicle	Front loading collection vehicle	Rear loading collection vehicle*
Overall length	10.4 metres	9.2 metres	8 metres
Overall width	2.5 metres	2.5 metres	2.5 metres
Operational height**	5.2 metres	6 metres	4 metres
Operational Width	4.65 metres	4.65 metres	4.65 metres
Travel height	4 metres	4 metres	4 metres
Weight (vehicle only)	13 tonnes	16.5 tonnes	13 tonnes
Weight (payload)	9.5 tonnes	11 tonnes	9.5 tonnes
Turning circle radius	12.5 metres	12.5 metres	12.5 metres
Wheel Base	5.5 metres	5.5 metres	5.5 metres

Note * These specifications are indicative only and may vary depending on vehicle brand, model, axle configuration etc.

** The maximum reach of a side-arm is 3.0 metres; and ** Unobstructed height - refer to Figures 2.15.2, 2.15.3 and 2.15.4 for types of waste vehicles.

Table 2.15.3 - Vehicle Turning Circles

Vehicle Class	Length	Design Width	Design Turning Radius	Swept Circle	Travel Height
Medium rigid vehicle	8.8m	2.5m	10.0m	21.6m	4.5m
Heavy rigid vehicle	12.5m	2.5m	12.5m	27.8m	4.5m

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Note:

Methods to encourage resource recovery and minimise contamination include:

- locating recycling and organics bins adjacent to waste bins;
- providing adequate storage space within each dwelling for sorting materials ready for disposal into the correct bin;
- providing separate bins for each dwelling, marked with the unit number to encourage ownership of bins;
- displaying information signs in common areas clearly identifying waste, recycling and organics bins and storage areas;
- using standard and consistent signage and colour coding that provides instruction on how to use each bin correctly; and
- having enough space to allow flexibility in services including space for additional recycling options - for example an organics bin or e-waste collection.

Table 2.15.4 - Commonly used bin types and sizes in the Campbelltown Local Government Area

Stream	Common single dwelling bin sizes	Common residential flatbuilding sizes	Common bin lid colour coding
Household Garbage	140L	240L, 660L, 1100L	Red
Co-mingled recyclables	240L	240L	Yellow
Garden organics	240L	240L	Green/Lime Green

2.15

2.15.9 Bin Storage Areas

- a) The design of the bin storage areas shall be considered early in the design process so that they can be successfully integrated into the overall design of the development and are convenient for all users.
- b) Sufficient areas/space shall be made available within the property boundary to store the range of bins for the quantity of waste, recycling and organics (and other materials where appropriate) likely to be generated between collections.
- c) Residents shall not be required to walk more than a maximum distance of 30m to access the bin storage area.

Refer to Part 2.7 'Better Practice Guide for Resource Recovery in Residential Developments, April 2019, for more information on bin storage area.

Note:

Refer to Appendix B (pp 75-79) of the EPA's "Better Practice Guide for Resource Recovery in Residential Developments", April 2019, for further details regarding collection service design issues that should be considered such as vehicle access, loading areas, bin carting route and road surfaces.

Refer to Appendix H (pp 110-111) of the EPA's "Better Practice Guide for Resource Recovery in Residential Developments", April 2019, for further details regarding access and turning circle requirements.

Table 2.15.6 - Bin-carting design standards

Bin capacity	Up to 360L	360L - 1100L	More than 1100L
Maximum distance	30m	5m	3m
Maximum surface grades	1:14	1:14	1:30
Steps or kerbs	None	None	None

2.15

Table 2.15.7 - Average dimension ranges for two-wheel mobile bins

Bin capacity	80L	120L	140L	240L	360L
Height(mm)	870mm	940mm	1,650mm	1,080mm	1,100mm
Depth (mm)	530mm	530mm	615mm	735mm	850mm
Width (mm)	450mm	485mm	535mm	585mm	680mm
Approx. footprint (sqm)	0.24sqm	0.26 - 0.33 sqm	0.27 - 0.33 sqm	0.41 - 0.43 sqm	0.49 sqm
Approx. Weight (kg)	8.5 kgs	9.5kgs	10.4kgs	15.5kgs	20kgs
Approx.(Max Load)	23kgs	48kgs	56kgs	96kgs	140kgs

Table 2.15.8 - Average dimension ranges for selected four-wheel bulk bins

Bin capacity	660L	1,100L
Height(mm)	1,250mm	1,245mm
Width (mm)	1,370mm	1,370mm
Approx. footprint (sqm)	0.86 - 1.16 sqm	1.33 - 1.74 sqm
Approx. Weight (kg)	45kgs	65gs
Approx.(Max Load)	310kgs	440kgs

2.16 Provision of Services

2.16 Provision of Services

Objectives:

- Ensure that development is provided with adequate water and power supply.
- Ensure that the operations, installation and maintenance of on-site sewage systems do not:
 - impose risks on public health;
 - result in any potential contamination to groundwater, and natural and artificial watercourses.
 - result in degradation of soil structure.

2.16.1 Water

Design Requirements

- a) Where connection to the reticulated water supply system is not available, development shall be provided with:
 - i) sufficient water storage to cater for all relevant activities of the proposed use of the development;
 - ii) sufficient storage for fire fighting purposes in accordance with Planning for Bushfire Protection 2006, NSW Rural Fire Service.

Note: Water reserved for fire fighting may be stored in an above water tank, underground water tank, a dam or a swimming pool, no further than 30 metres from the proposed development and is within a 4 metre reach of a Category one tanker.

Note:

Refer to Parts 6 Urban Release Areas and Clause 7.1 Essential Services of the CLEP.

2.16.2 Electricity

- a) Details of the proposed method of power supply shall be provided as part of the development application for any development involving the construction of a building within rural and environmental protection zones.
- b) Any structure associated with the provision of electricity shall not result in any adverse impacts on the natural environment and/or adjoining properties.

2.16

Provision of Services

2.16.3 On-Site Wastewater Sewage Management

- a) On-site Wastewater Management Systems and Private Recycled Water Schemes shall comply with the following codes and standards:
 - i) Council's Wastewater Management and Water Recycling Strategy 2009;
 - ii) *Environmental & Health Protection Guidelines: On-site Sewage Management for Single Households 1998;*
 - iii) *NSW Guidelines for the Management of Private Recycled Water Schemes 2008;*
 - iv) *NSW Guidelines for Greywater Reuse in Sewered, Single Household Residential Premises 2007;*
 - v) *the then Department of Environment & Conservation NSW, Environmental Guidelines Use of Effluent by Irrigation, 2004;*
 - vi) *AS/NZS 1547:On-site Domestic Wastewater Management (as amended);*
 - vii) *AS/NZS 3500 National Plumbing and Drainage Standards and NSW Code of Practice - Plumbing and Drainage (as amended);*
 - viii) *AS/NZS 1546.1 On-site domestic wastewater treatment units Part 1: Septic Tanks (as amended);*
 - ix) *AS/NZS 1546.2 On-site domestic wastewater treatment units Part 2: Waterless composting toilet (as amended);*
 - x) *AS/NZS 1546.3: On-site domestic wastewater treatment units Part 3:Aerated Wastewater treatment systems (as amended);*
 - xi) *AS/NZS 3500 National Plumbing and Drainage Standard (as amended);*

2.16 Provision of Services

xii) *National Water Quality Management Strategy-Australian Guidelines for Water Recycling (Phase 1) 2006; and*

xiii) *National Water Quality Management Strategy-Australian Guidelines for Water Recycling Stormwater Harvesting and Reuse 2009.*

- b) All development applications for an on-site wastewater management system or private recycled water scheme shall be accompanied by a site specific wastewater report for all wastewater facilities located on the premises. The report shall be prepared by a suitably qualified person/company specialising in wastewater and water recycling systems in accordance with Council's Wastewater Management and Water Recycling Strategy 2009.
- c) The type of wastewater management system and method of reclaimed effluent application shall be determined having regards to the following:
- i) allotment size and slope;
 - ii) soil classification; and
 - iii) proximity to water courses.
- d) The connection of an existing septic tank to a single tank Aerated Wastewater Treatment System will be assessed on its merits providing that the existing septic tank is structurally sound in accordance with Council's requirements and specifications.
- e) On-site Wastewater Management Systems & Private Recycled Water Schemes shall be designed, installed, operated and maintained in accordance with the manufacturer's specifications.

Note: Council's Minimum Requirements for a site specific Wastewater Management On-Site System Report Guidelines and Council's Waste water Management and Water Recycling Strategy 2009 are available for download from Council's website at www.campbelltown.vic.gov.au

2.17

Work On, Over or Near Public Land

- f) All wastewater management systems and private recycled water schemes shall be provided with the following minimum buffer distance:
- i) 100 metres to permanent surface waters;
 - ii) 250 metres to domestic groundwater well; and
 - iii) 40 metres to other waters

2.17 Work On, Over or Near Public Land

Objectives:

- Protect public health and safety.
- Ensure that Council assets and infrastructure are protected.
- Ensure proper management of traffic during the construction phase of development.

2.17.1 Approval Required Prior to Working On or Over Public Land

Design Requirements

- a) Written approval shall be obtained from Council, prior to the commencement of any works, activities or occupancy upon public land, including roads, road related areas, stormwater connections, Council car parks, footpaths or nature strips.

Note: Written approval under Clause 2.17.1a) may be in the form of a road occupancy approval, standing plant approval or work zone approval depending upon the intended activities. Further information about the type of approval required can be obtained by contacting Council's Customer Service Centre on (02) 4645 4000.

Note: Failure to obtain written approval prior to the carrying out of works, activities or occupancy upon public land may result in

2.17

Work On, Over or Near Public Land

Council taking enforcement action.

2.17.2 Working Near Public Land

Design Requirements

- a) Notwithstanding clause 2.17.1 a) a hoarding or fence shall be erected between the work site and a public place where:
 - i) the work involved in the development is likely to cause pedestrian or vehicle traffic in a public place to be obstructed or altered; and/or
 - ii) the building involves the enclosure of a public place in accordance with Work Cover requirements
- b) Where a hoarding fence is required to be erected upon public land, including any road, road related area, footpath or nature strip, prior written approval shall be obtained from Council.
- c) Where the site work is likely to be hazardous to persons on a public place, the work site shall be kept lit between the sunset and sunrise.

2.17.3 Excavation Work Near State Roads

- a) Any proposal that includes excavation works adjacent to a State Road shall be accompanied by detailed geotechnical report relating to the proposed excavation of the site and support structures to RMS's satisfaction.

2.18 Work on Land Adjacent to the Upper Canal Corridor

2.18

Work on land adjacent to the Upper Canal Corridor

Objectives:

- Ensure that the Upper Canal is taken into account in siting, designing and constructing any proposed development adjoining or in the vicinity of the Canal
- Ensure that development adjacent to the Upper Canal corridor does not impact on the continued operation of the Canal infrastructure.
- Provide for the safety and amenity of the public living or visiting areas adjacent to the upper Canal.
- Protect water quality by preventing stormwater or other pollutants entering the Upper Canal system.
- Ensure that development adjacent to the Upper Canal corridor considers and responds to its heritage value.

Design Requirements

- a) Where subdivision or major development (other than individual residential dwellings and ancillary structures) is proposed adjacent to the Upper Canal corridor, applicants shall consult with Water NSW as part of the process of preparing the development application.
- b) Any written requirements of Water NSW shall be submitted with the development application and the development application documentation shall show how the requirements have been addressed.
- c) Prior written approval shall be obtained from Water NSW for any access that may be required to the Upper Canal corridor during the construction phase.
- d) Access points to the Upper Canal for Water NSW staff and contractors to carry out inspections and maintenance shall be retained or provided in accordance with Water NSW requirements.
- e) Site preparation and construction works carried out adjacent to or crossing the Upper Canal shall avoid impacting on water quality and damaging the Canal

Note:

Applicants are advised to refer to Water NSW publication “Guidelines for development adjacent to the Upper Canal and Warragamba Pipelines” when preparing development applications for land adjacent to the Upper Canal.

Note:

The Upper Canal is owned and managed by Water NSW and is located on land classified as a controlled area under Water NSW Act 2014. The Canal begins at Pheasants Nest Weir on the Nepean River and transfers water from the Upper Nepean dams to the Prospect Water Filtration Plant to supply a significant part of Sydney’s drinking water. The upper Canal is historically significant having functioned as part of Sydney’s main water supply system for more than 120 years and is listed on the State Heritage Register.

2.18

Work on land adjacent to the Upper Canal Corridor

- infrastructure, in accordance with Water NSW requirements.
- f) Stormwater systems serving development adjacent to the Upper Canal shall be designed to ensure that stormwater does not enter the Canal. Stormwater management measures shall accommodate and not impede upstream flows from any systems that convey stormwater across, along or under the Upper Canal.
 - g) Appropriate security fencing shall be provided, or existing security fencing retained along the length of development boundaries that directly adjoin the Upper Canal corridor boundary, in accordance with Water NSW requirements.
 - h) Road, pedestrian and cycleway crossings of the Upper Canal shall be minimised and located and designed in accordance with Water NSW requirements.
 - i) A local road shall be provided, or existing roads retained, between development and the Upper Canal corridor. The road shall contain a landscaped verge or footpath/bicycle path between the road carriageway and Canal corridor.
 - j) The State Heritage status of the Upper Canal shall be taken into account when designing development adjacent to the Canal corridor.

2.19 Development Near or on Electricity Easements

2.19

Development near or on electricity easements

Objectives:

- Ensure that development on or near electricity easements considers potential impacts on the integrity and safety of electricity infrastructure.
- Ensure reasonable standards of public amenity and a high quality public domain in the vicinity of electricity easements.
- Ensure reasonable standards of residential amenity and a high quality residential environment in the vicinity of electricity easements.

Design Requirements

- a) Wherever possible electrical easements are to be located within open space corridors.
- b) Council may consider accepting dedication of land within the electrical easement where the subdivision is in accordance with an approved subdivision or layout/plan for the site.
- c) Restrictions apply to planting and erection of raised public domain elements (such as light poles) and are identified in the Mains Maintenance Instruction MMI 0015 - Management of Endeavour Energy's electrical easements (Endeavour Energy, 2011) or as revised for design requirements.
- d) All proposed activities within electricity easements require approval from the relevant utility providers. Applicants shall consult with these agencies and obtain the relevant approvals prior to submitting a DA to Council.
- e) Evidence of approval from the relevant utility provider shall be submitted with the DA.
- f) Subdivision of residential land containing easements shall be minimised.

2.20

Development on land adjacent to, or affected by gas easement

2.20 Development on Land Adjacent to, or Affected by a Gas Easement

Objectives:

- Ensure reasonable standards of residential amenity and safety and a high quality residential environment in the vicinity of high pressure gas easements.
- To ensure adverse noise and vibration impacts are appropriately mitigated.

Design Requirements

- a) Development and use of land within the easement is restricted by the conditions of the easement and applicants shall demonstrate compliance with any restrictions imposed by the easement when submitting applications for development. In order to demonstrate compliance with the above requirement, the applicant shall supply documentation that details discussions undertaken with the utility providers/ easement beneficiaries during the design phase of the development.
- b) The following development within the easement shall be referred to the relevant utility provider for approval prior to any works being commenced, and evidence of the utility provider's agreement must be submitted with the DA:
 - i) Excavation, blasting or other earthworks;
 - ii) Any improvements or installations (e.g. buildings, roads, footpaths fencing or other structures)
 - iii) Transport or parking of heavy vehicles.
 - iv) Planting or cultivating trees within five metres of the pipeline.
- c) Dwellings and other buildings are to be located outside the easement.
- d) The easement may be located in backyards or at the side of dwellings

2.20

Development on land adjacent to, or affected by gas easement

providing that access to the easement for inspections and maintenance is not unduly restricted and with the approval of the relevant utility provider, where necessary.

- e) Subdivision of land containing easements shall be minimised, however battle-axe lots may be appropriate in some locations to maximise the development potential of land while avoiding impacts on the easement.
- f) Reference shall be made to AS2885 in relation to sensitive land uses that may be restricted within a certain distance (referred to as the Zone of Influence) of the gas pipeline. Sensitive land uses include (but are not limited to) schools, hospitals, aged care facilities and community facilities. Applicants should consult with the organisation responsible for the gas pipeline to determine specific requirements.
- g) Development shall be to the satisfaction of the relevant utility provider.

2.20

Acoustic Privacy

2.21 Acoustic Privacy

Objectives:

- To ensure the provision of a reasonable level of acoustic amenity.
- To ensure adverse noise and vibration impacts are appropriately mitigated.

Design Requirements

- a) Development shall comply with any relevant provisions in the following documents. The event of an inconsistency between the noise related controls in this plan and the documents below, the documents below prevail to the extent of the inconsistency.
 - i) The NSW Noise Policy for Industry (NPfI)
 - ii) The NSW Road Noise Policy
 - iii) The NSW Development Near Rail Corridors and Busy Roads - Interim Guideline
 - iv) Association of Australasian Acoustical Consultants Guideline for Child Care Centre Acoustic Assessment
- b) A Noise Impact Assessment prepared by a suitably qualified acoustic consultant will be required in cases where the consent authority is not satisfied that a development will:
 - i) Achieve a satisfactory level of acoustic amenity for occupants within the existing noise environment; and
 - ii) Produce noise only at levels that will not exceed the relevant noise criteria.
- c) Subdivisions shall be designed to avoid physical noise barriers except along arterial roads.
- d) For development noise not regulated by the documents listed at point (a) above,

the following criteria apply (after applying any corrections for annoying characteristics in accordance with the NPfl):

Intrusion Criteria (L_{Aeq})

Character of the Locality	Character of the Noise			
	Industrial, Plant & Mechanical	Hotels, Pubs, Clubs	Recreation, Schools, Childcare, Places of Worship	Animals
Urban Residential	$L_{A90} + 5\text{dB}$	$L_{A90} + 5\text{dB}$	$L_{A90} + 10\text{dB}$	$L_{A90} + 5\text{dB}$
Rural	$L_{A90} + 5\text{dB}$	$L_{A90} + 5\text{dB}$	$L_{A90} + 10\text{dB}$	$L_{A90} + 10\text{dB}$
Commercial	$L_{A90} + 5\text{dB}$	$L_{A90} + 10\text{dB}$	SafeWork NSW Limits	$L_{A90} + 10\text{dB}$
Industrial	$L_{A90} + 5\text{dB}$	SafeWork NSW Limits	SafeWork NSW Limits	SafeWork NSW Limits

Amenity Criteria (L_{Aeq})

Character of the Locality	Character of the Noise			
	Industrial, Plant & Mechanical	Hotels, Pubs, Clubs	Recreation, Schools, Childcare, Places of Worship	Rural, Agricultural, Animals
Urban Residential	NPfl Table 2.2	NPfl Table 2.2	NPfl Table 2.2 + 5dB	NPfl Table 2.2
Rural	NPfl Table 2.2	NPfl Table 2.2	NPfl Table 2.2 + 5dB	NPfl Table 2.2 + 5dB
Commercial	NPfl Table 2.2	NPfl Table 2.2 + 5dB	NA	NPfl Table 2.2 + 5dB
Industrial	NPfl Table 2.2	NA	NA	NA

Sleep Disturbance Criteria (L_{Aeq}/L_{Amax})

All cases, between 10pm and 7am (Mondays to Saturdays) and 10pm and 8am (Sundays and Public Holidays):

L_{Aeq} the greater of $L_{A90} + 5\text{dB}$ and 40dB

L_{Amax} the greater of $L_{A90} + 15\text{dB}$ and 52dB

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