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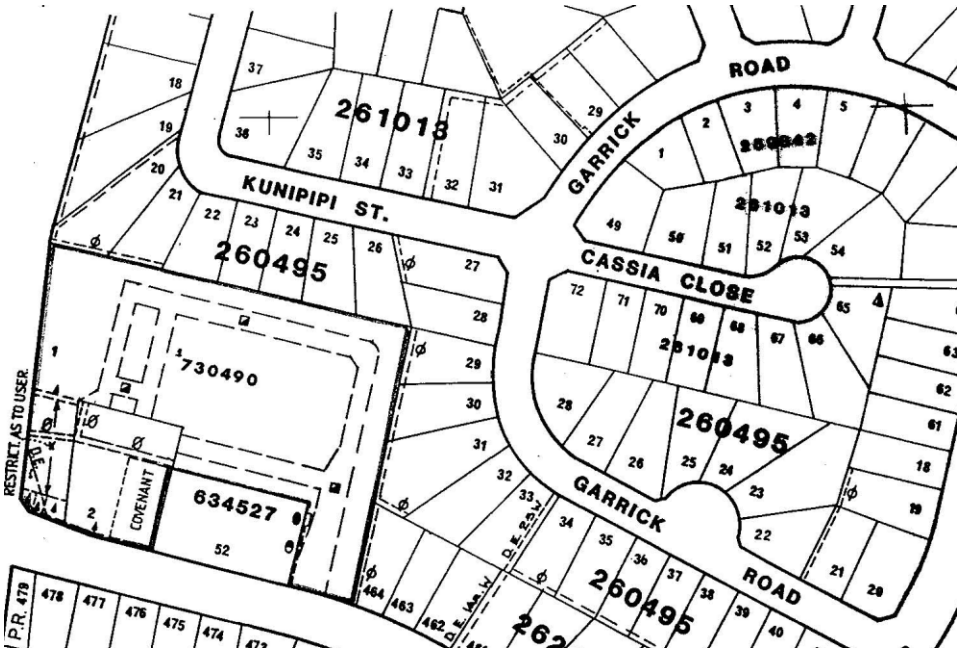
E14 St Clair

14.1 Land at Banks Drive and Mamre Road

14.1.1 Land to which this section applies

This section applies to Lot 1 and 2 DP 730490 and Lot 52 DP 634527 situated at the north-eastern corner of Banks Drive and Mamre Road St Clair.

Figure E14.1: Land to which this Section Applies



14.1.2 Aims of this section

The aim of this section is to retain the landscaped buffer areas to the street frontages and boundaries with the residential areas, in order to maintain the amenity and scenic quality of the area.

14.1.3 Development Standards

14.1.3.1 Setbacks

Any application submitted concerning development of this land is to observe the following landscaped setback/buffer area provision:

a) 18m to Mamre Road;

b) 5m to Banks Drive; and

c) 12m to any adjoining residential development,

14.1.3.2 Access

All access to the site is confined to the frontage to Banks Drive.

14.2 Land at Cook Parade

14.2.1 Land to which this section applies

Lot 2566 DP263157, Lot 68 DP702772 and Lots Part 671 and 672 DP739138 Cook Parade, St Clair

14.2.2 Aims of this section

This section:

- Specifies the purposes for which land may be developed; and
- Regulates the siting of facilities on the land described above.

14.2.3 Controls

This section operates in the manner set out on the accompanying map (SC-020)

STH. WEST ST. CLAIR COMMUNITY CENTRE
DEVELOPMENT CONTROL PLAN
SC-020
D.18100-09781 DA1
LEGEND
EXISTING
Robinia pseudoacacia
PROPOSED
Eucalyptus species
Jacaranda mimosifolia
Jacaranda mimosifolia (street trees)
Robinia pseudoacacia
Waratahs & Crepe myrtles
asphalt bicycle path
concrete path
perimeter fitness track and stations for exercise
bollards
timber fence
PARADE
WINDRUSH CIRCUIT
COOK
FUTURE CAR PARK
EXISTING CAR PARK
OUT
IN
SHOPS
DELIVERIES
CHILDCARE
2 TENNIS COURTS
2 TENNIS COURTS
AMPHITHEATRE
KNOLL LOOKOUT
SUNNDAL CLOSE
CIRCUIT
KALA
WOLF CLOSE
SC-020

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E15 Part A St Marys Town Centre

A. Background

This section applies to development on land covered by the St Marys Town Centre as shown in Figure E15.2. This section provides specific controls for the St Marys Town Centre in addition to the general controls elsewhere in this DCP.

The aim of the controls in this section of the DCP is to provide more detailed provisions for development in the St Marys Town Centre that will:

a) Contribute to the growth and character of St Marys;

b) Deliver a balanced social, economic and environmental outcome; and

c) Protect and enhance the public domain.

B. General Objectives

a) To facilitate the revitalisation of St Marys Town Centre by promoting redevelopment and urban sustainability;

b) To promote high quality urban design, architectural excellence and environmental sustainability in the planning, development and management of the Town Centre;

c) To provide for mixed use, commercial and residential development within the Town Centre which provides high levels of amenity for occupants;

d) To provide high levels of accessibility within the Town Centre, connecting significant activity nodes, public open space and surrounding residential areas;

e) To encourage development within St Marys Town Centre that gives primacy to the public domain and creates an attractive and vibrant centre;

f) To encourage integration of the residential and non-residential land uses and improved access to transport facilities;

g) To achieve an attractive and sustainable St Marys Town Centre; and

h) To ensure that development in the St Marys Town Centre is consistent with the desired future character of each precinct as described in the following section.

C. Town Centre character areas

St Marys Town Centre is the vibrant heart of the St Marys area, providing diverse experiences and services within a friendly atmosphere. St Marys Town Centre is the second highest order centre (retail/commercial districts) within the Penrith Local Government Area after the Penrith City Centre.

St Marys Town Centre is built on the existing street patterns established in the 19th century. Queen Street links the Great Western Highway with the railway line and remains the focus of the Town Centre.

The plan for the St Marys Town Centre includes the establishment of two distinct gateways, which, coupled with the creation of a central town square, aims to revitalise the heart of the town. To further assist the continuing redevelopment of the area, the existing commercial centres have been expanded towards Queen Street to further animate the street. The inclusion of the shopping centres into the fabric of the Town Centre strikes a balance between the benefits of street retail life and the convenience of shopping centres.

A large part of St Marys Town Centre is zoned B4 Mixed Use which provides for greater diversity and an integration of land uses appropriate to the success of a sustainable and prosperous town centre.

Figure E15.2: Map of St Marys Town Centre

There are seven precincts identified in the St Marys Town Centre (see Figure E15.3), all with their own distinct characteristics. Generally, the identified activity precincts acknowledge and reinforce existing patterns of use in the Town Centre. The intention is to allow for a clearly legible series of precincts that define the retail and commercial centre whilst promoting mixed use to be implemented appropriately. The intended character of these precincts is identified below and will be used to inform and guide future development.

1. Northern: East + West (Mixed use)

The Northern Mixed Use precinct adjacent to the Railway station is the northern gateway to St Marys Town Centre. This precinct provides a key focus for the revitalisation of St Marys Town Centre. This precinct is divided by Queen Street into two discrete portions; namely Northeast and Northwest. Each portion has its own particular precinct controls.

Building heights of up to 32m, demonstrating adequate solar access to the public domain, and street frontage heights are permissible in this precinct to emphasise the arrival to St Marys Town Centre from the railway.

This precinct will be well lit and heavily used by pedestrians. Pedestrian connections will be provided to encourage human activity and interaction (foot traffic). Public art within the streetscape will be encouraged. Traffic flows will be limited.

Improvements to accessing the north western section for both vehicles as well as pedestrians/cyclists will be encouraged. New development will incorporate residential uses that overlook the street. The shopping centre will increase its active frontages and provide better connectivity to Queen Street.

The existing commercial centre is expanded westwards to create a more direct connection to Queen Street activities. The western portion of the precinct will incorporate a substantial amount of public/commuter parking.

2. Queen Street: East + West (Mixed use)

Queen Street is the focus of the town's activities. Most of the shops, together with cafes, restaurants and community activities will locate here to add vibrancy to the street life. It is the town's 'spine' linking the Great Western Highway in the south to the Railway Station in the north.

Variations in site depths on either side of Queen Street, namely the west and eastern sections, determine different development opportunities. This section of the DCP acknowledges these differences; hence variations in controls will apply.

The strong avenue of street trees, low scale fronts, awnings and wide footpaths make Queen Street an ideal environment for al-fresco dining.

The street's role, as the main spine of the town centre, will be reinforced. A maximum podium height is maintained at street frontage.

Residential opportunities will be provided at a setback above the podium fronting onto Queen Street. Queen Street's cross section will allow sufficient daylight into the street, providing ideal tree growth and sunny sidewalk dining conditions. Access to residential development will be via rear lanes.

The taller built form in behind Queen Street will be orientated east-west to provide northern exposure to the buildings and to maintain views to the mountains. Views to the Blue Mountains are found along each of the side streets primarily to the west and should be maintained at street level.

Improved pedestrian permeability will create better connections between the town and adjacent residential areas. An extension of Chapel Street is proposed which will form a main east-west crossing approximately half way along Queen Street. This street will act as the northern boundary of the Town Square and connect to a green corridor along the north of the Western Commercial Centre, linking west to the Leisure Centre and creek open space.

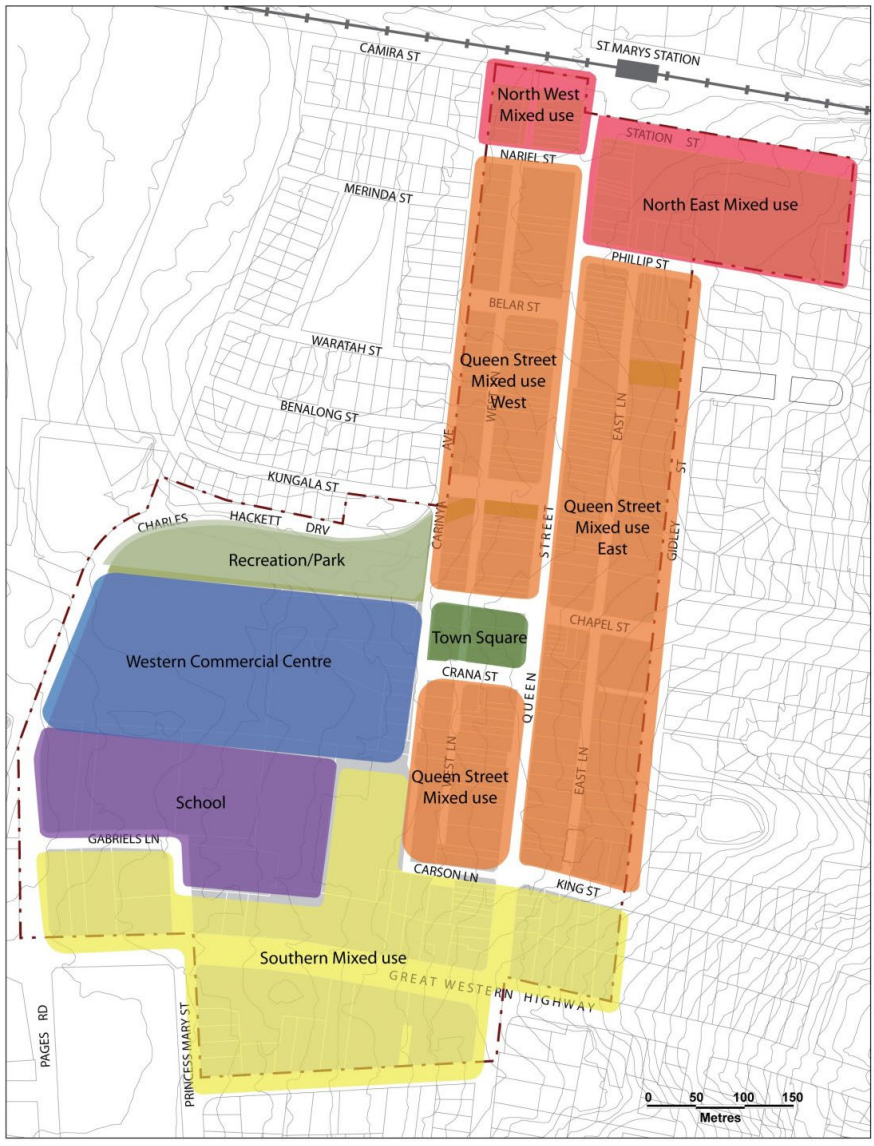
It is envisaged, however, that in a longer term, a more centrally located compact urban park should be located in proximity to the central square and address Queen Street.

3. Town Square

Every town needs a place to gather, to celebrate and to come together as a community. A new Town Square precinct will be created at the intersection of Chapel and Queen Streets and will focus on community uses. Active frontages will face the square. A pedestrian entrance will be located on the western side of the square to an extended shopping centre (Western Commercial Centre) in order to better connect the commercial centre to the town centre.

The maximum height of buildings surrounding the square is defined in Figure E15.12.

Figure E15.3: Town Centre Character Areas



4. Western (Commercial Centre)

The commercial centre to the west of the Town Square is to be extended eastward up to the new square. It is envisaged that a natural pedestrian desire line will be created along Queen Street from the Western Commercial Centre to the Northern Mixed use zone, which also contains a commercial centre. A major pedestrian access is to be provided onto Carinya Avenue in the vicinity of Crana Street adjacent to the Town Square.

5. Southern (Mixed use)

The Southern Mixed Use area along the Great Western Highway includes the southern gateway to the Town Centre. Development within this precinct provides a gateway statement improving the sense of arrival to the St Marys Town Centre as well as providing a link to the Cultural Centre and surrounding precincts. High quality architectural buildings will be created to provide prominent statements.

While this area is zoned mixed use, its proximity to the noise and traffic of the highway lends this area to larger footprint commercial or retail uses. A 16m height limit applies across the zone. A lower street edge height of 6m applies along Sainsbury Street in order to acknowledge the existing residential area to the south. Any development in the vicinity of the historic houses on the south western corner of the block should provide a curtilage to the satisfaction of Council.

The south western corner of Queen Street and the Great Western Highway is the Council's Arts and Community centre. Enhanced landscaping and the angled facades of the buildings on the other corners will give this intersection a unique character.

6. School

St Marys Public School is located on the southern end of the Western Commercial Centre. A pedestrian link is proposed at the northern end of the school connecting Carinya Avenue and Charles Hackett Drive. This will replace an existing pathway and connect Queen Street and the school through the new Square and central Queen Street's urban spine.

7. Recreation/Park

To the north of the Western Commercial Centre is the Recreation Park separated by the extension of Chapel Street west which links the Leisure Centre and creek area to the west. Chapel Street's extended boulevard treatment together with the northern adjacent green east-west corridor, allows the landscape elements to filter through the Town Centre. This combination of park and boulevard will replace the current car park to the north west of the Commercial Centre along Charles Hackett Drive. The park will represent historic watercourses and will be planted with local species. Active uses and pedestrian entrances will be encouraged along the northern side of the Commercial Centre.

D. Town Centre structure

Towns and cities are dependent upon their urban structure, i.e. their patterns of roadways and open spaces, to create a distinctive urban identity. This pattern not only distinguishes the urban centre from other centres but enables an urban centre to grow and incorporate a range of diverse activities and functions.

This DCP is primarily focused on the built form controls and providing appropriate controls to ensure the protection of pedestrian amenity within the Town Centre. However, it is worthwhile to highlight the broader civic objectives which underpin the workings of the DCP. These are:

a) Reinforcing the role of Queen Street as the primary north/south axis and retaining the human scaled character of this boulevard;

b) Introducing Chapel Street as the secondary east/west axis linking open green space to lower west (Wianamatta Creek);

c) Creating both a centrally located Square and Park celebrating the junction of the above two main urban axes;

d) Ensuring the distinctive panoramas and vistas to the western escarpment of the Blue Mountains are enhanced;

e) Strengthening the Gateway Entrances; i.e. southern gateway entrance at the junction of Queen Street with the Great Western Highway as well as the northern public transport gateway entrance adjacent to the Railway Station;

f) Improving permeability through the south western precincts of Western Commercial Centre, School and Southern Mixed Use as well as the Northern Mixed Use Precincts;

g) Allowing greater access to the Town Centre at all levels by utilising peripheral routes, such as Charles Hackett Drive/Carinya Avenue to the west and Gidley Street and possible northern extensions to the east;

h) Re-connecting the Duration Cottage Precinct to the Town Centre through more direct paths and roadways; and

i) Positioning future public car parking facilities adjacent to major retail destinations and public transport interchanges.

All of the above urban design objectives assist in producing a focused urban image of St Marys Town Centre and the detail design issues of the DCP work in concert with achieving that end.

15.1. Land use controls

15.1.1 Residential development controls

A. Objectives

a) To ensure that residential development provides a mix of dwelling types and sizes to cater for a range of household types;

b) To ensure that dwelling layout is sufficiently flexible for the changing needs of residents over time;

c) To ensure a sufficient proportion of dwellings include accessible layouts and features to accommodate the changing requirements of residents; and

d) To ensure the provision of housing that will, in its adaptable features, meet the access and mobility needs of any occupant.

B. Controls

In addition to controls for apartment mix in Part 3 of the Residential Flat Design Code, the following controls apply:

1) Where residential units are proposed at ground level, a report must be provided with the development application demonstrating how future non-residential uses can be accommodated within the ground level design. The report must address:

   a) Access requirements including access for people with a disability;

   b) Any upgrading works necessary for compliance with the Building Code of Australia; and

   c) Appropriate floor to ceiling heights.

2) For smaller developments of up to six dwellings, the proposal must demonstrate how the dwelling mix is appropriate to the locality.

3) For developments containing more than six dwellings, a mix of living styles, sizes and layouts is to be achieved by providing:

   a) A mix of bed-sitter/studio, one bedroom, two bedroom and three bedroom apartments;

   b) Bed-sitter apartments and one bedroom apartments must not be greater than 25% and not less than 10% of the total mix of apartments within each development; and

   c) Two bedroom apartments are not to be more than 65% of the total mix of apartments within each development.

4) 10% of all dwellings or a minimum one dwelling, whichever is the greater, must be designed in accordance with the Australian Adaptable Housing Standard (AS 4299-1995), to be capable of adaptation for people with a disability or elderly residents.

5) Where possible, the mandatory adaptable dwellings shall be located on the ground floor. Adaptable dwellings located above the ground level of a building may only be counted towards the minimum required where lift access from the basement is available within the building.

6) The development application must be accompanied by certification from an accredited Access Consultant confirming that the adaptable dwellings are capable of being modified, when required by the occupant, to comply with the Australian Adaptable Housing Standard (AS 4299-1995).

7) Car parking and garages allocated to adaptable dwellings must comply with the requirements of the relevant Australian Standard regarding parking for people with a disability.

15.1.2 Mixed use development controls

A. Objectives

a) To encourage a variety of mixed use developments in the Town Centre;

b) To create lively streets and public spaces in the Town Centre;

c) To increase the diversity and range of shopping and recreational activities for workers, residents and visitors;

d) To enhance public safety by increasing activity in the public domain on week nights and on weekends;

e) To minimise potential conflicts and achieve compatibility between different uses;

f) To ensure that the design of mixed use developments addresses residential amenity;

g) To create legible safe access and circulation in mixed use developments; and

h) To ensure that mixed use developments address the public domain and the street.

B. Controls

1) Mixed use developments must provide flexible building layouts which allow greater adaptability of the floor area of, or tenancies on, the first floor of a building above the ground floor.

2) The ground floor of all mixed use developments is to have a minimum floor to ceiling height of 3.5m in order to provide for flexibility of future use. Above ground level,

minimum floor to ceiling heights are 3.3m for commercial office, 3.5m for active public uses, such as retail and restaurants, and 2.7m for residential uses.

3) The commercial and residential activities of the building are to have separate service provision, such as loading docks and residential access, servicing needs.

4) Mixed use developments are to provide commercial frontage (retail/business/office premises) as a part of the development as shown in Figure E15.4 for ground floor and Figure E15.5 for first floor. Variation may be considered to this control if it can be demonstrated that the proposed commercial use will not interfere with the amenity of the surrounding area. Variation may also be considered for residential at ground floor in order to provide adaptable housing.

5) Residential entries shall be clearly marked and provide direct access to the street. Vehicular access is to be from rear lanes, where practicable and possible. Pedestrian entrances are to address the main streets.

6) Commercial and residential uses should have clearly separate entries and vertical circulation.

7) Security access controls must be provided to all entrances into private areas, including car parks and internal courtyards.

8) Buildings are to front onto major streets with active uses.

9) Blank building walls at ground level are to be avoided.

15.2 Built form controls

Figure E15.4: Ground Floor Commercial

Area covered by St Marys Town Centre
Ground Floor Commercial

* Setbacks & building heights control apply.

Figure E15.5: First Floor Commercial

Area covered by St Marys Town Centre
First Floor Commercial

* Setbacks & building heights control apply.

A. Objectives

In addition to the general objectives of this Section, the objectives of this section are to:

a) Establish an appropriate scale, dimension, form and separation of buildings;

b) Provide a strong definition of the public domain;

c) Achieve active street frontages with good physical and visual connections between buildings and the street;

d) Ensure there is consistency in the main street frontages of buildings by having a common alignment to improve accessibility;

e) Provide for pedestrian comfort and protection from weather conditions;

f) Define the public street to provide spaces that are clear in terms of public accessibility and safety, and are easy to maintain;

g) Ensure building depth and bulk is appropriate to the environmental setting and landform by providing for view sharing and good internal building amenity;

h) Ensure building separation is adequate to protect amenity, daylight penetration and privacy between adjoining developments;

i) Encourage mixed use development with residential components that achieve active street fronts and maintain good residential amenity;

j) Achieve an articulation and finish of building exteriors that contribute to a high quality of design excellence;

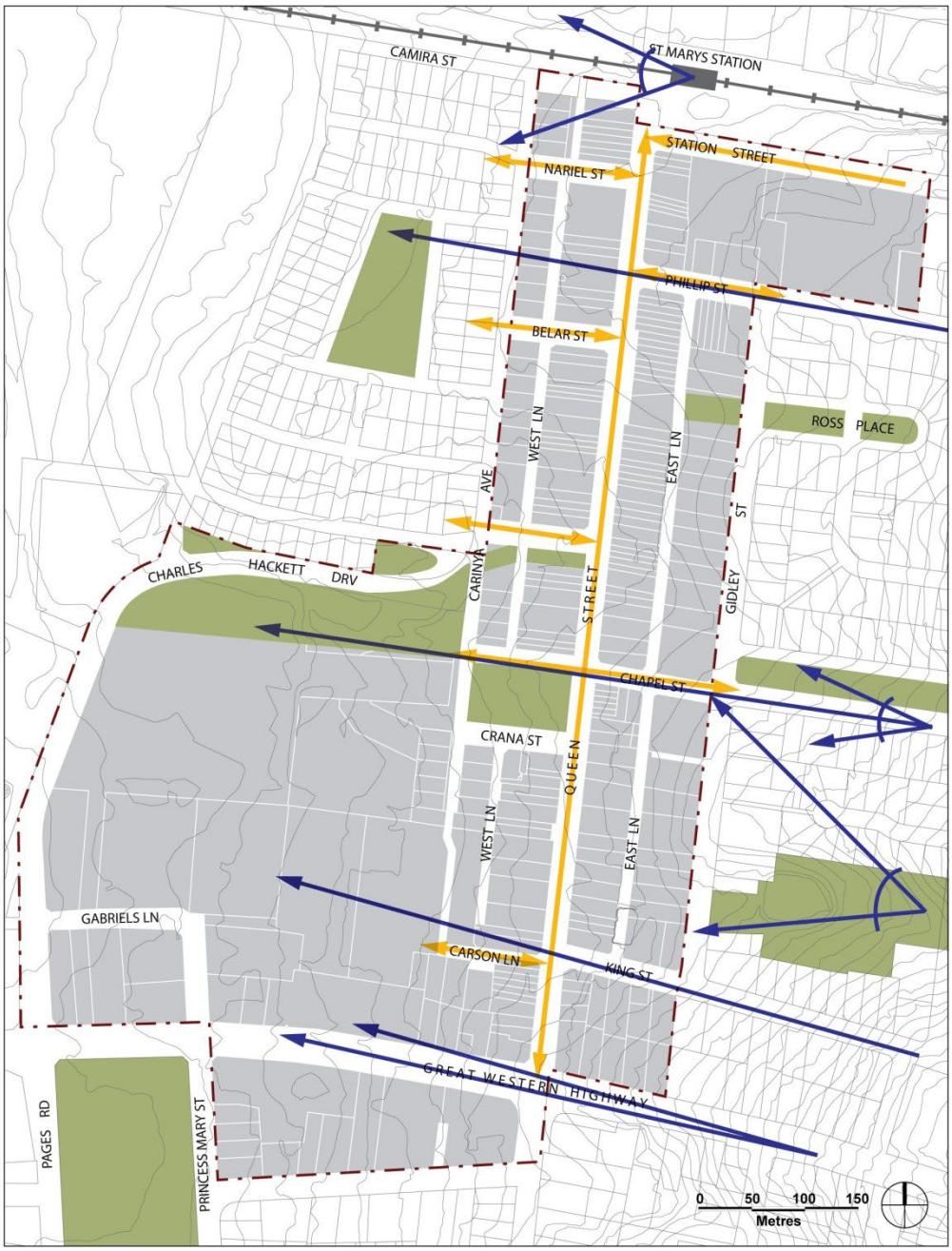
k) Provide for high quality landscape to contribute to the amenity of the Town Centre and a sustainable urban environment;

l) Maintain and enhance important views from the Town Centre and railway concourse to surrounding natural landscape features as depicted in Figure E15.6: Views;

m) Contribute to the legibility of the City; and

n) Ensure that buildings are responsive to the character and heritage values of the St Marys Town Centre.

Figure E15.6: Views



15.2.1 Building to street alignment and street setbacks

A. Objectives

In addition to the objectives for Built Form, the objectives of this section are to:

a) Establish consistent building alignments to the street;

b) Provide street setbacks appropriate to building function and character;

c) Establish the desired spatial proportions of the street and define the street edge;

d) Create a transition between public and private space;

e) Locate active uses, such as shopfronts, closer to pedestrian activity areas;

f) Allow for street landscape character, where appropriate;

g) Maintain sun access to the public domain; and

h) Protect important views to the Blue Mountains.

B. Controls

1) Street building alignments are to be provided as specified in Figure E15.7.

2) Balconies may project up to 600mm into front building setbacks, provided the cumulative width of all balconies at that particular level totals no more than 50% of the horizontal width of the building façade, measured at that level.

3) Minor projections into front building lines and setbacks for sun shading devices, entry awnings and cornices are permissible.

4) Buildings along Queen Street must demonstrate that views to the Blue Mountains escarpment are maintained through the provision of technically accurate perspectives to the satisfaction of Council officers.

Figure E15.7: Specific Street Alignment and Street Setbacks

Area covered by St Marys Town Centre
3.0m average
4.0m average
Built to property boundary line

Where unspecified: Subject to prevailing conditions and merit assessment

15.2.2 Street frontage heights

A. Objectives

In addition to the objectives for Built Form, the objectives of this section are to:

a) Provide consistent streetscapes through control of the built form visible from the public domain;

b) Achieve comfortable street environments for pedestrians in terms of daylight, scale, sense of enclosure and wind mitigation as well as healthy environments for street trees;

c) Allow sunlight access to new and existing significant public spaces in the Town Centre;

d) Provide for an appropriate transition in building heights from key public spaces; and

e) Maintain views to the Blue Mountains.

B. Controls

1) Buildings must comply with the relevant street frontage heights and setbacks for development above street frontage height as shown in Figure E15.8 and illustrated in Figures E15.9 to E15.14.

2) For development abutting/adjoining the Town Square and the railway precinct, applicants must undertake modelling as part of the development application to demonstrate that the development does not adversely overshadow the adjoining public places (Town Square etc.).

3) Development on or extending to Carinya Avenue must step down in height and demonstrate that the development does not adversely impact the abutting/adjoining residential area.

Figure E15.8: Street Frontage Heights

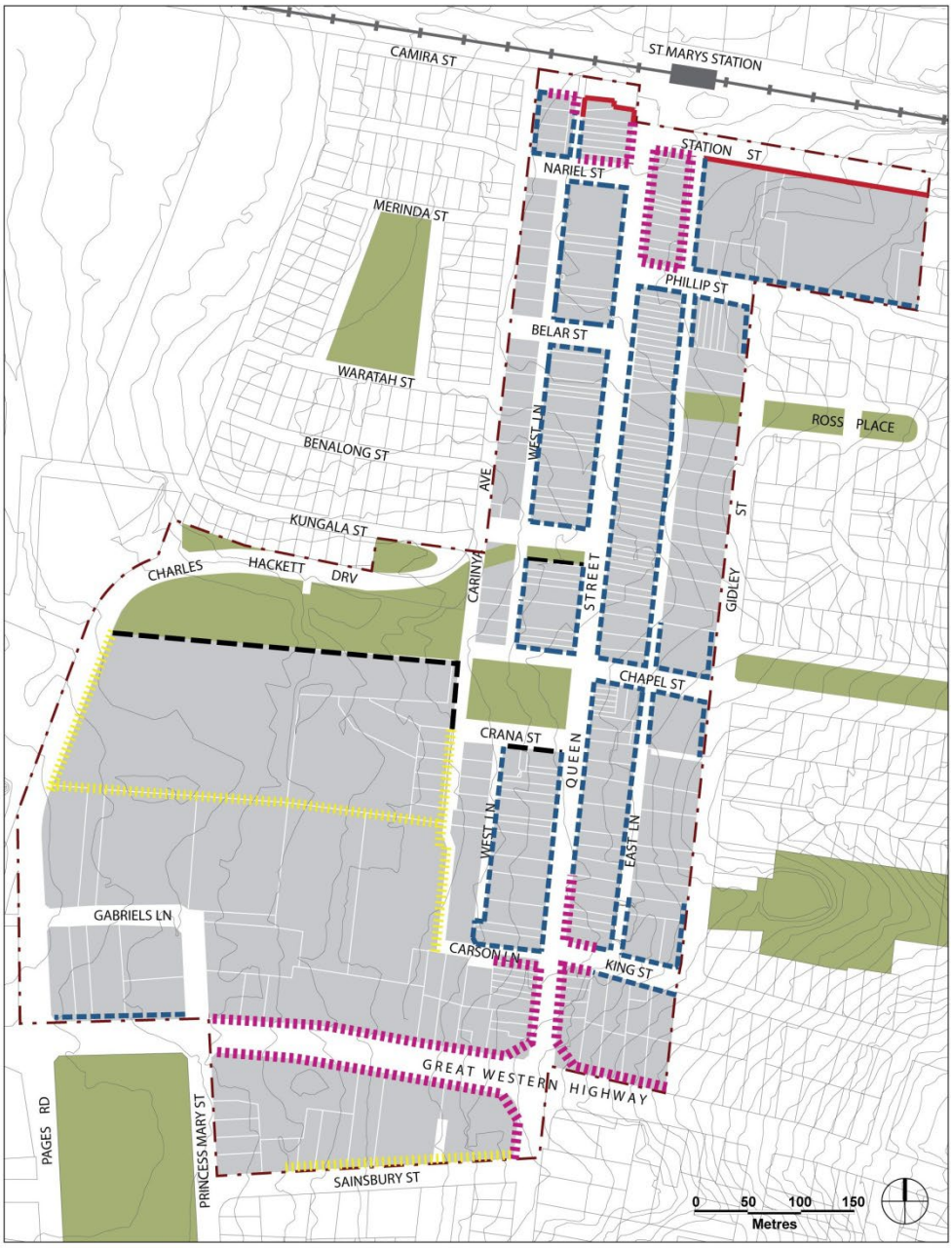


FIGURE 2.1: STREET FRONTAGE HEIGHTS

- Area covered by St Marys Town Centre
- Street frontage maximum height 6m applies
- Street frontage maximum height 9-12m applies
- Street frontage maximum height 16m applies
- Street frontage maximum height 24m applies
- Street frontage maximum height 32m applies

Where unspecified: Suject to prevailing conditions and merit assessment

Figure E15.9: Typical Sections

Area covered by St Marys Town Centre
Common areas
C Extent of common areas
Typical Sections

Figure E15.10: Typical Section for Area A

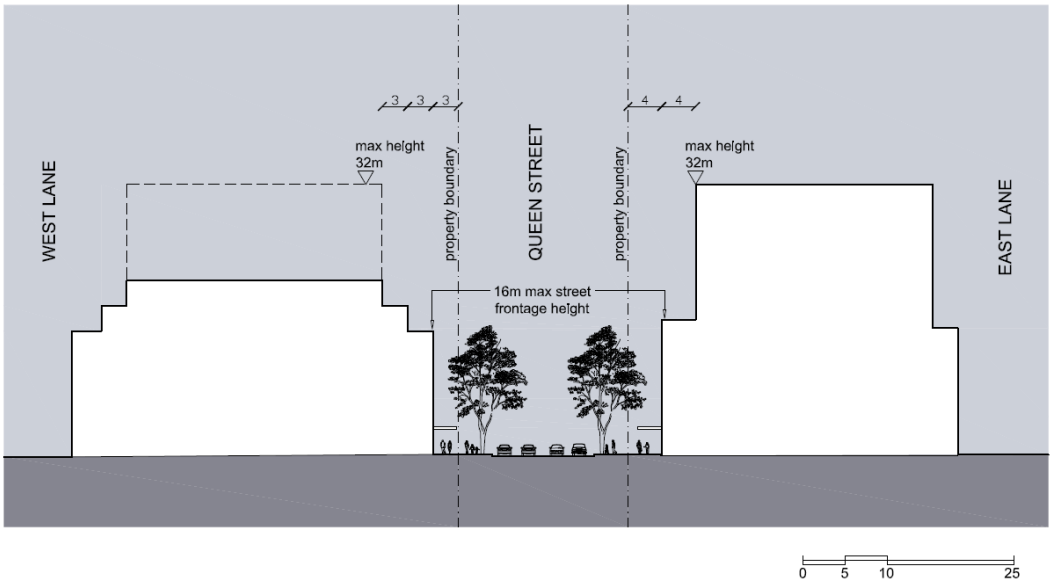
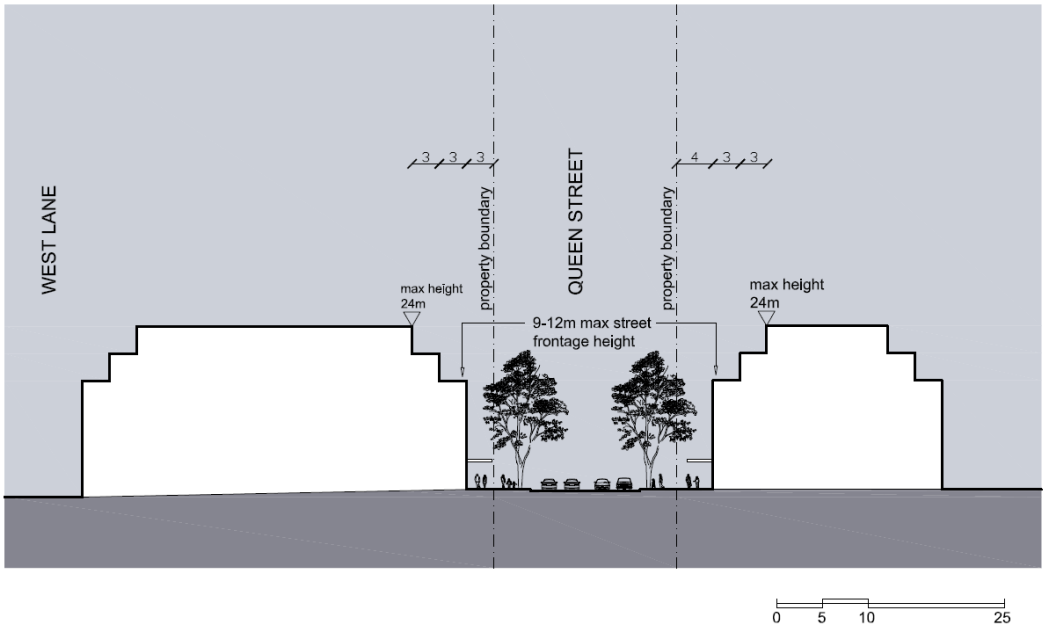


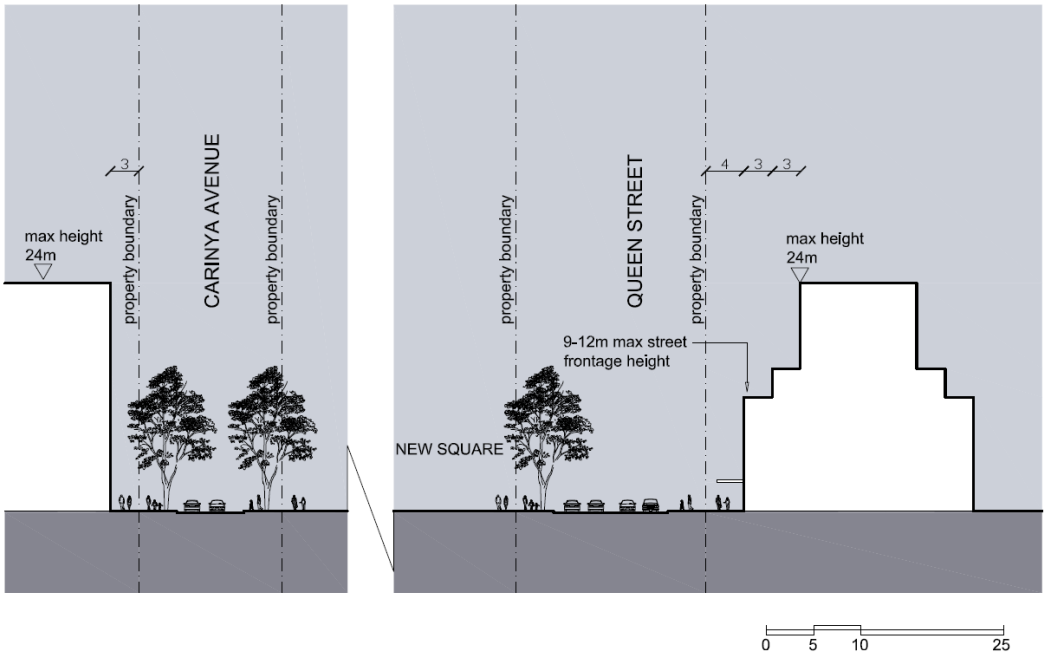
Figure E15.11: Typical Section for Area B



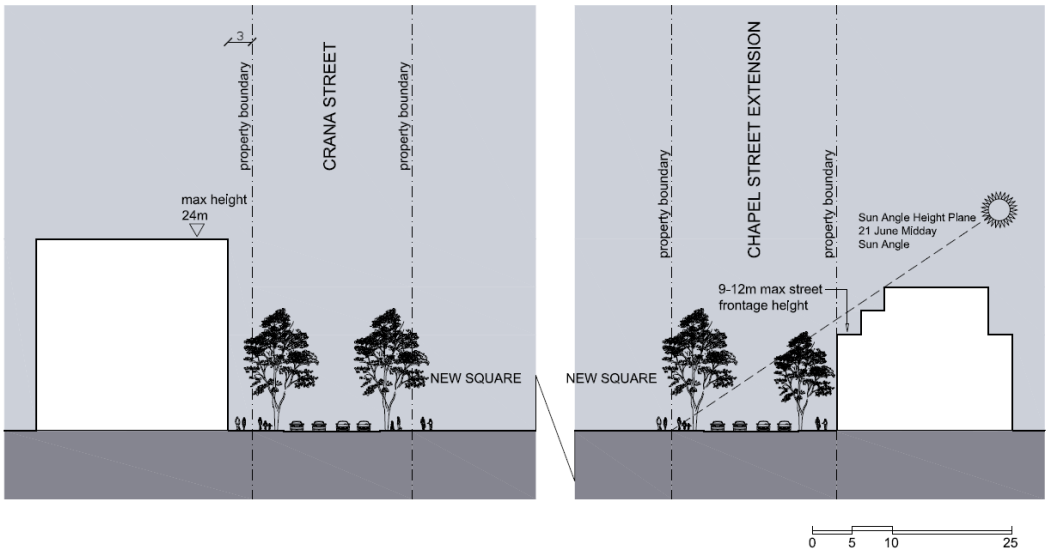
Note: Maximum height is subject to provision of adequate solar access to public domain and neighbouring properties.

Figure E15.12: Typical Section for Area C

East-West section



North-South section



Note: Maximum height is subject to provision of adequate solar access to public domain and neighbouring properties.

Figure E15.13: Typical Section for Area D

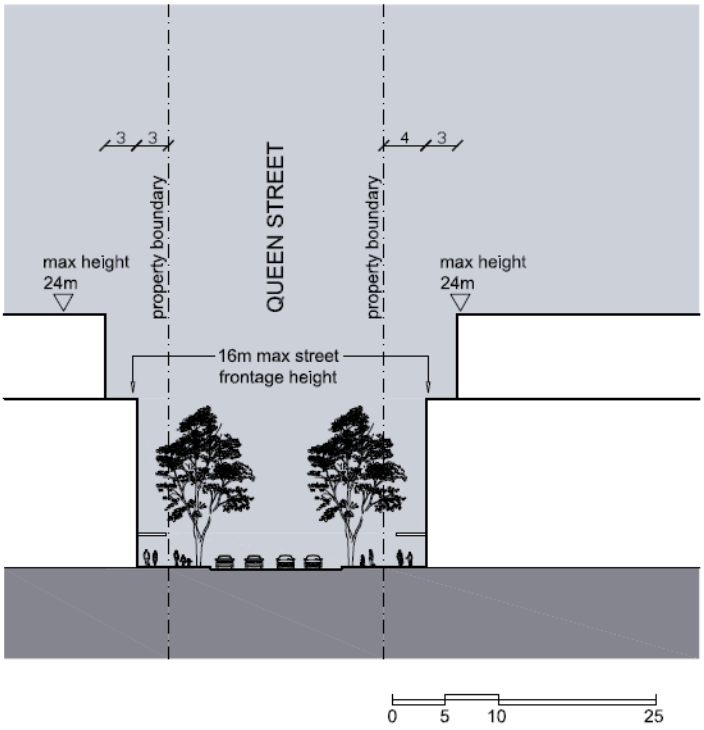
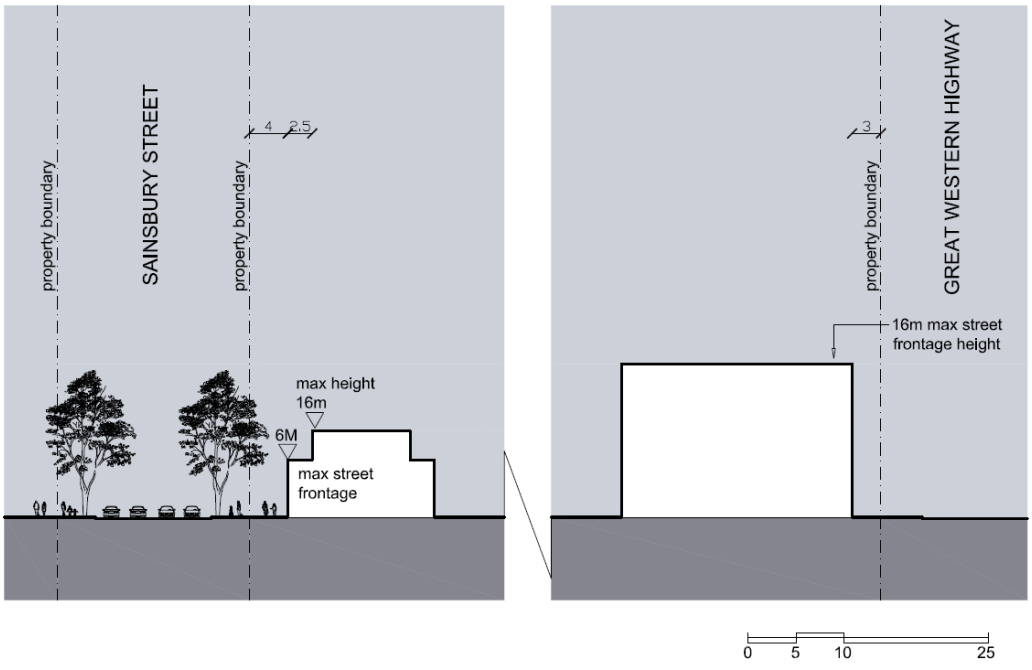


Figure E15.14: Typical Section for Area E



Note: Maximum height is subject to provision of adequate solar access to public domain and neighbouring properties.

15.2.3. Maximum building heights and lot layout requirements

A. Objectives

In addition to the objectives for Built Form, the objectives of this section are to:

a) Ensure an appropriate scale between new development and street width, local context, adjacent buildings and public domain; and

b) Ensure appropriate management of overshadowing, access to sunlight and privacy.

B. Controls

1) Building height will generally be restricted to a maximum podium height addressing the main streets (see Figures E15.09 to E15.14), with additional set backed residential development (with exception to buildings within the North West and North East Mixed Use Precincts which are considered as special precinct areas).

   Note: The applicant should demonstrate that the prospective design does not adversely affect the solar access of neighbouring existing buildings particularly during winter solstice noon.

2) A minimum site width of 24m is required for any mixed use development.

3) Buildings will not extend or bridge over laneways (with the exception of the North West Mixed Use Precinct).

4) An access driveway of 3m is to be provided at the boundaries of an amalgamated block, when developed. This will result in the formation of a laneway of 6m on development of the adjacent amalgamated block. This laneway will be shared by both developments.

15.2.4. Building Depth and Bulk

A. Objectives

In addition to the objectives for Built Form, the objectives of this section are to:

a) Provide viable and useable commercial floor space;

b) Allow for view sharing and view corridors; and

c) Reduce the apparent bulk and scale of buildings by breaking up expanses of building wall with modulation of form.

B. Controls

1) The maximum gross floor area and depth of buildings are specified in Table E15.1.

2) Notwithstanding the above, no building above 24m in height is to have a building length in excess of 50m.

3) All points of an office floor should be no more than 10m from a source of daylight (e.g. window, atria or light wells).

4) Atria, light wells and courtyards are to be used to improve internal building amenity and achieve cross ventilation and/or stack effect ventilation.

Table E15.1: Maximum gross floor area and depth of buildings

Area	Building Use	Condition	Maximum gross floor area	Maximum building depth (includes balconies)
Northern Mixed use	Residential Non-residential	Above 12m height Above 12m height	710m^2 900m^2	18 m 25 m
Southern Mixed Use	Residential Non-residential	Above 12m height Above 12m height	600m^2 900m^2	18 m 25 m
Queen Street Mixed Use	Residential Non-residential	Above 12m height Above 12m height	- -	18m 20m
All Other	All	Above 12m height	750m^2	18m

15.2.5 Boundary setbacks and building separation

A. Objectives

In addition to the objectives for Built Form, the objectives of this section are to:

a) Ensure an appropriate level of amenity for building occupants in terms of daylight access, outlook, view sharing, ventilation, wind mitigation and privacy; and

b) Achieve usable and pleasant streets and public domain areas in terms of wind mitigation and daylight access.

B. Controls

1) The minimum side and rear building setbacks are specified in Table E15.2.

2) Side and rear setbacks are required to be built to the property boundary. Where this cannot be achieved, the minimum setback shall be 6m to ensure that the setback area is sufficient to provide daylight access, useable outdoor space and landscaping.

3) If the specified setback distances cannot be achieved when an existing building is being refurbished or converted to another use, appropriate visual privacy levels are to be achieved through other means.

Table E15.2: Minimum side and rear building setbacks

Building height and use	Minimum Side and Rear Setback
Non-residential uses:	
– up to 12m	0m
– 12m to 24m	6m
– above 24m	9m
Residential uses up to 12m height:	
– non-habitable rooms	3m
– habitable rooms	6m
Residential uses 12m to 24m height:	
– non-habitable rooms	4.5m
– habitable rooms	9m
Residential uses above 24m height:	
– non-habitable rooms	6m
– habitable rooms	12m

15.2.6 Site coverage and deep soil zones

A. Objectives

In addition to the objectives for Built Form, the objectives of this section are to:

a) Provide an area on sites that enables soft landscaping and deep soil planting, permitting the retention and/or planting of trees that will grow to a large or medium size;

b) Limit building bulk on a site and improve the amenity of developments, allowing for good daylight access, ventilation and improved visual privacy; and

c) Provide passive and active recreational opportunities.

B. Controls

1) The maximum site cover and minimum deep soil zone for development is specified in Table E15.3.

Table E15.3: Maximum site cover and minimum deep soil zone

Area	Maximum Site Cover	Minimum Deep Soil Zone (% of Site Area)
Northern Mixed Use	100%	0%
Mixed Use east of Queen street	100%	0%
Mixed Use west of Queen Street	50%	25%
Residential All other areas	70%	10%

2) The deep soil zone is to be provided in one continuous block. If multiple deep soil zones are provided, they must have a minimum dimension (in any direction) of 6m.
3) Where non-residential developments result in full site coverage and there is no capacity for water infiltration, the deep soil component must be provided on the structure, in accordance with the provisions of Sections 15.2.7 and 15.2.8 below. In such cases, compensatory stormwater management measures must be integrated within the development to minimise stormwater runoff.
4) Planting on roof tops or over carport structures can be provided as a component of the mixed use development.
5) Green spaces as community gardens/private open space between buildings and car park entrances can be provided at the rear of buildings.
6) Where deep soil zones are provided, they must accommodate existing mature trees as well as allowing for the planting of additional vegetation that will grow to be mature trees.
7) No structures, works or excavations that may restrict vegetation growth are permitted in deep soil zones (including, but not limited to, car parking, hard paving, patios, decks and drying areas).

15.2.7. Landscape design

A. Background

Landscape design includes the planning, design, construction and maintenance of all utility, open space and garden areas. Water sensitive urban design principles are encouraged and should be applied as much as possible. Good landscaping provides breathing space, passive and active recreational opportunities and enhances air quality. It is fundamental to the amenity and quality of outside space for residential flats.

The topography of St Marys Town Centre slopes from east to west towards the creek. The natural drainage patterns have been reflected in the east west landscape elements existing in the Town Centre. This existing pattern should be reinforced by allowing deep planting zones between the proposed east-west building forms on either side of Queen Street creating green corridors. Figure E15.15 shows how existing green links, such as Charles

Hackett Drive, will be extended to Queen Street via the existing Kungala Street open space. Ross Place will also be extended to East Lane.

Where streets vary in scale and character, trees and plantings should be used to enhance the character of each street and place, and create diversity through the Town Centre. Many of the existing local parks should be upgraded to improve circulation, recreation opportunities and ecological value. The design of each park and open space area should reflect the function of the place, its existing or potential character, and its place in the overall structure and hierarchy of the public domain. The design of these spaces should also contribute to providing a good amount of public amenity within the Town Centre.

B. Objectives

In addition to the objectives for Built Form, the objectives of this section are to:

a) Ensure that the use of potable water for landscaping irrigation is minimised;

b) Ensure landscaping is integrated into the design of development;

c) Add value and quality of life for residents and occupants within a development in terms of privacy, outlook, views and recreational opportunities;

d) Give the Town Centre a strong landscape character and contribute to the reduction of surface stormwater runoff;

e) Introduce small deciduous trees on east-west streets in the commercial core, and retain sunlight penetration to the south side of streets;

f) Create an opportunity of visual and symbolic interpretation with the landscape of regional parklands, the mountains and historic watercourses;

g) Create an ongoing City ecology by using appropriate species for the area; and

h) Select predominantly evergreen trees to reduce the impact of concentrated seasonal leaf drop.

C. Controls

1) Recycled water should be used to irrigate landscaped areas.

2) Commercial and retail developments are to incorporate planting into accessible outdoor spaces.

3) Remnant vegetation must be maintained throughout the site, wherever practicable.

4) A long term landscape concept plan must be provided for all landscaped areas, including the deep soil zone, in accordance with Landscape Design Section. The plan must outline how landscaped areas are to be maintained for the life of the development.

5) Landscaping concepts should be guided by Figure E15.15.

Figure E15.15: Green Links and Landscaping Framework

- Area covered by St Marys Town Centre
- Existing avenue trees
- Small deciduous trees
- East-west overland flow corridors (framework of evergreen trees)
- Enhanced park planting
- Opportunity for enhanced carpark planting
- Enhanced/new pedestrian plaza or square
- Enhanced streetscape as entry statement & 'gateway' precinct
- Opportunity for green roof
- Existing Parks

15.2.8 Planting on structures

A. Objectives

In addition to the objectives for Built Form, the objectives of this section are to:

a) Contribute to the quality and amenity of open space on roof tops and internal courtyards;

b) Encourage the establishment and healthy growth of greening in urban areas; and

c) Minimise the use of potable water for irrigating planting on structures.

B. Controls

1) Planting should be designed for optimum conditions for plant growth by:
   a) Providing soil depth, soil volume and soil area appropriate to the size of the plants to be established;
   b) Providing appropriate soil conditions and irrigation methods; and
   c) Providing appropriate drainage.
2) Planters should be designed to support the appropriate soil depth and plant selection by:
   a) Ensuring planter proportions accommodate the largest volume of soil possible and soil depths to ensure tree growth; and
   b) Providing square or rectangular planting areas rather than narrow linear areas.
3) Minimum soil depths should be increased in accordance with:
   a) The mix of plants in a planter, for example, where trees are planted in association with shrubs, groundcovers and grass;
   b) The level of landscape management, particularly the frequency of irrigation;
   c) Anchorage requirements of large and medium trees; and
   d) Soil type and quality.

15.3 Other controls

15.3.1 Pedestrian amenity

The pedestrian environment provides people with their primary experience of and interface with the Town Centre. This environment needs to be safe, functional and accessible to all. It should provide a wide variety of opportunities for social and cultural activities.

Pedestrian amenity incorporates all those elements of individual developments that directly affect the quality and character of the public domain. The pedestrian amenity provisions are intended to achieve a high quality of urban design and pedestrian comfort in the public spaces of the Town Centre.

The Town Centre's lanes, arcades and through site links should form an integrated pedestrian network providing choice of routes at ground level for pedestrians. The controls in this section aim to increase the vitality, safety, security and amenity of the public domain by:

a) Encouraging future through site links at ground level;

b) Ensuring active street frontages and positive building address to the street;

c) Ensuring provision of awnings as shown in Figure E15.18; and

d) Protecting significant views and vistas along streets.

1. Permeability

A. Objectives

a) To improve access in the Town Centre by providing through site links as redevelopment occurs;

b) To retain and enhance existing through site links as redevelopment occurs;

c) To encourage active street fronts along the length of through site links where possible;

d) To provide for pedestrian amenity and safety;

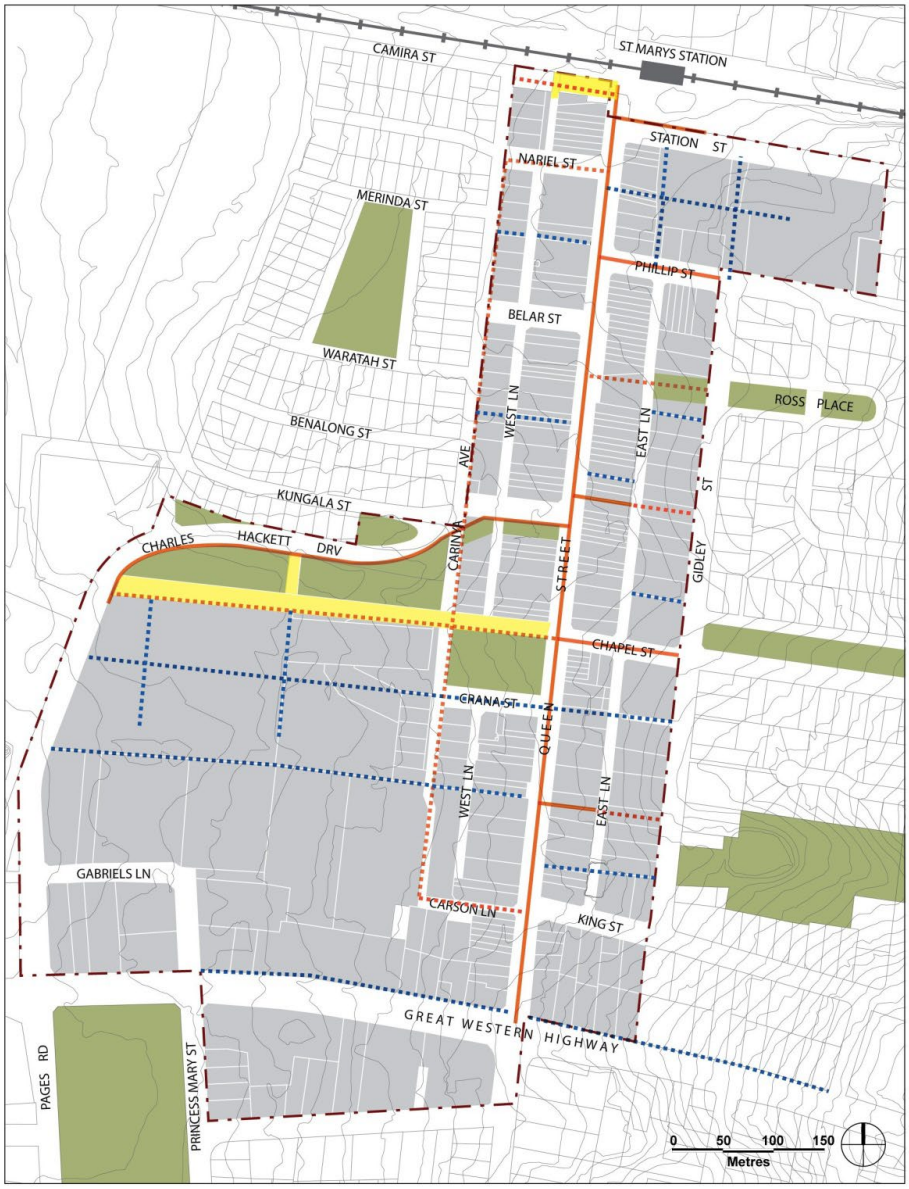
e) To retain and develop lanes as useful and interesting pedestrian connections as well as for service access; and

f) To improve the permeability of large sites when they are redeveloped for more intensive uses.

B. Controls

1) Through site links are to be provided as shown in E15.16 with accessible paths of travel that are:
   a) A minimum width of 4m for its full length and clear of all obstructions including columns, stairs, etc;
   b) Direct and publicly accessible thoroughfares for pedestrians; and
   c) Open-air for its full length and have active frontages or a street address.
2) Existing dead end lanes are to be extended through to the next street as redevelopment occurs.
3) New through site links should be connected with existing and proposed through block lanes, shared zones, arcades and pedestrian ways and opposite other through site links.
4) Existing publicly and privately owned links are to be retained.
5) Signage is to be located at street entries indicating public access through the site as well as the street to which the link connects.
6) Arcades are to:
   a) Have a minimum width of 4m for the full length which is clear of all obstructions including columns, stairs, etc;
   b) Be direct and publicly accessible for pedestrians during business trading hours;
   c) Be designed as an accessible path of travel for persons with a disability and incorporate the ‘safer by design’ principles;
   d) Have active frontages on either side for the full length;
   e) Where practical, have access to natural light for at least 30% of the length; and
   f) Where enclosed, have clear glazed entry doors to at least 50% of the entrance.
7) Lanes are to be designated pedestrian routes that are:
   a) Accessible paths of travel, with a minimum width of 6m for the full length, which is clear of all obstructions;
   b) Designed, paved and well lit; and
   c) Appropriately signposted indicating the street(s) to which the lane connects.

Figure E15.16: Existing and Desired Links



2. Active street frontages and address

A. Objectives

a) To promote pedestrian activity and safety in the public domain;

b) To maximise active street fronts in St Marys Town Centre;

c) To define areas where active streets are required or outdoor dining is encouraged; and

d) To encourage an address to the street outside of areas where active street frontages are required.

B. Controls

1) Active street fronts must be provided in locations as shown in the LEP maps.
2) Outdoor dining areas are encouraged in areas shown in Figure E15.17.
3) Active frontage uses are defined as one or a combination of the following, at street level:
   a) An entrance to retail premises;
   b) A shop front;
   c) Glazed entries to commercial and residential lobbies occupying less than 50% of the street frontage, to a maximum of 12m frontage;
   d) A café or restaurant if accompanied by an entry from the street;
   e) Active office uses, such as a reception, if visible from the street; and
   f) A public building, if accompanied by an entry.
4) Ground floor active street frontage uses are to be at the same level as the adjoining footpath and must be directly accessible from the street.
5) Restaurants, cafes and the like are to consider providing openable shop fronts. A separate approval from Council is required under the Roads Act and Local Government Act for outdoor street dining.
6) Only open grill or transparent security shutters are permitted to retail frontages.
7) Street address is defined as entries, lobbies, and habitable rooms with clear glazing to the street. It is required on the ground level of buildings and should not be more than 1.2m above the street level.
8) Residential developments are to provide a clear street address and direct pedestrian access off the primary street front, and allow for residents to overlook all surrounding streets.
9) Large developments should provide multiple entrances including an entrance on each street frontage.
10) Residential buildings are to provide not less than 65% of the lot width as street address.

Figure E15.17: Outdoor dining encouraged

3. Safety and security

A. Objectives

a) To minimise opportunities for crime by incorporating environmental design in the development;

b) To ensure developments are safe and secure for pedestrians;

c) To contribute to the safety of the public domain; and

d) To encourage a sense of ownership over public and communal open spaces.

B. Controls

1) Developments are to address the provisions of the Site Planning and Design Principles Section of this DCP as it relates to Crime Prevention through Environmental Design (CPTED) principles.

2) Building design, particularly for higher density residential buildings, are to allow for passive surveillance of public and communal spaces, accessways, entries and driveways.

3) For large scale retail and commercial development with a gross floor area of over 5,000m², a 'safety by design' assessment by a qualified consultant, is to be provided in accordance with the CPTED principles.

4) Certain types of development will be referred to Council's Community Safety Officer and, where appropriate, NSW Police in accordance with the CPTED protocol between Penrith City Council and NSW Police.

4. Awnings

A separate approval to erect an awning over the road reserve including a footpath will be required under the Roads Act and the Local Government Act.

A. Objectives

a) To provide shelter from wind and rain for public streets where most pedestrian activity occurs;

b) To address the streetscape by providing a consistent street frontage in the Town Centre; and

c) To provide a visually integrated streetscape.

B. Controls

1) Continuous street frontage awnings are to be provided for all new developments as indicated in Figure E15.18.

2) Awnings should generally:

   a) Be a minimum 2.8m deep where street trees are not required, otherwise a minimum 2.4m deep;

   b) Have a minimum soffit height of 3.2m and a maximum of 4m;

   c) Be stepped for design articulation or to accommodate sloping streets, integral with the building design and not exceed 700mm;

   d) Be low profile, with slim vertical fascias or eaves (generally not to exceed 300mm height); and

e) Be setback from the kerb to allow for clearance of street furniture, trees, etc (minimum 600mm).

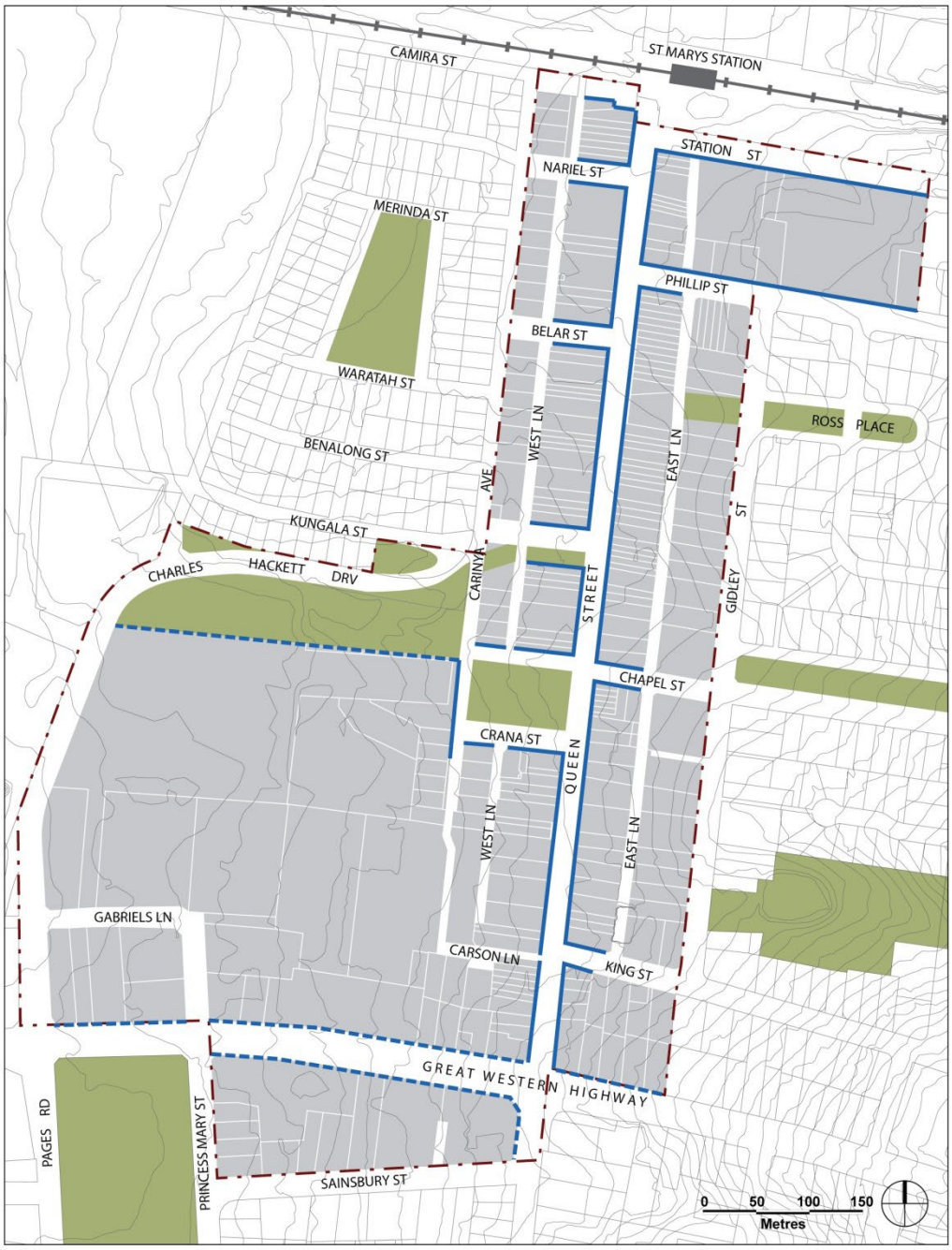
3) Awning design must match building facades and be complementary to those of adjoining buildings.

4) Awnings must wrap around corners for a minimum of 6m.

5) Under-awning lighting, recessed into the soffit of the awning or wall mounted onto the building is to be provided to facilitate night use and to improve public safety.

6) One under-awning sign may be attached to the awning and must be 6m away from the sign of the adjoining property.

Figure 15.18: Awnings



5. Vehicle footpath crossings

A. Objectives

a) To make vehicle access to buildings more compatible with pedestrian movements;

b) To reduce the impact of vehicular access on the public domain; and

c) To ensure vehicle entry points are integrated into building design and contribute to the building design.

B. Controls

1) No additional vehicle entry points will be permitted into the parking or service areas of development along streets with significant pedestrian circulation. (See Figure E15.19).

2) In all other areas, one vehicle access point only (including the access for service vehicles and parking for non-residential uses within mixed use developments) will be permitted.

3) Where practicable, vehicle access is to be from lanes and minor streets rather than primary street fronts or streets with major pedestrian activity.

4) Where practicable, adjoining buildings are to share or amalgamate vehicle access points. Internal on-site signal equipment is to be used to allow shared access. Where appropriate, new buildings should provide vehicle access points so that they are capable of shared access at a later date.

5) Vehicle access widths and grades are to comply with the Australian Standard.

6) Vehicle access ramps parallel to the street frontage will not be permitted.

7) Vehicle entry points are to be integrated into building design.

8) Doors to vehicle access points are to be roller shutters or tilting doors fitted behind the building facade.

9) Vehicle entries are to have high quality finishes to walls and ceilings as well as high standard detailing. No service ducts or pipes are to be visible from the street.

10) Porte cocheres disrupt pedestrian movement and do not contribute to active street frontage. They may only be permitted for hotels and major tourist venues subject to urban design, streetscape, heritage and pedestrian amenity considerations.

11) If justified, porte cocheres are to be internal to the building with one combined vehicle entry and exit point, or one entry and one exit point on two different street fronts of the development.

12) In exceptional circumstances for buildings with one street frontage only, an indented porte cochere with separate entry and exit points across the footpath may be permitted, as long as it is constructed entirely at the footpath level, provides an active frontage at its perimeter and provides for safe and clear pedestrian movement along the street.

6. Building exteriors

A. Objectives

The objectives of this section are to ensure that buildings in St Marys Town Centre:

a) Contribute positively to the streetscape and public domain by means of high quality architecture and robust selection of materials and finishes;

b) Provide richness of detail and architectural interest especially at visually prominent parts of buildings, such as lower levels and roof tops;

c) Present appropriate design responses to nearby development that complement the streetscape;

d) Clearly define the adjoining streets, street corners and public spaces and avoid ambiguous external spaces with poor pedestrian amenity and security;

e) Maintain a pedestrian scale in the articulation and detailing of the lower levels of the building; and

f) Contribute to a visually interesting skyline.

B. Controls

1) Adjoining buildings are to be considered when designing new buildings and extensions to existing buildings in terms of:
   a) Appropriate alignment and street frontage heights;
   b) Setbacks above street frontage heights;
   c) Selection of appropriate materials and finishes;
   d) Facade proportions including horizontal or vertical emphasis; and
   e) Provision of enclosed corners at street intersections.
2) Balconies and terraces should be provided, particularly where buildings overlook parks and on low rise parts of buildings. Gardens on the top of setback areas of buildings and on roofs are encouraged.
3) Façades are to be articulated so they address the street and add visual interest.
4) External walls should be constructed of high quality and durable materials and finishes with 'self-cleaning' attributes, such as face brickwork, rendered brickwork, stone, concrete and glass.
5) To assist articulation and visual interest, large expanses of any single material are to be avoided.
6) Glazing for retail uses is to be maximised, but broken into sections to avoid large expanses of glass.
7) Highly reflective finishes and curtain wall glazing are not permitted above ground floor level.
8) A materials sample board and schedule are required to be submitted with applications for development over $1 million or for that part of any development built to the street edge.
9) The design of roof plant rooms and lift overruns is to be integrated into the overall architecture of the building, and in residential buildings, may be screened by roof pergolas.

15.3.2 Access, parking and servicing

This section contains detailed objectives and controls on pedestrian access, vehicular access and site facilities, including refuse collection and removal. The Transport, Access and Parking Section of this DCP provides more information in this regard. However, the following controls apply specifically to the St Marys Town Centre:

1. Pedestrian access and mobility

A. Objectives

The objective of this section is to provide safe and easy access to buildings to enable better use and enjoyment by people regardless of age and physical condition, whilst also contributing to the vitality and vibrancy of the public domain.

B. Controls

1) The design and provision of facilities for persons with a disability, including car parking, must comply with Australian Standard AS 1428 Pt 1 and 2 (as amended) and the Commonwealth Disability Discrimination Act 1992 (as amended).
2) Barrier free access is to be provided to not less than 20% of dwellings in each development and associated common areas.
3) The development must provide at least one main pedestrian entrance with convenient barrier free access to the ground floor, and have a direct link to an identified accessible path of travel in the adjoining public domain.
4) The development must provide accessible internal access, linking to public streets and building entry points.
5) Pedestrian access ways, entry paths and lobbies must use durable materials commensurate with the standard of the adjoining public domain (street) with appropriate slip resistant materials, tactile surfaces and contrasting colours.
6) A report from an accredited access consultant is to be submitted with the development application, indicating the proposal's compliance with AS1428. If approved, Council may impose a condition on the development consent requiring the submission of a compliance certificate (or other such document) from an accredited access consultant attesting to the development's compliance with AS1428, and that a person with a disability can access the development.

2. Vehicular driveways and manoeuvring areas

A. Objectives

a) To minimise the impact of vehicle access points on the quality of the public domain;
b) To minimise the impact of driveway crossovers on pedestrian safety and streetscape amenity; and
c) To minimise stormwater runoff from uncovered driveways and parking areas.

B. Controls

1) Driveways should be:
   a) Provided from lanes and secondary streets rather than the primary street, wherever practical;
   b) Located taking into account any services within the road reserve, such as power poles, drainage inlet pits and existing street trees;
   c) Setback a minimum 6m from the tangent point in the kerb; and
   d) Located to minimise noise and amenity impacts on adjacent residential development.
2) Vehicle access is to be integrated into the building design so as to be visually recessive.

3) All vehicles must be able to enter and leave the site in a forward direction without the need to make more than a three point turn.

4) Design of driveway crossings must be in accordance with Council's specifications for vehicle crossovers, with any works within the footpath and road reserve subject to a Section 138 Roads Act approval.

5) The car park and all its components including, but not limited to, driveways, aisle and ramp widths, ramp grades, air space dimensions are to comply with AS 2890. Note that private car spaces are to be designed for full door opening in accordance with AS 2890.1. (AS 2890.1-2004 requires 2.6m).

6) Access ways to underground parking should be sited to minimise noise impacts on adjacent habitable rooms, particularly bedrooms.

7) The driveway threshold shall be designed to prevent ingress of stormwater and/or flooding from local catchments.

8) No vehicle entry will be permitted via Queen Street (See Figure E15.19).

Figure E5.19: Restrictions on Vehicular Entries

3. Site Facilities and Services

A. Objectives

a) To ensure that the design and location of site facilities (such as clothes drying areas, mail boxes, etc.) are integrated within the development and are unobtrusive;

b) To ensure that site services and facilities are adequate for the nature and quantum of development; and

c) To establish appropriate access and location requirements for servicing.

B. Controls

1) Letterboxes should be integrated into a wall immediately adjacent to the building entrance(s). Where there are a number of entrances into the building, the letterboxes located at each entrance should service the tenancies that will utilise that building entrance.

2) Letterboxes shall be secure and large enough to accommodate articles such as newspapers.

3) Telecommunication infrastructure should be built into the development and predominantly below ground, incorporating the following services fundamental in the effective operation of businesses, home businesses and dwellings:

   a) Multiple telecom services including high speed internet (including broadband), voice and data systems; and

   b) Cabling from all telephone lines and cable TV.

4) Where a master antenna is provided, the antenna must be sited in a location that is least visible from surrounding public spaces/ open areas.

5) Air conditioning units, service vents and other associated structures should be:

   a) Located away from street frontages and lanes;

   b) Located in a position where the likely impact is minimised; and

   c) Adequately setback from the perimeter wall or roof edge of buildings.

6) Where they are to be located on the roof, they should be integrated into the roofscape design and in a position where such facilities do not become a feature in the skyline at the top of building(s).

7) Council's policy on rainwater tanks for new dwellings provides locational and connection requirements for dwellings in residential areas.

8) Separate waste storage and collection areas are to be provided for domestic and commercial waste.

9) For developments comprising residential uses, a separate storage and collection area for bulky waste (such as cardboard boxes) and old or discarded furniture/appliances shall be provided.

10) Vehicular access to the waste collection areas should be from rear lanes, side streets and right of ways.

11) The responsibility for the ongoing management of waste facilities must be determined prior to work commencing on the development. Details of the management of waste by future tenants are to form part of the Waste Management Plan for the development. (See Appendix F3 for details on waste management plans).

12) Loading/unloading areas are to be:

a) Integrated into the design of developments;

b) Separated from car parking and waste storage and collection areas;

c) Located away from the circulation path of other vehicles;

d) Designed for commercial vehicle circulation and access complying with AS2890.2; and

e) Vehicles are to enter and exit the site in a forward direction.

13) Separate loading/unloading areas are to be provided for commercial/retail and residential uses.

14) Generally, provision must be made for all emergency vehicles to enter and leave the site in a forward direction, particularly NSW Fire Brigade vehicles where:

a) NSW Fire Brigade cannot park their vehicles within the road reserve due to the distance of hydrants from the building or restricted vehicular access to hydrants; or

b) Otherwise required by the NSW Fire Brigade's Code of Practice – Building Construction – NSWFB Vehicle Requirements.

15) For developments where NSW Fire Brigade vehicle(s) are required to enter the site, the circulation path and access/egress provision is to comply with the NSW Fire Brigade's Code of Practice – Building Construction – NSWFB Vehicle Requirements.

4. On-site parking options

A. Background

On-site parking includes underground (basement), surface (at-grade) and above ground parking, including parking stations. Most controls that relate to on-site car parking are included in the Transport, Access and Parking Section of this DCP. The following section provides some on-site car parking options for St Marys Town Centre.

B. Objectives

a) To facilitate an appropriate level of on-site parking provision in the Town Centre to cater for a mix of development types;

b) To minimise the visual impact of on-site parking; and

c) To provide adequate space for parking and manoeuvring of vehicles.

C. Controls

1) Car parking above ground level is to have a minimum floor to ceiling height of 2.8m so it may be adapted to another use in the future.

2) Where possible, natural ventilation is to be provided to underground parking areas with ventilation grilles and structures that are:

a) Integrated into the overall façade and landscape design of the development;

b) Located away from the primary street façade; and

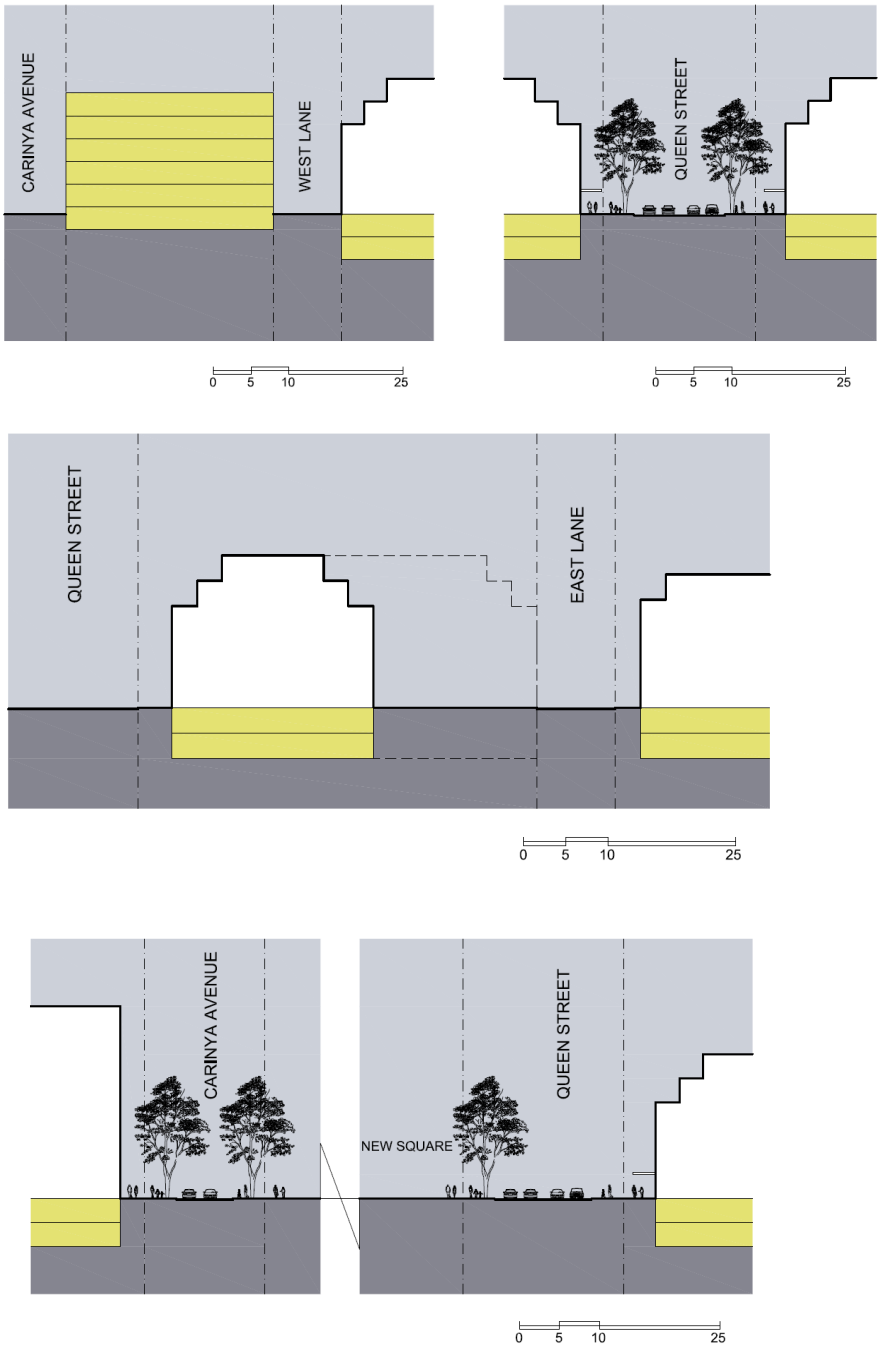
c) Oriented away from windows of habitable rooms and private open space areas.

3) Proposals for basement parking areas are to be accompanied with a geotechnical report, prepared by an appropriately qualified professional, and any other supporting information.

4) Figure E15.20 contains options for car parking at St Marys Town Centre.

5) Car parking layouts are to comply with the relevant Australian Standards.

Figure E15.20: Underground and Multi Deck Parking Examples



15.3.3 Precinct controls

Due to their size and/or strategic importance in the Town Centre, specific design principles and development outcomes have been identified for the sites identified in Figure E15.21.

Redevelopment of these sites should implement design principles and outcomes expressed in the clauses and diagrams that follow.

Figure E15.21: Areas Where Precinct Controls Apply

1. Precinct 1

Precinct 1 is the area generally bounded by Station Street to the north, Queen Street to the west, Phillip Street to the south and the property boundary between the commercial centre and the adjacent residences to the east as shown in Figure E15.22.

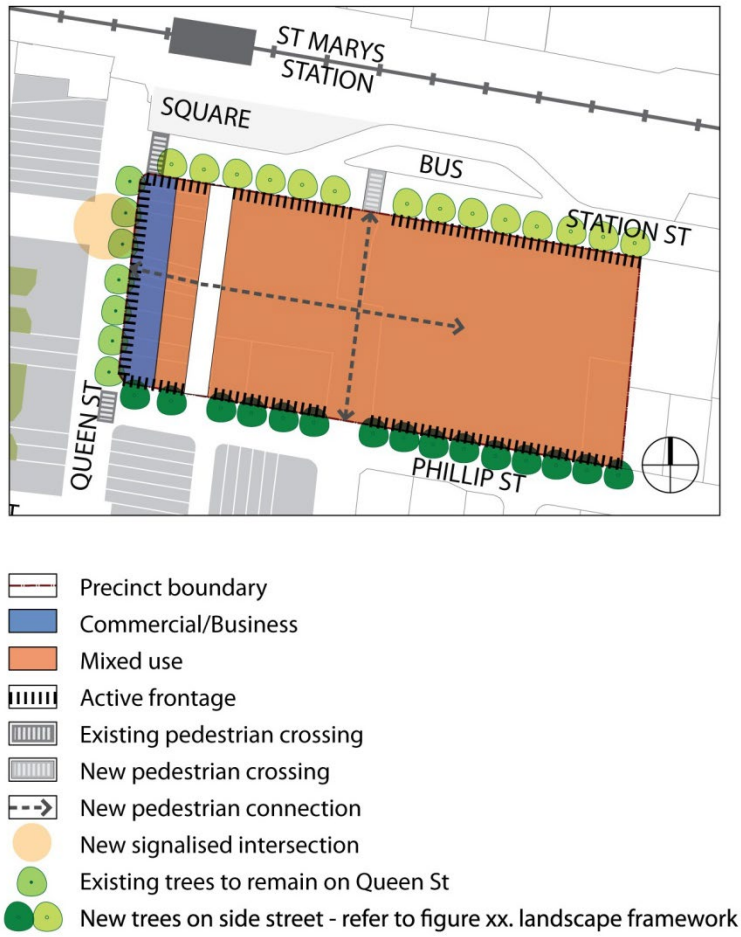
Development of the site must adhere to the following design principles:

1) Relocate the redundant public lane (East Lane) to provide north-south pedestrian connectivity through the site from Phillip Street to Station Street in the prolongation of Gidley Street;
2) Provide pedestrian connectivity in the form of an east/west arcade from Queen Street to the north south pedestrian connection through from Phillip to Station Streets;
3) Provide high quality and active public domain interface with new and existing public streets;
4) Investigate opportunities for expansion of the shopping centre to the west toward Queen Street; and
5) Provide roof top gardens for communal use.

Development of the site should provide the following outcomes:

1) Streets and pedestrian connections:
    a) Improve and upgrade pedestrian amenity of East Lane from Phillip Street northwards;
    b) Provide a new pedestrian access from Phillip to Station Streets in the alignment of Gidley Street;
    c) Create active shop fronts to Station, Queen and Phillip Streets in the section from Queen to Gidley Streets; and
    d) Provide a high quality architectural outcome for the Station Street façade emphasising residential entrances to buildings.
2) Land ownership:
    a) Consolidate existing land ownership patterns to allow orderly development of land.
3) Public domain interface:
    a) Provide active frontage/land uses along Station, Queen and Phillip Streets.
4) Built form:
    a) Construct buildings to the street alignment of Station Street and up to a maximum of 32m. Buildings are to be setback on Queen Street by 4m and to a maximum height of 16m for a further depth of 15m. The ‘sun angle height plane’ should be considered for residential buildings within the site and to the footpath on the southern side of Phillip Street.

Figure E15.22: Precinct 1



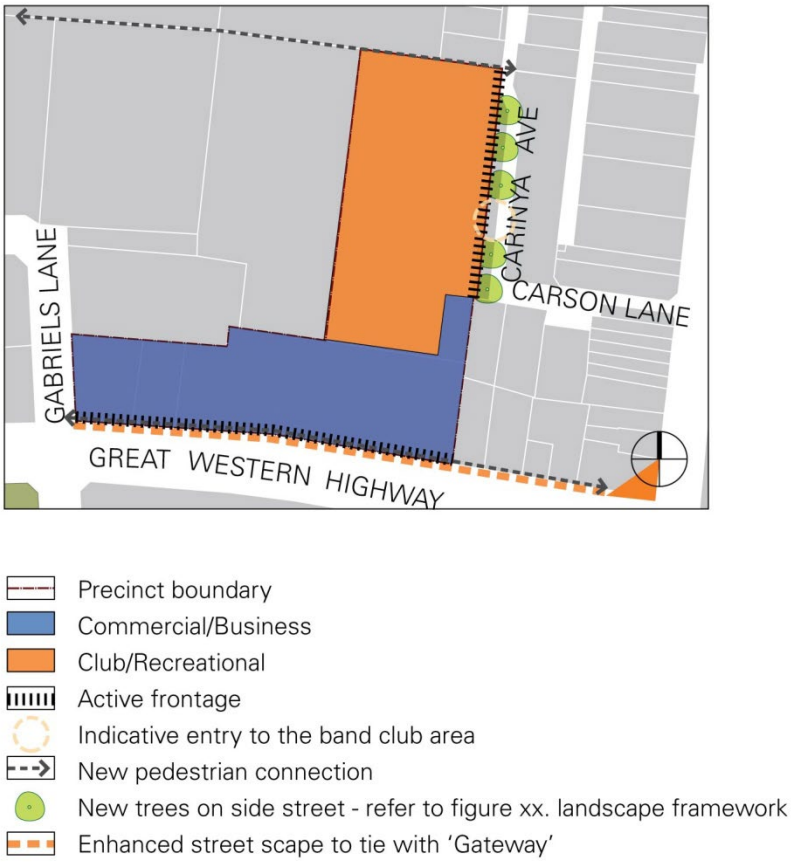
2. Precinct 2

Precinct 2 is the area bounded by Carinya Avenue to the east, Council owned land to the north, the school to the west and the band club to the south as shown in Figure E15.23.

Development of the site must adhere to the following design principles:

1) Provide good east-west and north-south connectivity with widened public street and pedestrian connections from the streets to St Marys Primary School that are clearly integrated with the existing street network and are safe;

Figure E15.23: Precinct 2



2) Locate non-residential uses towards the southern end of the site where they will be in closer proximity to the Band Club but still connected to the Town Square Precinct;
3) Provide a high quality public domain interface with existing public streets; and
4) Consider the interface with St Marys Primary School.

Development of the site should provide the following outcomes:

1) Streets and pedestrian connections:
   a) Provide a widened section of Carinya Avenue from Crana Street to Carson Lane;
   b) Provide a new pedestrian connection, at the northern boundary of the precinct from Carinya Avenue to Charles Hackett Drive; and
   c) Provide an active frontage to Carinya Avenue.
2) Open space:
   a) Provide public open space (passive recreation) in the form of a landscaped car park in the area in front of the precinct along Carinya Avenue.
3) Land uses:
   a) Locate a mix of tourist and visitor accommodation and entertainment facilities.
4) Public domain interface:
   a) Front building setbacks as indicated to achieve alignment on Carinya Avenue; and
   b) Plant street trees along Carinya Avenue.

3. Precinct 3

Precinct 3 is the area bounded by Carinya Avenue to the east, Charles Hackett Drive to the west, the park on the southern side of Charles Hackett Drive to the north and the St Marys Primary School to the south as shown in Figure E15.24.

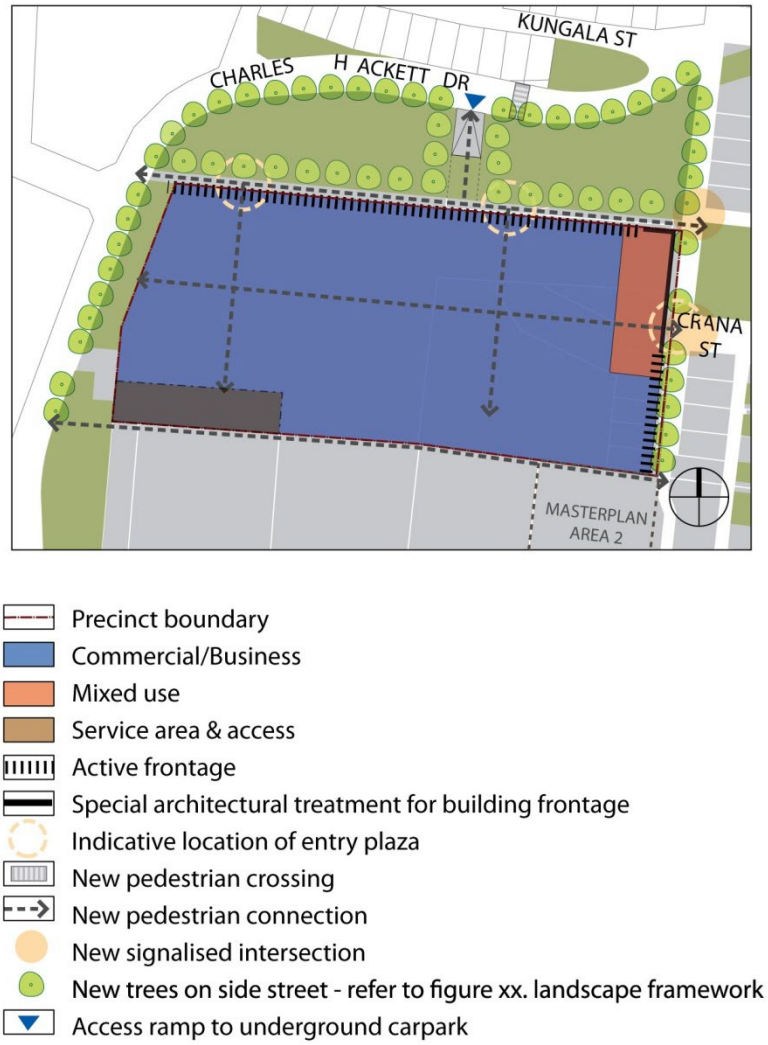
Development of the site must adhere to the following design principles:

1) Provide clearly visible entry points to the east at Carinya Avenue in line with Crana Street and adjacent to the Town Square;
2) Provide opportunities for residential or commercial uses at the eastern end of the precinct overlooking the Town Square to a maximum height of 24m ensuring that the residences have a Carinya Avenue address;
3) Consolidate retail uses on the remainder of the site;
4) Provide car parking under the new retail with access via Charles Hackett Drive (north);
5) Consolidate loading and service access to retail development on Charles Hackett Drive (west);
6) Provide a high quality and active public domain interface to Carinya Street and to the park on the northern side of the precinct;
7) Provide pedestrian connections through the centre; and
8) Provide roof top gardens for communal use.

Development of the site should provide the following outcomes:

1) Streets and pedestrian connections:
   a) Provide a high quality new public park to the north of the precinct to replace the existing car park;
   b) Provide a new pedestrian connection and entrance to the Centre at the Town Square in line with Crana Street as illustrated;
   c) Provide access to an underground car park from Charles Hackett Drive (north) that does not interrupt pedestrian flow of the park from east to west; and
   d) Provide service and delivery access from Charles Hackett Drive (west) at the southern edge of the precinct.
2) Land uses:
   a) Locate commercial land uses as indicated in Figure E15.24; and
   b) Locate mixed land uses as indicated in Figure E15.24.
3) Public domain interface:
   a) Provide active frontage and land uses to the Town Square along Carinya Street and along the park edge to the north;
   b) Front building setbacks as indicated; and
   c) Provide a landscaped corridor of mature trees on the northern side of the precinct.

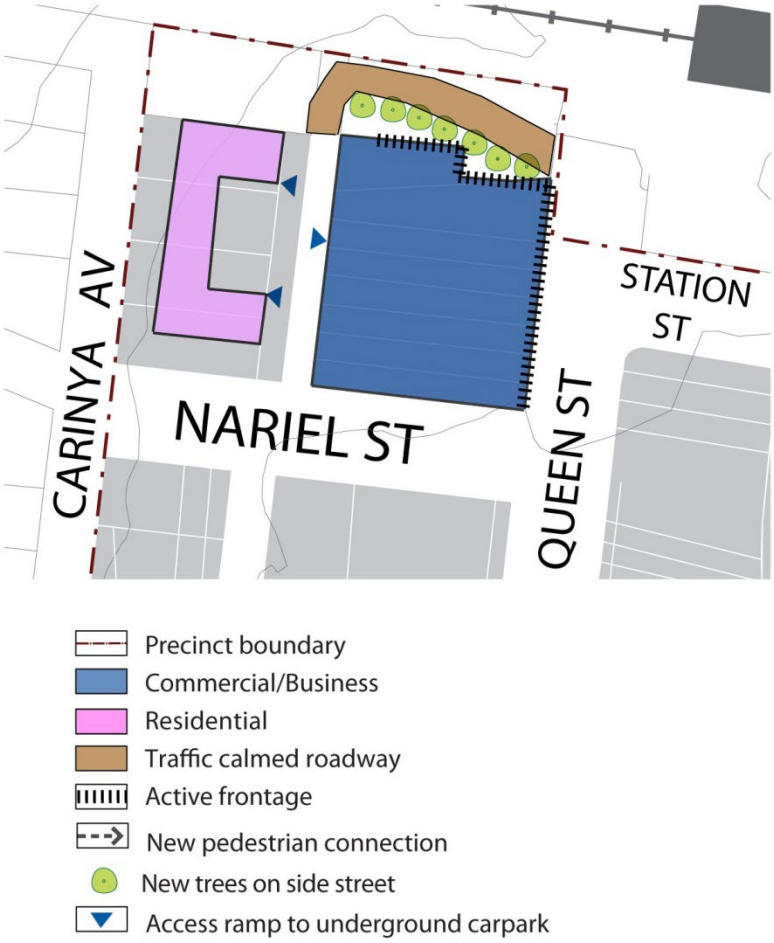
Figure E15.24: Precinct 3



4. Precinct 4

Precinct 4 is the area bounded by Queen Street to the east, Nariel Street to the south, Carinya Avenue to the west and the railway land to the north as shown in Figure E15.25. This parcel of land is significant as it assists in forming the entry gateway for public transport commuters as well as marking the northern most urban edge of the Town Centre itself.

Figure E15.25: Precinct 4



Development of the site must adhere to the following design principles:

1) Provide a vehicular and pedestrian connection from the existing West Lane through to Queen Street adjacent to the northern most boundary;
2) Utilise the above laneway to access the basement car parking facilities;
3) Provide a distinctive commercial/mixed use multi-level development on the northern section fronting onto Queen Street; and
4) Step the development down to Carinya Avenue in order to maintain a modest medium density residential scale.

Development of the site should provide the following outcomes:

1) Street and pedestrian connections:
   a) Provide a safe and useable laneway connection from the northern most section of West Lane around to Queen Street as well as a pedestrian path returning to the northerly section of Carinya Avenue;

b) Provide a landscaped section at the base on the north eastern section of the development as well as landscaping along the railway's northern boundary;

c) Provide vehicular access to basement car parking via the laneway and minimise in order to achieve a safe pedestrian amenity within the laneway; and

d) Accommodate a generous landscape setback in Carinya Avenue to achieve a stepped terrace style residential edge to the existing lower scaled cottages.

2) Land uses:

a) Provide mixed use and strong commercial land uses to north eastern and Queen Street addresses; and

b) Provide a residential tower to medium domestic scale fronting Carinya Avenue.

3) Public domain:

a) Provide active frontage and land uses out to Queen Street and the northern section fronting the extension of the laneway connecting to Queen Street;

b) Provide a landscaped plaza at the base of the north eastern multi-storied development; and

c) Provide a landscaped edge to the northern boundary with the railway corridor.

Appendix F1 Definitions

Table of Contents

F1 Definitions

A. Background

This Appendix outlines the meaning of the terms used in Penrith Development Control Plan (DCP) 2014. Terms defined in the *Standard Instrument (Local Environmental Plans) Order 2006* under the *Environmental Planning and Assessment Act 1979* are not reproduced in this Appendix. They can be found in the Dictionary to Penrith LEP 2010. Terms used in this DCP which are not in LEP 2010 are included in this Appendix.

The definitions in this Appendix are not exhaustive. Where the meaning of a term is not clear, it is recommended that applicants contact Council for clarification.

B. Objectives

The objective of this Appendix is to clarify the meaning of the terms used throughout Penrith Development Control Plan 2014.

C. Definitions

0 - 9

10% of LA1 means a noise level that exceeds the valid noise level of LA1 15min by more than 10% within any 15 minute period.

10% of LA90 means a noise level that exceeds the valid noise level of LA1 90min by more than 10% within any 90 minute period.

50% of LA90 means a noise level that exceeds the valid noise level of LA1 90min by more than 50% within any 90 minute period.

A

absorption means uptake of liquid into soil.

acceptable noise level criterion means the accepted noise levels for future development outlined in Penrith DCP 2014.

access lane means a street providing local residential access with shared traffic, pedestrian and recreation use, but with local traffic priority.

access ways means the driveways that service the rear garages of 'B' and 'C' type dwellings. The use of the access ways will be restricted to the landowner(s) requiring access to their rear garages.

accredited Auditor means a person accredited by the Environment Protection Authority (EPA), under the NSW Accredited Site Auditor Scheme through the *Contaminated Land Management Act 1997*.

accumulative building footprint means the total sum of the ground floor area of all of the sheds on a single property

activity means:

a) the erection of a building;

b) the carrying out of work in, on, over or under land;

c) the use of land or of a building or work;

d) the subdivision of land;

and includes any act, matter or thing for which provision may be made under Section 26 of the *Environmental Planning and Assessment Act 1979*, and which is prescribed for the purpose of this definition, but does not include:

a) any act, matter or thing for which development consent under Part 4 of the *Environmental Planning and Assessment Act 1979* is required or has been obtained;

b) any act, matter or thing which is prohibited under an environmental planning instrument.

adjoining and neighbouring land means any land that may be detrimentally affected by the use of, or the erection of a building or work on the development site.

advertised development means development, other than designated development, that is identified as advertised development by the Act, Regulation, an environmental planning instrument or this development control plan. Advertised development includes

any development for the purposes of a scheduled activity at any premises under the *Protection of the Environment Operations Act 1997* that is not designated development.

advertiser means either the person, who caused the advertisement to be displayed, or the owner, or occupier of the building or land on which the advertisement is displayed.

advertising, in the context of Penrith DCP 2014, means public notification by an advertisement appearing in the local newspaper or newspapers which are distributed throughout the Penrith City Council Local Government Area.

advertising area means:

a) the total surface area of a sign face, including any margin, frame or embellishment which forms an integral part of the sign; or

b) in the case of an advertisement with more than one sign face, the total surface area viewed from any direction.

aerated wastewater treatment system means a wastewater treatment process typically involving settling of solids and flotation of scums, oxidation and consumption of organic matter through aeration, clarification (secondary settling of solids) and disinfection of wastewater before surface irrigation.

affected person means a person who:

a) owns and/or occupies a property or building that adjoins or abuts the development site; or

b) in the opinion of the responsible officer, may be detrimentally affected by the use of, or the erection of a building or carrying out of work on the development site.

allotment means the parcel of land to be initially subdivided into Torrens title, but does not relate to subsequent strata or community title subdivision of development of this land.

ancilliary dwellings includes 'Secondary Dwellings', as defined by the Standard Instrument, and 'Studio Lofts' which are self-contained dwellings that may be occupied separately from the principal dwelling and are on a separate title from the principal dwelling.

appropriately qualified person, for the purposes of this development control plan, is a person who, in the opinion of Council, has demonstrated experience, or access to experience in relevant areas. In addition, the person will be required to have appropriate professional indemnity and public risk insurance.

approval means a consent, licence or permission or any form of authorisation.

arborist means a specialist in the care of trees and vegetation with relevant qualifications and training. Minimum AQF Level 3 equivalent or above.

archival recording means the method of recording heritage items to meet the requirements of the Office of Environment and Heritage guidelines for recording heritage items of local significance.

arterial road means a road that carries predominantly through traffic from one region to another, thus forming the principal avenue of

communication for traffic movements.

asset protection zone means an area surrounding a development where fuel is managed to reduce the bush fire hazard to an acceptable level.

Australian height datum (AHD) is a common national surface level datum approximately corresponding to mean sea level.

average recurrence interval (ARI) is the long term average number of years between the occurrence of a flood as big as or larger than the selected event. For example, floods with a discharge as great as or greater than the 100 year ARI flood event will occur on average once every 100 years.

B

bank (of a waterway or other waterbody) includes lagoons, backwaters, and other elements of the river. Council will determine the minimum setback required if the "bank" is difficult to define.

biodiversity corridors and areas of remnant indigenous vegetation means areas, or networks of areas, of indigenous vegetation which allow migration of plants and animals, and provide examples of local biodiversity and habitat for various species in their own right.

blind corners means areas that people cannot see around due to the angle of the design, setbacks, landscaping or internal corridors. When blind corners cannot be avoided they should be treated with mirrors, clear glass panels, windows or other treatments, low height maintained vegetation, to allow visibility around or through the corner.

bioretention systems are vegetated soil media filters, which treat stormwater by allowing it to pond on the vegetated surface, then slowly infiltrate through the soil media. Treated water is captured at the base of the system and discharged via outlet pipes.

buffer means a strip of land that is reserved between a potential source of pollution and an area that must be protected from the pollution.

building, in the context of Penrith DCP 2014, includes part of a building and any structure or part of a structure including a swimming pool, but does not include:

a) a manufactured home, a moveable dwelling or associated structure or part of a manufactured home, a moveable dwelling or associated structure; or

b) a temporary structure within the meaning of the *Local Government Act 1993*.

building works include any part of a building and any structure or part of a structure.

bush regeneration involves staged removal of non-indigenous plants to allow, where possible, natural regeneration to occur.

C

catchment means the area from which a stream, river, lake or other body of water receives its water.

category 1 remediation work means remediation work that needs development consent under *State Environmental Planning Policy No.55 – Remediation of Land*.

category 2 remediation work means remediation work that does not

need development consent under *State Environmental Planning Policy No.55 – Remediation of Land*.

change table refers to a baby change table that is required to have protective sides of 100mm, which will stop a baby's ability to roll off; and a soft, clean base for the baby to lie on.

channel or restrict the movement of people refers to physical cues that direct people to use a particular route, e.g. a change in elevation, fence, path or lighting.

Class 6 or 9 of the *Building Code of Australia*

Class 6: a shop or other building for the sale of goods by retail or the supply of services direct to the public, including:

a) an eating room, café, restaurant, milk or soft-drink bar; or

b) a dining room, bar, shop or kiosk as part of a hotel or motel; or

c) a hairdresser's or barber's shop, public laundry, or undertaker's establishment; or

d) market or sale room, showroom, or service station.

Class 9: a building of a public nature:

a) Class 9a – a health-care building; including those parts of the building set aside as a laboratory; or

b) Class 9b – an assembly building, including a trade workshop, laboratory or the like in a primary or secondary school, but excluding any other parts of the building that are of another Class; or

c) Class 9c – an aged care building.

clinical waste means any waste resulting from medical, nursing, dental, pharmaceutical or other related clinical activity, being waste that has the potential to cause injury, infection or offence.

collection area means the location where waste or recyclable materials are transferred from storage containers to a collection vehicle for removal from the site.

collector road means a road which collects and distributes traffic in an area, as well as serving abutting properties.

community association means the body that owns, manages and maintains the Community Property. The Association consists of the proprietors of the Community Lots and representatives of subsidiary schemes.

community safety involves recognising the need for people to work together to create a safer environment for people to live and work.

community services means community facilities, such as a community hall, recreation centre or child care facilities.

complying development has the same meaning as in the Act.

complying development certificate has the same meaning as in the Act.

compost means decomposed organic matter.

compostable material means vegetative material capable of being converted to humus by a biological decay process.

conservation means the management of natural resources in a way that will benefit both present and future generations.

conservation management plan means the same as 'heritage conservation management plan' as defined in Penrith LEP 2010.

construction guidelines should be interpreted as referring to Penrith City Council's "Guidelines for Engineering Works for Subdivisions and Development – Part 2 – Construction".

construction site is that portion of a site disturbed by the development and/or building and includes the areas where building materials are placed and access traversed by vehicles.

contaminated land means land in, on or under which any substance is present at a concentration above that naturally present in, on or under the land and that poses, or is likely to pose, an immediate or long-term risk of harm to human health or any other aspect of the environment.

contaminated land planning guidelines means guidelines under section 145C of the *Environmental Planning and Assessment Act 1979*.

contamination means the concentration of substances above that naturally present that poses, or is likely to pose, an immediate or long-term risk to human health or the environment.

corner shop has the same meaning as 'neighbourhood shop' in Penrith LEP 2010.

Council's engineer means Council's Engineering Services Unit Supervisor or his nominated representative.

Council's satisfaction (in relation to vegetation management) means providing documented evidence in the form of photographs, a statutory declaration, witness statement or report from an arborist to justify any proposed works.

crime prevention refers to reducing the risks of criminal events and related misbehaviour by intervening in their causes.

D

dead (in relation to vegetation) means no longer alive, permanent leaf loss of wilting.

debris means accumulated material that is not necessarily of anthropogenic origin, e.g. leaf litter, branches, garden refuse, etc.

degradation means to reduce from a higher to a lower quality.

design cues refers to whether the physical design of a space supports the intended function of a space.

design for de-construction is a design technique that allows for ready de-construction of products or materials at the end of their service life.

designated development means any class of development that is declared to be designated development by an environmental planning instrument or the Regulation.

designated road means any arterial or sub-arterial road identified as such in an environmental planning instrument.

development means:

a) the use of land;

b) the subdivision of land;

c) the erection of a building;

d) the carrying out of a work;

e) the demolition of a building or work; or

f) any other act, matter or thing referred to in section 26 of the Act that is controlled by an environmental planning instrument;

but does not include any development of a class or description prescribed by the Regulation for the purposes of this definition.

development application means an application for consent under Part 4 of the Act to carry out development but does not include an application for a complying development certificate.

development consent means consent under Part 4 of the Act to carry out development but does not include a complying development certificate.

development site means the land to which the development application relates.

diffuse means the movement of a substance from a higher to a lower concentration.

directional sign means a road sign, street sign posting, and signs indicating tourist and other major facilities, e.g. parking, rest areas, etc.

domestic wastewater means wastewater arising from household activities, including wastewater from bathrooms, kitchens and laundries.

drain means any channel, conduit or pipe used for removing water, other than sewage, and includes a stormwater detention basin but does not include a building or place specifically defined elsewhere in this Appendix.

drip line (of a tree or shrub) means the area directly located under the outer circumstance of the tree branches. This is where the tiny rootlets are located that take up water for the tree.

dying (in relation to vegetation) means significant loss of vigour or irreversible decline.

E

effluent means any waste products (treated or untreated) from any process or human activity that is discharged into the environment.

engineer should be interpreted as a person acceptable for Corporate Membership of The Institution of Engineers Australia.

engineering works means the design and/or construction of:

a) land filling;

b) roads and associated structures;

c) drains and associated structures.

entrapment spot refers to places which could provide opportunities for concealment or which could provide an opportunity for an assault to be committed with limited chance of detection.

environment means components of the earth, including:

a) land, air and water; and

b) any layer of the atmosphere; and

c) any organic or inorganic matter and any living organism; and

d) human-made or modified structures and areas, including interacting natural ecosystems that include components referred to in (a) – (c).

environmental planning instrument means an environmental planning instrument within the meaning of the *Environmental Planning and Assessment Act 1979*.

erosion means the detachment and removal of soil materials from a given area, by the processes of wind, water and/or gravity.

erosion and sediment control plan means a plan showing how potential erosion and sedimentation occurring on a given site, as a result of a land use, building or development activity, will be minimised.

exhibition period means the period in which a development application is available for public view and submissions.

exhibition village sign means a sign erected on a property on which Council has approved an 'exhibition home/s'.

existing ground level means the level of a site before development is carried out on the site in accordance with this Plan;

existing on-site sewage management system (SMS) means an on-site sewage management system installed and operating prior to the adoption of this Plan.

external wall height means the distance from the natural ground level to the underside of the eaves.

F

fascia sign means an advertisement attached or painted to the fascia of an awning.

first flush treatment strategy shall meet the following criteria where:

Catchments <= 5 ha

a) Gross Pollutants and Coarse Sediment – a Treatable Flow Rate = 60 L/s/ha, with sufficient storage volume to retain the pollutants generated by the first 30mm of runoff;

b) Fine Particulates – a Treatable Flow rate = 10 L/s/ha, with sufficient storage volume to retain the pollutants generated by the first 15mm of runoff;

Catchments > 5 ha

a) Compliance with the modelling techniques in Appendix F Managing Urban Stormwater: Council Handbook (Draft) NSW EPA (1997). Minimum Treatable Flow Rate equivalent to the 6-month ARI critical storm for the catchment (maximum duration of 15 minutes for urbanised catchments < 20 ha).

flashing sign means an advertisement illuminated in whole or in part at frequent intervals by a light source.

flood fringe areas means the remaining area of land affected by flooding after floodway and flood storage areas have been defined.

flood hazard means the potential for damage to property or persons due to flooding.

flood hazard (high) or **high flood hazard** occurs when there is possible danger to life and limb;

evacuation by trucks is difficult; there is potential for structural damage; and social disruption and financial losses could be high.

flood hazard (low) or **low flood hazard** occurs when, should it be necessary, people and their possessions could be evacuated by trucks; able-bodied adults would have difficulty wading.

flood liable land or **flood prone land** means land susceptible to flooding by the probable maximum flood event.

floodplain means the area of land which is subject to inundation by floods up to and including the Probable Maximum Flood.

flood planning level means the level of a 1:100 ARI (average recurrence interval) flood event plus 0.5 metres freeboard.

flood proofing involves a combination of measures incorporated in the design and/or construction and alteration of individual buildings or structures subject to flooding for the reduction or elimination of flooding damages.

flood safe access means access that is generally considered satisfactory when the depth of flooding over vehicular driveways and roads is limited to approximately 0.25 metres with low velocities.

flood storage areas means those parts of the floodplain that are important for the temporary storage of floodwaters during the passage of a flood. Adverse impacts on flood behaviour, if these areas were filled, would generally relate to an increase in flood levels greater than 0.1m, however, this can vary from site to site.

floodway means those areas of the floodplain where a significant discharge of water occurs during floods. They are often aligned with obvious naturally defined channels. Floodways are areas which, even if only partially blocked, would cause a significant redistribution of flood flow, which may in turn adversely affect other areas. Additionally, they are areas in which development may be adversely affected by the passage of floodwaters other than by immersion alone. They are often, but not necessarily, the areas of deeper flow or the areas where higher velocities occur.

floor means that space within a building which is situated between one floor level and the floor level next above or if there is no floor above, the ceiling or roof above;

flush wall sign means an advertisement that is attached to the wall of a building, other than the transom, doorway or display window.

free oil means free floating droplets of viscous liquid >= 150 µm that do not emulsify in aqueous solutions, e.g. cooking oil, motor oil, etc.

front façade line is the main front enclosing wall of a dwelling.

G

garbage chute means a duct in which deposited material descends from one level to another within the building due to gravity.

garbage means refuse or waste material other than trade waste, effluent, compostable material,

green waste or recyclable material.

garbage room means a room where garbage and recycling receptacles are stored awaiting reuse or removal from the premises.

generating works means a building or place used for the purpose of making or generating gas, electricity or other forms of energy.

good amenity refers to well presented public space that promotes people feeling some ownership and responsibility for.

gross pollutants is a term used to collectively describe litter and debris transported by urban runoff, of a size that may be retained by a 5mm mesh screen.

ground floor footprint is the area measured from the external face of any wall of any dwelling, outbuilding (other than a farm building), dual occupancy dwelling, garage or undercover car parking area, animal house or garden shed.

groundwater refers to all underground waters.

H

habitable room means a living area, such as a lounge room, dining room, rumpus room, kitchen and bedroom, but excluding garages.

hazardous waste means any waste that is or contains a substance specified in Schedule 1, Part 3 of the *Protection of the Environment and Operations Act 1997*.

health care services means services ordinarily provided by a health care professional to members of the public, but does not include any procedures such as x-rays, ultrasounds, cat-scans, radiography or pathology tests or the like.

health investigation levels are criteria published by the National Environmental Health Forum.

height in relation to:

a) a building means the vertical distance measured between natural ground level at any point at which the building is sited, and the roof of the topmost floor of the building above that point.

b) any advertising sign or structure means the vertical distance measured between the natural ground level at any point at which the advertising sign or structure is sited and the upper-most portion of the advertising sign or structure at that point.

heritage interpretation strategy means a strategy which:

a) defines the land and places to which the heritage interpretation strategy relates;

b) describes the cultural landscapes, history and heritage assets located on that land;

c) describes the significance of the cultural landscape history and heritage assets on that land;

d) provides strategies for the commemoration and communication of the heritage significance of the land and heritage assets located thereon;

e) includes indicative designs and concept sketches for recommended methods of commemorating key historical site uses;

f) recommends appropriate construction materials, production methods and siting to be adopted in implementing heritage commemorationg strategies; and

g) has been adopted by Council (including any amendments to that plan andorsed by resolution of Council).

heritage maintenance plan means a systematic and regular program of works and activities for the ongoing protective care of a heritage item, or a potential place of heritage significance, or a work, archaeological site or place within a heritage conservation area. It includes, but is not limited to, regular inspection and periodic works programmed to be undertaken over the short, medium and long term on the following general building elements:

a) foundations;

b) walls;

c) roof;

d) roof plumbing and stormwater system;

e) doors and windows;

f) floors;

g) ceilings;

h) timberwork and joinery;

i) plasterwork;

j) paintwork;

k) lighting and power;

l) plumbing;

m) heating and cooling; and

n) site works.

I

in the vicinity means:

a) within an allotment abutting or directly across a road reservation from an allotment containing a heritage item, or within two hundred metres of a boundary of an allotment containing a heritage item (whichever is the lesser); or

b) within the curtilage of a heritage item that has been formally defined by an environmental planning instrument, or in a heritage study supporting that instrument, or by a Commission of Inquiry, or in a development control plan, or in a conservation management plan.

independent review is a site audit, conducted by a site auditor. An independent review may be required by a planning authority of any information submitted by a proponent, conducted at the proponent's expense.

indigenous vegetation means one or more plant species of vegetation, including trees, shrubs, understorey plants, groundcover and plants occurring in a wetland, that existed in the City of Penrith before European settlement or have regrown through natural or assisted processes. This may include standing dead trees which provide essential habitat for natural flora.

infill development refers to the development of vacant blocks of land and extensions/additions to existing developments that are generally surrounded by developed properties.

integrated development has the meaning given by Section 91 of the *Environmental Planning and Assessment Act, 1979.*

internal lot means a lot the only means of access to which is an access corridor (a battle-axe or hatchet shaped lot) or a right-of-carriageway over another lot.

introduced vegetation means non-native vegetation being one or more plant species of vegetation that did not exist in the City of Penrith before European settlement.

investigation order means an investigation order made by the EPA under Division 2 of Part 3 of the *Contaminated Land Management Act 1997*.

J

K

L

land application area means the area over which treated wastewater is applied.

landfill site is a waste disposal site used for the controlled deposit of solid waste on or into land.

landscaped open space means that part of the site not occupied by any building(s), (except swimming pools or open air recreation facilities), which is predominantly landscaped by way of planting of gardens, lawns, shrubs or trees and is available for the use and enjoyment of the occupants of the dwelling(s) erected on the site, but does not include the area used for driveways, parking areas or drying yards.

Leq means the energy average of a valid 15 minute noise level in any specified time period.

litter means all material of human (anthropogenic) origin that is capable of being mobilised by stormwater runoff.

local amenity refers to local character and agreeable features.

local development means development, other than State Significant development, requiring development consent under an environmental planning instrument. Local development may comprise:

a) advertised development;

b) concurrence development;

c) designated development; or

d) integrated development.

local road means a road or street used primarily for access to abutting properties.

lop (in relation to vegetation management) means to cut branches or stems between branch unions or internodes. This is an unacceptable pruning practice as it may create hazardous trees.

M

manual self-opening door means a door which is opened by pushing a button.

mapped wetland 156 means the wetland area identified in *Sydney Regional Environmental Plan No. 20* as '156'.

mass movement is a general term encompassing erosion processes in which gravity is the primary force acting to dislodge and transport land surface materials.

minor local road means a minor street providing local residential and cycleway access.

movement predictors refers to public footpaths.

N

natural ground level means the ground surface level prior to any development, including any cutting, filling and grading, and, where the existing ground level differs from the natural ground level, the natural ground level shall be as determined by the council after taking into account any information concerning its location.

natural regeneration means allowing or assisting the bush to grow back by itself.

nett lettable floor area means the floor area of the building, excluding wall thicknesses, liftwells, stairs, corridors, lunch rooms, staff amenities, plant rooms and the like.

new on-site sewage management system (SMS) means a proposed on-site sewage management system for installation and operation.

non-valid noise level data means data recorded when:

a) wind gusts exceed 15 metres per second;

b) average wind speed exceeds 3 metres per second; or

c) it is raining.

notification means the posting or dispatch of a notification letter.

notification letter means the letter sent by Council to an affected person advising of:

a) a development application; or

b) an application for modification under Section 96 of the Act; or

c) an applicant's request under Section 82A of the Act for Council to review its determination;

but not an application for a complying development certificate.

nutrients means a substance that provides nourishment to another organism. For the purposes of stormwater runoff, it may be defined as Total Nitrogen (TN) consisting of nitrate nitrogen (NO_3--N), nitrite nitrogen (NO_2--N), ammonium nitrogen (NH_4+-N) and organic nitrogen; and Total Phosphorus (TP) consisting of filterable phosphorus (orthophosphate PO_4-3-P, condensed phosphates, organic phosphorus and colloidal phosphorus) and particulate phosphorus (organic particles; and inorganic particles that may or may not be adsorbed to suspended particulates).

O

offensive noise is defined under the *Protection of the Environment Operations Act 1997*.

outbuildings include garages, garden sheds, small-scale storage sheds for non-agricultural purposes, outdoor toilets, etc.

outdoor noise level means the noise level measured at any point outside a building (including terraces, balconies, courtyards, garden areas) which does not include any correction for façade reflection.

out-of-school hours (OOSH) care means a child care service providing care for children aged between five and twelve years which may:

a) provide care before school hours (being not after 9.00am on school days);

b) provide care after school hours (being not before 2.30pm on school days); and

c) provide care during school vacations and pupil free days.

owner means:

a) the person or persons who appear on Council's property system to be the owner of land, at the date of notification; or

b) in the case of land that is the subject of a strata scheme under the *Strata Titles Act 1973*, or a leasehold strata scheme under the *Strata Titles (Leasehold) Act 1986*, the owner is the body corporate and the individual title owners; or

c) in the case of land that is a community, precinct or neighbourhood parcel within the meaning of the *Community Land Development Act 1989*, the owner is the Association for the parcel.

owner, in the context of Penrith DCP 2014, means the persons or persons who appear on Council's property system to be the owner of land, at the date of notification.

P

parking area has the same meaning as a car park.

pathways means the series of interconnecting publicly accessible pedestrian/cycle links.

pedshed or **pedestrian catchment** or **walking catchment** is the area from which a given point or destination can be reasonably accessed by walking. Potential pedshed or walkability is defined by a radius of 400m (5 minute walk) or 800m (10 minute walk). Actual pedshed or walkability is defined by drawing a line along pedestrian routes up to 400m or 800m.

permeability is the general term used to describe the rate of water through a substance.

planning authority, in the case of a function relating to a development application, is the consent authority (or a person or body taken to be a consent authority). In the case of any other function, planning authority means the public authority or other person responsible for exercising the function.

planning function is a function exercised by a planning authority under the *Environmental Planning and Assessment Act 1979*, such as the preparation or making of an environmental planning instrument.

pollutant means a contaminant that adversely alters the physical, chemical or biological properties of the environment.

potential place of heritage significance means a place:

a) that is on the Potential Place of Heritage Significance list held by Council; or

b) that is subject to an Interim Heritage Order or nominated for inclusion on the State Heritage Register; or

c) that is, in the opinion of Council, a place of heritage significance to the community.

preliminary investigation is an investigation to identify any past or present potentially contaminating activities to provide

a preliminary assessment of any site contamination.

primary road frontage means the road to which an allotment is addressed.

principal private open space means the portion of private open space which is conveniently accessible from a living area of the dwelling, and which receives the required amount of solar access.

probable maximum flood (PMF) is the largest flood that could conceivably occur at a particular location.

produce store has the same meaning as 'rural supplies' in Penrith LEP 2010.

prohibited development means:

a) development the carrying out of which is prohibited on land by the provisions of an environmental planning instrument that apply to the land; or

b) development that cannot be carried out on land with or without development consent.

psychological (symbolic) barriers refers to circumstances where a 'reasonable individual' recognises that he or she is transitioning from public to private space. This can be achieved externally by use of paths, plants, colour and landscaped surfaces. This can be achieved internally by use of plants, arrangement of furniture, floor surfaces, colours, etc.

public domain means space that is provided for, accessible to, and frequented by the public.

R

reactive soil is a term used in the construction industry to describe a soil that changes volume with changes in moisture content. This can damage foundations.

real estate sign means an advertisement that contains only a notice that the place or premises to which it is fixed is or are for sale or letting (together with particulars of the sale or letting) and that is not displayed for more than 14 days after the letting or completion of the sale.

recognised authority is a body, department, organisation or similar who is considered by Council as a competent and reliable source of advice and information for erosion and sediment control.

recyclable means capable of being reprocessed into useable material.

regional environmental plan (REP) is a plan made by the Minister under Section 51 of the Act that is in force. As of 1 July 2009, REPs are no longer part of the hierarchy of environmental planning instruments in NSW. All existing REPs are now deemed State Environmental Planning Policies (SEPPs).

registered surveyor should be interpreted as a person registered under the *Surveyor's Act, 1929* as amended.

remedial action plan (RAP) refers to the documentation detailing the methodology proposed, targets, timetable, quality control procedures and precautions to be taken during remediation work.

remediation of contaminated land includes:

a) preparing a long-term management plan (if any) for the land; and

b) dispersing, destroying, reducing, mitigating or containing the contamination of the land; and

c) eliminating or reducing any hazard arising from the contamination of the land (including by preventing the entry of persons or animals on the land); and

d) rehabilitating land.

remediation order is a remediation order made by the EPA under Part 3 of the *Contaminated Land Management Act 1979*.

residual means a substance that remains after the rest has been taken.

responsible Council officer means an officer of the Council of the City of Penrith who will be responsible for the processing and assessment of the development application.

responsible person is the person whose role it is to ensure that the pollution control strategy is maintained in a form that ensures it performs in accordance with its original design specification. They shall be:

a) where an approval has been issued or given by Council:

i) the applicant; or

ii) the person nominated in writing by the applicant and where such nomination is accepted in writing by the nominee; or

b) where there has been no approval issued or given by or required by Council:

i) the supervisor, project manager or other person who has the ongoing day-to-day control over the site; or

ii) the person whose duty statement or contractual arrangement requires that person to correctly install and adequately maintain the water quality control measures;

c) where the development is a strata development, the responsible person may be the 'Body Corporate'.

restricted material means publications classified Category 1 restricted, Category 2 restricted or RC (Refused Classification) under the Commonwealth's *Classification (Publications, Films and Computer Games) Act 1995*.

re-use means re-using a product for the same or different purposes without further manufacture.

ridgeline means the highest point at which upward angled roof planes meet.

ringbark means a form of girdling involving physical damage to the bark or cambium.

roof sign means an advertisement erected on or above the roof or parapet of a building.

S

safer by design is a crime prevention strategy that focuses on the design, planning and structure of our cities and neighbourhoods. It aims to reduce opportunities for crime by employing design and space management principles, which reduce the likelihood of essential crime ingredients from intersecting.

salinisation means the accumulation of soluble salts in soil.

salinity means the accumulation of mineral salts in the soil, groundwater and surface waters. (It is primarily a groundwater problem that produces effects at the soil surface due to rising watertables which can lead to serious land degradation problems).

schedule of conservation works means a description and assessment of the existing condition of the internal and external materials, fabrics and finishes of a building and a description of the conservation, restoration and rehabilitation methods necessary to maintain its heritage significance and upgrade and rectify the building for its future use. It includes, but is not limited to, information on the maintenance of the heritage values of the building through the appropriate design and installation of new services, materials, fabrics and finishes on:

a) external walls, roofs, verandahs, doors, windows, chimneys, ventilation, outbuildings, fences, gates, paving, drainage, trees and gardens, and

b) internal walls, ceilings, attic space, doors, windows, architraves, skirtings, floors and sub-floor access and ventilation.

It also includes information on the timing of the undertaking of the list of proposed construction activities and estimates of the cost of each component of the construction activities.

secondary road frontage means a road frontage other than the primary road frontage.

sediment means solid material of varying size, both mineral and organic, that is in suspension, is being transported, or has been moved from its site of origin by air, wind, water or gravity, and comes to rest on the earth's surface either above or below sea level. Course sediment is defined as soil particles >0.5 mm in diameter. Fine particulates are defined as all material >0.02 mm but <0.5 mm in diameter. Fine sediment is the fraction of soil consisting of silt (0.002 mm to 0.02 mm in diameter) and clay (<0.002 mm in diameter).

sedimentation means the deposition of eroded soil, sediment or other material.

seepage means the gradual flow of groundwater to the surface over a wide area, but not from a spring.

self rectification is a process that allows an individual (with the relevant information provided) to rectify a breach of the law, legislation, guidelines, or civic responsibility.

sensitive land use means an educational establishment, child care centre, place of public worship, playground or any other place regularly frequented by children for recreational or cultural activities, or a dwelling.

sewage means waste matter that passes through sewers.

significant alterations / additions are those where the roof or hard surface area is increased to the minimum standard and those additions are not less than 25% of the existing roof area.

site audit means an independent review:

a) that relates to investigation, or remediation, carried out (whether under the *Contaminated Land Management Act 1997* or otherwise) in respect of the actual or possible contamination of the land; and

b) that is conducted for the purpose of determining any one or more of the following matters:

i) the nature and extent of any contamination of the land;

ii) the nature and extent of the investigation or remediation;

iii) what investigation or remediation remains necessary before the land is suitable for any specified use or range of uses.

site auditor means a person for the time being accredited under the *Contaminated Land Management Act 1997* as a site auditor.

site audit statement means a written statement by a site auditor of the findings of a site audit. A site audit statement must be prepared on a prescribed form.

site filling means the use of clean, non-putrescible material, such as soil, sand and clean building materials, to change the existing ground level of an area.

site line means the line of vision from a person to a place or building.

soil 1. (Agronomy) the unconsolidated mineral and organic matter on the immediate surface of the earth that serves as a natural medium for the growth of land plants. 2. (Engineering) earth and rock particles resulting from the physical and chemical disintegration of rocks, which may or may not contain organic matter. It includes fine materials (silts and clays), sand and gravel.

source separation means the separating of waste into like materials for recycling, reuse or collection at the site at which the waste was generated.

spatial definition refers to the way in which a space is defined.

special waste means any waste that requires special disposal arrangements as they represent a significant hazard to human health, life, property or the biophysical environment. This includes, but is not limited to, explosives, poisons, clinical wastes, radioactive substances, declared chemical wastes, asbestos, lead, medical wastes and quarantine wastes.

sponsorship advertising in sporting fields or grounds means an advertisement informing about sponsors, products of sponsors of teams or organisations using the facility.

spruiker means a person or persons located in the public place including a footpath who seek to entice people to enter the premises.

standard lot means a lot that is not an internal (or battle-axe or hatchet-shaped) lot.

State Environmental Planning Policy is a policy made by the Governor under Section 37 of the Act that is in force.

State Significant development means development, other than designated development, which:

a) is declared by a State Environmental Planning Policy or Regional Environmental Plan to be State Significant development

and may be carried out with development consent; or

b) in the opinion of the Minister, to be of state or regional significance, is declared by notice in the government gazette to be State Significant development and may be carried out with development consent; or

c) the Minister has directed that the development application be referred to him for determination; or

d) is prohibited development under Section 89 of the Act;

to which the Minister is the consent authority.

sub arterial road means a road connecting arterial roads to areas of development, and carrying traffic directly from one part of a region to another.

subdivision (of land) has the meaning referred to in Section 4B of the *Environmental Planning and Assessment Act 1979.*

sub-surface irrigation means artificial watering of land through buried watering systems.

suitably qualified and experienced person for undertaking flora and fauna assessment reports is:

a) a person with tertiary qualifications in ecology, zoology or botany;

b) a person with a minimum of 5 years experience in undertaking flora and fauna surveys;

c) a person with a demonstrated knowledge of the flora and fauna that occurs in the Penrith local government area; and

d) a person possessing appropriate licences or approvals under relevant legislation.

surface irrigation means artificial watering of land through an above ground system.

surface water means any water (usually as a result of rainfall) that enters drainage areas, creeks, rivers and reservoirs such as dams and lakes.

survey plan means a plan prepared by a surveyor registered under the *Surveyor's Act 1929*, which shows:

a) the boundaries of the allotment of land and its location with respect to any road on which the land has a boundary;

b) the location of any proposed building, work, road or accessway in relation to the boundaries of the land;

c) the existing level to Australian Height Datum, of:

i) any existing or proposed road or accessway; and

ii) the ground at each corner of the allotment; and

iii) the ground around the perimeter of any proposed building or work;

d) the finished floor level, to Australian Height Datum, of all floors within any proposed building; and

e) the extent of the finished level to Australian Height Datum of any proposed excavation or filling of land.

sustainable waste management involves managing and controlling the generation of waste so that

the needs of the current generation are met without limiting the options and capacity of future generations to meet their own needs.

symbolic barriers has the same meaning as psychological barriers.

T

tactile pavement refers to a surface that has been treated to provide cues (particularly to vision impaired) that a physical environment is about to change; e.g. pavers with small raised disk treatments at approaches to pedestrian crossings at street lights.

temporary sign means an advertisement or advertising structure of a temporary nature that:

a) announces any local event of a religious, educational, cultural, political, social or recreational character or relates to any temporary matter in connection with such an event;

b) does not include advertising of a commercial nature; and

c) is displayed for a period not exceeding two months, or a period Council may otherwise determine and specify in the terms of approval.

the Corporation means the corporation constituted by section 8(1) of the Act;

the Minister means the Minister for Planning.

the Regulation means the *Environmental Planning and Assessment Regulation 2000*, as amended.

top (in relation to vegetation management) means to reduce the height of a tree through the practice of lopping.

top hamper sign means an advertisement that is attached to the transom of a doorway or display window of a building.

total suspended solids include a range of inorganic and organic particles suspended in the water column, which can be defined as the filterable residue retained on a 2.0mm pore size filter dried at 105˚C.

trade waste means waste or refuse arising from any trade or industry.

transport management and accessibility plan (TMAP) means:

a) a comprehensive assessment of the transport impacts (addressing both the movement of people and goods) of a major site development or re-development proposal; and

b) the identification of a package of appropriate transport measures (including infrastructure, services and demand management initiatives) for the proposed development, which will help to manage the demand for travel to and from the development, and in particular, reduce the demand for travel by private car and commercial vehicle.

treatable flow rate means the minimum flow that a pollution control device must be capable of treating, without bypass, to achieve the desired pollution retention criteria for the particular

development style and catchment area. In the City of Penrith, the Treatable Flow Rate (TFR), for sites equal to or less than 5 ha in area, shall be 60 L/s for every hectare of catchment for gross pollutants and 10 L/s for every hectare of catchment for fine particulates. The goal of establishing a TFR is to capture and retain gross pollutants generated by the first 30mm of runoff, and to capture and retain fine particulates generated by the first 15mm of runoff.

tree means:

a) a living perennial plant that has a height of three (3) metres or more or a trunk circumference exceeding 300mm at 400mm above ground level, or

b) individual trees, gardens or native vegetation listed as Significant Trees and Gardens.

U

under awning sign means an advertisement that is attached to the underside of an awning, with maximum dimensions 2.4m x 0.5m and is a minimum 2.6m from the underside of the sign to the footpath.

unencumbered floor space means the area of the floor of a room readily available for unobstructed use, and excludes space occupied by any cupboard, furniture, fixture or fitting and thoroughfares.

universal design means the design of products and environments to be useable by all people, to the greatest extent possible, without adaptation or specialised design.

unsewered means not connected to reticulated mains sewer.

urban capability is a method of land classification which ranks land according to various intensities of urban use on the basis of the physical constraints applying to it. The classification does not consider development costs, social implications, aesthetics or other factors relating to ecology and the environment. It is based on physical criteria alone and thus the classification of various areas as suitable for a particular type of urban development is an assessment of the capability of those areas to sustain a particular level of disturbance.

utility undertaking means any undertaking carried on by or by authority of any Government department, or in pursuance of any Commonwealth or State Act, for the purposes of:

a) railway, road, water or air transport, or wharf or river undertakings; or

b) the provision of sewerage, sewage treatment or drainage services; or

c) the supply of water, hydraulic power, electricity or gas; or

d) telecommunications facilities; or

e) water quality control facilities.

V

vacant land means land on which, immediately before the day on which a notice is given, or an application for development consent is lodged, there were no buildings other than fences, greenhouses, conservatories, garages, summer houses, private boat houses, fuel sheds, tool houses, cycle sheds, aviaries, milking bails, hay sheds, stables,

fowl houses, pig sties, barns or the like.

valid noise levels means the measured noise level data excluding the non-valid noise level data.

validation action plan refers to documentation detailing the methodology by which an applicant or its consultant intends verifying that the remediation work has been satisfactorily carried out. It contains the requirements for post rehabilitation testing and the justification for it. A validation plan may be included within a remediation plan.

validation report outlines the evidence or documentation of an assessment as to whether the remediation work undertaken has achieved the desired clean-up standard.

W

waste and recycling storage area means a designated area upon the site of a building for the housing of approved containers to store all waste material (including recyclable material) likely to be generated by the building's developers or occupants.

waste cupboard means a storage area within each dwelling (usually in the kitchen) of a size sufficient to enable source separation of a single day's waste into garbage recyclables and compostable material.

waste disposal means to discharge, emit or deposit into the environment, any matter whether liquid, solid, gaseous or radioactive, in such volume, consistency or manner as to cause a significant alteration to the environment, but does not include waste water disposal carried out by the Sydney Water Corporation Limited.

waste management plan is a plan detailing the anticipated volume and types of waste and recyclable materials likely to be generated, how it is to be stored and treated on-site, and how the residual is to be disposed of.

wastewater means water that carries wastes from residential, industrial or commercial premises.

waterlogging refers to becoming saturated with water.

work based child care means a centre based child care service provided by one or more organisations for the benefit of employees.

working day means a day that is not:

a) A Saturday or Sunday; or

b) A public holiday or a bank holiday in the place to which the letter was addressed.

work supervisor means the person(s) responsible for supervising the development activity works.

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F2 DA Process

1.1. Overview of the Application and Assessment Process

The development application and assessment process is the process by which Council accepts, assesses and determines development applications. Some parts of the process are regulated by legislation, other parts have been developed by Council in an effort to achieve a process that provides both an efficient service and turnaround time for applicants, and gives the community reasonable opportunity to comment on those applications which may affect them. The assessment process also provides Council the opportunity to be sure that development occurring in Penrith is consistent with the relevant legislation – primarily the *Environmental Planning and Assessment Act 1979* and Penrith Local Environmental Plan 2010 (Penrith LEP 2010) – and Council policy (including this Plan).

Some parts of the assessment process are consistent for all types of applications. These are:

- Formal acceptance and receipt by Council;
- Assessment of the application against relevant legislation and Council policy;
- Determination of the application; and
- Written notification to the applicant of the determination of the application and any conditions imposed.

In recognition that different applications require different levels of assessment, Council has developed separate processes for major and minor development applications. Minor applications may not require neighbour notification and will generally be assessed within 14 days. Major applications require neighbour notification as a minimum, and may also require an advertisement in the newspaper.

The following is a guide to the assessment process for minor and major applications. It should be noted that any application which appears minor on first assessment may become more significant due to factors revealed once the assessment process has commenced. In addition, proposals which are minor on simple or unconstrained sites may be major or more complex on constrained sites (e.g. flood prone land, bushfire prone land, sloping sites or sites with significant vegetation cover).

1.2. Minor Applications

Minor development applications are likely to be for a type of development listed in *State Environmental Planning Policy (Exempt and Complying Development Codes) 2008* (the Codes SEPP) or in Schedule 2 or 3 of Penrith LEP 2010, but which do not meet the requirements in those instruments to be classified as exempt or complying. Likely examples include:

- Dwellings (alterations and additions)
- Sheds
- Swimming pools
- Rainwater tanks
- Decks and pergolas
- Boundary adjustments.

1.3. Major Applications

Major applications require much more assessment due to the complexity of the development proposed or the individual site conditions or both.

Please contact Council to confirm whether your proposal is considered to be major development.

1.4. Development Application Process

A Development Application (DA) is a formal request for permission to carry out a proposed development. Generally, you will need a DA if you propose to:

- Erect a new building/structure;
- Alter or add to an existing building;
- Demolish a building;
- Demolish, alter or damage a heritage building or a building within a Heritage Conservation Area;
- Change the use of a building;
- Subdivide land or strata subdivide a building;
- Display or erect an advertising sign;
- Erect an outbuilding; or
- Erect a swimming pool.

Development Application forms are available from Council, or on Council's website at www.penrithcity.nsw.gov.au.

Fees will be charged in accordance with Council's advertised fees and charges.

1.4.1. Pre-Lodgement

Council's primary aim is to identify and, if possible, resolve issues 'up front' ahead of a DA being submitted. To this end, Council provides pre-lodgement advice at Development Panel meetings. We know, from our experience, that this enables the DA to be determined faster.

We have a commitment to the quality of advice and customer service provided at the Development Panel meetings. In supporting this enhanced service, Council has resolved that all development proposals (other than dwellings and ancillary buildings, minor commercial or industrial additions/alterations, use/occupancy of buildings, minor rural development or advertising signs) should be reviewed by the Development Panel before the DA is submitted.

By working together with you, we can avoid unnecessary delays with your application.

The concept details are required to be received by Council prior to the appointment time/date.

Development Panel Meeting

The Panel will be attended by senior staff from appropriate sections of Council. Your proposal will be discussed at the meeting and verbal advice provided of which minutes will be kept.

Where possible, we will endeavour to provide you with a level of certainty about your proposal, however, we cannot give absolute commitment at this early stage.

A written response summarising any issues with your proposal will be provided as soon as possible after the meeting date.

Development Application

If you proceed with the DA after the above process, you should take account of all issues raised by the Development Panel. However, you cannot assume Council's support for your proposal based on pre-lodgement advice as a full assessment and determination can only be made after lodgement of the DA.

1.4.2. Plans/Drawings

The following plans and documentation will be required for most development applications:

- Site Plan;
- Floor Plan;
- Elevation Plan;
- Section Plan;
- Specifications;
- Statement of Environmental Effects;
- Energy Rating;
- Shadow Diagrams;
- Notification Plan;
- Landscaping Information;
- Erosion and Sediment Control Details;
- Drainage Plan;
- Waste Management Plan;
- Public Art Strategy (where relevant).

Additional information on submission requirements is included in Appendix F3 of this Plan.

Application form

Council's Development Application Form must be completed and provided with any development application.

1.4.3. Fees and Charges

The applicable fees and charges will need to be paid when submitting the DA. Fees and charges vary depending on the type, scale and nature of the development proposed. Council's current Schedule of Fees and Charges contains a comprehensive listing of current fees and charges for Council businesses and services.

1.4.4. Notification and Advertising

For a range of DAs, Council notifies landowners and occupiers who are likely to be affected by the proposal. This is determined by a site assessment of the locality.

Large scale site plans, elevations, a statement of environmental effects and other relevant information is available for public viewing.

1.4.5. Assessment

Following lodgement of the DA and the end of the notification and/or advertising period, Council conducts a site inspection to assess the impact of the proposed development. All submissions received will also be considered.

If the application is satisfactory, Council will issue development consent. This consent will be subject to conditions.

1.4.6. Development Consent

Council's assessment officer will complete a detailed assessment of your DA and arrange site inspection/s, when required. If the development is approved, Council will issue a Development Consent, subject to listed conditions.

1.4.7. Construction Certificate

A Construction Certificate is a certificate that states that building work can commence on an approved development and that it complies with the terms of the consent and the Building Code of Australia. This certificate can be issued by either Council or an independent certifier.

You must have development consent to obtain a construction certificate. No work must commence before you obtain a construction certificate.

You must also appoint a Principal Certifying Authority (PCA) and notify Council two (2) days prior to work commencing.

You may appoint Council as your PCA. To do this, please complete and lodge the *Application for Council PCA* form at least two (2) days before you are to start work on the site.

You should also ensure that any conditions requiring compliance before you can commence work have been completed to the satisfaction of your PCA.

Private Certifiers on Building Sites

Since July 1998, qualified professionals can oversee the construction of a development and/or certify stages of the construction phase. As such, you have the choice of using Council or a qualified professional, known as a private certifier, to certify the construction of your development.

If building or excavation works are required for the development, including subdivision, then you will need a Construction Certificate to commence works on the site. The Construction Certificate can only be issued after:

a) Council has issued development consent for the same development; and

b) Specifications and information has been provided with the Construction Certificate application to ensure compliance with the relevant standards including the Building Code of Australia; and

c) Where relevant, specific conditions of the development consent requiring compliance before a Construction Certificate is issued has been complied with.

Once you have received a Construction Certificate, you will need to engage a PCA (either Council or a private certifier). The PCA is responsible for:

i) Overseeing the construction works on the site; and

ii) Ensuring that the relevant conditions of the development consent are being complied with; and

iii) Ensuring that stages of the construction have been duly certified by the appropriately qualified professional; and

iv) issuing an Occupation Certificate for the building before the building can be occupied or use of the development commenced.

If Council is not your PCA, you are responsible for advising the Council of your nominated PCA, including their details, 2 days before you commence construction works.

To ensure that your development is completed in a coordinated and timely manner, you are strongly advised to engage the same person who is issuing your Construction Certificate to also be the PCA for the construction phase.

Engaging a Private Certifier

Private certifiers are appropriately qualified professionals who have attained accreditation from their relevant professional accreditation board. Private certifiers, like Council, also require professional indemnity insurance as they are potentially responsible to make good poor or defective work if it can be demonstrated that they have been negligent.

In engaging a private certifier and/or a PCA (if not Council), you should ensure that the person has the appropriate accreditation relevant to your development.

Please note that it is difficult to change PCAs once the construction has commenced.

Council's role if a private certifier is the PCA

Complaints may arise during the construction of the development. Typically, these complaints are given to Council, despite the project being overseen by a private PCA. Depending on the nature of the complaint, Council will direct the complaints to the PCA to resolve.

Council will deal with immediate matters affecting resident amenity and the environment, such as noise and air pollution, hours of construction, erosion and sediment control, and waste management. In this regard, Council may decide to proceed with one or more of the following actions:

i) Advise the PCA of the complaint and issue a warning (as a first offence);

ii) issue a Penalty Infringement Notice (for certain breaches);

iii) Commence the Orders provisions under the *Environmental Planning and Assessment Act* by issuing a Notice to Issue an Order;

iv) Commence proceedings in the Court for serious offences.

1.4.8. Inspections Required

New Dwellings

1. Slab-On-Ground Construction

Erosion and Sediment Control Barriers

Erosion and sediment control barriers must be installed on all building sites in order to prevent site erosion and the runoff of sediment from building sites into the stormwater system. It is very important to implement these measures as soil erosion on building sites can be a major source of sediment pollution in our waterways. Although a single block of land may seem a small part of the river catchment, the cumulative effect of polluted runoff from a number of building sites can have a dramatic impact on water quality.

The most common types of barriers are filter fabric or sediment fences and straw bales. Note: Filter fabric looks like green shadecloth but it is in fact a special material developed especially for sediment control. Shadecloth is not to be used for erosion and sediment control.

Piers

This inspection may not be required in all cases. It is necessary to determine whether piers are expected to be dug.

The inspector must inspect the pier holes once they have been dug and cleaned out, and before they are filled with concrete.

Slab Steel

This inspection is required for all slabs. The inspector must inspect the steel once the slab is 'formed up', the termite protection method has been installed (where necessary), the 'membrane' (plastic) is laid, steel reinforcement has been placed and before the concrete is poured.

2. Timber Floored Dwellings

Strip Footings

Strip footings contain reinforcement steel and so must be inspected once the footing has been dug and the reinforcement steel has been installed but before the concrete is poured.

Pad Footings

Pad footings must be inspected once they have been dug and cleaned out but before the concrete is poured into them. Isolated pad footings do not contain any reinforcement steel; they comprise of concrete only.

Bearers and Joists

The bearers and joists must be inspected before the wall and roof framing is erected and before any floor is installed. Many builders may argue that the bearers and joists may be inspected at the same time as the rest of the frame is inspected. This is not acceptable because if the bearers and joists are incorrectly installed, it is too late once the full frame is constructed. The inspectors must also ensure that the ant capping is correctly installed. Without exception, timber floored dwellings and dwelling additions must have an inspection solely for bearers and joists.

3. Slab-On-Ground Construction/Timber Floored Dwellings

Frame

The inspector must inspect the framework once it is completed. All brickwork must be erected and for trussed roofs, roof covering must be laid. The inspection cannot be done unless these rules are followed.

For a conventional framed house, the roof tiles do not have to be laid prior to the frame inspection.

The frame must be inspected prior to installation of internal wall and ceiling linings.

Note: When roof covering has been installed, gutters and downpipes should be connected (see stormwater inspections).

Wet Area Flashing

Generally there are two types of wet area flashing.

One type is applied to the framework *before* the wall lining has been done. This type can be inspected at the frame stage.

The other type is applied *after* walls have been lined which will require a separate inspection before any tiling can be done.

Stormwater

Stormwater plumbing work does not have to be completed by a licensed plumber. It may be done by owner/builders.

The inspector must inspect the stormwater lines once they are laid in the trenches and connected to either the street gutter or an easement (common drainage line). The use of rubble drains is generally not favoured by Council; however, this system of drainage may be considered depending upon the suitability of the site. The installation of rubble drains must be approved by Council.

Final

A final inspection cannot be carried out until the dwelling is completed. Generally, the following matters are required to be completed:

- The site should be clean, neat and tidy, free of any unwanted building materials.
- All painting both internal and external should be completed.
- Smoke detectors to be installed and a certificate provided.
- All certificates requested by the inspector, for example, structural engineer's certificates and pest control certificates, should be submitted to Council.
- All excavated and filled banks should be retained.
- All conditions of consent must be complied with, for example, if landscaping was required to be done, it must be fully completed in accordance with the approved application.

Applicants may apply for early occupation of a dwelling. The application must be made in writing to Council and be accompanied by the appropriate fee.

Early occupation of a dwelling will only be considered when all of the cooking and washing facilities are connected and in full working order, i.e. a bathroom, kitchen and laundry must be fully operational. Also, any balconies or stairs etc. requiring handrails and balustrades must have them installed.

4. Swimming Pools

a) Above-ground pools

Excavation

If a pool is sunk into the ground, an inspection may or may not be required. (Check the consent or with Council).

Fencing

The fence must be inspected before any water has been put into the pool.

Final

The final inspection is done when the pool is full, the filters are connected and the resuscitation chart has been put up.

b) In-ground pools

Concrete Pools - Excavation/Steel

This inspection is required to be carried out once the hole for the pool is dug and before the concrete is poured. For steel reinforced concrete pools, the inspector will inspect the steel reinforcement and the excavation at the same time.

Fibreglass Pools - Excavation

The excavation is inspected first, then the coping is inspected.

Fencing

Pool fencing must be inspected before any water is put in the pool.

Final

The final inspection is done when the pool is full, the filters are connected and the resuscitation chart has been put up.

1.4.9. Occupation Certificate

An occupation certificate, issued under the *Environmental Planning and Assessment Act 1979,* allows a person to occupy and use a new building or change the use of an existing building. An occupation certificate is required for any new building work, or change of use of a building, that has development consent or a complying development certificate. An occupation certificate is issued by your Principle Certifying Authority (PCA).

Occupation certificates are not required for buildings which are exempt development.

They may not be issued for the occupation or use of a new building after 12 months from the date on which the building was first occupied or used.

An occupation certificate verifies that the PCA (Council or a Private Certifier) is satisfied that the building is suitable to occupy or use in terms of the requirements of the Building Code of Australia. That Code sets required standards for the design and construction of various classes of buildings to protect health, safety and amenity.

There are two types of Occupation Certificate:

1. Final Occupation Certificate

A final occupation certificate allows commencement of either the occupation or use of a new building (including alternations/ extensions) or the new use of an existing building resulting from a change in its use.

2. Interim Occupation Certificate

An interim occupation certificate allows commencement of either the occupation or use of a partially completed building, or of a new use of part of an existing building resulting from a change of use of the building.

It is rare that an interim certificate is issued, but if one has been, a final occupation certificate is still required when all building work or the change of use is complete. A final occupation certificate revokes any occupation certificates issued earlier.

Table of Contents

F3 DA Submission Requirements

1. Introduction

This Appendix outlines the requirements for submission of supporting information with development applications. Not all applications will require all the supporting information listed in this section. Which reports are required will depend on the land use itself, the scale of the development, its location and the individual site features.

The distinction between minor and major development is discussed in Appendix F2 'Development Process'. In some cases, the scale of development or the nature of the proposed site will mean that what would normally be classed as minor development may be major development, and vice versa. If in doubt, please contact Council.

Table F3.1 in section 2 below outlines which information is likely to be required for different land uses in different areas. Applicants will need to be aware of site features and natural hazards (e.g. flooding, bushfire, vegetation, high visibility, etc) in order to determine whether a particular report or plan will be required. If in doubt, please contact Council.

2. Submission Requirements Overview

Table F3.1 shows the submission requirements for a number of different types of applications to Council.

Table F3.1

MATRIX OF INFORMATION TO ACCOMPANY APPLICATIONS	Residential Dwellings	Alteration and additions to residential dwellings	Garage, Outbuilding, Awning, Carport, etc	Farm Shed	Swimming Pool	Dual Occupancy/ Secondary Dwelling	Multi dwelling housing and residential flat buildings	Commercial / Industrial building	Alteration and additions to Commercial / Industrial	Demolition	Subdivision of Land	Septic tank	Advertising sign	Home business	Applicant Checklist	Council Checklist
Site Plan	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Floor Plan	✓	✓	✓	✓		✓	✓	✓	✓		✧	✓		✓		
Elevation Plan	✓	✓	✓	✓	✓	✓	✓	✓	✓				✓	❖		
Section Plan	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✧	❖		
Specifications	❖	❖	❖	❖	❖	❖	❖	❖	❖	✓		✓	✧	❖		
Statement of Environmental Effects	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✧	✓		
BASIX	✓	❖			❖	✓	✓									
Building Sustainability Rating Certificate	✓	✓				✓	✓	✧	✧		✧					
Shadow Diagrams	✧	✧				✧	✧	✧	✧							
Landscaping Plan	✧	✧	✧	✓		✓	✓	✓	✧		✓	✓				
Erosion / Sediment Control	✓	✓	✧	✧	✧	✓	✓	✓	✧	✓	✧	✧	✧			
Drainage Plan (Stormwater)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✧	✧	✓				

MATRIX OF INFORMATION TO ACCOMPANY APPLICATIONS	Residential Dwellings	Alteration and additions to residential dwellings	Garage, Outbuilding, Awning, Carport, etc	Farm Shed	Swimming Pool	Dual Occupancy/ Secondary Dwelling	Multi dwelling housing and residential flat buildings	Commercial / Industrial building	Alteration and additions to Commercial / Industrial	Demolition	Subdivision of Land	Septic tank	Advertising sign	Home business	Applicant Checklist	Council Checklist
Site and Soil Assessment Report	✧	✧	✧			✧					✧	✧		✧		
Waste Management Plan	✓	✧		✧	✓	✓	✓	✓	✧	✓				✧		
External Colour Schedule	✓	✓		✓		✓	✓	✓	✓							
Survey / Contour Plans	✓			✧		✓	✓	✓			✓					

✓ Indicates this information is required

❖ Indicates this information is required if you are applying for a Construction Certificate or Complying Development Certificate

✧ Indicates this information may be required

Certain applications may require the submission of additional information that has not been listed above. Council encourages you to consult prior to lodging your application. This ensures that many issues may be resolved before an application is lodged and that each application contains all necessary information to enable prompt processing by Council.

3. Plans/Drawings

Table F3.2 lists the types of plans and drawings likely to be required for minor and major development. A minimum of 6 complete sets of all plans and documents are required for the submission of applications.

Table F3.2

Ref.	Plan	Minor	Major	Comments/Other
1	CD with all Plans in PDF format	✓	✓	
3	Survey/contour Plan	✓	✓	If relevant
4	Site Plan	✓	✓	If relevant
5	Site Analysis	✓	✓	
	Local analysis		✧	
	Regional analysis		✧	
6	Floor Plans	✓	✓	If relevant
7	Section Plans	✓	✓	If relevant
8	Elevation Plans	✓	✓	If relevant
9	Demolition Plans	✓	✓	If relevant
10	Shadow Diagrams		✓	
11	Landscape Plan	✧	✓	If relevant
12	Specifications of Advertising Signage	✓	✓	If relevant
13	Specification of External Finishes	✓	✓	If relevant
14	Sample Board		✓	If relevant
15	Photomontages		✓	If relevant
16	Subdivision Plan		✓	If relevant
17	Model		✓	If relevant
18	Plant and Plant Rooms		✓	If relevant

✓ Indicates this information is required

✧ Indicates this information may be required

4. Supporting Report Requirements

Tables F3.3 and F3.4 list the types of reports likely to be required for minor and major development.

Table F3.3

Report	Minor	Major	Notes / Comments
Site Analysis (Site Plan)	✓	✓	Level of detail will vary depending on scale and/or complexity of development or site
Statement of Environmental Effects	✓	✓	Level of detail will vary depending on scale and/or complexity of development or site
Building Sustainability Rating Certificate			
• BASIX Certificate	✓	✓	BASIX Certificate required for dwelling construction or alterations.
• Non-residential Development		✓	Required for non residential development (including mixed use) over $1 million.
Landscaping Information			
• Landscape Site Analysis Plan	✓	✓	
• Landscape Concept Plan	✧	✓	
• Landscape Detail Plan	✧	✓	
• Landscape Implementation Report		✧	
• Landscape Maintenance Report		✧	
• Landscape 3 Year Landscaping Report		✧	
Erosion and Sediment Control			
• Erosion and Sediment Control Plan	✓	✓	Level of detail will vary depending on scale and/or complexity of development or site
• Additional Erosion and Sediment Control Measures		✓	

Report	Minor	Major	Notes / Comments
Stormwater and Drainage • Drainage Plan (Stormwater) • Site and Soil Assessment Report • Stormwater and Drainage Report	✓ ✓	✓ ✓ ✧	
Waste Management Plan	✓	✓	
Transport and Traffic Impact Assessments • Traffic Impact Statement • Traffic Report • Transport Management and Accessibility Plan (TMAP)	✧	✓ ✧ ✧	

✓ Indicates report is required

✧ Indicates this information may be required

Certain applications may require the submission of additional information that has not been listed above. Council encourages you to consult prior to lodging your application. This ensures that many issues may be resolved before an application is lodged and that each application contains all necessary information to enable prompt processing by Council.

Table F3.4

Report	Minor	Major	Notes / Comments
The following reports are required if the site or development characteristics fit the necessary criteria. For example, if a site is on bushfire prone land, a bushfire assessment report will be required. If the proposal includes works to trees and vegetation then the relevant applications and reports will be required.			
Works to trees and vegetation • Tree Survey and Assessment Report • Aboricultural Survey Report • Tree Management Plan	 ✓ ✧ ✧	 *✓ *✓	 Information to be provided with applications for tree pruning / removal Certain works to trees and vegetation Where trees to be retained as part of development

Report	Minor	Major	Notes / Comments
• Flora and Fauna Assessment Report	*✓	*✓	Information to be provided with development applications for works to any indigenous trees and vegetation
• Species Impact Statement	*✓	*✓	*where Council determines works to trees and vegetation likely to impact threatened species, populations, ecological communities or habitats
Bushfire Assessment Reports			
• Non-integrated development	*✓		*if site is bushfire prone land
• Integrated development		*✓	*if site is bushfire prone land
Flood Study	*✓	*✓	*if site is affected by 1 in 100 ARI flood event
Salinity Analysis	*✓	*✓	*if site identified as subject to potential risk of salinity
Visual Impact Assessment	*✓	*✓	*if site is located in areas identified on Penrith LEP 2010 Scenic and Landscape Values Map or land zoned E1 or E2 on Penrith LEP 2010 Land Zoning Map
Heritage			*any development that would: -affect a heritage item; -be carried out in a heritage conservation area; -affect a place of potential heritage significance; or -occur in the vicinity of a heritage item.
• Heritage Impact Statement	*✓	*✓	
• Heritage Conservation Management Plan	✧	✧	*where proposal could affect the significance of a heritage item, heritage conservation area or place of potential heritage significance
• Archival Record	*✓	*✓	*where proposal involves demolition or partial demolition of a heritage item, a place within a heritage conservation area or a potential place of heritage significance

Report	Minor	Major	Notes / Comments
• Archaeological Assessment Report	*✓	*✓	*where proposal involves disturbance or development of a heritage item listed as an *archaeological site* in Penrith LEP 2010
• Aboriginal Cultural Heritage Archaeological Survey Report	✧	✧	*where proposal involves disturbance to the soil or construction works and the land is potentially archaeologically sensitive or has an area of 5 hectares or more
Contamination			
• Contamination Investigation Report / Preliminary Contamination Investigation (Stage 1)	✧	*✓	*where contamination is, or may be, present
• Detailed Contamination Site Investigation (Stage 2)	✧	*✓	*when preliminary investigation indicates land is contaminated or is, or was, formally used for a potentially contaminating activity
• Site Remedial Action Plan (Stage 3)	✧	*✓	*where remedial action is required
• Validation and site monitoring reports	✧	*✓	*to confirm whether the clean-up objectives have been attained and whether further remediation or restrictions on land use are required
• Site Audit (Contamination)	✧	*✓	*where independent review is required of site investigation, remediation or validation
• Chemical Use and Storage Report	✧	✧	*if proposal involves storage of chemicals on the site
Noise Impact Statement	*✓	*✓	*where proposal may be impacted by road, rail or aircraft noise and/or where proposal is potentially noise generating
Land Stability, excavation and filling			
• Geotechnical report	*✓	*✓	*where building is proposed on land with slope gradient higher than 15%
• Landfill validation report	*✓	*✓	*where proposal involves landfill

Report	Minor	Major	Notes / Comments
Water Management Plan	✓	✓	Where application is for an industrial or rural land use that will increase the water needs of a particular area
Social Impact Assessment		✓	
Economic Impact Assessment		✓	Including child care centres over 40 places, major retail development
Environmental Impact Assessment	✧	✓	Major development (e.g. designated development) and development that may result in contamination
Urban Design Assessment		✓	
Local Analysis	✧	✓	
Regional Analysis	✧	✓	
Infrastructure Delivery Plan		✓	Required for new urban areas
3D Modelling		✧	Required for certain developments in St Marys Town Centre

✓ Indicates report is required

✧ Indicates this information may be required

Certain applications may require the submission of additional information that has not been listed above. Council encourages you to consult prior to lodging your application. This ensures that many issues may be resolved before an application is lodged and that each application contains all necessary information to enable prompt processing by Council.

4.1. Site Analysis (Site Plan)

A Site Analysis involves looking at the features of the site and the immediate surrounding area and, where possible, presenting the information in a diagram(s). This enables the opportunities and constraints to be identified and subsequent development to respond appropriately to the site characteristics. A Site Analysis should include the following minimum elements:

1) The site's dimensions and areas;

2) North point and the site's orientation (e.g. solar access);

3) Topography (with 0.5m to 1m contours);

4) Road, pedestrian and cycle access points;

5) Services and infrastructure (e.g. electricity poles, stormwater drainage lines, natural drainage, kerb crossings and easements);

6) Rights of way;

7) Views to and from the site (more detail is provided below);

8) Site overland flows and drainage patterns;

9) Geotechnical characteristics of the site and suitability for development;

10) Location of site in relation to shops, community facilities and transport;

11) Heritage items on site or on adjoining properties;

12) Form and character of adjacent and opposite buildings in the streetscape, including both sides of any street that the development fronts;

13) Location and use of any existing buildings or built features on the site;

14) Location and important characteristics of adjacent public, communal and private open spaces;

15) Location of significant vegetation on the site and on adjoining properties and all street trees;

16) Location of any significant noise sources on and in the vicinity of the site; and

17) Assessment of site contamination and/or remediation.

The Site Analysis includes the site and the immediate context - usually up to 50 or 100 metres in any direction from the site (depending on the scale of development, the proposed land uses and its impacts). The Site Analysis should include plan and section drawings of the existing features of the site at the same scale as the site and landscape plan.

Not all of the elements listed above will be relevant for every development or site. You are strongly recommended to contact Council's Development Services Unit to discuss the requirements for your proposal prior to lodging a development application.

4.2. Statement of Environmental Effects

A Statement of Environmental Effects (SEE) is a written document that supports the development application. It demonstrates that, as the applicant, you have considered what impact your development will have on the natural and built environment and how you propose to mitigate any negative effects. All developments will require a SEE, although the level of detail may vary according to the type of development. For most minor development, there is no need for the SEE to be prepared by a specialist.

A SEE should include, but is not limited to, the following:

An Assessment of Relevant Planning Controls

This section is important as it demonstrates how the proposal complies with relevant planning policies (including State Environmental Planning Policies (SEPPs), Local

Environmental Plans (LEPs), Development Control Plans (DCPs) and other relevant policies).

For each issue listed below, identify which policies apply to the site and describe how the proposal complies.

Site Suitability

i) Identify flooding, drainage, landslip, mine subsidence, soil erosion, bushfire or any other risk.

Access and Traffic

ii) Describe driveway access, manoeuvrability and pedestrian safety.

iii) Discuss the suitability of the existing road network.

iv) Describe the number of vehicle movements entering and exiting the site, including delivery trucks.

v) Describe the number and location of parking spaces.

Streetscape and Design

vi) Discuss how the design of the development has taken into consideration the existing streetscape.

vii) Provide details of the proposed external finishes, including material type and colour.

Services

viii) Discuss the availability of utility services such as power, water, sewer and telephone services.

ix) Describe the method of sewerage effluent and stormwater disposal.

Privacy, Views and Overshadowing

x) Provide shadow diagrams and explain how they satisfy Council's requirements for solar access.

xi) Discuss how the proposal affects the views both from and into the site, from neighbouring properties, roads and any more distant elevated vantage points together with any measures to reduce the impact.

Social and Economic Effects

xii) Discuss whether the development will have a positive or negative social impact on the locality. Provide proposed measures to address any negative impacts.

xiii) Discuss what economic impact the development will have on the locality.

Flora and Fauna

xiv) In relation to the Threatened Species Conservation Act, discuss the impact that the development will have any threatened or endangered species.

4.3. Building Sustainability Rating Certificate

4.3.1. Residential Development (BASIX Certificate)

A BASIX Certificate is required for all dwellings, including those dwellings in a mixed use development and serviced apartments intended or capable of being strata titled. Proposals for additions and/or alterations to an existing dwelling also need a BASIX Certificate.

The Building Sustainability Index (BASIX) is a web-based planning tool designed to assess the potential performance of residential buildings against a range of sustainability indices. Applicants can generate the BASIX Certificate only on the NSW Department of Planning BASIX website: www.basix.nsw.gov.au. For more information, phone the BASIX Help Line on 1300 650 908.

The applicant is required to submit the BASIX Certificate with the development application or Complying Development Certificate application. The BASIX Certificate and plans and/or specifications must be consistent. Plans and specifications must identify BASIX commitments fundamental to the design of the development (e.g. location and size of rainwater tanks, windows, heating and cooling systems). Inconsistencies may be resolved through amendment of plans and/or specifications or by submitting a new BASIX Certificate with commitments that match the rest of the application.

Like other development and building standards, BASIX commitments will be checked for installation and operation as part of the certification of completed building works. It should also be noted that as many BASIX commitments will involve the purchase and correct installation of building elements and materials, it is important to keep all receipts and certificates of installation for review by the certifying authority.

4.3.2. Non-residential Development

Non-residential developments including mixed use developments with a construction cost of $1 million or more are to demonstrate a commitment to achieving no less than 4 stars under Green Star or 4.5 stars under the National Australian Built Environment Rating System.

The applicant is required to submit the rating certificate with the development application or Complying Development Certificate application. The plans and specifications must also identify the Green Star or NABERS commitments which will be checked by a professional building certifier during construction. Submitted plans or specifications and the certificate must be consistent. Inconsistencies may be resolved through amendment of plans and/or specifications or by submitting a new Certificate with commitments that match the rest of the application.

National Australian Built Environment Rating System (NABERS)

NABERS is a national rating system that measures the energy efficiency, water usage, waste management and indoor environment quality of a building or tenancy and its impact on the environment. NABERS provides a star rating based on a buildings actual operational performance. The rating takes into consideration:

- The climactic conditions in which the building operates
- The hours of its use

- The level of services it provides
- The energy sources it uses
- Its size and occupancy.

For more information, visit www.nabers.gov.au

Green Star

Green Star is an environmental rating scheme that provides formal accredited evaluation of the environmental design and achievements of buildings across nine categories (management, indoor environment quality, energy, transport, water, materials, land use and ecology, emissions and innovation). Green Star provides certified ratings of 4, 5 or 6 Stars. Information about Green Star is available from www.gbca.org.au/green-star.

The Green Star certification system was developed and is administered by the Green Building Council of Australia, a not-for-profit organisation.

4.4. Landscape Plans

All design work is to be undertaken to a level consistent with industry best practice and must meet the following requirements as a minimum. The degree of detail is to be relevant and appropriate to the scale of the development. The name, qualifications and membership details of the person or company preparing the plans is to be shown on each plan.

4.4.1. Landscape Site Analysis Plan

The purpose of a Landscape Site Analysis Plan is to ensure that key site planning issues are identified and are a part of the design process. For category 2 and 3 developments (see the Landscape Design Section of this Plan), the details of the site analysis are best depicted on a separate plan. In the case of category 1 proposals, this information can form part of the Landscape Concept Plan.

It is not sufficient to prepare a Landscape Site Analysis Plan and then ignore it during the design process. The Landscape Site Analysis Plan will have identified the opportunities and constraints of a particular site and the relevant surrounding area. The purpose of the Landscape Site Analysis Plan is to inform the design process. Some of the information will also form the basis for preparing management plans for vegetation, erosion and sedimentation control, stormwater and waste.

The following indicates the sort of information to be collected and presented in the Landscape Site Analysis Plan depending upon the site and the complexity of the proposal. Figure F3.1 provides an example.

1. Site survey

a) Identifies the lot and its boundaries.

2. Plan information

a) Scale of plan at 1:100 or 1:200 (use ONLY these scales) plus bar scale.
b) North point.

c) Name and qualifications of person preparing Landscape Site Analysis Plan.

3. Existing site features

a) Location and uses of any existing buildings and structures on the site showing those to be removed and retained.

b) Location and height of walls and fences built to the boundary.

c) Heavily shaded areas from existing structures, mature trees or dominant landform, such as rock ledges.

d) Archaeological and heritage sites.

e) Any easements and rights-of-way and their restrictions.

4. Services

a) Location of existing overhead and underground utility services (electricity, gas, telephone, water, sewer and stormwater drainage lines, inlets and collection points).

5. Use of adjacent land

a) Location and uses of adjacent buildings and vegetation.

b) Ridge levels and floor levels of adjacent buildings.

c) Potential for overlooking into and from window openings in walls adjacent to the development site.

d) Potential for shading on adjacent properties.

e) Streetscape features and character (e.g. street trees, poles, kerb crossovers, bus stops) and street trees

6. Landform

a) Height contours at regular intervals (and any relevant road benchmark) and areas of steep slope (20% or more).

b) Existing natural features (e.g. cliffs, rock outcrops).

c) Orientation of site (e.g. south-facing slope).

7. Soils

a) Depth of topsoil and subsoil.

b) pH (the level of soil acidity affects its performance).

c) Condition - fertility, whether it has been compacted, cut or filled.

d) Erosion problems, contamination or salinity.

8. Plants

a) Existing established individual or stands of trees and vegetation with their height and spread, condition and common/botanical name – particularly note any trees listed as "Significant".

b) Existing ground levels around the base of trees.

c) Extent and name of any weed infestation.

d) Plants proposed to be removed.

e) Plants proposed to be protected and retained.

9. Wildlife

a) Any habitats on the site and nearby land.

b) Fauna habitat possibilities (e.g. niches in rockeries, ponds for frogs, habitat plants (nectar for small birds)).

10. Climate

a) Directions of pleasant and unpleasant summer and winter winds.

b) Windbreaks and their likely permanence.

c) Frost pockets.

d) Shady areas.

e) Direction and extremity of bushfire threat.

11. Water

a) Sources of water flowing on to the site and the general quality of that water.

b) Drainage patterns on the site, areas of concentrated runoff, ponding, possible flooding.

c) Adjoining riparian zone, if within 40 metres of a waterway.

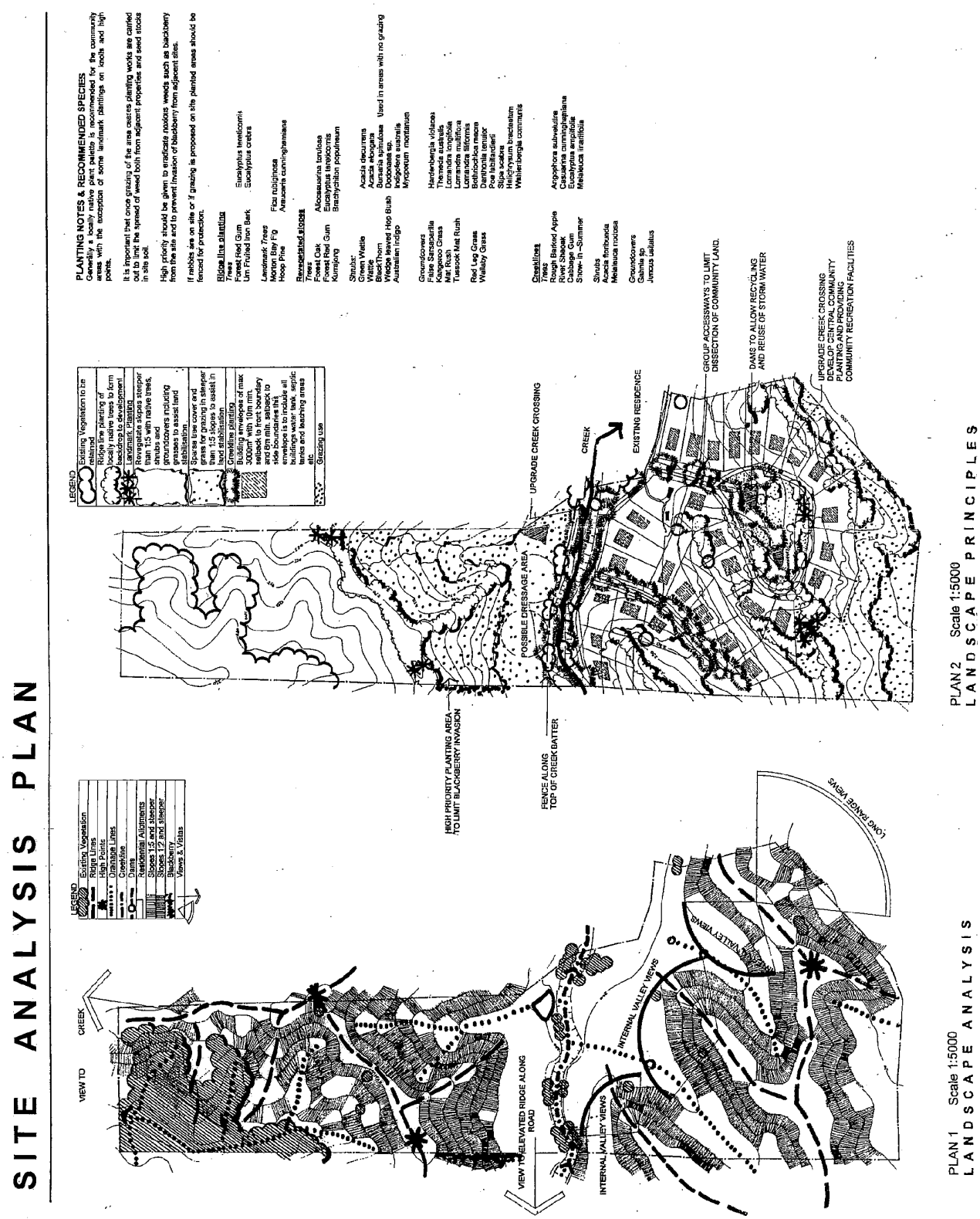
d) Characteristics of the drainage system immediately downstream of the site (e.g. bushland creek or a constructed stormwater drainage channel).

12. Views and vistas

a) Good and unsightly views into and from the site.

b) Qualities of the site that are important in the view to and from the site (e.g. major trees).

Figure F3.1


SITE ANALYSIS PLAN
LEGEND
Existing Vegetation
Ridge Lines
High Points
Drainage Lines
Creekline
Dams
Residential Allotments
Slopes 1:5 and steeper
Slopes 1:2 and steeper
Blackberry
Views & Vistas
VIEW TO CREEK
VIEW TO ELEVATED RIDGE ALONG ROAD
INTERNAL VALLEY VIEWS
LONG RANGE VIEWS
HIGH PRIORITY PLANTING AREA TO LIMIT BLACKBERRY INVASION
FENCE ALONG TOP OF CREEK BATTER
PLAN 1 Scale 1:5000
LANDSCAPE ANALYSIS
LEGEND
Existing Vegetation to be retained
Ridge line planting of locally native trees to form backdrop to development
Landmark Planting
Revegetate slopes steeper than 1:5 with native trees, shrubs and groundcovers including grasses to assist land stabilisation
Sparse low cover and grass for grazing in steeper than 1:5 slopes to assist in land stabilisation
Creekline planting
Building envelopes of max 300m² with 10m min. setback to front boundary and 6m min. setback to side boundaries that envelope is to include all buildings and effluent septic tanks and leaching areas etc
Grazing Use
PLANTING NOTES & RECOMMENDED SPECIES
Generally a locally native plant palette is recommended for the community areas with the exception of some landmark plantings on knolls and high points.
It is important that once grazing of the area ceases planting works are carried out to limit the spread of weed both from adjacent properties and seed stocks in site soil.
High priority should be given to eradicate noxious weeds such as blackberry from the site and to prevent invasion of blackberry from adjacent sites.
If rabbits are on site or if grazing is proposed on the planted areas should be fenced for protection.
Ridge line planting
Trees
Forest Red Gum Eucalyptus tereticornis
Um Fruited Iron Bark Eucalyptus crebra
Landmark Trees
Moreton Bay Fig Ficus rubiginosa
Hoop Pine Araucaria cunninghamiana
Revegetated slopes
Trees
Forest Oak Allocasuarina torulosa
Forest Red Gum Eucalyptus tereticornis
Kurrajong Brachychiton populneum
Shrubs:
Green Wattle Acacia decurrens
Wattle Acacia elongata
Black Thorn Bursaria spinosa Used in areas with no grazing
Wedge leaved Hop Bush Dodonaea sp.
Australian Indigo Indigofera australis
Myoporum montanum
Groundcovers
False Sarsaparilla Hardenbergia violacea
Kangaroo Grass Themeda australis
Wiri Rush Lomandra longifolia
Tussock Mat Rush Lomandra multiflora
Lomandra filiformis
Red Leg Grass Bothriochloa macra
Wallaby Grass Danthonia tenuior
Poa labillardieri
Rice sedge
Microlaena stipoides
Wahlenbergia communis
Creeklines
Trees
Rough Barked Apple Angophora subvelutina
River Sheoak Casuarina cunninghamiana
Cabbage Gum Eucalyptus amplifolia
Show- in -Summer Melaleuca linariifolia
Shrubs
Acacia fimbriata
Melaleuca nodosa
Groundcovers
Gahnia sp.
Juncus usitatus
UPGRADE CREEK CROSSING
POSSIBLE DRESSAGE AREA
CREEK
EXISTING RESIDENCE
GROUP ACCESSWAYS TO LIMIT DISSECTION OF COMMUNITY LAND.
DAMS TO ALLOW RECYCLING AND REUSE OF STORM WATER
UPGRADE CREEK CROSSING
DEVELOP CENTRAL COMMUNITY PLANTING AND PROVIDING COMMUNITY RECREATION FACILITIES
PLAN 2 Scale 1:5000
LANDSCAPE PRINCIPLES

4.4.2. Landscape Concept Plan

A Landscape Concept Plan is required for all category 2 and 3 developments and may also be required for some category 1 developments. It should express the developer's intent and ideas, and show how the proposed landscaping relates to the characteristics of the site and its setting.

The following information should be provided in the Landscape Concept Plan:

a) A statement summarising the vision or concept of the design, existing and proposed character, relevant issues identified in the site analysis and other reports, and how the design responds to those issues for example heritage and access issues.

b) All proposed areas to be landscaped including balconies, roof gardens, courtyards. Show general landscape materials, finishes and treatments (e.g. massed planting beds, specimen trees, paving, gravel, turf, water element, lighting, signage). Include notations linked to specific parts of the plan to explain purpose, function and character.

c) Hard and soft landscaped areas showing contours, spot heights and finished levels, including retaining walls and fencing heights, types and colours.

d) Existing trees to be retained including surveyed spot height at the base of the trunk, and numbered where relevant according with the arborist report. Also include the extent of tree protection zones and measures on the plan (refer to AS4970 Protection of Trees on Development Sites).

e) Broad descriptions of proposed land modelling and areas of cut and fill. The plan must demonstrate that any proposed changes of level will not have an adverse effect on the plants and natural features to be retained.

f) Description of landscape values being promoted (e.g. bushland habitat, temperature moderation, reduce runoff and increase infiltration, heritage, streetscape compatibility, etc.).

g) Indicative planting scheme that includes an indicative schedule of tree, shrub and groundcover species to be used (include botanical and common name, mature height, spread of foliage and container size). Any species nominated for street trees should be listed separately.

h) Specification notes for maintenance works (watering, weeding and fertilising of plants for successful establishment) including the proposed duration of the plant establishment period. Also proposed maintenance activities that will affect the appearance of plants such as hedging.

i) Accessibility and universal design statement for open space areas, including compliance with relevant Australian Standards, seating types (including armrests and backs), ramps, kerb ramps etc.

j) Existing trees that adjoin the site or may be affected by the development including existing trees to be removed.

k) Landscape details (including cross sections and elevations) to indicate changes in level, walls, depth of planting media, preliminary construction details or any key components.

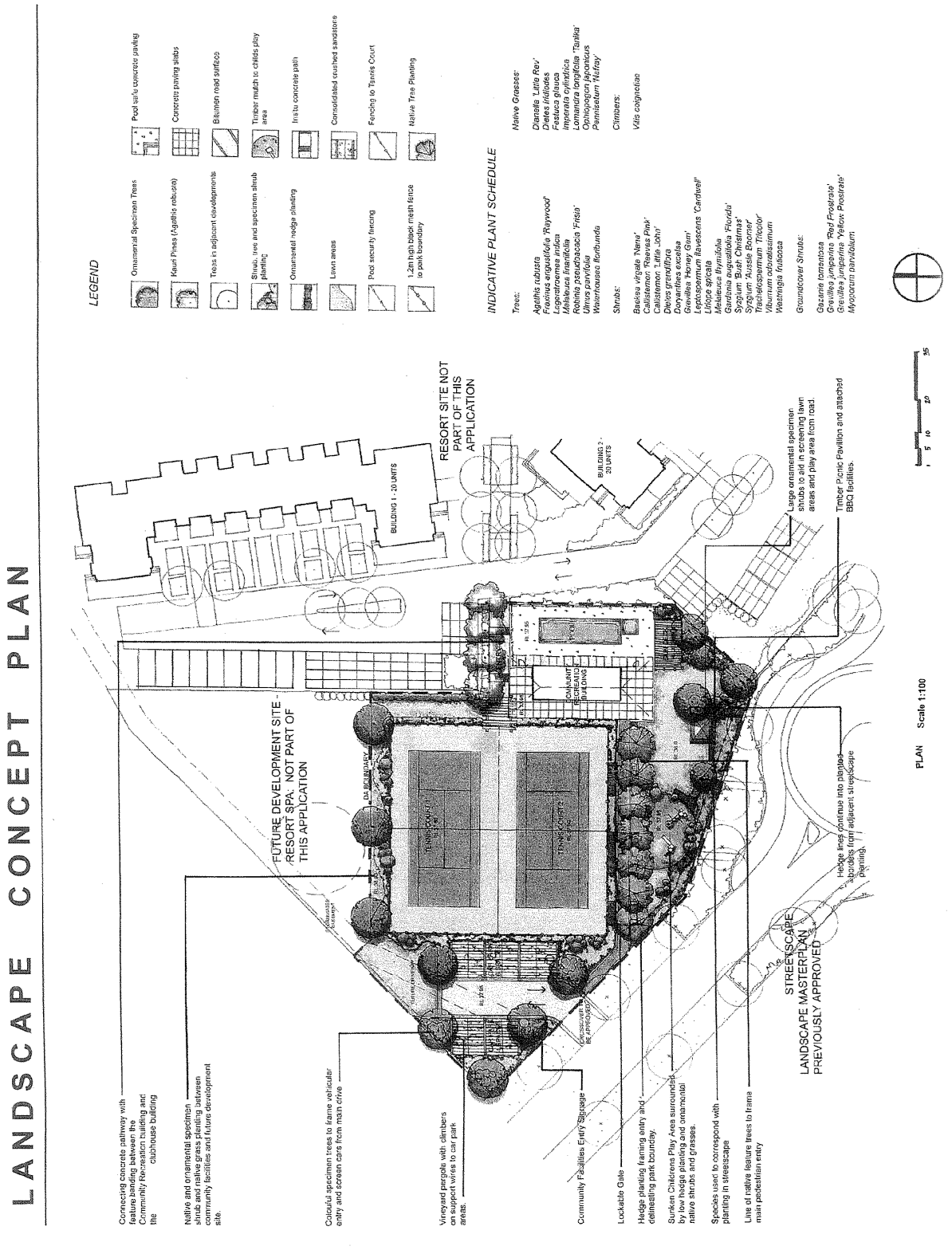
l) Replacement strategy for failures in plant materials and built works.

m) Erosion and sediment control details may need to be included depending upon the scale of the works.

n) Submit any other related plans for the context eg. masterplans, precinct plans with other stages, circulation networks.

An example of a Landscape Concept Plan is included in Figure F3.2. Elevations and sections are recommended to illustrate design intent.

Figure F3.2


LANDSCAPE CONCEPT PLAN
LEGEND
Ornamental Specimen Trees
Pool safe concrete paving
Kauri Pines (Agathis robusta)
Concrete paving slabs
Trees in adjacent developments
Bitumen road surface
Shrub, tree and specimen shrub planting
Timber mulch to childs play area
Ornamental hedge planting
In-situ concrete path
Lawn areas
Consolidated crushed sandstone
Pool security fencing
Fencing to Tennis Court
1.2m high black mesh fence to park boundary
Native Tree Planting
INDICATIVE PLANT SCHEDULE
Trees:
Agathis robusta
Fraxinus angustifolia 'Raywood'
Lagerstroemea indica
Melaleuca linariifolia
Robinia pseudoacacia 'Frisia'
Ulmus parvifolia
Waterhousea floribunda
Shrubs:
Baeckea virgate 'Nana'
Callistemon 'Reeves Pink'
Callistemon 'Little John'
Dietes grandiflora
Doryanthes excelsa
Grevillea 'Honey Gem'
Leptospermum laevigatum 'Cardwell'
Lirope spicata
Melaleuca thymifolia
Gardenia augustifolia 'Florida'
Syzygium 'Bush Christmas'
Syzygium 'Aussie Boomer'
Trachelospermum Tricolor
Viburnum odoratissimum
Westringia fruticosa
Groundcover Shrubs:
Gazania tomentosa
Grevillea juniperina 'Red Prostrate'
Grevillea juniperina 'Yellow Prostrate'
Myoporum parvifolium
Native Grasses:
Dianella 'Little Rev'
Dietes iridiodes
Festuca glauca
Imperata cylindrica
Lomandra longifolia 'Tanika'
Ophiopogon japonicus
Pennisetum 'Rubrey'
Climbers:
Vitis coignetiae
FUTURE DEVELOPMENT SITE - RESORT SPA: NOT PART OF THIS APPLICATION
RESORT SITE NOT PART OF THIS APPLICATION
BUILDING 1 - 20 UNITS
BUILDING 2 - 20 UNITS
TENNIS COURT 1
TENNIS COURT 2
COMMUNITY RECREATION BUILDING
POOL
Connecting concrete pathway with feature banding between the Community Recreation building and the clubhouse building
Native and ornamental specimen shrub and native grass planting between community facilities and future development site.
Colorful specimen trees to frame vehicular entry and screen cars from main drive
Vineyard pergola with climbers on support wires to car park areas.
Community Facilities Entry Signage
Lockable Gate
Hedge planting framing entry and delineating park boundary.
Sunken Childrens Play Area surrounded by low hedge planting and ornamental native shrubs and grasses.
Species used to correspond with planting in streetscape
Line of native feature trees to frame main pedestrian entry
STREETSCAPE LANDSCAPE MASTERPLAN PREVIOUSLY APPROVED
Hedge lines continue into plantings boarders from adjacent streetscape planting
Large ornamental specimen shrubs to aid in screening lawn areas and play area from road.
Timber Picnic Pavilion and attached BBQ facilities.
PLAN Scale 1:100
1 5 10 20 35

4.4.3. Landscape Detail Plan

A Landscape Detail Plan is required for all Category 3 developments and may be required for some category 2 developments. When Council requires a Landscape Detail Plan the documentation is to be concise and detailed, suitable for tendering. The Landscape Detail Plan must be consistent with the Landscape Concept Plan approved as part of the development consent. For smaller developments, it may be appropriate for the Landscape Concept Plan to be combined with the Landscape Detail Plan.

All requirements listed to be shown on the Landscape Concept Plan, a Landscape Detail Plan should provide information on the following:

1. Site layout

a) Details for special treatments (e.g. weed eradication, creek banks, mounding, roof gardens, extent or edge basement). Clearly define deepsoil and podium areas.

b) Location of utility areas and screening details (e.g. garbage receptacle area, storage of recyclable waste, clothes drying area, letter boxes, play areas, common open space, staff recreation areas).

c) Location and details of lighting and other outdoor fixtures (e.g. signs, furniture including street lighting and power poles).

2. Built structures

a) Existing and proposed buildings and other structures (including finished levels and floor heights) including play equipment.

b) Roadways, driveways, car parks, podiums and footpaths (including materials and finished levels). Particular attention should be paid to any areas proposed to meet Australian Standards on Disability Access.

c) Existing and proposed walls, fences, gates and retaining walls (including materials, heights, colours and finished levels).

d) Overshadowing caused by proposed built structures on existing site features and on adjacent land.

3. Plant selection

a) Planting layout plan showing location of species and dimensions at maturity, including street trees, trees on adjacent properties, trees on site, shrubs, groundcovers, turf, etc.

b) Planting schedule with botanical and common names, whether evergreen or deciduous and local/native/exotic species, container size, quantities, dimensions at maturity, spacing and staking and tying requirements for all species nominated.

c) Schedule listing botanical and common names of trees to be removed, and trees to be retained.

4. Construction details

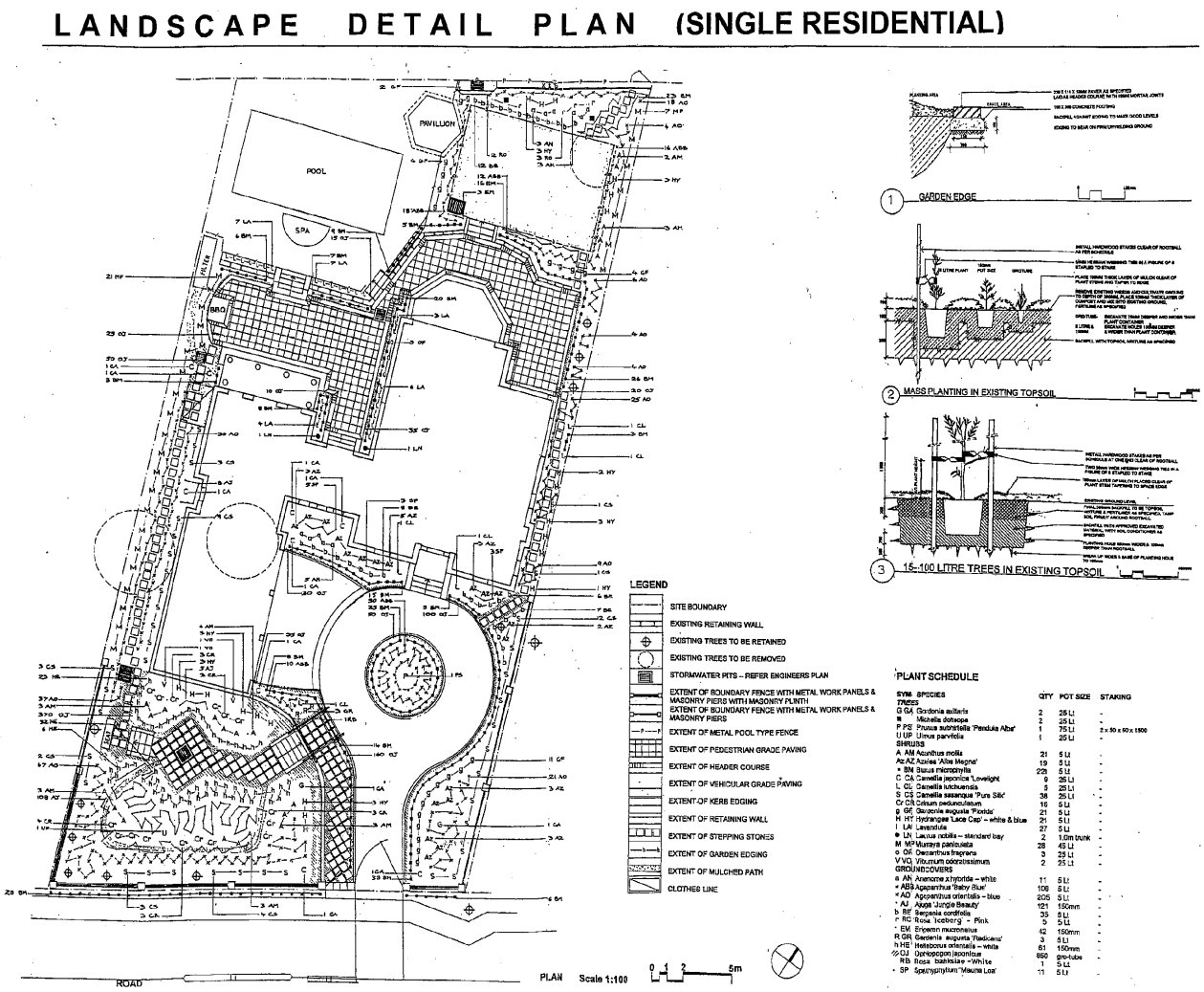
a) Standard construction and detail drawings (e.g. sections through mass planting beds, tree planting, paths, steps, retaining walls and fencing).

b) Detailing and location of all edge treatments (e.g. concrete, brick, timber).

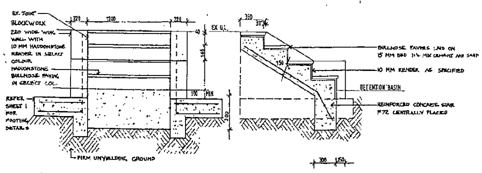
c) Any non-standard construction details to demonstrate how the design would be implemented.

Examples of Landscape Detail Plans are included in Figures F3.3 – F3.5.

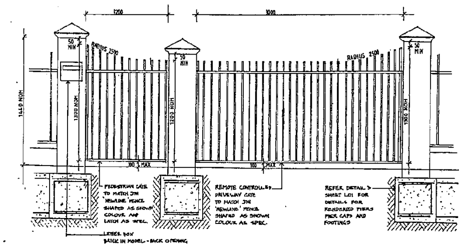
Figure F3.3: Landscape Detail Plan (Single Residential)



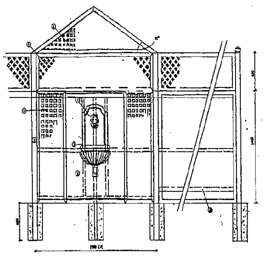
LANDSCAPE DETAIL PLAN CONTINUED (SINGLE RESIDENTIAL)



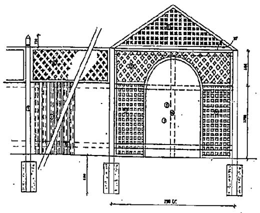
1 STAIRS FRONT GARDEN-ELEVATION & SECTION SCALE 1:20



2 ENTRY GATES-ELEVATION SCALE 1:20



3 FENCE AND DETAIL TO POOL AREA



4 TIMBER FENCE AND DETAIL EASTERN BOUNDARY

NOTE – ALL FENCING TO HAVE PAINTED FINISH
AS SPEC. COLOURS TO SCHEDULE BY ARCHITECT

BLOCKWORK NOTES

B1. MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH ALL RELEVANT S.A.A STANDARDS AND CODES OF PRACTICE.

B2. CONCRETE BLOCKS SHALL BE CATEGORY 'C' GRADE 12, DOUBLE 'U' BLOCKS, AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH ON NET AREA OF 12 MPa. (REFER TABLE 3 - AS1500). OBTAIN EVIDENCE OF COMPLIANCE.

B3. CEMENT MORTAR SHALL CONSIST OF 1 PART CEMENT: 1/2 PART LIME, 4 1/2 PARTS SAND AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 5.5 MPa AT 28 DAYS (REFER TABLE A1 - AS1475).

B4. CHEMICAL ADDITIVES, OR BLENDED SAND SHALL NOT BE USED IN THE MORTAR WITHOUT THE APPROVAL OF THE SUPERINTENDENT.

B5. THICKNESS OF MORTAR BEDS SHALL NOT EXCEED 11mm. ALL MORTAR BED JOINTS SHALL BE FULLY BEDDED.

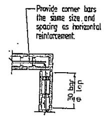
B6. PROVIDE CLEANOUT BLOCKS IN THE BOTTOM COURSE. CLOSE BEFORE GROUTING. REMOVE MORTAR FINS PROTRUDING INTO CORES.

B7. REINFORCEMENT SHALL BE POSITIONED ACCURATELY AND TIED SECURELY. VERTICAL BARS AND STARTER BARS ARE TO BE AS CLOSE TO BACK FACE OF WALL AS POSSIBLE, CONSISTENT WITH COVER REQUIREMENTS.

B8. CORES IN EACH BLOCK SHALL BE FILLED WITH GROUT HAVING A MINIMUM COMPRESSIVE STRENGTH OF 15 MPa AT 28 DAYS, 10mm MAXIMUM AGGREGATE, 230 ± 30mm SLUMP.

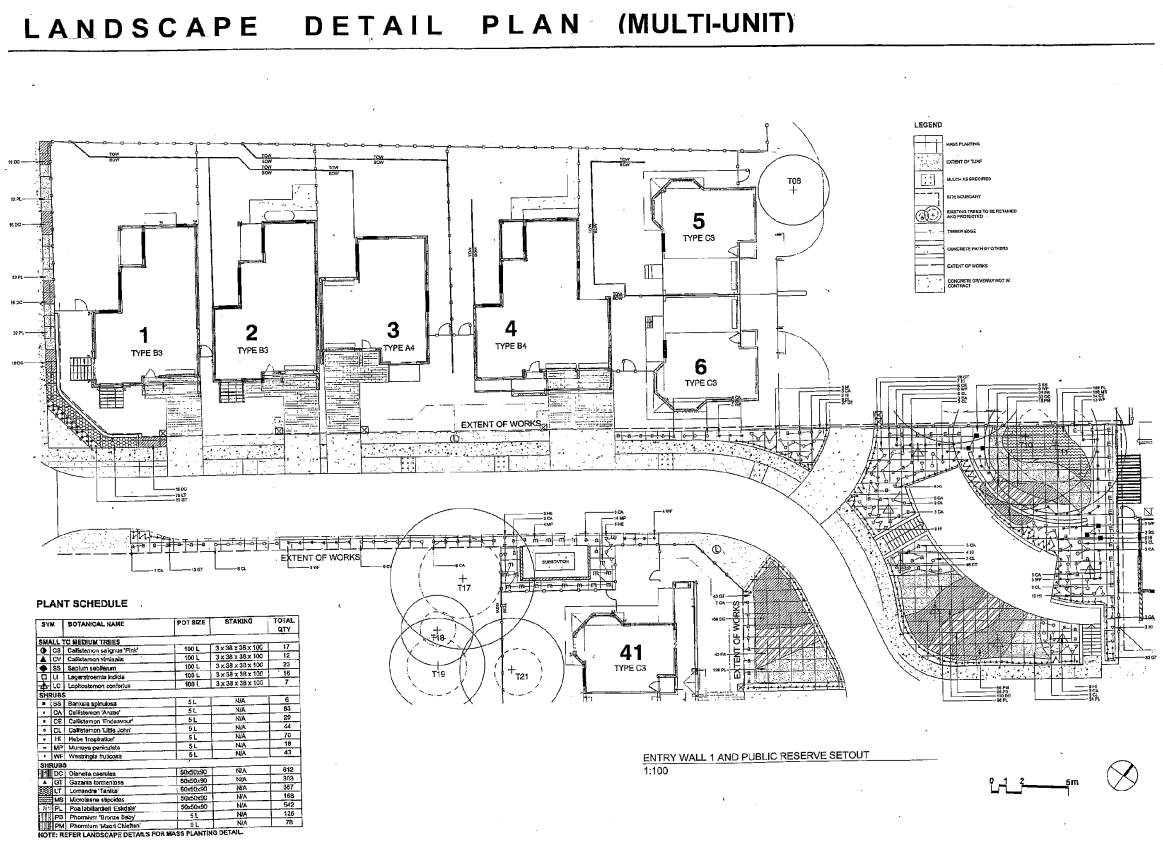
B9. GROUT IN CORES SHALL BE COMPACTED BY RODDING OR WITH A HIGH FREQUENCY FENCE VIBRATOR.

B10. GROUT POUR HEIGHT NOT TO EXCEED 2 METRES.



CORNER DETAIL
N.T.S.

Figure F3.4: Landscape Detail Plan (Multi-Unit)



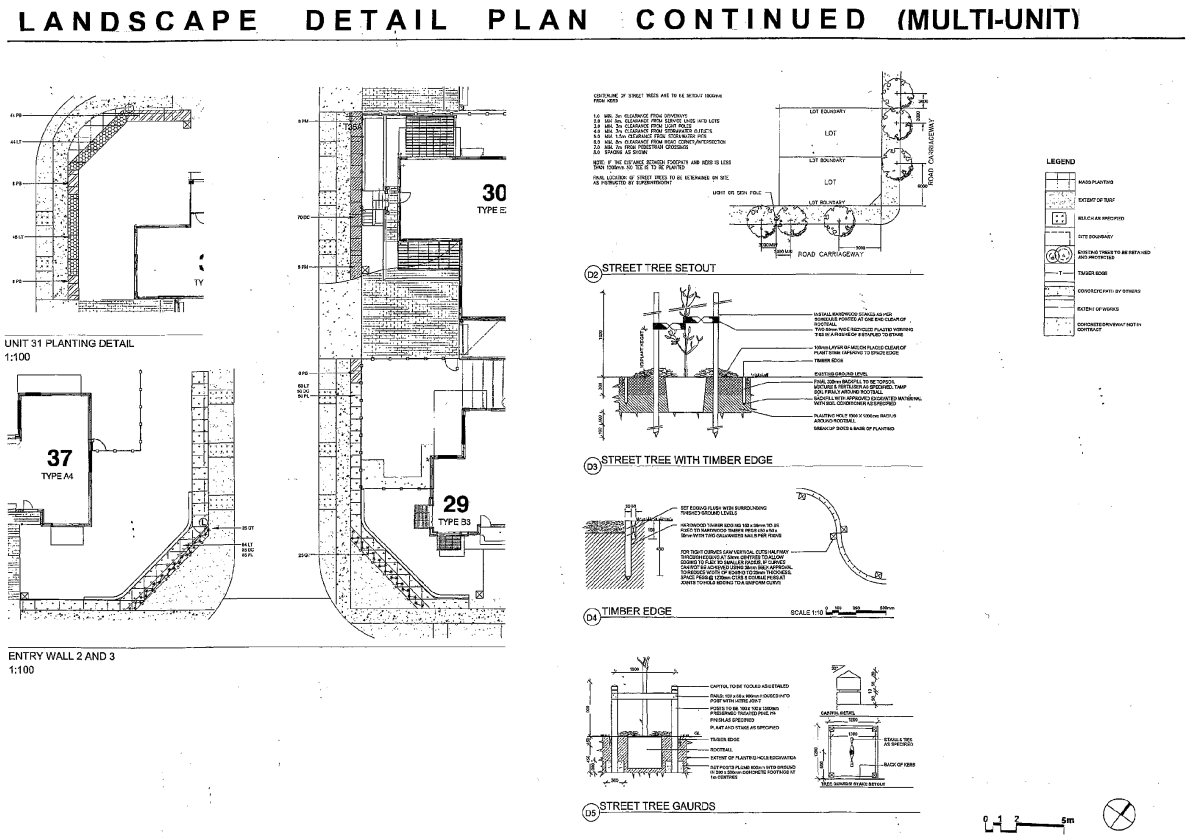
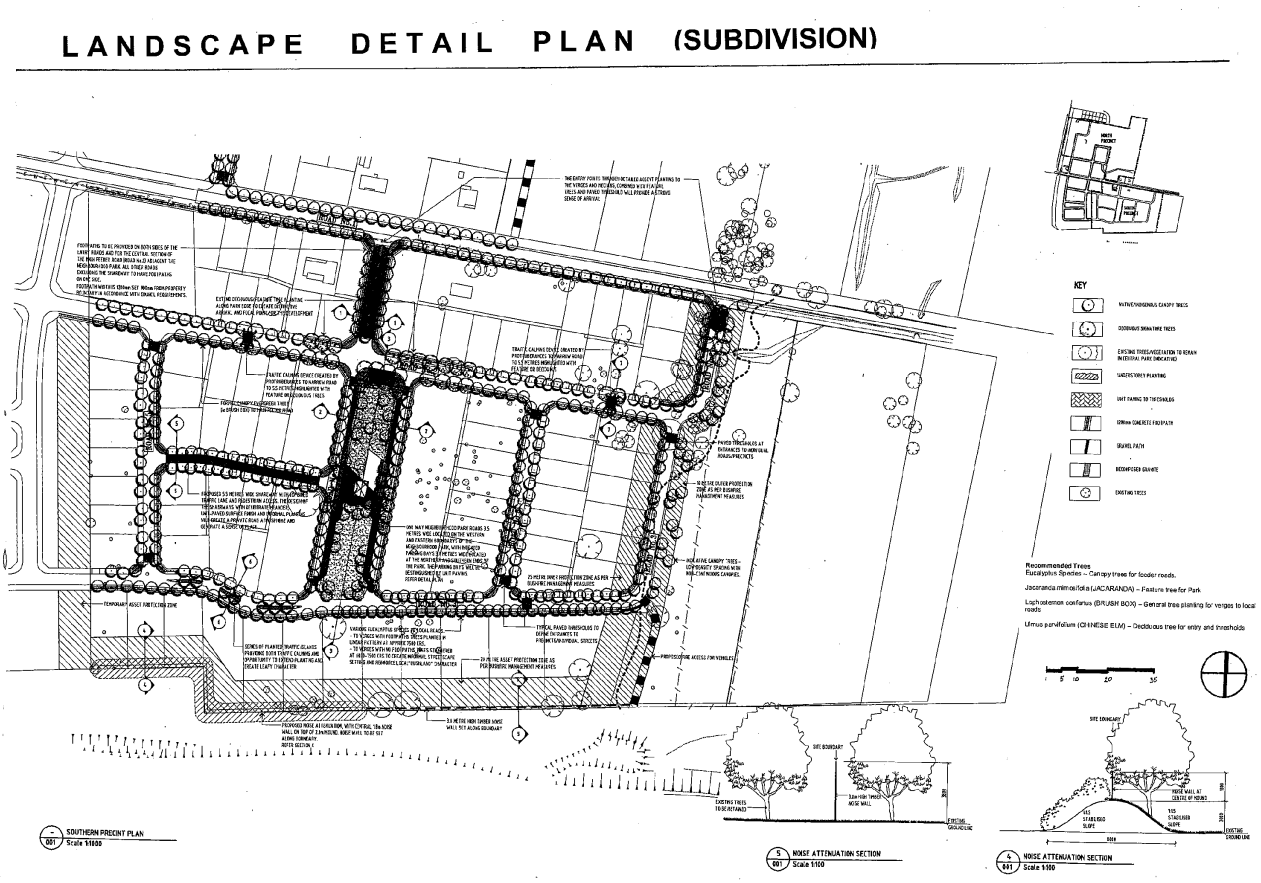


Figure F3.5: Landscape Detail Plan (Subdivision)



A maintenance manual is required to be provided (to City Parks specifications/requirements) for open space and public domain areas to be handed over to Council. This is usually provided at the construction certificate stage)

4.4.4. Landscape Implementation Report

When the landscape works associated with the consent are completed a Landscape Implementation Report is to be submitted to Council. This will provide written certification that:

a) The landscape works have been implemented substantially in accordance with the approved plans. Minor variations to the approved plans, such as small changes in plant quantities, are acceptable.

b) The landscape works have been implemented in accordance with the Landscape Design Section of this DCP.

c) The landscape works have been implemented in accordance with best practice industry standards.

d) A plant establishment period has been set, and its duration and name of contractor engaged to undertake the maintenance work.

No Occupation Certificate for the development will be issued prior to Council receiving this report. If Council is not the Principal Certifying Authority for the development, a copy of the Implementation Report is to be forwarded to Council.

4.4.5. Landscape Maintenance Report

Twelve months after the Principal Certifying Authority has issued an Occupation Certificate, a Landscape Maintenance Report is to be submitted to Council. This will provide written certification on whether the approved landscaping has been completed in accordance with the approved landscape plan and consent conditions. The Maintenance Report should also state whether the work has been completed in accordance with all relevant Australian Standards and that all plants are healthy with no evidence of die-back, stress, disease or loss.

4.4.6. Landscape 3 Year Landscaping Report

For larger and more visually significant developments, Council at its discretion may place a condition on the consent requiring that a report be provided to Council 3 years after the issuing of the Occupation Certificate. This report is to certify one of the following:

a) Landscaping has matured and is in accordance with the original landscape approval.

b) The landscaping has not matured in accordance with the original design philosophy and requires significant restoration. If this is the case, restoration plans are to be submitted to Council for approval and implemented at the expense of the property owners.

As a guide, developments that may have this condition placed upon the consent will generally be in visually significant locations or of a size that Council considers warrants ensuring that the landscaping is still thriving and in accordance with the original design philosophy.

4.5. Erosion and Sediment Control

An Erosion and Sediment Control Plan is required where any proposed land use or development activity involves:

a) The disturbance of the existing ground surface or placement of fill thereon, and/or result in a change to the shape of the land; and

b) Changes in the velocity and/or volume of water runoff entering directly or indirectly a natural waterbody, or flowing over the land.

4.5.1. Erosion and Sediment Control Plan

Erosion and Sediment Control Plans (ESCP) must include:

1) A drawing that clearly shows the site layout and, where appropriate, the approximate locations of best management practices and other matters listed in (2) and (3) below. Where these drawings are to scale, the scale should be at 1:500 or larger.

A narrative should accompany the drawing that describes how erosion control and soil and water management will be achieved on site, including ongoing maintenance of structures.

2) The following background information should be presented on the drawings(s):

   a) Location of site boundaries and adjoining roads;

   b) Approximate grades and indications of direction of fall;

   c) Approximate location of trees and other vegetation, showing items for removal or retention (consistent with any other plans attached to the application);

   d) Location of site access, proposed roads and other impervious areas (e.g. parking areas and site facilities);

   e) Existing and proposed drainage patterns with stormwater discharge points;

   f) North point and scale.

3) On the drawing or in a separate commentary, show how the various soil conservation measures will be carried out on site, including:

   a) Timing of works;

   b) Locations of areas where a protective ground cover will, as far as is practicable, be maintained;

   c) Access protection measures;

   d) Nature and extent of earthworks, including the amount of any cut and fill;

   e) Where applicable, the diversion of runoff from upslope lands around the disturbed areas;

   f) Location of all soil and other material stockpiles including topsoil storage, protection and reuse methodology;

   g) Location and type of proposed erosion and sediment control measures;

   h) Site rehabilitation proposals, including schedules;

   i) Frequency and nature of any maintenance program;

   j) Other site-specific soil or water conservation structures.

4.5.2. Additional Erosion and Sediment Control Measures for Large Sites

Where an application is for a site(s) over 2500m^2 and there will be substantial excavation, cut and/or fill, the applicant is required to include a number of additional measures in the Erosion and Sediment Control Plan:

1) Identify all areas likely to cause pollution of waterways from the transport of stormwater runoff containing sediment and silt, and implement appropriate devices to stop the risk of pollution.

2) Divert clean water around the construction site to prevent contamination.

3) Retain as much natural vegetation as possible and limit site disturbance.

4) Control stormwater that enters the construction site from upstream.

5) Divert stormwater from undisturbed upper slopes onto stable areas.

6) Retain and stockpile all excavated topsoil on site for future landscaping and to minimise risk of erosion.

7) Prevent sediment/silt from entering adjoining public or private property (especially drains) by installing sediment control devices at the low side of sites and wash down areas.

8) Provide a single, stabilised entry/exit point to the site.

9) Prevent sediment or building materials from reaching the road or Council's stormwater system. Remove sediment by sweeping, shovelling or sponging. Under no circumstances shall sediment be hosed.

10) Where a work zone permit over public property is applicable, ensure that appropriate debris control devices are implemented to prevent spillage of building materials into stormwater drains.

11) Compact all drainage lines when backfilling.

12) Connect downpipes to the stormwater system as early as possible.

13) Revegetate all disturbed areas, after on-site works are completed, in order to stabilise surface.

14) Maintain all sediment control devices during construction and earthworks to standards acceptable to Council.

4.6. Stormwater and Drainage

Relevant Stormwater Drainage Policy

Council has adopted the *Stormwater Drainage Specification for Building Developments.* This policy provides guidance to ensure ensure that stormwater drainage for building developments is designed to provide a robust, safe and low maintenance system to manage stormwater impacts on the drainage network and surrounding properties in a holistic manner that is incorporated aesthetically with the overall development.

This policy sets out the documentation that is required to be submitted to Council as part of the Development Application.

4.6.1. Drainage Plan

Where developments result in stormwater runoff, detailed stormwater management plans are required. The submission requirements are contained in Council's *Stormwater Drainage Specification for Building Developments.*

Stormwater design is an important consideration in planning a development and should be considered prior to determination of the final building layout and landscaping treatment.

A concept Stormwater Management Plan (SMP), prepared by a suitably qualified person shall be submitted with the Development Application. The SMP shall include a site drainage plan prepared in accordance with the checklist in Appendix A of Council's *Stormwater Drainage Specification for Building Developments.* The SMP shall also address Council's *Water Sensitive Urban Design Policy* and *Water Sensitive Urban Design Technical Guidelines.*

4.6.2. Stormwater and Drainage Report

A Stormwater and Drainage Report may be required for major development; or if the site is subject to flooding from adjacent or on site drainage channels; or if the site is affected by drainage constraints; or if the development proposes to divert a natural or artificial drainage line (including overland flow paths).

A Stormwater and Drainage Report must include:

1) A statement or justification as to why the proposed development is appropriate on flood prone land;

2) A survey of the site, with 1 metre contours;

3) A survey of the watercourse/drainage line (if applicable);

4) The estimated 1% Average Exceedance Probability flood level (or 1:100 ARI flood level); and

5) Demonstration that:

- The development will not increase the drainage flow to other properties;
- The quantity and velocity of runoff will not increase, post development; and
- The buildings are sited away from the impact of any drainage overflow.
- Further details are contained in Council's *Stormwater Drainage Specification for Building Developments.*

4.6.3. On Site Detention Systems

An On Site Detention Systems Report is required for developments as specified in Council's *Stormwater Drainage Specification for Building Developments*. The system must be designed by a suitably qualified civil engineer and address the requirements of the DCP and Council's *Stormwater Drainage Specification for Building Developments.*

4.6.4. Site and Soil Assessment Report

A Site and Soil Assessment Report is required to be submitted for a new domestic 'Aerated Wastewater Treatment System' (AWTS) when:

- The buffer distances as referred to in the controls in the On Site Sewage Management subsection of Infrastructure and Services section are not provided;

- A subdivision application is being considered;
- The AWTS is proposed within an identified high risk area; e.g. when site slope exceeds 20% (refer to table in the On Site Sewage Management provisions of the Infrastructure and Services Section of this Plan); or
- An on-site SMS already exists on the site and a second system is proposed.

A Site and Soil Assessment Report is required to be submitted for all other types of on-site SMS. Section 4 of the 'Environmental and Health Protection Guidelines - On Site Sewage Management for Single Households' and AS/NZS 1547:2000 should be used as a guide. A model Site and Soil Assessment Report is included in Council's On-site Sewage Management and Greywater Reuse Policy.

4.7. Waste Management

4.7.1. Waste Management Plans

Waste Management Plans are required for any application for demolition, construction or change of use of buildings for rural, residential, commercial or industrial development, or subdivision. This includes alterations or additions of over 50% of the existing buildings. Waste Management Plans are also required for applications for a Complying Development Certificate.

Waste Management Plans must provide details of:

a) The types and volumes of wastes and recyclables likely to be generated as a result of the development;

b) How waste and recyclables will be stored and treated on site;

c) How waste and recyclables are to be disposed of; and

d) How ongoing waste management will operate once the development is complete.

Table F3.5 provides an outline of the details required on these plans, which are to accompanying the development application.

Table F3.5

Proposed Development	Details Required on Plans
Demolition	Areas to be excavated On-site sorting and storage areas Access for vehicles

Proposed Development	Details Required on Plans
Construction	Areas to be excavated On-site sorting and storage areas Access for vehicles
Single Dwellings and Dual Occupancies	Location of waste storage and recycling areas
Multi-Unit Dwellings	Location and design for waste storage areas / facilities
Commercial Development	Location and design of waste storage areas / facilities Vehicular access
Industrial Development	Location and design of waste storage areas / facilities Vehicular access

4.7.2. Sample Waste Management Plans

The applicable sections of Tables F3.6 – F3.10 below must be completed and submitted with your development application for demolition, construction or use of a premise.

Table F3.6

OUTLINE OF THE PROPOSAL			
Site Address:	*162 Smith Street, Green Park*		
Name of Applicant:	*Joe Bloggs, Buildwell Construction*		
Address of Applicant:	*PO Box 101, Penrith NSW 2003*		
Phone:	*4732 1234*	Fax:	*4732 4321*
Buildings and other structures currently on the site:			
3 bedroom brick house, concrete slab and driveway, timber fencing			
Description of Proposal:			
Two storey commercial building (with offices), built with a metal frame and brick construction			
Applicant's Signature:		Date:	

Table F3.7: Demolition

Materials	**Destination**			
	Re-use and recycling		**Disposal**	
Material	Estimated Volume (m^2 or m^3)	ON SITE Specify proposed reuse or on-site recycling	OFF-SITE Specify contractor and recycling outlet	Specify Contractor and Landfill Site
Excavation Material	*200m^3*	*Re-use top soil for landscaping and behind retaining walls*		*Remainder to XY landfill by JKL waste contractors*
Green waste	*60 m^3*	*Separated – some chipped for landscaping*	*Remainder to XYZ Landscape Suppliers for re-use*	*Stumps and large trunks separated and to Deep Gully Land Fill by JKL Waste Contractor*
Bricks	*100 m^3*	*Clean and reuse lime mortar bricks for footings. Broken bricks for internal wall*	*Concrete mortar bricks to KLM Crushing and Recycling Company*	*NIL*
Concrete	*15 m^3*	*Existing driveway to remain during construction*	*KLM Crushing and Recycling Company*	*NIL*
Timber – what kind? *Hardwood*	*5 m^3*	*Re-use for formwork and studwork. Chip remainder for use in landscaping.*	*To stockpile at EFG Transfer Station, by JKL Waste Contractor*	*NIL*
Plasterboard	*3 m^3*	*Break up and use in landscaping*		*Remainder to XY landfill by JKL waste contractors*

Materials	**Destination**			
	Re-use and recycling		**Disposal**	
Material	Estimated Volume (m^2 or m^3)	ON SITE Specify proposed reuse or on-site recycling	OFF-SITE Specify contractor and recycling outlet	Specify Contractor and Landfill Site
Metals - What kind? *Aluminium*	*1 m^3*		*FGH Metal Recyclers*	*NIL*
Other *Tiles/ Doors/ Windows*	*5 m^3*	*Broken tiles used for access*	*S.T Second Hand Building Supplies*	*NIL*

Note: Details of on-site waste management should be provided on the plans accompanying your application (i.e. location of on-site storage areas / containers, vehicular access point, etc).

Table F3.8: Construction

Materials	**Destination**			
	Re-use and recycling		**Disposal**	
Material	Estimated Volume (m^2 or m^3)	ON SITE Specify proposed reuse or on-site recycling	OFF-SITE Specify contractor and recycling outlet	Specify Contractor and Landfill Site
Excavation Material		*See demolition section*		
Green waste		*See demolition section*		
Bricks	*2 m^3*		*KLM Crushing and Recycling* *Company*	*NIL*
Concrete	*5 m^3*		*KLM Crushing and Recycling* *Company*	*NIL*
Timber – what kind? *Hardwood*	*3 m^3*	*.*	*XYZ Landscape Suppliers for chipping and composting*	*NIL*
Plasterboard	*1 m^3*		*XYZ Landscape Suppliers*	*NIL*
Metals - What kind? *Aluminium*	*3 m^3*		*FGH Metal* *Recyclers*	
Other *Tiles/ Doors/* *Windows*	*1 m^3*			*Deep Gully landfill by JKL Waste Contractor*

Note: Details of on-site waste management should be provided on the plans accompanying your application (i.e. location of on-site storage areas / containers, vehicular access point, etc).

Table F3.9: Ongoing use of a premise

Type of Waste To be Generated	**Volume** (m^3 or litres per week)	**Proposed On-Site Storage and Treatment Facilities**	**Destination**
Recyclables • office paper • retail paper / cardboard • glass, aluminium, steel, and plastic containers • wooden pallets • printer cartridges • plastic crates • ferrous and non-ferrous metals • wood/timber • vehicle batteries **Liquid Waste** • cooking oils • sump oil **Organic Waste** • food organics • garden organics **Medical Waste** • syringes, sharps • bandages and any blood or body fluid contaminated products **Other Waste** • food scraps etc • non recyclable plastics (i.e. wrapping) • non-recyclable retail wastes including fabrics, ceramics and contaminated paper and cardboard	Refer to waste generation rates in Appendix F4 Technical Information	**Interim Storage** • separate storage bins for general waste and recyclables placed in strategic locations throughout the building (see location plan) • liquid wastes stored within sealed containers • all medical wastes stored in approved secured containers • garden organics removed by gardening contractor • food organics stored in water and vermin proof containers **Storage Prior to Collection** • central garbage and recycling bin storage bay/room for all users located adjacent to loading dock at rear of complex • shared garbage and recycling bin bays (residential units) provided in accordance with Councils requirements (see plans) • food and organic waste stored in refrigerated rooms if required • medical waste bins store in secure room or storage area • liquid waste and batteries stored in a suitably bunded area or location to secure accidental spillage • wooden pallets and plastic crates stored in loading dock area	**Collection and Processing** • dry recyclables collected weekly by ABC Contractors for processing at the Disy Recycling Plant Sydney • general waste collected twice weekly by Dump Contractors for delivery to the Government landfill site at Western Creek • medical waste collected weekly by Med Contractors for incineration at the local hospital • cooking oils and motor vehicle oils collected by Liquid Recyclers for reprocessing into liquid gold • food organics collected twice weekly by Food Processors for processing and recovery of energy • garden organics delivered to XYZ composting plant • wood and plastic crates collected by the distributor for reuse • scrap metals collected weekly by Ferrous Contractors for recycling at their Bathurst Plant

Type of Waste To be Generated	Volume (m^3 or litres per week)	Proposed On-Site Storage and Treatment Facilities	Destination

Note: Attach plans showing the location of waste storage and collection areas, and access routes for tenants and collection vehicles.

Table F3.10: Ongoing management of a premise

Describe how you intend to ensure the ongoing management of waste on-site
1. Interim waste storage areas and/or bins and communal waste storage areas and/or bins will be well signposted to ensure correct use.
2. Cleaning staff will be employed to transfer wastes and recyclables from the interim storage containers to the communal storage area and ensure that the storage bins and storage area is kept clean and in good order.
3. The company tenanting the premises will prepare an environmental management system addressing office and retail waste and recycling. This will include expectations and objectives for sorting and separating wastes.
4. An information kit will be provided to all tenants addressing office and retail wastes, their recycling requirements, and details of the location and operation of the waste storage area.
5. Waste audits will be conducted annually to determine waste output and to improve waste avoidance and resource recovery practices.

4.7.3. Waste Management Checklists

Checklist for Applicants

	Yes	No
Is the waste management plan completed?		
Are facilities available for the separation of wastes and recyclables?		
Has an area been allocated for the storage and collection of wastes?		
Are the waste storage and collection areas located so as to provide easy access for both occupants and collection services?		
Do your plans show details of on-site storage space for construction materials, waste materials and recyclables?		
Is the project planned to maximise the reuse of materials?		
Have arrangements been made for the ongoing management of waste?		

Checklist of Site Works

	Yes	No
Is the waste management plan acknowledged on-site?		
Are waste responsibilities clarified for all personnel and sub-contractors?		
Are works scheduled to minimise time between delivery and installation?		
Is the site planned and managed to minimise wastes?		
Have you arranged for the sale of recycled and salvaged materials?		
Are waste bins covered, sign-posted and properly used?		
Is site signage in place indicating environmental/waste commitment?		

4.8. Transport and Traffic Impact Assessments

4.8.1. Traffic Impact Statement

A Traffic Impact Statement is a simplified process of identification and assessment of relevant traffic impacts of a development. A Traffic Impact Statement may be required for any development proposal where traffic generation and impacts are minor, but have potential to adversely affect the surrounding areas. A Traffic Impact Statement may be prepared by anyone as long as it is of a suitable standard.

The information provided should reflect the size, type and location of the development as well as the relationship to surrounding developments and the adjacent transport network.

The following provides an outline of issues to be addressed in a Traffic Impact Statement:

a) Traffic generation/attraction and trip distribution of the proposed development;

b) Parking provisions appropriate to the development;

c) Impact on road safety;

d) Existing public transport services in the vicinity of the proposed development;

e) Impact of generated traffic on key adjacent intersections, streets in the neighbourhood of the development, the environment and other major traffic generating development sites in close proximity;

f) Existing parking supply and demand in the vicinity of the proposed development;

g) Safety and efficiency of access between the site and the adjacent road network;

h) Impact of traffic noise;

i) Peak period traffic volumes and congestion levels at key adjacent intersections;

j) Safety and efficiency of internal road layout, including service and parking areas;

k) Existing proposals for improvements to the adjacent road network and hierarchy;

l) AADT- annual average daily traffic. It is the estimated yearly total of traffic movements divided by 365; and

m) Volumes and historical trends on key adjacent roads.

4.8.2. Traffic Report

A Traffic Report is an intermediate level of investigation and assessment of relevant traffic impacts of a proposed development. Development proposals of a size or capacity detailed in Column 2 of Schedule 3 of *State Environmental Planning Policy (Infrastructure) 2007* must be accompanied by a Traffic Report. Council may also require a Traffic Report for other development proposals whose scale, nature or type has potential to impact on transport and traffic.

The Traffic Report must detail the assessed impact of projected pedestrian, cycle and vehicular traffic associated with the proposal and include recommendations as to the extent and nature of the traffic facilities necessary to preserve or improve the safety and efficiency of the adjacent road system, especially on major roads.

The requirements for Traffic Studies and Reports are detailed in the NSW Roads and Traffic Authority “Guide to Traffic Generating Developments.” The information provided should reflect the size, type and location of the development as well as the relationship to surrounding developments and the adjacent transport network. Reports should be prepared in accordance with the requirements of the “Guide to Traffic Generating Developments”, an outline of which is provided in Table F3.11.

Table F3.11: Key issues in preparing traffic impact studies

Procedures & Key Parameters	Source	Check✓
Brief description of the development		
Application and study process		
Introduction		
Background		
Scope of report		
The key issues and objectives of a traffic impact study		
General Data Collection / Existing Conditions		
Description of the Site and Proposed Activity		
Site location		
Current land use characteristics (zoning) of the proposed site and land use in the vicinity	Development Consent Authority	
Site access		
The Existing Traffic Conditions		
Road hierarchy; including the identification of the classified road network (major and minor roads) which may be affected by the development proposal	Council / RTA	
Inventory of road widths, road conditions, traffic management and parking control	Council / RTA and Survey	
Current and proposed roadworks, traffic management works and bikeways	Council / RTA	
Traffic Flows		

Table F3.11 cont.

Procedures & Key Parameters	Source	Check✓
Commuter parking provision	State Rail / Cityrail / Survey	
Pedestrian Network		
Identify major pedestrian routes	Survey	
Pedestrian flows and potential conflicts with vehicles, particularly where such conflicts cause capacity constraint on either vehicular or pedestrian movement	Survey	
Pedestrian infrastructure	Survey	
Proposed developments in the vicinity		
Proposed Development		
The Development		
Plan reference, if plans not contained in study report		
Nature of development		
Gross floor areas of each component of development		
Projected number of employees/users/residents		
Hours and days of operations		
Staging and timing of development		
Selection of appropriate design vehicles for determining access and circulation requirements	Section 6	
Access		
Driveway location, including review of alternative locations	Sections 5, 6	
Sight distance of driveways and comparisons with stopping and desirable minimum sight distances	Section 6	
Service vehicle access	Section 6	
Analysis of projected queuing at entrances	Section 6	
Current access to site and comparison with proposed access		
Provision for access to, and by, public transport	Section 6	

Table F3.11 cont.

Procedures & Key Parameters	Source	Check✓
Circulation		
Proposed pattern of circulation	Section 6	
Internal road widths	Section 6	
Provision for bus movements	Section 6	
Service area layout		
Parking		
Proposed supply		
Parking provision recommended by State Government policy	RTA / DUAP	
Council code and local parking policies and plans	Council	
Parking layout		
Projected peak demand, based where appropriate on similar research reports and on surveys of similar developments;	Section 5	
Parking for Service / courier vehicles and bicycles	Section 5	
Impact of Proposed Development		
Traffic generation during design periods		
Daily and seasonal factors		
Pedestrian generation and movements		
Traffic Distribution and Assignments		
Hourly distribution of trips		
Assignments of these trips to the road system based where possible on development feasibility studies or on origin/ destination surveys undertaken at similar developments in the areas		
Impact on Traffic Safety		
Assessment of Road Safety Impact		
Impact of Generated Traffic		
Daily traffic flows and composition on key streets and their expected effect on the environment particularly in residential areas		

Table F3.11 cont.

Procedures & Key Parameters	Source	Check✓
Peak period volumes at key intersections and effect of generated traffic on congestion levels	Survey	
Impact of construction traffic during construction stages		
Other proposed developments in the vicinity their timing and likely impact, if known		
Assessment of traffic noise		
Public Transport		
Options for extensions and changes to bus routes and bus stops following discussions with the STA and or private bus operators	STA / Private Operators	
Provision for pedestrian access to bus stops		
Recommended Works		
Improvements to site access and circulation		
Improvements to roads, signals, roundabouts and other traffic management measures		
Improvements to pedestrian facilities		
Effect of recommended works on the operation of adjacent developments		
Effect of recommended works on public transport services including access to bus routes and bus stops		
Provision of LATM measures		
Funding of proposed improvement projects		
Noise attenuation measures		

4.8.3. Transport Management and Accessibility Plan

A Transport Management and Accessibility Plan (TMAP) is required to be submitted for all major developments. A TMAP is a comprehensive assessment of the transport impacts of a major site development or re-development proposal. The TMAP must identify a package of appropriate transport measures (including infrastructure, services and demand management initiatives) for the proposed development, to manage the demand for travel to and from the development, and reduce the demand for travel by private car and commercial vehicles. This should include maximising opportunities for public transport, cycleways and pedestrian paths that link to existing or planned community, recreational and business services and facilities.

The TMAP must be prepared by a suitably qualified and experienced person. The NSW Department of Transport and Roads and Traffic Authority's "Draft Interim Guidelines on Transport Management and Accessibility Plans" provides information of the requirements of TMAPs. The following information is taken from this document to provide an overview of the requirements for a TMAP.

1) **Project Context**

a) Outline the strategic context; and

b) Set objectives and targets/performance criteria. Objectives and targets should include the objectives of this DCP, particularly the general objectives of C10 'Transport, Access and Parking', the specific objectives of the Transport and Land Use Section of this Plan and any other relevant section.

1) **Proposal**

a) Describe the proposed site;

b) Describe the proposed development/land use and the potential future land uses; and

c) Describe the current transport infrastructure context.

2) **Initial Transport Assessment**

a) Outline the technical assessment assumptions; and

b) Assess the existing travel patterns (including freight).

3) **Transport Assessment of Proposal**

a) Determine an initial estimate of travel demand (person trips, freight trips or both);

b) Estimate the distribution of generated trips between origins and destinations;

c) Estimate likely modal split (including freight);

d) Estimate the loads on transport infrastructure/services that serve the project study area;

e) Analyse capacity/amenity/government policy implications and determine if desired transport system performance criteria are met;

f) Identify feasible options (including transport and development design) to modify transport impacts; and

g) Test options to meet objectives and targets.

4) **TMAP and Agreement**

a) Identify appropriate measures, including infrastructure, services and policies; and

b) Check options against objectives and targets, and cost effectiveness and agree on preferred option package.

5) **Agreed Package**

a) Include consideration of funding, timing and evaluation.

6) **Review of TMAP and Agreement**

a) At the time of development application and at an appropriate interval.

4.9. Works to Trees and Vegetation

Where trees or vegetation are proposed to be ringbarked, cut down, topped, lopped, removed, injured or wilfully destroyed, an assessment of the impact of that work must be carried out. This assessment will vary in scale and complexity depending on the location and extent of the works and whether the site contains any threatened species, population, ecological community or its habitat. Applicants are advised to consult with Council's

Development Services Unit or Tree Management Officer regarding the form of application (Tree Pruning/Removal Application or Development Application) and the level of information required.

4.9.1. Tree Survey and Assessment Report

A Tree Survey and Assessment Report is the minimum level of information to be provided for works to any tree or vegetation. The Tree Survey and Assessment Report is to be provided for a Tree pruning/removal application. A Tree Survey and Assessment Report must address the following matters:

1) The location and type of tree(s) or vegetation;

2) Details of the proposed works and the reasons for the works;

3) The health and condition of the tree(s) or vegetation, including its structural soundness and the condition of the root zone;

4) The aesthetic, scientific and/or historic importance of the tree(s) or vegetation;

5) The impact of the proposed work on the appearance, health or stability of the tree(s) or vegetation and the general amenity of the surrounding area, including any effect on the streetscape;

6) In the case of an application to remove a tree(s) or vegetation, whether pruning would be a more practicable and desirable alternative;

7) The risk of personal injury;

8) The risk of damage to buildings, structures or services;

9) The extent of other trees and vegetation on the property;

10) Whether the tree(s) or vegetation is habitat, a source of food or shelter, or used by fauna.

4.9.2. Arboricultural Survey Report (or Arborist Report)

All existing vegetation on the site should be noted on the landscape site analysis plan and in the landscape submission to Council. This includes all existing trees, bushland and shrubs of any prominence or value. However, in the case of large and/or significant trees or shrubs, a separate report should be prepared by a qualified consulting arborist. This report should include an Arboriculture Survey to provide detailed information on the trees present. Full detail of trees to be removed, as well as trees proposed for retention, should be given.

The report is to be prepared by an arborist. Arborists Reports on existing trees and shrubs taller than 5m are to include the following information, where appropriate:

1) Allocated survey number (to correlate with survey plan and identify location within site);

2) Species name and common name;

3) Trees/shrubs to be retained;

4) Trees/shrubs to be removed due to the proposed development;

5) Trees/shrubs to be removed due to death or disease;

6) Estimated height (to aid on-site identification and assessment of significance);

7) DBH (Diameter at Breast Height – to indicate tree maturity and allow estimation of lateral root spread);

8) Canopy spread (to allow assessment of any requirement to prune or likely impact of overshadowing);

9) Health and/or condition status;

10) Recommended TPZ (Tree Protection Zone) for trees, which are to be retained, if applicable. This is the minimum distance from the centre of any tree at which development should commence;

11) All trees on adjoining properties that are within 3m of the boundary of the proposed development; and

12) Where the proposed development will have a significant impact upon the future health and suitability for retention of other large or significant trees located on adjacent properties, but which are further away than 3m, their existence is to be noted and appropriate recommendations provided for their management.

Where the consulting arborist chooses to apply further information, such as a SULE rating, or comparative suitability scale, Council will give this due weight in an assessment of an application.

Council, in assessing development applications where tree removal is included, will consider the following:

1) The contribution that the tree makes to the visual landscape that it sits within, including streetscape and distant views;

2) If trees are proposed to be removed, whether the proposed development can be modified to retain the tree/s; and

3) Whether there are any special construction requirements near to or adjacent to any trees proposed to be retained on the development site.

If there are significant trees on the site, which are being retained, Council may require that these trees be valued by a consulting arborist using the Thyer Method of valuation. If this is the case, this information is to be submitted to Council along with a copy of the Thyer Tree Valuation Work sheet for each tree or group of trees as a part of the Arboricultural Survey Report.

It should be noted that Council generally encourages the retention of trees on development sites and encourages development proposals to be designed so as to minimise the need for tree removal, while ensuring the health of the trees which are retained. Council will consider the removal of trees on development sites in the following instances:

1) The applicant can demonstrate that it is not possible to modify the development to allow retention of the tree/s as the proposed development will become economically unviable.

2) The applicant can demonstrate that the trees are of such a size and scale that, if they were to be retained, they would not be compatible with the development.

3) The applicant can demonstrate that the health of the trees warrants their removal as they are posing a hazard or threat.

4) The applicant can demonstrate that the safe useful life expectancy of the tree is minimal.

5) The applicant can demonstrate that the tree makes minimal contribution to the streetscape.

6) The applicant can demonstrate that the tree or trees make minimal contribution to the landscape amenity of the locality or neighbouring properties.

4.9.3 Tree Management Plan

Where trees are proposed to be or are required to be retained as a part of a development, the Arboricultural Survey Report should also provide a comprehensive Tree Management Plan.

The Tree Management Plan is to be in place PRIOR to commencement of any site works. Site works includes the demolition of existing structures or the entrance onto site of any machinery for excavation, demolition or large scale rubbish removal.

4.9.4. Flora and Fauna Assessment Report including a Seven Part Test

Where vegetation works are proposed to any indigenous vegetation, a Flora and Fauna Assessment Report will, in most cases, also be required. The Flora and Fauna Assessment Report must be undertaken by a suitably qualified and experienced person; i.e. a person with tertiary qualifications in ecology, zoology or botany; with a minimum of 5 years experience in undertaking flora and fauna surveys and assessments; with a demonstrated knowledge of the flora and fauna that occurs in the Penrith local government area; and possessing appropriate licences or approvals under relevant legislation.

The assessment and report must be undertaken and prepared in accordance with the following guidelines:

- *Threatened Species Assessment Guidelines – The Assessment of Significance for TSC Act* (DECCW (OEH) 2007)
- Threatened Species Survey and Assessment: Guidelines for developments and activities (working draft) (DEC, 2004)
- *Significant Impact Guidelines – Matters of National Environmental Significance for the EPBC Act* (Prepared by the Commonwealth Department of the Environment, Water, Heritage and the Arts, 2013).

The report must include as a minimum:

1) A written and mapped description of the plant and animal species present and their habitats;

2) A clear site plan showing, as a minimum, the proposed development and any associated APZ and Effluent Management Area, location of all vegetation and important site features, location of any vegetation to be removed.

3) A statement on whether any of the plant and animal species or their habitats are listed as threatened, endangered or vulnerable species or communities under the *Threatened Species Conservation Act 1995* and/or the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*;

4) A description of the proposed vegetation works and, if the works are to be undertaken as part of a proposed development, a description of the proposed development, including measures to mitigate adverse impacts;

5) An objective assessment to determine whether the proposed works and development are likely to significantly affect any threatened species, populations or ecological communities or their habitats. This assessment is required under section 5A of the *Environmental Planning and Assessment Act 1979*. Section 5A lists the factors that must be taken into account in making such a determination; and

6) Consideration of the likely impacts the proposed works or development may have on any potential use of the vegetation as a fauna movement corridor. Where relevant, consideration of the importance of any rural dams for fauna habitats. The location of any Asset Protection Zone or Effluent Management Area should also be considered by the assessment.

4.9.5. Species Impact Statement

A Species Impact Statement must be prepared by a suitably qualified and experienced person. It is required when Council has reviewed the flora and fauna assessment report and determined that the proposed works and/or proposed development are likely to have a significant effect on a threatened species, population or ecological community or its habitat. The species impact statement must be prepared in accordance with the requirements of the *Threatened Species Conservation Act 1995.* Before preparing a species impact statement, the requirements of the Office of Environment and Heritage and Council must be sought.

4.10. Bushfire Assessment Reports

Development applications on bush fire prone land must be accompanied by a Bush Fire Assessment Report. The Bush Fire Assessment Report must include all the information required by the Rural Fire Service's 2006 publication "Planning for Bush Fire Protection" (PBP).

4.11. Flood Study

A Flood Study will be required for any development on land which has been identified as fully or partially flood affected. A flood study must include:

1) A statement or justification as to why the proposed development is appropriate on flood prone land;

2) A survey of the site, with 1m contours;

3) A survey of the main watercourse (if applicable);

4) The estimated 1% Average Recurrence Interval (ARI) flood level;

5) Location of flood free access/egress, including spot points to demonstrate that the surface of the access is driveable in flood events;

6) Demonstration that:

a) The development will not increase the flood hazard or risk to other properties;

b) The structure of the proposed buildings will be adequate to deal with flooding situations;

c) The proposed building materials are suitable;

d) The buildings are sited in the optimum position to avoid flood waters and allow safe flood access for evacuation;

e) The proposed redevelopment will not expose any resident to unacceptable levels of risk, or any property to unreasonable damage; and

f) Any existing buildings comply with the Draft Flood Proofing Code.

Additionally, where filling of flood liable land is proposed, the Flood Study will need to demonstrate that:

a) Flood levels are not increased by more than 0.1m by the proposed filling;

b) Downstream velocities are not increased by more than 10% by the proposed filling;

c) Proposed filling does not redistribute flows by more than 15%;

d) The potential for cumulative effects of possible filling proposals in that area is minimal;

e) There are alternative opportunities for flood storage;

f) The development potential of surrounding properties is not adversely affected by the filling proposal;

g) The flood liability of buildings on surrounding properties is not increased; and

h) No local drainage flow/runoff problems are created by the filling.

The above criteria can only be addressed and satisfied by the submission of a detailed Flood Study by an appropriate consulting engineer. The Flood Study would involve both hydrologic and hydraulic analysis of the watercourse and the effects of the proposed filling on flood levels, flow velocities and distribution of flows.

4.12. Salinity Analysis

A Salinity Analysis is required if the site has been identified as subject to a salinity hazard, or if a preliminary investigation has indicated that the site is, or is likely to be, affected by salinity.

A Salinity Analysis must include:

- Results of the initial evaluation;

- Description of the landscape;
- Description of the soil profile;
- Soil chemical analyses;
- Soil aggressivity and sodicity (if relevant);
- The impact of the proposed development on the saline land or potentially saline land;
- The impact of the saline land or potentially saline land on the development; and
- A Remedial Action Plan, which details;
    i) The remediation objectives;
    ii) The process and standards by which the land will be remediated; and/or
    iii) Mitigation measures required during the course of construction;
    iv) Specific measures that will be undertaken to reduce the risk of salinity damage to property and structures.

Investigations and sampling for salinity are to be conducted in accordance with the requirements of "Site Investigations for Urban Salinity" (Department of Natural Resources).

The author of the Salinity Analysis must sign off on the project on completion of works and submit this to Council prior to an Occupation Certificate being issued, if required.

4.13. Visual Impact Assessment

New proposals on land identified in the LEP on the Scenic and Landscape Values Map or on land zoned E1 National Parks and Nature Reserves or E2 Environmental Conservation are required to submit a Visual Impact Assessment (VIA) with their development application. Depending on the nature of the development, the VIA is to be prepared by either the designer of the development or a suitably experienced and qualified professional.

Visual Impact Assessment Type 1 (VIA 1)

The following information is to be submitted when undertaking a VIA for Category 1 development:

1) Describe the existing visual landscape character of the site and surroundings, taking into consideration existing features such as: the natural landscape (e.g. ridgelines, hillsides, slopes, watercourses and vegetation); the built form (e.g. buildings and structures, roads and other infrastructure); and land use patterns (e.g. in rural areas, existing agricultural patterns and scale). Refer to Penrith City Council's "Landscape Character Strategy" (2006).
2) Provide ground level photographs confirming the scenic prominence of the site and surrounding locality relative to public vantage points. Provide a map to indicate the location from where the photograph is taken and an arrow indicating the direction it was taken.

3) Identify the visual impacts and list the mitigation measures employed to reduce the visual impact of the development.
4) Superimpose a sketch of all components of the development (e.g. buildings, fences, driveways, dams and signage), as well as all mitigation measures (e.g. mature vegetation, colours and screens) onto at least three photo images taken from relevant viewpoints, to illustrate the appearance of the final development.

Visual Impact Assessment Type 2 (VIA 2)

The following information is to be submitted when undertaking a VIA for Category 2 development:

1) Baseline Study – Describe and map the existing visual landscape character and determine the objectives for managing visual landscape character. Refer to Penrith City Council's "Landscape Character Strategy" (2006). Describe and map the site and surroundings, taking into consideration existing features such as: the natural landscape (e.g. ridgelines, hillsides, slopes, watercourses and vegetation); the built form (e.g. buildings and structures, roads and other infrastructure); and land use patterns (e.g. in rural areas, existing agricultural patterns and scale).

2) Describe the proposed development:

   a) Analyse, describe and illustrate the main visual components of the proposed development, particularly elements likely to be visible;

   b) Describe what different development options (e.g. siting options, different building designs (including orientation, form, colours and materials) and landscape designs) have been considered;

   c) Provide plans showing locations and the extent of major visual features. Include elevations of buildings and other major structures, showing elements such as height, colours and proposed materials; and

   d) Where appropriate, include a projected timeline describing changes to the proposed development over a period of time.

3) Identify and evaluate the potential visual impacts:

   a) Identify the views and likely viewers affected;

   b) Identify and describe the likely changes to the visual landscape character and views; and

   c) Evaluate the impacts showing the relationship between 'sensitivity' of the affected landscape (the extent to which the landscape is able to accommodate the type and scale of development without adverse effect on character or value) and 'magnitude' of the impact (a combination of extent, scale and duration of any impact).

4) Demonstrate visual mitigation measures:

   a) Determine whether or not the proposed development meets the objectives for managing visual landscape character established in step a) above;

   b) Identify measures that reduce the negative impacts and facilitate the positive impacts (e.g. layout; choice of site level; reduced proportions; reflectivity of colour of materials;

articulation; extent of cut and fill; visual buffers; and extent of vegetation removed and retained); and

c) Demonstrate a commitment to implementation of the measures and, where relevant, submit a contingency plan should mitigation not be successful.

5) Provide a diagrammatic 'summary drawing' to show how all mitigation measures work together in response to the development.

Submission Material for VIA 1 and 2

Appropriate information should be submitted to support the visual impact assessment and may include:

a) Succinct and understandable text;

b) Illustrations that are closely linked to the text, including annotated maps, plans, overlays and photographs;

c) Aerial photographs showing the site and surroundings, predominant patterns of land use, buildings, vegetation and gardens;

d) Ground level photographs confirming the scenic prominence of the site and surrounding locality relative to public vantage points. Care should be taken in selecting viewpoints and the focal length of camera settings, so as to represent what the eye sees and not mislead interpretation. Panoramic views are best presented as a sequence of such photographs rather than a wide angle photo. A map should be provided to indicate the location from where the photograph is taken and an arrow indicating the direction it was taken;

e) Measured surveys describing topography and natural features, and locating structures and services;

f) Charts and tables to convey complex information and allow comparisons to be made (e.g. landscape data, impact magnitude and significance);

g) Visualisations such as photo montages, video representations, 3D computer-generated models, with viewpoints selected with care;

h) Specialist reports, such as an architectural concept report or a landscape concept plan.

Council may request additional specific information to assess the ability of a proposal to address the principles for protecting areas with scenic and landscape values, depending on the specific circumstances of the proposal and the site.

4.14. Heritage

4.14.1. Heritage Impact Statements

As a minimum, the following issues must be addressed in a Heritage Impact Statement:

1) **For development that would affect a heritage item:**

a) The heritage significance of the item as part of the environmental heritage of Penrith;

b) The impact that the proposed development will have on the heritage significance of the item and its setting, including any landscape or horticultural features;

c) The measures proposed to conserve the heritage significance of the item and its setting;

d) Whether any archaeological site or potential archaeological site would be adversely affected by the proposed development;

e) The extent to which the carrying out of the proposed development would affect the form of any significant subdivision pattern; and

f) The issues raised by any submission received in relation to the proposed development in response to the notification or advertising of the application.

2) **For development that would be carried out in a heritage conservation area:**

a) The heritage significance of the heritage conservation area and the contribution which any building, work, relic, tree or place affected by the proposed development makes to this heritage significance;

b) The impact that the proposed development would have on the heritage significance of the heritage conservation area;

c) The compatibility of any proposed development with nearby original buildings and the character of the heritage conservation area, taking into account the size, form, scale, orientation, setbacks, materials and detailing of the proposed development;

d) The measures proposed to conserve the significance to the heritage conservation area and its setting;

e) Whether any landscape or horticultural features would be affected by the proposed development;

f) Whether any archaeological site or potential archaeological site would be adversely affected by the proposed development;

g) The extent to which carrying out of the proposal development in accordance with the consent would affect any historic subdivision pattern; and

h) The issues raised by any submission received in relation to the proposed development in response to the notification or advertising of the application.

3) **For development that would affect a place of potential heritage significance:**

a) The heritage significance of the place as part of the environmental heritage of Penrith;

b) The impact that the proposed development will have on the heritage significance of the place and its setting, including any landscape or horticultural features;

c) The measures proposed to conserve the heritage significance of the place and its setting;

d) Whether any archaeological site or potential archaeological site would be adversely affected by the proposed development; and

e) The extent to which carrying out of the proposal development in accordance with the consent would affect any historic subdivision pattern.

4) **For development within the vicinity of a heritage item:**

a) A Heritage Impact Statement shall be lodged with a development application for buildings or works in the vicinity of a heritage item. This requirement extends to development that:

i) May have an impact on the setting of a heritage item, for example, by affecting a significant view to or from the item or by overshadowing; or

ii) May undermine or otherwise cause physical damage to a heritage item; or

iii) Will otherwise have any adverse impact on the heritage significance of a heritage item or of any heritage conservation area within which it is situated.

b) As a minimum, the following issues must be addressed in the Heritage Impact Statement:

i) The impact of the proposed development on the heritage significance, visual curtilage and setting of the heritage item;

ii) Details of the size, shape and scale of, setbacks for, and the materials to be used in, any proposed buildings or works; and

iii) Details of any modification that would reduce the impact of the proposed development on the heritage significance of the heritage item.

4.14.2. Heritage Conservation Management Plan

A Heritage Conservation Management Plan may be required where a proposal could affect the significance of a heritage item, heritage conservation area or place of potential heritage significance. A Conservation Management Plan guides the future development and management of a heritage item, place or area in a way that protects its heritage significance. It not only identifies a preferred use for the item, place or area but also how any proposed changes will be implemented so that the maximum heritage significance is retained. As such, it provides a framework for investigating, assessing and managing the heritage significance of heritage items, places or areas.

The issues to be addressed in the Conservation Management Plan will vary depending on the heritage item and the proposed development. Conservation Management Plans must be prepared by a qualified heritage consultant in accordance with the guidelines of the NSW Heritage Office. The following is provided as a guide only on the information to be included in a Conservation Management Plan:

a) An investigation of the heritage item's historical and geographical context, its history, fabric, research potential, and importance to the community;

b) A statement of significance, of the nature, extent and degree of significance of the heritage item based on the documentary and physical evidence;

c) A conservation policy, arising out of the statement of heritage significance, to guide current and future owners of the item on the development potential of the item and its ongoing maintenance. Constraints and opportunities should be identified;

d) Examination of current proposals for reuse or development, and how they can best be achieved in accordance with the conservation policy. Where proposals may have an adverse impact on the heritage significance of the item, the need for such work must be justified. Where development proposals have not been finalised, several likely options are to be discussed;

e) Recommendations for how the heritage item can best be managed bearing in mind those responsible and interested in its ongoing conservation. It is to include proposals to review the Conservation Management Plan and the item's maintenance.

4.14.3. Archival Recording Standards

Archival recording is required where demolition or partial demolition of a heritage item, a place within a heritage conservation area, or a potential place of heritage significance is proposed. The archival recording should be undertaken by a heritage consultant experienced in the preparation of an archival recording.

The following is a simple checklist of items that must be included in an archival recording. Additional information may be submitted if it adds to the understanding of the place.

1) Title page with subject, author, client, date and copyright;

2) Statement of why the record was made;

3) Outline history of the item and associated sites, structures and people;

4) Statement of heritage significance of the items using "Assessing Heritage Significance" by the NSW Heritage Office (2002);

5) Inventory of archival documents related to the item (e.g. company records, original drawings), when available;

6) Location plan showing the relationship to surrounding geographical features, structures, roads, vegetation etc. including a north point;

7) Base plans - Drafted or hand-drawn base plans shall be prepared and include:

   a) Cross-references to photographs;

   b) Names of the relevant features, structures and spaces; and

   c) A north point.

8) Black and white photographic record - One set of 35mm black and white negatives labelled and cross-referenced to base plans and accompanied by informative catalogues are required. Two copies of proof sheets and select medium format prints showing important details shall be provided. Images shall include:

   a) Views to and from the site (possibly from four compass points);

   b) Views showing relationships to other relevant structures and landscape features;

c) All external elevations;

d) Views of all external and internal spaces (e.g. courtyards, rooms, roof spaces etc.); and

e) External and internal details (e.g. joinery, construction joints, decorative features, paving types, etc.).

All photographic images shall be mounted and labelled.

9) Colour slides - Two copies mounted in archival stable slide pockets, clearly labelled and cross-referenced to base plans. Images shall include:

a) Views to and from the site and/or the heritage item; and

b) Views and details of external and internal colour schemes as appropriate.

Selected colour prints may be required. They should be mounted and labelled.

10) Measured Drawings - Appropriately scaled drawings printed on archival stable paper shall be provided. For a built item, this may include:

a) Site plan (1:500 or 1:200);

b) Floor plan/s (1:100 or 1:50);

c) Elevations and sections (1:100 or 1:50);

d) Roof plan/s (1:100 or 1:50);

e) Ceiling and joinery details (1:20 or 1:10); and

f) Machinery and services details (e.g. drainage lines).

11) Presentation - The archival recording shall be presented to Council as a single bound document preferably in A4 format. Large maps shall be folded and inserted as map pockets attached to the document. Similarly, all photographic images shall be fixed to the document and labelled. No unbound documents or loose supporting materials such as maps, plans, slides, negatives or prints are acceptable.

Two complete copies of the archival recording are required. However, one copy may not include a set of photographic negatives and colour slides. An additional copy of the whole recording must be submitted on electronic media in additional to the two required hard copies.

4.14.4. Archaeological Assessment Report

Archaeological Assessment Reports should contain sufficient data to stand alone; support documents should be unnecessary. They should demonstrate the process and results, providing information in a format that is useful as reference material. Archaeology is a specialised field and many activities, including excavation, must be undertaken or supervised by a trained archaeologist.

The content of an Archaeological Assessment Report will depend on the site and the purpose of the study. The NSW Heritage Branch of the Department of Planning is

responsible for developing best practice standards, policies and guidelines for the treatment and conservation of historical archaeological remains that are known or anticipated to exist in NSW. Advice should be sought from the Heritage Branch regarding specific requirements for archaeological assessments.

The following checklist provides a guide to likely minimum information requirements:

a) Site or study area marked on a map;

b) Relevant statutory controls/zonings;

c) Author identification;

d) Background to the assessment, including reference to previous reports;

e) Outline of methodology employed;

f) Sources consulted;

g) An historical outline/summary;

h) Analysis of physical evidence (possibly illustrated);

i) Synthesis (possibly in graphic overlay form);

j) Likelihood of archaeological remains occurring (known, potential, no archaeological features), may be presented graphically;

k) Identification of research themes and questions (and how these were derived);

l) Assessment of significance (statement of significance and/or graded zones);

m) Identification of issues;

n) Policy statement;

o) Recommendations;

p) Acknowledgments;

q) Bibliography.

4.14.5. Aboriginal Cultural Heritage Archaeological Survey Report

An Aboriginal Cultural Heritage Archaeological Survey is required for development proposals on land identified as potentially archaeologically sensitive in the Culture and Heritage Section of this DCP. The Department of Environment, Climate Change and Water (DECCW) should be contacted for advice on survey needs and requirements. The following information is taken from the NSW National Parks and Wildlife Service “Aboriginal Cultural Heritage – Standards and Guidelines Kit” to provide an indication of the archaeological survey reporting requirements.

An Archaeological Survey Report must provide a full description of the development and its potential impact on the landscape and heritage resource. This should be a summary of both the impact history of the study area (previous land uses, previous impact assessments and

their results), and the potential impact of the proposed development on cultural heritage. It should include consideration of the impact of the development both during and after construction/implementation (i.e. many sites survive the construction of a development, only to be slowly degraded and disturbed by changes in land use over the longer term). The following information is required, as appropriate, to the specific type of development:

a) The type of development proposed and how the proposed development is to be implemented;

b) Flexibility of project design, timing and staging of the proposal; and

c) Identification of direct and indirect impacts (both short and long term).

d) The following is an indication of the requirements for a report:

e) Introduction (including description of study area and proposed activity/development and a description of the impact);

f) Experience/Qualifications;

g) Aboriginal Values;

h) Community Consultation (significance);

i) Methodology (including details of field work);

j) Photographs;

k) Results (including discussion of the study area);

l) Recommendations;

m) References (other reports); and

n) Maps (including maps of study area), glossary, appendices, plates, figures, etc.

4.15. Contamination

Advice on the reporting requirements for contaminated sites should be sought from the relevant state environment agency. The following information is taken from “Guidelines for Consultants Reporting on Contaminated Sites (1997)”. Applicants should refer to this document for full information on reporting requirements.

4.15.1. Contamination Investigation Report / Preliminary Contamination Investigation (Stage 1)

The Preliminary Site Investigation Report should:

a) Identify all past and present potentially contaminating activities;

b) Identify potential contamination types;

c) Discuss the site condition;

d) Provide a preliminary assessment of site contamination; and

e) Assess the need for further investigations.

An appraisal of the site history is fundamental to the preliminary assessment and may be used to assess potential site contamination. It is important to review and assess all relevant information about the site, including information obtained during a site inspection.

Where a complete site history clearly demonstrates that site activities have been non-contaminating, there may be no need for further investigation or site sampling.

However, where contaminating activities are suspected or known to have occurred, or if the site history is incomplete, it may be necessary to undertaken a preliminary sampling and analysis program to assess the need for a detailed site investigation

4.15.2. Detailed Contamination Site Investigation (Stage 2)

The Detailed Site Investigation Report should give comprehensive information on:

a) Issues raised in the preliminary investigation;

b) The type, extent and level of contamination;

c) and assess:

d) Contaminant dispersal in air, surface water, groundwater, soil and dust;

e) The potential effects of contaminants on public health, the environment and building structures;

f) Where applicable, off-site impacts on soil, sediment and biota; and

g) The adequacy and completeness of all information available to be used in making decisions on remediation.

If the results of the detailed site investigation indicate that the site poses unacceptable risks to human health or the environment – on-site or off-site, and under either the present or the proposed land use – then a remedial action plan needs to be prepared and implemented, and development consent obtained for these works.

4.15.3. Site Remedial Action Plan (Stage 3)

The Remedial Action Plan should:

a) Set remediation goals that ensure the remediated site will be suitable for the proposed use and will pose no unacceptable risk to human health or to the environment;

b) Document in detail all procedures and plans to be implemented to reduce risks to acceptable levels for the proposed site use;

c) Establish the environmental safeguards required to complete the remediation in an environmentally acceptable manner; and

d) Identify and include proof of the necessary approvals and licences required by regulatory authorities.

Once remedial work is complete, a report should be prepared detailing the site work conducted and regulatory decisions made.

4.15.4. Validation and Site Monitoring Reports

Reporting requirements are of two types: validation and, where appropriate, ongoing site monitoring.

Validation reporting

Where remedial action has been carried out, the site must be 'validated' to ensure that the objectives stated in the Remedial Action Plan have been achieved. A report detailing the results of the site validation is required.

The extent of validation required will depend on:

a) The degree of contamination originally present;

b) The type of remediation processes that have been carried out; and

c) The proposed land use.

Validation must confirm statistically that the remediated site complies with the clean up criteria set for the site. For guidance, see the NSW EPA's "Contaminated Sites Sampling Design Guidelines". Where applicable, the US EPA's "Methods for Evaluating the Attainment of Cleanup Standards" (1989) can also be used.

The Validation Report must assess the results of the post-remediation testing against the clean-up criteria stated in the Remedial Action Plan. Where targets have not been achieved, reasons must be stated and additional site work proposed to achieve the original Remedial Action Plan objectives.

The Validation Report should also include information confirming that all DECCW and other regulatory authorities' conditions and approvals have been met. In particular, documentary evidence is needed to confirm that any disposal of soil off-site is done in accordance with the Remedial Action Plan.

Ongoing site monitoring reporting

Where full clean-up is not feasible, or on-site containment of contamination is proposed, the need for an ongoing monitoring program should be assessed. If a monitoring program is needed, it should detail the proposed monitoring strategy, parameters to be monitored, monitoring locations, frequency of monitoring, and reporting requirements.

4.15.5. Site Audit (Contamination)

In determining applications for development, Council may require an independent review (Site Audit) of any or all stages of the site investigation, remediation or validation process, conducted in accordance with the *Contaminated Land Management Act* ('CLM Act').

A Site Audit will lead to the provision of a Site Audit Statement, stating for what use the land is suitable, including any conditions that should be adhered to for that land use (e.g. to maintain capping). Only site auditors accredited by the DECCW under the CLM Act can issue site audit statements. A Site Audit Statement must be prepared in accordance with DECCW Guidelines for the NSW Site Auditor Scheme and must be in a prescribed form.

4.15.6. Chemical Use and Storage Report

A chemical use and storage report may be required if the development involves storage of chemicals on the site.

A chemical use and storage report will not be required when:

a) The use of chemicals is for routine cleaning, and the chemicals to be used are of household or hospital grade;

b) The total quantity of chemicals to be routinely used or stored on the site does not exceed 100 litres;

c) The chemicals to be used or stored are not of sufficient acidity, alkalinity or strength to cause significant harm on skin contact, or to the environment if a spill were to occur;

d) The application outlines the methods proposed to be used to minimise the potential for spills.

A chemical use and storage report will be required where chemicals are proposed to be stored on site or habitually used as part of a development which present a significant hazard to human health or the environment, and where those chemicals are required to be stored in quantities of greater than 100 litres.

A chemical storage and use report must include:

1) Detailed description of the use and all methods/procedures associated with the use of each chemical;

2) A floor plan of the subject premises depicting the dimensions of the building and indicating the internal layout of all equipment, storage and display areas;

3) A comprehensive list of all chemicals/goods and quantities proposed to be utilised and stored;

4) A spill response/management plan;

5) A description of the method of storage of chemicals/goods on the premises and the type of containment or packaging used including bunding or secondary containment precautions;

6) A description of the method of transportation of chemicals/goods to the premises including the size and nature of vehicles, proposed routes and frequency of delivery;

7) Details of the number of vehicles likely to be involved and the location of vehicle storage/standing areas;

8) Details of on-site water quality control; and

9) Details of waste treatment and transportation.

4.16. Noise Impact Statement

Where a Noise Impact Statement, prepared by a suitably qualified acoustic consultant, is required, it should include:

1) A description of the proposed development including plans and elevations. For rural development, this includes plans and elevations of any enclosures/external structures and descriptions of building construction and means of ventilation;

2) Details of local topography, existing and proposed buildings and exposed or shielded situations which may affect the results and any allowances made in this regard;

3) Relevant legislation, standards, guidelines and policies that have been applied;

4) Background noise measurements. For rural development, this includes details of existing daytime and night-time background levels and the means by which these levels were obtained;

5) Details of instruments and methodology used for noise measurements;

6) Noises level data for all major sources, in octave band levels where appropriate;

7) A site map showing noise sources, measurements, locations and noise receivers;

8) Noise criteria applied to the proposal;

9) Noise predictions for the proposed activity;

10) Consideration of any other significant or relevant acoustic information concerning the project;

11) A comparison of noise predictions against noise criteria. Where appropriate, this should include a comparison of the predicted noise levels with the relevant design criteria at each potentially sensitive receiver location considered;

12) A description of proposed mitigation measures, the resultant noise reduction likely, and an assessment of the feasibility and reasonableness of these measures;

13) A statement of opinion confirming how compliance with acoustic criteria requirements can be practically achieved; and

14) In situations where vibration is considered to be an issue, a suitable assessment of any vibration impacts.

4.17. Requirements relating to land stability, excavation and filling

Any development application that proposes excavation and/or filling, and therefore changes to the levels of a site, is required to clearly address the following:

1) Where the excavation and/or filling will occur on the site;

2) Justification for the need to change the land levels in terms of the overall development; and

3) Any impacts from the changed land levels as a consequence of excavation and/or filling including potential impacts on groundwater levels, flow or quality.

4.17.1. Landfill Validation Report

A Landfill Validation Report is required where importation of fill is proposed. The report must be prepared by an appropriately qualified person and must include:

1) The property description of the source of the fill (hereafter called the subject property);

2) The site history of the subject property, including present and past land uses;

3) Results of any previous site investigations for contaminants on the subject property;

4) Present and past zonings of the subject property (e.g. industrial, agricultural or defence purposes);

5) Description of the present and past land uses of the land immediately adjacent to the subject property, including any information relating to potential or known contamination;

6) Proposed location and purpose for introducing fill onto a property;

7) Details of the transporters or contractors responsible for transporting the fill material from its source to its final and approved destination;

8) Level of finished fill and extent of proposed fill in relation to adjoining property;

9) Methods of controlling erosion and siltation;

10) Effect of fill on adjoining property, particularly in relation to water flow;

11) Compaction method;

12) Advice confirming that the proposed fill is suitable for the proposed use; and

13) Advice confirming that land-filling activities comply with relevant criteria and pose no unacceptable risk to human health or the environment.

Council may require a further detailed investigation to occur if contamination is, or may be, present in the fill material to prove that the fill material is suitable for the proposed use.

4.17.2. Geotechnical Report

A Geotechnical Report must be prepared by a suitably qualified consultant and is required where the existing slope on a site is greater than 15% (or the land is likely to be subject to any land stability issues); where on site effluent disposal is proposed (this may be addressed as part of the onsite effluent disposal supporting information); or where excavations are proposed that are likely to impact groundwater, including basement levels. A Geotechnical

Report may be required for other applications due to the characteristics of the particular site or the scale or nature of the development.

The requirements for Geotechnical Reports vary greatly in scope and extent depending on the scale and type of development and the specific characteristics of the site. As a guide, all geotechnical reports will include:

1) A description of the site and its existing geotechnical hazards/risks;

2) Details of the site substrata [or sub-surface conditions], relevant geological information, advice on groundwater seepage;

3) A risk assessment in accordance with the Australian Geomechanics Society [AGS] guidelines; and

4) Recommendations on the treatment of any identified hazards and design parameters and data for the construction of the development.

4.18. Water Management Plan

Any application for a new industrial or rural land use that requires the consent of Council and will increase the water needs of a particular area must submit a Water Management Plan which:

1) Estimates future water needs of the proposed development;

2) Indicates the proposed water source to meet those needs; and

3) Outlines water conservation measures to be implemented.

4.19. Dust Suppression Plan

A Dust Suppression Plan is an essential part of controlling dust problems from agriculture, construction and extraction activities. A Dust Suppression Plan should identify potential for dust generation and the control measures to be implemented to minimise dust.

Where a Dust Suppression Plan is required for a proposed development, the plan should include:

1) A site description of the existing site and the proposed development;

2) A site map showing:

   a) North point and scale;

   b) Property boundary, contours, existing landforms, prevailing wind directions and adjacent features;

   c) All areas and vegetation to be retained or left undisturbed;

   d) All areas and vegetation that will be disturbed;

   e) Location of the proposed development/activity;

f) Location of physical barriers, such as fencing and wind breaks;

g) Location of stockpiles and storage areas;

h) Traffic routes and stabilised site access/exit points; and

i) Any areas with potential for dust generation.

3) Details of the dust control measures, including:

a) Timing of works;

b) Areas to remain vegetated, or be revegetated;

c) Wind breaks;

d) Coverings for stockpiles and transportation;

e) Frequency and location of water sprays;

f) Identifying wind speed limits for operations; and

g) Any other site or operational specific control measures.

4.20. Odour Management Plan

An Odour Management Plan identifies the range of measures to be used to minimise odour impacts. The factors contributing to odour generation are complex and vary according to the land use or industry producing the odour. Reference to industry specific guidelines and best practice is required. An Odour Management Plan should identify the potential for odour generation and impacts, and management protocols to minimise these.

Where an Odour Management Plan is required, the plan should include:

1) A description of the proposed development including plans and elevations. For rural development, this includes plans and elevations of any enclosures/external structures and descriptions of building construction and means of ventilation;

2) Details of the site characteristics (including topography, prevailing winds, adjacent land uses, location and proximity of neighbours);

3) Details of the odour that will be generated by the development, including offensiveness, intensity and frequency of odour emissions;

4) A site map showing odour sources;

5) A description of proposed mitigation measures, the resultant odour reduction likely, and an assessment of the feasibility and reasonableness of these measures; and

6) Details of relevant legislation, standards, guidelines and policies that have been applied.

4.21. Social Impact Assessment

A Social Impact Assessment will be required for all major development types which are likely to have a significant social impact on the existing community. For example, large subdivisions (residential or rural residential) or large housing developments.

A Social Impact Assessment must:

1) Identify the Community - Identify the existing community and the proposed future community. This will include a demographic assessment of existing and proposed communities;

2) Identify the Needs - Identify the needs of the community based on the assumptions made as part of 1) above. This includes health, recreation, education, employment, etc.;

3) Identify the Issues - Identify the issues that will impact on those communities and needs, particularly the ability of existing facilities to meet the needs of existing and proposed communities; and

4) Develop Recommendations and Mitigating Measures - Assess how the proposal will avoid or mitigate social impacts, including reference to any additional infrastructure proposed to be provided.

4.22. Economic Impact/Needs Assessment

An Economic Impact Assessment will be required for all development which may have an economic impact on similar uses in the surrounding area, including major retail development (traditional or bulky goods) and child care centres over 40 places.

An economic impact assessment must:

1) Identify the likely spheres of impact (traditional retail, bulky goods retail, child care centres, etc.);

2) Identify the likely extent of impact, based on proximity, similarity of service, etc.; and

3) Demonstrate that there is sufficient market for the proposed use or that the proposed use meets an unmet need in the area.

4.23. Infrastructure Delivery Plan

The preparation and submission of an Infrastructure Delivery Plan (IDP) is required for all new release areas. The IDP is required to identify all infrastructure, including civil works, utility services, community, social, cultural and recreational facilities, to service a new release area and establish a framework for its timely provision.

The IDP should include associated costing (including ongoing operating and maintenance costs) and estimated delivery timeframes for all infrastructure, with a commitment to providing services up front where they are required early in the life of new estates. Where possible, the IDP should demonstrate efficient use and/or extension of existing infrastructure. The IDP should explore opportunities for the delivery of innovative and

sustainable infrastructure, services, facilities and networks with adherence to the principles of social justice, equity and accessibility.

The IDP shall provide an accurate costing for all infrastructure to be provided and a delivery program with key pre-planning design and construction phases identified. The IDP shall incorporate relevant apportionment of costs where it is agreed those will be shared with other providers. The IDP will form the basis for the development of Section 94 Contributions Plans and/or Development Agreements, as well as agreements required to be entered into with the State Government and its agencies for the delivery of regional based facilities.

Specifically, the following infrastructure and services are to be identified and provided for in all new release areas:

1) A safe, efficient, and effective road system and cycleway/pedestrian network which links with existing and new infrastructure, public transport services, shopping centres, community facilities and recreation areas;

2) Public transport networks and systems which deliver effective access to major destinations and other transport mode connections. A Transport Management and Accessibility Plan (TMAP) (see 4.8.3 in this Appendix) will be required to identify public transport systems improvements generated by new release areas;

3) Underground routing of all utility services including gas, water, sewer, electricity and telecommunications (including broad-banding capability);

4) Planned development of infrastructure that meets local energy, water and sewer authority standards;

5) Modern telecommunication infrastructure with the capacity to support multiple telecommunications services, such as high-speed internet (including broad band), voice and data systems, and community intranets. Shared service corridors should have capacity to accommodate technology advancements and any increases in demand; and

6) Community, social, cultural, educational and recreational facilities to service the new community.

Further, the IDP must address the following matters:

1) Identify the estimated costs of community, cultural and recreational facilities and services and timeframes for delivery (e.g. relationship to housing production);

2) Develop strategies for the upfront provision of a baseline level of services and facilities to service the initial population. This includes a framework for the timely provision of social infrastructure including small-scale retail/convenience store, access to transport/bus services and open space/recreation areas, facilities and meeting places to support a healthy community (e.g. playgroups, parent groups, youth activities, seniors group, children services, medical, mail box, telephone, etc) to service the initial population;

3) Provide accurate costings for all infrastructure and identify a delivery program with key pre-planning design and construction phases. It shall also incorporate relevant apportionment of costs where it is agreed those will be shared with other providers;

4) Identify and cost all necessary maintenance requirements for infrastructure assets proposed to be transferred to Council for ownership and ongoing care including future replacement costs where necessary;

5) Identify the interim management and maintenance arrangements for infrastructure assets which will be retained in the short term by the developer pending transfer to Council; and

6) Develop Plans of Management consistent with the requirements of the Local Government Act for all open space areas proposed to be transferred to Council.

4.24 3D Modelling for Development within St Marys Town Centre

Council officers may request for any development in the St Marys Town Centre with an estimated cost greater than $1 million, or development that exceeds two-storeys in height, or development that is in a prominent location, to be accompanied by a 3D file of the proposed development in the context of the St Marys Town Centre 3D Model.

The 3D Model will be used on the basis of a two-way sharing of data, with Council providing to the prospective developer, a 3D file extract of the relevant area from the Model in the early stages of design, in order to assist in design development.

Architects and developers will be informed at the initial enquiry stage of the 3D Model requirement and encouraged to contact Council's GIS Unit to arrange for the provision of an extract from the St Marys 3D Model, or to discuss technical issues.

The process will be the subject of a licence agreement between the developer and Council and will be subject to payment of the prescribed fee, both on the provision of the 3D Model extract and at the development application stage. The agreement will require that the developer import the digital 3D plans of the proposed development into the supplied model extract for submission with the development application. The computer file extract, with the proposed development included, would be imported back into the 3D Model to facilitate assessment of the proposal by Council's Development Services Unit, other Council officers, other interested persons and ultimately Council itself.

A fee for the use of this service will be negotiated.

Table of Contents

F4 Technical Information

A. Background

This Appendix contains more detailed information to support the controls in this DCP. It also refers to policies of Council.

It is recommended that applicants contact Council's Development Services Department to check for updates to this information prior to commencing their development application.

B. General Objectives

a) To provide technical information to support the controls in other sections of the DCP;

b) To refer to existing policies and guidelines of Council; and

c) To provide information about the existing policies and guidelines of other agencies and organisations.

C. Other Information

This Appendix refers to the technical information and policies of Council. In many cases, applicants will also be required to comply with the policies and technical standards of State and Commonwealth agencies and utility agencies. Applicants should directly contact these agencies to obtain this information.

1. Policy and Guideline Documents of Council

The following policy and guideline documents provide background and technical information to support Penrith DCP 2014 and are separately available from Council's website at www.penrithcity.nsw.gov.au:

- Penrith City Council Landscape Character Strategy (2006)
- Penrith City Council Sustainability Blueprint for Urban Release Areas (June 2005)
- Penrith City Council Biodiversity Strategy (May 2004)
- Penrith City Council - Heritage Study (May 2006) prepared by Paul Davies Pty Ltd
- Penrith Integrated Transport and Land Use Strategy 2008
- Penrith City Council On-site Sewage Management and Greywater Reuse Policy (April 2014).
- City Strategy

2 Technical Information

2.1 Social Principles

A. Background

A socially sustainable society is one that is just, equitable, inclusive and democratic, and provides quality of life for current and future generations.

As the population of Penrith grows, increasing residential and working populations will put pressure on open space areas and natural resources as well as on the existing built form, services and infrastructure. Increasing the population in an area will require an increase in amenity to ensure that places remain liveable for the whole community.

Understanding the social context and needs of the local community in terms of lifestyle, affordability, access to social facilities and employment opportunities influences the choice and location of all land uses. Quality design outcomes and successful project delivery requires an integration of the proposed development's aims, Council's goals for a particular area and processes which involve and support the local community.

B. Objectives

The objective of this section is for development proposals to consider and, where relevant, address the following:

a) Conducting a social impact assessment for major developments;

b) Ensuring a development addresses Council's social goals as set out in the Principles in Chapter B of this DCP;

c) Ensuring a development addresses the proximity and accessibility of community facilities in the area; and

d) Promoting housing choice in the form of a mix of dwelling types, affordability and accessibility.

C. Social Impact Assessment

The key way to determine whether a proposed development will impact on social sustainability is to conduct a Social Impact Assessment (SIA). A SIA will not be required for all developments. However, an applicant (in collaboration with Council) should assess whether there will be any social impacts, and if so, lodge a SIA with the application. The types of development that may require a SIA include residential developments, new industry, commercial development, retail development, entertainment and place of worship.

A social impact assessment can be defined as,

"The processes of analysing, monitoring and managing the intended and unintended social consequences, both positive and negative, of planned interventions (policies, programs, plans, projects) and any social change processes invoked by those interventions. Its primary purpose is to bring about a more sustainable and equitable biophysical and human environment." (International Principles of SIA).

The aim of a SIA is to predict, anticipate and understand what may happen as a result of a development. In doing this, it aims to find out how to maximise the desired outcomes and minimise the adverse outcomes to the community.

A SIA should include an in depth assessment about actual and potential social impacts. Both positive and negative impacts need to be considered as well as the extent of the impact.

Council, the applicant and the community all have a role in the identification and assessment of social impacts that may result from a development. For the purposes of everyday planning, such as major changes in land use, social impact assessment requires an analysis of three key factors:

- Impact on the existing community;
- Impact on the community associated with the new development; and
- Impacts on the future community.

To do this, the following steps are generally taken:

a) Identifying the Community - Identifying the existing, future, and proposed communities;

b) Identifying the Needs - Identifying the needs that relate to the existing, future and proposed communities;

c) Identifying the Issues - Identifying the issues that will impact on those communities and needs; and

d) Developing the Recommendations and Mitigating Measures - Assessing how the proposal will avoid or mitigate social impacts. Once impacts have been identified, measures to address these impacts, called mitigating measures, and recommendations can be developed.

Further details of these steps are provided below.

1. Identifying the Community

Identifying the community involves the following steps:

a) Identify the existing community (residents, businesses, schools, churches, surrounding land uses, age structure, household types, income etc.) by:

- Looking at ABS Census of Population and Housing.
- Looking at SEIFA (Social Economic Index of advantage/disadvantage and wellbeing), Community Profile; and Community Atlas and population forecast on Council's website;
- Looking at regional plans.
- Looking at Council's City Strategy which includes policy documents: Penrith Inclusion Plan; Planning for an Ageing Community Strategy 2010; Service for Men Study; Women's Services Advocacy Strategy; Youth Action Plan 2010.

b) Identify the future community using population projections (see Population Forecast on Council's website.

c) Identify the future community that your proposal would bring to the area (i.e. if you are proposing a major residential development then provide a snapshot of total number and breakdown of some key characteristics - age, household type, size, etc).

2. Identifying the Needs

Identifying the needs involves the following steps: (This will require some discussion with local service providers and the existing community).

a) Identify the level of services and facilities that the existing community has available (e.g. type of service, availability of service, affordability of service).

b) Identify the current gaps in current service and facility provision.

c) Identify what the needs of the future community will be and what services will be required to meet this need.

3. Identifying the Issues

When considering the issues you need to be mindful of both positive and negative impacts, e.g. will the development bring more children into the area and therefore make better use of or put pressure on existing school infrastructure.

The key issues to be considered in a SIA are outlined in Table F4.1. The table is intended to guide you in developing your SIA. You need to address the areas that are relevant to your application. Remember to document who you consulted, what issues where raised, how

you will enhance positive and reduce negative impacts and whether there are any other issues you need to consider.

Table F4.1

Possible Social Impacts (positive and negative)	Questions to consider
Demographic and population change	Will the proposal create a significant change to the existing population in terms of overall numbers and makeup (i.e. will it double the size, will it create a significant increase in older people, etc)? What is the current makeup of the existing community (e.g. age groups, family type, household income, employment status etc)? What is the total expected increase/decrease? What percentage is this of the total population of the suburb, area, LGA?
Accommodation and housing	Will the proposal change the current provision of housing? Will it create shortages or too much? Will it impact on affordability? Will it change the household size and characteristics of the community for the positive or negative? Will the proposal respond to current demands in housing type, etc.? You may need to undertake an assessment on housing affordability. Consider quantity, type and density of housing.
Mobility and access	Will the proposal create a strain on existing transport services? Can the existing transport services be augmented to meet demand or will they need to be expanded? Can people currently get to places they need to go to (e.g. what is the current level of mobility, what is needed, etc)?
Community facilities and social infrastructure requirements	What facilities and infrastructure is currently available? How will the proposal impact on existing community access to these facilities? Can existing facilities meet the anticipated increase in demand? Will the proposal result in the need to upgrade existing facilities or will new facilities be required? What new facilities may be required?
Needs of service age groups	What service age groups currently meet in the area? Will the proposal create impacts on existing social groups? Will the proposal create the need for new service age groups? For example, if the development is for student accommodation or seniors housing, will the community be able to service this group? Will this new group create impacts on the existing community?
Heritage and cultural values and beliefs	Will the proposed development impact on Indigenous and European heritage? Is there an item of local significance to be considered on the site? How will the existing or incoming communities' cultural needs be met?
Community identity	Will the proposal change the socio economic makeup of the

Possible Social Impacts (positive and negative)	Questions to consider
and cohesion	community? Will the proposal change the age characteristics of the community? Can the incoming community integrate with the existing community to ensure community cohesion or will it create issues? How will these issues be minimised?
Cohesion of the development and its surrounds	Is the proposal consistent with development that surrounds it? Is the proposal significantly larger in scale and type than existing development? Is the proposal going to result in a distinct change in the locality (e.g. from rural to urban)?
Health	Will the proposal create issues associated with health? There are a number of social indicators of health. Examples include opportunities for building community interaction, community capacity, wealth, activity, etc.
Leisure and recreation	Will the proposal create opportunities or constraints for leisure and recreation? Does the proposal meet the future community's needs in this area? Will the proposal create demands on existing recreation and leisure facilities that cannot be met? Will the proposal justify the ongoing operation of recreation and leisure facilities?
Risk perception in the community and crime and public safety	Have CPTED principles being considered? (Chapter C1 'Site Planning and Design Principles' contains information about CPTED). Will the proposal create a higher incidence of crime or create more opportunities for informal surveillance? Will the proposal create more opportunities for crime?
Social amenity	Will the proposal contribute or impact on the overall character of an area? For example, will changes impact on open land, trees, historic buildings and the inter-relationship between all elements in the environment? Will the proposal contribute to or impact on the overall social makeup of an area in terms of population, levels of service and facility provision, etc.?
Equity and universal design	An overarching principle of social inclusion is that of equity of access to resources, services and opportunities. This includes the principle of universal design which seeks to promote accessibility in both the public and private domains to all people. How has the principle of equitable access and universal design been incorporated into the proposal?
Employment	Will the proposal create employment opportunities and contribute to the surrounding community? Will the proposed employment be able to be met in the local community with local skills or will a whole new group of people be required? Will the proposal lead to issues of displacement? Use your demographic profile to discuss.
Local economic effects	Will the proposal boost or take away from the local economy? Will the proposal threaten the existing economic environment?

Possible Social Impacts (positive and negative)	Questions to consider
Property value	This can be incorporated into the principle above and it may be useful to use an economic consultant. However, you may be able to research impacts of similar proposals to yours and whether there were any impacts to property values.

4. Developing the Recommendations and Mitigating Measures

Against each issue, the impacts for existing residents within the community and impacts on future residents of the development need to be considered and strategies or mitigating measures, if appropriate, to address any impacts identified.

Recommendations will identify the means by which the negative impacts associated with the proposal may be minimised or avoided and the positive impacts enhanced.

Mitigating measures are those steps that could be taken to reduce or enhance the levels of impact identified (e.g. provision of a transport service, creation of community facilities, provision of a bus shelter, etc) to meet future community needs. These measures are usually required to be provided by the developer (e.g. if your proposal will increase demand on public transport, you may need to recommend augmenting the existing public transport provision or creating a new service that meets your development's needs).

The final recommendation of the SIA needs to support or not support the proposal. You need to outline reasons why.

2.2 Economic Principles

A. Background

Economic capacity is tied to the physical ability of a locality to support growth and change, including the provision of community infrastructure and services. It is important to balance the interests of the public domain and the community's goals with realistic commercial expectation, market demands, real estate and development profit.

Not every aspect of economic sustainability will be governed by this DCP. However, several key aspects of economic sustainability addressed in this DCP include, but are not limited to:

a) The economic equity of access to natural resources;

b) Economic cost of provision of transport, services and infrastructure;

c) Economic impacts of specific land uses.

B. Objectives

The objective of this section is for development proposals to consider and, where relevant, address the following:

a) Conducting an economic impact analysis for major developments;

b) Ensuring a development addresses Council's economic goals as set out in the Principles in Chapter B of this DCP;

c) Ensuring a development addresses the proximity and accessibility of employment and services in the area; and

d) Promoting development that is economically sustainable.

C. Economic Assessment

The key way to determine whether a proposed development will impact on economic sustainability is to conduct an Economic Assessment. An economic assessment will not be required for all developments. However, an applicant (in collaboration with Council) should assess whether there will be any significant economic impacts from a proposal, and if so, lodge an economic assessment with the application. Many economic impacts are closely related to social impacts and this should be addressed.

1. Market demand

Is the proposal based on a thorough market appraisal to determine the need for the proposed land use, the required amount of floor space needed and whether the market has any particular design requirements? This needs to be assessed not just for the immediate future, but also for longer term projections. If there is uncertainty, then proposals need to include a level of adaptability to allow it to change as the market demand requires.

2. Employment

Will the proposal create employment and contribute to the surrounding community? Will the proposed employment be able to be met in the local community with local skills or will a whole new group of people be required, leading to issues of displacement, opportunities, etc.? Use your demographic profile to discuss.

3. Local economic effects

Will the proposal boost or take away from the local economy? Will it threaten the existing economic environment?

4. Property value

This can be incorporated into the principle above and it may be useful to use an economic consultant. However, you may be able to research impacts of similar proposals to yours and whether there were any impacts to property values.

2.3 Environmental Principles

A. Background

There are a number of environmental objectives and controls set out in this DCP. The broad aim in addressing these environmental issues is to address them in a holistic manner - to avoid fixing one problem by causing another. For this reason, environmental issues have been grouped as issues relating to:

a) Vegetation Management ;

b) Water Management;

c) Land Management;

d) Waste Management; and

e) Landscape Design.

In addition, there are a number of 'human environment' issues that impact on the natural environment, including:

a) Site Planning and Design Principles;

b) Culture and Heritage;

c) Public Domain;

d) Advertising and Signage; and

e) Transport, Access and Parking.

Therefore, environmental issues permeate all aspects of development and all of these chapters need to be addressed to understand the potential impact of any development proposal.

B. Objectives

The objective of this section is for development proposals to consider and, where relevant, address the following:

a) Conducting a environmental assessment for major developments;

b) Ensuring a development addresses Council's environmental goals as set out in the Principles in the DCP Principles Section of this DCP;

c) Ensuring a development responds to the environmental constraints and opportunities as set out in the Site Planning and Design Principles Section of this DCP; and

d) Ensuring that development is environmentally sustainable.

C. Environmental Assessment

The environmental principles that should be covered by the contextual analysis and addressed by the design/development (as set out in this DCP) include:

Air Quality and Climate

a) Protecting air quality.

Vegetation Management and Landscape Design

a) Protecting threatened species, populations or ecological communities

b) Protecting wildlife/fauna and habitats

c) Protecting native vegetation/bushland and biodiversity corridors

d) Protecting significant trees and landscape

e) Minimising weed species and infestation

f) Minimising bushfire risk.

Water Management

a) Protecting water catchments and surface water and ground water (quality and quality)

b) Protecting watercourses, wetlands, groundwater dependent water systems and riparian corridors

c) Managing flood liable lands

d) Managing stormwater and drainage patterns.

Land Management

a) Protecting soils and soil quality/condition

b) Responding to topography, landform and site stability

c) Minimising earthworks, excavation and filling

d) Minimising erosion and sedimentation

e) Addressing contaminated soils

f) Addressing salinity

g) Addressing and avoiding landfill.

Waste Management

a) Minimising and managing existing and potential waste generation during design and operation, demolition and construction

b) Managing on-site sewage

c) Addressing hazardous waste.

2.4 Built Form and Infrastructure Principles

A. Background

In addition to the principles of sustainability, there are a number of built form and infrastructure principles that are supported by more than just economic, social or environmental reasoning. These are sometimes referred to as principles of good 'urban design'.

B. Objectives

The objective of this section is for development proposals to consider and, where relevant, address the following:

a) Conducting an urban design assessment for major developments;

b) Ensuring a development addresses Council's built form and urban design goals as set out in the Principles in Section B – DCP Principles of this DCP; and

c) Ensuring a development responds to the built form constraints and opportunities as set out in Section C1 of this DCP.

C. Urban Design Assessment

The built form and infrastructure principles that should be covered by the contextual analysis and addressed by the design/development (as set out in this DCP) include:

Site Planning and Design Principles

a) Responding to climatic conditions and maximising passive solar design and energy conservation in the built form

b) Responding to topography and minimising visual impact

c) Responding to areas of scenic or visual importance

d) Providing appropriate height, scale and massing

e) Providing an articulated built form

f) Designing for safety and security

g) Providing accessibility.

Culture and Heritage

a) Minimising impact on heritage items, conservation areas or landscapes

b) Providing appropriate development in the vicinity of heritage items

c) Minimising impact on archaeological sites.

Public Domain

a) Providing open spaces and recreational opportunities

b) Providing outdoor dining and trading areas

c) Enhancing the streetscape

d) Providing public art opportunities

e) Providing pedestrian amenity.

Advertising and Signage

a) Controlling signage and advertising to minimise visual impact and integrate with existing built form and landscape character.

Transport, Access and Parking

a) Protecting the character of key transport corridors

b) Integrating access and driveway design into site design

c) Integrating vehicle parking into site and building design

d) Integrating alterative transport means such as footpaths and cycleways.

Noise and Vibration

a) Providing acoustic amenity.

Infrastructure and Services

a) Providing utilities such as water, sewerage, gas, electricity, telephone

b) Managing on-site sewage

c) Controlling the design of infrastructure, engineering and construction works.

2.5 Specific Land Use Principles

In addition to the above controls that apply to all land uses, applicants are required to provide contextual analysis and respond in the design/development to issues described in the specific land use chapters including:

a) Rural Land Uses

b) Residential Land Uses

c) Commercial and Retail Land Uses

d) Industrial Land Uses

e) Other Land Uses.

2.6 Site Planning

Planning of a site needs to analyse the opportunities and constraints of a site for a proposed development across a number of broad issues. Figure F4.1 below provides a general guide to the wide range of factors that influence the design, layout, construction and ongoing use and maintenance of a development site. These issues can be broadly categorised as follows.

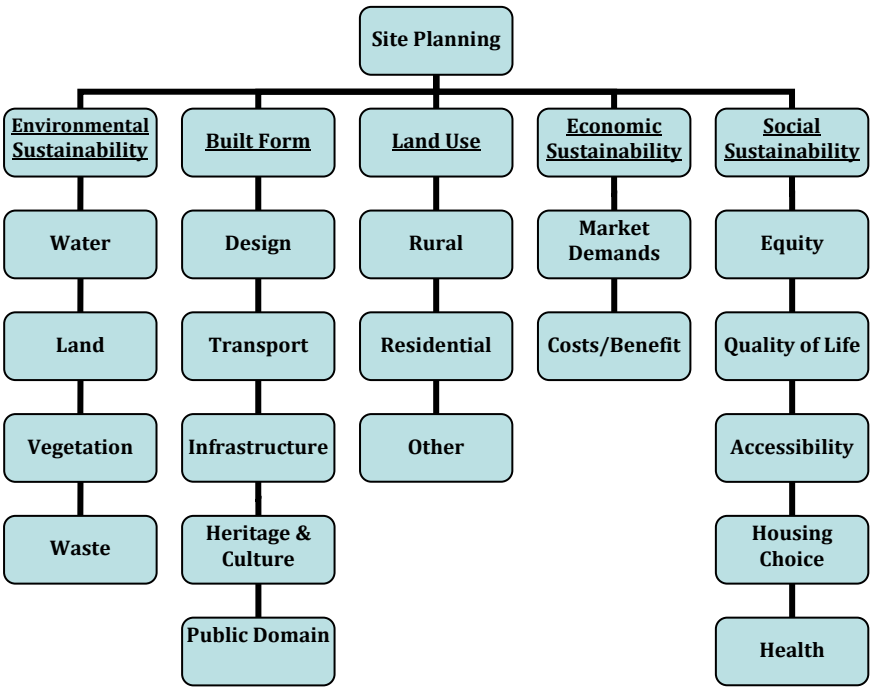
a) Social opportunities and constraints;

b) Economic opportunities and constraints;

c) Environmental opportunities and constraints; and

d) Built form and infrastructure opportunities and constraints.

Figure F4.1



2.6.1 Regional Analysis

Regional analysis involves looking at the regional context, including but not limited to:

a) Regional locational context and urban centres (e.g. nearest major centres);

b) Regional topography (e.g. general terrain for region);

c) Regional transport (e.g. major rail and road connections);

d) Regional environmental systems (e.g. major watercourses and open space connections/facilities); and

e) Regional infrastructure/services (e.g. major shopping, cultural, civic, educational facilities and services/utilities).

Regional contextual analysis can range from 10 to 100 kilometres from the site (depending on the scale of development, the proposed land uses and its impacts). Regional transport networks, cycle and pedestrian routes, existing land uses, ecological and infrastructure systems, open space networks and visual connections extend beyond the local boundaries and have significant influence on local decision making and appropriate land use outcomes.

Not all of the elements listed above will be relevant for every development or site. It is strongly recommended that you contact Council's Development Services Department to discuss the requirements for your proposal prior to lodgement of a development application.

2.6.2 Local Analysis

Local analysis involves looking at the local context around the site, including but not limited to:

a) Local locational context (e.g. nearest neighbourhood and local centres);

b) Local climate (e.g. prevailing winds);

c) Local infrastructure/services (e.g. local shopping, education, employment, utilities and community facilities);

d) Local topography (e.g. nearest mountains and valleys);

e) Local transport (e.g. local rail, bus and pedestrian/bicycle paths);

f) Local street hierarchy and layout;

g) Local visual analysis (e.g. visibility of site from local area);

h) Local environmental systems (e.g. local watercourses, drainage channels, and parks);

i) Local built form outcomes (e.g. area character);

j) Local subdivision pattern (e.g. block and road pattern);

k) Local heritage items, conservation areas or streetscapes; and

l) Adjacent land uses.

Local contextual analysis can range from 50 metres to 10 kilometres from the site (depending on the scale of development).

Not all of the elements listed above will be relevant for every development or site. It is strongly recommended that you contact Council's Development Services Department to discuss the requirements for your proposal prior to lodgement of a development application.

2.6.3 Site Analysis

Site analysis involves looking at the features of the site and the immediately surrounding area and, where possible, presenting the information in a diagram(s). That diagram should include the following minimum elements:

a) The site's dimensions and areas;

b) North point and the site's orientation (e.g. solar access);

c) Topography (with 0.5 to 1 metre contours);

d) Road and pedestrian access points;

e) Services and infrastructure (e.g. electricity poles, stormwater drainage lines, natural drainage, kerb crossings and easements);

f) Rights of way;

g) Views to and from the site;

h) Site overland flows and drainage patterns;

i) Geotechnical characteristics of the site and suitability for development;

j) Location of site in relation to shops, community facilities and transport;

k) Heritage items on site or on adjoining properties;

l) Form and character of adjacent and opposite buildings in the streetscape, including both sides of any street that the development fronts;

m) Location and use of any existing buildings or built features on the site;

n) Location and important characteristics of adjacent public, communal and private open spaces;

o) Location of significant vegetation on the site;

p) Location of any significant noise sources on and in the vicinity of the site; and

q) Assessment of site contamination and/or remediation.

Site analysis includes the site and the immediate context - usually up to 50 to 100 metres in any direction from the site (depending on the scale of development, the proposed land uses and its impacts). Site analysis should include plan and section drawings of the existing features of the site at the same scale as the site plan and landscape plan.

Not all of the elements listed above will be relevant for every development or site. It is strongly recommended that you contact Council's Development Services Department to discuss the requirements for your proposal prior to lodgement of a development application.

2.7 Key Areas with Scenic and Landscape Values

This section provides further information on what is meant by gateways and why they are important.

2.7.1. Gateways

Gateways are distinctive sites or spatial sequences which denote a change in a spatial or visual experience. They serve to reinforce the legibility of the environment. The design of development at these sites requires a special response given the visual sensitivities of these locations.

Gateways have a variety of configurations and scales from regional significance to neighbourhood scale. They can be marked by changes such as land use, density of development, vegetation, topography and space. Gateways should relate to a region's

natural resources, scenic views and local cultural heritage. Some are site specific places of environmental identity and others provide a sense of transition or even anticipation. They can identify entrances and destinations.

Located mostly on thoroughfares that convey significant numbers of people, such as major roads and rail corridors, gateways communicate to people that they are entering a unique or different area. The sense of arrival is important in gaining a first impression of a place, contributing to how we perceive the City and can be a lasting positive experience. A legible gateway defines the edges or boundaries of a place on the continuous and recognisable environmental identity of the road or rail corridor, marking it as a special place or landscape.

It is the combination of particular landscape elements, buildings and the sense of place that contributes to the clear legibility and recognisable environmental identity of gateways. Particular landscape elements that contribute to the overall character and environmental identity of the place include vegetation, street trees, road width, depth of front setbacks and lighting. Views to distant natural features and backdrops provide a context to the site, also contributing to the uniqueness of the place or its 'sense of place'. Gateways should be distinctive, bold and uncomplicated.

Gateways may also be located at sites such as significant community congregation areas, public art installations, municipal buildings and ceremonial places. By distinction, a gateway in this context is not the ubiquitous 'entry feature'. It is not a monument to establish a development, nor a marketing tool to create a distinct boundary between a new development and surrounding developments and land uses.

Types of gateways in the City of Penrith may include:

a) Crossings;

b) Village bookends;

c) Land use interfaces;

d) Intersections; or

e) Cultural elements.

Chapter C1 'Site Planning and Design Principles' identifies the gateways in the City of Penrith.

New development must contribute to the importance of these gateway locations through sensitive integration in the gateway setting and excellence of design.

2.8 Vegetation

Contact Council for advice.

2.9 Landscape Technical Specifications

2.9.1 Tree/Vegetation Protection during Construction

Trees, which are to be retained, are to be protected during construction. The method and detail of the protection is to be provided by the consulting arborist who prepared the Tree Management Plan.

2.9.2 Landscape Quality Assurance Standards

1. Landscaping materials

Standards have been developed to guide the manufacture of composts, soil conditioners, potting mixes, topsoils, landscape soil mixes and mulches. The standards detail the processing requirements for these products as well as the physical and chemical requirements of these products.

All of the products required for landscaping works specifications must first meet the requirements of the relevant Australian Standards:

AS 4419 Soils for Landscaping and Garden Use

This Standard sets requirements for bulk density, organic matter, weed content, wettability, pH, electrical conductivity, ammonium toxicity, phosphorous content, dispersability, toxicity, nitrogen drawdown, permeability, soil texture and large particles.

AS 4454 Composts, soil conditioners and mulches

This Standard sets requirements for compliance with National health standards; physical, chemical, pasteurization and composting requirements; weed propagules; packaging; marking and documentation; and product analysis.

One of the most effective ways of achieving environmental sustainability is through specifying the use of landscaping materials that contain a minimum percentage of recycled garden and wood waste, as follows:

Mulches	100%
Composts and soil conditioners	80%
Landscaping, garden mixes and on slab soils	40%
Top dressing mixes	20%
Potting mixes	40%

Quality Assurance of products

Some landscaping products have been certified to the relevant Australian Standard and contain the minimum percentages of composted garden and wood waste as specified above.

In order to ensure the quality and environmental sustainability of products delivered to the site, contractors will be required to:

a) Source product from any of the certified range of products. For example, the certified 'Garden to Garden' manufacturers are available from Waste Service NSW. Your selected manufacturer must provide you with a Manufacturers Australian Standards Licence Number for that particular product; or

b) If you source product from outside the Garden to Garden range you must:

   i) Provide certified proof that the manufacturer you have chosen has a Quality Assurance System in place;

ii) Provide a current test certificate from an approved independent laboratory indicating full compliance with all the physical and chemical requirements (including toxicity and containment levels) of the relevant Australian Standard for the batch from which the product has been sourced; and

iii) Provide records that will satisfy the principal's representative that the products provided contain the minimum percentage of recycled garden and wood waste as outlined in the specification.

2. Plant Material

Plant substitutions may only be made with written consent of those preparing/designing Landscape Plans. All plants are to be obtained from a nursery located in an area having a similar climate to the site or hardened off for a minimum six week period. All plant material is to be:

a) True to species and sizes;

b) Healthy, of good form, not soft or forced;

c) With large robust root systems that are not root bound;

d) Free from disease and insect pests; and

e) Trees are to have a single leading shoot and conform to 'NATSPEC Specifying trees - a guide to assessment of tree quality' (Clark 2003). The NATSPEC guide provides a list of important characteristics which should be checked when assessing the quality of tree stock, and briefly explains why they matter.

f) In line with current standards.

3. Before planting

Pre-planting

Parts of the site to be landscaped are to have all weeds removed prior to landscaping work commencing. Use hand tools on smaller weeds and, as a last resort, spot application of herbicide to larger, perennial and vigorous weeds.

Backfill retaining walls and make other garden beds after brickwork, electrical and drainage works and adjoining pavements have been completed. Water to settle the soil down and eliminate air pockets. This must be done with a fine gentle spray to prevent surface erosion. If planting is delayed by more than one week from backfilling or other soil preparation then mulch is to be applied to each area left unplanted.

Hardening off plants

Plant root systems shall be maintained moist at all times with particular attention being paid to watering during the onsite installation period before and during planting`.

4. Further Information and Contacts

General Contacts

a) Australian Institute of Horticulture

b) Australian Institute of Landscape Architects

c) Australian Institute of Landscape Designers and Managers

d) NSW Landscape Contractors Association

e) National Arborists Association of Australia.

Government Agencies and Authorities

a) NSW Department of Planning and Environment

b) NSW Office of Environment and Heritage

c) NSW Environment Protection Authority.

Non-government agencies

a) Australian Association of Bush Regenerators

b) Australian Garden History Society

c) Australian Plant Society

d) Landcare Australia

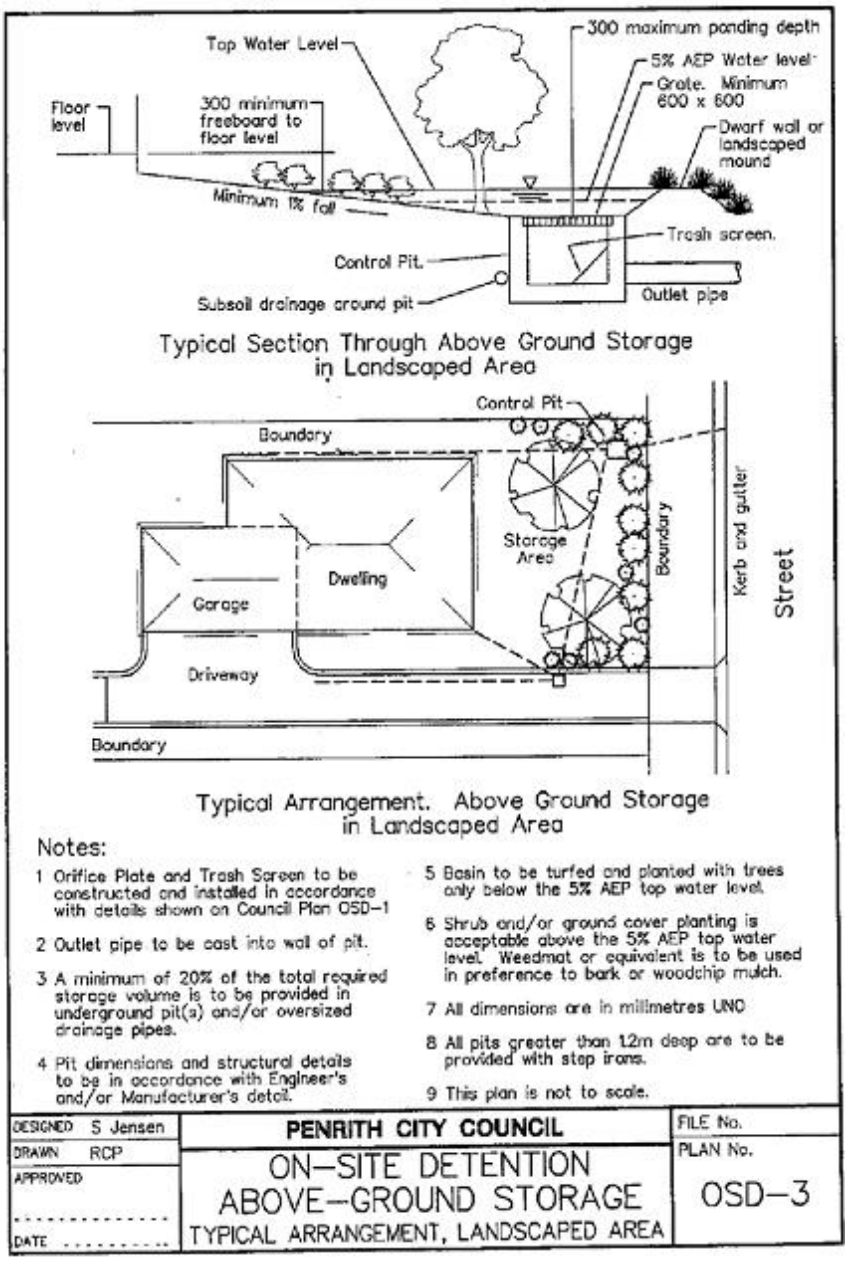
e) Landcare/Bushcare/Coastcare

f) Local Government and Shires Association

g) National Trust.

2.9.3 Above Ground On Site Stormwater Detention and Landscaping

Figure F4.3



2.10 Green Roofs and Roof Gardens

A. Background

Roof space has significant potential to contribute to the amenity, comfort and sustainability of our cities and surrounding areas. Green roofs are one way in which roof spaces can be designed, or retrofitted, to enhance urban areas.

Green roofs are divided into two broad categories, extensive and intensive. Intensive gardens are similar to traditional parks or gardens, but are raised above the ground level, at the top of buildings or at an intermediate level. Extensive gardens are typically not intended for recreational use, are comprised of hardy, low maintenance ground cover species covering large areas of roof space.

Extensive	**Intensive**
• Have shallow layer of soil (less than 15cm) • Use hardy groundcover plants (drought and heat tolerant) • Entire area often not suitable for recreational use • Require minimal maintenance • In many cases existing buildings can be retrofitted to enable installation	• Similar to traditional gardens • Use deeper soils to enable planting of trees and shrubs • Often used as open space or recreation • Are more expensive to construct and maintain • Require purpose built structures and reinforcing due to increased weight • Can incorporate decorative paving and shade structures

B. Benefits

Green Roofs (extensive and intensive) provide a range of benefits, directly (to the individual building) and indirectly (contributing to improved amenity within the urban area).

These benefits can be grouped as amenity, environmental and economic benefits.

1. Amenity Benefits

Leisure and functional open space – In urban environments with limited areas of open space, intensive green roofs and elevated gardens provide recreational space.

Visual amenity value – A significant benefit of intensive and extensive green roofs is the enhanced view and amenity from overlooking buildings.

2. Environmental Benefits

Air quality - Vegetation has the capacity to filter out fine air-borne particles and gaseous pollutants. This process is increasingly beneficial as the cumulative area of vegetation increases.

Ecological value - The enhancement of biodiversity through the use of green roofs is closely linked to the type of vegetation being used and its location.

Water management - Green roofs provide a stormwater detention and retention function, slowing runoff of rainfall into stormwater systems. The transpiration of water held in the soil can also reduce the volume of stormwater runoff.

Reduced 'heat island effect' - The urban heat island effect is localised warming due to the increase in the large amounts of paved and dark coloured surfaces, such as roads, roofs and car parks as a result of urban development. Increasing vegetation and reducing the hardscape on site will assist the urban heat island effect.

3. Economic Benefits

Building insulation and energy efficiency - One of the most important tangible benefits that green roofs offer is reduced maintenance and cooling costs due to increased building insulation and energy efficiency.

Employee satisfaction - Green roofs provide various social benefits by providing 'green relief' to the urban landscape. Green roofs have the potential to increase employee satisfaction by enhancing their surroundings. This, in turn, could improve productivity (*Growing Up-The Blueprint to Green Proof Melbourne*).

Green roof design, construction and maintenance

A green roof is comprised of a series of layers that provide an environment suitable for plant growth and protecting the underlying building structure, shown in Figure F4.4. Appropriate design, construction and maintenance is critical to ensure success. See the following links for further information in this regard: greenroofs.wordpress.com/ and commons.bcit.ca/greenroof/case.html.

C. Further information

Green Roofs Australia (www.greenroofs.wordpress.com) has further information on a range of case studies and examples of green roofs in Australia and internationally, as well as information about technical guidelines and manuals.

2.11. Contaminated Lands

2.11.1. List of potentially contaminating activities

This list is for guidance only as examples of activities that can cause contamination of a site. The list is not exhaustive.

Some activities that may cause contamination:

• acid/alkali plant and formulation	• agricultural/horticultural activities
• airports	• asbestos production and disposal
• chemicals manufacture and formulation	• defence works
• drum re-conditioning works	• dry cleaning establishments
• electrical manufacturing (transformers)	• electroplating and heat treatment premises
• engine works	• explosives industry
• gas works	• iron and steel works
• landfill sites	• metal treatment
• mining and extractive industries	• oil production and storage
• paint formulation and manufacture	• pesticide manufacture and formulation
• power stations	• railway yards
• scrap yards	• service stations
• sheep and cattle dips	• smelting and refining
• tanning and associated trades	• waste storage and treatment
• wood preservation	

Source: ANZECC and NHMRC 1992, Australian and New Zealand Guidelines for the Assessment and Management of Contaminated Sites.

2.11.2. List of industries and chemicals used

This list is for guidance only as examples of activities that can cause contamination of a site. This list is not exhaustive.

Industry	Type of Chemical	Associated Chemicals
Agricultural/ horticultural activities		See fertiliser, insecticides, fungicides, herbicides under 'Chemicals manufacture

Industry	Type of Chemical	Associated Chemicals
		and use'.
Airports	Hydrocarbons Metals	Aviation fuels Particularly aluminium, magnesium, chromium
Asbestos production and disposal		Asbestos
Battery manufacture and recycling	Metals Acids	Lead, manganese, zinc, cadmium, nickel, cobalt, mercury, silver, antimony Sulphuric acid
Breweries/distilleries	Alcohol	Ethanol, methanol, esters
Chemicals manufacture and use	Acid/alkali	Mercury (chlor/alkali), sulphuric acid and nitric acids, sodium and calcium hydroxides
	Adhesives/resins	Polyvinyl acetate, phenols, formaldehyde, acrylates, phthalates
	Dyes	Chromium, titanium, cobalt, sulphur and nitrogen organic compounds, sulphates, solvents
	Explosives	Acetone, nitric acid, ammonium nitrate, pentachlorophenol, ammonia, sulphuric acid, nitroglycerine, calcium cyanamide, lead, ethylene glycol, methanol, copper, aluminium, bis(2-ethylhexyl) adipate, dibutyl phthalate, sodium hydroxide, mercury, silver
	Fertiliser	Calcium phosphate, calcium sulphate, nitrates, ammonium sulphate, carbonates, potassium, copper, magnesium, molybdenum, boron, cadmium
	Flocculants	Aluminium
	Foam production	Urethane, formaldehyde, styrene
	Fungicides	Carbamates, copper sulphate, copper chloride, sulphur, chromium, zinc
	Herbicides	Ammonium thiocyanate, carbamates, organochlorins, organophosphates, arsenic, mercury, triazines
	Paints - Heavy Metals - Solvents	 Arsenic, barium, cadmium, chromium, cobalt, lead, manganese, mercury, selenium, zinc, titaniuim Toluene oils natural (e.g. pine oil) or

Industry	Type of Chemical	Associated Chemicals
		synthetic
	Pesticides - Active ingredients - Solvents	Arsenic, lead, organochlorines, organophosphates, sodium tetraborate, carbamates, sulphur, synthetic pyrethroids Xylene, kerosene, methyl isobutyl ketone, amyl acetate, chlorinated solvents
	Pharmaceutical - Solvents	Acetone, cyclohexane, methylene chloride, ethyl acetate, butyl acetate, methanol, ethanol, isopropanol, butanol, pyridine methyl ethyl ketone, methyl isobutyl ketone, tetrahydrofuran
	Photography	Hydroquinone, sodium carbonate, sodium sulphite, potassium bromide, monomethyl para-aminophenol sulphate, ferricyanide, chromium, silver, thiocyanate, ammonium compounds, sulphur compounds, phosphate, phenylene diamine, ethyl alcohol, thiosulphates, formaldehyde
	Plastics	Sulphates, carbonates, cadmium, solvents, acrylates, phthalates, styrene
	Rubber	Carbon black
	Soap/detergent - General	Potassium compounds, phosphates, ammonia, alcohols, esters, sodium hydroxide, surfactants (sodium lauryl sulphate), silicate compounds
	- Acids	Sulphuric acid and stearic acid
	- Oils	Palm, coconut, pine, teatree
	Solvents - General - Hydrocarbons - Chlorinated organics	Ammonia e.g. BTEX (benzene, toluene, ethylbenzene, xylene) e.g. trichloroethane, carbon tetrachloride, methylene chloride

Industry	Type of Chemical	Associated Chemicals
Defence works		See explosives under 'Chemicals manufacture and use', 'Foundries', 'Engine works', 'Service stations'
Drum reconditioning		See 'Chemicals manufacture and use'
Dry cleaning		Trichlorethylene and 1,1,1-trichloroethane Carbon tetrachloride Perchlorethylene
Electrical		PCBs (transformers and capacitors), solvents, tin, lead, copper, mercury
Engine works	Hydrocarbons Metals Solvents Acids/Alkalis Refrigerants Antifreeze	 Chlorofluorocarbons, hydrochloroflurocarbons, hydroflurocarbons Ethylene glycol, nitrates, phosphates, silicates
Foundries	Metals Acids	Particularly aluminium, manganese, iron, copper, nickel, chromium zinc, cadmium and lead, and oxides, chlorides, fluorides and sulphates of these metals Sulphuric and phosphoric Phenolics and amines Coke/graphite dust
Gas works	Inorganics	Ammonia, cyanide, nitrate, sulphide, thiocyanate Aluminium, antimony, arsenic, barium, cadmium, chromium, copper, iron, lead, manganese, mercury, nickel, selenium, silver, vanadium, zinc
	Organics	BTEX, phenolics, PAHs and coke
Iron and steel works		BTEX, phenolics, PAHs, metals and oxides of iron, nickel, copper, chromium, magnesium manganese and graphite

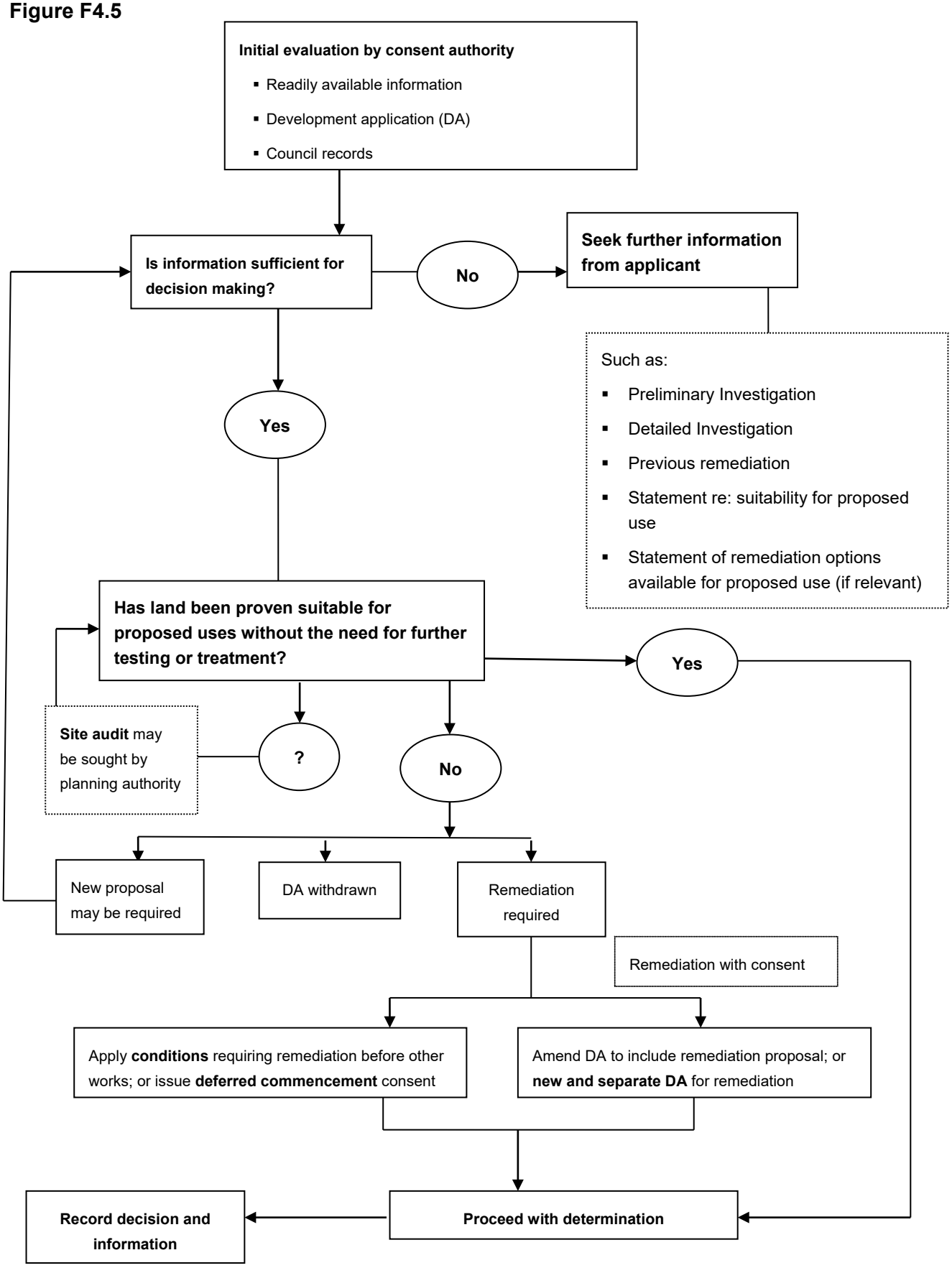
Industry	Type of Chemical	Associated Chemicals
Landfill sites		Alkanes and ammonia, sulphides, heavy metals, organic acids
Marinas	Antifouling paints	See engine works, electroplating metals under 'Metal treatments' Copper, tributyltin (BTB)
Metal treatments	Electroplating - Metals - Acids - General Liquid carburizing baths	Nickel, chromium, zinc, aluminium, copper, lead, cadmium, tin Sulphuric, hydrochloric, nitric, phosphoric Sodium hydroxide, 1,1,1-trichloroethane, tetrachloroethylene, toluene, ethylene glycol, cyanide compounds Sodium, cyanide, barium, chloride, potassium chloride, sodium chloride, sodium carbonate, sodium cyanate
Power stations		Asbestos, PCBs, fly ash metals, water treatment chemicals
Printing shops		Acids, alkalis, solvents, chromium (see photography)
Railway yards		Hydrocarbons, arsenic, phenolics (creosote), heavy metals, nitrates and ammonia
Scrap yards		Hydrocarbons, metals, solvents
Service stations and fuel storage facilities		Aliphatic hydrocarbons BTEX (i.e. benzene, toluene, ethylbenzene, xylene) PAHs Phenols Lead
Sheep and cattle dips		Arsenic, organochlorines and organophosphates, carbamates, and synthetic pyrethoids
Smelting and refining		Metals and the fluorides, chlorides and oxides of copper, tin, silver, gold, selenium, lead, aluminium

Industry	Type of Chemical	Associated Chemicals
Tanning and associated trades	Metals General	Chromium, manganese, aluminium Ammonium sulphate, ammonia, ammonium nitrate, arsenic phenolics, formaldehyde, sulphide, tannic acid
Water and sewerage treatment plants	Metals	Aluminium, arsenic, cadmium, chromium, cobalt, lead, nickel, fluoride, lime and zinc
Wood preservation	Metals	Chromium, copper, arsenic Naphthalene, ammonia, pentachlorophenol, dibenzofuran, anthracene, biphenyl, ammonium sulphate, quinoline, boron, creosote, organochlorine pesticides

Source: Appendix 1 of the Australian Standard AS4482.1 – 2005 – Guide to the investigation and sampling and investigation of potentially contaminated soil. Part 1: Non-volatile and semi-volatile compounds.

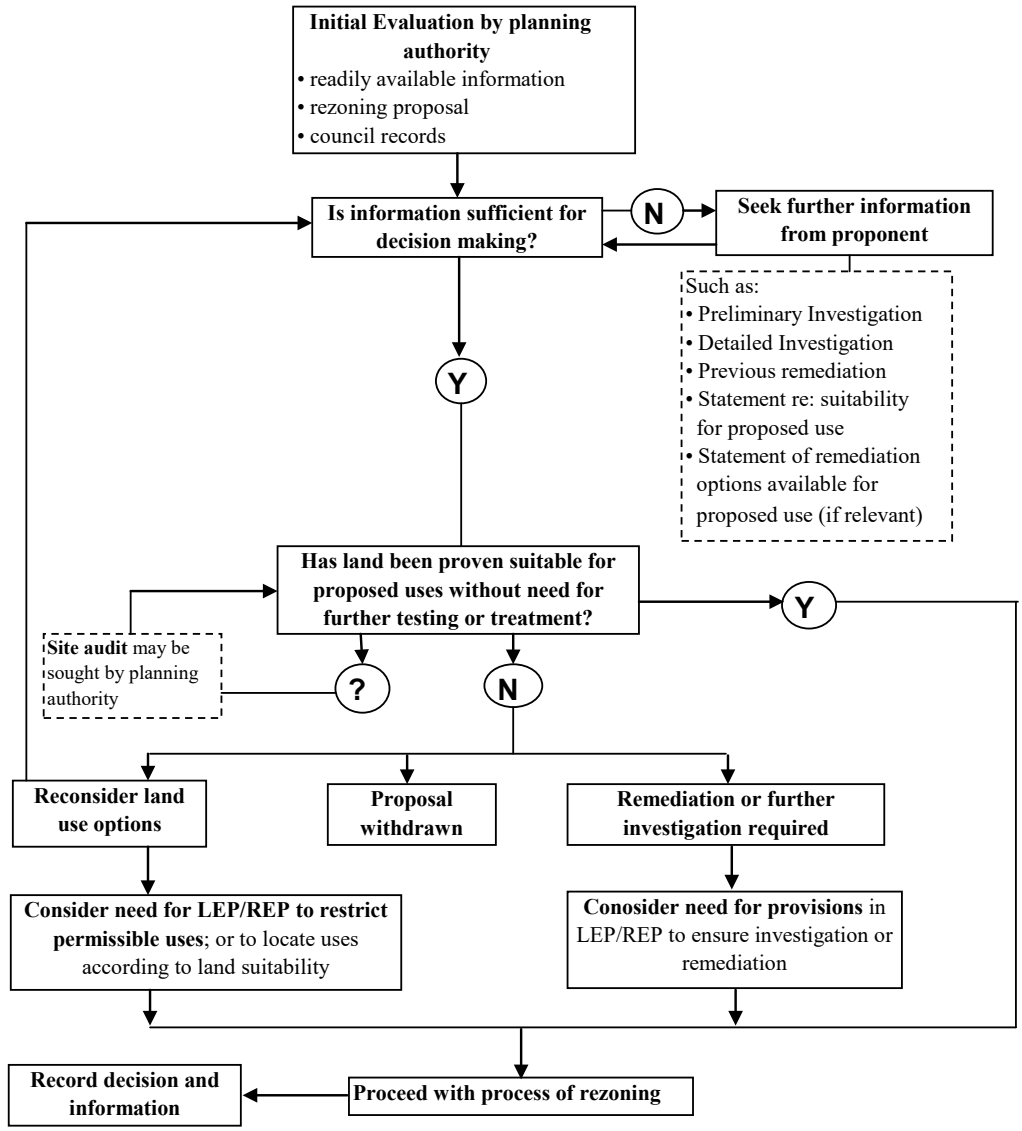
2.11.3 Options available in the development application process

Figure F4.5



2.11.4 Options available in the rezoning process

Figure F4.6



2.12 Waste Generation Rates

Generation Rates – Construction

When estimating wastes for a waste management plan, it is important to remember that no two building sites are the same and that the volumes of waste generated depend on factors such as the design of the building, the waste minimisation practices in place, and the skill of the tradespersons involved.

It is for this reason that applicants are only required to provide estimate volumes on the waste management plan. These estimates can be later checked against recycling and disposal receipts.

There are many techniques that can be used to estimate volumes for construction and demolition wastes. The method detailed below is a simple yet accurate method of estimating waste quantities for a waste management plan:

a) Quantify materials for the project;

b) Use margins normally allowed for ordering; and

c) Copy these quantities across to your waste management plan.

Generation Rates – Residential

The volumes in Table F4.7 are provided as a general guide to assist in the estimation of wastes for the ongoing use of a residential development.

It is recommended that applicants confirm details of Council's current waste and recycling services prior to designing waste storage areas.

Table F4.7

Waste Stream	Allowance
Garbage	80 L/Unit/Week
Co-mingled Recycling	40 L/Unit/Week
If paper and containers are collected separately	
Paper Recycling	25 L/Unit/Week
Containers Recycling	15 L/Unit/Week

Generation Rates - Commercial

The volumes in Table F4.8 are provided as a general guide to assist in the estimation of wastes for the ongoing use of various commercial type developments.

Table F4.8

Type of Premises	Waste Generation	Recycling Generation
Backpackers accommodation	40L/occupant/week	20 litres/occupant/week
Boarding house, Guest house	60L/occupant/week	20 litres/occupant/week
Hotel or motel accommodation	5L/bed/day 50L/100m2/bar area/day 10L/1.5m2/of dining area/day	50L/100m2/of bar and dining areas/day
Registered club	50L/100m2/bar area/day 10L/1.5m2/dining area/day	50L/100m2/of bar and dining areas/day
Food Premises - Butcher - Delicatessen - Fish shop - Greengrocer - Restaurants - Supermarket - Takeaway	 80L/100m2 floor area/day 80L/100m2 floor area/day 80L/100m2 floor area/day 240L/100m2/day 10L/1.5m2 floor area/day 240L/100m2 floor area/day 80L/100m2 floor area/day	 Discretionary Discretionary Discretionary 120L/100m2/day 2L/1.5m2/day dining 240L/100m2/day Discretionary
Offices	10L/100m2/day	10L/100m2/day
Retail (other than food sales) Shop less than 100m2 floor area Shop over 100 m2 floor area	 50L/100m2 floor area/day 50L/100m2 floor area/day 60L/100m2 floor area/day	 25L/100m2 floor area/day 50L/100m2 floor area/day Discretionary
Showrooms	40L/100m2 floor area/day	10L/100m2 floor area/day

3. Other Guidelines, Documents and Technical Information

Penrith DCP 2014 makes reference to a range of publications and other technical information produced by organisations and agencies other than Penrith City Council. The following is not an exhaustive or definitive list of available information, however, serves as a starting point for meeting the requirements of Penrith DCP 2014.

3.1. NSW State Legislation

The primary legislation for planning in New South Wales is the *Environmental Planning and Assessment Act 1979*, with further administrative and operational information detailed in the *Environmental Planning and Assessment Regulation 2000.*

In addition, there is a range of New South Wales (and Commonwealth) legislation and/or regulation that may be relevant to your land use or development. All legislative requirements for your land use or development must be met. Information about the currency and status of legislation is available from the NSW Parliamentary Counsel's Office. The official NSW Government site for online publication of legislation is www.legislation.nsw.gov.au. Each NSW Government Department is able to advise of the legislation it administers, and of the requirements under that legislation. You should therefore contact the relevant Department directly. Information about NSW Government Departments can be obtained from the NSW Government Directory on www.directory.nsw.gov.au.

3.2. Commonwealth Legislation

A number of Commonwealth Acts such as the *Environment Protection and Biodiversity Conservation Act 1999* may be relevant. See http://www.comlaw.gov.au/.

3.3. State Environmental Planning Policies (SEPP)

State Environmental Planning Policies are environmental planning instruments prepared by the NSW Department of Planning and Environment and made by the Minister for Planning. Unless otherwise stated, the requirements of a SEPP will generally have precedence over Local Environmental Plans (LEPs) or Development Control Plans (DCPs).

The SEPP documents can be obtained from the NSW Government legislation website (www.legislation.nsw.gov.au).

Questions in relation to a particular SEPP should be referred to the NSW Department of Planning and Environment.

3.4. Residential Flat Design Code 2002

Residential Flat Design Code 2002 is available from the NSW Department of Planning and Environment and may also be accessed from www.planning.nsw.gov.au.

The Residential Flat Design Code is a resource to enable councils, planners, developers and architects to improve residential flat design. The Code sets broad parameters for good residential flat design by illustrating the use of development controls and consistent guidelines.

The Design Code supports the ten design quality principles identified in *State Environmental Planning Policy No. 65 — Design Quality of Residential Flat Development*. It supplies detailed information about how development proposals can achieve these principles.

With the other Design Quality Program initiatives, the Residential Flat Design Code provides comprehensive guidance to improving the design quality of residential flat buildings.

3.5 Certification Systems

3.5.1 National Australian Built Environment Rating System

NABERS is a national rating system that measures the environmental performance of Australian buildings, tenancies and homes. NABERS measures the energy efficiency, water usage, waste management and indoor environment quality of a building or tenancy and its impact on the environment. For information on NABERS, see www.nabers.gov.au.

3.5.2 Green Star

Green Star is an environmental rating scheme that provides formal accredited evaluation of the environmental design and achievements of buildings across nine categories (management, indoor environment quality, energy, transport, water, materials, land use and ecology, emissions, innovation). Green Star provides certified ratings of 4, 5 or 6 Stars. Information about Green Star is available from http://www.gbca.org.au/green-star/.

The Green Star certification system was developed and is administered by the Green Building Council of Australia, a not-for-profit organisation.

3.5.3 Building Sustainability Index (BASIX)

Information about BASIX is available from www.basix.nsw.gov.au. BASIX is online program that assesses a house or unit design, and compares it against energy and water reduction targets. The design must meet these targets before a BASIX Certificate can be printed. Every development application for a new home must be submitted to Council with a BASIX Certificate.

BASIX uses information such as site location, house size, type of building materials and fittings for hot water, cooling and heating. It is important to realise that the commitments made during the BASIX process are shown on the final certificate and must be marked on the plans, and adhered to during the building process. Any changes made to the house design means another BASIX assessment must be completed and a new BASIX Certificate submitted to Council.

BASIX was introduced by the NSW Government to ensure homes are built to be more energy and water efficient. BASIX is free and allows users to determine how they will meet targets from a wide range of options such as rainwater tanks, water-saving fixtures, improved insulation, passive solar orientation, natural lighting and native plants for gardens.

3.6 Native Vegetation of Western Sydney

The Native Vegetation of the Cumberland Plain Maps and Interpretation Guidelines were prepared by the NSW National Parks and Wildlife Service (part of the Office of Environment and Heritage). The maps and guidelines can be downloaded from the OEH website (www.environment.nsw.gov.au).

3.7 Threatened Species Assessment Guidelines – The Assessment of Significance (2007)

The *Threatened Species Assessment Guidelines – The Assessment of Significance* are designed to help applicants of a development or activity with interpreting and applying the factors of significance assessment. The aim of the guidelines is to help ensure that a consistent and systematic approach is taken when determining whether an action, development or activity is likely to significantly affect threatened species, populations or ecological communities, or their habitats either directly or indirectly. These guidelines are available from the OEH website (www.environment.nsw.gov.au).

3.8 Significant Impact Guidelines 1.1 - Matters of National Environmental Significance (2009)

The Significant Impact Guidelines provide overarching guidance on determining whether an action is likely to have a significant impact on a matter protected under national environment law; i.e. the *Environment Protection and Biodiversity Conservation Act 1999*. These guidelines are available from the Commonwealth Department of Environment website (www.environment.gov.au).

3.9 Planning for Bushfire Protection

Prepared by the NSW Rural Fire Service, 'Planning for Bushfire Protection' provides information on the planning matters that must be considered when developing residential uses in residential, rural residential, rural and urban locations on sites in close proximity to areas likely to be affected by bushfire events. The Rural Fire Service 'Guidelines for Single Dwelling Development Applications' has been designed to assist applicants meet the requirements of 'Planning for Bushfire Protection' when submitting a development application for a single dwelling. These documents can be downloaded from the Rural Fire Service website (www.rfs.nsw.gov.au).

3.10 Water extraction licenses and approvals

The NSW Office of Water is responsible for the overall management of freshwater resources in NSW including water in rivers, streams and lakes (surface water), and water held under the ground in aquifers (groundwater). For further information, see www.water.nsw.gov.au.