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Executive summary

The Carlingford Precinct is expected to change markedly in response to new planning controls which provide for the urban renewal of the area. As part of the urban renewal process, the Precinct will change from suburban to urban in character as a result of the introduction of taller and denser development. The transition from a low density built form must be supported by an overall plan for the design of public spaces to ensure that the Carlingford Precinct is a desirable place to live, shop, work and visit.

There are significant benefits for residents and visitors in providing public spaces which are attractive, inviting and useable. The renewal of the Precinct provides an opportunity to guide quality design outcomes within the public domain. The Hills Shire Council is dedicated to working with the community and developers to develop the public domain in a way which meets the needs of current and future residents of the Precinct.

The development of the Carlingford Precinct Public Domain Plan involved drawing on the extensive planning work undertaken to date, as well as on-ground investigations. The on-ground investigations involved an audit of existing pedestrian pathways, vehicle routes, open spaces and public areas to better understand the characteristics of the public domain. Through these processes, a series of priority issues emerged.

The key issues relating to the public domain in the Carlingford Precinct are:

1. Improving pedestrian accessibility and circulation
2. Improving the quality of open spaces
3. Providing for cohesive and attractive streetscapes

The public domain works identified in this Plan will be undertaken by Council and developers as part of the development process. Through the measures identified in the Plan and in partnership with local businesses, the community and developers, The Hills Shire Council will make the Carlingford Precinct exciting and inviting for residents and visitors alike.
This section defines the purpose, scope and structure of the Carlingford Precinct Public Domain Plan, and its relationship to other relevant instruments and policies

1.1 Purpose

This Plan is known as the Carlingford Precinct Public Domain Plan. This Plan serves as a manual to guide the future planning and design of the public domain within the Carlingford Precinct. It provides an overall direction for creating public domain spaces that are attractive, safe and vibrant within the Precinct.

This Plan provides:
- An analysis identifying the current and desired future character of the Carlingford Precinct;
- A public domain design framework providing design direction for future development, including recommended design approaches, treatments and details;
- An estimate of costs for suggested treatments; and
- A proposed implementation plan for these recommendations.

This Plan has been prepared by Council to complement the draft Local Environmental Plan (LEP) and draft Baulkham Hills Development Control Plan (DCP) Part E Section 22 – Carlingford Precinct. This Public Domain Plan is part of a suite of planning documents that will guide the revitalisation of the Precinct for residential and mixed use development.

This Plan is intended to be used by Council, developers and consultants involved in the development of the Carlingford Precinct and should be read in conjunction with the documents and policies stated in section 1.4.

It is recommended that this Plan be reviewed regularly to ensure its continued relevance and usability to the Precinct as it develops in the future.

1.2 Land to which this Plan applies

This Plan applies to land within the Carlingford Precinct which is located in the north-western region of Sydney, approximately 23 kilometres north-west of the Sydney CBD and 8 kilometres from Parramatta.
The Carlingford Precinct is shown below. The Precinct is bounded by Pennant Hills Road, Moseley Street and Jenkins Road and is adjacent to the Hornsby Shire and Parramatta City Council areas.

1.3 What is the Public Domain?

The public domain is the community realm. It is the space where civic life takes place. Parks and walking tracks are examples of the public domain, as are streets, outdoor plazas and meeting places. For the purposes of this Plan, the public domain is characterised by all urban and natural elements, structures and publicly accessible
spaces within the Precinct.

1.4 Relationship to other Plans and Policies

The Carlingford Precinct Public Domain Plan has been developed using the following Council Documents and Policies:

- Hills 2026
- Environment and Leisure Direction (THSC, 2008)
- Centres Direction (THSC, 2008)
- Safer Shire Strategy 2007-2010 (THSC, 2007)
- Draft North West Subregional Strategy (DOP, 2007)
- Metropolitan Strategy (DOP, 2005)
- Draft Local Environmental Plan for Carlingford Precinct
- Draft Baulkham Hills Development Control Plan Part E Section 22 – Carlingford Precinct
- Draft Section 94 Contributions Plan No. 14 – Carlingford Precinct
- The Hills Shire Council Bike Plan
- Design Guidelines for Subdivisions/Development
- Works Specifications for Subdivisions/Development
SECTION 2 – Objectives and Principles

This section of the Plan provides the vision for the Carlingford Precinct and outlines the objectives which will guide development of the public domain.

2.1 Vision for the Carlingford Precinct

The Carlingford Precinct is a vibrant, safe and attractive place to live, work and visit. The Precinct will be characterised by high quality public domain spaces that provide for an attractive and cohesive public realm, and contribute to an active street life, as well as promoting community interaction.

This Plan will assist in achieving the vision for the Carlingford Precinct. The following section provides for a range of objectives for the Precinct to be achieved through the implementation of public domain improvements.

2.2 Objectives of this Plan

This Plan aims to establish a framework of design principles to guide the implementation of public domain improvements within the Precinct.

Key objectives of this plan are to:

- Promote design solutions and finishes that meet the desired future character for the revitalisation of the Precinct;
- Facilitate the creation of high quality public spaces that encourage social interaction and create a sense of place for residents and visitors to the Precinct;
- Promote the visual and physical integration of the public and private domains;
- Provide appropriate, equitable, safe and convenient access and egress points for pedestrians; and
- Provide for improved pedestrian circulation patterns throughout the Precinct.
This section of the Plan presents an analysis of the historical and current context, existing character, land uses, and access and circulation to identify the existing character of Carlingford.

3.1 Context

The Hills Shire is a rapidly expanding Local Government Area. The Shire has experienced significant growth over the past decade including the redevelopment of established areas for multi-unit housing and new development within urban release areas. By 2031, the Shire is expected to grow by 100,000 people, with 36,000 additional dwellings to be built and 47,000 additional jobs to be provided.

The Carlingford Precinct is a 37 hectare site located in the south-eastern corner of the Shire. The Precinct is the only part of the Shire which is served by heavy rail, with Carlingford Station situated in the south-western corner of the Precinct. Development within the Precinct is characterised by a mix of older single dwellings, as well as townhouses and apartments which have been developed since 2001 under the Residential Development Strategy. Bordering the Precinct to the east and south are retail and commercial developments including Carlingford Court shopping centre, Carlingford Village shopping centre and smaller-scale strip shops and commercial development along Pennant Hills Road.

Land to the north of the Precinct is predominantly characterised by low density residential development with some medium density housing forms such as town houses and villas. Land to the south and east within the Parramatta City Council area has been developed for apartments along Pennant Hills Road, which transitions to single dwelling housing away from the ridge.

A major electricity substation is located to the west of the Precinct on Jenkins Road. High voltage transmission line towers and transmission lines cross the Precinct from west to east from the substation to the south-eastern corner of the Precinct on Pennant Hills Road.

An educational establishment (James Ruse Agricultural High School) is located within close proximity of the Precinct. Further to the west on Pennant Hills Road are Carlingford West Primary School and Cumberland High School.

3.2 Planning and Infrastructure Framework

A draft Local Environmental Plan (LEP), Development Control Plan (DCP) and Section 94 Contributions Plan (CP) have been prepared to provide a planning and infrastructure framework for the future.
development of the Carlingford Precinct. Development in accordance with these draft plans will provide for an additional population of approximately 3,500 people in 2,700 additional dwellings across a range of dwelling types including high density apartments, town houses and villas.

The draft LEP provides controls for zoning, floor space ratio and building height, and the draft DCP outlines detailed controls and identifies ‘key sites’ for development within the Precinct. The draft CP identifies key community infrastructure which will be required as a result of development within the Precinct including local open space, road and intersection upgrades, an upgrade to Carlingford Library and a new community centre.

The draft Precinct Planning documents provide for increased density of development and building heights. The draft DCP provides controls for landscape design to ensure a high quality public domain which is compatible with the achievable built forms and appropriate for the desired future character of the Precinct.

The preparation of a civic design manual or public domain plan to guide the development of, and to improve the public domain and streetscape, within centres is identified in both the Environment and Leisure Direction and the Centres Direction. The public domain plan for the Carlingford Precinct will assist in achieving the key objectives of these plans, namely:

- C1 Create vibrant centres that meet the needs of the community
- C2 Make centres more attractive places to visit
- C3 Make centres accessible to the community
- C4 Improve the functioning and viability of existing centres

### 3.3 Heritage and History

The settlement of the Carlingford area dates from the 1860s. The area was originally known as Mobbs Hill after William Mobbs, an early settler. Carlingford probably received its name to honour Lord Carlingford who was Under-secretary of State for the Colonies from 1857 to 1860. His title is associated with the town of Carlingford in Ireland. The name was suggested by Frederick Cox who heard one of his employees describe the similarities between Mobbs Hill and the scenery of Carlingford in Ireland. Residents voted for the name in 1886.
Land in Carlingford was used mainly for agriculture, including orcharding, poultry farms and market gardening. The orchard owners in the Hills District had lobbied the Government for a railway line throughout the 1880s to connect the Hills District orchards with the markets at Flemington without success. As a result the Carlingford railway line was built privately and opened on 16 April 1896. The Carlingford line was subsequently purchased by the State Government in 1899 and the first Government rail service commenced in 1901. The Carlingford train service was referred to by local residents as the “Apricot Express”.

Growth was minimal in the Carlingford area until after World War II. The Carlingford Precinct was first urbanised in the 1950s as a Department of Housing subdivision, however the majority of urban development occurred from the 1960s onwards.

The Precinct contains one heritage item known as the Carlingford Stock Feeds located near to the railway station at 1 Thallon Street, Carlingford.
3.4 Land uses

The Carlingford Precinct is characterised by a mix of residential, commercial, and community land uses (refer Plan 2). As noted above, the Precinct contains a mixture of low density detached housing, as well as town houses, villas and apartment buildings.

Commercial and retail development within the Precinct consists of a small area of mixed commercial and retail development located on the western side of Pennant Hills Road between the intersections of Carlingford Road and Marsden Road. Uses in this location include a liquor shop, restaurants and Bunnings Warehouse hardware store. To the north of this group of shops is a service station and a second service station is located at the corner of Jenkins and Pennant Hills Road.

In terms of existing community facilities, the Carlingford Branch Library and the Carlingford First Scouts hall are located in Boundary Road. A number of privately-owned child care centres are located within the Precinct.

3.5 Built Form

The built form of the Precinct consists predominantly of single storey residential dwellings of brick veneer construction. A majority of the houses were constructed in two phases during the 50s and 60s, which generally have deep front setbacks and are situated on large allotments with an average of 920m² in the Residential 2(a1) zone and 782m² for Residential 2(a2). These large lots have enabled trees to be planted or retained which has resulted in the leafy garden character of the Precinct.

Since the rezoning of the Precinct in 2001, the character of the built form has changed with the construction of apartment buildings of between two and eight storeys in height and town houses up to three storeys in height throughout the Precinct. Existing apartment development is concentrated in the southern part of the Precinct south of Post Office Street on Post Office Street, Lloyds Avenue, Pennant Hills Road, with some
developments on Jenkins Road and Thallon Street. In the northern part of the Precinct, aside from apartment development on Pennant Hills Road opposite Carlingford Court and at the corner of Young Road and Post Office Street, new development has been predominantly in the form of town houses and villas.

### 3.6 Access and Circulation

The Precinct is bounded by Pennant Hills Road to the east and south, Jenkins Road to the west and Moseley Street to the north. Pennant Hills Road is a classified road, however there are no major collector roads within the Precinct and the road network is dominated by local and minor collector roads (refer Plan 2).

Footpaths line the perimeter of the Precinct along Pennant Hills Road, Jenkins Road and Moseley Street and are provided in parts of Post Office Street, Lloyds Avenue, Shirley Street, Donald Street and Thallon Street (refer Plan 1). Footpaths vary in quality and width, with some new paths constructed outside new apartment developments in the southern part of the Precinct. Aside from these footpaths there are limited existing formal pedestrian access ways to shops, public open space and public transport within the Precinct, with the exception of the pedestrian path parallel to Carlingford Station which links the railway station to Boundary Road (north). In addition, no formal off-road cycleways are available within the Precinct.

Pedestrian circulation within the Precinct is largely characterised by movement to and from the train station and Pennant Hills Road, as well as movement to and from the Carlingford Court and Carlingford Village shopping centres. The definition of pedestrian access ways is poor.

### 3.7 Services

Services within the Precinct are predominantly provided above ground, including street power and street lighting. In addition, a 132kV high voltage power transmission line crosses the Precinct from west to east from the substation on Jenkins Road to the south-eastern corner of the Precinct on Pennant Hills Road. Overhead services may restrict street tree planting and as such the draft DCP provides for the undergrounding of both street pole services and high voltage power lines.

### 3.8 Safety

The mixture of residential, commercial, retail and community uses means that the safety and security of visitors and residents to the Precinct is an important consideration for this Plan.

Presently activity is focussed around the railway station and shops in the vicinity of Lloyds Avenue, as well as along Pennant Hills Road opposite Carlingford Village and Carlingford Court. However, links between these activity nodes are limited and
poorly defined. Pedestrians currently travel from the northern end of Boundary Road and Shirley Street via the Shirley Street Reserve to reach the station. Whilst a narrow concrete pathway starts at Boundary Road and follows the fence along the outside of the railway corridor adjacent to the Reserve, there is no formal path through the Reserve from Shirley Street to link with this pathway. Due to inadequate lighting, as well as limited passive surveillance of this route, a safe environment is not provided for pedestrians.

Accordingly, this Plan promotes the creation of pedestrian spaces with better lighting and paving to ensure that these areas are safe.

### 3.9 Visual assessment

A visual assessment of the Precinct was undertaken to understand the existing visual and aesthetic characteristics of the Precinct. The visual assessment has informed the preparation of the principles and strategies presented in Section 4 of this Plan which will guide the character, quality and functioning of development within the public domain. The results of the visual assessment are presented in Plans 3a and 3b.
SECTION 3 – Analysis

THE HILLS SHIRE COUNCIL – PROJECTS DIVISION

CARLINGFORD PRECINCT PUBLIC DOMAIN PLAN

Page 15
1. Corner of Moseley Street and Pennant Hills Road facing south
2. Young Road Reserve
3. Pennant Hills Road streetscape facing north
4. Tanderra Avenue street trees
5. Pennant Hills Road streetscape facing south
6. Existing fencing
7. Tanderra Avenue street trees
8. Tanderra Avenue street trees
9. Parklea Place streetscape facing south
10. Moseley Street streetscape facing west
11. Young Road streetscape facing north
12. Bus stop on Pennant Hills Road northbound
13. Pedestrian access to development at 780 Pennant Hills Road
14. Donald Street
southern precinct 3b

Visual Assessment

CARLINGFORD PRECINCT PUBLIC DOMAIN PLAN
1. Lloyds Avenue Reserve retaining wall
2. Pennant Hills Road facing north near corner Jenkins Road
3. Footpath corner of Post Office Street and Pennant Hills Road
4. Bus stop, Post Office Street
5. Railway station overbridge
6. Lloyds Avenue streetscape facing west
7. Existing dwelling, Shirley Street
8. Car park entry, development at 1-9 Shirley Street
9. Bus stop adjacent to electricity substation on Jenkins Road facing south
10. Shirley Street Reserve
11. Carlingford Stock Feeds adjacent to railway line
12. Street trees, Boundary Road facing south
13. Existing strip commercial on Pennant Hills Road
14. Corner of Post Office Street and Pennant Hills Road facing south
This section establishes a series of principles and strategies to guide the character, quality and functioning of development within the public domain of the Carlingford Precinct. These guidelines will form part of an overall urban design framework for the Precinct and support the provisions of relevant planning policies and plans.

4.1 Access

4.1.1 Pedestrian Environment

Pedestrian access principles:

- Link all public and private pedestrian walking networks into an integrated system;
- Enhance and improve the walking environment;
- Encourage more use of the public domain for pedestrian movement;
- Improve major pedestrian nodes and crossing points to minimise waiting times;
- Provide adequate width of pedestrian footpath to allow for the expected pedestrian volumes throughout the Precinct;
- Allow for regional pedestrian access links to Parramatta, Epping, North Rocks and West Ryde; and
- Provide adequate pedestrian lighting.

Recommendations:

- Implement three levels of paving through the precinct, based on expected pedestrian volumes and aesthetic expectations, as follows:
  - Treatment 1 specifies full footpath width porphyry paving;
  - Treatment 2 specifies 2.5m width plain concrete footpath with porphyry banding; and
  - Treatment 3 specifies 1.5m width plain concrete footpath with porphyry banding.
- Identify and implement raised pedestrian crossing points and phase traffic signals appropriately at crossing points to reduce waiting times, including:
  - Mid street crossing points on Post Office Street; and
  - One mid street crossing point on Jenkins Road to facilitate pedestrian movement to and from the transport hub.
- Provide opportunities for improved pedestrian access in the Carlingford Precinct through land acquisition or Development Control Plan controls, including:
Concrete paving

- Development conditions that facilitate pedestrian movement from private to public domain; and
- Development conditions that encourage the development to address the street frontage.

- Identify pedestrian links between the Carlingford Precinct and surrounding areas:
  - Provide pedestrian access links from other centres via open space.

- Provide pedestrian lighting to create safe and amenable access throughout the Precinct, including:
  - P1 level lighting in accordance with the Australian Standard 1158 for major intersections and high trafficked areas;
  - P2 level lighting in accordance with Australian Standard 1158 for major pedestrian links to the Precinct; and
  - P3 level lighting in accordance with the Australian Standard 1158 for lower level pedestrian links.

Plans:

- Refer to Plans 4 and 5
proposed paving
5

pedestrian lighting

KEY

Precinct Boundary

- P1 Level Lighting
- P2 Level Lighting
- P3 Level Lighting
4.1.2 Cycleways

Cycleway access principles:

- Link all existing cycleways within the Carlingford Precinct to the regional cycleway network through and to local schools;
- Provide on-road and off-road cycleway facilities; and
- Provide cycle storage at major transport and shopping hubs.

Recommendations:

- Implement off-road cycleways at the following locations:
  - Shirley Street (E side) full length
  - Jenkins Road (E and W sides) full length
  - Post Office Street (S side)
  - Moseley Street (N side); and
- Refer to concept design for line marking and typical plan and sections.

Plans:

- Refer to Plan 6
4.1.3 Vehicular Environment

Vehicular access principles:

- Provide a completely integrated road network that connects to surrounding road networks and services the Carlingford Precinct;
- Provide a safe and efficient road network for the community to utilise;
- Provide public parking facilities that allow for the expected numbers of vehicles in the Carlingford Precinct;
- Develop roads that minimise conflict between cyclists, pedestrians and vehicles;
- Provide adequate lighting for vehicular movements within the precinct; and
- Provide sympathetic treatments to all roundabouts.

Recommendations:

- Implement road improvements in accordance with the capital works road improvement program;
- Implement traffic improvements in accordance with the recommendations of the Traffic Committee;
- Implement vehicular lighting improvements in accordance with the recommendations of the Traffic Committee;
- Implement Kerb and Gutter as specified:
  - Kerb and Gutter 1 is typical Kerb and Gutter as identified in the concept design; and
  - Kerb and Gutter 2 is 200mm wide Kerb and typical Gutter as identified in the concept design.
- Implement V3 level lighting in accordance with Australian Standard 1158 for all heavily utilised pedestrian areas, including:
  - Boundary Road between Post Office Street and Pennant Hills Road;
  - Jenkins Road between Pennant Hills Road and Post Office Street;
  - Parklea Place;
  - James Street and Thallon Street; and
  - Pennant Hills Road between Jenkins Road and Post Office Street.
- Implement V5 level lighting in accordance with Australian Standard 1158 for all major roads, including:
  - Post Office Street, full length;
  - Donald Street, full length;
  - Young Road, full length; and
  - Shirley Street, full length.
- Implement P4 level lighting in accordance with Australian Standard 1158 for all Local roads, including:
  - Jenkins Road, full length;
  - Moseley Street, full length; and
  - Post Office Street, full length.
Plans:

- Refer to Plans 7 and 8
SECTION 4 – Strategic Vision

7

ROAD PAVEMENT

KEY

- Precinct Boundary
- RTA Main Road Type 2
- Local Road
- Kerb & Gutter Type 1
- Kerb & Gutter Type 2
- Threshold Treatments
4.1.4 Public Transport

Public Transport principles:

- Encourage the use of public transport to and from Carlingford Precinct.

Recommendations:

- In collaboration with the state government, encourage the construction of the Epping to Parramatta Rail Link;
- Provide adequate facilities at bus stops through the precinct;
- Maintain and promote taxi ranks in Carlingford precinct; and
- Provide adequate vehicle drop-off points through Carlingford Precinct to encourage the use of public transport.

Plans:

- Refer to Plan 9
**KEY**

- Precinct Boundary
- Train Station to be upgraded
- Bus Interchange
- Bus Stops
- Taxi Rank
- Drop-off points
4.2 Open Space

Open Space principles:

- Link existing and potential open space areas;
- Provide a safe and amenable environment;
- Encourage the community to use open space by improving the aesthetic quality; and
- Locate incidental play elements at appropriate places along streets within road reserve and setbacks.

Recommendations:

- Undergrounding of high voltage power lines and use of easements as open space;
- Combining easements;
- Create a Civic Square; and
- Install play equipment in safe and appropriate locations.

Plans:

- Refer to Plan 10

4.2.1 Young Road Reserve No. 25

Open Space principles:

- Link to streetscape as unified public space;
- Provide green backdrop to views to the north; and
- Provide a visual focus / sculptural element.

Recommendations:

- Provide a substantial play space;
- Provide a grassed area;
- Provide sitting areas;
- Provide path link to the street; and
- Provide a sculpture.

Plans:

- Refer to Plan 11a
4.2.2 Shirley Street Reserves No. 26

Open Space principles:

- Encourage passive recreation within the park;
- Provide a safe and amenable environment; and
- Encourage the community to use the park by improving the aesthetic quality.

Recommendations:

- Improve pedestrian footpath network;
- Provide additional garden beds and tree plantings; and
- Provide a high quality play structure.

Plans:

- Refer to Plan 11b

4.2.3 Lloyds Avenue Reserve No. 27

Open Space principles:

- Integrate Lloyds Avenue to park with surface treatments that are harmonious in colour and texture; and
- Screen off Pennant Hills Road with green walls.

Plans:

- Refer to Plan 10
Open Space Treatments

1a. Existing flood prone land zoned open space.
1b. Existing open space to be upgraded
1c. Existing easement to be accessible to public
1d. Existing easement to serve as open space accessible to public
2. Civic Plaza

3. Existing scout hall & library expansion fronting open space
4. Boulevard Character along Post Office Street & Boundary Road
5. Proposed Open Space

Building Line Set Backs:
- 10m
- 8m
- 6m

Site Specific Setback Control
Young Road Reserve R26

new vision - typical treatment

SCALE: 1:200
Shirley Street Reserve

new vision - typical treatment

SCALE: 1:100
SECTION 4 – Strategic Vision

THE HILLS SHIRE COUNCIL
PROJECTS DIVISION

CARLINGFORD PRECINCT PUBLIC DOMAIN PLAN

11c

open space treatments

CPLOS2

CPLOS3

Drainage Reserves

new vision - typical treatment

SCALE: 1:200
Boundary Rd R26 - 1

new vision - typical treatment

SCALE: 1:200
Boundary Rd R26 - 2
new vision - typical treatment
SCALE: 1:200
open space treatments
4.3 Street Furniture, Fixtures and Fittings

Furniture, fixtures and fittings principles:

- Improve the aesthetic of the precinct by providing good quality furniture, fixtures and fittings;
- Provide functional furniture, fixtures and fittings to the precinct; and
- Provide unique and associative furniture fixtures and fittings to the precinct.

Recommendations:

- Provide up-lights to trees along Post Office Street;
- Provide gateway signage at the two major vehicular entrances to the Carlingford Precinct;
- Provide directional signage at the public transport hub to identify the places of interest within the Precinct;
- Provide informational signage to the transport hub to identify useful information about the Precinct; and
- Refer to Section 5 for the suite of furniture, fixtures and fittings, including signage for the Precinct.

Plans:

- Refer to Plan 12
4.4 Stormwater

Stormwater principles:

- Improve water quality through the provision of water quality management techniques;
- Reduce the runoff from hard areas by recharging the water table; and
- Implement Carlingford Stormwater Study and Management Plan.

Recommendations:

- Provide bio-swales on the verge, where practical, in the following locations:
  - Post Office Street
  - Boundary Road;
- Provide gross pollutant traps at the following location:
  - Jenkins Road; and
- Provide water capture for re-use infrastructure at the following locations:
  - Young Road Reserve;
  - Shirley Street Reserve; and
  - Boundary Road Reserve.

Plans:

- Refer to Plans 11a, 11b, 11c, 11d, 11e & 11f.
4.5 Street Trees, Planting and Turf Areas

4.5.1 Street Trees

Street tree principles:

- Improve the aesthetic of the Precinct by providing avenue plantings;
- Provide street trees that have been utilised as street trees successfully by Council in the past; and
- Provide street trees that minimise impact on paving, services and other infrastructure.

Recommendations:

Provide the following species:

**Jenkins Road**
- Corymbia ficifolia and Eucalyptus microcorys.

**James and Thallon Streets**

**Post Office Street**
- Hymenosporum flavum, Fraxinus angustifolia ‘Raywood’ and Pistacia chinensis.

**Moseley Street**
- Jacaranda mimosifolia and Callistemon viminalis.

**Pennant Hills Road**
- Eucalyptus saligna and Eucalyptus scoparia.

**Tanderra Street and Boundary Road**
- Prunus cerasifera ‘Nigra’, Platanus x acerifolia and Tristaniopsis.

**Donald Street**
- Gordonia axillaris, Melaleuca linariifolius and Callistemon saligna.

**Parklea Place**
- Ginko bilboa, Acmena smithii and Lagerstroemia ‘Natchez’.

**Paul Place, Correy Place and Cassandra Place**
- Ginko bilboa.

**Shirley Street**
- Gordonia axillaris, Sapium sebiferum, Waterhousia floribunda and Elaeocarpus reticulatus.

**Young Road**
- Alphitonia excelsa, Celtis australis and Fraxinius griffithii.

**Plans:**
- Refer to Plan 12
4.5.2 Planting

Understorey planting principles:

- Improve the aesthetic of the Precinct by providing understorey plantings;
- Utilise drought resistant plant species;
- Provide plant material that will minimise maintenance requirements; and
- Improve the aesthetic of the Precinct by providing avenue plantings.

Recommendations:

Provide the following treatments:

Post Office Street, Boundary Road, Tanderra Avenue

Pennant Hills Road
- Provide Planting Treatment 2, consisting of: Chrysocephalum apiculatum, Gazania spp., Dianella caerulea and Lomandra ‘Silver Grace’.

Other Streets
- Additional species can be used within the areas prescribed, if approved by Council.

4.5.3 Turf Areas

Turf principles:

- Improve the aesthetic and amenity of the Precinct by providing turfed areas;
- Utilise drought and pollution resistant turf species; and
- Provide turf species that will minimise maintenance requirements.

Recommendations:

- Provide turf areas consisting of Cynodon dactylon (varieties should be drought and pollution tolerant), along all streets and in Reserves.
### Planting Treatment 1
- *Eucalyptus scoparia*
- *Myoporum parvifolium*
- *Lomandra ‘Little Con’*
- *Ginkgo biloba*
- *Lagerstroemia indica x ‘Natchez’*
- *Thymed ‘Mingo’*
- *Lomandra ‘Tanika’*
- *Westringia ‘Lilac and Lace’*
- *Rhagodia spinescens var deltophylla*

### Planting Treatment 2
- *Chrysocephalum apiculatum*
- *Gazania spp.*
- *Dianella caerulea*
- *Lomandra ‘Silver Grace’*
4.6 Events and Leased Areas

4.6.1 Events

Events principles:

- Provide public spaces within Carlingford to allow the congregation of the community to celebrate and enjoy events and festivals;
- Provide adequate facilities at each location identified for the provision of food and entertainment; and
- Provide adequate facilities.

Recommendations:

- Provide an events stage area within the Reserves; and
- Provide adequate electrical, water and temporary shelters at each events location identified on the plan.

4.6.2 Leased Areas

Leased Areas principles:

- Provide opportunities within the public space, for leasing and licensing of space for commercial activities; and
- Provide adequate facilities to encourage outdoor dining throughout Carlingford Precinct.

Recommendations:

- Provide seating areas within the road reserve to encourage on-street trading.
4.7 Public Art

**Public Art principles:**

- Create an avenue for local artists and designers to have input into the built environment;
- Make use of local knowledge, experience and understanding of the region;
- Assist in the creation of ongoing professional experience and financial opportunities to strengthen the skills base and viability of the local arts industry;
- Set public art and design precedents in the public domain; and
- Assist in expanding the audience for local contemporary art and design.
**Recommendations:**

- Implement the following list of artworks:

<table>
<thead>
<tr>
<th>Artwork No.</th>
<th>Site</th>
<th>Art and Design</th>
<th>Issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Pennant Hills Road</td>
<td>Sculptural Gateway Icon</td>
<td>Sufficient space for sculptures</td>
</tr>
<tr>
<td>2</td>
<td>Old Library / New Youth Precinct</td>
<td>Temporary installation on forecourt or banner poles – laser cut metal, wood panels, fibreglass, lighting</td>
<td>Developed through youth workshops</td>
</tr>
<tr>
<td>3</td>
<td>James Street Civic Plaza</td>
<td>Sculptural landscaping Sculptural furniture Lighting Freestanding sculptures Paving Art</td>
<td>Spatial design to needs to be accommodate high volume of traffic</td>
</tr>
<tr>
<td>4</td>
<td>New Bus Train and Taxi Interchange</td>
<td>New media installations Sculptural furniture Lighting Freestanding sculptures Paving Art</td>
<td>Support high pedestrian traffic use Safety and visibility</td>
</tr>
<tr>
<td>5</td>
<td>Various Reserves</td>
<td>New media installations Sculptural furniture Landscaping Lighting Freestanding Sculptures Paving Art</td>
<td>Support events based activities (multifunctional space) Safety and visibility</td>
</tr>
<tr>
<td>6</td>
<td>Post Office Street western end</td>
<td>Freestanding Sculpture Lighting</td>
<td>Location on private land</td>
</tr>
<tr>
<td>7</td>
<td>Train Bridge</td>
<td>Sculptural Wall (with lighting) Paving a Sculptural / 3D relief with components fixed to structure (laser cut metal, painted wood)</td>
<td>Safety and visibility Contribute to creation of links. Good visibility for cars and pedestrians. High profile marking of a new link Developed in tandem with bridge design choice Retrofitting an existing structure</td>
</tr>
</tbody>
</table>

**Plans:**

- Refer to Plan 14
CARLINGFORD PRECINCT PUBLIC DOMAIN PLAN

public art works

KEY

Precinct Boundary

1  Public Artwork 1
2  Public Artwork 2
3  Public Artwork 3
4  Public Artwork 4
5  Public Artwork 5
6  Public Artwork 6
7  Public Artwork 7

NOT TO SCALE
4.8 ESD

ESD principles:

- Encourage the use of ESD principles in the design of public spaces.

Recommendations:

- Utilise techniques to minimise the effects of the development on the environment. These techniques could include:
  - Using plantation timber products;
  - Using endemic plant species where appropriate;
  - Sourcing local materials;
  - Using recycled materials where appropriate; and
  - Encouraging non-polluting forms of transport.
This section presents design solutions and details for the Carlingford Precinct that address a range of specific public domain issues including, paving hierarchies and materials, street tree planting and street furniture.
Principle
Paving treatment 1 has been identified as Porphry Paving, to be used in high use pedestrian areas

Material/Finish
Exfoliated @ 30/50/60mm thick

Model No. (if applicable)
N/A

Installation Method
Refer to Specification

Manufacturer’s Details
Sam the Paving Man
39 Gould Street,
South Strathfield, NSW, 2136

sam@samthepavingman.com
www.samthepavingman.com
P: 9642 5666

<table>
<thead>
<tr>
<th>KERB</th>
<th>GUTTER</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

PAVING COLOUR AS SPECIFIED
Principle

Paving treatment 2 has been identified as 2500mm width Concrete with 500mm Porphyry Banding, to be used in medium use pedestrian areas.

Material/Finish

Exfoliated Porphyry 2500mm width @ 30/50/60mm thick

Model No. (if applicable)

N/A

Installation Method

Refer to Specification

Manufacturer’s Details

Sam the Paving Man
39 Gould Street,
South Strathfield, NSW, 2136

sam@samthepavingman.com
www.samthepavingman.com
P: 9642 5666
Principle
Paving treatment 3 has been identified as 1500mm Concrete pathway with Porphyry 300mm Banding, to be used in low use pedestrian areas.

Material/Finish
Exfoliated Porphyry 1500mm wide @ 50mm thick

Model No. (if applicable)
N/A

Installation Method
Refer to Specification

Manufacturer's Details
Sam the Paving Man
39 Gould Street,
South Strathfield, NSW, 2136
sam@samthepavingman.com
www.samthepavingman.com
P: 9642 5666
Principle
Kerb & Gutter type 1 is to be used as a standard treatment
Kerb & Gutter type 2 is to be used in the Civic Plaza area
Material/Finish
Grey Concrete

Model No. (if applicable)
N/A

Installation Method
Various

Manufacturer's Details
N/A
Principle
Select grade hardwood slats mounted on Stainless Steel straps. Precast concrete base

Material/Finish
Stainless Steel Straps - Shot blast electro polish
Harwood Slats - Natural Oil
Concrete - Off Tool

Model No. (if applicable)
N/A

Installation Method
Galvanized Steel Thread fixed at four points

Manufacturer’s Details
HUB Street Equipment
10 Regent Street, Chippendale, NSW, 2008
info@hubstreetequipment.com.au
www.hubstreetequipment.com.au
P: 9212 7144
Principle
Twin General Waste / Recycling Bins to be implemented throughout the Centre

Material/Finish
- Hardwood Timber Battens - Ultraviolet resistant pigmented Oil
- Concealed Galvanised Frame
- Aluminium perforated panels powdercoated ‘Fashion Grey’
- Lid cast aluminium polished

Model No. (if applicable)
BH.120.MR.PC.PL

Installation Method
Sub-surface mounted as per manufacturers instructions

Manufacturer’s Details
Botton & Gardiner Urban Furniture
37/34-36 Ralph Street
Alexandria, NSW, 2015
mikeb@bguf.com.au
www.bottongardiner.com.au
P: 9667 8100
Principle

Used in Open Space areas

Material/Finish

- BUBBLER / MOUTHGUARD: Chrome plated brass with lever action and vandal resistant mouthpiece
- RIM / COLUMN CONSTRUCTION: HDG mild steel pipe 90mm dia and fabricated top
- RIM / COLUMN FINISH OPTIONS: Powdercoat finish (silver)

Model No. (if applicable)

DF6

Installation Method

Sub-surface mounted

Manufacturer's Details

Street Furniture Australia
92-94 Buckland Street,
Alexandria NSW 2015

P: 1800 027 799

Wheelchair accessible

Standard
SECTION 5 – Concept Design

Principle
The use of INGAL EPS Poles throughout the precinct.

Material/Finish
extruded aluminium

Model No. (if applicable)
Avenue and 267 MFP

Installation Method
Sub-surface mounted

Manufacturer's Details
INGAL EPS

light poles

Boulevarde

Avenue
Principle
Sandstone / Timber post and timber rails

Material/Finish
Sandstone Piers 300x300mm

Model No. (if applicable)
Local suppliers

Installation Method
Various

Manufacturer's Details
Principle

Signs

Material/Finish

tba
Model No. (if applicable)

Local suppliers

Installation Method

Various

Manufacturer’s Details
Principle
Infill with stone or concrete pavers

Material/Finish
Stone or concrete

Model No. (if applicable)
Local suppliers

Installation Method
Various

Manufacturer's Details

REALIGN EXISTING PIT COVER TO MATCH NEW PAVING PATTERN
MAXIMUM REALIGNMENT TO BE 5 DEG. OBTAIN APPRAVAL FROM
AUTHORITY FOR COVER REALIGNMENT

CAST IRON FRAME TO ALIGN WITH
TOP OF ADJACENT PAVERS

BEAM BELOW

CUT PAVERS TO FIT INTO METAL
PIT LID TO CONTINUE PATTERN
OF SURROUNDING PAVING. LOCATION
OF PIT COVER IN RELATION TO
PAVING PATTERN VARIES

DUMMY CUT INFILL PAVERS
AT EDGES OF LID TO AVOID
DISLODGEMENT OF SMALL
PIECES

LINE OF SETDOWN IN
CONCRETE SLAB BELOW

NEW METAL PIT COVER AND
FRAME WITH PAVING INFILL
NUMBER OF LID PANELS VARIES.

75 DIA. STAINLESS STEEL DISK
EPOXY FIXED TO PAVERS
Principle

Sandstone / Timber post and timber rails

Material/Finish

Sandstone Piers 300x300mm

Model No. (if applicable)

Local suppliers

Installation Method

Various

Manufacturer's Details
Principle
Sandstone edging

Material/Finish
Sandstone Piers 300x300mm

Model No. (if applicable)
Local suppliers

Installation Method
Various

Manufacturer's Details
Principle
Sandstone faced masonry walls

Material/Finish
Sandstone Piers 300x300mm

Model No. (if applicable)
Local suppliers

Installation Method
Various

Manufacturer's Details
SECTION 6 – Costing

This section presents the cost estimates for the public domain works identified in this Plan including the value of the concept designs presented in Section 5.

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>RATE</th>
<th>UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning &amp; Design</td>
<td>15</td>
<td>%</td>
</tr>
<tr>
<td>Preliminaries</td>
<td>10</td>
<td>%</td>
</tr>
<tr>
<td>Service Adjustments – Major service networks and pits present, requiring infill pit lids</td>
<td>$300</td>
<td>M2</td>
</tr>
<tr>
<td>Service Adjustments – Moderate service networks and pits present, requiring level adjustments of the pit lids and frames – Only on footpaths</td>
<td>$100</td>
<td>M2</td>
</tr>
<tr>
<td>Service Adjustments – Minor service adjustments to existing pit lids and frames, only damaged pit lids and frames to be replaced – Only on footpaths</td>
<td>$50</td>
<td>M2</td>
</tr>
<tr>
<td>Allow for bio-swales in the landscaped areas including stormwater pits, pipes and drainage media</td>
<td>$55</td>
<td>M2</td>
</tr>
<tr>
<td>Minor repair and replacement of broken or failing road infrastructure</td>
<td>$100</td>
<td>M2</td>
</tr>
<tr>
<td>Major upgrade of road infrastructure including: road reconstruction, Kerb &amp; Gutter replacement and construction of raised pedestrian thresholds on standard sub-base</td>
<td>$100</td>
<td>M2</td>
</tr>
<tr>
<td>Major upgrade of road infrastructure including: road reconstruction, Kerb &amp; Gutter replacement and construction of raised pedestrian thresholds on Concrete sub-base</td>
<td>$270</td>
<td>M2</td>
</tr>
<tr>
<td>Full width porphyry paving with concrete sub-base</td>
<td>$250</td>
<td>M2</td>
</tr>
<tr>
<td>Concrete footpath/Cycleway 2.5m width with porphyry banding @ 6m centres / 500mm width.</td>
<td>$130</td>
<td>M2</td>
</tr>
<tr>
<td>Concrete footpath 1.5m width with porphyry banding @ 6m centres / 300mm width.</td>
<td>$120</td>
<td>M2</td>
</tr>
<tr>
<td>Furniture, Fixtures &amp; Fittings – High Pedestrian use - Multi-function Poles every 15m, Seats, Bins, Bollards, Bus Shelter, and Play Space item.</td>
<td>$215</td>
<td>M2</td>
</tr>
<tr>
<td>Furniture, Fixtures &amp; Fittings – Medium Pedestrian use - Multi-function Poles every 30m, Seats, Bins, Bollards, and Play Space item.</td>
<td>$115</td>
<td>M2</td>
</tr>
<tr>
<td>Furniture, Fixtures &amp; Fittings – Low Pedestrian use - Multi-function Poles every 45m, Seats, Bins, Bollards</td>
<td>$60</td>
<td>M2</td>
</tr>
<tr>
<td>Landscape Treatment – Including tree planting and understorey planting in full width paving</td>
<td>$100</td>
<td>M2</td>
</tr>
<tr>
<td>Landscape Treatment – Including tree planting and understorey planting in 2.5m wide paving</td>
<td>$200</td>
<td>M2</td>
</tr>
<tr>
<td>Landscape Treatment – Including tree planting and understorey planting in 1.5m wide paving</td>
<td>$100</td>
<td>M2</td>
</tr>
<tr>
<td>Landscape Treatment – Including tree planting and Turf</td>
<td>$60</td>
<td>M2</td>
</tr>
<tr>
<td>Contingency 15%</td>
<td>15</td>
<td>%</td>
</tr>
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</table>
## CARLINGFORD PUBLIC DOMAIN PLAN - DRAFT ESTIMATE

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
<th>UNIT</th>
<th>QUANTITY</th>
<th>RATE</th>
<th>AMOUNT</th>
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<tr>
<td>A</td>
<td>Boundary Rd</td>
<td>m²</td>
<td>7100</td>
<td></td>
<td>$832,160</td>
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<tr>
<td>B</td>
<td>Cassandra Place</td>
<td>m²</td>
<td>997</td>
<td></td>
<td>$200,253</td>
</tr>
<tr>
<td>C</td>
<td>Correy Place</td>
<td>m²</td>
<td>997</td>
<td></td>
<td>$200,253</td>
</tr>
<tr>
<td>D</td>
<td>Donald Street</td>
<td>m²</td>
<td>6975</td>
<td></td>
<td>$1,289,987</td>
</tr>
<tr>
<td>E</td>
<td>James Street</td>
<td>m²</td>
<td>2432</td>
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<td>$2,589,711</td>
</tr>
<tr>
<td>F</td>
<td>Jenkins Road</td>
<td>m²</td>
<td>11574</td>
<td></td>
<td>$2,938,899</td>
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<tr>
<td>G</td>
<td>Lloyds Avenue</td>
<td>m²</td>
<td>3887</td>
<td></td>
<td>$595,342</td>
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<tr>
<td>H</td>
<td>Moseley Street</td>
<td>m²</td>
<td>11342</td>
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<td>$3,480,596</td>
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<tr>
<td>I</td>
<td>Parklea Place</td>
<td>m²</td>
<td>2531</td>
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<td>$610,398</td>
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<tr>
<td>J</td>
<td>Paul Place</td>
<td>m²</td>
<td>997</td>
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<tr>
<td>K</td>
<td>Pennant Hills Road</td>
<td>m²</td>
<td>4536</td>
<td></td>
<td>$1,130,526</td>
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<tr>
<td>L</td>
<td>Post Office Street</td>
<td>m²</td>
<td>11690</td>
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<td>$3,751,583</td>
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<tr>
<td>M</td>
<td>Shirley Street</td>
<td>m²</td>
<td>6680</td>
<td></td>
<td>$2,195,545</td>
</tr>
<tr>
<td>N</td>
<td>Tanderra Avenue</td>
<td>m²</td>
<td>5372</td>
<td></td>
<td>$832,160</td>
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<tr>
<td>O</td>
<td>Thallon Street</td>
<td>m²</td>
<td>5334</td>
<td></td>
<td>$5,174,628</td>
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<tr>
<td>P</td>
<td>Young Street</td>
<td>m²</td>
<td>4396</td>
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<td>$979,785</td>
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<tr>
<td>Q</td>
<td>CPOS1 Shirley Street Reserve</td>
<td>m²</td>
<td>2089</td>
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<tr>
<td></td>
<td>CPLOS1</td>
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<td>4650</td>
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<td></td>
<td>CPLOS2</td>
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<td>1941</td>
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<td></td>
<td>CPLOS3</td>
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<td>R</td>
<td>Young Street Reserve R 25</td>
<td>m²</td>
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<td>S</td>
<td>Boundary Road Reserve R 26</td>
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<td>T</td>
<td>Lloyds Avenue Reserve R 27</td>
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<td>4462</td>
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<td>$500,000</td>
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<tr>
<td></td>
<td><strong>TOTAL</strong></td>
<td>m²</td>
<td>109,712</td>
<td></td>
<td><strong>$31,573,283</strong></td>
</tr>
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</table>
This section will guide the implementation of this public domain plan. A proposed schedule of planning, design and construction works will ensure the staging and implementation of the recommendations made within the Plan.

7.1 Introduction

The guiding visions and recommendations contained within this Plan form a basis from which detail design works, public consultation, sponsoring/partnering arrangements and fund sources may be established for the long-term implementation of public domain improvements.

Achievement of the objectives and measures identified in the Plan will require a coordinated management approach by The Hills Shire Council, and on-going commitment to a program of construction, trialling, maintenance, review and improvement.

The staging and implementation of proposed works will be influenced by:

- Availability and allocation of funding for maintenance and new works;
- Formation of partnerships with representatives from the corporate sector and/or state and federal government organisations;
- Community expectations and engagement;
- Political and socio-economic forces at the state and local level;
- Council priorities, for example, the need to address risks and liabilities such as uneven pavement surfaces;
- Road re-construction works, including Boulevard treatments for Post Office Street, Tanderra Avenue and Boundary Street; and
- Future RTA funding for the widening of Pennant Hills Road.

7.2 Staging

A combination of short and long-term measures should be established for the implementation of public domain improvements. It is envisaged that short-term measures will address immediate priorities and form a basis for on-going or future works. Proposed measures include:

Short-term (1-3 years)

- Coordinated outcomes of this Public Domain Plan with the current Development Applications for the precinct.
- Undertake a pilot project for paving and the selection of Porphyry Stone pavement colours and finishes.
- Incorporate outcomes of this Plan into the Local Environment Plan and Development Control Plan for the Precinct to ensure consistent approaches and enforceable requirements for developers to contribute to the installation of public domain finishes to public open space and at the frontage of new developments.
- Improve pedestrian amenity access and equity along key streets including Post office Road, Moseley Street, Tanderra Avenue and Boundary Road by developing a detailed Master-plan for these roads that includes proposals for paving, lighting, street tree planting and incidental play spaces.
- Undertake the preparation of a signage manual to guide the design and implementation of future signage throughout the public domain.
- Undertake the preparation of a lighting manual to guide the type and location of proposed lighting within the public domain.
- Undertake a tendering process to select a preferred contractor for the supply, installation and on-going maintenance of paving materials.
- Develop a paving policy for the precinct that establishes detailed locations for various paving treatments and contains details relating to material selection, supply and installation.
- Develop detail design concepts and documentation of key areas such as the Civic precinct proposed to be adjacent to the upgraded train station.
- Develop a detailed public art installation plan and commission major installations in the designated areas.
- Allocate funding within the Capital Works Program for the upgrade of parks and reserves.

**Long-term (3 – 5 years)**

- Design and document the upgrade of all the parks and reserves within the precinct.
- Design and document improvements for secondary pavement treatments and street tree planting.
- Implement traffic devices that encourage a pedestrian-friendly environment to the key public areas.
- Implement measures to consolidate pedestrian linkages through private land.
- Design and document plans for historic interpretative information around the existing train station.