



South Sydney  
Development Control Plan 1997:  
Urban Design - Part G:  
Special Precinct No.9  
Green Square



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# 1 Introduction

The Green Square Urban Renewal area contains approximately 280 hectares of land in Sydney's oldest industrial area, located between the Sydney Central Business District, the Kingsford Smith Airport and Port Botany. Its heart will be the new Green Square Town Centre centered at the Green Square Station on the Airport Link Railway.

Green Square includes the suburbs of Beaconsfield and Zetland, and parts of Alexandria, Waterloo and Rosebery. It contains a number of large key sites owned by Government and the private sector, as well as a rich and diverse stock of significant buildings. It has a rich history and is socially, culturally, economically and physically diverse.

## 1.1 Land to which this part applies

*Part G: Special Precinct – Green Square* applies to those lands within the City of Sydney Local Government Area known as the Green Square Urban Renewal Area, as shown in **Figure 1.1 – Green Square Urban Renewal Area**. This part does not apply to the Green Square Town Centre (refer to *Part H: Green Square Town Centre* of this Development Control Plan).

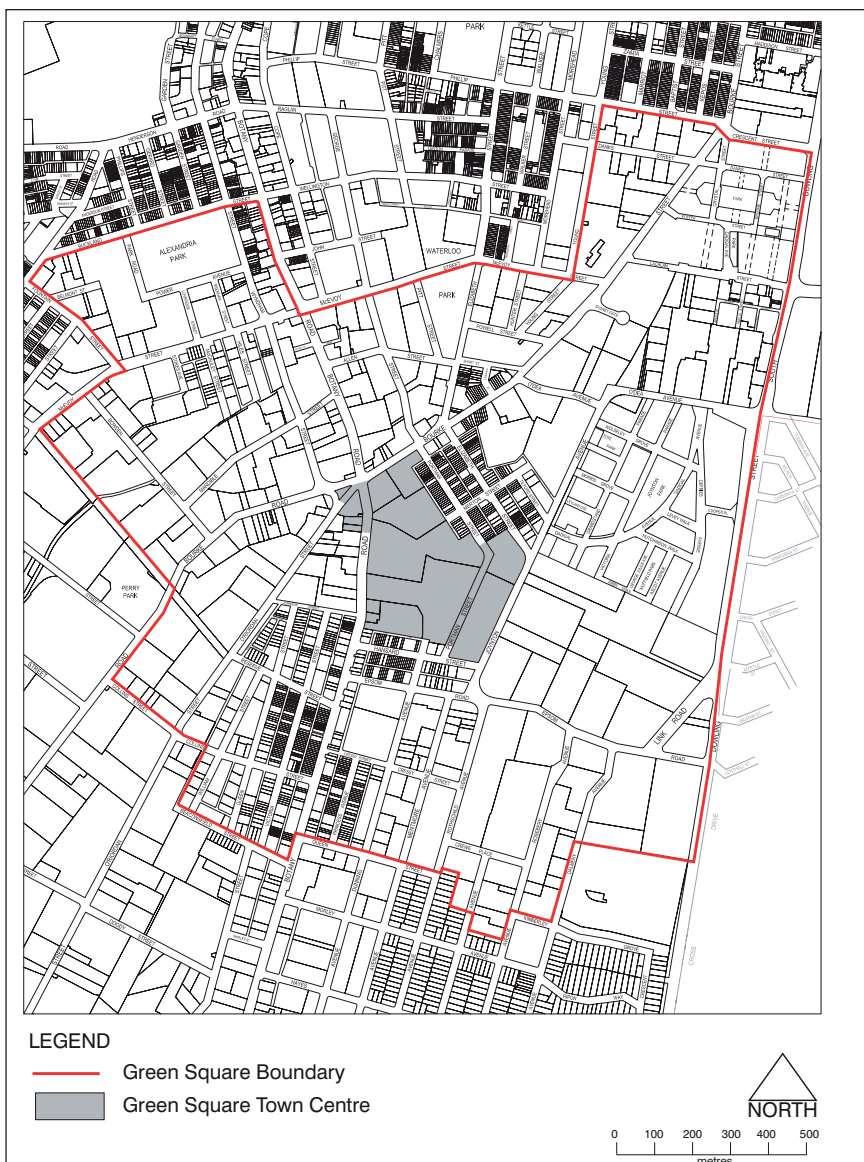
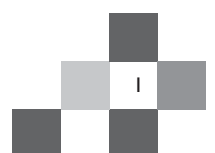


Figure 1.1 Green Square Urban Renewal Area



## 1.2 Commencement

This amendment to *South Sydney Development Control Plan 1997: Urban Design* (South Sydney DCP 1997) was approved by the Council of the City of Sydney on 11 December 2006 and commenced operation on 19 December 2006.

## 1.3 Relationship to other Environmental Planning Instruments and Development Control Plans

This Part sets out objectives, performance criteria and controls that specifically apply to the Green Square Urban Renewal Area and complements South Sydney DCP 1997.

This Part must be used in conjunction with South Sydney DCP 1997, as well as *South Sydney Local Environmental Plan 1998* (South Sydney LEP 1998).

Where there is an inconsistency between *Part G: Special Precinct – Green Square* and other controls of South Sydney DCP 1997, the provisions of *Part G: Special Precinct – Green Square* shall prevail, as far as they apply to the Green Square Urban Renewal Area.

## 1.4 Purpose and Objectives of this Part

The purpose of this part is to illustrate the urban development objectives for Green Square embodied in South Sydney LEP 1998 by providing detailed design and environmental standards, and to achieve a high quality built environment, with the proper balance between development, conservation and ecological sustainability.

The key objectives of this part are:

1. To establish an urban strategy for the long term development of Green Square; and
2. To provide detailed design principles, criteria and controls to encourage sustainable development that is environmentally responsible, and takes into account its social and economic impact, as well as its impact on the environmental amenity of the locality; and
3. To provide a layout of public spaces and streets as a basis for the creation of a high quality public domain in terms of design, amenity and attention to detail, which is reinforced and supported by high quality buildings; and
4. To encourage the provision of a range of building types which provide for increased housing choice and availability, diversity of employment opportunities, and other activities that contribute to a sustainable livable community; and
5. To encourage design that reinforces the unique attributes of Green Square, including its heritage items, precincts of special character, contributory buildings and landscape elements, including drainage channels; and
6. To recognise the importance of public art as an expression of place, its ability to define and expand a sense of community and enrich the lives of those who come in contact with it; and
7. To co-ordinate and provide for a flexible and integrated approach to the development process within an overall urban development framework.

## 2 Urban Strategy

### 2.1 Background Statement

The urban form and structure of Green Square is characterised by key elements that will play a major role in influencing the future development of Green Square. These key elements are:

- The strategic location of Green Square, as part of the City South Region, between the Sydney CBD, the ports and the Airport, to be strengthened by encouraging a strong and diverse employment base in the area.
- The transport system of major roads and street patterns and the Airport Link Railway line, providing good accessibility to Green Square from the CBD, the Airport, Port Botany and Woolloomooloo Bay.
- Topographic features including the hilltops of Zetland and Beaconsfield, valleys and drainage lines.
- View corridors providing distant and local images.
- Landmarks, including the Waterloo Incinerator chimney, the Waterloo Public School and significant landscape elements such as the Fig trees lining Joynton Avenue.
- A rich cultural and artistic base that can be drawn upon to create an appreciation of the diverse history of the area, an awareness of residents' rich contemporary cultural diversity, and a sense of place for the renewal of Green Square.
- A system of underground and exposed drainage channels, tributary to Alexandra Canal, and associated open space corridors, providing potential links to regional parks including Moore Park, Centennial Park and Sydney Park. This system will be supplemented by interpretive water themes that may incorporate features such as fountains, waterfalls, stormwater detention ponds and accentuated stormwater management measures (eg. gutters, water collection dishes, etc).
- Activity centres and focal points, such as Danks Street, Botany Road at Epsom Road, Beaconsfield and the intersection of Bourke, O'Riordan and Botany Road.
- The existing traditional residential neighbourhoods of Zetland and Beaconsfield, and emerging neighbourhoods such as Victoria Park and Crown Square, which have recognisable characteristics in terms of built form, land use and street pattern.
- An existing industrial character, including large obsolete industrial sites providing opportunities for the urban renewal and transformation of Green Square, as well as viable employment-generating industrial and commercial businesses.
- A range of building types, from traditional Victorian terraces, to warehouses, industrial and public buildings, many of which contribute to the cultural and heritage diversity of the area.

The Urban Strategy proposed for Green Square is based on building upon, reinforcing and supplementing these defining elements. The strategy is based on an appreciation of the existing and future role of the area at a local, sub-regional and regional level.

The strategy seeks to establish a transit oriented ecologically sustainable community, based on a mixed use urban environment with a balance of residential and employment generating activities, achieving by the year 2021 a total residential population of 33,000 and a working population of 28,000.

**Figure 2.1: Urban Strategy** conceptually identifies the strategic context within which development in Green Square is to take place. The following sections explain the urban strategy in detail.

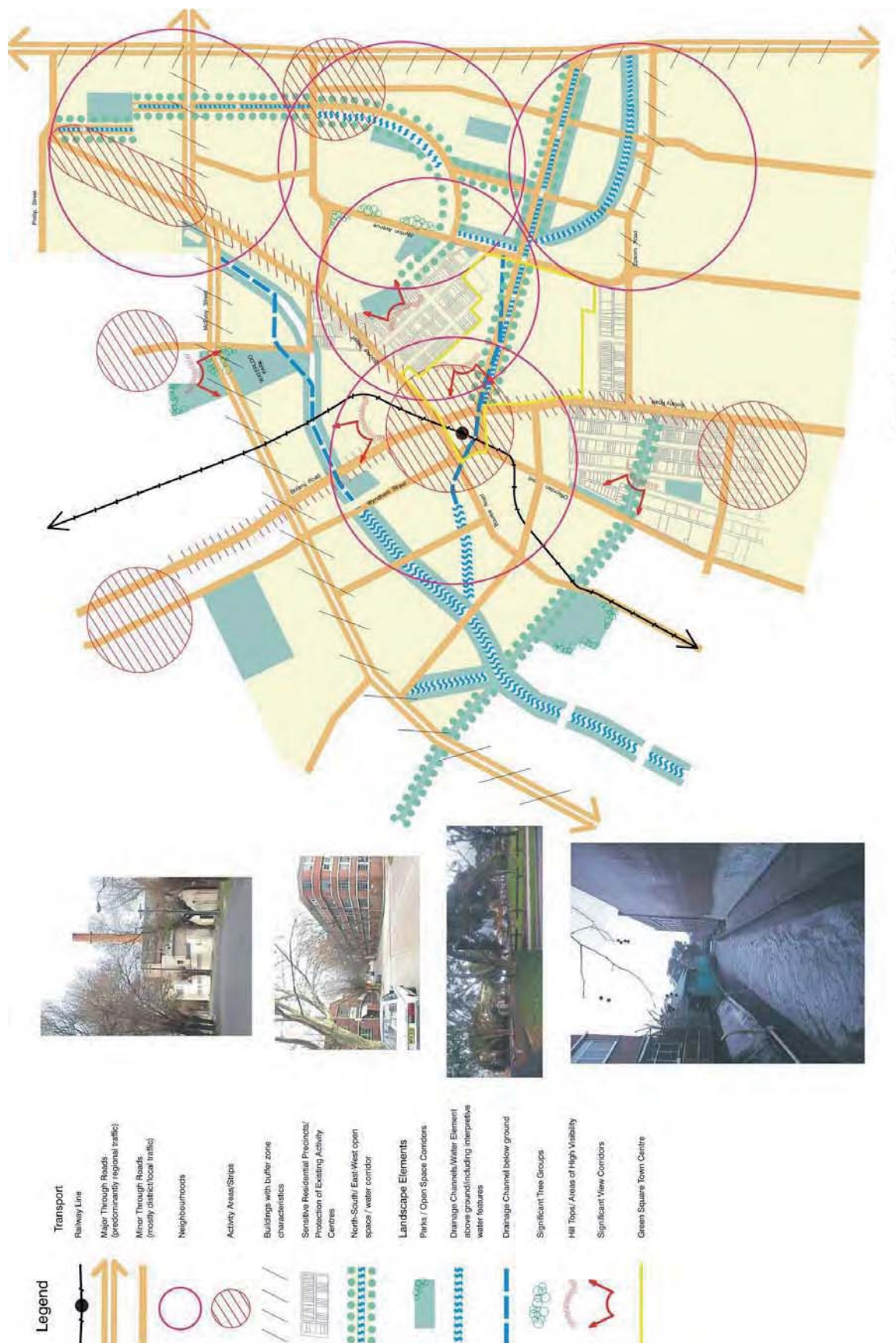


Figure 2.1: Urban Strategy

## 2.2 Landscape Elements

The Urban Strategy for Green Square seeks to:

1. Apply Ecologically Sustainable Design principles to the development of Green Square, particularly in relation to water, air quality, energy and vegetation management, to regenerate and/or improve the quality of waterway systems, vegetation and habitat corridors.
2. Re-establish the stormwater channels in the area as essential elements of the ecosystem of Green Square, integrating their paths with public open space and street networks, supplemented with new channels and stormwater detention.
3. Interpret the water element as a central theme and a major design feature particularly in respect to public art and water features throughout the area.

The Green Square area is relatively flat, except for the hilltops of Zetland and Beaconsfield. It was formerly marshland and was the site of Waterloo Dam and Sheas Creek, draining to the tidal Alexandra Canal. The existing stormwater channels are an important connection to the area's former natural features and essential elements of its ecosystem.

Green Square also contains built, streetscape and landscape elements of environmental as well as heritage significance. These include, for example, Joynton Avenue and Wyndham Street, which feature rows of mature street trees such as Port Jackson Figs, Swamp Mahogany and Paper Barks. Another element is the Sheas Creek stormwater channel that traverses the area from east to west.

## 2.3 Transport and Parking

A fundamental objective of the Urban Strategy for Green Square is to develop an integrated land-use transport system strongly based on transit-oriented development. The main elements of the strategy are:

### Public Transport

1. Establish an active, pedestrian friendly, mutually supportive town centre around the Green Square Station.
2. Maximise accessibility by public transport by reinforcement of existing services and provision of new regional bus routes, particularly in the east-west direction. All services to focus on Green Square Station but as a mid-route stop-off point rather than as a terminus.
3. Provide bus priority measures at intersections and along travel corridors to minimise travel time and maximise service frequencies and convenience. Concentrate on rail and buses as the priority public transport modes but allow for light rail in the longer term, should it prove viable.

The transport strategies for Green Square are built on existing policies of the Council which are based on an approach of reducing car dependency and promoting the use of more environmentally sustainable modes of transport than mass use of the private motor car. The general intention is to restrict the growth of car traffic on its streets and improve the liveability of the inner city.

### Pedestrians

1. Establish a pedestrian network system that includes the following concepts:
  - a. a system that is legible, occurs frequently and is convenient;
  - b. a visually interesting experience for the pedestrian;
  - c. walkways and through-site links that are capable of access 24 hours a day;
  - d. an environment that is safe and comfortable with use of casual surveillance, street activity, lighting and an open aspect;
  - e. a system where pedestrians are given priority over vehicles;
  - f. a system that provides for equitable access through the provision of continuous paths of travel and appropriate facilities for people with disabilities; and
  - g. an environment free from excessive noise and wind.

### Cyclists

1. A bike path system that is safe, comfortable and attractive for cyclists, in accordance with the Council's Cycle Strategy as it applies from time to time.

## Road Transport

The overall strategy for road transport in Green Square is based on objectives of achieving a physical environment of maximum livability for existing and future communities and seamless integration with surrounding areas. The following principles have formed the basics of road planning, neighbourhood design and traffic management:

1. Minimal through traffic within neighbourhoods.
2. Adequate intersection capacity on the boundary thoroughfares to discourage diversion of through traffic onto local streets.
3. A rationing of resource-intensive traffic management devices such as traffic light controls to strategic, maximum value locations to assist all modes and to maximise levels of service for regional roads.
4. Adequate buffering and construction standards against traffic noise for residents located along boundary thoroughfares.
5. Non-residential traffic generators such as retail uses, district parks, schools and substantial commercial developments to be located on and served by boundary streets.
6. Reservation of sufficient easements along select boundary thoroughfares and critical intersections for road widening/intersection capacity improvements to carry future regional traffic, provide local access or accommodate future public transport schemes.

To be desirable neighbourhoods and encourage community building and street activity, each community should preferably have a defined character and be protected against the adverse influences of through traffic and inappropriate land-uses. A cellular structure of protected, designed neighbourhoods separated by higher order roads or other physical barriers on the boundaries is the broadly envisaged form of development. However, there should be consideration of accessibility (the ease with which it is possible to travel by different modes) within and between cells, and permeability through the system, although more so for pedestrians and cyclists than for motor vehicles.

The strategy is based on:

1. Support and reliance on the McEvoy Street upgrade (the widening to 6 lanes utilising an existing road widening reservation of Euston Road and McEvoy Street between Princes Highway, St Peters and South Dowling Street, Waterloo), and the Eastern Distributor along South Dowling Street, to re-direct regional traffic, especially through traffic, around the Green Square area.
2. Preference for commercial and heavy vehicle traffic to use:
  - a. the Eastern Distributor,
  - b. McEvoy Street upgrade,
  - c. Botany Road north of Green Square Station,
  - d. Bourke and O'Riordan Streets south of Green Square Station,
  - e. Epsom Road,
  - f. a future Marrickville truck route,

to protect the amenity of residential precincts and commercial centres.
3. Protection of the established neighbourhoods of Zetland and Beaconsfield, and emerging neighbourhoods such as Victoria Park and Crown Square, from through traffic and major increases from redevelopment of the Green Square area.
4. With the exception of existing residential communities, utilisation of and building on existing streets and road hierarchy as much as possible to form the basis of the future street network. This would be supplemented by a fine grain street pattern for dissipation of local traffic and the following collector roads:
  - a. Gadigal Avenue, and

- b. East West Boulevard from the Green Square Town Centre to Link Road – at its western end, it would be a low speed, pedestrian priority access street serving the Town Centre retail and commercial uses; at its eastern end its function would be as a distributor to the new residential areas.
5. Recognition of opportunities to provide pocket parks and a buffer to neighbourhoods against traffic intrusion through selective closures at busier roads or even local roads at an early stage. These closures benefit the community by providing breathing spaces in built-up environments, increased residential and pedestrian amenity, and local traffic management. Total permeability for motor vehicles is not supported.

### Parking

The parking policy for Green Square seeks to implement travel demand management techniques and to create an accessible and livable area that has reduced car dependence. The provision, control and regulation of parking is an essential planning tool in achieving this outcome. The principles are:

1. Create a community where it is possible to live well without a car.
2. Strongly discourage car travel by commuters and discourage excessive car ownership and usage by residents, but consider attractiveness and competitiveness for “anchor” commercial, retail and residential developments with more heavily constrained parking rates introduced over time as the public transport and other infrastructure matures.
3. Maximise public transport usage and encourage walking and cycling as much as possible for all users and provide scope for public domain improvements to occur (such as footpath extensions, crossings, etc) without inappropriate restrictions that may discourage these modes of transport.
4. Commuter parking at the Green Square Railway Station is not considered appropriate.
5. Protect parking conditions in existing communities.
6. The priority for on-street usage is short stay rather than long stay, particularly for retail uses. Servicing should occur off-street as much as possible.

## 2.4 EW and NS Armature of Open Space and Water Systems

The Urban Strategy establishes an armature of open space and water systems formed by two main axes, the East West Boulevard which links Green Square Station to South Dowling Street, and a series of North South corridors providing the further connection to Moore Park. This armature forms the distinguishing spine of Green Square, which will carry:

1. A major movement corridor through the area (vehicular/pedestrian/cycle) to provide a connection between the Green Square neighbourhoods and to adjoining areas.
2. An activity corridor with active mixed uses at street level, enhanced by the provision of interconnected community and cultural facilities.
3. A system of channels and water features tributary to Alexandra Canal, which fulfils a functional as well as an aesthetic role, and integrates surface stormwater management with environmental improvement.
4. A green corridor which connects Sydney Park and Alexandra Canal to the west with Moore Park to the north. This system integrates

subsidiary landscaped networks, parks and landscaped corridors, and is in turn supported by private and communal open spaces to provide for bio-diversity and habitat corridors.

## 2.5 Stormwater Management

### Flooding and Land Redevelopment

The regeneration of industrial land within Green Square presents unique challenges when addressing the issue of flooding and land redevelopment. Historically, industrial development took place in low-lying areas surrounding Alexandra Canal, consequently some previously developed land may be susceptible to flooding.

The current pace of redevelopment combined with the extent of flooding requires a balanced and flexible approach, integrating the planning for stormwater management with a risk based, sequential test for the determination of current development applications, managed within the framework of the NSW Government's Floodplain Development Manual 2005.

Broadly, Green Square's flood planning principles are represented by the following elements:

1. Apply the precautionary principle to decision making so that risk is avoided where possible and managed elsewhere.
2. Adopt a catchment-wide perspective in the management of flood related issues.
3. Maximise the provision and use of open space for community detention basins.
4. Seek developer contributions to fund Green Square's stormwater management strategy.
5. Ensure that flooding problems are not transferred from one location to another.
6. Ensure new developments undertake comprehensive flood risk assessments.
7. Encourage the use of flood proof construction techniques.
8. Introduce coordinated awareness programs, warning systems and emergency response measures.

### Flood Storage Areas

Flood storage areas are defined as those areas of a floodplain that provide temporary storage of floodwaters during the passage of a flood. Some previously developed industrial land within Green Square is predicted to provide this flood storage function. The removal of this function through redevelopment, without an acceptable replacement, may have an adverse impact on surrounding areas.

The impact of redeveloping sites that provide flood storage must be addressed, particularly within the context of increasing flood hazard to existing developments. Strategic sites may offer a unique opportunity to accommodate Green Square's overall stormwater management strategy as part of their redevelopment.

### Overland Flow Paths

Stormwater drainage infrastructure in established, industrial areas was designed and constructed to lesser standards than modern drainage design. During large storm events the capacity of the underground drainage system

may be exceeded, with excess stormwater being conveyed along drainage corridors (overland flow paths).

Being previously developed land, overland flow paths are well established, primarily along road corridors above trunk drainage systems, but may also affect land within private ownership. The current pattern of overland flow paths is generally discontinuous in nature, and is significantly constricted at various points.

Within the Green Square area it is acknowledged that existing overland flow corridors are of insufficient capacity to safely convey predicted runoff from large storms. This is due to the size of contributing upstream sub-catchment areas and the inadequate capacity of existing minor and major drainage infrastructure.

Given the extensively developed characteristics of the Green Square area, and the inherent difficulties of coordinating new overland flow paths within the fragmented pattern of site redevelopment, the planning for existing and future overland flow corridors needs to be guided by an overall philosophy aimed at flood mitigation. The safety and protection of people and property in existing and new developments is a major consideration.

The following elements represent part of Green Square's overland flow management strategy:

1. Ensure that existing overland flow paths are not redirected or altered and that there is no adverse impact to surrounding properties.
2. Prevent stormwater damage to property and minimise risk to occupants.
3. Identify and address the potential for adverse impacts on upstream and downstream areas.
4. Ensure that any redevelopment within an overland flow path is appropriately designed.
5. Provide safe areas within redevelopment sites and in the public domain for occupation during flood events (publicly accessible, flood free areas).
6. Provide safe, public access through private property (public through-site links).

### **Sustainable Urban Drainage Strategy**

Sustainable urban drainage systems mimic natural drainage techniques to manage surface water run-off as close to its origin as possible. This involves moving away from traditional piped systems and improving the urban water cycle through the use of Water Sensitive Urban Design (WSUD) practices such as waste water and stormwater re-use, use of bi-retention swales in the public domain and detention ponds.

The application of sustainable drainage systems is an integral part of the stormwater strategy for Green Square, and is actively encouraged as part of the redevelopment of the area. They can assist in reducing the need for additional stormwater management investment by mitigating any additional flood risk that new developments may generate.

Green Square's sustainable urban drainage strategy is broadly outlined as follows:

1. Encourage the management of environmental impacts at source rather than downstream.

2. Encourage the management of stormwater run-off rates, using redevelopment to reducing the impacts of flooding.
3. Protect or enhance water quality.
4. Encourage groundwater recharge where appropriate.
5. Provide opportunities to create habitats for wildlife in urban watercourses.
6. Encourage the use of sustainable drainage systems such as:
  - a. stormwater reuse and recycling options;
  - b. water features and first flush treatment options;
  - c. filter strips and swales;
  - d. filter drains and permeable and porous pavements; and
  - e. basins and ponds.
7. Ensure that sustainable drainage systems are considered early in the planning and design stages, including the following issues:
  - a. methods of integrating sustainable drainage systems into the overall site redevelopment concept / layout;
  - b. the need for investigating and remediating contaminated land;
  - c. agreements on adoption, operation and maintenance of systems; and
  - d. long-term performance monitoring.

## 2.6 Social Infrastructure

Social infrastructure comprises public and private land and facilities that are used by residents, workers and visitors for recreational, developmental and social activities. Social infrastructure includes open space areas such as small and large parks, streetscapes, civic spaces and squares, road closures; recreation facilities; community centres, cultural and heritage buildings and public art.

The vision for Green Square is for urban development to provide real material public benefit to the community. This is to be achieved through the provision of multi-purpose social infrastructure, which adapts and responds to the needs of changing communities.

Social infrastructure should:

1. Provide a variety and diversity of experience and opportunities for social interaction and recreation;
2. Provide accessible and affordable venues;
3. Be available, to meet the diverse and changing needs of the community;
4. Provide opportunities for structured and unstructured activities;
5. Identify and support public art as a basic and sustainable element of community facilities that can be integrated into a network of private and public spaces such as parks, civic spaces, streets, open spaces, building foyers etc.
6. Link public and private areas into the broader open space network;

7. Demonstrate design principles that maximise community safety and incorporate features recognised as high quality by the community, professional bodies and local government;
8. Enhance and protect the environmental, historic and cultural qualities of Green Square; and
9. Be designed to enable efficient management.

The Council's Social Plan identifies the Council provided community facilities necessary to satisfy the needs of the Green Square population. These include:

- A library, cultural and community facility (including older peoples' space), in the Green Square Town Centre;
- A recreation and community facility (including aquatic facilities, youth spaces and a families and children's centre incorporating early child health facilities), adjacent to regional open space;
- A multipurpose neighbourhood centre; and
- A families and children's centre.

## 2.7 Land Use and Neighbourhood Character

The Urban Strategy for Green Square envisages the development of five neighbourhoods to promote a compact working and living environment and reinforce and support the urban structure of Green Square. Each neighbourhood will develop its own thematic character whilst providing opportunities for living, working and recreation to foster vibrant sustainable communities. These neighbourhoods generally relate to the Green Square mixed-use zones of South Sydney LEP 1998. The neighbourhoods are defined below, on the basis of their future desired function and character:

### Zetland and Beaconsfield Residential Neighbourhoods

#### Desired future character

1. Residential neighbourhoods based on the conservation, protection and enhancement of traditional terraces, streetscapes and block pattern.
2. New development builds on and strengthens the existing community and built form setting through sympathetic design, compatible low intensity activities and improvements to the public domain.
3. Traffic management cocoons the neighbourhoods protecting them from through traffic.

#### Predominant activities

1. Mix of low intensity and small scale activities, predominantly residential, mixed with small scale environmentally sensitive and compatible retail and commercial development, including work/live uses.

### Green Square Town Centre

The Green Square Town Centre is proposed to become the commercial, retail and cultural hub of the Green Square Urban Renewal Area. It will be a place where people will live and work, and it will include parks and public plazas for recreation and relaxation. For detailed planning controls refer to *Part H: Green Square Town Centre* of South Sydney DCP 1997.

#### Main characteristics

- Include the existing residential communities of Zetland and Beaconsfield and adjacent industrial sites.
- Located on the hilltops rising above the rest of the Green Square area which is relatively flat.
- Compact urban setting and predominant fine grain 19th century streetscape with small terrace lots and tightly knit streets.
- Tree-lined streets with high quality pedestrian and picturesque environment.
- Vertical and horizontal land use mix.
- Variety of building types including 19th century and contemporary terrace housing with interspersed industrial buildings.

## Victoria Park

### Desired future character

1. Vibrant mixed used community with a distinctive and memorable character that integrates into the existing character of southern Sydney.
2. Gadigal Avenue links the neighbourhood to the Green Square Station and to the north, and new landscaped streets which are related to existing streets, break up the super block and provide increased connectivity and permeability.
3. New development provides a variety of housing and non-residential building types including 3-4 storey town houses, 8 storey multi-unit residential and commercial buildings and slim-line towers above lower scale buildings along the eastern edge.
4. A spine of mixed use development with business/commercial, shopping and other activities provides a buffer along South Dowling Street.
5. The Totalisator building is restored and re-used, and set in an urban park; significant landscaped elements are protected and enhanced through their integration into the open space corridors and setbacks.
6. A large central park along Gadigal Avenue provides a major focus, and is integrated with other smaller parks and plazas in the neighbourhood, which provide a diversity of open space experiences; this network is linked to the district park to the south and the open space corridor to the north.
7. Integration of public art reinforces the character, history and contemporary identity of the Victoria Park neighbourhood.

#### Main characteristics

- Comprises the site bounded by Link Rd, South Dowling Street, O'Dea and Joynton Avenues, which is the largest development parcel in Green Square (25.4 hectares).
- Originally low lying swamps, the site was developed for the Victoria Park Racecourse in 1907, where the Victoria Park Pony Club course operated until 1945 when it was redeveloped for industrial land.
- Significant attractive elements of the site include the Totalisator building and the Port Jackson Figs and Paper Bark trees along Joynton Ave.

### Predominant activities

1. Predominantly medium to high rise residential, integrated with opportunities for home businesses.
2. Active mixed uses such as cafes, a few small shops and community uses along major street frontages, parks and plazas; a local shopping centre at the northern end of the site provides convenient shopping.

## Southern Neighbourhoods

### Desired future character

1. Commercial/residential development centred around open space and a system of channels.
2. Large district park with integrated multi-purpose recreation facilities provide community focus. Other local parks are provided south of Epsom Road.
3. Block edge type development reinforces the new street pattern and the linear form of the drainage systems.
4. Landscaped setbacks are enhanced as a setting for refurbishment and renewal of industrial and commercial buildings south of Epsom Road.

### Predominant activities

1. Predominantly non-residential in the short term, but moving towards more residential and recreation/community related activities in the longer term.

#### Main characteristics

- Comprising sites to the south of the East West Boulevard, and south of Epsom Road, Rosebery, which contain offices, warehouses, showrooms, car dealerships and services.
- Large lots with a range of large span industrial sheds, brick buildings and modern office buildings, supported by widely spaced landscaped streets.
- Contains remnants of key institutional buildings such as the former South Sydney City Council's offices and the former South Sydney Hospital.
- Traditional industrial facades and Hospital buildings along Joynton Ave have streetscape significance.

2. Retain and enhance predominantly employment character south of Epsom Road.

## Northern Neighbourhoods

### Desired future character

1. New development recognises and makes reference to the significance of heritage buildings and the overall historical/social and physical context of the place, such as the former ACI site and warehouses.
2. New development recognises existing viable industrial/high-tech uses and is designed having regard to potential conflicts of use between those uses and more sensitive development.
3. Gadigal Avenue and pedestrian/cycle networks link the neighbourhood to the Green Square Station and Moore Park; new landscaped streets which are integrated to existing streets, break up the super blocks and provide increased connectivity throughout the area.
4. A necklace of public open spaces integrated to Gadigal Avenue provide a variety of open space experiences.
5. Buildings are predominantly 4 to 8 storeys, with some taller buildings along the periphery of the former ACI site and along South Dowling Street.

### Predominant activities

1. On the former ACI site, predominantly multi-unit residential which integrates opportunities for home businesses, and a concentration of office/retail showrooms on retained buildings.
2. On the southern block, a mix of non-residential and residential which recognises existing viable employment generating activities.
3. On other neighbourhoods, such as the Danks Street and Waterloo Park precincts, predominantly residential with focal points of mixed uses character particularly at ground level
4. South Dowling Street frontage provides opportunities for stronger non-residential activities to act as a buffer; these are not heavily car oriented and do not undermine the function of the Green Square Town Centre.
5. Active mixed uses such as cafes, a few small shops and community uses along major street frontages, parks and plazas.
6. Heritage buildings contain uses which respond to the constraints for adaptation imposed by their heritage significance.

## 2.8 Activity Centres

The Urban Strategy seeks to supplement and reinforce existing and emerging activity centres and focal points, which include Botany Rd at Epsom Rd, Beaconsfield; the intersection of Bourke, O'Riordan and Botany Roads; and Danks Street, Waterloo.

The Strategy proposes new activity centres that will provide amenities and opportunities for social interaction to residents and workers. The scale and nature of retail floorspace will be assessed by Council having regard to the *Green Square Retail Development Potential Study* (December 2000) and subsequent updates for the Green Square Area. (Copies are available from Council's One Stop Shop.) These new activity centres vary in their function, and include:

#### Main characteristics

- Super blocks with minimum public internal road system and containing large industrial land parcels. The former ACI glass factory site, being developed by Meriton Apartments covers 11.25 ha; the southern block is in fragmented ownership.
- Older buildings, some of them in derelict condition, mixed with more recent development for offices/warehouse purposes. The neighbourhood contains significant buildings of heritage/streetscape value including the AGM and Crown Crystal complex on the ACI site, and the Millers Storage building and Park View Hotel on the southern block.
- Land uses in the southern block include a mix of viable and obsolete industrial/ warehousing/ showroom activities (eg. a scrap metal yard, a car dealership, workshops, self-storage, high-tech industries, etc.). Industrial/ warehouse uses on the former ACI site were progressively shut down since 1992, and completely ceased operations in 1995.
- General scale of development is low to medium-rise, 1 to 6 storeys, of simple building forms and materials, with pitched and saw tooth roofs and parapets, and long continuous facades. Recent developments on the former ACI site comprise predominantly multi-unit residential buildings of medium to high density, supported by a new street and open space network and convenience retail.
- Danks Street has emerged as an activity centre, characterised by specialised shopping and cultural and entertainment activities. It has a mix of contemporary architecture and historic warehouses.
- Few trees and landscaped setbacks along Bourke Street break up the generally hard edge between buildings and street.

## 1. Green Square Centre

Focal highly urban centre with a civic function and offering shopping and entertainment opportunities, interspersed with a series of community/cultural facilities (refer to Part H: Green Square Town Centre of this DCP).

## 2. Bourke St- Lachlan St - Crescent St

Convenience neighbourhood supermarket and small specialty shops within the Northern neighbourhood.

## 3. Victoria Park

Convenience local supermarket and specialty shops integrated into the commercial and residential precinct along South Dowling Street.

## 4. Joynton – East West Boulevard

Multi-purpose leisure facility, integrated with the district park, located around the former South Sydney Hospital site and Council's properties. It will be a focus for community gatherings as well as providing physical activities; small eating places and studio type uses may be associated with this activity centre.

### Controls

1. The Urban Strategy is to be implemented by all development in Green Square. Designers must take into consideration the principles that underpin the Strategy. Existing natural and built form features should be accentuated by design. All proposed urban form and public domain elements must be recognised and acted upon in all new developments.
2. Development applications for retail development over 1,000 sq.m. are to be accompanied by a market feasibility assessment to:
  - a. justify the amount of retail lettable area proposed, based on catchment area size and related demand characteristics, and
  - b. assess the impacts on existing retail facilities resulting from the proposed development.

### 3 Urban Framework

The **Green Square Urban Framework** is the physical expression of the vision and the Planning Principles for Green Square outlined in Schedule 4 of South Sydney LEP 1998. The Urban Framework illustrates the overall urban design concept in response to the Green Square Urban Strategy (Figure 2.1). The key elements of the Urban Framework, although only indicative, constitute the controls of this DCP which will guide change within Green Square, and provide the strategic direction, continuity and co-ordination required to control development over the long term.

A number of **principles** underpin the Green Square Urban Framework:

1. Generation of urban form from the vitality and quality of the public **domain** and the need to provide a safe, attractive and well defined public realm of interconnected streets fronted by well designed buildings and intensely used spaces.
2. **Gradation of height** throughout Green Square to achieve a diverse yet cohesive urban form, characterised by clusters of buildings of uniform and variable height. This combination of unity and variety is to form the unique character of Green Square and a rich recognisable urban pattern that:
  - a. gives a distinctive image to the focal area around the Green Square Railway Station,
  - b. supports the proposed activity centres, and
  - c. reinforces major public spaces, streets and drainage systems.
3. Provision of **block sizes** to accommodate a range of activity patterns and diversity of building type to encourage **mixed uses**.
4. Emphasis on **mid-rise block edge** and 'slim line' **tower** urban form in major redevelopment precincts to support clear definition of the public domain.
5. **Retention of areas and items** of significant built form.
6. Development of an urban form that is **compatible** with existing neighbourhoods, items of environmental heritage and other identified significant built form elements.

#### 3.1 Public Domain

The Green Square Urban Framework proposes a cohesive framework of public open spaces and streets as both the ordering device for the locality and the public basis of its emerging character. This framework aims to give greater public permeability to the area and is the base upon which the built form is established. It includes:

1. A typology of new public streets that are robust and frequent, with high pedestrian permeability and reasonable choice of routes through the locality to allow dispersal of local traffic and give increased opportunity for street frontages within the larger sites.
2. Continuous higher order streets that are defined at an early stage, while the location of lower order streets can be varied in response to site planning issues. The specific arrangement of streets and their design to provide a safe, legible and cohesive movement network will need to be addressed in the site masterplanning.
3. Connectivity and safety for all pedestrians and cyclists, particularly in an EW direction, to and from the station precinct, and to and from parkland.

**Public domain** refers to those areas that are accessible to the public and those elements of other spaces that are visible from physically accessible spaces. It incorporates features such as streets, parks, community buildings, shops, and street facades of other buildings.

4. A typology of open spaces including district, local, pocket and linear parks and civic spaces. These spaces are integrated into the main EW and NS spines linking Green Square Station to the eastern part of Green Square and north to Moore Park, and they are linked with new public streets, enhanced by wide verges and shade tree planting.
5. A system of drainage channels and paths across the area, integrated with public open space, street networks and buffer zones.
6. New civic urban spaces adjacent to the Green Square Station and the East West Boulevard, providing a forecourt to buildings and gathering places for public activity.
7. A framework for social infrastructure provision as a setting for community development, including a network of public spaces, community facilities and public art.

The provision of public streets, open space and other public domain improvements throughout Green Square is to be achieved:

- Through works sought through S79(c) heads of consideration of the *Environmental Planning and Assessment Act 1979*;
- Through Council's Section 94 works program as established in Council's Section 94 Contributions Plan;
- Through implementation of Council's other capital works program; and
- By developers as development takes place through works that are required to add quality to the site environs and neighbourhood, funded through 'public domain partnerships' generally through planning agreements (some of which may include Section 94 contributions 'in-kind').

### 3.1.1 Street Hierarchy and Transport

#### Objectives

1. To provide an integrated, functional street typology to achieve a clear and legible hierarchy of streets that:
  - a. responds to the desired character of frontage development;
  - b. is supplemented by a corresponding hierarchy for pedestrians and cyclists; and
  - c. encourages sustainable travel behaviour.
2. To provide a street network that is robust (allowing for flexibility for adaptation), with a high degree of amenity and permeability for pedestrians and cyclists, a choice of logical, efficient and functional routes for public transport services, and a managed degree of permeability and some choice of routes within the locality for vehicles.
3. To ensure that opportunities to short-cut the main road system are minimised to maintain residential and pedestrian amenity.
4. To provide high quality and equitable access to the Green Square Town Centre and transport nodes for pedestrians, cyclists, and motorists to maximise the utilisation of existing and future public transport facilities, local commercial centres and community facilities.
5. To ensure street types can accommodate multiple activities (eg. pedestrian access, vehicular access, cycle access, social interaction, public transport, commerce, parking), varying in emphasis according to location and function.

6. To maximise the use of on-street parking to assist the viability of neighbourhood retail uses in preference to large, off-street car parks.
7. To ensure street designs integrate functional, social and environmental demands and provide amenity and safety to all users.
8. To ensure opportunities for the incorporation of public art are located at places to increase social interaction, streetscape identity and amenity in a safe manner.

### Controls

1. New streets and street closures are to be provided generally in accordance with **Map 1: New Streets and Street Closures**, the 'Indicative Main Street Types' identified in **Table 3.1.1** and the typical cross sections in **Figures 3.1.1** to **3.1.7**.
2. The design of new streets is to provide allowance for the 'proposed public transport routes' identified in **Map 2: Public Transport Routes**.
3. Setbacks along existing streets are to be provided in accordance with **Map 3: Setbacks**.
4. The width of footpaths shall be maximised:
  - a. for comfortable pedestrian movement,
  - b. to facilitate tree planting,
  - c. to allow footpath licence arrangements at cafes, restaurants or businesses with appropriate street displays, and
  - d. where bike routes exist, to allow cycling off road.
5. Streets are to be planted with trees appropriate in character to reflect the street hierarchy and in accordance with the Council's *Street Tree Masterplan*.
6. The use of pedestrian crossing facilities such as footpath extensions at corners, pedestrian refuges and mid-block zebra crossings on raised thresholds shall be maximised to reduce the severance effects of roads and reduce the dominance of motor vehicles. These facilities need to be integrated with the general street design.
7. Intersection design is to have a high regard to road safety and consider the cumulative effects of the area's development.
8. Continuous paths of travel for all users are to be provided throughout the street network with the extensive use of level or gently sloping surfaces, kerb ramps or flush pavements where appropriate.
9. Streets are to align wherever possible to provide four-way intersections and continuous paths of travel.
10. Streets are to be designed to incorporate Water Sensitive Urban Design principles, as stated in section 3.1.5 of *Part G: Special Precinct – Green Square*.
11. Streets shall utilise road pavements and detailing as specified by the Council in various civil works and public domain plans and policies as they apply from time to time.
12. Street furniture shall be an adjunct to or compatible with the range of street furniture specified by the Council in various public domain plans and policies as they apply from time to time, and will include:
  - a. street lights,

- b. street signs
  - c. traffic bollards,
  - d. bicycle parking stands,
  - e. bus shelters,
  - f. seating, and
  - g. rubbish bins.
13. All new streets 13.8m width or more are to be dedicated to the Council. Dedication of lesser streets, shareways or laneways is to be at the discretion of the Consent Authority, but subject to minimum conditions that the public right of way be maintained.
14. Where development has frontage to an arterial road, vehicular access to the development is provided by another road or a proposed road identified in this DCP, unless alternative access is neither practicable nor provided by another road or proposed road

**Table 3.1.1: Indicative Main Street Types**

Type	Reservation Width	Lanes	Footpath width	Design considerations
Arterial and Higher Order	26m minimum – 30m desirable.	6 travel lanes x 3.2m (central lane for turning or landscaped median).	4m-5m.	RTA has substantially established Lachlan Street setback via an arterial road reservation.  Widening on southern side fronting Waterloo Park is not supported. Access to be tightly controlled.
East-West Boulevard	36m.	9m dual carriageway. 2.5 parking bay in between trees on both sides. Cycleway 2.5m.	3.6m minimum (may vary in location and width).	Significant avenue providing frontage for medium rise residential and mixed use buildings.  Major east-west road and pedestrian/cycle/possible high capacity transport corridor.  Eastern end, at Link Road may extend to provide for a potential public transport route.  Generous grass verged areas provide deep soil planting for four rows of trees in staggered planting with dedicated cycleway.
Collector	22m. 25m for North-South future transport route (Gadigal/Defries Ave).	In general, 2 travel lanes x 3m - 3.5m in each direction. Kerbside parking lane 2.3m-2.6m (may occur staggered or on both sides, and may be in bays in between trees). Turning bays at major intersections.	Generally 3.6m minimum to allow for bus shelters.	
Local	Generally 20m; absolute minimum 13.8m where one footpath is absorbed into adjacent open space or landscape setback.	3.0m -3.2m lane in each direction. Parking bays between trees to each side.	3.2m minimum.	Local access or neighbourhood street with kerbside parking.  May contain bio-retention swales either centrally or to the side of the roadway, to filter polluted low flow water run off, prior to entering the stormwater system. (Refer to Figure 3.1.4 for typical section.)
Laneways	12m (6m. absolute minimum).	3.0m lane in each direction or one-way with kerbside parking on one side.	Variable.	Laneways function as shared zones connecting the fine grain movement web to larger streets.  6m laneways are only acceptable for one way traffic.
Bourke Street Boulevard	26m (20m minimum).	3.2 lane in each direction with kerbside parking.	Variable.	Rejuvenated Bourke Street leads to the Town Centre and contains mixed use activities complementary to it.  Reduced speed traffic.

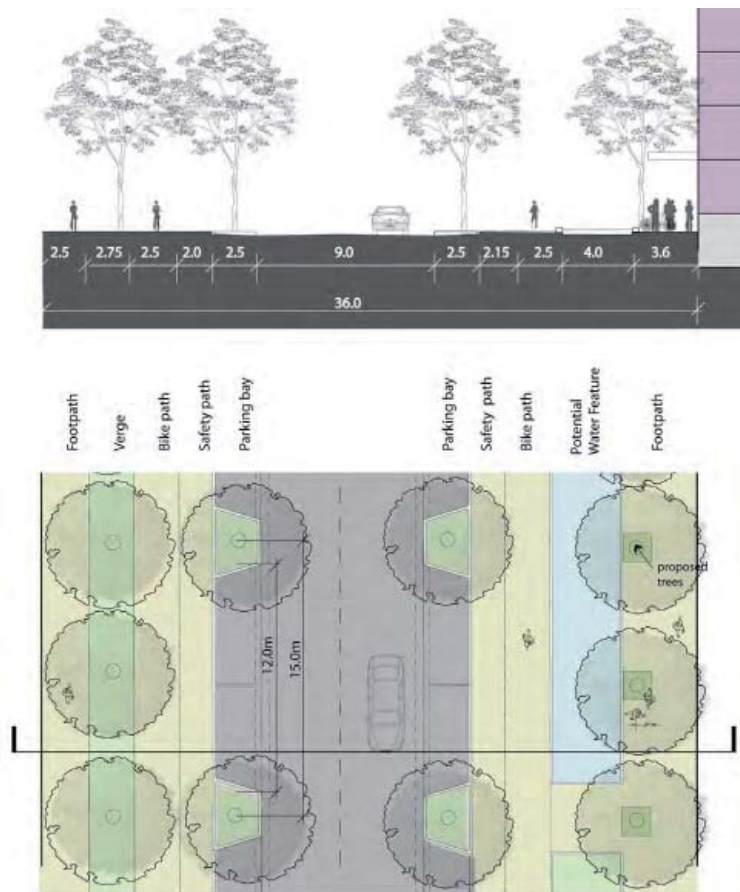


Figure 3.1.1 : East West Boulevard Typical Section

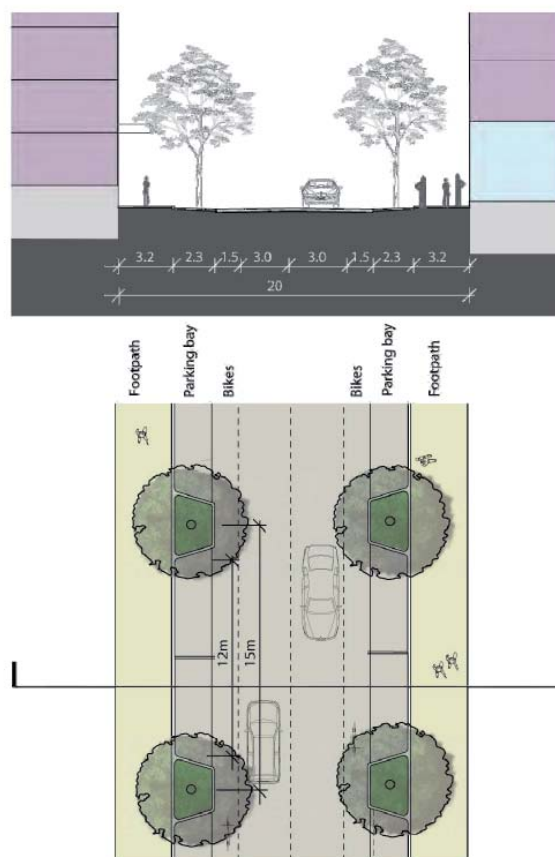


Figure 3.1.2 : Local Street

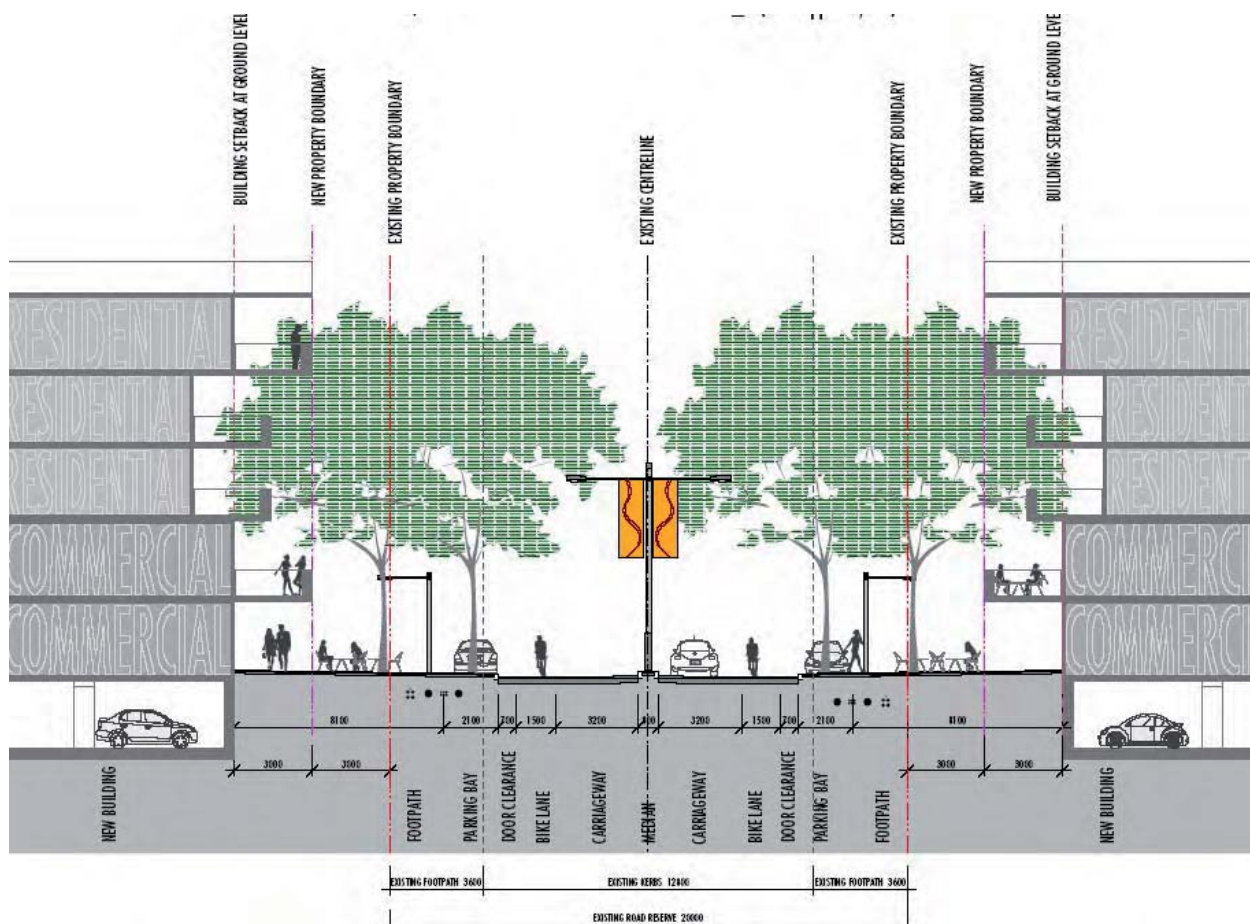


Figure 3.1.3 : Bourke Street Typical section

(Source: McGregor+ Partners)

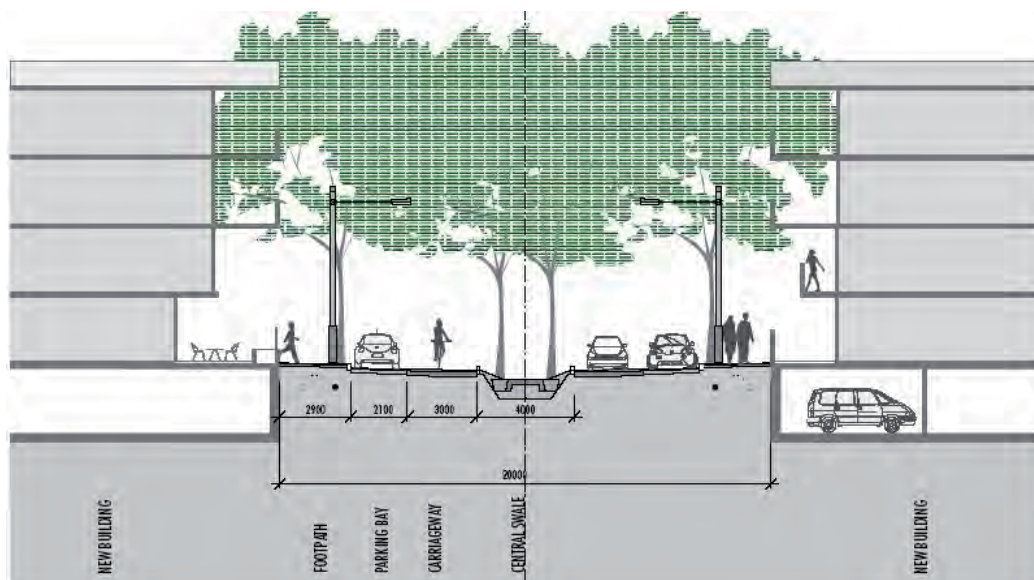
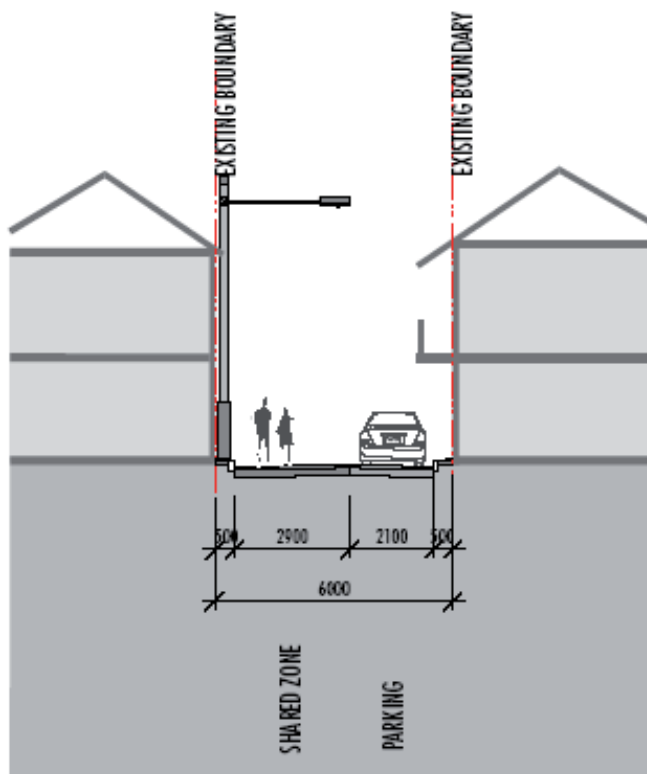


Figure 3.1.4 : Bio-retention Swale Local Street Typical Section

(Source: McGregor+ Partners)



### LANE WITH PARKING, PASSING OR DRIVEWAY ENTRY

Figure 3.1.5 : Typical Minimum Laneway

(Source: McGregor+Partners)

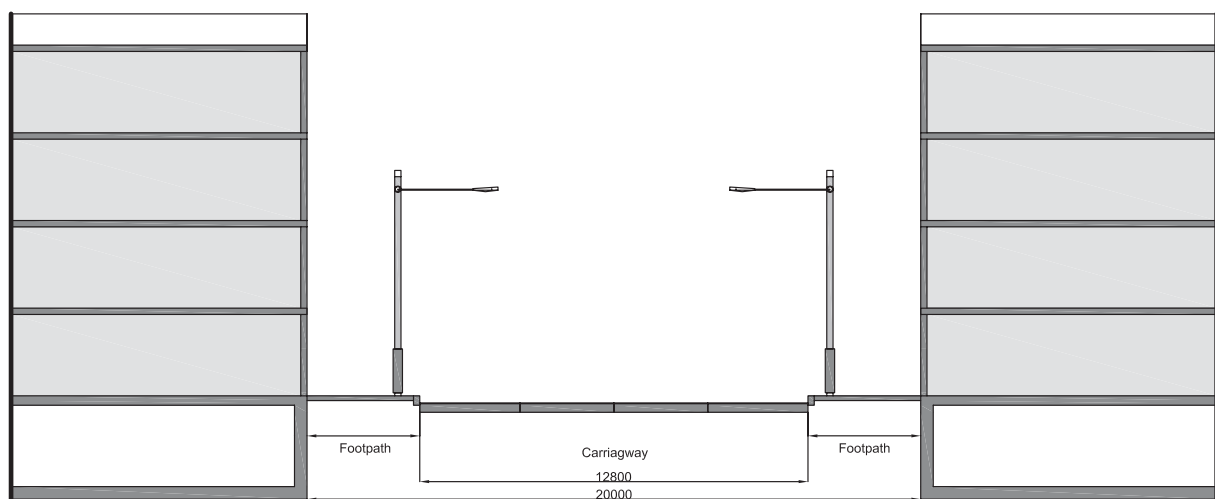


Figure 3.1.6 : Collector Street - Typical Cross Section

**Notes:**

- Footpath is 3.66m minimum
- Centre lanes are 3m minimum for general traffic
- Kerbside lanes are 3.2m minimum for bus (STA requirement) or 2.6m for parking

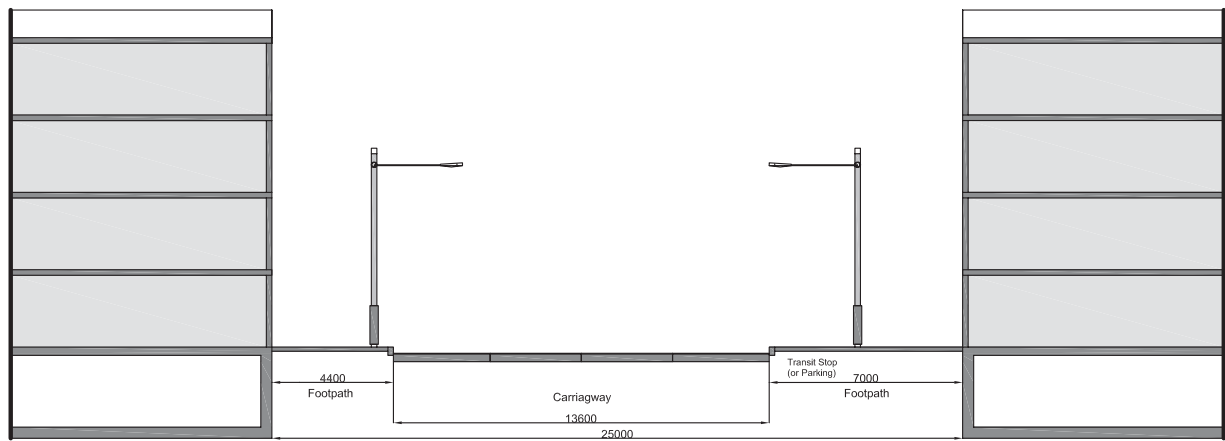


Figure 3.1.7 : Collector Street - Public Transport Corridor

**Notes:**

- Kerbside parking lane 2.6m
- Footpath to allow for bus shelters 3.66m minimum
- Configuration of street reservation will vary depending on location and planned public transport route function

### 3.1.2 Open Space

The public open space strategy for Green Square seeks to achieve a range of open space types to serve the existing and future population, as identified below.

- **District Parks** provide a combination of active and passive sports opportunities, a range of amenities and strong planting framework.
- **Local Parks** provide passive recreation, play equipment and free play areas for informal kick-about; they provide shade and seating.
- **Pocket Parks** primarily function as local gathering places within residential areas, provide seating in shade with orientation to safe toddler and infant play opportunities.
- **Linear Parks** provide a connecting role both visually and physically, being the location for major cycle and footpaths links at the district level and minor off road paths at the local level.
- **Civic Spaces** provide a civic focus, for gathering/events and work- based lunchtime breaks; robust and artistic in landscape expression; largely defined by built form.

### Objectives

1. To provide a public open space network that facilitates maximum linkage, continuity and accessibility throughout Green Square, and embraces significant buildings and landscape features, including waterways.
2. To ensure the design of open space is:
  - a. of a high quality – safe, diverse, visually attractive, environmentally sustainable, accessible, relatively easy to manage –;
  - b. provides a variety of uses serving residents and workers for active and passive enjoyment; and
  - c. allows flexibility of uses and evolution of role over time according to community needs.

3. To establish vegetation corridors between major open spaces and water bodies so as to enhance environmental quality and create opportunities for greater native fauna habitat and biodiversity.
4. To ensure that the provision of open spaces has the dual purpose of being strategically located to assist with stormwater management.
5. To provide a flexible approach to the configuration of public open space within designated public open space catchments areas to optimise open space provision.
6. To ensure an increase in the total amount of open space within Green Square to achieve a long term provision greater than 6 sq.m. per resident.
7. To encourage the provision of publicly accessible open space over and above that identified in the Green Square Urban Framework as public open space.

### Controls

1. The provision of public open space and landscape setbacks is to be in accordance with **Map 4: Open Space** and **Map 3: Setbacks**.
2. The provision of public open space within the 'open space catchment areas' shown in **Map 4: Open Space** is to be generally in accordance with the provisions of **Table 3.1.2 Provisions for Open Space Catchment Areas**.
3. The dedication of public open space to the Council in accordance with controls 1 and 2 above, is subject to the criteria set out in Table 3.1.3 Open Space Dedication Criteria.

### Landscape design

4. Public open space is to contribute to the development of a continuous canopy of native vegetation to encourage native fauna habitat corridors between major open spaces/water bodies.
5. With the exception of civic spaces, pathways and small areas ancillary to activities, the character of the public open space shall primarily be a soft-landscaped area.
6. Public open space is to provide for deep soil planting, and shall have no carparking or access underneath.

### Solar Access

7. As a general rule, for non-linear public open space areas, 50% of the total area of the park should be in sunlight between 11am and 3pm, in mid-winter.

### Weather protection

8. For non-linear public open space areas, shade from strong sun shall be available for the six months between September and March, for a minimum of 20% of the area used for passive recreation.
9. For non-linear public open space areas, protection from strong winds shall be provided to areas of public open space that are open to prevailing winds from the south.

### Accessibility and connectivity

10. Public open space is to be accessible from a variety of points within the wider public domain, and located along major existing or proposed pedestrian and cycle routes through the area.

### Diversity of uses

11. Public open space is to be capable of accommodating a range of uses that complement the likely future resident and worker population of Green Square.
12. In general, buildings that directly adjoin public open spaces are to contain active uses for the full extent of the ground floor.

### Safety and security

13. All public open space is to be designed to be in accordance with *Crime Prevention Through Environmental Design* (CPTED) principles (Department of Urban Affairs and Planning, 2001), in particular with regard to the following:
  - a. open sightlines and landscaping that allow high levels of public surveillance by users and residents;
  - b. clear distinction between private and public open areas;
  - c. external lighting (in accordance with AS1158) which makes visible potential 'hiding spots'; and
  - d. entrances to areas of public open space that encourage pedestrian use and provide visual security through the establishment of clear sightlines.

### Lighting

14. Exterior lighting in the public domain is to comply with the Council's specified lighting strategy as it applies from time to time.

### Acoustic amenity

15. Acoustic protection measures may be required where non-linear public open space is located adjacent to a busy traffic route.
16. Acoustic mitigation measures where required are to be designed to largely maintain views from within public open space to the surrounding public domain and buildings, especially significant heritage items, and to promote good visual and physical access to the park from the surrounding public domain.

### Public art

17. Where public art is to be installed in the public domain, it shall be in accordance with various public art policies as adopted by the Council from time to time.

**Table 3.1.2: Provisions for Open Space Catchment Areas**

Catchment	Total Area	Type	Requirements	Guidelines
<b>Area A</b> – Western Employment Area	10,000 sq.m.	Local Park	One park with a minimum area of 5000 sq.m.  Other parks or public open space configured in support of parks and or Canal Open Space Links.	Each park or piece of open space to be provided as single contiguous parcel.  Location and configuration to be resolved through detailed design at masterplanning stage or through negotiation of a planning agreement with developer(s).  Preferred location of major park adjoining the canal, at the confluence of the canal tributaries (Bowden/Mandible Streets)
<b>Area B</b> – Mixed Use Area	5000 sq.m.	Local Park	One park with an area of not less than 4000 sq.m. (5000 sq.m. preferable),  Or two parks with one park not being less than 3000 sq.m	A preferred location for the proposed opens space is the former RTA site, Rothschild Avenue or the SW corner of Epsom Road/Dunning Avenue.  Location may be altered in response to detailed masterplanning or through negotiation of a planning agreement with developer(s).
<b>Area C</b> – Mixed Use/ Employment Area	6000 sq.m.	Local Park	Two parks with one park being not less than 3000 sq.m  Other parks or public open space configured in support of parks and or canal pedestrian connections.	This location may be altered in response to detailed master planning or through negotiation of a planning agreement with developer(s)
<b>Area D</b> – Mixed Use/ Employment Area	8000 sq.m	Local Park	One park minimum of 5000 sq.m to be configured for stormwater detention on block south of Epsom Road.  Other parks or public open space configured in support of parks and or canal pedestrian connections.	A preferred location for the proposed open space is on the former Dolina site, south of Epsom Road.  This location may be altered in response to detailed master planning or through negotiation of a planning agreement with developer(s)
<b>Area E</b> – Future Leisure Centre Precinct	20000 sq.m	District Park	One park of approximately 20000 sq.m, to be configured for stormwater detention.  Open space may contain recreation facilities consistent with the Council's strategy for the provision of community facilities and Section 94 Contributions Plan.	Distribution to be determined as the result of detailed masterplanning undertaken by the City of Sydney,
<b>Area F</b> – Mid-block Precinct	6000 sq.m	Local Park	One park minimum 4000 sq.m to be configured for stormwater detention.  Other park of approximately 2000 sq.m. preferably along alignment of Gadigal Avenue (extension of Bruce Street).	Stormwater detention park preferred location on the former Kraft/Panasonic sites at the low drainage point.  Smaller park preferred location on the 'metal scrap yard' site, Amelia/Murray Streets.
<b>Area G</b> – Sydney Water Precinct	6000 sq.m.	Local Park	One park min. 5000 sq.m. to be configured for stormwater detention.	Preferred location on southern sector of Sydney Water site to provide curtilage to heritage buildings.

**Table 3.1.3: Open space dedication criteria**

Criteria		Comment
<b>Size</b>		
	<p>Preferably acquisitions should be a minimum of 3000-5000 sq.m. for local parks unless site will increase area of adjoining open space or provide a lineal connection to nearby open space.</p> <p>Spaces need to be large enough to have a sense of openness and opportunities to create a green space.</p>	Upper limit of the minimum size is preferred which allows the accommodation of a variety and diversity of open space uses and amenity.
<b>Shape</b>		
	<p>Preferably regular shapes square or rectangular to allow flexibility for useable open space.</p> <p>Minimum width for access corridors is 10m.</p>	Long narrow parks are generally unacceptable unless the prime function is for linking larger park areas.
<b>Comfort and Amenity</b>		
	Provide good solar access and protection from wind and traffic noise.	Site should have the potential to provide a visually attractive and pleasant environment for users.
<b>Access and Visibility</b>		
Accessibility	Location and park landscape should maximise access for people with mobility difficulties.	
Distance from any residence to park	All residents should be within a ten minute walk (approximately 400m) of local open space.	
Park boundary	<p>The site should clearly demonstrate that it is public open space.</p> <p>Minimum 50% road frontage.</p> <p>Corner street frontages preferable to ensure identification as a public place and contribute to security and surveillance of the site.</p>	Substantial road frontage is crucial in local parks to ensure access and good community surveillance.
Constraints	Local parks shall not be separated from the catchments by physical barriers eg busy roads.	
Connectivity	<p>The site should be located on identified pedestrian and cycle routes and offer potential to link to adjoining open space.</p> <p>Must provide for safe and convenient access.</p>	Location and urban design must provide for multi-mode access.
<b>Land Quality</b>		
	<p>Maximum slope 1:4.</p> <p>Suitable for intended purpose (generally flat and usable).</p> <p>Not constrained by contaminated land restrictions or property easements.</p>	Assessing the land quality will minimise development and maintenance costs and ensure long term flexibility in use of the park.

### 3.1.3 Landscape Character and Design

#### Objectives

1. To ensure the character of open space builds upon the existing and emerging landscape context, and the City's key parkland, with significant tree and shade planting in association with grassed spaces.
2. To establish vegetation corridors that enhance environmental quality and create opportunities for greater native fauna habitat and biodiversity.
3. To integrate existing significant landscape elements into publicly accessible open spaces wherever possible.
4. To recognise water as an important feature in the landscape character.
5. To improve the ecological amenity of the area.

## Controls

1. Landscape design is to be in response to the area's developing character and is to consider and unite the broader context of Green Square.
2. High quality landscaping is to be provided, which includes devices such as planting indigenous tree species, landmark sculptural elements, pavement design and other appropriate elements.
3. Landscape design is to include a planting regime that recognises indigenous vegetation, reintroduces endemic plant species and is consistent with water sensitive design principles.
4. Landscape design shall be compatible with the flood risk, i.e. where dense planting is proposed it shall be in a location that is not on a flowpath.
5. Landscaping, plant species and structures such as walls shall withstand temporary flood inundation in those areas designated as detention basins.
6. A minimum of 500mm for soil planting beds above car parking shall be provided.
7. At least 50% of the water used for irrigation of public open space shall be drawn from a recycled water or harvested rainwater source. The design of public open space may include:
  - a. use of native drought-tolerant plants and grasses;
  - b. use of water retaining media mixed into soil; and
  - c. sub-surface drip irrigation systems controlled by timers using soil moisture or rainfall sensors;
8. Pervious paving is to be used for all low traffic and pedestrian areas.
9. Drainage and irrigation is to be provided to all planted areas on podiums.

### 3.1.4 Pedestrian and Bicycle Networks

#### Objectives

1. To foster walking and cycling for local trips as a means of encouraging community interaction, health and reduced car dependence.
2. To utilise open space corridors and widened footpaths to create safe, largely traffic free bicycle routes which connect with regional cycling facilities such as the Cooks River/Alexandra Canal bike route, Centennial Parklands and UNSW.
3. To provide safe streets and through-site links which connect private and public open space to main pedestrian and bicycle networks, public facilities and dwellings.
4. To ensure that adequate consideration is given to the safety, convenience and vulnerability of pedestrians and cyclists when designing traffic, pedestrian and open space networks in both private and public places.
5. To ensure pedestrian access and amenity around Green Square Station are given primary consideration.
6. To encourage a range of compatible non-residential land-uses and facilities such as corner shops, pocket parks, public transport and

community facilities that can meet resident's needs within the local area, and therefore minimise longer distance travel, especially by motor car.

7. To achieve a pedestrian network that:
  - a. is provided in a fine-grained manner with frequent connections and maximum convenience;
  - b. is linked to numerous destinations including mixed uses, well maintained pocket parks and meeting places, local shops, etc;
  - c. includes frequent provision of pedestrian crossing facilities such as footpath extensions at corners, pedestrian refuges and zebra crossings to reduce the severance effects of roads and the dominance of motor vehicles;
  - d. is designed for equitable and easy access to assist frail, disabled or otherwise encumbered users;
  - e. is designed for passive surveillance, street activity and night time use.

## Controls

### Pedestrian through-site links

1. All elements of the pedestrian network are to be provided at frequent intervals – all links, connections, streets, through-site links are to be no more than 100m apart, and all crossing facilities no more than 150m apart.
2. Pedestrian through-site links are to be provided in accordance with **Map 5: Through-Site Links**, and shall have regard to and support the streets and open space networks identified in **Map 1: New Streets and Street Closures**, **Map 4: Open Space** and **Map 5: Through-Site Links**.
3. Dedication of pedestrian through-site links to the Council is at the discretion of the Consent Authority.
4. Pedestrian through-site links are to:
  - a. Be aligned and linked with adjacent streets or links, or planned streets or links.
  - b. Provide a direct route with direct views from adjacent streets or public domain and clear, unencumbered sight lines.
  - c. Provide an alternative to heavily trafficked streets or arterial roads.
  - d. Not redirect pedestrian activity off/from local streets. (If permeability is sought then shared-ways, lane ways or new streets, rather than through-site links, should be provided.)
  - e. Be safe, allow for passive surveillance, activity and night time use and provide for active surveillance at clearly defined entry points.
  - f. Be a minimum width of 8 metres.
  - g. Have public access 24 hours a day.
  - h. Provide equitable and easy access by the provision of a continuous path of travel (consistent with AS 1428).

- i. Be well lit to safety standards (AS1158 pedestrian lighting) with use of metal halide (white) lighting, giving regard to highlighting any unique architectural or public art features.
  - j. Be open and not pass through or under buildings (unless generous dimensions are provided – minimum height three storeys for entire length; maximum depth 18 meters).
  - k. Include materials and finishes (paving materials, tree planting, furniture etc) integrated with adjoining streets and public spaces and be graffiti and vandalism resistant.
  - l. Include landscaping to assist in guiding people along the through-site link and incorporate low level ground cover and shrubbery, and trees with high canopies with lower limbs trimmed to a height above two metres.
  - m. Be fronted by retail/commercial (ie. non-residential) uses as far as practicable. If fronted by residential uses residential entry points are to be accessed from the through-site link.
  - n. Not contain structures (eg. electricity substations, carpark exhaust vents, swimming pools etc.) constructed in the through-site link.
  - o. Include signage to clearly indicate through-site links provide public access, and where the public access leads to (eg. another street). Through-site links should be named, ie.: “ .... Walk”.
5. In general, new developments immediately surrounding the Green Square Station and separated from it by main roads are to provide publicly accessible pedestrian sub-ways, escalator and lift connections to the station.

#### Bicycle routes

- 6. Bicycle routes and parking facilities are to be provided in accordance with the Council's *Cycle Strategy* as it applies from time to time.
- 7. Residential streets that are not part of bicycle routes shall make provision for cycle usage within the road reserve or footpath depending upon factors such as traffic volumes. All facilities are designed and constructed in accordance with the *Guide to Traffic Engineering Practice: Part 14 – Bicycles*, and in consultation with the Consent Authority.
- 8. Where open space corridors cannot be utilised for bicycle connections, an alternative, traffic-free bicycle connection is to be provided, particularly along Gadigal Avenue and the East West Boulevard.

### 3.1.5 Waterways and Stormwater Management

#### Objectives

- 1. To improve the urban water cycle management within the urban ecosystem of Green Square and integrate sustainable water management practices into building and landscape design, through implementation of leading Water Sensitive Urban Design practices.
- 2. To ensure new development will not be subjected to undue flood risk, nor exacerbate the potential for flood damage or hazard to existing development.
- 3. To facilitate development in a manner that adequately takes account of the flood risks and hazards.
- 4. To ensure that public safety and the level of flood protection represents best practice and is in accordance with the NSW Floodplain Development Manual 2005.

5. To ensure stormwater management is appropriate to the site and its surrounds and is integrated into public domain and open space design.
6. To recharge the Botany Sands Aquifer.
7. To recognise water as an integral part of the Green Square character and to incorporate water as a distinguishing element of public spaces.
8. To encourage the re-establishment of existing stormwater channels in the area as essential and vibrant elements of the ecosystem of Green Square.
9. To integrate the paths of existing stormwater channels with public open space, street networks and block layout to provide:
  - a. habitat area creation,
  - b. open space for recreation,
  - c. linkages, and
  - d. aesthetic value.
10. To encourage water conservation and re-use and a sustainable, progressive and innovative approach to stormwater management.
11. To improve the quality of stormwater discharging to Alexandra Canal.
12. To allow safe human interaction with the water features within Green Square.

## Controls

### Stormwater channels and setbacks

1. Existing stormwater channels identified as 'Canal Open Space Links' in **Map 4: Open Space** are retained and supplemented with new channels or other modern stormwater detention systems, and are incorporated into the individual site layout and design of the public domain.
2. A 10 metre setback is provided adjacent to the existing underground and open stormwater channels (measured to the middle of the drainage channel) identified as 'Canal Open Space Links' in **Map 4: Open Space**.
3. Buildings are setback and reinforce the geometry of the existing drainage channels.

### Water Sensitive Urban Design Principles (WSUD)

4. The post-development peak flows from development in Green Square must not exceed the corresponding pre-development peak flows.
5. The design of all streets, public domain elements and impervious paved and landscaped surfaces must reflect current best practice WSUD to the satisfaction of the Consent Authority.
6. Swales are incorporated into open space, road and footpath design in accordance with best practice sustainable water management techniques.
7. On-site detention in the form of stormwater tanks is incorporated into dwellings either in a group or individual basis; the detained water is to recharge the Botany Sands Aquifer and to be recycled.

8. On appropriate sites water is detained in community based open space areas with the detained water being used to recharge the Botany Sands Aquifer and recycled for other appropriate sustainable practices.
9. The types of pollutants, estimated pollutant loadings and level of pollutant retention should reflect current best practice and as a minimum, be consistent with the objectives and recommendations outlined in the documents below:

Engineers Australia, Australian Runoff Quality – A Guide to Water Sensitive Urban Design 2005.

NSW Stormwater Trust and Upper Parramatta River Catchment Trust, *Water Sensitive Urban Design – Technical Guidelines for Western Sydney 2004*.

#### Flood risk management

10. Development applications for land within the flood liable portions of the Green Square Urban Renewal Area shall submit a flood study prepared in accordance with the assumptions and flood information documented in the *Green Square – West Kensington Flood Study* (or current version thereof). The flood study would either confirm the assumptions or where not, incorporate additional flood study investigations in accordance with the *NSW Floodplain Development Manual 2005*.
11. Proposed development shall, at a minimum, comply with the Flood Planning Levels (FPLs) as documented in Table 3.1.4.
12. Any portion of the building or structure lower than the nominated FPL is to be built from flood compatible materials (ie materials that will not experience any significant damage as a result of the ingress or passage of floodwaters, including debris).
13. All services associated with the development are to be flood proofed to the nominated FPL or the Probable Maximum Flood (PMF), whichever is higher. Flood proofing is to be undertaken using a combination of measures sufficient to ensure that the structure and building contents are able to withstand the forces due to the ingress or passage of floodwaters, including debris.
14. All flood sensitive equipment (including non-submersible electric motors and switches) is to be located above the FPL, or if in basements protected to the nominated FPL or the PMF, whichever is higher.
15. A suitably qualified engineer is to certify that the structure can withstand the forces of floodwater, debris and buoyancy in the PMF flood event.
16. Overland flow paths and other stormwater management systems must be designed such that personal safety is not compromised. In the event of a PMF flood vertical evacuation procedures must be considered.

#### Flood Management

17. Development shall provide a flood management system that:
  - a. incorporates a combination of overland flowpaths and covered flowpaths; and
  - b. conveys the existing 1% Annual Exceedance Probability (AEP) and larger flows within acceptable limits of flood hazard (as defined by the *NSW Floodplain Development Manual 2005*).

18. Development shall ensure that:
  - a. discharges from the site are controlled in a manner that does not create adverse impacts on flood levels upstream;
  - b. the dimensions, alignments and grades of the flow paths are such that the resulting flood risk and hazards are acceptable;
  - c. there are no adverse impacts created for properties downstream of the site; and
  - d. includes compensatory works if required.
19. The performance of the flood management system shall be demonstrated across a range of design events in a manner consistent with the *NSW Floodplain Development Manual 2005*.
20. The flood management system shall provide sufficient capacity for handling existing design (pre-development) flow conditions.

**Note:** For events larger than the 1% AEP event (up to the PMF), the topography of roads, accessways, drainage easements, etc should be capable of functioning as overland flow paths, in accordance with the principles of the *NSW Floodplain Development Manual 2005*.

**Table 3.1.4: Flood Planning Levels**

Item	Flood Planning Level
<b>Residential Properties</b>	
Habitable Room Floor Level:	
• inundated by mainstream flooding,	1% AEP + 0.5 m
• inundated by local drainage flooding,	1% AEP + 0.5 m or if the depth of flow in the 1% AEP is <0.25 m then 2 x the depth of flow with a minimum of 0.3 m above the surrounding surface.
• all other properties.	0.3 m above surrounding ground
Non-Habitable Floor Level such as a garage (excluding underground garages) or laundry for which development approval is required):	
• inundated by mainstream or local drainage flooding.	1% AEP
<b>Underground Garage or Car Park</b>	
For this purpose an underground garage or car park is where the floor of the car park is more than 1 m below the surrounding natural ground.	
Single property owner with not more than 2 car spaces:	
• inundated by mainstream or local overland flooding,	1% AEP + 0.5 m
• car park outside floodplain.	0.3 m above the surrounding surface
All others:	
• inundated by mainstream or local overland flooding,	1% AEP + 0.5 m (as a minimum) or a level that is determined based on a review of the PMF, whichever is the higher.
• car park outside floodplain.	0.3 m above the surrounding surface
<b>Industrial/Commercial Properties</b>	
It is assumed that all properties will be advised of the flood risk, either from existing studies or investigations by the proponent.	
• floor level of a small business,	1% AEP
• floor level of a large business,	merits approach presented by the applicant
• floor level of schools and child care facilities,	merits approach presented by the applicant
• residential floors within tourist establishments,	1% AEP + 0.5 m

**Social infrastructure** comprises public and private land and facilities that are used by residents, workers and visitors for recreational, developmental and social activities. Social infrastructure includes open space areas such as small and large parks, streetscapes, civic spaces and squares, road closures, recreation facilities, community centres, cultural and heritage buildings and public art.

- housing for older people or people with disabilities, 1% AEP + 0.5 m (as a minimum) or a level that is determined based on a review of the PMF, whichever is the higher.
- above ground car park. 1% AEP

#### Critical Facilities

These include: hospitals and ancillary service; communication centres; police, fire and SES stations; major transport facilities, sewerage and electricity plants; any installations containing infrastructure control equipment, any operational centres for use in a flood.

- floor level, 1% AEP + 0.5 m (as a minimum) or a level that is determined based on a review of the PMF, whichever is the higher.
- access to and from. 1% AEP + 0.5 m (as a minimum) or a level that is determined based on a review of the PMF, whichever is the higher.

Note: The Flood Planning Level (FPL) refers to the minimum building floor levels. For underground parking or other forms of underground development, the FPL refers to the minimum level at each access point. The higher of any FPL shall prevail.

### 3.1.6 Social Infrastructure

#### Objectives

1. To develop community facilities and open space areas that are based on the needs of current and future residents and workers in Green Square as identified through the Council's relevant plans and policies that apply from time to time.
2. To develop accessible and affordable multi-purpose open space areas and community facilities that readily adapt to the needs of a diverse and changing community and promote community interaction and safety.
3. To create vibrant community spaces that reflect the heritage and cultural development of southern Sydney, and Green Square in particular.
4. To develop an innovative community facilities network through the reuse and recycling of suitable existing buildings.
5. To integrate community facilities into a network of accessible public and private open space areas.
6. To develop open space areas that promote community safety through the integration of active and passive social and recreation activities and quality design principles.
7. To integrate public art, heritage and cultural priorities into all phases and aspects of development.

#### Controls

1. Community facilities are designed to:
  - a. provide for a diversity of interaction and recreation;
  - b. enhance the amenity of the urban environment through clearly defined physical relationships with open space networks;
  - c. be suitably proportioned in size and scale in relation to the open space networks which they address;
  - d. address the existing character of the area;
  - e. create positive spaces which promote community interaction
  - f. provide a public benefit to the community through:

- i. the design of adaptable multi-purpose spaces with flexibility of use
  - ii. affordability and accessibility to all residents.
2. An assessment of the identified need for any community facility must be included with development applications.
3. The design and construction of community facilities in lieu of Section 94 monetary contributions and to be dedicated to the Council shall be carried out in consultation with and to the satisfaction of the Consent Authority.

### 3.1.7 Public Art and Cultural Heritage

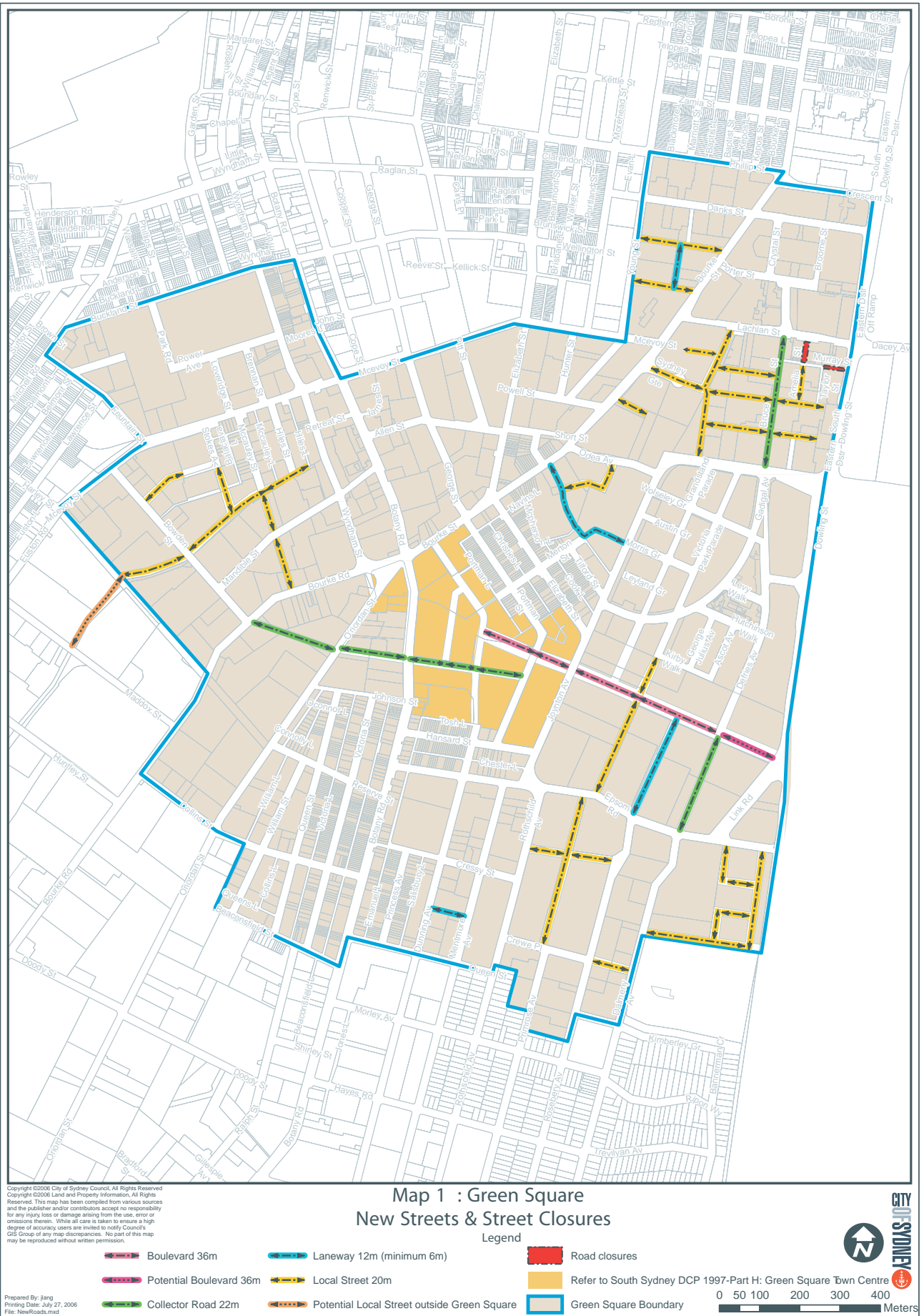
#### Objectives

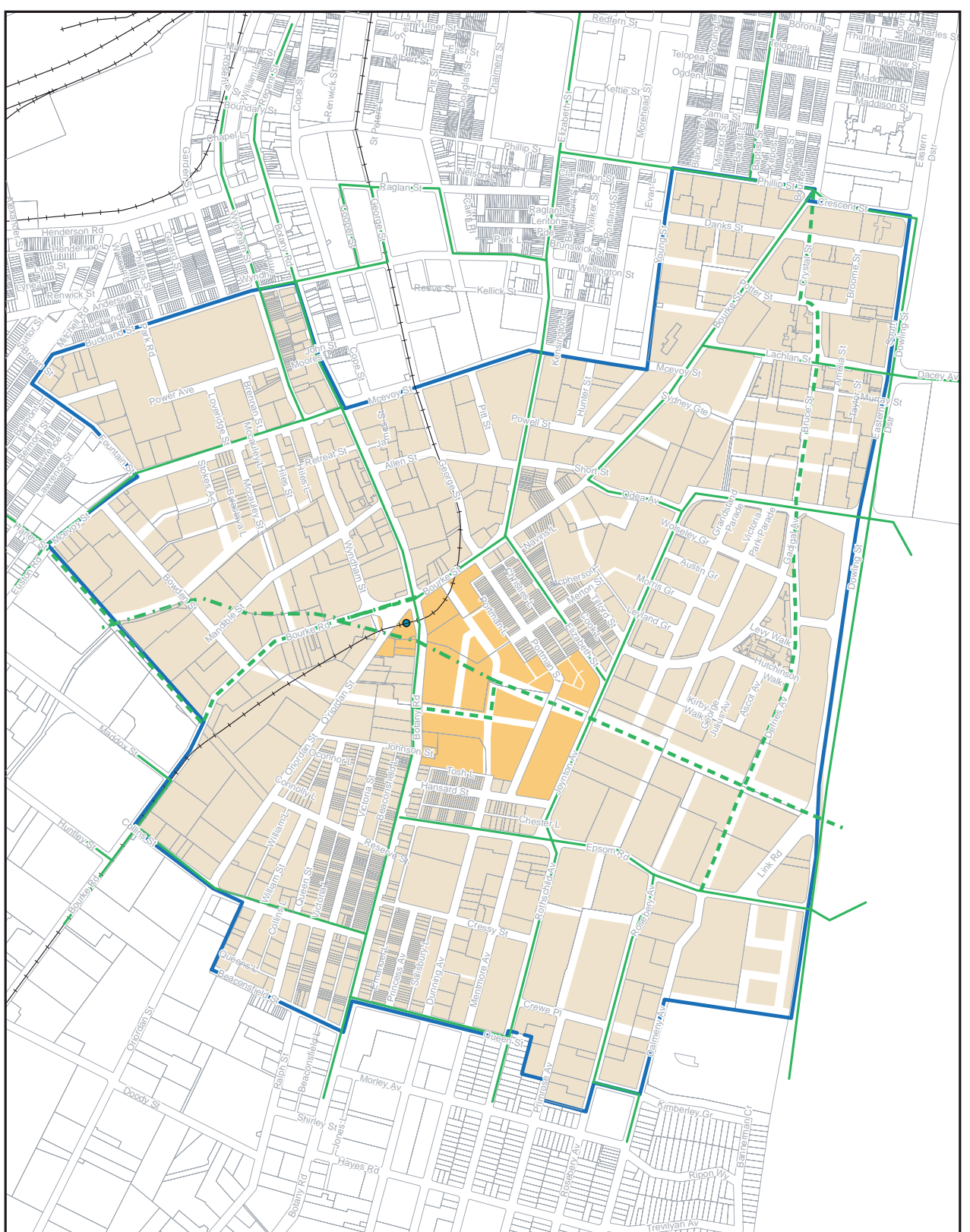
1. Through the careful planning and implementation of art works for public and private open spaces to:
  - a. express the unique social history of the area and integrate and record the contemporary culture of Green Square for future generations;
  - b. create pleasant, inviting environments to encourage the use of these spaces for social interaction and recreation;
  - c. contribute to the a sense of unique community identity and aesthetic quality of buildings within Green Square; and
  - d. improve the intrinsic value, character, and public amenity of Green Square through artistic enhancement of the built and natural environment.
2. To encourage the private sector to participate in and support the implementation of the Council's public art policy as it applies from time to time..
3. To encourage the collaboration of artists, architects and the community in the design of public spaces to achieve a sense of "ownership" and "pride of place" and to empower neighbourhoods and community groups to explore and express their identity and energy.

#### Controls

1. The provision of public art in Green Square is to:
  - a. enrich and enliven community life through the site specific commissioning and placement of works of art which question, comment on and explore the plural identities of the community;
  - b. demonstrate design principles that encourage a feeling of pride and sense of place amongst the community of Green Square; and
  - c. support contemporary cultural diversity and heritage.
  - d. be of appropriate and sensitive design to enhance the built environment and the lives of the people who live and work in Green Square.
2. Depending on the size and a scale of the development a Public Art Plan may be required. This plan shall be developed by a professional public art consultant, with reference to any adopted public art policy of the Council.

3. Where a Public Art Plan is required, the public art consultant shall be commissioned at the concept stage of the project, prior to lodgement of a development application which includes public domain plans, so the resultant public art is successfully integrated with the building design.
4. A Public Art Plan shall be integrated with any public domain plans in respect of a development application, to ensure the highest quality outcomes for the amenity of the place and the success of the work.





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Prepared By: jiang  
Printing Date: August 3, 2006  
File: Transport\_routes.mxd

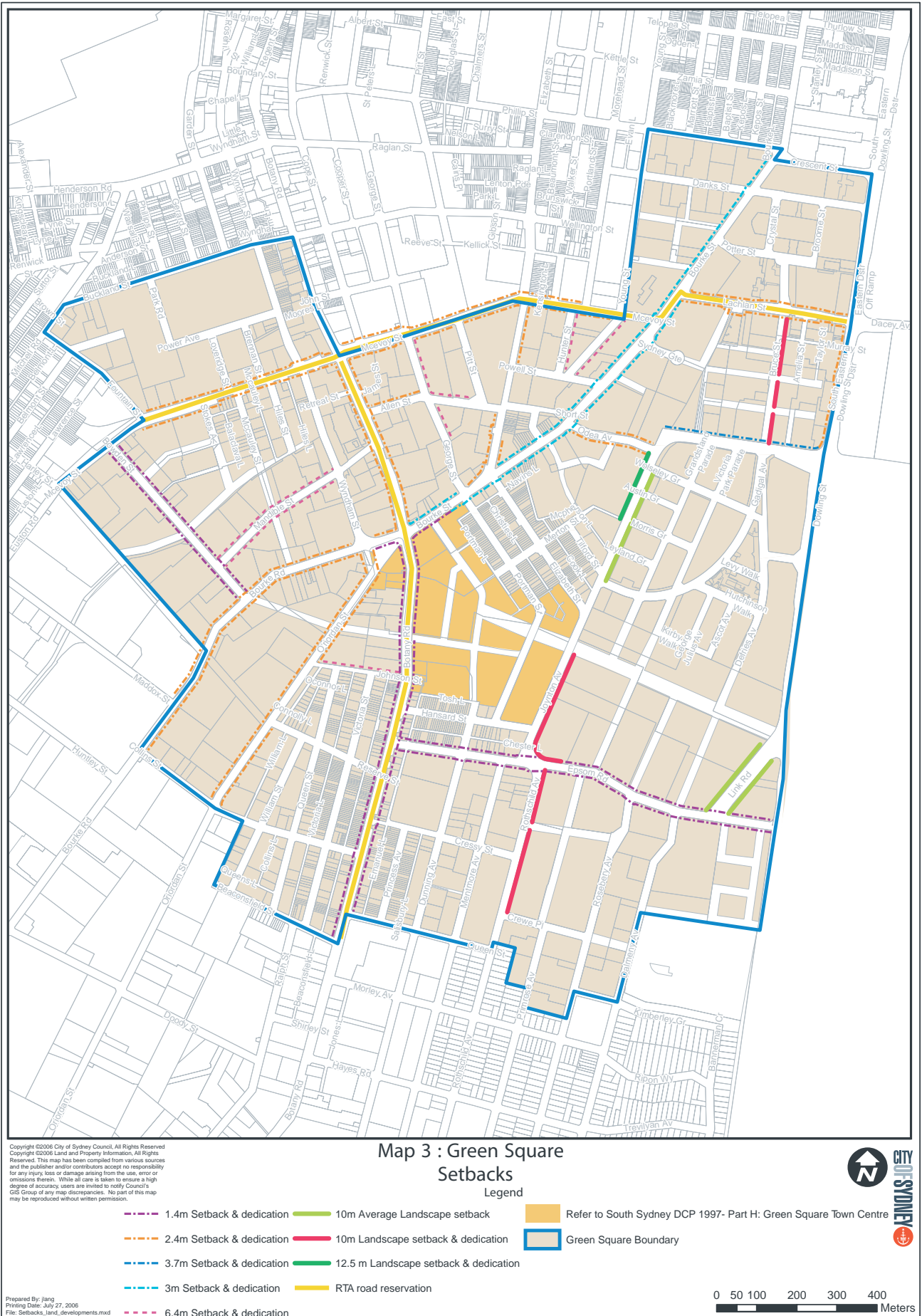
## Map 2 : Green Square Public Transport Routes

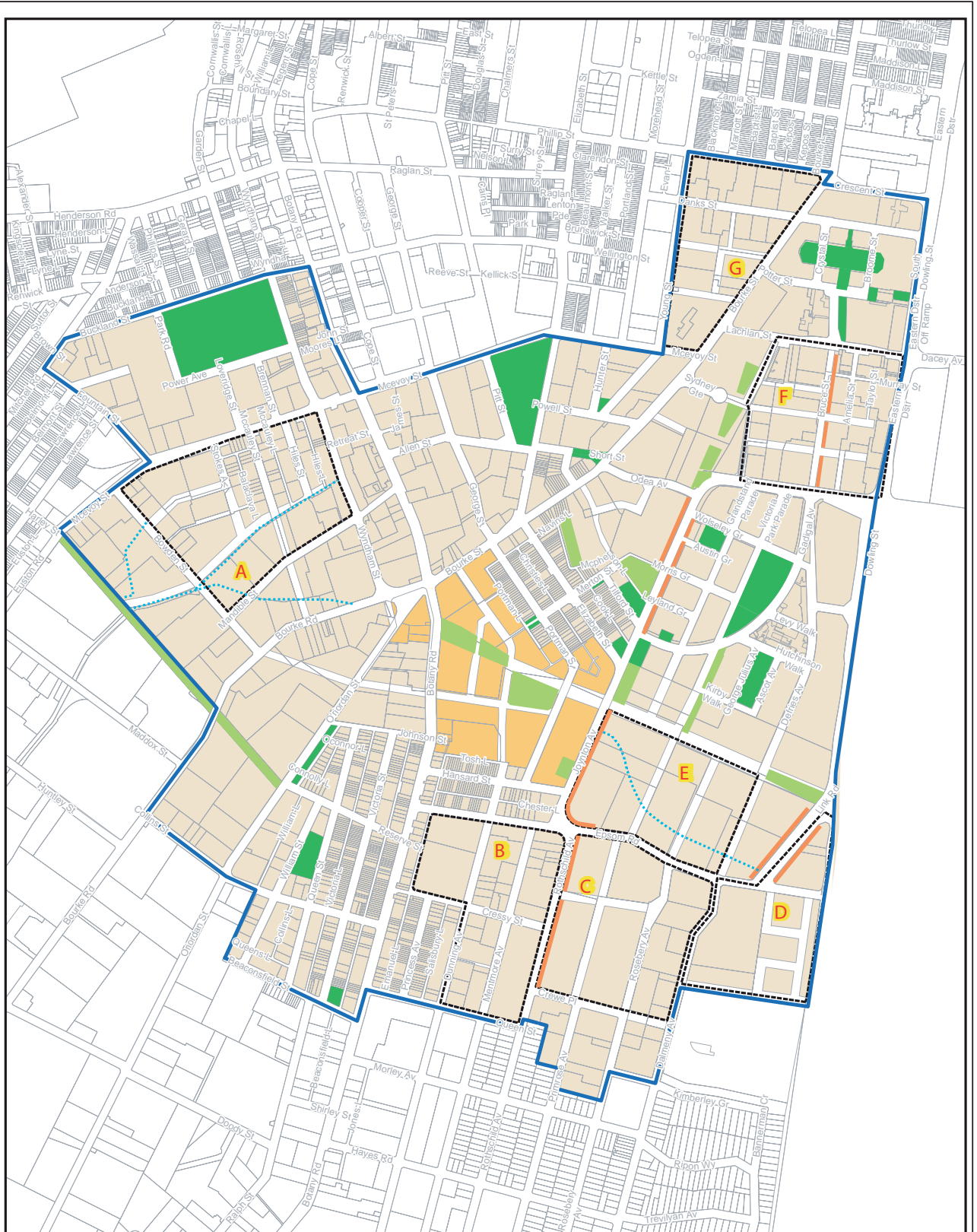
### Legend

- Existing Bus routes
- - - Preferred public transport route
- ... Proposed public transport route
- Railway Stations
- +— Railway Lines
- Refer to South Sydney DCP 1997-Part H: Green Square Town Centre
- Green Square Boundary



0 50 100 200 300 400  
Meters





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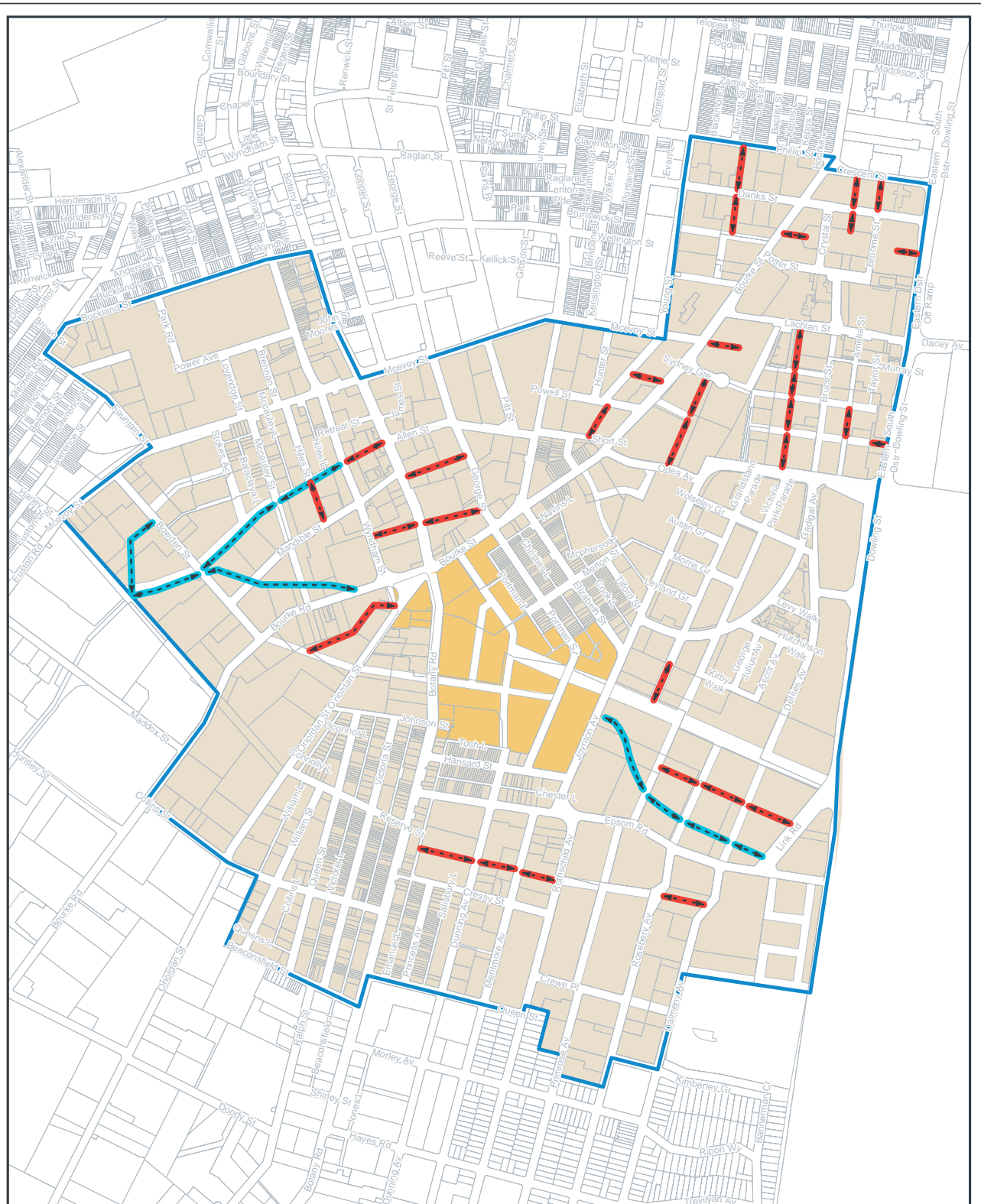
Prepared By: Jiang  
 Printing Date: August 3, 2006  
 File: open\_space\_version4.mxd

### Map 4: Green Square Open Space Legend

- Existing
- Proposed
- Landscape setbacks
- Open Space Catchment areas
- Refer to South Sydney DCP 1997- Part H: Green Square Town Centre
- Green Square Boundary
- Canal Open Space Link



0 50 100 200 300 400  
 Meters



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Map 5 :Green Square  
 Through-Site Links

Legend

- - - Publicly accessible through-site link 8m
- - - Pedestrian link through canal open space 10m
- Refer to South Sydney DCP 1997- Part H: Green Square Town Centre
- Green Square Boundary

Prepared By: jlang  
 Printing Date: August 3, 2006  
 File: Pedestrian\_connections3.mxd



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## 3.2 Built Form

Development in Green Square will take place over a considerable amount of time and different designers may be responsible for the design of buildings on individual sites within larger redevelopment sites. In view of this, built form controls must strike a balance between a level of certainty through prescriptive controls whilst allowing for some flexibility and variation to achieve the diverse urban form desired for Green Square.

### Floor space ratio

The scale and overall intensity of development is expressed in **Map 6: Floor Space Ratio**. The map specifies a base floor space ratio (FSR) and maximum bonus FSR specifically intended to encourage the provision of material public benefits over and above Section 94 requirements.

The base FSRs for Green Square range from 1:1 in existing residential areas to 2:1 in other selected locations. The base FSR may be exceeded on sites, only when a development provides substantial public and environmental benefits such as:

- Dedication of land for wider pedestrian and/or cycle paths, additional useable open space, new streets (beyond basic streets required to service the development), bus and traffic turning lanes, identified pedestrian through-site links, and where appropriate the treatment of those spaces.
- Provision of streetscape, bicycle, and pedestrian enhancement works such as widened footpaths, street tree islands, local parks achieved through road closures, flush entry thresholds, nodal treatments, pedestrian crossings, bicycle paths, overpasses and underpasses, traffic management facilities etc, which are considered by the Consent Authority to be over and above public domain improvements normally expected as a consequence of development of a site
- Undertaking social development projects such as provision and upgrade of community buildings.
- Carrying out stormwater amplification, integrated water treatment facilities and large scale detention systems and other civil infrastructure projects.
- Public transport projects such as bus priority projects and subsidisation of embryonic bus services,.
- Enhancements to existing parks such as play equipment, lighting, sports facilities, furniture, landscaping, etc.
- Any other works or improvements at the discretion of the Consent Authority.

FSRs are calculated on the existing allotment areas and include any areas identified for new streets or open space in the Urban Framework, excluding existing streets and public open space.


### Height

Depending on the FSR achievable, potential building envelopes and heights will be controlled by **Map 7: Height**. This map specifies the

predominant height of buildings that should prevail to ensure a certain uniformity and cohesiveness.

### Controls

1. Building forms are to respond to the surrounding urban context in terms of envelopes, relationship to site features, adjoining development, streets and open spaces.

- 
2. Building types are required to:
    - a. form an integral part of the urban fabric of Green Square,
    - b. contribute to the physical definition of the street network and the hierarchy of public and semi-public spaces and streets, and
    - c. achieve identity and distinctiveness.
  3. Building are:
    - a. scaled in relation to the width of the street,
    - b. continuous with uniform setbacks that define the street edge,
    - c. generally built to the perimeter of sites to form enclosed court yards, and
    - d. designed to achieve human scale through the articulation of form, modelling and proportion.
  4. Buildings are designed in accordance with **Map 6: FSR** and **Map 7: Height**.

## Note to Applicants

### (A) Protection of airspace for Sydney Airport operations

The City of Sydney Local Government Area (LGA) lies within the prescribed airspace for Sydney (Kingsford Smith) Airport. The prescribed airspace for Sydney over the southern part of the City of Sydney LGA consists of Procedures for Air Navigation Systems Operations (PANS-OPS) and Obstacle Limitation Surfaces (OLS).

The critical components of the prescribed airspace over the City of Sydney LGA are the Inner Horizontal Surface (51.0 metres AHD), the Conical Surface (51.0 metres to 156.0 metres AHD), and the Outer Horizontal Surface (above 156m AHD) of the OLS for Sydney (Kingsford Smith) Airport.

Any intrusion into prescribed airspace would constitute a controlled activity<sup>1</sup> and as such, must be referred to Sydney Airports Corporation Limited (SACL) for an approval process (Airport Act 1996 Section 186). The approval process involves referral of the application to the Civil Aviation Safety Authority (CASA) and Airservices Australia (AsA) for assessment relating to the safety, efficiency and regularity of air traffic using Sydney (Kingsford Smith) Airport. These assessments, once received, along with SACL recommendations, are forwarded to the Department of Transport and Regional Services (DoTRS), for consideration of approval.

Consideration during the planning stages should be given to the operating heights of all construction cranes (short-term controlled activities) necessary for the proposed controlled activity.

SACL advises that approval to operate construction equipment (ie. cranes) should be obtained prior to any commitment to construct as the height of this equipment is generally significantly higher than the proposed structures, therefore approval may not be granted.

"Permanent controlled activities"<sup>2</sup> are not permitted to penetrate the Procedures for Air Navigation Services Operations surfaces (PANS OPS) component of the prescribed airspace.

All development applications for structures/ buildings exceeding 15.24m above existing ground level in the southern part of Green Square, and 45.72m above existing ground level in the northern part, are to be referred to the Sydney Airports Corporation. Applicants are advised to consult the Sydney Airports Corporations before submitting a development application with the Consent Authority.

<sup>1</sup> Section 182 of the Airports Act 1996 defines "Controlled Activities" as: constructing a building, or other structure, that intrudes into the prescribed airspace; altering a building or other structure so as to cause the building or structure to intrude into the prescribed airspace; any other activity that causes a thing attached to, or in physical contact with, the ground to intrude into the prescribed airspace.

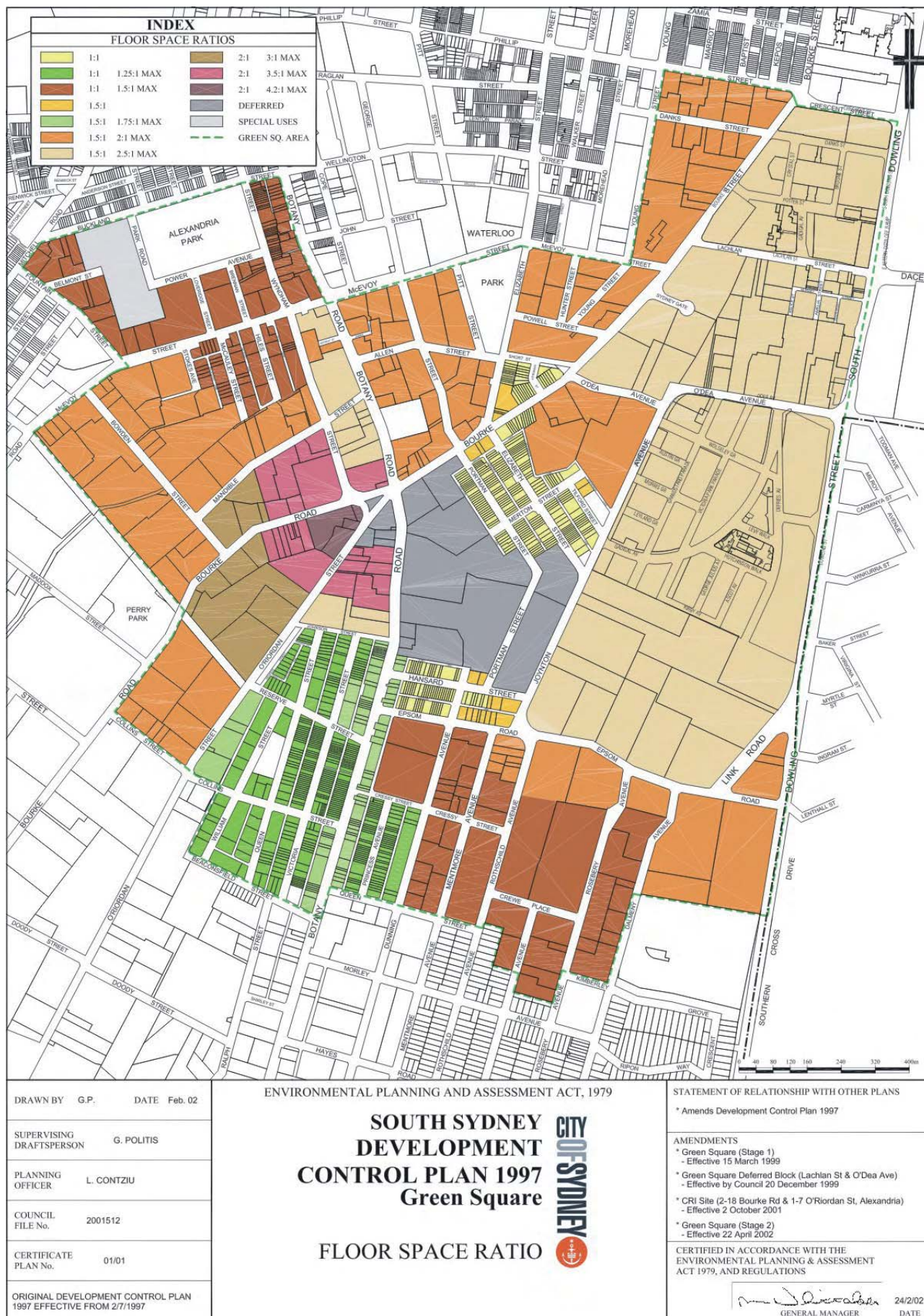
<sup>2</sup> Permanent controlled activity: any structure erected for a period of more than 3 months.

### (B) Protection of Sydney Ports transmission operations

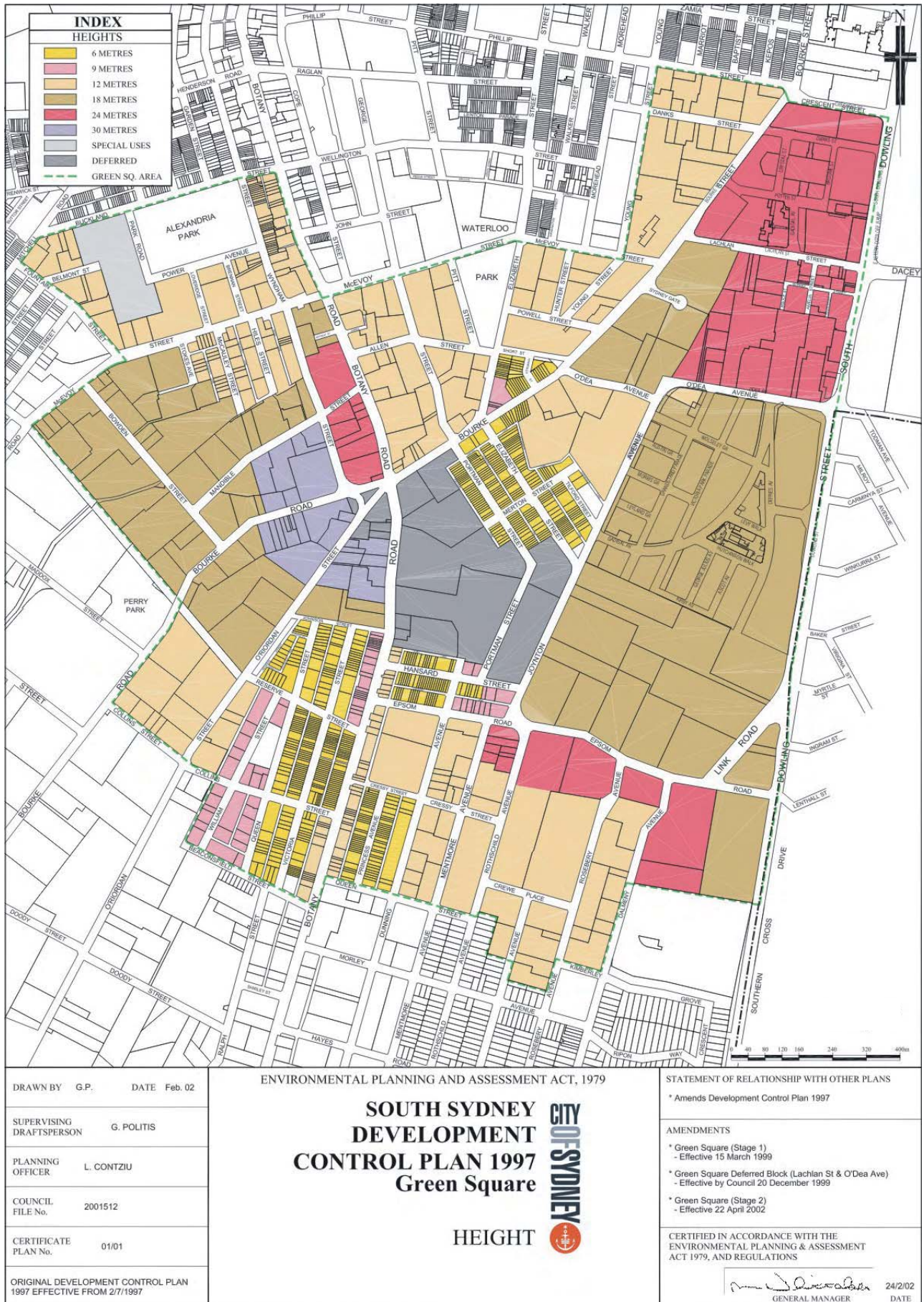
The western part of the Green Square Urban Renewal Area lies within the 'line of sight' of Sydney Port's Port Radar<sup>1</sup>. The Radar is used to monitor ship movements in Botany Bay.

All development applications for structures/buildings of RL 55.0m or over situated within 30m either side of the 'line of sight' are to be referred to Sydney Ports Corporation (height is taken to be to the top of the tallest part of the structure, including lift shafts, telecommunications equipment, etc). Applicants are advised to consult the Sydney Ports Corporations before submitting a development application with the Consent Authority.

<sup>1</sup> A copy of the plan showing the location of the Port Radar 'line of sight' is available at the Council Office locations.



Map 6



Map 7

### 3.2.1 Building Type and Envelopes

The courtyard block edge building type has been embraced as the most suitable form of development for Green Square. When built close to the street, it can enhance the continuity of the streetscape and define the street edge; it is adaptable and flexible enough to allow mixed uses and a range of housing typologies. However other forms of buildings may be suitable, provided they are well designed: ie. having an appropriate scale and setbacks that relate to the street pattern and other buildings in the street; incorporating landscaping, a palette of rich articulate forms, large balconies, stepped heights and different roof forms appropriately selected to complement the landform and the neighbourhood character of particular precincts.

Innovative, fresh approaches to site and building design are encouraged to achieve new sustainable forms unique to Green Square and create a distinguished sense of place.

#### Objectives

1. To establish a legible and permeable built form based on an extension of the existing street grid and the adoption in principle of the block edge courtyard type of development.
2. To encourage innovative design that accommodates urban and environmental considerations and is responsive to new technologies.
3. To allow for a variety of built form and a range of building types that accommodate mixed uses and respond to different locations, market sectors and lifestyles.
4. To ensure all building types address street frontages, define and reinforce street edges, and enclose spaces to establish a secure and protected environment.

#### Performance Criteria

1. Development generally utilises the block edge courtyard form of development.
2. Buildings are built to the street edge to reinforce and define important street edges and corners whilst allowing for a range of private and public spaces to be created.
3. Appropriate building types are selected to complement the desired future character of neighbourhoods identified in the Urban Strategy for Green Square, and in response to the following considerations:
  - a. topography
  - b. natural features
  - c. orientation
  - d. street pattern and width
  - e. existing adjacent development
  - f. heritage buildings
  - g. block size and usage
  - h. views.
4. Where new buildings are taller than existing buildings by one to three storeys, the new buildings act as 'infill buildings' and maintain and reinforce existing alignments dictated by surrounding buildings.

5. Where new buildings are taller than existing buildings by three to five storeys, new buildings are set back by stepping upper levels and the roof.
6. Where new buildings are four storeys or more higher than existing buildings, the upper levels of the new buildings are set back in a tower form above a podium or behind lower scale buildings that address the street, where appropriate and depending on the character of the precinct.
7. Height and bulk is distributed on the site so as to ensure there is no significant loss of amenity to adjacent buildings and public streets and spaces, and is broken up or consolidated according to the existing context and to provide interest to the street.
8. Buildings adjacent to a heritage item or a conservation area must be of such a height to provide a transition that will achieve appropriate scale between the buildings and either the heritage item or the buildings within the conservation area.
9. Corners are enhanced by extra building height above nominated parapet or storey heights.
10. Buildings provide architectural definition to significant points within the built form.
11. Where towers are proposed, these should be behind courtyard buildings or designed above podiums, and of a height that matches the height of adjacent buildings.
12. Towers should be setback from street alignments. The amount of setback is related to:
  - a. the height of the tower,
  - b. adjacent building pattern and form,
  - c. the width of the street, and
  - d. environmental impact.
13. The footprint of towers and other higher forms of buildings relate to the context and the character of the streetscape.

#### Controls

1. The predominant height of buildings is in accordance with **Map 7**: Height, not including an attic as defined in South Sydney DCP 1997.
2. Buildings over 8 storeys are designed as slender forms and are sited and oriented for least environmental impact.

#### 3.2.2 Height and Scale Variations

Variations in height within blocks can provide for openness and permeability through large development sites or to reinforce prominent locations; there will be situations where heights in parts of a site may be capable of taking a height above the predominant heights, and still satisfy environmental and amenity considerations.

However, this will require a more detailed assessment of a site's context. The onus is on applicants to demonstrate the Consent Authority, by way of block analysis, how a site is capable of taking variations. Variations will only be considered where it can be demonstrated that the nett result does not diminish the built form objectives of the Urban Framework overall.

## Performance Criteria

1. Variations to predominant heights as shown in **Map 7: Height** are potentially acceptable in the following situations:
  - a. to accentuate corners,
  - b. where taller structures are proposed as free standing buildings,
  - c. inside enclosed or semi-enclosed courtyards,
  - d. to provide setbacks in the centre of blocks,
  - e. to provide views in and out through gaps in the street façade,
  - f. to provide more articulated roof form,
  - g. along buffer strips,
  - h. along distinctive 'gateway' locations,
  - i. on sites that terminate vistas and streets,
  - j. above certain levels to take advantage of views,
  - k. adjacent other existing taller structures.

## Control

1. Detailed building form and envelope analysis dealing with street frontage heights and roof modelling are to be prepared for individual blocks, as part of site-specific masterplanning and block analysis studies.
2. Where the height specified in **Map 7: Height** is varied as a result of a block analysis study or masterplanning process, building height does not exceed the 'building envelope control line' determined by the width of the street specified by the formula under *Part E 2. Building Form and Appearance* of DCP 1997.
3. At lower levels, all development is to respect the alignment of streets and all buildings must address street frontages whilst allowing for variation of building type.

### 3.2.3 Site Coverage

Site coverage and separation between buildings should reflect the scale of development and the type of internal environment to be created. Low scale development can accommodate higher site coverage. As the bulk and height of buildings increase, site coverage should be reduced to provide greater separation between buildings for solar access and landscaping and to allow for an adequate level of aural and visual privacy. Spacing of tower buildings should also be controlled to ensure there is adequate separation between them, relative to their scale and position.

## Objective

1. To ensure that density and amenity are complementary by controlling the height, scale, bulk and separation between buildings.

## Performance criteria

1. Site coverage is proportional to the height of buildings. The focus should be on the quality of the environment created in terms of outlook and orientation, relationship between buildings, size and shape of spaces created and their enclosure and landscape treatment.

2. Adequate separation between buildings, particularly between 'slim line' towers is provided to ensure taller buildings do not dominate the landscape and to provide ample view corridors between them.

#### Control

1. The maximum site coverage based on predominant building type is:
  - a. 65% for residential
  - b. 70% for mixed use
  - c. 55% for commercial
  - d. 30% for buildings over 8 storeys.
2. A minimum separation of 60m between buildings over 10 storeys is provided.

#### 3.2.4 Building Interface

The type and quality of treatment at the interface of buildings largely influences the quality of the public domain and streetscape character. The interface encompasses the building façade and the space, or lack of it, abutting the street and the street footpath.

For residential development the interface is a territorial threshold that separates the private from the public territory. In commercial development, the interface often includes colonnades and awnings for pedestrian comfort and the spillage of activities associated with the buildings into this semi-public/public realm. Along major roads the interface is treated as a landscaped buffer zone.

How the interface is designed will dictate the success of the development. For Green Square different treatments at ground level and setback requirements will apply, depending on site context and the type of activity patterns proposed.

Front setbacks will vary according to the conditions that prevail and the character of the streetscape.

#### Objectives

1. To ensure the design of the interface of buildings:
  - a. defines, expresses and enriches the public domain creating a range of private and semi-private spaces,
  - b. creates visual interest and a safe environment, and
  - c. provides adequate outdoor space for activity generating uses at ground level.

#### Performance criteria

1. The interface of buildings:
  - a. responds to the alignment of adjacent development, the existing building form and the pattern of the streetscape;
  - b. contributes to streetscape character, integrates new development with the public domain, and maximises opportunities to enhance the public domain and maximises the opportunities to enhance the public domain (eg through the use of public art and/or water features).
  - c. creates activity at ground level by locating pedestrian entrances at major street frontages at regular intervals;

- d. is designed to achieve visual and acoustic privacy to the working and living areas of a building, whilst allowing for street surveillance; and
- e. depending on the function and street context, generally includes front setbacks designed in accordance with the Urban Framework of this DCP.

### Control

1. Buildings maximise ground level activities and provide a family of entrances along major streets and pedestrian oriented spaces.
2. Where public art and/or water features are proposed, they shall be consistent with the Council's public art policy as it applies from time to time.

### 3.2.5 Building Design

The design emphasis should be on the proper resolution of the components that influence streetscape character: how a building is sited and designed to address the street, building façade, roof form and silhouette, articulation, detailing, materials, landscaping and parking arrangements. Certain existing residential and industrial forms in Green Square and those patterns and details that help create a sense of place are to be reinforced and interpreted whilst seeking to create an innovative and sustainable built environment.

Contemporary design solutions based on sound urban design principles are encouraged. Building design is to maximise the opportunity that exists in Green Square to establish new architectural forms that directly respond to environmental needs such as energy efficiency considerations – buildings including sun shading devices, light shelves and bay windows for example.

### Objectives

1. To encourage architectural diversity and an innovative response to site and environmental considerations.
2. To develop a cohesive architectural expression based on a consistent high quality built form, façade design and palette of materials and finishes.
3. To enrich façade design with contemporary art work.

### Performance criteria

1. Buildings:
  - a. are modulated both in plan and elevation and articulated to express the building's distinct elements and functions; and
  - b. recognise and architecturally respond to unique streetscape characteristics to achieve dramatic and picturesque visual effects.
2. Building facades incorporate the following design characteristics:
  - a. 'punctuated' walls with visually recognisable patterns, decorative features, rhythm and texture;
  - b. variation in setbacks;
  - c. distinctive building elements such as porches, canopies, sun shading devices, balconies and verandahs to facilitate energy efficiency and to provide interest to the street edge;
  - d. vertical and horizontal articulation; and

- e. many entrances at ground level and 'robust' architectural building elements.
- 3. A mix of exposed masonry and smooth rendered surfaces to create variety of expression are used to integrate buildings with the streetscape and heritage elements.
- 4. Facades are designed to provide architectural definition to important street corners and other significant points within the overall built form.
- 5. Roof forms incorporate elements to create interesting roofscape and skyline; saw-toothed, pitched roofs, innovative skillion curved or 'floating' roof forms are encouraged.
- 6. Development along 'buffer zones' is designed to ameliorate adverse environmental conditions by incorporating potentially the following features:
  - a. Continuous built edge buildings that act as buffers with less sensitive land uses located closest to noise source.
  - b. Building floor plans that locate sensitive areas of use such as bedrooms facing away from busy roads.
  - c. Acoustic glazing and other noise attenuation architectural features.

**Refer to Section 3.2.8 Noise and Vibration Amelioration.**

#### Control

1. The architectural treatment of building facades is primarily influenced by energy efficiency and other environmental design considerations.

**Note:** In order to protect the Airport Link Railway tunnels from any potential damage, development on sites that are above or adjacent to the rail tunnels must be designed having regard to the loading of proposed buildings and the requisite depth of excavation associated with construction. In this respect, developers are advised to contact the Rail Corporation.

#### 3.2.6 Mixed Use Courtyard Buildings

The courtyard block edge building type has been embraced as the most suitable form of development for Green Square. A key objective of the Green Square strategy is to achieve a mixed-use permeable urban environment. This environment is built around a cohesive framework of public open spaces and streets including finer pedestrian linkages and through site links to promote community interaction and safety and to integrate active and passive social and recreational activities, public art and water features.

#### Objectives

1. To encourage the provision of publicly accessible communal/semi-private court yard spaces in suitable locations, which supplement the public open space network system in Green Square.
2. To design communal/private court yards as focal spaces incorporating quality mixed use perimeter type buildings integrating non residential uses at ground level with through site links, landscape elements and water features.

## Performance criteria

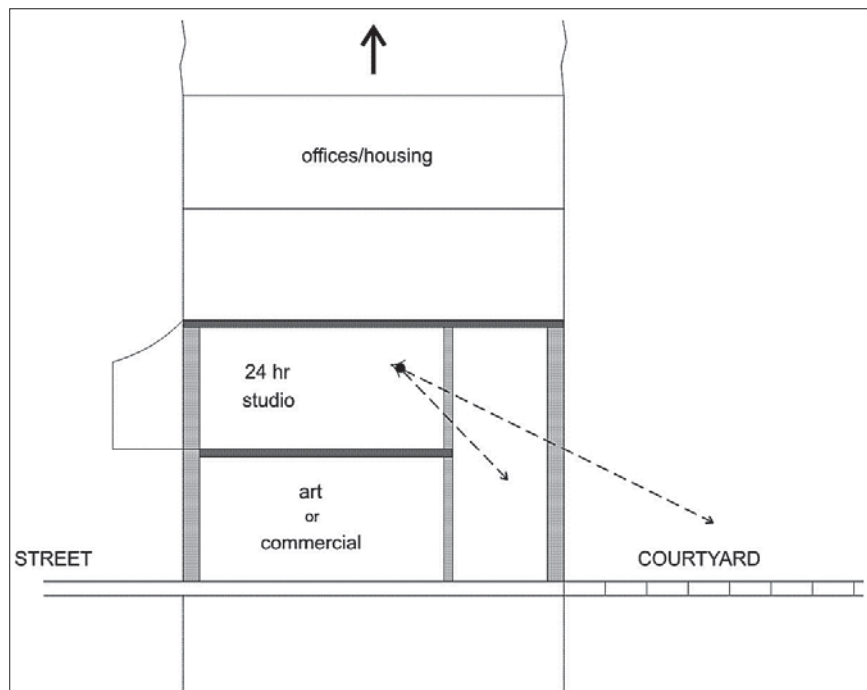
### Contextual built form

1. Perimeter type buildings 12 to 14 meters deep are provided, addressing street frontages and internal courtyards. Active street frontages at ground level penetrate through to the internal courtyards.
2. Perimeter buildings are fragmented and fractured where appropriate, to increase the visual permeability between semi/private internal courtyards and the public domain.
3. Courtyards are designed to overcome conflicts between public access needs and the private needs of residents having regard to aural and acoustic privacy, and use of and need for private open space.

### Design of communal/semi private open space

4. All internal courtyards are designed to achieve a high degree of 'publicness'. Pedestrian linkages and through site links from adjacent sites and the surrounding street network is provided by multiple entries and pedestrian responsive design.
5. Central courtyards function as semi-public mixed use commercial spaces. They are privately maintained but are publicly accessible during suitable hours set at the discretion of the Consent Authority. Non-residential uses are attached to ground level and at first floor level where sites allow for level changes for shared use such as passive recreation and outdoor.
6. All courtyards are designed as destination points and act as attractive distinct focal spaces in the short term by incorporating landscaping, public art and water features where appropriate. In the long term they are designed to form part of a larger urban space system.
7. The minimum volume of internal courtyards complies with the internal courtyard formula contained in South Sydney DCP 1997.

### Development principles for mixed use courtyard type development



### 3.2.7 Motor Showroom Design

The Green Square Area has seen a proliferation of car show rooms moving into the locality. Companies are increasingly realising the advantages Green Square offers, such as the cheaper land prices and the large market the eastern suburbs provide. This DCP has several objectives that aim to create an environment that is permeable to pedestrians and promotes community interaction. Typically car showrooms do not provide opportunities to create open space or community interaction; nor do they present a significant built form or mixed land use, which are two of the key objectives for Green Square.

#### Objectives

1. To discourage the proliferation of the traditional form of car sales showrooms in Green Square.
2. To control the design of showrooms so that they are compatible with the preferred built form and the mixed use environment intended in Green Square.
3. To provide guidelines for the design of new car sales showrooms.

#### Performance criteria

##### Scale – Design Elements

1. High ceilings and adaptable open planning for the first two levels.
2. Structure and plan to suit future mixed use development, particularly residential.
3. Building is sited close to the street alignment, designated to reinforce key modal spaces and the street pattern.

#### Site Planning

4. A staging plan indicates how the site might develop over the long term indicating potential:
  - access,
  - building form/scale, and
  - landscaping, site planning and open space distribution.

#### Built Form

5. Perimeter type buildings, addressing street frontages.
6. Built form is scaled in relation to the width of the street and surrounding buildings.
7. Continuous uniform setbacks are followed where evident.
8. Buildings that allow for mixed uses are developed. Mixed uses are compatible with the surrounding area.
9. New development appreciates the gradation of height levels set for Green Square.
10. Where existing built form is significant it is retained and adapted appropriately.
11. ESD principles are addressed in the design of the building, taking into account water quality especially (ie. oil and soap suds, run off). Design ensures that the development will create an environment that is free from excessive noise and wind.

## Landscape Elements

12. Developments build upon and enhance both public open spaces and public streets.
13. A visually interesting space for pedestrians is created, and where possible pedestrian networks/ linkages are enhanced.
14. Landscape must correspond to different street types as specified by the Council's *Street Tree Masterplan*.
15. Landscape is designed so that it still allows for safe and casual surveillance.

## Transport/storage of cars

16. Where possible cars are displayed internally, allowing for built form to be developed along the perimeter building line.

## Controls

1. At least two uses other than a car sales showroom are incorporated.
2. Design is adaptable to absorb additional mixed-use development in the future.
3. Minimum site coverage is 40%. Buildings occupy 40% of the site at least.
4. Buildings are set back.

### 3.2.8 Noise and Vibration Amelioration

Given the potential complexity of land uses within Green Square, the possibility of noise intrusion for new residents arising from the surrounding road network and the existing industrial uses warrants careful consideration.

In addition, vibration arising from the Airport Link Railway and the potential impact of aircraft noise on Green Square residents, are of pivotal concern.

Therefore the quality of planning, design and construction of buildings in Green Square plays an important role in providing a comfortable working and living environment where the effects of noise or vibration may pose a problem. Various mitigation options such as land use planning, building design, the quality of building construction, and the incorporation of noise barriers need to be considered.

## Objectives

1. To ensure an acceptable level of amenity is maintained within Green Square by minimising the impact of noise and vibration on residents.
2. To ensure appropriate noise and vibration attenuation measures are implemented to alleviate adverse noise and vibration.
3. To address potential noise conflict between current industrial land uses and new residential development.

## Performance Criteria

Noise and vibration amelioration is achieved:

1. In **site planning** through:
  - a. the deliberate placement of buildings on site in relation to the noise source;
  - b. the use of parking lots, open spaces and garages to separate the building from the noise source;

Full brick or concrete brick construction has good insulation. However, the insulation capacity of a wall will be weakened if it contains ventilators, doors or windows of a lesser insulation capacity.

- c. using the building to shield external useable areas such as courtyards;
- d. taking advantage of any natural topographical features that can be used to screen noise impacts; and/or
- e. supplementing careful site planning by using noise barriers in the form of earth mounding, fencing, walls and vegetation.

2. In building design by:

- a. locating noise insensitive areas such as the kitchen, storage areas and laundry towards the noise source;
- b. minimising windows oriented towards the noise source;
- c. replacing conventional roof design with eaves by a flat roof with parapets; and/or
- d. using construction techniques and materials that have good mitigation properties. (Examples are given below.)

NSW Building Regulations require that in habitable rooms, the area of a window which can be opened must be equal to at least 5% of the floor area. If this is not possible, alternative ventilation must be provided.

Noise insulation can be improved by:

- a. using building materials which insulate or absorb sound, such as non-porous materials like brick, concrete, timber and glass,
- b. adding thermal insulation to the ceiling and eaves,
- c. sealing air gaps around doors and windows exposed to noise,
- d. using solid core doors and using thicker window glass or double glazing

Specific building practices can reduce vibration. For example the installation of Teflon pads, polyurethane, or other types of rubber into the foundations. Also panels with good dampening properties are effective for vibration mitigation, such as windows in which the glass panels are made of two thin panels with a plastic layer between them also have good dampening qualities.

## Controls

1. Buildings are both designed and constructed taking into full account the requirement for effective sound insulation against external noise, such that the mean logarithmic  $L_{aeq}$  (1 hour) level does not exceed 30 dB(A) in sleeping areas at night-time and 40 dB(A) in other internal areas (not including garages, kitchens, bathrooms and hallways) during the day-time, (night-time meaning between 10pm and 6am on the following day).
2. All rooms which would be required to have windows closed to achieve the internal noise levels required above are ventilated to the standards set out in clause F4.5 of the Building Code of Australia and Australian Standards AS 1668.2- 1991 (The use of mechanical ventilation and air conditioning in buildings Part 2: Mechanical ventilation for acceptable indoor-air quality) and HB32- 1992 (Control of microbial growth in air-handling and water systems in buildings) published by Standards Australia.
3. The acoustic treatment referred to in paragraph (1) is designed having regard to the mean logarithmic  $L_{aeq}$  (1 hour) level determined as a result of surveyed noise levels at two representative locations on the site to which the development relates, during a four week survey period.

4. Site planning and building design provides reasonable shielding of external areas used for private recreation purposes.
5. Where the potential for aircraft noise intrusion has been identified, residential building design takes into account the provision of *Australian Standard 2021 – 1994 'Acoustics – Aircraft noise intrusion – Building siting and construction'*.

**Note:**

The following noise guidelines available from the Department of Environment should be referred to:

- a. Environmental Criteria for Road Traffic Noise (Environment Protection Authority, May 1999)
- b. New South Wales Industrial Noise Policy (Environment Protection Authority, January 2000)
- c. Noise Guide for Local Government (Department of Environment and Conservation, June 2004)

### 3.2.9 Parking

Council's existing *Development Control Plan No. 11: Transport Guidelines For Development* (DCP 11) will be implemented in slightly modified form as the standard for parking provision and design of transport facilities in Green Square. DCP 11 embraces a restraint or demand management policy in relation to car parking, and includes residential car parking within the ambit of these policies.

Car parking in excess of the maximum DCP 11 rates or additional public parking stations will be actively discouraged as they serve to entice people to use their vehicles and undermine the viability of public transport which will be necessary to nurture and subsidise in the short term. Excessive car ownership will also be discouraged for similar reasons.

The Council will continue to provide and will reinforce resident parking schemes in existing communities. The Council's currently adopted policy of denying access to these resident parking schemes for occupiers of new residential developments will be enacted in Green Square in a bid to contain competition for these limited on-street parking spaces.

The on-street parking policy will be aligned with off-street parking policies for new developments. Controls on on-street parking shall be such that they shall not erode the effect of parking limitations and allow unconstrained car ownership by new residents. This will apply even when new residents have chosen a dwelling which does not have a car space. New residents will be required to be cognisant of the restricted access to parking facilities before committing to moving into the area.

In addition the on-street policy will the movement of people rather than cars and shall encourage short stay over long stay parking.

#### Controls

##### Residential

1. Rates as per current maximum DCP 11 rates apply for residential development will apply within approximately 800m walking distance of the Green Square Railway Station.
2. A relaxation of these rates shall be allowed for 2 bedroom units only beyond the 800m "accessible" zone to a maximum of 1 space per 2 bedroom unit
3. No new resident parking schemes are introduced, but are retained in existing communities.

The maximum, currently adopted rates of car parking allowable for residential development in South Sydney are:

- 0.5 spaces per one bedroom unit or bedsitter/studio
- 0.8 spaces per two bedroom unit
- 1.2 spaces per three bedroom unit
- 1 space per 6 units (all types) for visitor parking.

## Non-residential

4. A maximum provision of parking is specified with the exception of service vehicles.
5. The Green Square Station precinct is the preferred location for high intensity employment. Conventional car dependent business park development and other car intensive uses are not the favoured forms of commercial development sought for Green Square.
6. In a similar manner to residential, the rates applying within approximately 800m walking distance of the station shall be as per the current DCP 11 maximum rates, ie maximum of 1 space per 125 sq.m for commercial developments.
7. An increase in commercial parking rates shall be allowed beyond the 800m walking distance from the Green Square Station to a maximum of 1 space per 80 sq.m. However, it is stressed that this relaxation does not sanction inappropriate intensity of employment or car dependent developments in these areas.
8. At least 10 percent of the parking provision allowed above shall be set aside for visitor parking. Note that the new streets and their anticipated management will provide a large pool of commercial visitor parking.
9. Public commuter parking stations are not supported anywhere.
10. The use of on-street parking is to be maximised to assist the viability of neighbourhood retail businesses (eg. angle short period parking) in preference to large off-street carparks.

## On-street parking and kerbside usage

11. Kerbside usage shall be determined by the following priorities:
  - a. public transport, road safety requirements
  - b. public domain embellishments, short stay commercial parking and servicing, disabled parking
  - c. long stay period parking
  - d. commuter and unrestricted parking.