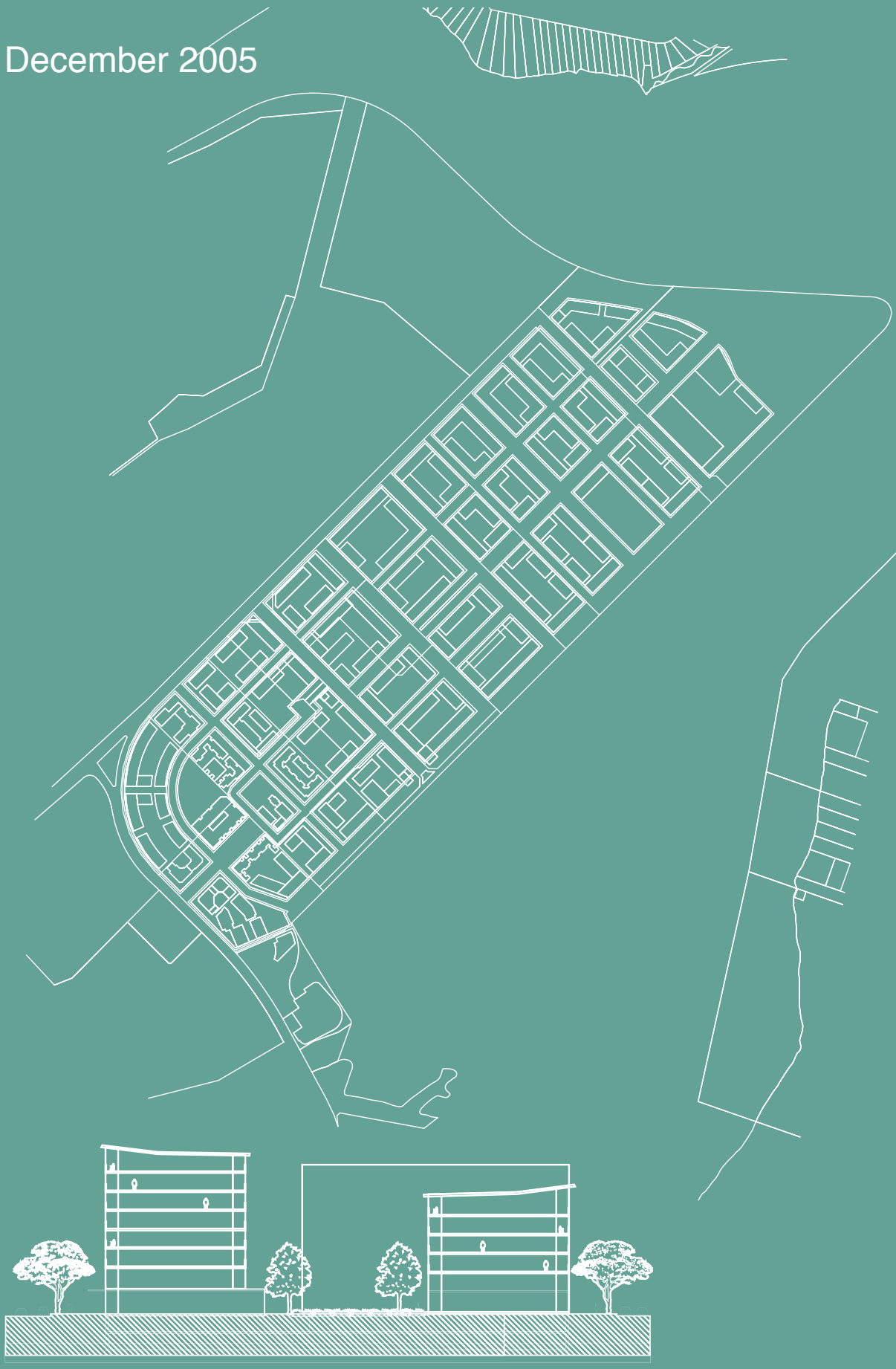
DCP Volume 2

NSW GOVERNMENT
Department of Planning

December 2005



Homebush Bay West
PUBLIC DOMAIN MANUAL

Note. The City of Parramatta Council (Council) resolved on 28 November 2022 to place the Harmonisation Development Control Plan (DCP) on public exhibition.

In addition, Council also endorsed administrative 'non-policy' changes to the stand-alone DCPs for Wentworth Point and Homebush Bay West which did not form part of the Harmonisation DCP (see Council Report from 28 November 2022 for more information). These amendments are proposed as part of the Land Use Planning Harmonisation Framework project and include:

- Replacing references to the former Auburn City Council (which is referenced as the consent authority) to the City of Parramatta.
- Replacing references to the Auburn LEP which will be superseded by the new Parramatta LEP.
- Transferring controls referenced within the Auburn DCP (which will be superseded by the implementation of the new Parramatta DCP) that relate to parking and loading, adaptable housing units and water management into Wentworth Point DCP to retain the existing policy framework for the precinct.
- Other changes as needed to retain existing policy.

Council is exhibiting these administrative 'non-policy' changes as part of the public exhibition process for the Harmonisation Development Control Plan. Following the public exhibition, the stand-alone DCPs will then be forwarded to the Department of Planning and Environment to finalise the proposed changes.

Prepared by Environmental Partnership (NSW) Pty Ltd
in conjunction with NSW Department of Planning,
Sydney Olympic Park Authority and NSW Maritime

For the Director General, NSW Department of Planning

Contents

introduction 1

1.1 What is the Public Domain Manual?

This Manual has been prepared to provide those responsible for the implementation of improvements to the "Public Domain" through the Homebush Bay West area with a coordinated set of design and material principles upon which improvement works can be developed. The manual supports the Homebush Bay West Urban Design and Structural Design Framework and Development Control Plan as the key planning policies for the redevelopment area. Public Domain Guidelines (refer Section 5.0) are based on a series of design and materials principles (refer Sections 3.0 - 4.0) which identify a hierarchy of materials and design treatments for the components of public domain through Homebush Bay West.

The design principles and guidelines provide general design and materials directions upon which detailed design should be developed for individual sites.

1.2 Public Domain in Homebush Bay West

Public Domain can be defined as ' the publicly owned and usable network of urban spaces including streets, squares, and open spaces" (*South Sydney Public Domain Manual*). Design for the Public Domain includes consideration of the relationship of built form (architecture) and infrastructure as significant shapers and determinants of the quality of the public domain environment.

The Public Domain Implementation Guidelines (Section 5.0) aim to ensure that the various components that help shape urban spaces including:

- pavements;
- kerbs and gutters;
- furniture;
- street trees and planting;
- lighting and signage;
- services and infrastructure; and
- vehicular and pedestrian access routes

are coordinated and integrated in a manner that is sustainable, functionally efficient, aesthetically pleasing, and safe. The Homebush Bay West Public Domain Manual integrates appropriate components and principles from related public domain strategies including the Sydney Olympic Park Urban Elements and Parkland Elements Design Manuals, ~~the Auburn Parks Infrastructure Manual,~~ and ~~the Renewing~~ Section K17 - Rhodes West Special Precinct of the City of Canada Bay DCP 2022.

1.3 Format of the Manual

The manual is arranged as described on the diagram opposite.

1.4 Using the Manual

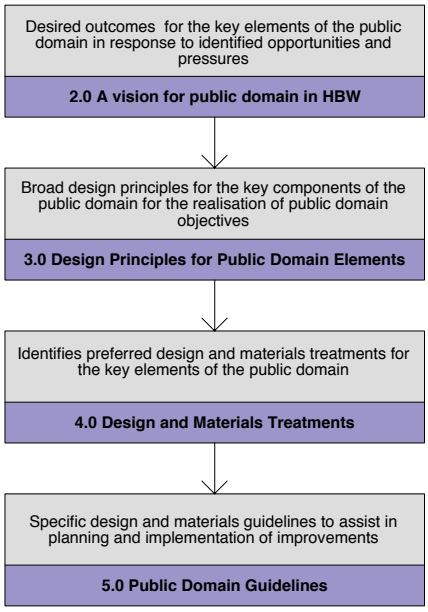
To provide for quick reference to the design information and materials required for a specific public domain project, a design and materials matrix has been provided (refer Section 4.4)

The matrix cross references design and material guidelines for each of the components of the public domain as described in sections 3.0 and 4.0:

- **Foreshore promenade** *foreshore public walkway and parkland*
- **Streets** *the hierarchy of streetscapes*
- **Plazas and Squares** *urban spaces at road terminations and other nodal locations*
- **Open Space** *parkland open space areas*

References to guidelines are provided under specific headings relevant to urban design / improvement projects including pavements, kerbs / gutters, furniture, planting fencing / barriers, and signage.

Above: the Homebush Bay West study area



Above: format of the manual

1.5 Glossary of terms

The area of public domain planning and controls has a range of terms which have specific meaning and which have been used through this manual.

The following list identifies the definitions applying to the terminology used in this document.

component	identifiable aspect of the public domain to which varied function, usage, visual character, and public domain role can be identified. - may include the bay foreshore promenade, streets, plazas / squares, and parks.
DDA	Disabilities Discrimination Act - identifies requirements for equality of access for all potential users of public domain
element	the items which comprise the fabric of the public domain and which may vary between public domain components - may include paving, furniture, planting.
HBW	Homebush Bay West
PE ...	Public domain guideline as per Parkland Elements Manual for Homebush Bay
SOPA	Sydney Olympic Park Authority
UE	Public domain guideline as per Urban Elements Manual for Homebush Bay

1.6 Public Domain Management and Maintenance

Successful and enduring public domain is a function of not only design, materials, and programme of usage, but also effective maintenance and upkeep.

At the time of finalisation of this document ongoing management and maintenance arrangements and responsibilities for the Homebush Bay West Precinct had not been confirmed.

However key issues for the ongoing management authority to address will include:

- ongoing establishment maintenance of all street tree plantings and planted areas (weed management, irrigation, prunning management)
- paving cleaning on street trading areas (in particular) and unit paved areas generally
- rubbish management
- programme of events for foreshore promenade
- review of design / development proposals for compliance with DCP and Public Domain Plan

It is noted that irrigation provision to landscaped areas shall be made through integration with to the WRAMS water management system at Homebush.

Ultimately the responsibilities for public domain management and maintenance through Homebush Bay West should reside with the body or authority who is best equipped to plan and implement management and maintenance regimes in coordination with those implemented through Sydney Olympic Park and ~~Auburn~~ City of Parramatta Council area.

1.7 The Homebush Bay West Draft Structural Design Framework

The arrangement of public domain spaces in Homebush Bay West is to be significantly shaped and determined by the Structural Design Framework and Development Control Plan.

The Public Domain Manual builds upon these strategies in providing principles for the planning and design of public domain areas, and should be read in conjunction with these documents.

The plan extract below from the Development Control Plan identifies the proposed structure of the urban redevelopment of Homebush Bay West defining key components of the public domain which are referred to in this document.

a vision for public domain 2

2.1 Generally

The way in which public domain is appreciated by the community is determined by the sum of the parts which shape and comprise the public domain. Community perceptions are influenced by a variety of factors relating to ease and functionality of use, quality of facilities, and design and visual fabric. It is important that principles for individual components of the public domain are based on a clear understanding of the overall vision for the use and appearance of public areas.

The Homebush Bay West (HBW) Public Domain Workshop held on 11th March 2003 at Department of Infrastructure, Planning, and Natural Resources (DIPNR) involved a range of stakeholders in the HBW precinct including land owners / developers and their design teams, Government authorities (including the previous Auburn Council, Sydney Olympic Park Authority, and Waterways Authority).

The workshop was asked to discuss the key considerations for public domain policy and strategy development. This question was aimed at helping shape an overall vision for public domain in HBW. A summary of the workshop discussions is provided in the appendix.

The Draft Public Domain Manual was publicly exhibited as part of the Homebush Bay West Structure Plan, and documents received from public authorities in addition to private stakeholders with an interest in the precinct.

The finalisation of this document during 2005 has taken into account these comments in resolving final design principles. This process has involved direct inputs from the Sydney Olympic Park Authority and NSW Maritime.

Several workshop forums have been held by DIPNR to review foreshore public domain outcomes in urban renewal projects

the vision

The following vision was developed through consideration and distillation of the workshop outcomes:

“ that public domain in Homebush Bay West responds to and facilitates community uses, activities, and experiences through development of a legible framework of stimulating spaces that reinforce local and regional linkages and incorporate sustainable and coordinated design in compliment to the bay and park contexts”.

2.2 Public domain strategies

The public domain strategies define broad guiding directions that inform the development of design and materials principles, and provide an assessment benchmark for these principles (along with ongoing guideline and detailed design development) through Homebush Bay West.

The strategies respond to the outcomes of the stakeholder workshop along with related urban design directions to provide a coordinated framework for the development precinct.

A general discussion of factors is provided, along with a proposed strategy statement, and key words which should be considered in development of planning, design and management responses.

Activation of public domain through facilitating and legitimating public use is a key strategy for Homebush Bay West

2.2.1 Activation

The workshop forum identified that the fundamental requirement for public domain development and management was the provision and facilitation of “active” public space. The level of activity primarily relates to how the space is perceived by a potential user. To encourage public use and become “active”, public areas must be clearly identified as part of the public domain.

This is achieved partly through an appropriate level of continuity in design and materials theme, but also through the proportions / scale of the space in relation to adjoining uses. Public areas and access enclosed between other strongly private uses (eg residential) are usually of less value for public use and activity.

In addition to the scale and proportions of public domain, the treatment of the edges to adjoining uses is also important in achieving an “inviting” public space. Many existing public foreshore accessways to residential development are not successful due to a highly “privatised” character eg: continuing the design and materials identity of adjoining residential spaces and development.

The facilitation of safe and secure open spaces is also important in encouraging active usage. Sensible design, maintenance of adequate visibility and sight lines, appropriate lighting strategies, and of an adequate level of use all contribute to a safe and secure public domain environment.

Finally the management of the public domain in realising public activity is important. The knowledge that the space may / will provide for high levels of usage and potentially generate noise and other impacts must be considered in the design of the space and of adjoining private open space and built form.

Strategy:

Public domain, adjoining uses and edges to adjoining uses to be designed and managed to recognise, facilitate, and encourage active use of the public space. Adjoining uses and edges to be designed in coordination with and consideration of, the design and **intended / potential usage** of public spaces.

Key Words for planning, design, and management

active	interactive	safe
enlivened and fun	public attraction	supports water use
inclusive	people friendly	generous space

2.2.2 Legibility

Legibility is of particular relevance to the street pattern of the urban development. The principle of a hierarchial street network is central to the Homebush Bay West Structural Design Framework. The treatment of streetscapes should reinforce the hierarchy in terms of public domain elements including paving, street trees, and street furniture.

Whilst this may mean variations to certain elements through the hierarchy, streets and other public domain areas should maintain appropriate “threads” of continuity between them.

Strategy:

Design and materials treatments to reinforce the Structural Design Framework street hierarchy and open space network. At the same time design should maintain a level of continuity in identity through all public domain areas reinforcing these areas as publicly accessible and usable spaces, part of the common public domain.

Key Words for planning, design, and management

accessible	easy to navigate	safe
enlivened	inviting	scale

Continuity of public domain treatments and materials and design identity can contribute to legibility

Streetscapes and open spaces will play a role in providing connectivity of access and identity

2.2.3 Connectivity

Connectivity is a critical factor for Homebush Bay West through both the street and path access systems and in ecological terms for improvement and maintenance of biodiversity values and to provide links between key open spaces.

Connectivity must be considered at several levels.

- At the broad level: connections to areas and facilities beyond Homebush Bay West.
- At the local level: the pattern of spaces,

  and at the detailed level the function, design, and materials treatments of the space.

Clear and logical connections have a strong parallel to the strategy of legibility as outlined previously, in which the pattern of public domain spaces must be able to be understood by its users. The aim is to create through the pattern (and the detail of spaces within it), a recognisable identity that will encourage familiarity and comfort in use of these spaces.

Habitat connectivity needs to be provided through linkages of structually diverse native vegetation stands that include the range of herbs, grasses, shrubs, understorey and tree species representing native plant species that used to occur in the vicinity. Design of open space should seek a contiguous linkage where ever practicable by planting with suitable native species within any gaps to provide habitat.

Strategy:

The structure of public domain to provide a clear and identifiable pattern of public spaces which are linked through functional design, clear and articulated way finding signage, and materials treatments to provide continuity and flow of the public domain.

Connections to adjoining public areas and features to be considered and facilitated includes Sydney Olympic Park, Homebush Bay, the Powells Creek corridor, Homebush Ferry Wharf and Wentworth Point Park, and the Rhodes peninsular.

Public domain through the precinct must also reinforce linkages between the “park” and the “bay”.

The junctions or intersections of public domain components should develop nodal places of special interest, to both reinforce changes in direction and orientation and cater for varied uses and higher usage intensity.

Key Words for planning, design, and management

relationships movement shared access / flexibility
habitat

2.2.4 Character and Identity

It is essential that the public domain of Homebush Bay West develop a public domain identity that builds upon its physical, cultural, and social characteristics. The broad, flat nature of the landscape and its industrial past suggests that public domain should be simple and robust in its design and materials.

Sydney Olympic Parklands, and recent residential developments on the "Payce Properties" lands (in the south of the precinct), have pursued a benchmark of quality in design and materials. For public domain in Homebush Bay West, identity should provide a degree of linkage to this context whilst recognising ongoing, maintenance and management capabilities / resources and the relationship of the precinct to adjoining habitats.

Planning for the public domain can facilitate a balance of continuity and diversity that maintains legibility, whilst at the same time providing visual interest and necessay differentiation.

Character of public domain in Homebush Bay West should also reflect the principal role of the precinct as a residential neighbourhood, and facilitate a sense of place and community.

Strategy:

Public domain development to reflect the clear, linear grid development pattern established in the Structural Design Framework, and provide a simple, robust, and sustainable character for public domain spaces.

This should be reflected in uncomplicated, broad, and generous design structure and patterns formed by the configuration of spaces, layout, materials, and colours of paving, and the layout and structure of tree and understorey planting.

Design solutions should recognise the linear, flat nature of the precinct and provide responses that provide definition to spaces in a logical sequence that contributes to the identity of the site (eg. Park to Bay).

The development of the public domain should redress the lack of an existing "green" identity through the post industrial precinct. This may be established through the development of simple, robust, and bold street tree and open space planting approach that affords significant and recognisable visual and recreational amenity.

Key Words for planning, design, and management

generally flat	post industrial	residential community
linear & straight edged	land reclamation	destination

Character and identity are shaped by the cultural and physical characteristics of the site, the planning, design, and materials fabric developed, and the community usage and spirit that evolve.

The public domain of Sydney Olympic Park provides a general identity of quality and generous scale for users.

2.2.5 Context

Recognition of the context of the precinct in relation to adjoining uses, facilities, and communities is a fundamental requirement of public domain planning and implementation. Materials selections and use should have regard for broader visual connections where applicable, and should also recognise the physical requirements of a waterfront site of future high usage. Design should also consider the flat and exposed nature of the site and resulting wind and solar exposure.

Provision of facilities and experiences within the public domain should also consider context. Such planning should compliment facilties provision in other local public domain areas whilst optimising the physical and visual opportunities posed by this site.

The reclamation and industrial history of the site has significantly altered the site's vegetation character. Publlic domain should seek to enhance Homebush Bay West's relationship with the natural context (past and existing of the Bay and Sydney Olympic Parklands.

Strategy:

Public domain to encourage a range of uses and facilities that compliment other local natural areas, urban development, and public domain.

Design and materials selection to maintain continuity with district access links, whilst allowing diversity and interest to be pursued to appropriate components of the public domain (eg plazas courtyards).

Public domain spaces to incorporate collective and individual opportunities for narrative or 'story telling' relevant to the Homebush Bay area through design and material treatments.

Vegetation planning should compliment habitat values of the adjoining Sydney Olympic Parklands, and enhance where possible waterfront habitat values to the bay.

Revegetation and restoration of riparian areas is to be strategically located to the foreshore to facilitate biodiversity connectivity between adjoining areas supporting ecological values. These foreshore areas should be located and designed to provide habitat opportunities in their own right.

Key Words for planning, design, and management

Sydney Olympic Park Complementary Powells Creek
Homebush Bay

2.2.6 Climate management

Stakeholders at the Workshop Forum identified the inherent microclimatic conditions of the flat and exposed Homebush Bay West precinct. These harsh conditions make it essential that planning and design of public domain aim to mitigate the impacts of wind and solar exposure (particularly of the Foreshore Promenade) on public use and comfort.

Strategy:

Public domain planning and design to recognise the influence of south to north-west wind exposure of the foreshore promenade through configuration of landscape elements and incorporation of refuge areas within the main promenade.

Street tree layout and selection to recognise seasonal shade / solar access needs for provision of amenity to street footpaths.

Architecture to consider potential role of street tree planting to north south streets in ameliorating summer heat loadings to west facing facades.

Key Words for planning, design, and management

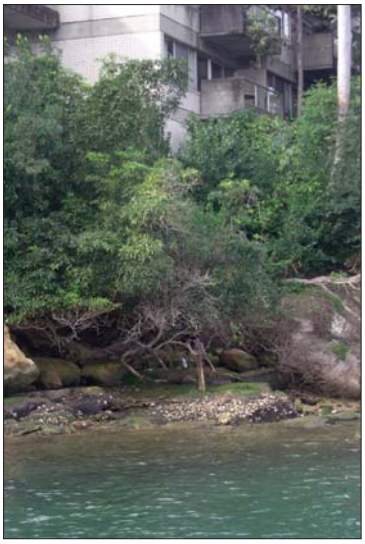
Seasonal amenity Wind protection Balance

Native street tree planting has been employed throughout Sydney Olympic Park and the Newington Development. Native tree planting should be extended through the Homebush Bay West precinct as a fundamental principle

Planting in the public domain is a significant tool in ameliorating climatic conditions for both external spaces and built form

Vegetation overhanging the water edge is critical to quality aquatic habitat example - Duck River

Sea wall edges should optimise the incorporation of niches and ledges that can enhance aquatic habitat



Examples:
Retention / reestablishment of sections of natural foreshore junctions incorporating riparian vegetation is the optimum outcome in terms of habitat values

2.2.7 Sustainability

The planning, design, and ongoing management of the Sydney Olympic Park and Sydney Olympic Parklands precincts have addressed sustainability as a key principle. Whilst this principle should be of fundamental application to all urban developments, it is particularly relevant given the location of Homebush Bay West between these benchmark urban precincts.

The selection and deployment of materials, management of waste and stormwater in the public domain, biodiversity benefits of plant selections, and control and management of human uses and activities are all factors that should be recognised in the planning and design processes.

Strategy:

A visible sustainable design practice is a priority of the public domain program. Design and deployment of materials should address the minimisation of the use of construction materials and products that deplete non-renewable natural resources, have high embodied energy values (in production), or create unreasonable or unnecessary pollution or other harm to the environment in their supply and / or production,

Where possible recycled materials should be used in public domain works including concrete, base course material for pavements, and landscape soils, planting mixes, and mulches.

Where possible use porous pavement surfaces to soft landscape finishes through open space to maximise infiltration, assist ground water recharge.

The Water Recycling and Maintenance System (WRAMS) project offers the opportunity for use of recycled water for public domain irrigation purposes.

Water sensitive design strategies such as median strip infiltration, and biofiltration will be pursued to median strip situations on streetscapes.

The selection of plant material through the public domain must respond to functional and aesthetic criteria whilst maximising use of site indigenous plant material to improve habitat integrity. Such plant material should preferably be propagated from locally sourced cuttings or seed stock, a process that can be facilitated through the Millennium Parklands for a number of species.

In addition planting schemes to the waterfront (the foreshore promenade) should aim to redress the loss of overhanging foreshore vegetation which is critical to healthy aquatic habitat.

The sustainable design treatments will aim to **promote** awareness of natural systems and values in the area and as such must be visible and understandable to the community. As such public domain should integrate coordinated interpretative measures including signage and public art that evaluate the public about the environmental strategies in place.

Key Words for planning, design, and management

Visible Practical Maintainable
Systems

design principles 3

3.1 Generally

Design Principles are provided for each of the public domain components in Homebush Bay West.

The principles are provided as a basis and reference for the development of public domain design and materials solutions. The principles also establish the framework for the detailed Public Domain Guidelines contained in Section 5.0.

Principles are set out under generic headings relevant to the public domain component.

The principles for public domain components encompass several general goals:

- planning and design to facilitate and encourage community usage of public domain areas in particular to foreshore locations.
- a simple range of public domain design and materials approaches to enhance continuity and cost effectiveness / practicality for implementation and maintenance.
- sustainable design and materials strategies to be applied to all public domain areas.
- maximise compliance of public domain design and materials treatments with Disabilities Discrimination Act (DDA) requirements for universal access.

The principles are formatted as listed:

Vision
broad objectives for public domain planning.

Desired outcomes for design / implementation
specific objectives for key aspects of the planning, design, and implementation of the public domain component as identified through the stakeholder workshop.

Issues to be addressed
issues to be addressed through this document and in ongoing design development.

Design Principles
principals to be followed in planning, design, implementation, and maintenance / management of public domain components.

Examples:
The foreshore should balance enhancement of biodiversity values with an active public space that recognises the history of the area

3.2 Foreshore promenade

Vision:

Foreshore promenade to provide an uncomplicated and accessible setting for a range of land and water based public activities within a unified landscape setting complementing extending adjoining natural environments.

Desired outcomes for design / implementation

Usage

- legitimised public usage and enjoyment of the waterfront that is not compromised by adjoining private domain
- facilitate the use of the foreshore as a celebration space
- incorporate both active and quieter spaces
- water access and contact
- encourage relationships with publicly active building frontages (eg retail, food)
- interactions with, and interpretations of the natural environment, including aquatic habitat, riparian areas and parks
- approximately 1/3rd of the foreshore revegetated to 'riparian areas'

Accessibility

- diversity of access to foreshore (including vehicles) that will optimise the level of usage and activity
- appropriate access to water for local use (eg canoes, kayaks)
- appropriate level of parking to service regional users and activate foreshore that does not compromise visual or recreational values
- promenade to have shared pedestrian / cycle role
- legible and functional pedestrian / cycle links to Sydney Olympic Parklands, Powells Creek corridor, and Rhodes Peninsular
- appropriate night lighting for night use avoiding unreasonable impacts on residential amenity
- way finding signage to local and regional destinations and routes
- managed or restricted access to areas of enhanced native vegetation as required

Place / character

- develop / promote the foreshore as being a destination for the local and regional community
- design and character should develop both continuity and diversity / variation in appropriate balance
- the promenade should have a water / bay focus - potential interpretation of pre reclamation shoreline, if it lies within foreshore open space
- public art should be incorporated as design element influencing overall design - not merely as an overlay / installation
- sustainable and appropriate recreational use to be supported through facilities
- distinct areas or spaces delineated for structurally diverse native vegetation

Design

- water land interface (seawall) to be considered as key design element
- integration of recreational water access to seawall design
- effective treatment of public / private interface to minimise impacts on residential views and amenity whilst ensuring an inviting and functional public foreshore
- adequate width of public foreshore open space adequate to facilitate public use
- integration of restored riparian areas with recreation, visual and infrastructure requirements, along with building architectural design to foreshore road as a coordinated holistic process.

Landscape

- consistent provision of large scale shade trees
- recognition of “whole of bay” landscape / visual setting viewed from water - reinforce relationship to Rhodes Peninsular
- advanced / mature landscape implementation
- recognise ecological connectivity as a landscape design principle
- soften the visual impact of development with structurally diverse native vegetation

Biodiversity

- Enhance terrestrial and aquatic habitats to provide for a diversity of native flora and fauna
- promote a diversity of vegetative structure: native grasses and ground covers, shrubs, understorey and canopy species
- provide a diversity of habitat opportunities including: shelter, food resources, and corridor enhancement
- provision of natural ecological function/ processes where possible including infiltration, natural shorelines.

Issues to be addressed

- balancing of environmental objectives with development requirements and constraints
- variation between existing foreshore design approach and materials to promenade implemented to “Waterfront” site and “Cycle and Carriage” site
- recognition of existing urban or “man made” character of seawall edge to reclaimed land
- implications of potentially staged implementation on function of promenade,
- implications of potentially staged implementation on continuity of design, materials, and construction quality
- provide significant riparian vegetation.

Pyrmont Waterfront:
The foreshore promenade is to be the focal public domain space of Homebush Bay West - providing a place for activity, rest, and viewing

Design Principles

Usage

1 provide for legitimised public usage and enjoyment of the waterfront that is not compromised by adjoining private domain and private uses

2 recognise active public function of foreshore promenade in design of adjoining foreshore residential and commercial development

3 facilitate the use of the foreshore as a celebration space through incorporation of larger gathering / event spaces off or adjoining the main promenade

4 incorporate both active and quieter spaces

5 provide for a variety of water access and contact

6 develop / promote the foreshore as being a destination for the local and regional public through provision of facilities optimising the intrinsic qualities of the foreshore (ie. views to Rhodes / up bay, water contact and access, linkages to Sydney Olympic Parklands)

7 provide for habitat connectivity between Millennium Parklands, Haslam Creek, and Bicentennial Park in the form of contiguous vegetated strips or linked pocket parks

Accessibility

8 provide level , shared pedestrian and cycle access (3.5 minimum width) located to landward edge of promenade for through cycle and pedestrian / jogging access to full length of promenade

9 provide informal / meandering walkway to seawall edge for pedestrian access only - integrate variations in alignment and surface treatments (eg. decking) to discourage high speed cycle use

10 provide clear, continuous linkage from promenade south to Powells Creek Corridor and to Sydney Olympic Parklands (via archery centre)

11 provide water access points at strategic / coordinated locations - ensure equal access to water access points

12 provide water escape points to seawall (eg ladders) at required intervals

Place

13 character of foreshore promenade should provide both continuity in design theme, materials (paving, planting, and furniture) to reinforce foreshore north - south linkage whilst also incorporating potential for diversity and variation in spaces adjoining the promenade

14 incorporate public art as a formative design influence to the foreshore promenade space - provide public art elements reflecting coordinated themes

15 potential interpretation of land / water interface (eg. reclamation, pre-existing bay landscape) in public art elements to promenade

Design / Materials

16 provide simple coordinated materials theme to the promenade generally

- asphalt pavement to shared cycle / pedestrian path and foreshore path nodes
- timber decking adjoining seawall and Forest / Riparian planting zones to increase extent and quality of soil zone
- simplified foreshore edge treatment - timber (or concrete) seating edge as per SOPA Urban / Parklands Elements Manuals (note: do not continue existing lighting bollards beyond Payce site)
- open and accessible edge of foreshore pedestrian promenade to adjoining grassed areas
- pedestrian light elements located on one alignment - pedestrian pole top light as per (SOPA Urban Elements Manual) at required intervals

17 provide “plaza” spaces at junctions of the promenade with major east west streets (refer 3.4 Plazas and Squares) providing a variety of seating / shade options and design treatments with specific design theme

18 provide habitat “niches” and / or edges to seawall intertidal zone to encourage aquatic habitat where repair or construction is carried out

19 provide seating through both furniture seat elements and incidental seating (eg. walls)

Landscape

20 provide nodal planting of significant foreshore tree planting (Port Jackson Fig - *Ficus rubiginosa*) adjoining squares

21 provide Riparian Vegetation Nodes at regular intervals to achieve a target ratio of **30%** minimum planted edge to the promenade waterfront. Incorporate defined edges to control access to these areas.

22 water edge and riparian vegetation to be structurally diverse consisting of native tree canopy, understorey, shrubs and ground cover species

23 minimise edge to area ratios of the restored riparian areas and riparian pockets

24 foreshore native tree planting to overhang water where possible

25 provide for connectivity between the Millenium Parklands and the Haslams Creek, Bicentennial Park. This can be in the form of contiguous vegetated strip or numerous 'pocket parks'

26 public art should be incorporated as design element influencing overall design - not merely as an overlay / installation

Refer to indicative plans and sections on the following pages.

Foreshore Promenade

Vegetation species

- Water edge overhanging planting:
  Trees:
  - *Eucalyptus robusta* (Swamp Mahogany)

  Understorey:
  - *Banksia integrifolia* (Coastal Banksia)
  - *Melaleuca styphelioides* (Prickly Leafed Paperbark)

  Shrubs:
  - *Banksia spinulosa*
  - *Banksia robur*
  - *Bauera rubioides*
  - *Hakea salicifolia*
  - *Leptospermum juniperinum*

  Groundcovers:
  - *Lomandra longifolia cv Tanika*
  - *Juncus krausii*
  - *Poa labilliardi (Sydney Fine Leaf Form)*

- Vegetation overhanging the waterway is to be provided along the foreshore in beds, having a width of not less than 1-2 metres, length of no less than 10 metres and spacing at minimum 40 metre centres

- Turpentine / Ironbark Forest nodes:
  - Trees, understorey, shrubs and groundcovers to reflect the Turpentine Ironbark Forest vegetation community
  - Alternate species can be selected from the Sydney Olympic Park Authority Planting Strategy

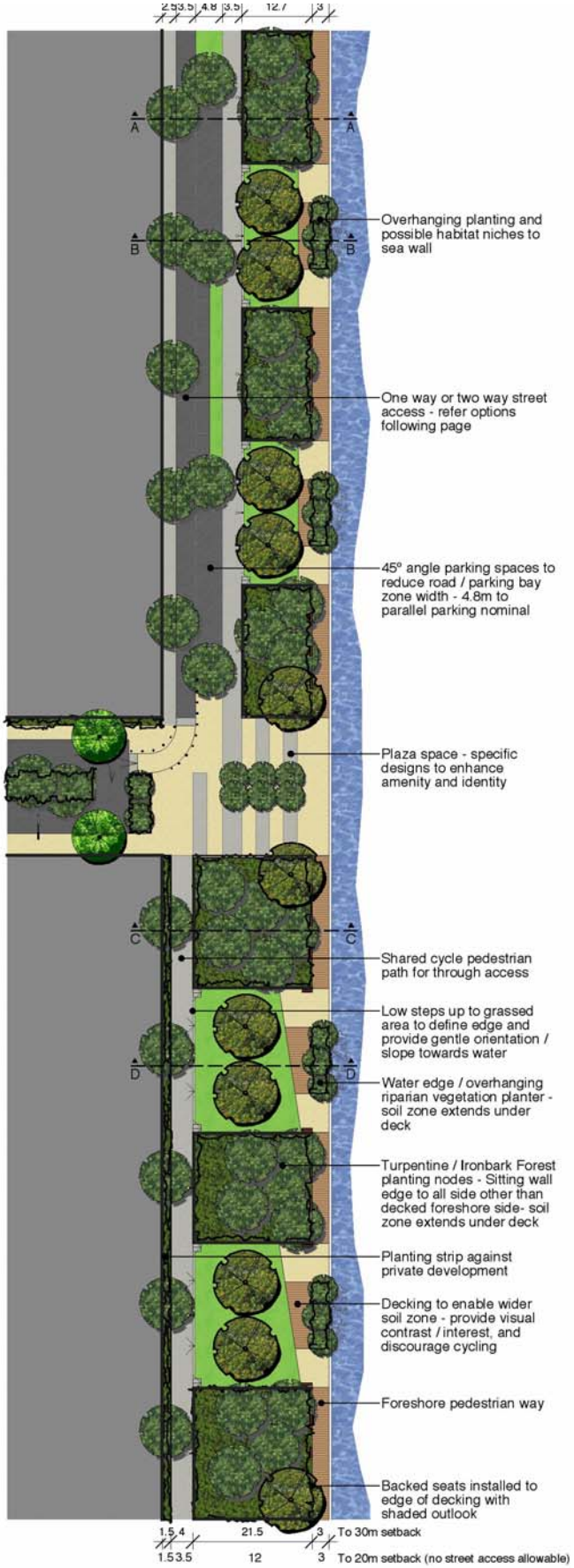
- Signature tree planting to foreshore plazas / squares:
  - *Ficus rubiginosa* (Port Jackson Fig)

- Foreshore street tree planting
  - *Angophora costata* (Sydney Red Gum)

Surface Finishes

- Asphalt path to accessways
- Timber decking (eg. 150x50 mm plantation hardwood) to foreshore pedestrian way
- Large format exposed aggregate unit pavement to plazas / squares

Building setback may be reduced to 20 metres (to a maximum length of 25 metres) at the termination of major East / West streets
NOT PREFERRED OPTION

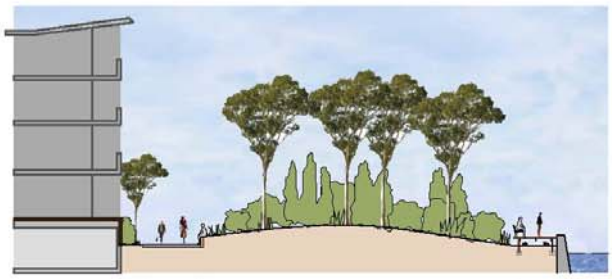


PREFERRED OPTION

Foreshore Promenade

SECTION A-A

SECTION B-B



SECTION C-C

SECTION D-D

6 Foreshore street

Foreshore Promenade with Street Access

Usage

1 residential and commercial building entries to address the street

Accessibility

2 provide for high level of pedestrian amenity to all streets (tree planting, attractive / trafficable pavements

3 provide for clear line of travel along building frontage / property line to met DDA requirements

4 enhance pedestrian crossing points at junctions with east west streets

Place / Character

5 streetscapes to be attractive and inviting environments to the public

6 street character to compliment foreshore promenade park character - native evergreen tree planting to west (building) side offset with foreshore park Fig plantings to provide enframed views from residential frontages

Design

7 built form design to recognise (and be coordinated with) landscape design of foreshore promenade to facilitate residential view management integrated with landscape design

8 consistency in design and materials treatments to secondary east west streets

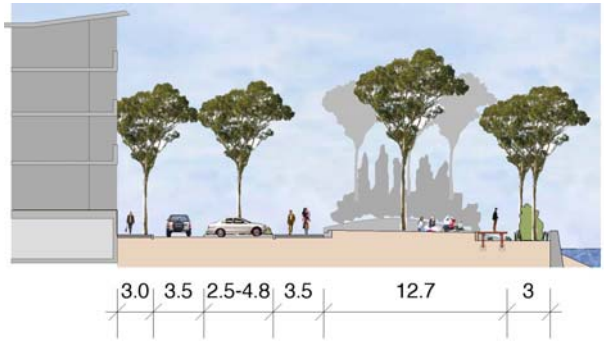
9 provide for year round pedestrian amenity

10 3.0 metre wide linear footpath to west side of street - evergreen tree planting in grassed verge to footpath

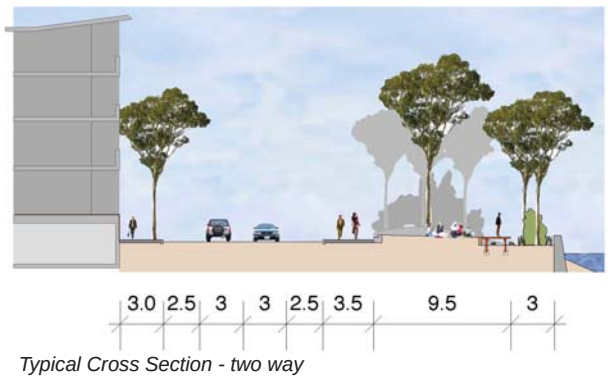
Landscape / materials

11 Materials palette:
- concrete kerb
- exposed aggregate / honed insitu concrete footpath
- *Angophora costata* (Sydney Red Gum) tree planting to west side of street
- no seats or bins to Foreshore Street - facilities provided on foreshore promenade

12 single arm traffic lighting / banner poles setout to footpath grassed verge - between street tree planting (refer UE - L3 for light pole)

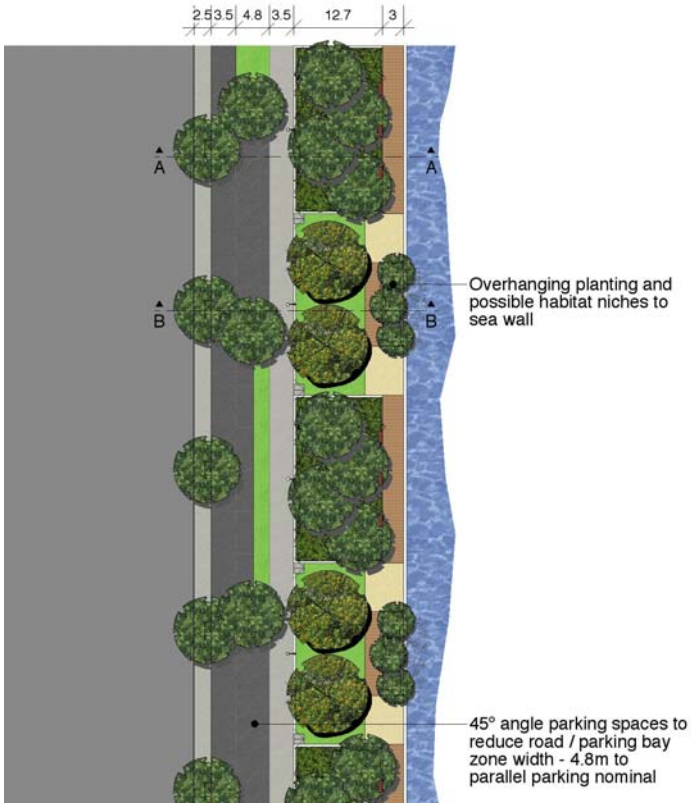


Typical Cross Section - one way

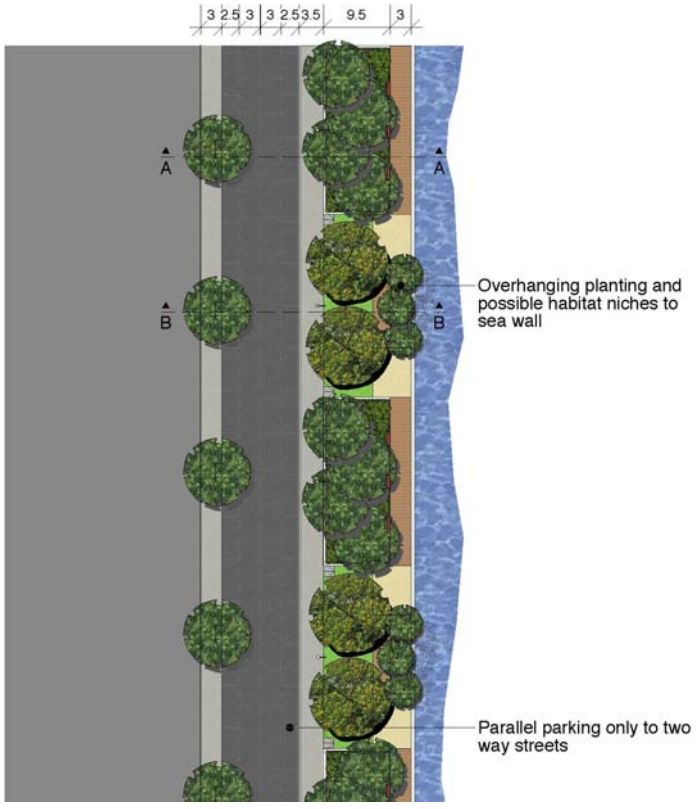


Typical Cross Section - two way

Foreshore Promenade with Street Access



Typical Plan - oneway



Typical Plan - two way

Tree species

- Riparian Nodes
  Refer 3.2 Foreshore Promenade

- Foreshore street tree planting
  - *Angophora costata* (Sydney Red Gum)

Surface Finishes

- Asphalt path to accessways
- Timber decking (eg. 150x50 mm plantation hardwood) to foreshore pedestrian way

Streets in addition to having a primary vehicular movement role are also highly important pedestrian corridors. This should be reflected in the level of pedestrian amenity provided

3.3 Streets

Vision:

Streets should provide a legible, public domain that responds to the physical context of park (west) and water (east), reinforcing pedestrian and cycle linkages both locally and regionally.
The streetscape should provide an inviting, generous character that optimises year round and day / night usage in a framework of robust quality and sustainable design and materials.

Desired outcomes for design / implementation

Planning / structure

- clear and legible hierarchy and pattern of streets - easy to navigate
- reinforce visual / pedestrian / cycle links between park and water
- street pattern accessible to regional street network
- potential public street adjoining foreshore to enhance access to, and public character of - foreshore open space
- building alignment and articulation to reinforce street corridors

Usage

- encourage relationships with publicly active building frontages (eg retail, food)

Accessibility

- provide for a high level of pedestrian amenity relative to the street hierarchy
- optimise pedestrian amenity to areas of public building frontage (eg retail, commercial, service activities)
- provide clear line of travel adjoining property line / building alignment to meet DDA requirements
- integrate cycle access within road corridors as part of overall cycle access network
- appropriate night lighting that provides for night use limiting impacts on residential amenity

Place / Character

- streetscapes to be attractive and inviting environments for the public
- continuity and diversity / applied in variation in appropriate balance
- street types should have different “feel” or identity to enhance legibility
- quality character of streetscape environment to enhance amenity and identity

Design

- consistency in design and materials treatments to apply at appropriate level across street types, and at detailed level to specific street types
- provide for year round pedestrian amenity and public usage
- reinforce pedestrian priority where practical / appropriate
- effective treatment of public / private interface to minimise impacts on residential amenity whilst ensuring an inviting and functional public streetscape
- interaction between residential frontages and street to be encouraged
- provide rest areas / refuges off the main pedestrian through routes
- public art and sustainability themes reflected in street footpaths
- street corridors to optimise water sensitive design principles where appropriate
- tree planting to be employed to reduce spatial scale of statistics and related vehicle speeds

Landscape / materials

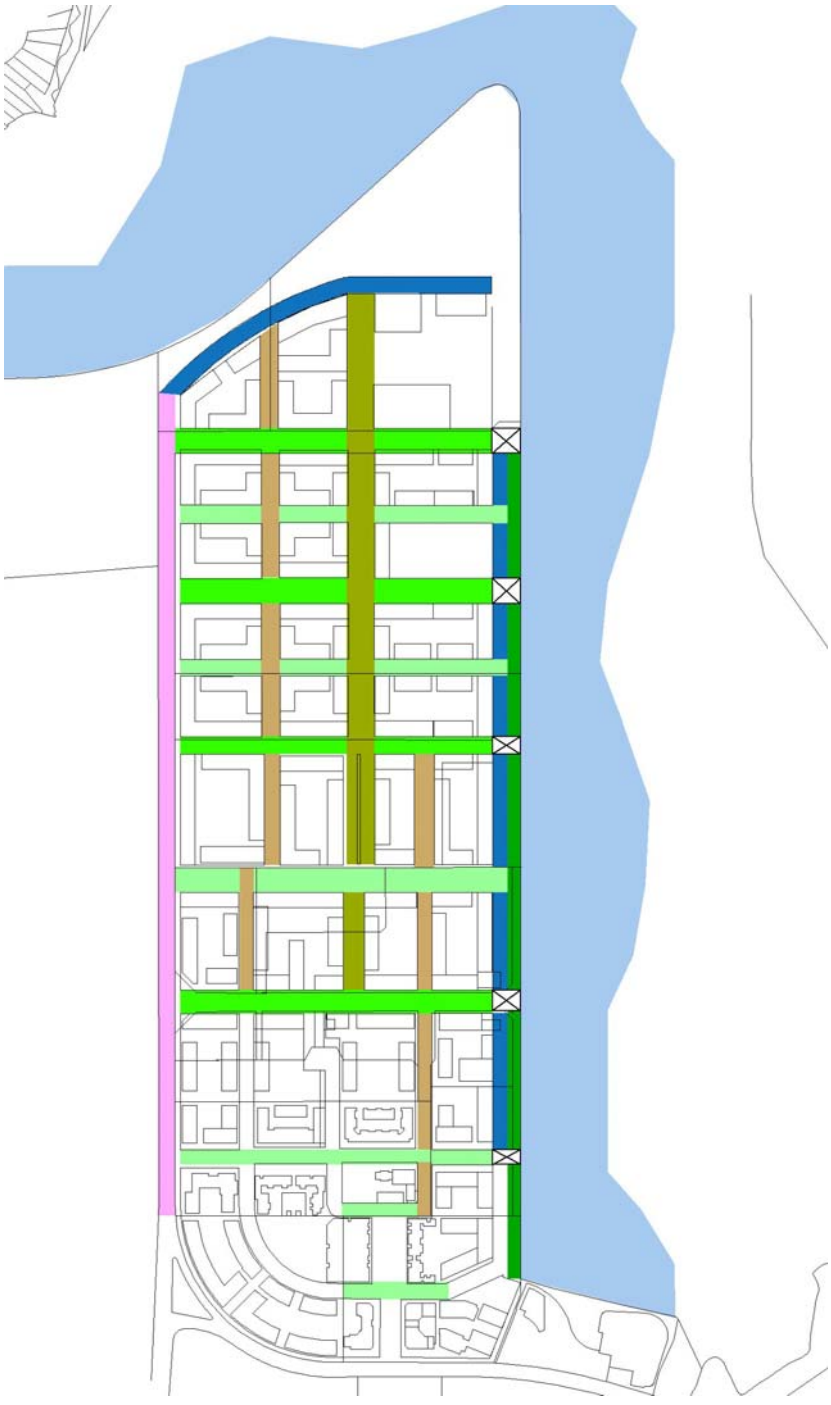
- simple robust palette of materials
- hierarchy of materials treatments to reflect street pattern
- streetscape design to be reflected in - and influence built form design
- shady tree lined avenues to be provided - potentially move species as part of interpretative strategy
- materials selection and use to consider minimisation of maintenance
- street tree selection to integrate indigenous species as practical
- advanced / mature landscape implementation

Issues to be addressed

- where built form does not define public / private domain interface - resolution of extent of design and materials treatments can be problematic.
- resolution / treatment of services and infrastructure
- responsibilities for ongoing management / maintenance of streets and compatibility of treatments with resources / capabilities

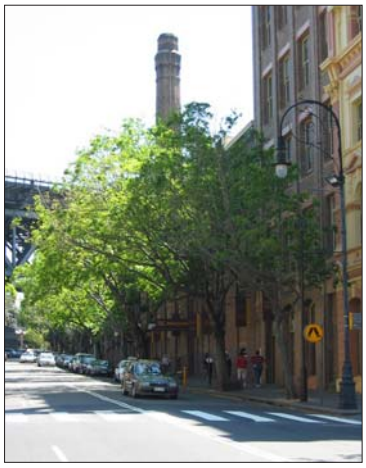
Homebush Bay West - Street Hierarchy

The plan below outlines the street hierarchy as developed by the Homebush Bay West Structural Design Framework, and identifies recommended street tree species as listed in the design principles for the street types.



KEY

- Foreshore promenade
  - Ficus rubiginosa (adjoining plazas / squares)
  - Banksia integrifolia
  - Eucalyptus robusta
  - Melaleuca stypheloides
  - Turpentine / Ironbark Forest nodes
- Major East West Streets
  - Mixed site indigenous and native tree, shrub and groundcover planting
  - Pyrus ussuriensis (to footpaths)
- Secondary East West Streets
  - Fraxinus griffithii (north side)
  - Eucalyptus haemastoma (south side)
- Major North South Streets
  - Corymbia maculata
  - Pyrus ussuriensis
- Secondary North South Streets
  - Eucalyptus haemastoma (to footpaths / kerb islands)
- Foreshore Road
  - Angophora costata (to footpaths / kerb islands)
- Hill Road
  - Corymbia maculata (to footpaths, median and park edge)
- Plaza at junction of Major East West Street and Foreshore promenade.
  - Planting integrated with Foreshore Promenade species range



Design Principles

Generally

1. street network to comply with the Homebush Bay West Structural Design Framework
2. Bus stop to streets should comply with Bus Stop Style Guide Infrastructure, Shelters and Lighting - refer to www.sta@nsw.gov.au

Foreshore Road

Refer to Section 3.2 Foreshore Promenade with Street Access (page 22) for the design of new foreshore roads.

1 Major East West Streets

Usage

1.1 Encourage retail / commercial activity to street frontages

1.2 residential building entries to address the street

1.3 provide for outdoor seating / trading areas to major east west streets adjoining kerbline (to maintain clear line of pedestrian travel against building frontage)

Accessibility

1.4 provide for high level of pedestrian amenity to all streets (tree planting, attractive / trafficable pavements

1.5 provide for clear line of travel along building frontage to met DDA requirements

1.6 optimise pedestrian amenity to areas of public building frontage (eg retail, commercial, service activities)

1.7 reinforce link between waterfront promenade and Sydney Olympic Parklands through continuity of clear access and optimisation of visual line of sight

1.8 optimise pedestrian crossing amenity at Hill Road junctions to reinforce linkages between Sydney Olympic Parklands and Bay

Place / Character

1.9 streetscapes to be attractive and inviting environments to the public

1.10 develop street character relative to the street hierarchy:

wide boulevard landscape character - major pedestrian link / on street trading provided to south side of street reinforcing park to water corridor.

Design

1.11 consistency in design and materials treatments to major East West Streets

1.12 provide for year round pedestrian amenity and public usage

1.13 quality pedestrian unit pavement from building line to kerb

1.14 provide for habitat connectivity between Millenium Parklands and Homebush Bay

1.15 central green corridor planting reinforcing east west access and visual link

1.16 kerbside deciduous tree planting to footpaths in tree pits to facilitate winter solar access, and reinforce urban boulevard character

1.17 reinforce pedestrian priority across driveways through continuation of footpath pavement material with appropriate tactile warning pavement markers

1.18 promote infiltration to central median with biofiltration capability to filter road runoff

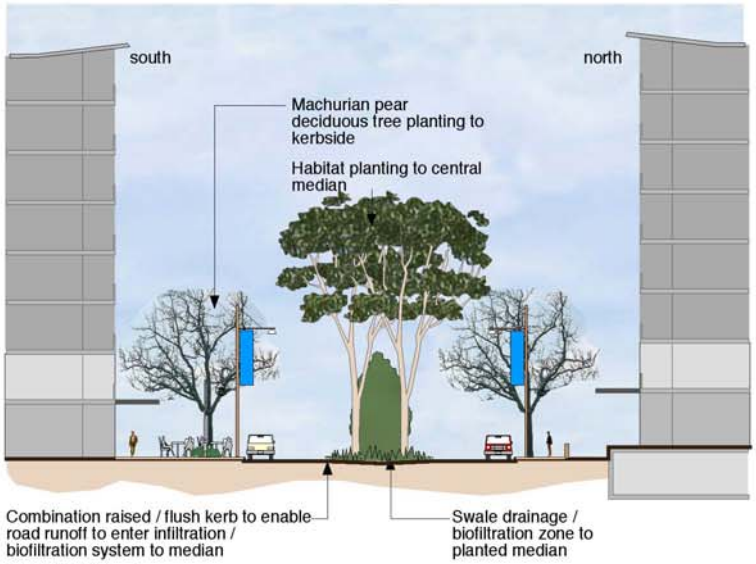
1.19 integrate public art themes and environmental/ heritage interpretation into footpath pavements as part of a coordinated approach.

Landscape / materials

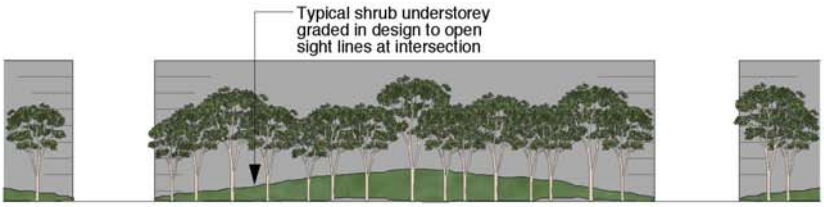
1.20 Materials palette:

- concrete kerb
- exposed aggregate concrete unit pavement footpath
- seating and bin furniture set out in coordinated layout with paving and street tree planting pattern

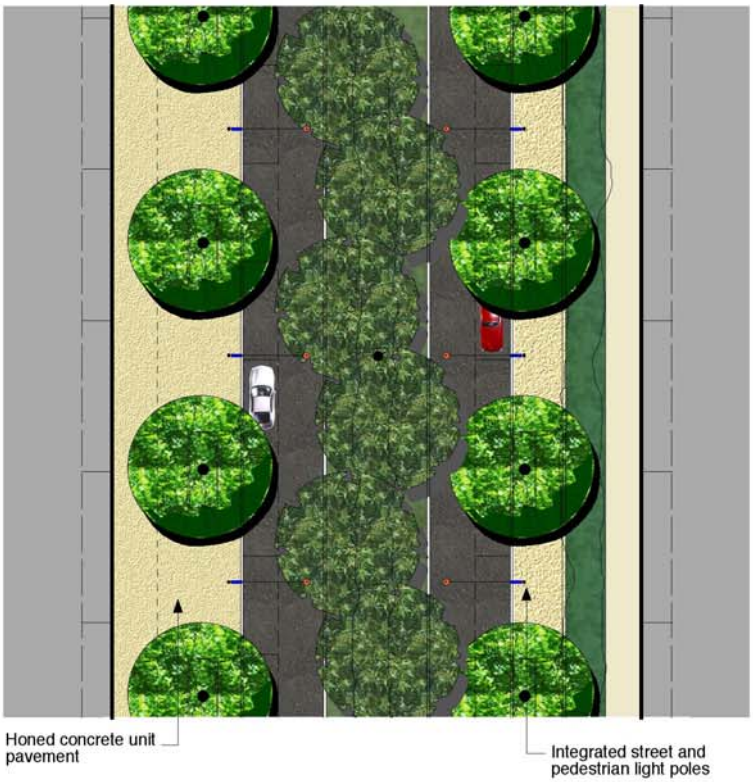
1.21 integrated street and pedestrian lighting / banner poles setout in coordination with footpath pavement, tree planting and furniture design (refer UE - L7 for lightpole)



SECTION - nts



TYPICAL LONG SECTION OF STREET BLOCK - nts



PLAN - nts

Major East West Streets

Tree species

- Footpath street tree planting:
  - *Pyrus ussuriensis* (Manchurian Pear)
- Central median habitat planting:
  - Species to reflect the Turpentine Ironbark Forest vegetation community

Footpath pavement

- Exposed aggregate unit pavement

2 Secondary East West Streets

Usage

2.1 residential building entries to address the street

Accessibility

2.2 provide for high level of pedestrian amenity to all streets (tree planting, attractive / trafficable pavements

2.3 provide for clear line of travel along building frontage to met DDA requirements

Place / Character

2.4 streetscapes to be attractive and inviting environments to the public

2.5 develop street character relative to the street hierarchy:
less formal / smaller scale landscape character reflecting primarily local access, with deciduous planting to north side and evergreen to south side (to maximise winter solar access)

Design

2.6 consistency in design and materials treatments to secondary east west streets

2.7 provide for year round pedestrian amenity

2.8 3.5 metre wide linear footpath to north side of street to encourage access to shaded side / reinforce secondary links to waterfront, 2.5 metre wide linear footpath to south side of street, with tree planting pits with single species native groundcover

2.9 grassed verge incorporating tree planting to one side of street - tree planting between parallel parking bays to other side to reduce visual scale of street

Landscape materials

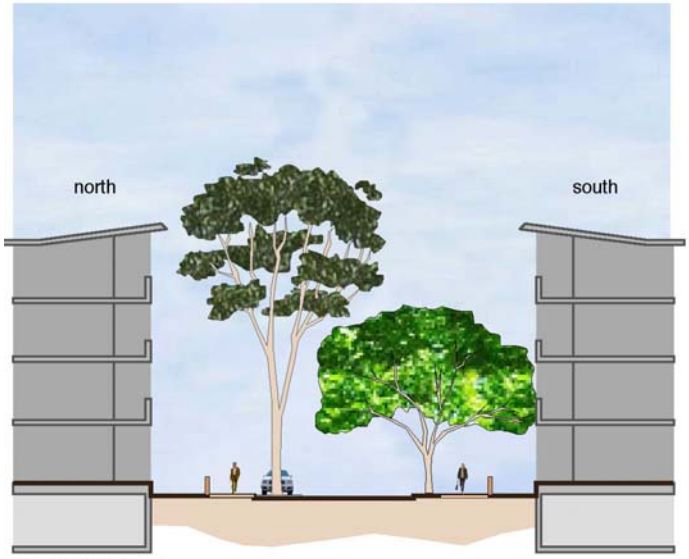
2.10 Materials palette:

- concrete kerb
- exposed aggregate / honed insitu concrete footpath
- *Fraxinus griffithii* tree planting to north side
- *Eucalyptus maculata* (Spotted Gum) tree planting to south side
- no seating or bin furniture to secondary east west street

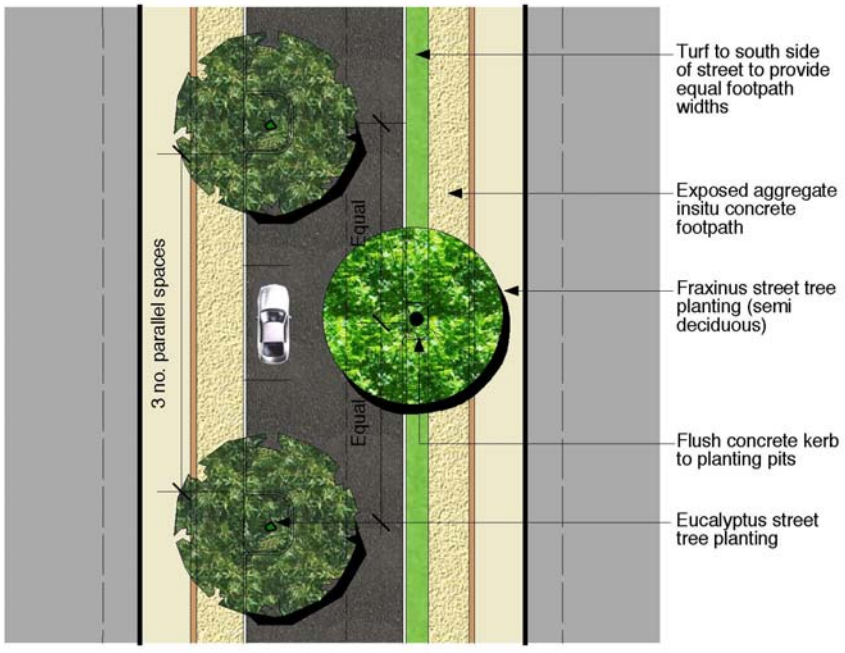
2.11 pedestrian lighting poles setout between footpath tree planting to north side (refer UE-L7 for light pole)

2.12 single arm traffic lighting poles setout to south footpath between tree planting islands (refer UE - L8a for light pole)

Secondary East West Streets



SECTION - nts



PLAN - nts

Tree species

- North side footpath:
  - *Eucalyptus haemastoma* (Scribby Gum)
- South side footpath:
  - *Fraxinus griffithii*

Footpath pavement

- Exposed aggregate insitu concrete

3. Major North South Streets

Usage

3.1 residential building entries to address the street

Accessibility

3.2 provide for high level of pedestrian amenity to all streets (tree planting, attractive / trafficable pavements

3.3 provide for clear line of travel along building frontage / property line to met DDA requirements

Place / Character

3.4 streetscapes to be attractive and inviting environments to the public

3.5 develop street character relative to the street hierarchy north and south of Burroway Road:

- North: less formal landscape character reflecting nodal pedestrian and street parking role adjacent maritime precinct
- South: linear landscape character reflecting local residential context - median landscape provides parkland character for views from residences

Design

3.6 consistency in design and materials treatments to secondary east west streets

3.7 provide for year round pedestrian amenity

3.8 2.5-5 metre minimum linear footpath to both sides of street

3.9 North: central median evergreen tree planting to reflect access and visual linkage to north / grassed verge incorporating tree planting to both sides of street

South: island central evergreen tree planting to reduce visual scale of corridor

island tree planting between parking bays to road edges

3.10 promote infiltration and biofiltration of road runoff to central median

3.11 integrate public art themes and environmental/heritage interpretation into footpath pavements as part of a coordinated approach.

Landscape / materials

3.12 Materials palette:

- concrete kerb
- exposed aggregate / honed insitu concrete footpath

North

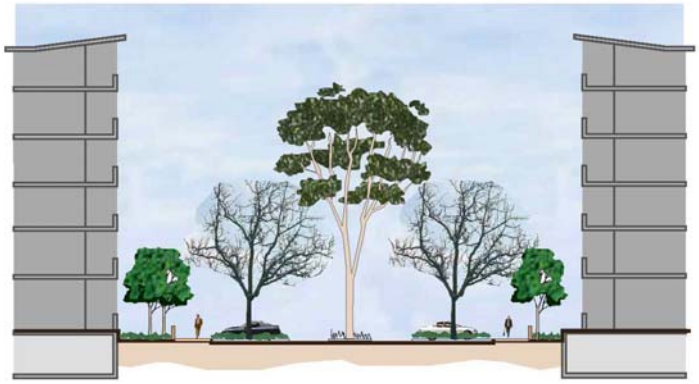
- *Corymbia maculata* (Spotted Gum) tree planting to median
- native grass understorey with flush concrete edge to adjoining turf
- *Pyrus ussuriensis* (Machurian Pear) tree planting to both footpaths

South

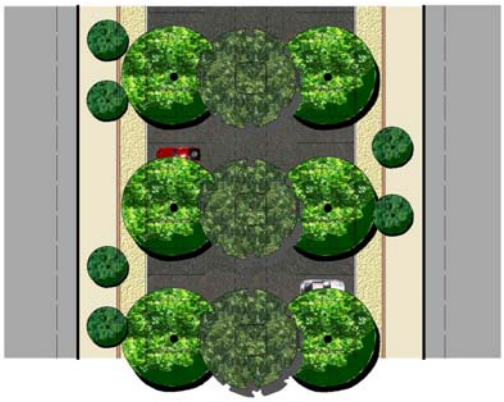
- *Corymbia maculata* (Spotted Gum) tree planting to kerb islands
- no seating or bin furniture to secondary north south streets

3.13 north: double arm traffic lighting poles setout to central median - between central tree planting (refer UE - L8b for light pole)

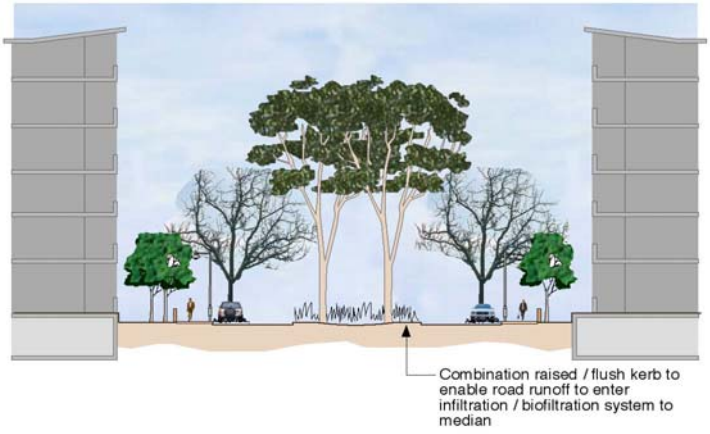
south: single arm traffic lighting / banner poles setout to west footpath between street trees (refer UE - L8a for light pole)



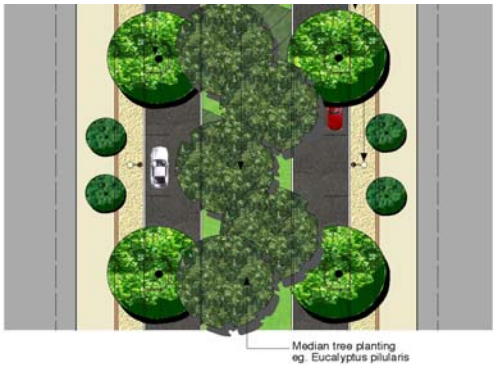
Typical Cross Section -north of Burroway Road



Typical Plan - north of Burroway Road



Typical Cross Section - south of Burroway Road



Typical Plan - south of Burroway Road

Major North South Streets - North of Burroway Road

Tree species

- Trees to kerb islands:
  - *Pyrus ussuriensis* (Machurian Pear)
- Trees to median islands:
  - *Corymbia maculata* (Spotted Gum)

Footpath pavement

- Exposed aggregate insitu concrete

Major North South Streets - South of Burroway Road

Tree species

- Trees to median:
  - *Corymbia maculata* (Spotted Gum)
- Trees to footpath:
  - *Pyrus ussuriensis* (Machurian Pear)

Footpath pavement

- Exposed aggregate insitu concrete

Eucalypt street tree planting to Newington

4 Secondary north south streets

Usage

4.1 residential building entries to address the street

Accessibility

4.2 provide for high level of pedestrian amenity to all streets (tree planting, attractive / trafficable pavements

4.3 provide for clear line of travel along building frontage to met DDA requirements

Place / Character

4.4 streetscapes to be attractive and inviting environments to the public

4.5 develop street character relative to the street hierarchy:

- informal landscape character reflecting primarily local access, with evergreen street tree planting in kerb island adjoining footpaths

Design

4.6 consistency in design and materials treatments to secondary east west streets

4.7 provide for year round pedestrian amenity

4.8 2.5 metre wide linear footpath to both sides of street

4.9 Tree planting to kerb islands between parallel parking bays to alternate sides to reduce visual scale of street

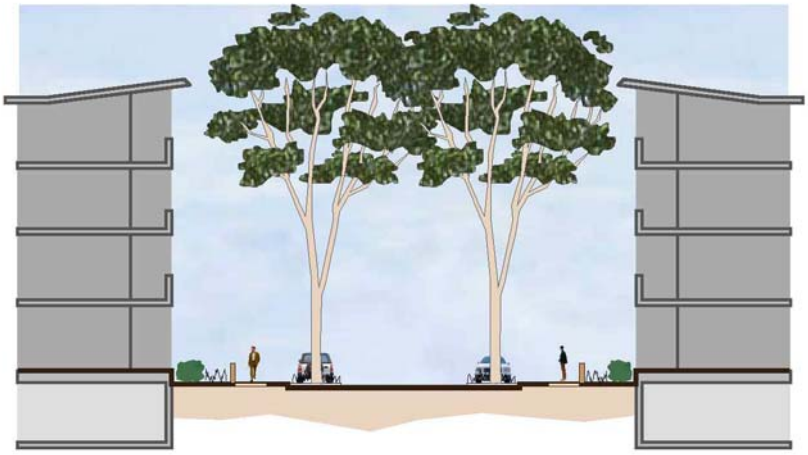
Landscape / materials

4.10 Materials palette:

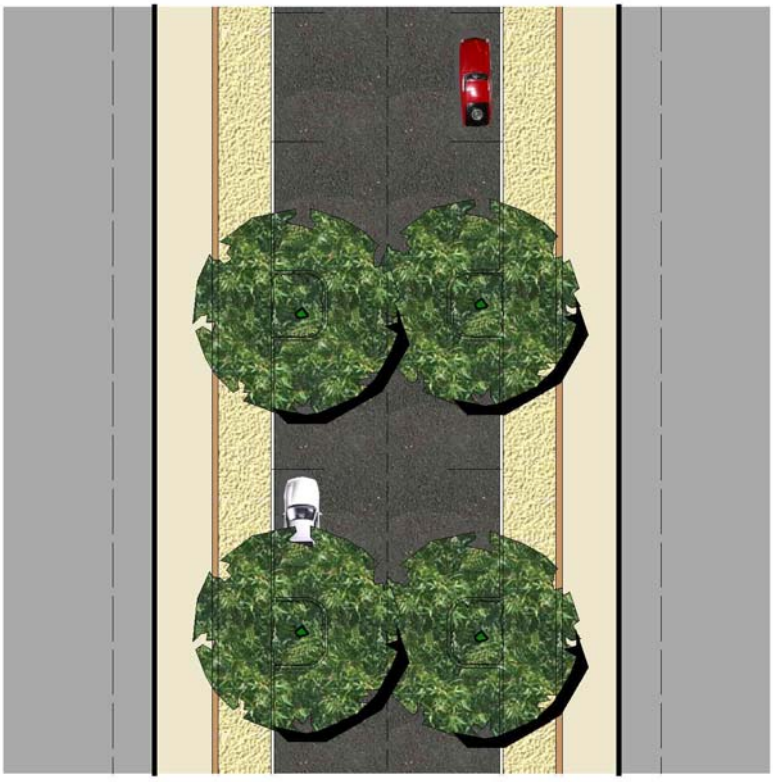
- concrete kerb
- exposed aggregate / honed insitu concrete footpath
- *Eucalyptus haemastoma* (Scribby Gum) tree planting to both sides of street
- no seating or bin furniture to secondary north south streets

4.11 single arm traffic lighting / banner poles setout to footpath grassed verge - between street tree planting (refer UE - L8a for light pole)

Secondary North South Streets



SECTION - nts



PLAN - nts

Tree species

• Trees to kerb islands:

- *Eucalyptus haemastoma* (Scribby Gum)

Footpath pavement

• Exposed aggregate insitu concrete

Above: Existing Hill Road streetscape - Native street tree planting should integrate streetscape character with the adjoining parklands on the Hill Road corridor

5 Hill Road

Usage

5.1 residential and commercial building entries to address the street

Accessibility

5.2 provide for high level of pedestrian amenity to all streets (tree planting, attractive / trafficable pavements

5.3 provide for clear line of travel along building frontage / property line to met DDA requirements

5.4 enhance pedestrian / cycle crossings and park access at junctions with major east west streets

Place / Character

5.5 streetscapes to be attractive and inviting environments to the public

5.6 street character to provide a “Parkland Street” edge role to Sydney Olympic Parklands providing transition from urban character to urban character

Design

5.7 consistency in design and materials treatments to secondary east west streets

5.8 provide for year round pedestrian amenity

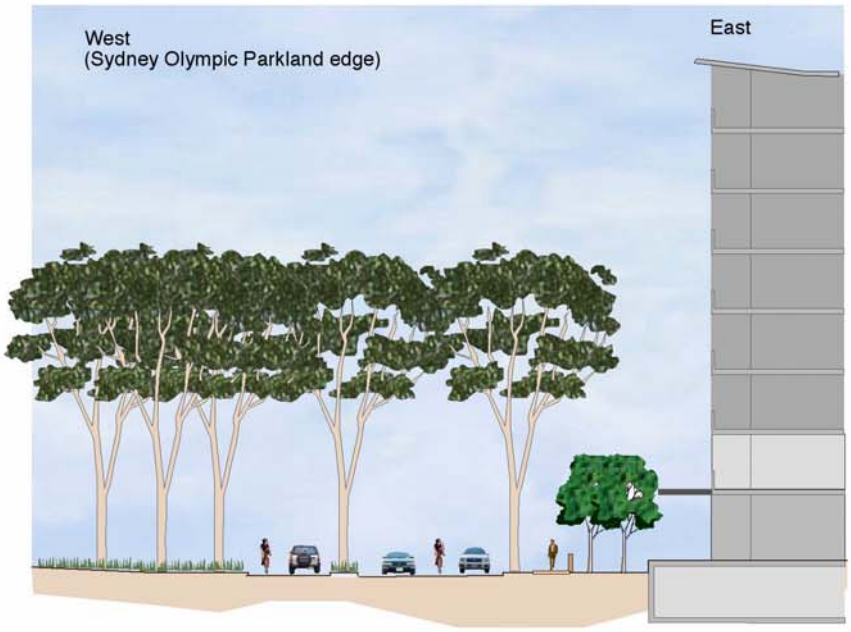
5.9 3.5 metre wide linear footpath to east side of street

Landscape / materials

5.10 Materials palette:

- concrete kerb
- exposed aggregate / honed insitu concrete footpath
- *Corymbia maculata* (Spotted Gum) tree planting to both sides of street - formal avenue to east and informal double row planting to west (park) side
- seating and bin furniture set out in coordinated layout with tree planting to east side of street

5.11 Single arm traffic lighting / banner poles setout to west footpath (refer UE - L8a for light pole)



SECTION - nts

PLAN - nts

Hill Road

Tree species

- Hill Road footpath:
  - *Corymbia maculata* (Spottted Gum)
- Sydney Olympic Park edge:
  - *Corymbia maculata* (Spottted Gum)

Footpath pavement - east side

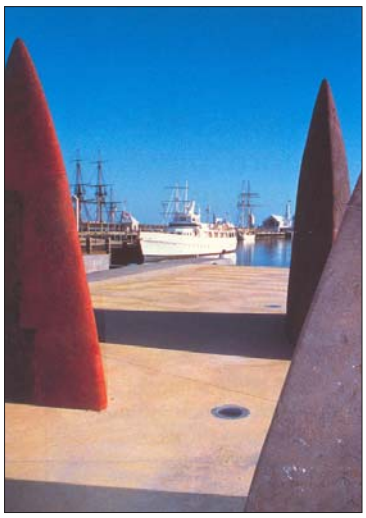
- Exposed aggregate insitu concrete

3.4 Plazas and squares

Chifley Square, Sydney

Customs Square

Macquarie Place



Geelong Waterfront

Vision:

To be strategically located at terminations and junctions of access having meaningful integration with built form and uses that will assist to activate and define the space.

To provide for a high flexibility and intensity of uses and activities with a clear relationship to points of entry built upon a simple design structure that responds to views and microclimate.

Desired outcomes for design / implementation

Planning / structure /management

- through pedestrian traffic and usage
- optimise urban design role - not just functional space
- ensure flexible use and management of space

Usage

- features and facilities to encourage use
- day and evening use
- flexibility of use over time - adaptability

Access

- clear integrated access with adjoining spaces, buildings, and pedestrian / cycle linkages

Place / Character

- individual character but still legible as part of the public domain
- robust maritime fabric
- uncluttered simple character
- welcoming and useable
- shady but urban

Design

- incorporate balance and variety of spaces to cater for varied usage
- appropriate scale in relation to adjoining buildings
- appropriate balance of hard and soft landscape treatments
- responsiveness and management of micro - climactic conditions
- optimise water sensitive design (water collection) role

Landscape / materials

- simple robust, quality palette of materials
- materials selection and use to consider minimisation of maintenance
- street tree selection to integrate indigenous species as practical
- advanced / mature landscape implementation
- lighting to facilitate appropriate night use

Issues to be addressed

- provision of water access

Design Principles

Planning / structure /management

1 located in relation to access and transport nodes to maximise through pedestrian traffic and usage

2 integrate with street intersections to optimise urban design role

3 starting point / termination point for pedestrian corridor

4 provide transition from internal building space to open space (parks)

5 incorporate flexible zoning / allowable uses (to both space and adjoining buildings) to enable evolution of space to meet future changes in needs / demands

6 overall planning of urban area to recognise opportunities to develop hierarchy of plazas / squares with clearly defined and enclosed spaces in addition to larger more open spaces at appropriate locations, and to cater for varied usage

7 integrate into adjoining riparian areas

Usage

8 encourage interface with active public uses (eg to built form and within space) that can function both day and night

9 provide balance of permanent (eg sculpture / play equipment), and temporary features (eg. cafes, entertainment, community gatherings) within plazas and courtyards

10 maintain ability for long term flexibility in use

Access

11 points of entry / access clearly visible and integrated with design of adjoining spaces / buildings and pedestrian / cycle routes

12 potential for shared / time managed vehicular access

Place / Character

13 plazas / courtyards to develop individual design and usage with common thread of materials / design references linking them to adjoining public domain themes. Develop potential for network of design "markers" telling story of site through heritage art works, environmental elements, planting features

14 uncluttered and simple design structure, with high quality in materials and finishes

15 potential to develop design themes of relevance to site:
- marine / water edge
- robust industrial detailing / elements
- urban / cosmopolitan living
- tidal / mangrove edge
- relationship to Sydney Olympic Parklands

16 provide open, highly accessible interfaces with adjoining public domain to encourage through access and use

17 potential for several characters (eg open / gathering space and more intimate seating spaces) within larger squares

Design

18 clear structure of elements and access to be provided

19 design to incorporate balance of open public areas and more intimate low key areas

20 design to develop an appropriate scale of space and design pattern in relation to adjoining buildings

21 design to incorporate a balance of hard and soft landscape treatments relevant to the location and public role of the space

22 design to incorporate public art as formative design input with the aim of a total design / art outcome - not just public art installations

23 design to provide balanced amount of shade and open spaces / evergreen deciduous planting with related seating to provide for year round use

24 design to consider potential amelioration of wind exposure - particularly to spaces adjoining the foreshore

25 design to consider use of soft landscape and porous surfaces in relation to public role and related intensity of usage

26 park design to optimise safety and comfort with clear sight lines for passive surveillance of all areas and night lighting to those spaces supporting night use

27 design to optimise water sensitive design (stormwater management) with potential for water collection within plazas for linking to WRAMS.

Landscape / materials

28 Materials palette:
- reconstituted stone / concrete unit pavement adjoining with foreshore promenade asphalt pavement - potential incorporation of "eco-paving" to shared pedestrian vehicular areas (colours to integrate with unit pavement) as used in Olympic Boulevard
- Tree species consistent with Foreshore Promenade species range (refer 3.2)
- Other plant species to be consistent with the Sydney Olympic Parks Sitewide Planting Strategy
- table, seating and bin furniture set out in coordinated layout with paving and street tree planting patterns
- potential for non- standard furniture / artwork elements to be incorporated into plazas / squares (eg seating walls, sculpture seats, chess boards etc)

Example - indicative plaza treatment to termination of Major East West Streets

Pyrmont Point Park

Moore Park

Parkland open space

3.5 Parks

Vision:

To provide a diverse hierarchy of open space that is strategically located to optimise multiple uses / activities and publicly accessible frontage in a simple design approach that responds to site location and the broader landscape context.

Desired outcomes for design / implementation

Planning / structure

- hierarchy of parks of varied character and use
- positive street frontage and links to access

Usage

- cater for a variety of uses within larger open spaces
- cater for structured and unstructured play

Access

- clear access over wide frontage
- integration with adjoining public domain and built form
- larger parks provided with relationship to parking for district users

Place / Character / Design

- shady green space
- uncluttered simple space
- informal park landscape as a foil to built form
- variety of characters between parks
- enhanced biodiversity role
- quality
- safe and comfortable
- respond to riverine / waterfront identity
- avoid featurism

Landscape / materials

- balance of coordination and diversity between parks
- vegetation links to Sydney Olympic Parklands
- advanced / mature landscape plantings

Management / maintenance

- design and materials use to respond to confirmed ongoing maintenance and management responsibilities
- design and materials use to conform to sustainable ongoing maintenance resources

Issues to be addressed

- potential for stormwater storage for re-use / detention
- potential for grey water irrigation

Design Principles

Planning / structure

1 urban planning to provide a range of park sizes providing diversity of function and character

2 strategic location of parks to achieve multiple functions including recreation, buffer, reinforcement of junction of nodal location

3 parks shall have a minimum of 40% of its edge condition to adjoining public streets and pedestrian / cycle access - preferred location at street corners (ie. with double street frontage)

4 consider connectivity to and consistency with riparian areas and adjoining Sydney Olympic Parklands

Usage

5 major “Village Green” type multi purpose park to cater for regular active recreational usage (eg. Junior cricket) providing community and social focus

6 major “Village Green” type space to incorporate provision for community use BBQs and related public toilet facilities

7 larger open spaces to cater for a variety of uses and for both local and district users (eg foreshore promenade park) whilst maintaining flexibility to address changing recreational needs

8 smaller open spaces may focus on catering for fewer activities / uses for primarily local residential use whilst maintaining flexibility to address changing recreational needs

9 parks of all sizes to cater for structured and unstructured play

Access

10 points of entry / access to parks to be clearly visible, to be maximised in extent, and integrated with design of adjoining public spaces and buildings

11 larger parks (eg foreshore promenade park) to be provided with adjacent parking amenity to cater for district and inter-local residential use

Place / Character / Design

12 uncluttered simple space

13 informal park landscape to be developed as a balance to built form

14 pursue and explore diversity in concept of what is contemporary park experience

15 design and facilities to parks should not be only activity driven - visual and spatial role of parks to be recognised

16 develop appropriate park design themes to individual parks or several to larger parks:
- foreshore location
- reclamation history / tidal foreshore
- vegetation habitat - link to Sydney Olympic Parkland
- water management

17 parks to develop predominantly shady green character as foil / compliment to urban character of streets and plazas / squares

18 foreshore parks / promenade park to respond to riverine / waterfront identity optimising views to and up bay

19 parks to optimise biodiversity role by incorporating plant material complementing local habitat character

20 park design to optimise safety and comfort with clear sight lines for passive surveillance of all areas and night lighting to those spaces supporting night use

21 design to incorporate public art as formative design input with the aim of a total design / art outcome - not just public art installations

Landscape / materials

22 Hard Materials palette:
- exposed aggregate / honed insitu concrete paths (minimise extent of paved areas generally other than for functional access)
- stabilised gravel as wearing surface to smaller seating areas
- seating and bin furniture set out to optimise views over spaces with wearing surface under
- potential for non- standard furniture / artwork elements to be incorporated into parks (eg seating walls, sculpture seats)

23 planting design to integrate with SOPA Site Wide Planting strategies to reinforce HBW place as part of broader context (refer 4.2 - Planting)

Management / maintenance

24 park design to facilitate minimisation of recurrent maintenance - and efficient maintenance of soft landscape areas provided

25 irrigation systems to be linked to WRAMS water recycling

26 Park design to identify ongoing soft landscape maintenance requirements during design to determine/ confirm ongoing sustainability

Parkland open space

Open space network as outlined in the Homebush Bay West DCP

4.1 Design and Finishes Approaches

The preceding principles establish a framework for public domain planning and implementation through Homebush Bay West. The definition of design and materials finishes to reflect and support those principles is outlined in the following section.

Overall the focus of the design and materials approaches is on simplicity and clarity, with the objective that the public domain can be easily understood and provides a cohesive system of pedestrian access, linking the foreshore promenade, street, network, plazas and parks.

In addition the resolution of preferred materials treatments has had regard for the context of Homebush Bay West related to the Sydney Olympic Parklands, and with a fundamental objective of sustainable design and management of the public domain. The deployment of materials and design solutions through the existing urban development undertaken by Payce Properties in the south of the precinct, has also been taken into account in establishing preferred approaches to ongoing works.

The descriptions provided in Section 4.1 broadly outline the various design and material approaches that have been proposed to implement the design principles. Representative images of the various design or finishes 'types' are provided to give readers a vision of the character and quality of the public domain environment envisaged for Homebush Bay West.

Descriptions are presented in the key "elements" relating to public domain works.

Specific design and materials approaches where applicable are detailed further in the Implementation Guidelines (refer Section 5.0) whilst general treatments reflect the existing SOPA Guidelines.

Refer to separate SOPA Guidelines as noted.

Asphalt pavement adjoining PAYCE development

Exposed aggregate unit concrete pavement

Footpath / pedestrian area pavement

Pavement must provide a hard wearing, cost effective and practically maintainable surface that reinforces the continuity of public domain access and is compatible with the context of Homebush Bay West as part of the broader public domain of Homebush incorporating Sydney Olympic Parklands.

Paving preferences have also had regard for implementation works undertaken to date through the Payce urban development in the south of the precinct.

In general terms a hierarchy of pavement surfaces has been proposed that reflects the pedestrian significance of the various components of the public domain.

These are outlined following:

Foreshore promenade

Intent: to provide a simple utilitarian treatment that can cost effectively be extended for the full length of the promenade and provide linkages to public domain accessways through Sydney Olympic Parklands.

The existing asphalt pavement with to the water frontage of the Payce development site provides a practical basis for such a treatment. Asphalt is the primary accessway material of the adjoining parklands, and provides a legible continuity of public domain and accessibility.

Where plaza spaces adjoin the foreshore promenade its is proposed that the concrete unit pavement of the plaza be extended into the promenade paving grids to signal and identify these nodal locations

Materials:

- **Asphalt** AC5 wearing surface (AC to basecourse) over reinforced concrete subbase. Concrete subbase design to have regard for requirements for vehicular access where applicable.
- **Honed concrete unit pavement:** 400x400 exposed aggregate concrete unit pavement on reinforced concrete base to public squares.

  base paving: colour subject to specific design of plaza square

Major east - west streets

Intent: to provide a quality pedestrian surface treatment that reflects the pedestrian access and on street trading role of east west streets. Honed interlocking pavers (including porous Eco Paving) are used on the Olympic Boulevard. It is proposed to reflect this surface finish but in a 400x400 paving unit to provide a visually simpler pedestrian only surface, suitable for outdoors seating amenity related to cafes etc.

At driveways and crossing points pedestrian access should be reinforced through use of interlocking pavers in matching colour to footpath.

Materials:

- **Honed concrete unit pavement:** 400x400 honed reconstituted stone concrete unit pavement on reinforced concrete base:

  base paving: mid - dark grey
  header / banding: light grey
- **Interlocking pavement to driveways / crossings:** 200x100mm honed reconstituted stone concrete unit pavement in herringbone pattern on reinforced concrete base. Concrete subbase design to have regard for requirements for vehicular access.
- **Tactile paving:** tactile hazard and directional paving tiles shall be used to meet the requirements of AS 1428.4 (2002), at driveways, flush crossings, pram ramps, and other hazards.

  Units shall match pre-cast concrete unit pavers (without honed finish) with 30% luminance contrast to adjoining base pavement. Matching colour to banding colour should generally achieve this.

All other streets

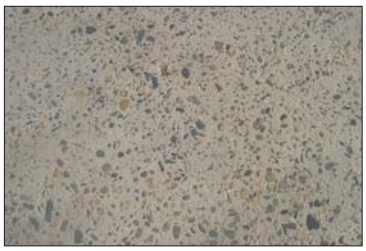
Intent: to provide a visually attractive and cost effective pavement treatment to all other street footpaths, that provides continuity in the public domain, an in-situ concrete surface is proposed with a honed (exposed aggregate surface) to provide identity and sense of quality. This treatment will also provide basic link to existing concrete footpaths in the Payce development area.

At driveways and crossing points vehicular priority should be reinforced. Driveways to be standard broom finished concrete, whilst warranted crossings should be line marked on the asphalt roadway .

Preferred colour scheme is mid-dark grey base paving with a light grey banding / header course to provide a visually low key pattern.

Materials:

- **Honed in situ concrete pavement:** reinforced concrete slab with exposed aggregate finish. Aggregate to be selected material - nominal grade 10-15mm
- **Tactile paving:** tactile hazard and directional paving tiles shall be used to meet the requirements of AS 1428.4 (2002), at driveways, flush crossings, pram ramps, and other hazards. (colour to provide 30% luminance contrast to in situ concrete).



Insitu exposed aggregate concrete

Permeable paving, Olympic Park

Tactile pavers, Millenium Park

Plazas / squares

Intent: to provide a quality pedestrian surface treatment that reflects the public domain importance of these spaces. It is proposed to reflect the pedestrian surface of the major east west streets (400x400 paving unit) but with potential to use varied colour schemes and layouts to specific plazas to reflect specific design themes.

To plazas / courtyards adjoining the foreshore promenade it is proposed that the granite banding of the promenade treatment could be extended into plaza areas as a banding through unit pavement.

To open plaza areas where shared access (pedestrian / vehicular) is envisaged interlocking “Eco Pave” concrete pavers (as per Olympic boulevard) can be used where appropriate within the paving design pattern. The finish of pavers should match 400x400 units in colour and honed surface.

Materials:

- **Honed concrete unit pavement:** 400x600 shotblast exposed aggregate concrete unit pavement on reinforced concrete base:

  base paving: colour subject to specific design - can continue the mid - dark grey of major east west streets if no variance to colour scheme is justified

  header / banding: as above

- **“Eco-pave porous pavement:** 80mm thick honed interlocking paving units on permeable base course to road threshold areas. Pavement colour and finish to match base pedestrian paving. Subsurface drainage to link to stormwater retention / infiltration system.
- **Stabilised gravel**: to provide a wearing surface under shaded seating areas, and to provide relief from extensive areas of hard paved surface (whilst maintaining pedestrian trafficability) stabilised granite gravel (gold colour) on cement stabilised FCR is acceptable. This surface should not be used as a paving material within continuous accessible paths of travel.

Stabilised gravel

Footpath / pedestrian area pavement (*continued*)

Parks

Intent: to provide a quality pedestrian surface treatment that provides continuity with adjoining streets, but recognises the design need for a material flexible to narrow widths curves etc.

To parks generally it is proposed that in-situ concrete with an exposed aggregate finish is used for pathways and access.

Should feature pavement be appropriate in specific design schemes, honed concrete unit pavement (as for plazas / squares) can be employed.

It is recommended that paths / pavements to parks be limited to those required for primary access needs, in order to maximise the amount of porous / green area to these open spaces.

Materials:

- **Exposed in situ concrete pavement:** reinforced concrete slab with exposed aggregate finish. Aggregate to be selected material - nominal grade 10-15mm.
- **Stabilised gravel**: to provide a wearing surface under shaded seating areas, stabilised granite gravel (gold colour) on cement stabilised FCR is acceptable. This surface should not be used as a paving material within continuous accessible paths of travel.

Vehicular pavement

Should fundamentally be a utilitarian surface providing a safe and hard wearing medium for the movement of vehicles. In some cases vehicular access is required to pedestrianised zones and these pavements require a structurally suitable surface that denotes shared priority.

Surface finishes and their application is outlined following:

Asphalt roadway

Primary surfacing for all streets. Undertake services renewal / amplification works prior to major road works and provide concrete base course to pavement.

Material: AC10 finish on basecourse as determined by engineering, traffic loadings.

Paved crossings - Interlocking pavement

Paved pedestrian crossings occur at the junctions of major east west streets with cross streets to reinforce pedestrian access connections

Material: Eco Pave exposed aggregate concrete unit pavement to match adjoining footpaths in smaller rectangular unit size on permeable base.

Shared zones - Interlocking pavement

Shared vehicular access zones may occur in large plaza spaces. Vehicular loadings preclude the use of large format paving units. Preferred treatment is interlocking “Eco paving”

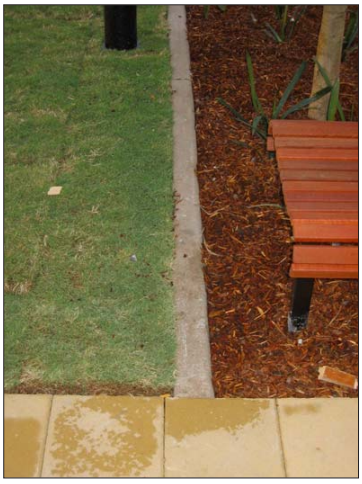
material: 80mm thick honed interlocking paving units on permeable base course. Subsurface drainage to link to stormwater system.

Asphalt roadway, Newington

Interlocking pavement, Olympic Park

Paved pedestrian crossing

Concrete kerb and gutter



Concrete flush edge - exposed aggregate

Kerbs and Gutters

Define the pedestrian / vehicular junction of roads and footpaths and can significantly affect the quality and legibility of the public domain environment.

The Sydney Olympic Park precinct contains a decorative pre-cast kerb with an acid etched / special aggregate treatment to the key public domain areas and a standard 150mm in situ concrete kerb.

Portions of the Payce development site also incorporate a segmental concrete kerb.

It is not believed that the premium kerb treatment is warranted through Homebush Bay west, due to cost penalties for other public domain treatments. It is preferred that one consistent kerb treatment / width is applied

A standard kerb and gutter treatment of 180mm kerb / 500mm gutter (as per Urban Elements Manual - guideline P3) is recommended to all roads.

Flush kerbs / edges

Where interlocking pavement is used to roadways - edge shall be provided by a flush concrete kerb - 180mm width.

Street and Park Furniture

The Sydney Olympic Park Authority (SOPA) has defined a range of furniture elements for use through parks and non- urban core areas of Sydney Olympic Park. Generally the main proprietary items to be used in Homebush Bay West correspond with those specified by SOPA. Refer the SOPA website: *www.sydneyolympicpark@nsw.gov.au*

It is proposed that the parklands furniture range is generally applied to the Homebush Bay West precinct. This is due to a number of factors:

- strong contextual and functional relationship of the precincts - and desirability of promoting a level of continuity in visual character and identity through these areas
- potential long term involvement of the Sydney Olympic Park Authority in the management of public domain through Homebush Bay West and resultant maintenance efficiencies and economies of scale in consolidating the range of elements used

Materials

Note: all hardwood timber proprietry items to be clear oil finish timber with stainless steel tamper proof fixings

Seats: galvanised steel and hardwood timber batten seat - 1750mm length x 705mm width
model no. CMP-1 (in ground mount) supplied by:
Street Furniture Australia
92-94 Buckland Street Alexandria. NSW. 2015.
Ph (02) 9310 1488 Fax (02) 9318 1343

Bench: galvanised steel frame and hardwood timber batten bench seat - in ground mount
1750mm length x 900mm width
supplied by:
Street Furniture Australia (as above)

Table / seat: galvanised steel frame and hardwood timber batten bench seat - surface mount to in situ concrete pavement to parks
1750mm length x 900mm width
supplied by:
Street Furniture Australia (as above)

promenade edge: recycled timber headstock / baulk - nominal 400x400x3000mm *(note for reviewers - option for alternative concrete sitting edge as per Urban Elements manual to be decided)*

picnic set: galvanised steel and timber picnic table (CMP-4 / CMP-6) - sub-surface mount to in situ concrete pavement to parks
1750mm length - wheelchair accessible
supplied by:
Street Furniture Australia (as above)

Bollards: polished aluminium bollard - 1000mm heightx165mm diam
model no. AE151R (removable) / AE151F (fixed) supplied by:
Leda Security Products Pty Ltd
3-7 Highgate Street Auburn. NSW. 2144
Ph (02) 9737 8730 Fax (02) 9737 8731

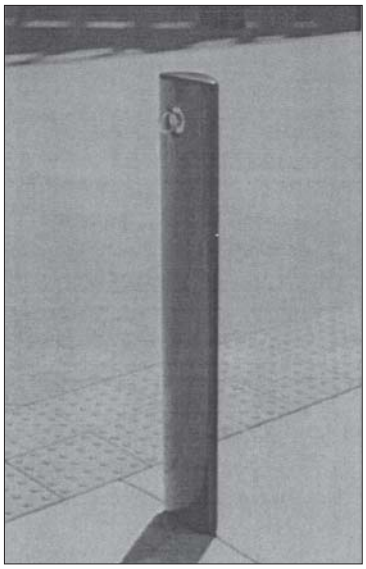
Bike Racks: galvanised steel bike rack
supplied by:
Leda Security Products Pty Ltd as above
install in accordance with AS 2890 - 1993

Bin mounts: galvanised steel bin mountings (wall fixings)
40 litre bin mount supplied by:
Street Furniture Australia
92-94 Buckland Street Alexandria. NSW. 2015.
Ph (02) 9310 1488 Fax (02) 9318 1343

Cafe furniture note: fixed table / seat units are not recommeded to on street (plaza) situation moveable cafe furniture of a consistent product range as available from Barlow Outoor Furniture or equivalent.

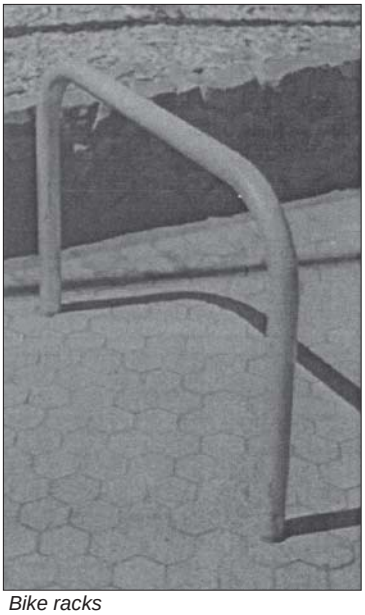
Seat

Bench



Bollard

Parklands table / seat



Bike racks

Siting Principles

Generally furniture should be located as part of an coordinated design scheme for the public domain component in question. Furniture provision should meet the guidelines as outlined in the SOPA Access Management Plan. Principles for furniture deployment and layout are listed following:

Seats:

- Foreshore promenade: fixed seating limited to designated locations to the foreshore pedestrian walk - incidental seating provided through low walling to vegetation nodes
- Streets: locate at functional positions along east - west streets adjoining tree pits perpendicular to kerb
- Plaza / squares: locate off main circulation routes providing both shaded and sunny positions for seasonal change - provide wearing surface under
- Parks: locate off main circulation routes providing both shaded and sunny positions for seasonal change - provide wearing surface under

bench:

- Foreshore promenade: locate where applicable to plazas terminating east / west streets to provide dual direction seating
- Streets: no installation to streets
- Plaza / squares: locate off main circulation routes providing both shaded and sunny positions for seasonal change - provide wearing surface under
- Parks: locate off main circulation routes providing both shaded and sunny positions for seasonal change - provide wearing surface under

table / seat:

- Foreshore promenade: consider strategic location to grassed areas to promenade provide pedestrian trafficable surface under (eg. stabilised gravel)
- Streets: no installation to streets
- Plaza / squares: locate off main circulation routes providing both shaded and sunny positions for seasonal change - provide wearing surface under
- Parks: locate off main circulation routes providing both shaded and sunny positions for seasonal change - provide wearing surface under

promenade edge:

located to edge of promenade between water access points (at east west street terminations)

picnic setting:

- Foreshore promenade: no installation to foreshore promenade
- Streets: no installation to streets
- Plaza / squares: locate off main circulation routes providing both shaded and sunny positions for seasonal change - provide wearing surface under
- Parks: locate off main circulation routes providing both shaded and sunny positions for seasonal change - provide wearing surface under

Bollards:

- locate as required at raised pedestrian thresholds and other flush junctions of pedestrian areas with vehicle traffic
- set back 500mm (to face) from front of kerb

Bike Racks:

- Foreshore promenade: no installation to foreshore promenade
- Streets: no installation to streets
- Plaza / squares: locate off main circulation routes - preferably adjoining building faces or planted zones where cycles will not interrupt pedestrian access
- Parks: locate off main circulation routes - preferably adjoining building faces or planted zones where cycles will not interrupt pedestrian access
- install in accordance with AS 2890 - 1993

Bin mounts:

- Foreshore promenade: no installation to foreshore promenade
- Streets: no installation to streets
- Plaza / squares: locate off main circulation routes and activity areas but with effective access and maintenance serviceability - fix to building or wall faces
- Parks: locate off main circulation routes and activity areas but with effective access and maintenance serviceability - fix to building or wall faces

Lighting

Two forms of street lighting are required to street corridors:

- ***Vehicular Street Lighting***
  Mast top / pole mounted street lighting to meet relevant RTA and Austroads standards.
- ***Pedestrian Lighting***
  Pole top street lighting to meet relevant RTA and Austroads standards. Under awning and wall mounted lighting are also options however it is preferred for Homebush Bay West that pedestrian pole top lighting is provided to required streets as part of a coordinated street furniture pattern.

Vehicular street lighting is often considered merely to meet functional requirements, without regard for the aesthetic potential of the light pole as a Street Furniture Element. The City of Sydney's 'Smart Pole' and the multi- function masts provided to the Sydney Olympic Park precinct are exceptions to this norm. As the streets are local roads in the jurisdiction of the local management authority (that is not the RTA) opportunities for application of treatments that exceed basic RTA solutions are available.

Other lighting situations to be considered are:

1. Sports / recreational facility lighting for training / event / night use purposes
2. Lighting of pedestrian access paths through parks for night time usage
3. Feature lighting of elements as visual displays (eg. sculpture/artwork elements, uplighting trees)

Pedestrian lighting of path accessways through parks should be evaluated for each potential site based on linkage value, and safety/security consideration. The use of pole top fittings to match those to pedestrian streets is the recommended approach to provide visual continuity.

Other forms of lighting that may be considered for individual plazas or parks include feature flood lighting or uplighting of park elements (statuary, significant trees - subject to consideration of habitat impacts), and bud lighting of major avenues for special events or festivals.

Where an applicable approach is provided in the Homebush Urban and Parkland Elements Manuals these have been preferred for extension into the Homebush Bay West precinct. As stated for Furniture, this reflects the strong contextual link of this precinct to Sydney Olympic Park and potential for a future management role of that authority.

This includes the foreshore promenade where it is preferred that the Homebush pedestrian pole top is applied. This will exclude the adjoining existing pole top / bollard lighting to the waterfront adjoining the Payce site which is to be retained as on existing treatment.

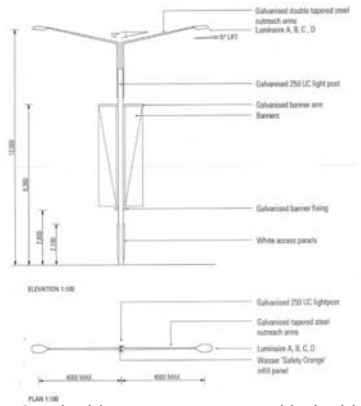
Lighting types to be applied to Homebush Bay West are as listed:

Street lighting

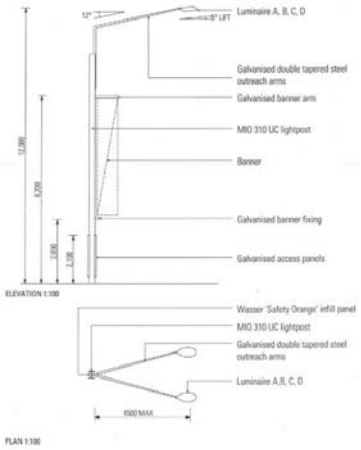
- Major east west — double arm 12 metre pole with double banner fixing to central median refer UE-L2
- Major north south — single arm 9 metre pole refer UE-8a
- Minor east west
- Minor north south
- Foreshore street
- Hill Road — single arm 12 metre pole with single banner fixing to east side refer UE-L3

Pedestrian lighting

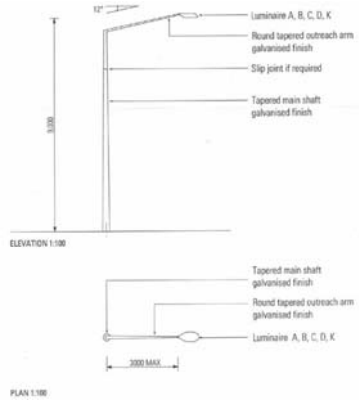
- Major east west — pedestrian pole top refer UE-L3
- Major north south — single arm 9 metre pole refer UE-8a
- Minor east west
- Minor north south
- Foreshore street
- Hill Road
- Foreshore promenade — pedestrian pole top refer UE-L3
- Plazas squares
- Parks



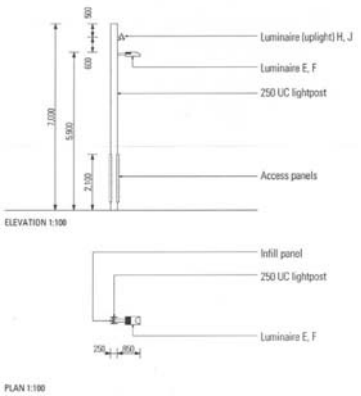
12m double arm street mast with double banner mounting



12m single arm street mast with double banner mounting



9m single arm mast



7m pedestrian poletop light

Above:
Port Jackson Fig

Hills Weeping Fig

Planting

Tree planting enhances the functional and visual amenity of the public domain and can ameliorate microclimate conditions though the provision of summer shade and winter sun. Lower level planting can enhance the layout and function of open spaces and assist in screening poor views.

In general lower level planting is proposed to be limited to selective use in plazas and parks, and to the central median of the east - west streets due to the constraint of ongoing intensive maintenance required by such plantings.

Trees

Tree planting will address multiple objectives in the public domain including both functional and design / visual roles. Tree planting function, proposed layout and species is listed following:

Foreshore promenade:

- *Ficus rubiginosa* (Port Jackson Fig - Sydney native) as signature Sydney foreshore cultural tree planting - high and dappled canopy allows for effective views under canopy
- Turpentine Ironbark Forest vegetation nodes incorporating tree, shrub, and groundcover species representative of this local vegetation community
- Water edge / overhanging planting reflecting riparian species (eg. *Eucalyptus robusta* - Swamp Mahogany, *Banksia integrifolia* - Coastal Banksia, *Melaleuca styphelioides* - Prickly Leafed Paperbark)

Foreshore streets

- *Angophora costata* (Sydney Red Gum - Sydney native) to west side of street

Major east west streets

- Native tree and understorey shrub and groundcover planting to central median reflecting Turpentine / Ironbark Forest vegetation community to provide strong green corridor marking east west links and linking foreshore to Millenium Park
- *Pyrus ussuriensis* (Machurian Pear) deciduous tree to footpaths to provide for seasonal outdoor seating and enhance urban character / identity

Minor east west streets

- *Fraxinus griffithii* tree planting to north side - semi deciduous street tree to enhance winter solar access
- *Eucalyptus haemastoma* (Scribby Gum) native evergreen tree planting to south side to provide local tree character to street corridor

Major north south streets

- *Corymbia maculata* (Spotted Gum) site indigenous evergreen tree planting to centre street medians to provide “woodland - parkland” effect to centre of road corridor enhance views out of building frontages
- *Pyrus ussuriensis* (Machurian Pear) deciduous tree planting to both footpaths to provide strong urban character, and seasonal solar access

Minor north south streets

- *Eucalyptus haemastoma* (Scribby Gum) site indigenous evergreen tree planting to both sides of street to provide shade and punctuation of street corridor

Hill Road

- *Eucalyptus maculata* (Spotted Gum) site indigenous evergreen tree planting to both sides of street to reinforce edge situation and connection to Millennium Parklands

Plazas / Squares

- Nodal plantings as required for site specific design of plaza spaces compatible with Sydney Olympic Park Site Wide Planting Strategies
- Native tree plantings in groups to edges of plazas/ squares and to provide shade compatible with Sydney Olympic Park Site Wide Planting Strategies

Parks

- Various native tree plantings in groups to edges of parks and to provide shade.

Eg.

Angophora floribunda (Rough Barked Apple) site indigenous tree
Brachychiton populneum (Kurrajong) site indigenous tree
Syncarpia glomulifera (Turpentine) site indigenous tree
and other species compatible with Sydney Olympic Park Site Wide Planting Strategies

Tree supply

Trees for use in all public domain areas with the exception of parks will be of the following minimum sizes:

- Port Jackson Fig open ground - 4.5-5 metres height
- Hills Weeping Fig open ground - 4.5-5 metres height
- Machurian Pear 800 litre
- Fraxinus sp 400 litre
- Eucalypt street tree / plaza planting 100 litre

Local native species (Eucalyptus) should be propagated from local provenance seed stock.

Tree pit preparation

Tree pits shall be provided with at least the following minimum preparation to ensure their establishment and long term development:

- 150mm cultivated subbase
- subsoil drainage connected to stormwater system
- imported planting mix
- mulch to suit planting situation

Tree surrounds

A permeable but trafficable treatment is proposed for installation to the top of tree pits. Several options have been trailed by Sydney City Council with a neutral “grey” coloured pea gravel with organic stabiliser preferred.

Garden bed Plantings

Should be limited to selected locations in Plazas Squares and parks to provide important design function, in order to limit recurrent maintenance requirements.

Planting beds in general should not exceed 2.5 metres in width (for maintainability) and should meet the following preparation requirements:

- 150mm cultivated subbase
- subsoil drainage connected to stormwater system
- 300mm imported planting mix
- 75mm native leaf chip mulch

Suitable species for garden bed plantings are generally as listed in the Sydney Olympic Park Site Wide Planting Strategy. These are predominantly local and Sydney native species, with the aim of enhancing biodiversity values through the precinct.

Native Grassing

Native grassing has been used extensively through Olympic Park and will have a role (albeit limited to plazas and parks) through the Homebush Bay West precinct.

Native grassing may be used as a low maintenance groundcover maintaining visual access under tree canopies to group tree planting stands, and as a groundcover only to define pedestrian trafficable areas where used in conjunction with low profiling of the ground surface (to parks only)

native grassing beds should meet the following preparation requirements:

- 150mm cultivated subbase
- 50mm imported compost mix cultivated into existing site soil
- 75mm native leaf chip mulch

Turfing

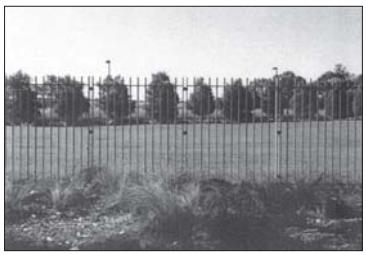
Turfing will primarily occur in parks and the foreshore promenade parkland and should meet the following preparation requirements:

- 150mm cultivated subbase
- subsoil drainage connected to stormwater system
- 300mm imported planting mix
- 75mm native leaf chip mulch

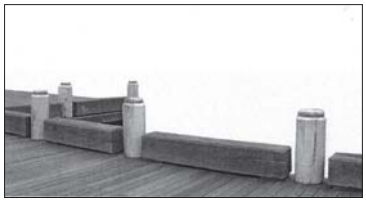
Turf species to be Wintergreen Couch.

Above / below: native street tree planting

Above / below: native tree planting adjoining building frontages



Palisade Fence



Timber promenade edge

Fences / barriers / level changes

It is preferred that the use of fences and barriers is minimised through the public domain to reinforce connectivity and maximise visual continuity on this flat site. However where such barriers are required it is essential that a coordinated approach is applied.

Requirements for fences and barriers are listed following

Palisade fence

Application:
the steel palisade fence as detailed in the Parkland Elements manual is proposed to be used wherever a medium term to permanent fenced edge is required.

Treatment:
galvanised steel posts with top and bottom rails and circular pickets

Promenade seating edge

Application:
the Parkland Elements manual identifies a timber baulk seating edge treatment to provide a functional (safety) and seating edge to the Homebush Bay waterfront. The seat provides a two way seating edge at a point where users gravitate towards and enjoy sitting.

As of 450mm maximum height, and of a continuous (3.0 metre seat edge with 2000 mm gap) visual run the treatment reinforces the strong linear foreshore line whilst not impacting visual access to the waterway significantly.

The 2000mm gaps are proposed (in variance to the PE manual) to enable wheelchair users to get as close as other users to the waters edge. Similar treatments are applied to timber foreshore boardwalks at Pyrmont Point and Pyrmont Bay and echoes typical industrial / working water edge treatments.

Treatment:
400x400(nom)x3000mm recycle timber baulks or headstocks mounted on low spacers - set back 500mm from edge to enable two way seating.

Bollards

Refer Street and Park Furniture

Seawall

The Homebush Bay seawall is a major element that may require structural remediation as redevelopment works continue along the bay edge. These works should generally present a unified visual treatment to the bay.

The top of the seawall requires a hob type edge to prevent wheeled items (prams, wheelchairs being able to run off the promenade edge. If the seating edge treatment was broken only by small gaps such a requirement could be avoided, however it is desirable to provide the gaps for users of wheelchairs to be able to experience the edge sitting position as for other users.

A stainless steel lip that maintains drainage under is proposed to be mounted to the coping of the seawall. The lip would have a rounded top and would be discontinued where water access points are to be provided.

Water access points

Provision for water access for launching small kayaks and canoes was identified as an important consideration by the stakeholder forum undertaken for the public domain manual.

It is preferred that such water access points occur on axis with the east west streets to reinforce the water - park linkage and accessibility.

Review of the water access issue between SOPA and NSW Maritime have identified that pontoon access is preferred to permanent structures for these locations.

Signage

Signage is an important element of the public domain assisting the comfortable use and enjoyment of public areas. However poorly resolved and located, it can also detract from the visual qualities of public areas, and frustrate users.

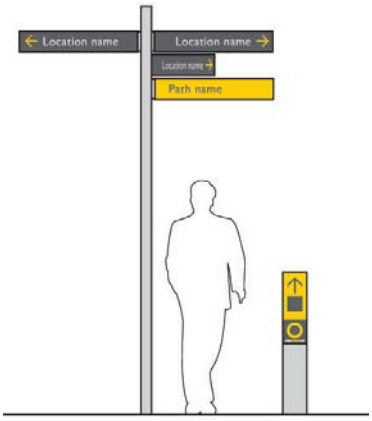
It is proposed that the extensive signage strategy developed for the Parklands Elements Design Manual is applied to public domain areas of Homebush Bay West. This is logical both in the context and connectivity of these areas but also in consideration of the potential role of the Sydney Olympic Park Authority in ongoing management components of the Homebush Bay West public domain.

Information signage

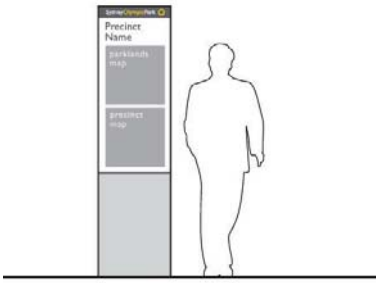
Signage to be derived from the Sydney Olympic Park Wayfinding Strategy (May 2004)

Street Signage

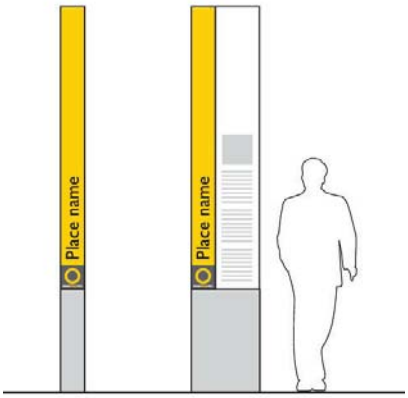
Street signage should be based upon ~~Auburn~~ City of Parramatta Council's street sign standard ~~and pole~~ as defined in Part 2 - Design and Place of the Parramatta DCP 20XX ~~its 2002 signage policy~~.



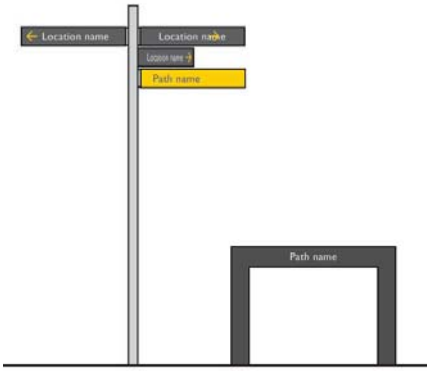
Pedestrian : directional



Pedestrian : secondary map



Pedestrian Place Marker



Pedestrian: Path Marker

Above:
Examples from Sydney Olympic Park Wayfinding Strategy (May 2004)

Paving infill lid in unit pavement

Paving infill lid in asphalt

Steel pit cover

Services / Infrastructure

Services provisions to streetscape have a significant impact on the quality of street environment through both the immediate appearance of services or service lids, or through the damage to road and footpath pavements caused when random authorities works are carried out.

Key principles for the 'low impact' integration of necessary services and infrastructure elements within public domain areas are:

1. Under-grounding of overhead services carried out where feasible to major street corridors to reduce visual intrusion and enhance aerial amenity for street trees
2. New developments to integrate under-grounding of services and infrastructure as part of planning
3. Where possible identify design schemes for at least full street blocks, and liaise with service authorities to determine renewal or amplification requirements and incorporate these works into programming prior to pavement renewal
4. Provide common texture and shape to electricity service covers (i.e. during upgrade projects)
5. Provide lids to Telstra pits with paving infill to match adjoining pavement

The provision of stormwater drainage to streetscape improvement zones can also be problematic in particular at footpath widening where no underground stormwater services are available.

Key principals for consideration of stormwater drainage in streetscape design are:

6. Provide a common theme to all stormwater inlet sump and channel lids / grates to paved areas
7. Connect rooftop downpipe to underground stormwater in public domain upgrade works
8. Incorporate natural disposal and surface drainage techniques where possible to urban spaces and open spaces
9. Incorporate water sensitive urban design and technology to treatment of road stormwater runoff
10. Incorporate porous pavements and on site detention to carpark areas to reduce urban stormwater runoff

Stormwater Management

It is proposed that to the major east west streets and major North South streets (northern zones) where central median zones are provided, that planted areas allow water to re-enter the groundwater system.

All hardstand runoff is to be collected by the stormwater system and directed (where appropriate) to the WRAMS water recycling system.

As the public domain strategy incorporates some deciduous plantings it is important that leaves from these trees do not enter the bay during Autumn months. Leaves are a major source of Eutrophication (de oxygenisation) of aquatic habitat.

Filter meshes should be fitted to stormwater inlet pits to prevent leaf transport, and subject to regular maintenance during critical months of the year.

4.2 Design and Materials Matrix

The matrix provided at 4.2 summarises the design and materials recommendations for each of the public domain components. Where a particular item is not relevant to a streetscape element the matrix identifies “none” (not applicable).

4.2 Design and materials Matrix

PUBLIC DOMAIN COMPONENT	Pavement				Kerb Gutters, and Edging			Furniture							Planting		Level changes Barriers		Lighting		Signage					
	Footpath/ Paved areas	Pram Ramps	Driveway	Road Pavement	Kerb & Gutter	Edging	Pedes. Cross.	Seats	Bench	Table Platform Seat	Bollards	Picnic Set	Cycle Racks	Bin Mounts	Tree Planting	Garden Bed	Sitting Edge	Pallisade Fence	Street Lighting	Pedetst'n Lighting	Vehicle Direct'nal	Pedest'n arrival / informat'n	Pedest'n Direct'nal	Pedest'n Second'ry Map	Pedest'n Place Marker	Pedest'n Path Marker
FORESHORE PROMENADE	Asphalt P-3 / Timber Deck	None	Asphalt	Asphalt	none	Flush kerb K-1	Not applicable	PE-PSF2a+b	PE-PSF05a	none	PE-PSF15	none	none	PE-PSF15	Ficus rubiginosa Eucalyptus robusta Banksia integrifolia Melaleuca styphelioides and Turpentine Ironbark Forest nodes PL1-PL3	PL-6		None	None	Pedestrian UE-L7	None	Yes	Yes	Yes	Yes	Yes	None
STREETS																										
Major East West Streets	Exp. Aggreg conc. Unit P-1	Exp. Aggreg conc unit P-6	Exp. Aggreg Interlock LE-P9	Asphalt Exp. Aggreg Interlock LE-P9	Concrete UE-P3	none	Flush	PE-PSF2a+b	PE-PSF05a	none	PE-PSF15	none	none	PE-PSF15	Pyrus ussuriensis to footpath Turpentine Ironbark Forest vegetation to median strip PL-4	none	none	None	Double mast 12m UE-L2	Pedestrian UE-L7	Yes	Yes	Yes	Yes	Yes	None
Minor East West Streets	Exp. Aggreg Concrete P-5	Exposed agg P-6	Concrete	Asphalt	Concrete UE-P3	none	Flush	none	none	none	PE-PSF15	none	none	none	Fraxinus griffithii Eucalytpus haemastoma PL-3-4	none	none	None	Single arm 9m UE-L8a	None	Yes	None	None	None	None	None
Major North South Streets	Exp. Aggreg Concrete P-5	Exposed agg P-6	Concrete	Asphalt	Concrete UE-P3	none	Raised	none	none	none	PE-PSF15	none	none	none	Corymbia maculata Pyrus ussuriensis PL-3-4	none	none	None	Double arm 12m UE-L8	None	Yes	None	Yes	Yes	None	None
Minor North South Streets	Exp. Aggreg Concrete P-5	Exposed agg P-6	Concrete	Asphalt	Concrete UE-P3	none	Raised	none	none	none	PE-PSF15	none	none	none	Eucalytpus haemastoma PL-3-4	none	none	None	Single arm 9m UE-L8a	None	Yes	None	None	None	None	None
Foreshore Road	Exp. Aggreg Concrete P-5	Exposed agg P-6	Concrete	Asphalt	Concrete UE-P3	none	Raised	none	none	none	PE-PSF15	none	none	none	Angophora costata PL-4	none	none	None	Single arm 9m UE-L8a	None	Yes	None	None	None	None	None
Hill Road	Exp. Aggreg Concrete P-5	Exposed agg P-6	Concrete	Asphalt	Concrete UE-P3	none	Flush	none	none	none	PE-PSF15	none	none	none	Corymbia maculata PL-3	none	none	None	Double mast 12m UE-L2	None	Yes	None	None	None	None	None
PLAZAS & SQUARES	Exp. Aggreg conc. Unit P-1 Permeable P-2 Stab. Gravel UE-P11	Exposed agg P-6	none	Exp. Aggreg Interlock LE-P9		Flush kerb K-1	Not applicable	PE-PSF2a+b	PE-PSF05a	PE-PSF05	PE-PSF15	PE-PSF08	UE-SF25	PE-PSF15	Vegetation compatible with Foreshore Promenade Riparian Vegetation Node plant species	PL-6	none	None	None	Pedestrian UE-L7	None	Yes	Yes	Yes	Yes	None
PARKS	Exp. Aggreg Concrete P-5	Exposed agg P-6	Exposed agg P-6	Exposed agg P-6		Flush kerb K-1	Not applicable	PE-PSF2a+b	PE-PSF05a	PE-PSF05	PE-PSF15	PE-PSF08	UE-SF25	PE-PSF15	In accordance with SOPA Site Planting Strategy	none	none	Palisade UE-PSF37	None	Pedestrian UE-L7	None	None	Yes	Yes	Yes	Yes

KEY

P-1 Paving Guidelines – Homebush Bay West Public Domain Manual (this document)
K-1 Kerb Guidelines – Homebush Bay West Public Domain Manual
PE-1 Park Elements Guidelines – Homebush Bay Parklands Elements Manual
PSF Park Elements Guidelines – Homebush Bay Parklands Elements Manual
PL-1 Park Elements Guidelines – Homebush Bay Parklands Elements Manual
UE-1 Urban Elements Guidelines – Homebush Bay Parklands Elements Manual

Introduction

The design principles outlined previously set in place broad recommendations for public domain design and materials treatments.

Public domain projects should be undertaken with a holistic integrated approach to include:

- pavement / kerbs
- furniture
- drainage
- services
- planting

Ideally streetscape works should cover a full street block in project scope (or more) as funding allows.

The following design guidelines outline public domain design solutions to be followed in planning and implementation of works through Homebush Bay West. These should be read in conjunction with SOPA's Homebush Bay Parklands and Urban Elements Manuals which define a range of materials and treatments applicable to Homebush Bay West as outlined in the reference list for each element category.

Guidelines included in this document and in the Parklands and Urban Elements Manuals do not provide definitive construction information, and are aimed at providing a reference for site specific design to be applied to individual sites. It is also proposed that the guidelines set will be expanded / supplemented over time as projects develop additional design responses applicable to broader application.

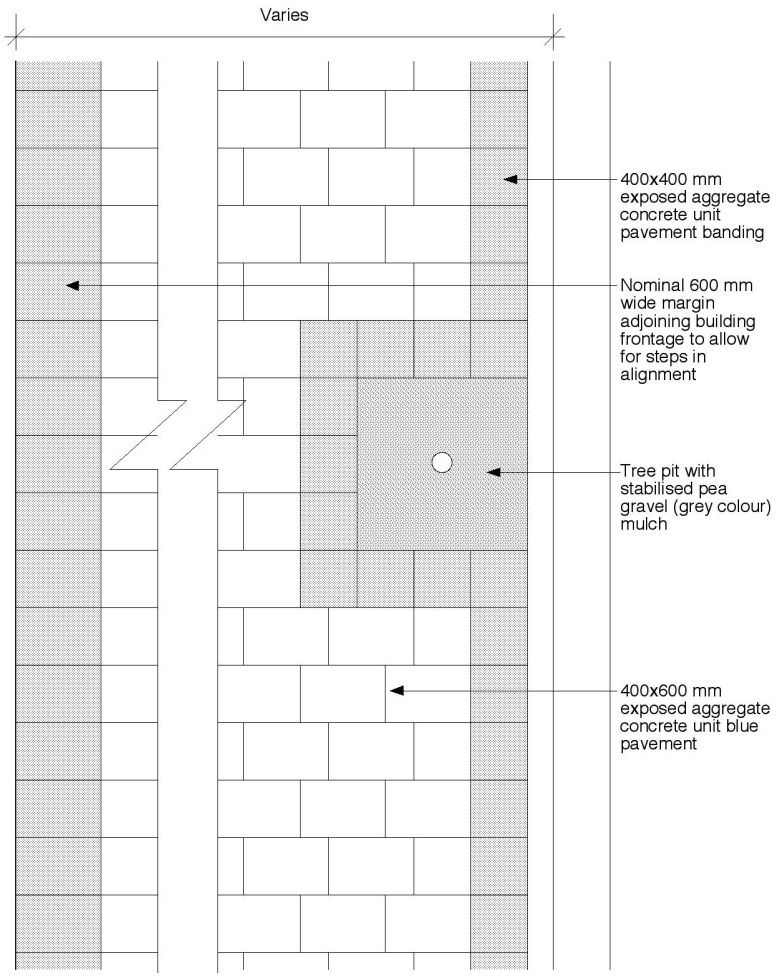
The guidelines package includes a number of guidelines derived from the Sydney Olympic Park Urban and Parklands Elements Design Manual

Pavement

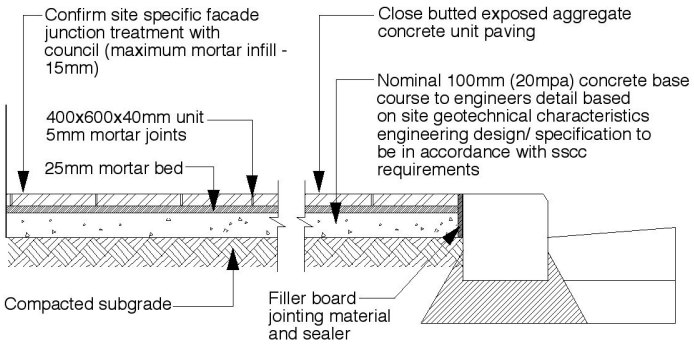
No	Guideline	Purpose
P-1	Exposed Aggregate Concrete Unit pavement – reconstituted stone	Major east west streets
P-2	Permeable pavement	Large plazas / courtyards / thresholds
P-3	Asphalt Pavement	Foreshore promenade
P-4	Tactile paving	To crossings, major driveways and other pedestrian hazards
P-5	Exposed aggregate in situ concrete	To footpaths to all streets (other than major East West)
P-6	Pram Ramps	a. To major East West b. To all other streets
UE-P9	Interlocking concrete unit pavement	Driveways to Major East West Sts
UE-P11	Stabilised gravel pavement	To plazas and parks under seating areas (ie. Not in line of pedestrian travel

Note:
P-..... refers to this Homebush Bay West Public Domain Manual
UE-..... refers to design guidelines derived from the Sydney Olympic Park Urban Elements Manual
PE-..... refers to design guidelines derived from the Sydney Olympic Park Parkland Elements Manual

Honed Concrete Unit Pavement



TYPICAL PLAN
(not to scale)



TYPICAL CONSTRUCTION CROSS SECTION - PEDESTRIAN AREAS
(not to scale)

Note: To be confirmed for site specific application

Principles

- Provision of a high quality design finish to priorify pedestrian areas
- Hard wearing and cleanable surface to high use areas
- Potential for layouts to reinforce public domain design themes integrated with built form, plantings, and furniture elements
- Unit pavement is adaptable to lifting for services works / other repairs
- Carry unit pavement through service lid covers

Materials

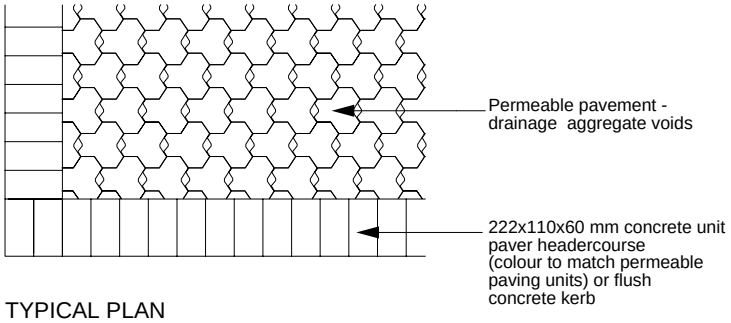
- 400x400 mm banding / margin, 400x600 mm exposed aggregate unit pavement to meet class W or X slip resistance as applicable to use

- 40mm thickness to pedestrian areas
- 60mm thickness to vehicular areas

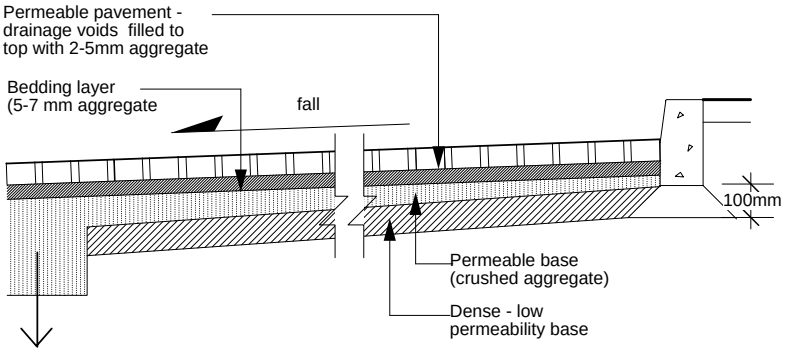
Colours:

- Colours to reflect natural materials character (sandstone, shale) eg. greys / sand colors
- Darker colors / tones to outdoor areas to reduce staining impact

Permeable Pavement



TYPICAL PLAN
(not to scale)



TYPICAL CROSS SECTION
(not to scale)

Note:
The above information is indicative only. permeable pavement is to be specified and installed to site specific engineering design and to council approval

Principles

- Subject to site conditions permeable pavement can facilitate a range of methods in disposal of runoff:
- Retention in subsurface storage zone and infiltration to groundwater
- Infiltration of normal volumes/ drainage of peak volumes to storage ponds of stormwater system.
- Provide permeable pavement where compatible with site conditions and subgrade to carpark areas and shared vehicle/pedestrian zones.

Materials

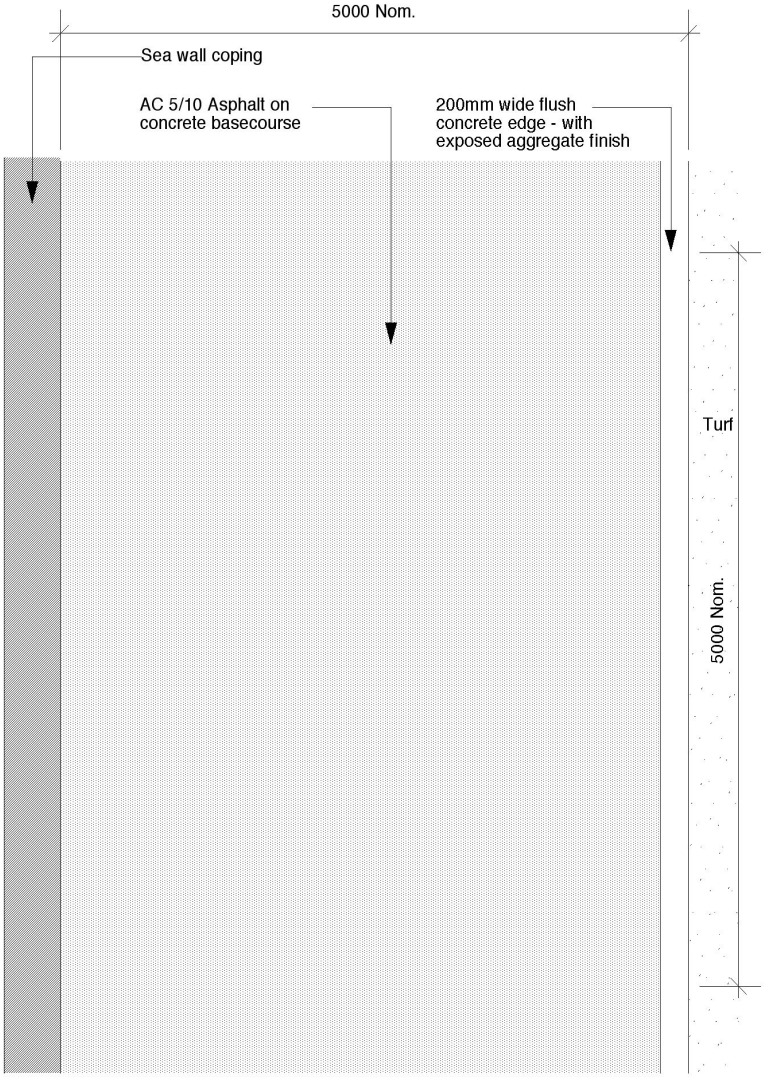
Recommended permeable pavement units and colours are as listed:

Rocla “Ecotrihex” 75mm paving units (unhoned)

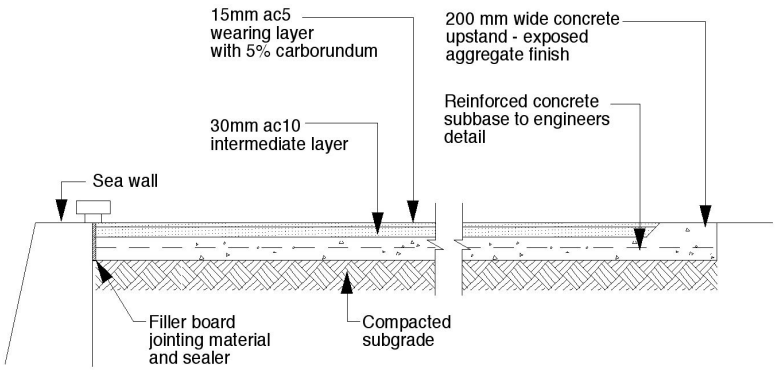
Colours: to match plaza pavement colours

Asphalt pavement

Existing asphalt pavement with granite banding adjoining PAYCE development



TYPICAL CONSTRUCTION PLAN
(not to scale)



TYPICAL CONSTRUCTION CROSS SECTION - THROUGH FORESHORE EDGE
(not to scale)

Principles

- Asphalt is a primary pedestrian path material through Sydney Olympic Parklands - provides continuity
- Continues a legible theme from the existing waterfront to the Payce development
- Smooth pedestrian / cycle surface with minimal glare generation
- Ability to relay asphalt when required over concrete base to renew surface

Materials

- AC5 wearing course (with Carborundum admixture) over AC10 intermediate course)
- Concrete basecourse for maximum stability and durability

Tactile Paving

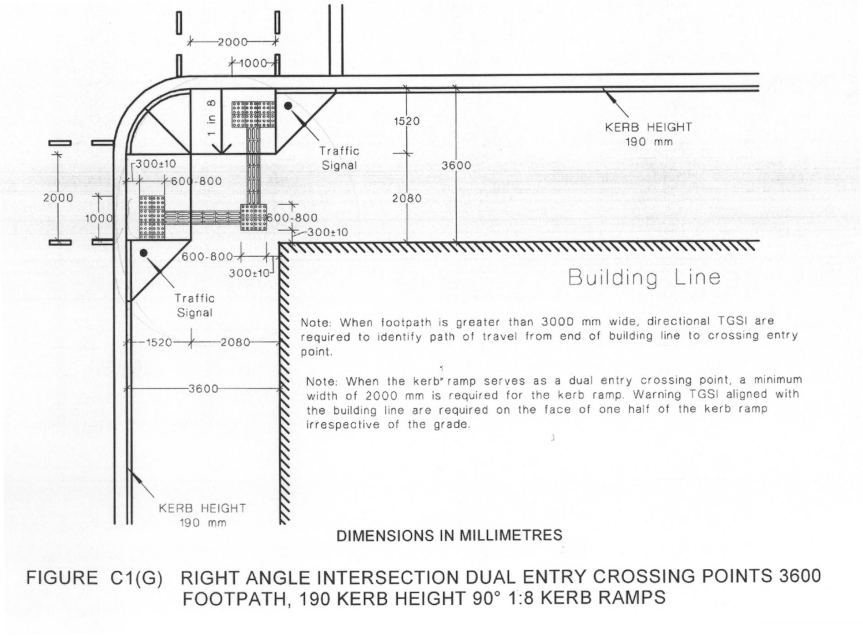


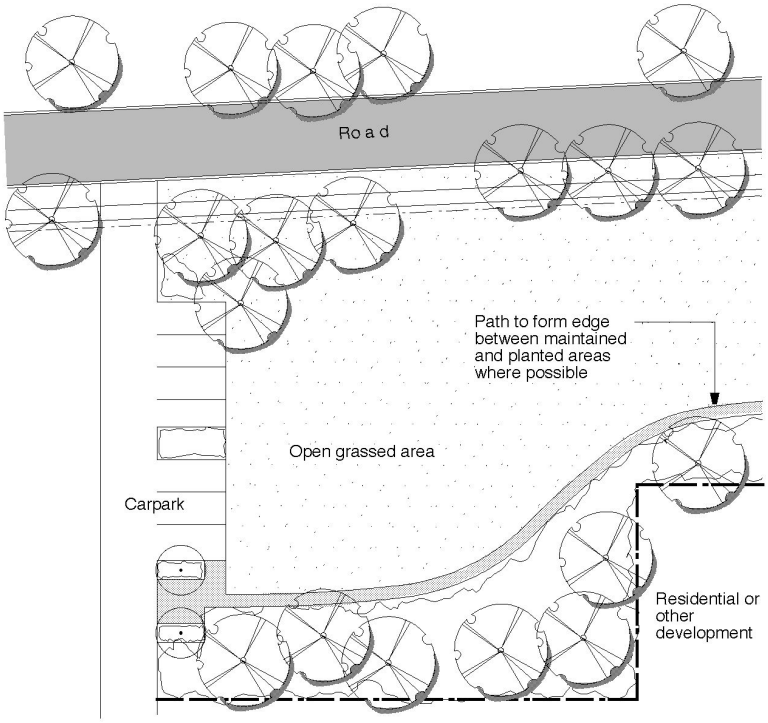
FIGURE C1(G) RIGHT ANGLE INTERSECTION DUAL ENTRY CROSSING POINTS 3600 FOOTPATH, 190 KERB HEIGHT 90° 1:8 KERB RAMPS

Source: AS 1428-4 (2002)

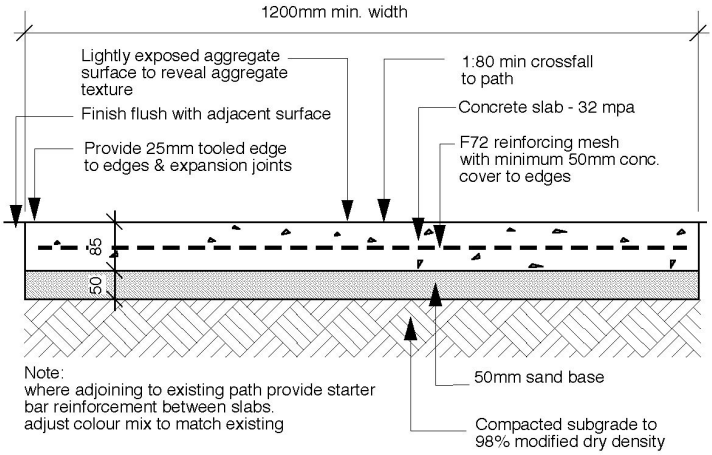
Principles

- Use tactile tiles / units to meet design requirements of AS 1428-4 (2002)

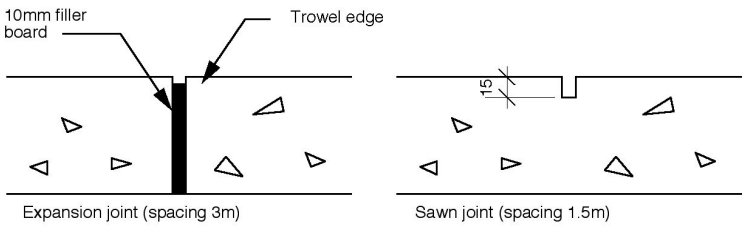
Exposed Aggregate Insitu Concrete



TYPICAL DESIGN APPLICATION nts



TYPICAL CONSTRUCTION CROSS SECTION nts



TYPICAL DETAIL - PAVEMENT JOINTS nts

Principles

- Use path as edge definition between maintained grass and mass planted areas where practicle
- Path surface to be exposed aggregate for visual enhancement / identity
- All concrete works to carried out in accordance with AS 3600:1994

Materials

10-20mm aggregate

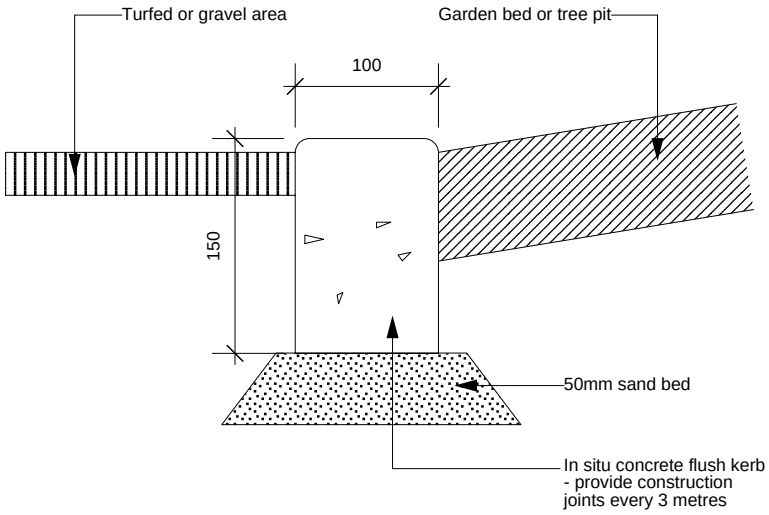
Sample panel to be provided

Kerbs, gutter and edges

No	Guideline	Purpose
K-1	Exposed aggregate concrete edge	As edge to garden bed and gravel areas adjoining grassed areas
UE-P3	Concrete kerb and gutter	All streets

Note:
P-…... refers to this Homebush Bay West Public Domain Manual
UE-….. refers to design guidelines derived from the Sydney Olympic Park Urban Elements Manual
PE-….. refers to design guidelines derived from the Sydney Olympic Park Parkland Elements Manual

Exposed Aggregate Concrete Edge



Materials

Provide Quartz / Basalt aggregate mix (50/50) and lightly rinse / sponge concrete finish to exposed aggregate

Furniture

No	Guideline	Purpose
PE-PSF02a+b	Seats	Major east west streets Foreshore promenade Plazas / squares Parks
PE-PSF05a	Bench	Major east west streets Plazas / squares Parks
PE-PSF05	Table / platform seat –1750mm square	Plazas / squares Parks
PE-PSF06	Promenade edge *(timber baulk seat – note – a concrete seat in similar fashion to PSF06 may also be applicable)*	To edge of foreshore promenade
PE-PSF08	Picnic set	Plazas / squares Parks
PE-PSF15	Bollards	All streets Foreshore promenade Plazas / squares Parks
UE-SF25	Bike Racks	Plazas / squares Parks
PE-SF21	Bin Mounts	Plazas / squares Parks

Note:
UE-….. refers to design guidelines derived from the Sydney Olympic Park Urban Elements Manual
PE-….. refers to design guidelines derived from the Sydney Olympic Park Parkland Elements Manual

Lighting

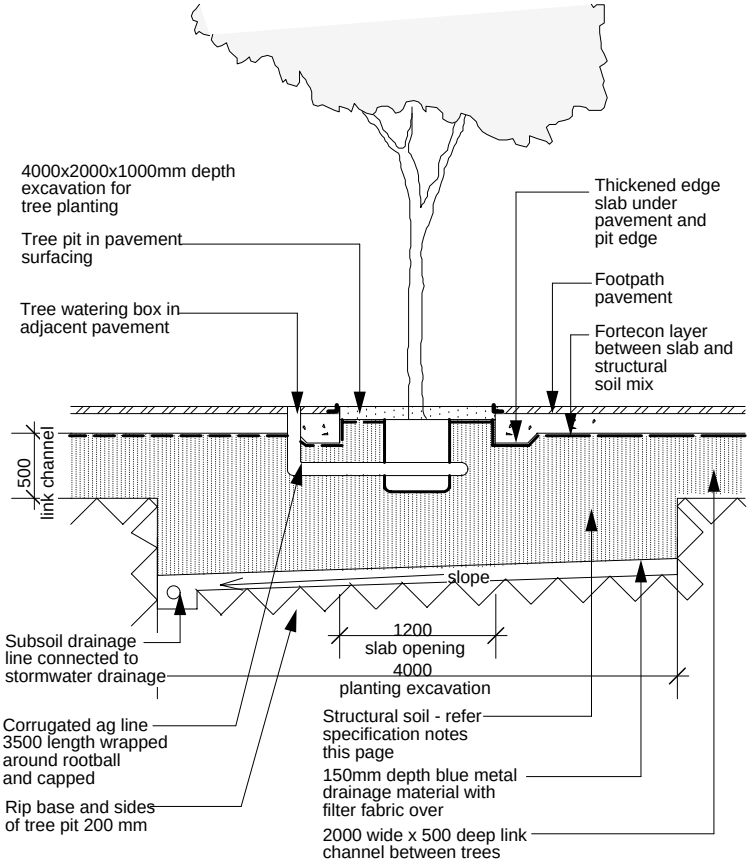
No	Guideline	Purpose
UE-L2	12m Double arm street lighting mast with double banner fixing	Central medians of major east west streets
UE-L8a	9m Single arm street lighting mast	Major north south streets Minor east west streets Minor north south streets Foreshore Streets
UE-L3	12m Single arm street lighting mast with single banner fixing	Hill Road
UE-L7	7m pedestrian pole top light	Major east west streets Major north south streets Minor east west streets Foreshore promenade Plazas sqaures Parks

Note:
UE-….. refers to design guidelines derived from the Sydney Olympic Park Urban Elements Manual
PE-….. refers to design guidelines derived from the Sydney Olympic Park Parkland Elements Manual

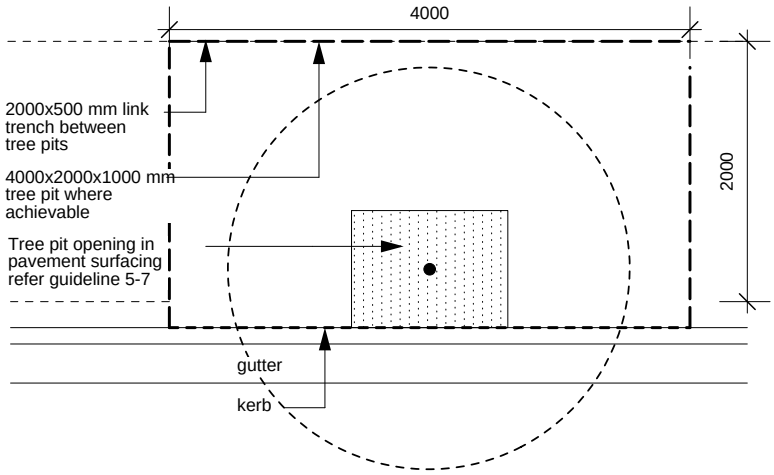
Planting

No	Guideline	Purpose
PL-1	Structural soil materials	All street tree planting
PL-2	Tree pit preparation and drainage	All tree planting
PL-3	Staking and tree guards	All tree planting
PL-4	Kerbside tree planting in paving	Street tree planting
PL-5	Kerbside tree planting in grass	Street tree planting
PL-6	Garden beds	Foreshore promenade Plazas and squares parks

Note:
P-…... refers to this Homebush Bay West Public Domain Manual
UE-….. refers to design guidelines derived from the Sydney Olympic Park Urban Elements Manual
PE-….. refers to design guidelines derived from the Sydney Olympic Park Parkland Elements Manual



TYPICAL CROSS SECTION: TREE PIT IN PAVEMENT - STRUCTURAL SOIL AND KERB TRENCH TREATMENT
(not to scale)

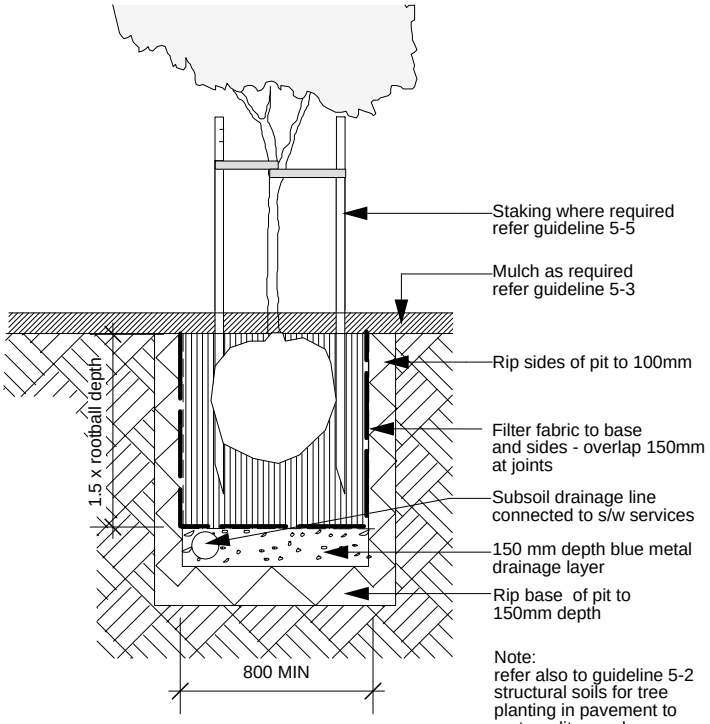


TYPICAL PLAN: TREE PIT IN PAVEMENT - STRUCTURAL SOIL AND KERB TRENCH TREATMENT
(not to scale)

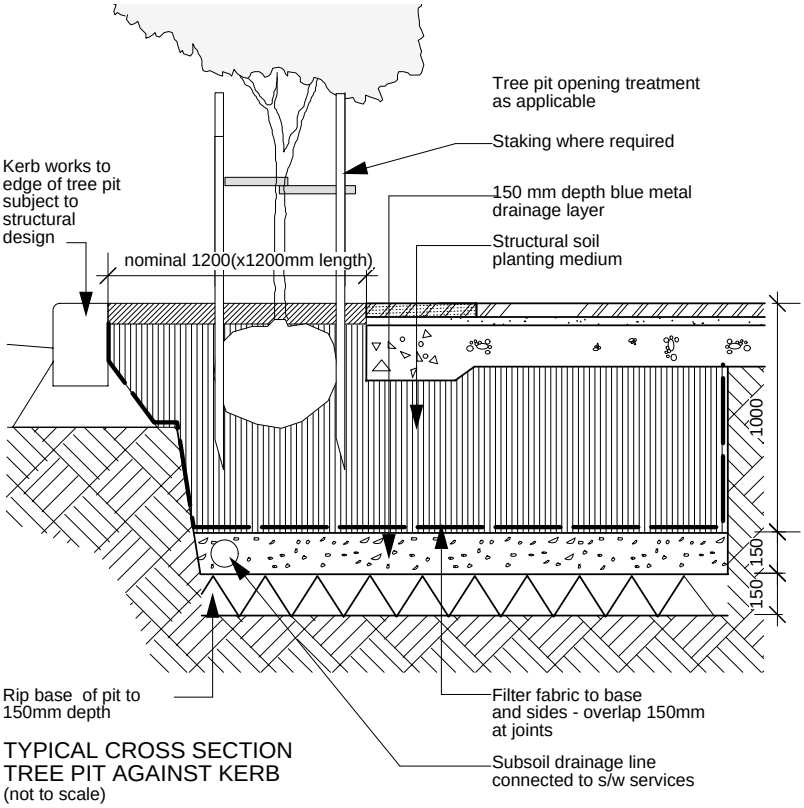
Structural Soil Materials

Principles

- Provide structural soil treatment to all new planting pits within paved footpath areas, to overcome limitations of organic mixes to support pavement above tree pit. Paving traditionally limited to outside surface opening area.
- Connect street tree planting pits with a water permeable channel along the inside of the kerb line (2000x500mm), back filled with structural soil
- Deep rip subsoil to sides and bottom of tree pit prior to backfilling with structural soil mix.



TYPICAL CROSS SECTION
TREE PIT TO SOFT LANDSCAPED AREA
(not to scale)



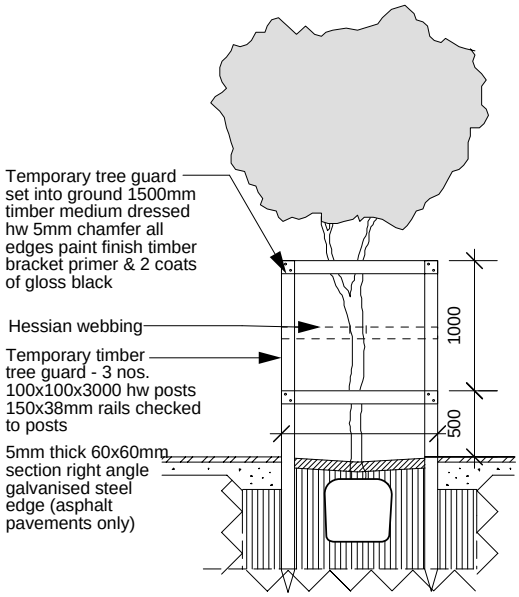
TYPICAL CROSS SECTION
TREE PIT AGAINST KERB
(not to scale)

Tree pit preparation and drainage

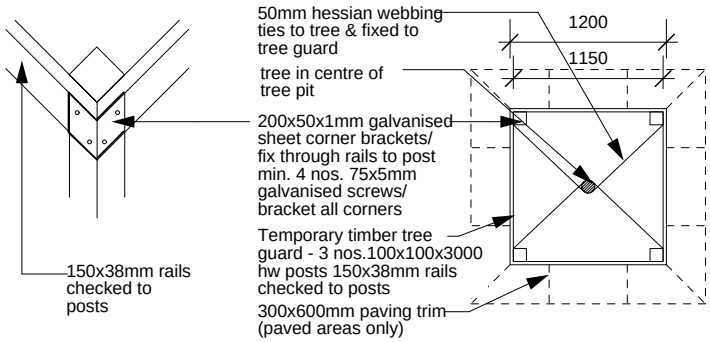
Principles

- Tree pit preparation to road footpath areas should occur during preparation of pavement subgrades to enable connection of subsoil drainage to stormwater services and installation of structural soils.
- Tree pit excavation to required sizes to be carried out along with ripping of subgrade and sides of pit (as per cross section).
- Install irrigation infrastructure, blue metal drainage layer and subsoil drainage line (with connection to S/W infrastructure).
- Back fill tree pits with structural soil mix
- Cover tree pit with plywood during footpath pavement works for public safety and to prevent disturbance of planting mix.
- Connect tree pit irrigation infrastructure to trickle emitters.

Staking and tree guards



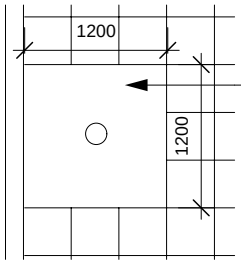
TYPICAL CROSS SECTION: TIMBER STAKES TO TREE PITS TO OPEN SPACES/ CIVIC/ STREET SQUARES
(not to scale)



TYPICAL PLAN/ CROSS SECTION: TIMBER STAKES TO TREE PITS TO OPEN SPACES/ CIVIC/ STREET SQUARES
(not to scale)

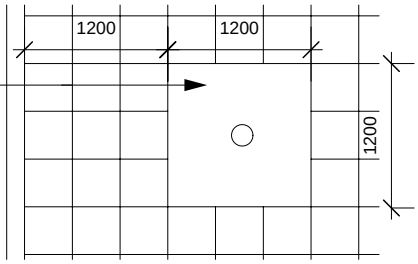
Principles

- Where planting of 200L or under is provided to street or open space areas within paving - provide timber tree guard for establishment period as a minimum (ie. 2 years to maximum 5 years).

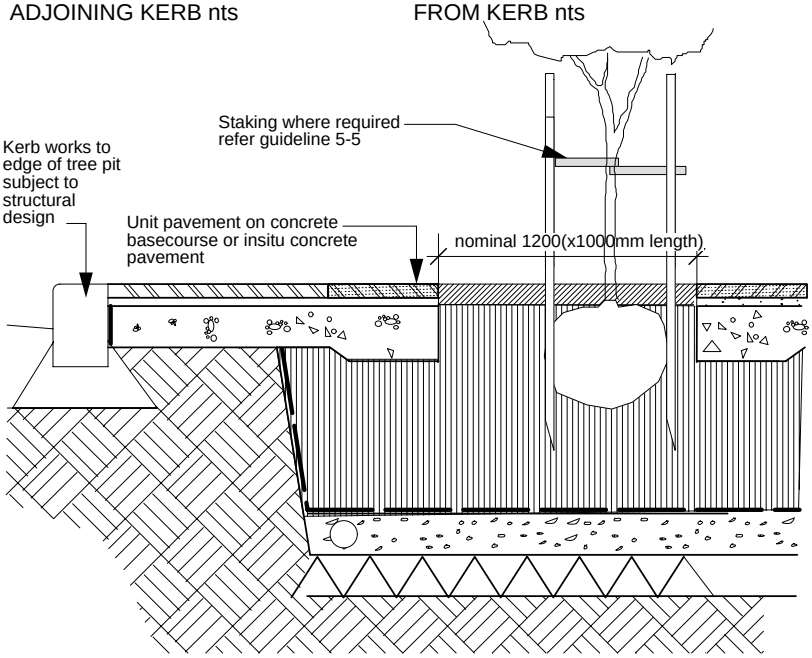


Tree pit channel extended for length of planting subject to services

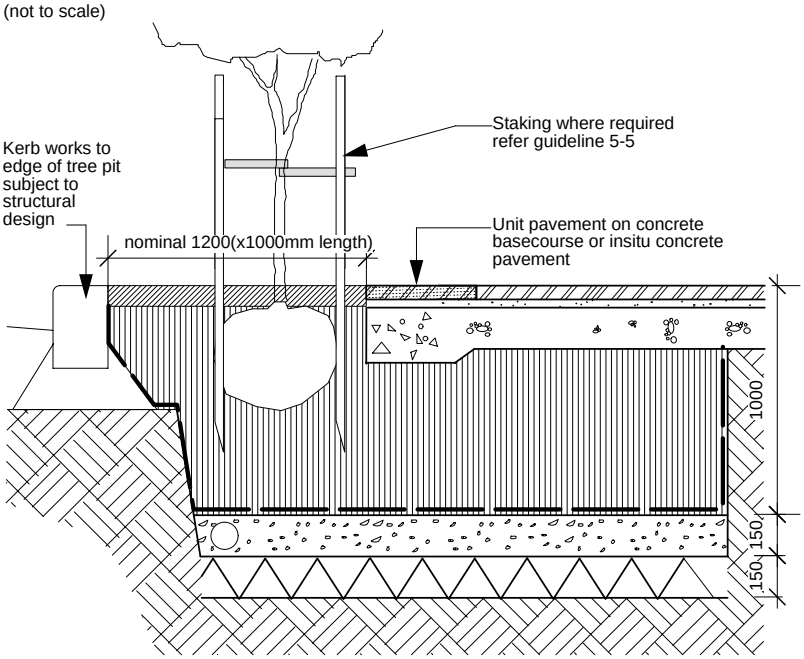
PLAN - TREE PIT SET BACK ADJOINING KERB nts



PLAN - TREE PIT SET BACK FROM KERB nts



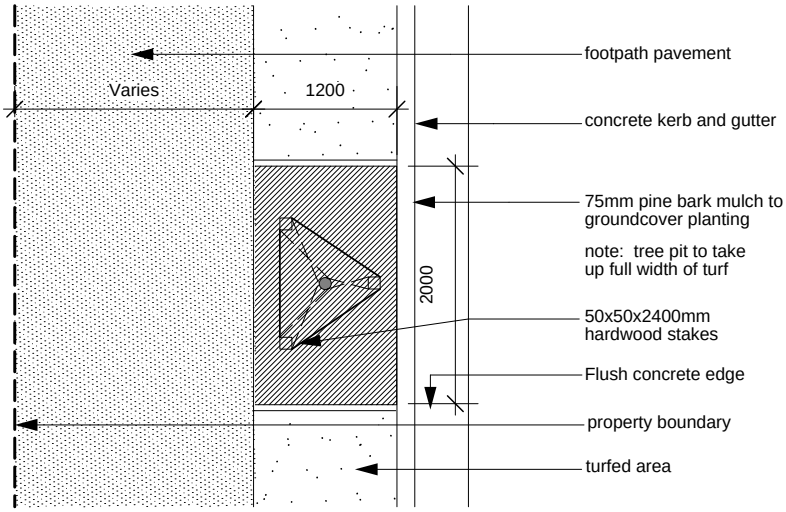
TYPICAL CROSS SECTION
TREE PIT SETBACK FROM KERB
(not to scale)



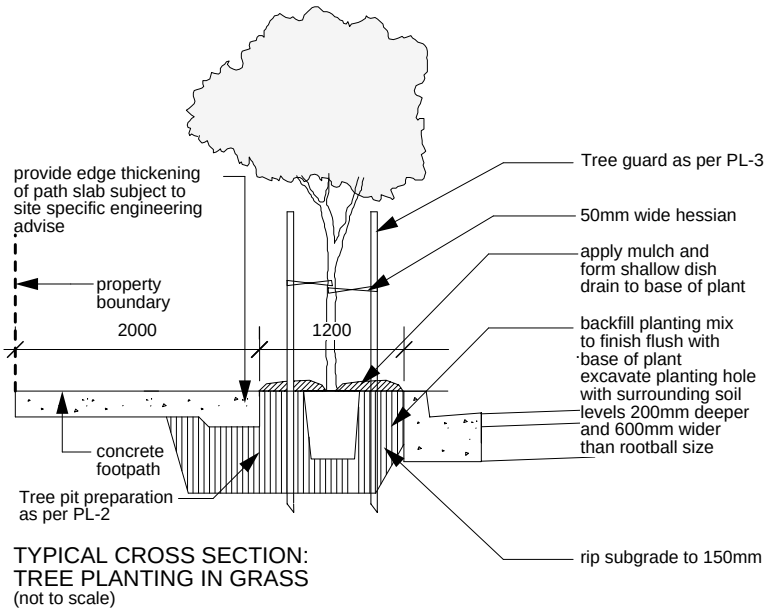
TYPICAL CROSS SECTION
TREE PIT ADJOINING KERB
(not to scale)

Kerbside tree planting in paving

Kerbside in turf

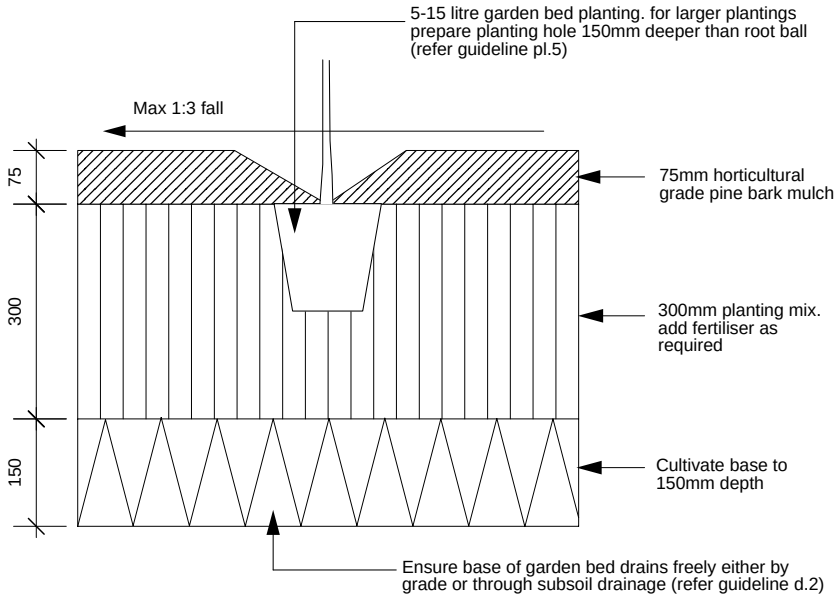


TYPICAL PLAN:
TREE PLANTING IN GRASS
(not to scale)



TYPICAL CROSS SECTION:
TREE PLANTING IN GRASS
(not to scale)

Garden Bed preparation and planting



Fences, barriers, level changes

No	Guideline
PE-PSF06	Foreshore promenade seating edge Refer to Section 5 FU Furniture Guidelines
UE-SF37	Palisade Fence

Note:
UE-….. refers to design guidelines derived from the Sydney Olympic Park Urban Elements Manual
PE-….. refers to design guidelines derived from the Sydney Olympic Park Parkland Elements Manual

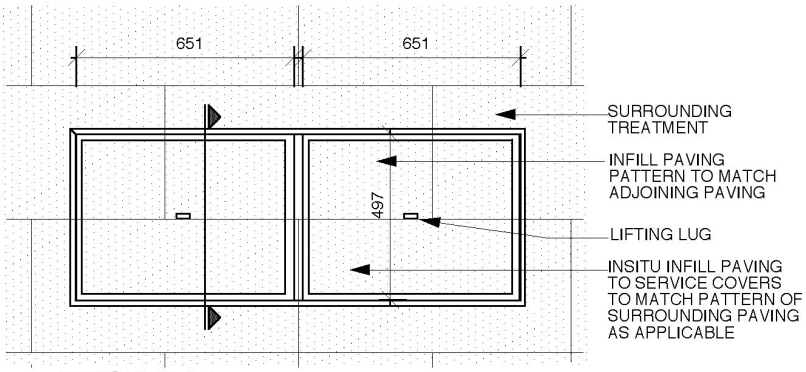
Signage

Refer to Wayfinding Strategy Report (May 2004) for Signage Types

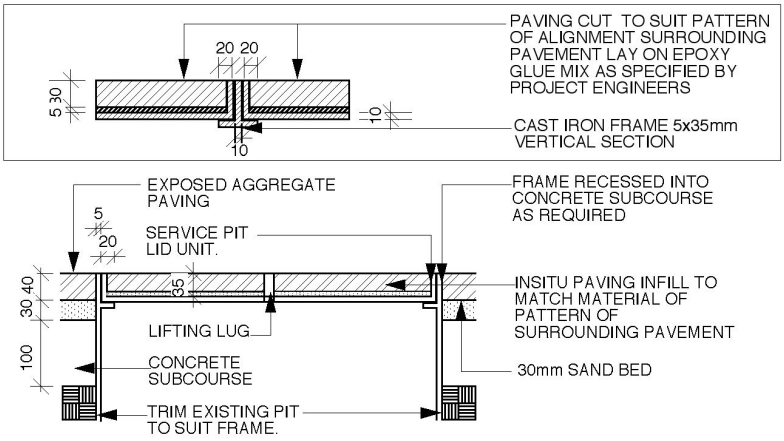
Services and infrastructure

No	Guideline	Purpose
SI-1	Telecommunications pit with infill paving lid	Major east west streets (unit paving) All other streets (concrete infill) Foreshore promenade Plazas / squares
SI-2	Electrical pit	All streets
SI-3	Stop cock, hydrant and QCV valves	Major east west streets (unit paving) All other streets (concrete infill) Foreshore promenade Plazas / squares
SI-4	Stormwater drainage inlets to pedestrian areas	Foreshore promenade Plazas / squares

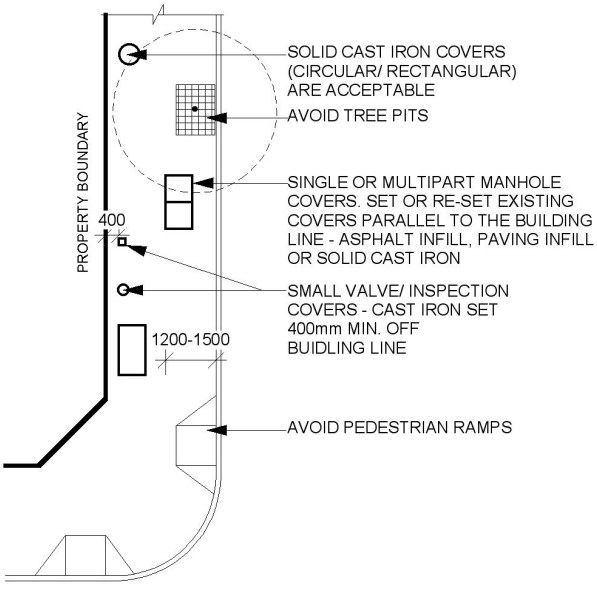
Note:
SI-..... refers to this Homebush Bay West Public Domain Manual
UE-..... refers to design guidelines derived from the Sydney Olympic Park Urban Elements Manual
PE-..... refers to design guidelines derived from the Sydney Olympic Park Parkland Elements Manual



TYPICAL PLAN:
STANDARD DOUBLE TELSTRA COVER (IN GRANITE PAVEMENT)
(not to scale)

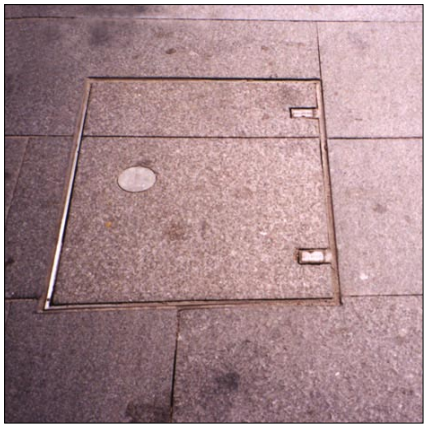


CROSS SECTION: PIT LID PAVING INFILL
(not in scale) All dimensions in millimeters



TYPICAL PLAN:
OPTIMUM ARRANGEMENT OF SERVICE COVERS ON FOOTPATHS
(not to scale)

Telecommunications pit with infill paving



Principles

- Services and infrastructure openings have a significant impact on the quality of the streetscape through their visibility and proliferation of different lid types.
- Incorporate services renewal amplification requirements into streetscape improvement programes to prevent later conflicts.
- New streetscape developments to integrate location of services and infrastructure with streetscape design.
- Telstra to check and approve condition of all service pits prior to replacement of service covers and repaving.
- Provide paved infill lids to single and double Telstra pits to match adjoining pavement material/ pattern.
- Adjust pit frames where pavement levels are changed.

Materials

Cast Iron frame:

Wangaratta Industries WT5 and WT2 (10mm thick heavy duty galvanised steel) or equivalent.

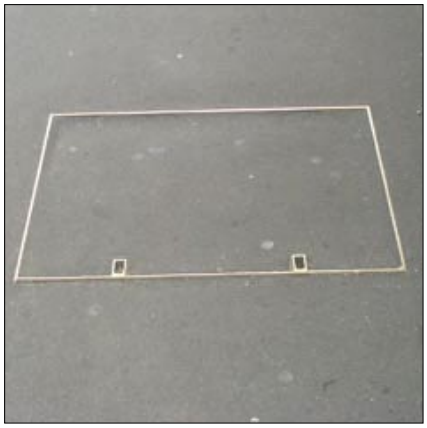
Paving:

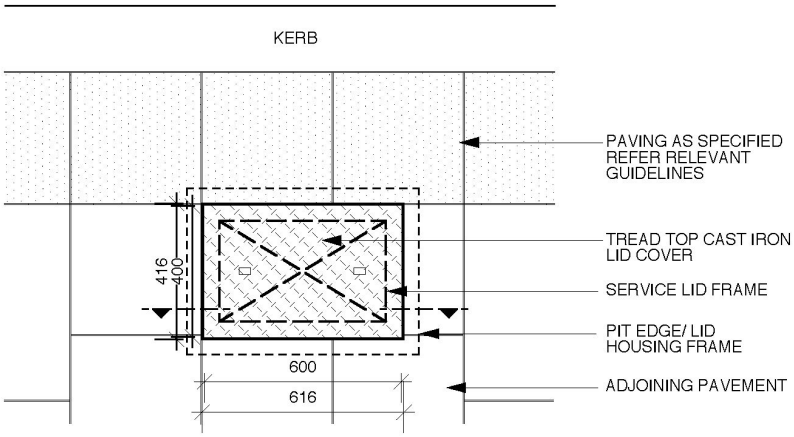
To match surrounding pavement material and pattern (expoxy glue to manufacturers specifications)

Where asphalt pavement is laid

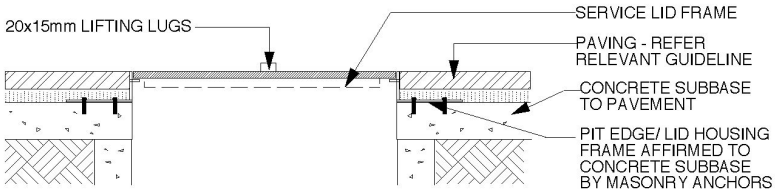
Use Black Cast Iron Lid in levi of paving infill lid

Electrical pits

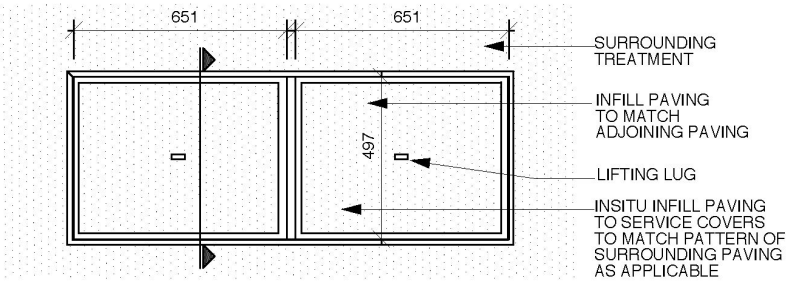




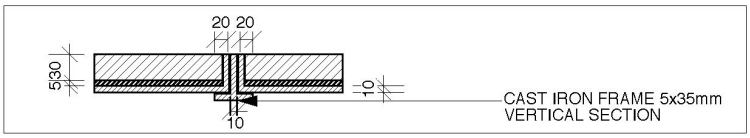
TYPICAL PLAN: STANDARD CAST IRON SERVICE LID COVER
(not to scale)

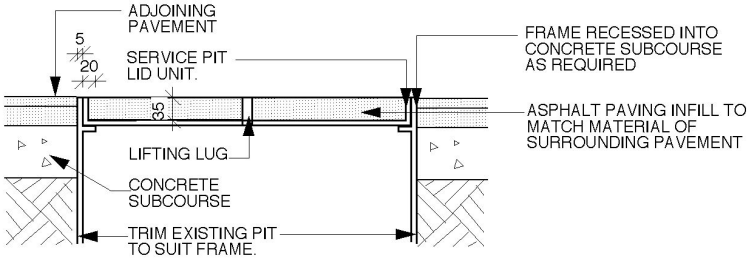


STANDARD STEEL SERVICE LID COVER - TYPICAL CROSS SECTION
(not to scale)



STANDARD DOUBLE TELSTRA COVER - TYPICAL PLAN
(not to scale)



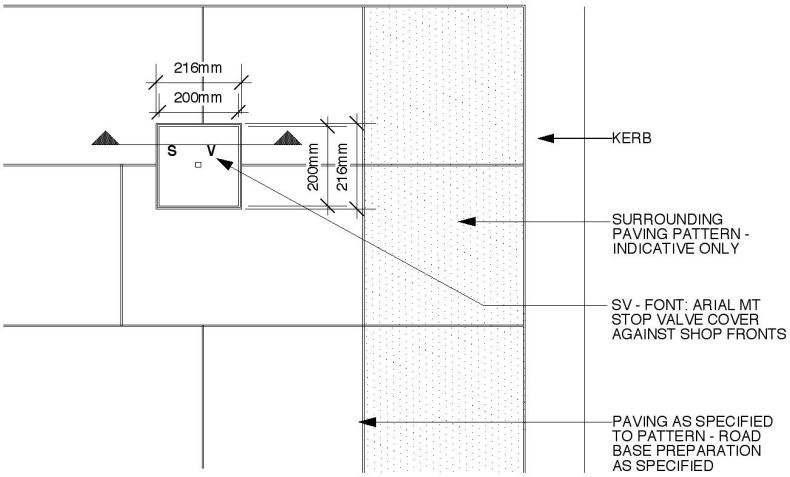


PIT LID ASPHALT INFILL - CROSS SECTION
(not in scale) All dimensions in millimeters

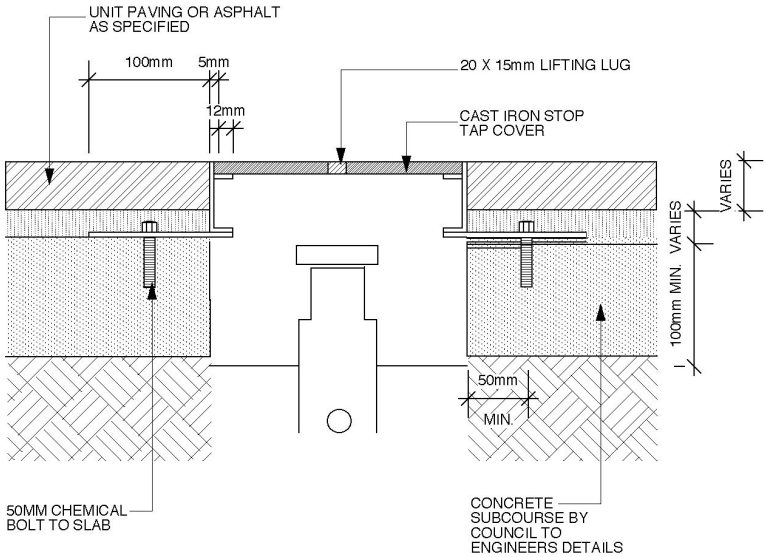
Principles

- To provide consistent visual and maintenance treatment to footpath service pits.
- Provide asphalt infill lid where asphalt is being replaced.
- Provide steel pit lids to pits in old asphalt subject to future refurbishment.

Stop cock, hydrant and QCV valves



TYPICAL PLAN: WATER STOP VALVE LID COVER/ QVC LID COVER
(not to scale)



TYPICAL SECTION: WATER STOP VALVE LID COVER
(not to scale)

Principles

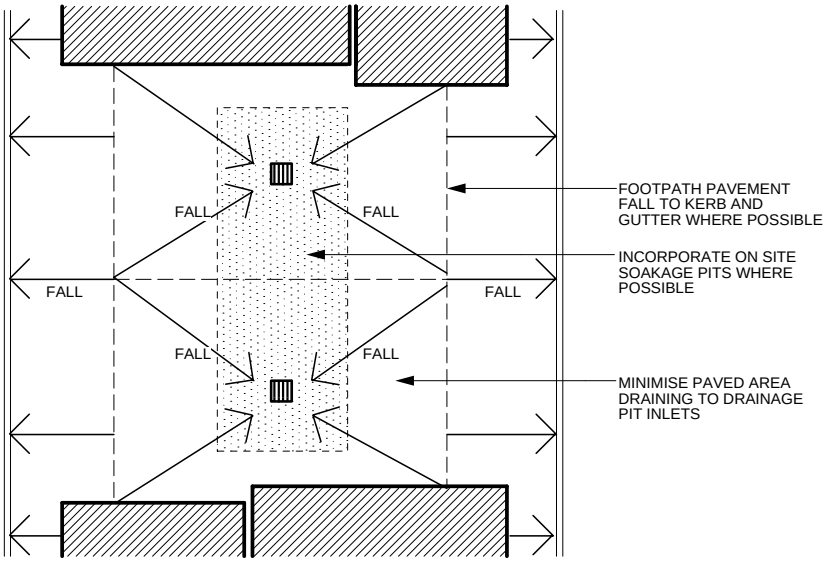
- New streetscape developments to integrate location of services and infrastructure with streetscape design.
- Incorporate services renewal application requirements into streetscape improvement programes to prevent later conflicts.
- Provide stop tap covers within granite, exposed aggregate, or asphalt paving. Ensure engraving is oriented to be perpendicular to street kerb alignment.

Materials

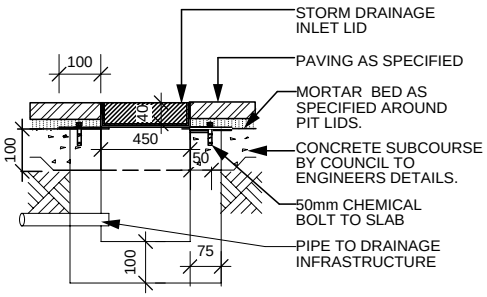
Lid covers:

Mascot Engineering cast iron lid with engraved labelling (or equivalent).

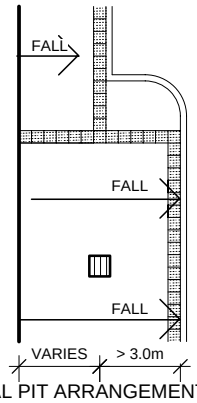
Stormwater drainage to pedestrian areas



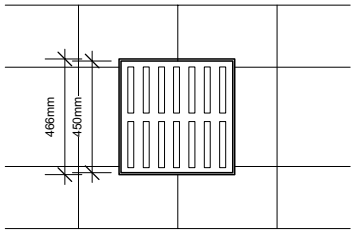
TYPICAL PIT ARRANGEMENT - SQUARES AND COURTYARDS
(not to scale)



TYPICAL SECTION: INLET PIT
(not to scale) All dimensions in millimeters



TYPICAL PIT ARRANGEMENT
FOOTPATH WIDENING AND EXTENSIONS
(not to scale)



TYPICAL PLAN:
INLET PIT TO PAVEMENT
(not to scale)

Principles

- Provide stormwater drainage to pedestrian paved areas where no underground stormwater services are available.
- Footpath/ pedestrian pavements to fall to kerb and gutter other than where levels make this physically impossible.
- Foothpath cross falls to be even across foothpath of:

- minimum 1:70
- maximum 1:40 gradient.

- Where falls to kerb and gutter are not possible provide surface inlet pits servicing the minimum surface catchment possible.
- Paving levels to allow for escape of storm water to kerb and gutter below adjoining floor levels should drainage pits become blocked.
- Incorporate on site infiltration where possible to squares and large paved areas to reduce gross volume of stormwater runoff.
- Provide continuity of pit types stormwater inlet sumps and channel lids and grates to pavement areas.
- Connect rooftop down pipe drainage to underground stormwater in public domain upgrade works.

Materials

Grates:

'Gatic heavy duty' types:

H601K and H600DF (or equivalent)