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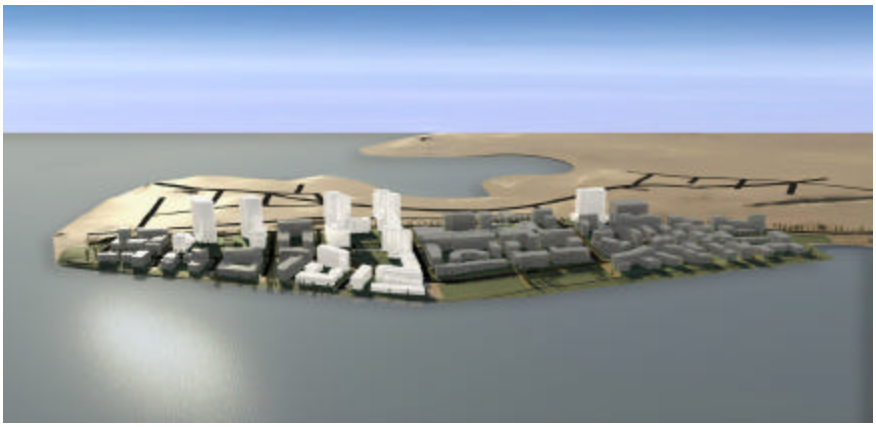
Rhodes West Master Plan 2009

March 2010 Prepared for **City of Canada Bay Council**



Revised Supplementary Planning Report

Architectus Group Pty Ltd
ABN 90 131 245 684
Level 3 341 George Street
Sydney NSW 2000
Australia
T 61 2 8252 8400
F 61 2 8252 8600
sydney@architectus.com.au
www.architectus.com.au

Cover image: 3D perspective view looking east of the Precinct A, B and C developments

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Quality Assurance

Prepared by

.....
Murray Donaldson
Associate
Urban Design and Planning
Architectus Sydney Pty Ltd

.....
Date
This document is for discussion purposes only unless signed.

Appendices

A Review of SREP 29: Rhodes Peninsula Planning Principles

B Review of Renewing Rhodes DCP 2000

C Consistency with State Environmental Planning Policies

D City of Canada Bay Council Planning Report of 8 December 2009

E Planning Review prepared by Professor John Toon

F Department of Planning letter dated 29 October 2009

G Correspondence from Precinct B Developer (Billbergia Developments) on proposed ESD initiatives

H Correspondence from Precinct C Developer (Meriton) on proposed ESD initiatives

I RWMP 3D perspectives and shadow diagrams at June 21 midwinter prepared by Architectus

J Letter advice on implications of remediation for RWMP prepared by Renewing Homebush Bay Pty Ltd

K Department of Planning letter dated 17 March 2010

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Executive summary

This supplementary planning report was commissioned by the City of Canada Bay Council (Council) to provide a further detailed response to the issues raised by the Department of Planning in their submission on the Rhodes West Master Plan 2009 (RWMP) and to provide an update on the preparation of detailed planning controls for its implementation including amendments to the Canada Bay Local Environmental Plan 2008 (CBLEP 2008) and a new Development Control Plan (DCP) for Rhodes West.

This report had previously been submitted to the Department of Planning in support of the proposed amendments to SREP 29: Rhodes Peninsula. Following Council's receipt of a letter from Department of Planning dated 17 March 2010 advising of its preferred process to progressing the RWMP through the 'Gateway process' under Part 3 of the *Environmental Planning and Assessment Act 1979*, this report has been amended. Refer to the Department of Planning letter at **Appendix K**.

The report provides the following:

- Responds to the issues raised in the Department of Planning submission on the RWMP;
- Reviews the existing planning framework for Rhodes including Sydney Regional Environmental Plan 29: Rhodes Peninsula (SREP 29) and the Renewing Rhodes Development Control Plan 2000 (RRDCP 2000) and outlines recommendations for amendments to implement the RWMP;
- Presents the recommendations of an urban design review of the RWMP by Professor John Toon, Urban Design Consultant to Council and addresses how these would be best incorporated into a new planning framework for Rhodes;
- Addresses how Council's objectives for design excellence, amenity and sustainability can be implemented at Rhodes through a new planning framework including recommended amendments to CBLEP 2008 and a new DCP; and
- Presents a best practice approach for development controls in urban centres with mixed use high density residential development.

The RWMP sought to demonstrate how future development can build on the current planning framework by introducing contemporary planning principles of place making through additional community facilities, public open space, pedestrian connections, cycling facilities as well as in the design and construction of buildings on the remaining development parcels.

The impetus behind the RWMP was the desire to provide additional community facilities, which Council considered were inadequate to cater for existing and future residents in the existing planning framework. The RWMP outlines the urban design framework for future development of the remaining development parcels and adjacent public domain.

The implementation of the RWMP is to occur in two stages, as follows:

- Stage 1 – Precincts A, B and C
- Stage 2 – Precinct D

This report focuses on Stage 1 of the RWMP which relates to the remaining development parcels within Precinct A, B and C. Given the

imminent timeframes for development occurring on these remaining sites and the opportunities these remaining sites provide for additional public open space to address the shortage of local parks at Rhodes it is desirable to progress with Stage 1. Stage 2 of the RWMP will be subject to further detailed investigations.

Urban Design framework – Stage 1

The remaining development parcels in Precincts A, B and C are to comprise predominantly residential developments with a small amount of non-residential uses to activate the public domain such as commercial offices, child care centres, restaurants, local shops, live/work units and gymnasiums/pools. The Stage 1 area of the RWMP proposes the following built form and public domain framework:

- Two (2) large consolidated areas of public open space areas in Precinct B and C achieved through the amalgamation of development lots and the deletion of secondary streets considered to be unnecessary for vehicle access;
- A new plaza space on the corner of Mary Street and Rider Boulevard;
- Additional pedestrian-only links provided through development sites; and
- Buildings of various heights up to a maximum of 25 storeys generally fronting Walker Street, Shoreline Avenue and Rider Boulevard.

Amendments to the planning framework

Council has prepared a Planning Proposal that outlines the amendments to the CBLEP 2008. The Planning proposal is the first step in the Gateway Process. SREP 29: Rhodes Peninsula is to be repealed and in its place, an LEP 2008 amendment is proposed.

Urban design review process

Since Council's 8 December 2009 resolution, Council's urban design consultant John Toon and Architectus have met with the major landowners and developers of Precincts B and C on four (4) occasions and Precinct A on one (1) occasion to investigate further options and refinements to the RWMP. The objective of the workshops has been for Council and its consultants to discuss and implement new agreed planning and urban design principles, to understand the landowner's objectives, and to provide feedback with a view to finalising a preferred Urban Design framework for the new DCP.

Development Control Plan (DCP)

A new DCP is currently being prepared which will provide a new urban design framework of open spaces, roads, pedestrian pathways and built form. Much of the existing DCP remains relevant to the future development of the remaining parcels however additional controls will aim to achieve Council's core objectives of design excellence, sustainability and amenity considerations for future development.

Department of Planning submission

In summary, key responses to the Department of Planning are as follows:

- The RWMP will implement the strategies and objectives of the Metropolitan Strategy and the Inner West Subregional Strategy and is considered to enhance consistency with the metropolitan planning framework;
- A review of the existing planning framework under SREP 29 has identified that the proposal is generally consistent with the principles, and that additional built form and open space principles are necessary to strengthen the achievable built form and open space proposals under the RWMP. The existing SREP 29 principles and the additional principles from the RWMP are to be incorporated into the new DCP;
- The report outlines the content of the new DCP which will deliver refinements to the existing urban design framework. Issues to be addressed in the new DCP are to include the issues raised by the Department of Planning in its submission in relation to connectivity of the open space network, built form, scale and relation to existing development, building setbacks, solar access, wind impacts, overshadowing and visual impacts and impacts on view corridors;
- An analysis of the existing and proposed open space provision is provided which identifies that the addition of two (2) local parks in Precincts B and C will reduce the number of people for each local park at Rhodes from 2136 persons under the current framework to 1753 in the proposed scenario. The number of people for each local park will further reduce with the opportunities that Precinct A and D provide for plaza spaces close to the railway station;
- Council's independent traffic and transport consultants have verified the analysis carried out by the developers' consultant Halcrow MWT, i.e. that the additional traffic would not result in any worsening of the intersection performance along the Homebush Bay Drive/Concord Road corridor. It is also proposed to adopt further reduced parking rates, in accordance with the recommendations of the RTA. The full implementation of the current Rhodes Transport Management Plan (TMP) along with further reducing car parking rates and travel demand management measures, including the following initiatives, can deliver sustainable transport solutions for Rhodes:
  - Transport information to new residents that promotes non-car based modes of travel,
  - Car-share services and facilities
  - Additional bicycle storage which is publicly accessible
- In relation to increased demand for public transport trips at Rhodes, RailCorp has advised that the extra patronage on the trains will be sufficiently catered for in the current Northern Railway Line timetable. It is also noted that the recently released Metropolitan Transport Plan includes an additional 4 train services for the Main Northern Railway Line;
- All necessary utilities infrastructure to service the additional residential population can be augmented. It is noted that Council has liaised with the relevant service providers including Sydney Water and Energy Australia who advise that it will be possible to service the additional dwellings. A new zone substation is under investigation for the Energy Australia site within Precinct D and it is understood that the

capacity planning for the new substation will have regard to the additional dwellings under the RWMP.

Table 1 outlines where in this report, the issues raised by the Department of Planning are addressed in further detail. Council provided a response to the Department of Planning's submission in the 8 December 2009 report, which is provided at **Appendix D**.

Table 1. Department of Planning submission

Department of Planning submission	Reference to response
• Demonstrate how consistency can be achieved with the following plans: - The Metropolitan Strategy - The draft Inner West Subregional Strategy - Sydney Regional Environmental Plan No. 29-RhodesPeninsula - Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005	Section 4 & Appendix C
• Review planning controls to establish which planning principles should be retained to identify the extent and appropriate location of any additional development, given constraints such as the capacity of the road network.	Section 6 & Appendix B
• Consideration should be given to how the proposal enhances:	
- The current built form, scale and relationships of development across the peninsula.	Section 5
- Urban Design and built form with particular focus on building setbacks, solar access, wind impacts, overshadowing and visual impacts, and impacts on view corridors.	Section 5
- Existing and proposed additional open space, with regard to both spatial distribution and provision per capita, taking account of proposed dwelling numbers and resulting population.	Section 2
- Connectivity of open space networks.	Section 5
• Parking, traffic and traffic circulation, access and permeability, particularly responding to the views of the Roads and Traffic Authority.	Appendix D
• Other infrastructure requirements resulting from the proposal.	Appendix D
• Clarification is sought on whether the development under the Master Plan would involve the potential disturbance or excavation of treated/decontaminated soil and whether further treatment is required prior to disposal or re-use on the affected sites.	Section 2

1 Introduction

1.1 Preliminary

This supplementary planning report has been prepared on behalf of the City of Canada Bay Council (Council) to provide a detailed response to the issues raised by the Department of Planning in their submission on the Rhodes West Master Plan and to provide an update on the preparation of detailed planning controls for the remaining development parcels at Rhodes.

This report had previously been submitted to the Department of Planning in support of the proposed amendments to SREP 29: Rhodes Peninsula. Following Council's receipt of a letter from Department of Planning dated 17 March 2010 advising of its preferred process to progressing the RWMP through the 'Gateway process' under Part 3 of the *Environmental Planning and Assessment Act 1979*, this report has been amended.

Architectus prepared a report titled "Floor Space Review Submission" dated March 2009 which presented a coordinated approach for delivering additional community infrastructure to Council in relation to the development of the following remaining development parcels at Rhodes:

- Precinct A – Lot 62
- Precinct B - Lots 2A, 3A, 3B, 3C and 3D
- Precinct C – Lots 101 and 102
- Precinct D - 6-10 Walker Street

The purpose of the report was to provide a strategic and site-specific rationale including urban design, planning and ESD principles that could guide the overall proposal as well as the individual developer proposals. The report did not give a detailed assessment of the proposal against the relevant statutory planning instruments and policies, however it was acknowledged that the strategy for additional floor space would require an amendment to SREP 29: Rhodes Peninsula and that further detailed urban design analysis was necessary to demonstrate how the overall and individual proposals could enhance the existing planning framework.

Architectus prepared the Rhodes West Master Plan 2009 (RWMP) to present the combined submission with further detailed graphic and written description of the proposals for the remaining development parcels including public benefits. The Master Plan document contained urban design principles which guided the preparation of the proposals from Billbergia, RHB and Meriton. The Master Plan was not subject to a detailed urban design and planning assessment as it was anticipated that would occur during the formulation of a new development control plan for the remaining development parcels.

On the 8 December 2009, the City of Canada Bay Council resolved to adopt the Master Plan, in a modified form subject to a number of actions being taken to deliver the necessary infrastructure to support future development. Council also resolved the following:

> *"That a new Development Control Plan is to be prepared to guide the development of specific proposals in Precincts A, B, C and D to ensure compliance with Council's objectives in terms of minimising car dependence in the area, a range of sustainable development initiatives, and excellence in building design, including areas specifically designed for Go-Get type car schemes. The new DCP will replace the existing Renewing*

Rhodes DCP".

The purpose of this supplementary planning report is to:

- Provide an update on the progress of City of Canada Bay Council's preparation of a new DCP, as well as recommendations for Amendments to CBLEP 2008.
- Identify key issues in the submission of the public and government agencies and to provide responses;
- Demonstrate how the increased density at Rhodes is consistent within the Metropolitan Planning Framework including the Metropolitan Strategy and Inner West Subregional Strategy;
- Review the existing planning framework for Rhodes including Sydney Regional Environmental Plan 29: Rhodes Peninsula (SREP 29) and the Renewing Rhodes Development Control Plan 2000 (RRDCP 2000) and outline recommendations for amendments to the CBLEP 2008 and a new DCP to implement the RWMP;
- Present the recommendations of an urban design review of the RWMP by Professor John Toon, Urban Design Consultant to Council and address how these would be best incorporated into a new planning framework for Rhodes;
- Address how Council's objectives for design excellence, amenity and sustainability can be implemented at Rhodes through a new planning framework including a new DCP; and
- Present a best practice approach for development controls in urban centres with mixed use high density residential development.

1.2 Authorship

This report was prepared by Murray Donaldson, Associate Urban Design and Planning at Architectus Group Limited. The report was commissioned by Council and has been reviewed by:

- Tony McNamara, Director Planning and Environment
- Ursula Lang, Executive Planner Rhodes Peninsula

2 Rhodes West Master Plan 2009

It is good planning practice to review planning instruments periodically to assess the success and identify the failings in their implementation. This will help to ensure evolving principles in urban design, responsiveness to community needs, and that ecological sustainable development is being achieved. The Master Plan sought to demonstrate how future development can build on the current planning framework by introducing contemporary planning principles of place making through additional community facilities, public open space, pedestrian connections, cycling facilities as well as in the design and construction of buildings on the remaining development parcels.

The RWMP was prepared by Architectus in consultation with the major landowners and the City of Canada Bay Council.

The impetus behind the new Master Plan for Rhodes was the desire to provide additional community facilities, which Council considered were inadequate to cater for existing and future residents in the existing

planning framework. This view was formed following a study of recreational needs which was commissioned in 2008, relating to the Rhodes area, and wider Concord catchment. Considering proposals from the major landowners and developers provided a chance to introduce meaningful refinements to the existing planning framework based on contemporary place making and urban design principles.

The RWMP outlines the urban design framework for future development of the remaining development parcels and adjacent public domain. The Master Plan proposes the following built form and public domain framework:

- Creation of larger consolidated open space areas in Precincts B and C achieved through the amalgamation of development lots and the deletion of secondary streets considered to be unnecessary for vehicle access. An additional 17,530m^2 (1.753 Ha) of public open space is created which equates to a 28.5% increase above the area of land zoned open space under SREP 29. **Figure 1** and **Figure 2** provide a comparison between the existing/approved scenarios and the proposed scenarios;
- Create a new plaza space in Precinct A at the corner of Mary Street and Rider Boulevard;
- With the deletion of some secondary roads, additional pedestrian only links are provided through development sites; and
- Buildings of various heights up to a maximum of 25 storeys within Precincts A, B and C generally between Shoreline Avenue and Walker Street with setbacks to create variation in tower building locations.

2.1 Additional floor space

Table 2 provides the allocation of additional floor space for the development sites at Rhodes West. **The total additional floor space allocated by Council to the remaining Precinct B and C development parcels is 46,200m^2.**

Table 2. Master Plan floor space allocation

Precinct	Site	Existing/Approved GFA (m^2)	Additional GFA (m^2)(%)	Total GFA (m^2)
A	Lot 62	12,344	11,220 (17%)	23,564
B	2A	23,647		
	3A	17,322	15,705 (23.8%)	56,674
	3B	13,681		
	3C	13,504		
	3D	14,324	5983 (9%)	47,492
C	101	26,030		
	102	22,485	13,292 (20.1%)	61,807
D	Multiple lots	35,455	19,800 (30%)	55,255
TOTAL		**178,792**	**66,000**	**244,792**

Figure 3, **Figure 4** and **Figure 5** illustrate views of a 3D massing model to illustrating the adopted built form for remaining development lots in Precinct B and C, which form Stage 1 of the RWMP. The built form and open space proposals for the remaining development Lots in Precincts A and D form Stages 2 and 3 of the RWMP and are to be included in the amendments to CBLEP 2008 and the new DCP, following further detailed urban design and planning analysis.

2.2 Open space network

The Master Plan provides additional open space that is appropriately located central to residential developments, in a consolidated form. The existing planning framework will deliver 6.15 hectares of public open space, which is made up of the following:

- **Foreshore Reserve** – A 20 metre wide linear reserve along the entire length of the Rhodes frontage to Homebush Bay and the Parramatta River. The space includes a separated cycleway and pathway.
- **Mangrove Park** – Located at the southern end of Rhodes adjacent to the Rhodes Waterside Shopping Centre;
- **Foreshore Park –** Centrally located midway along the foreshore, Foreshore Park provides the largest consolidated open space at Rhodes. Foreshore Park is to be the location for Council's community facility.
- **Point Park –** Point Park is located at the northern tip of the peninsula within Precinct C fronting the Parramatta River.
- **Neighbourhood Park** - Neighbourhood Park is located within Precinct A.

With the exception of the neighbourhood park, the above open spaces are located in a narrow band along the waterfront. A sewer pumping station has been built on the Foreshore Park within an area of 625m^2, encroaching into an area originally planned as a more active play area.

The RWMP includes an additional 17,530m^2 of public open space in Precinct A, B and C, which equates to a 28.5% increase. The additional two parks offer consolidated areas of local passive parkland. A new plaza space is proposed on the corner of Mary Street and Rider Boulevard at Precinct A which equates to 1100m^2.

Table 3 provides a breakdown of the additional open space areas. Additional opportunities for civic plazas will be available in the planning of Precinct D in appropriate locations fronting Walker Street adjacent the railway station.

Table 3. Additional public open space

Precinct	Area (m^2)
A	1100
B	11,830
C	4600
Total	**17,530**

The existing and additional open space provision is provided with a calculation of open space per capita.

Table 4. Open space provision per capita

	Open space	Floor space area (m^2) *		Dwellings **	Population ***	Parks	Persons per park	Public open space area per capita (m^2)
Existing	61,500sqm	Residential	453,750	4904	12,505	1. Foreshore Reserve 2. Foreshore Park 3. Mangrove Park 4. Point Park 5. Neighbourhood Park	2501	4.9
		Non-residential	90,000					
		Total	543,750					
Proposed Stage 1 – Precinct A, B & C	17,530m^2	Residential and non-residential	46,200	462****	1,178	6. Precinct A plaza 7. Precinct B park 8. Precinct C park		
Total	79,030m2		589,950	5366	13,683		1710	5.8

Notes for **Table 3**

* SREP 29 – Clause 14 & 15.
** Metropolitan Development Programme 2007/2008 Data Book.
*** Average household size ABS Data is 2.55 persons per household.
**** Average apartment size - 100 m2.

The Inner West Subregional Strategy provides a strategic analysis of open space provision in the Inner West.

Table 5. Existing supply of open space in the Inner West subregion

Park type	Inner West (persons per park)	Sydney (persons per park)
Active park	3732	3417
Regional passive park	7882	20,250
Local passive park	931	601

Under the existing planning framework at Rhodes there are five (5) local parks which equates to 2501 people per local park. In the RWMP for Precinct A, B and C there are two additional local parks and a plaza space. With the additional population resulting from the RWMP the number of people for each local park at Rhodes in 1710 people for each local park. The number of people for each local park will further reduce with the opportunities that Precinct D provides for public plaza spaces close to the railway station.

There is a low level of local parks in the inner west compared with the entire Sydney metropolitan area. At Rhodes there are more than three times the number of people per local park than the Sydney average.

There is regional passive open space in the adjacent West Central Subregion including the Bicentennial Parklands and Newington Armoury. These regional parklands are used by some Rhodes residents, as local open spaces however while Rhodes is linked to the parklands through a

cycleway/pedestrian pathway following Duck Creek the distance at 2-3km from the northern parts of Rhodes is considered too great for many residents to use for local passive open space.

The Inner West Subregional Strategy includes the following strategies for increasing the number of local open space areas:

F2.1 Improve the quality of local open space
F2.1.1 Councils to maintain or enhance the provision of local open space particularly on centres and along transport corridors where urban and particularly residential growth is being located.

The RWMP enhances the provision of local open space within the Rhodes Specialised Centre. An additional 1.64 hectares of open space is proposed in the form of consolidated open space areas, achieved through the deletion of some local roads and amalgamation of development lots.

F2.1.2 Councils to consider an open space embellishment program for improving facilities.

The new DCP for Rhodes is to provide indicative concept designs for the additional local parks accompanied by development objectives and controls for high quality embellishment that promotes public use.

F2.2 Investigate future options for open space provision and management.

F2.2.1 The NSW and local governments to work together to investigate opportunities for future open space.

The Inner West Subregional Strategy acknowledges that there are few sites remaining that could be utilised for new open spaces. Given the shortage of local parks at Rhodes, it is appropriate to investigate opportunities for additional parks, which are central to future residential precincts.

F2.3 Provide for urban civic space in planning for centres

F2.3.1 Councils to identify opportunities to enhance existing and provide new civic space in planning for future growth of centres.

Precinct D, which for Stage 2 RWMP provides an opportunity for additional urban civic spaces, due to its close proximity to Rhodes Railway Station. New urban civic spaces can create areas of special amenity and a sense of arrival at Rhodes, which is currently missing. Through block pedestrian connections between the railway station to the Foreshore Park are to be investigated.

Further consideration of the RWMP and its consistency with the Inner West Subregional Strategy is provided at **Section 4.3** of this report.

Figure 1. Existing/approved scenario for Precinct B and C
Public open space areas located on the foreshore

Figure 2. RWMP scenario for Precincts A, B and C
The buildings on the remaining development lots in Precinct A, B and C where changes are proposed to the existing/approved planning framework are shown white. Additional consolidated areas of public open space areas located along Shoreline Avenue and central to the residential developments. The proposal for Precinct A shows a new urban plaza space adjacent the railway station.

Figure 3. Master Plan for Precincts A, B and C looking north east
Aerial view of 3D massing model

Figure 4. Master Plan for Precincts A, B and C looking south east
Aerial view of 3D massing model

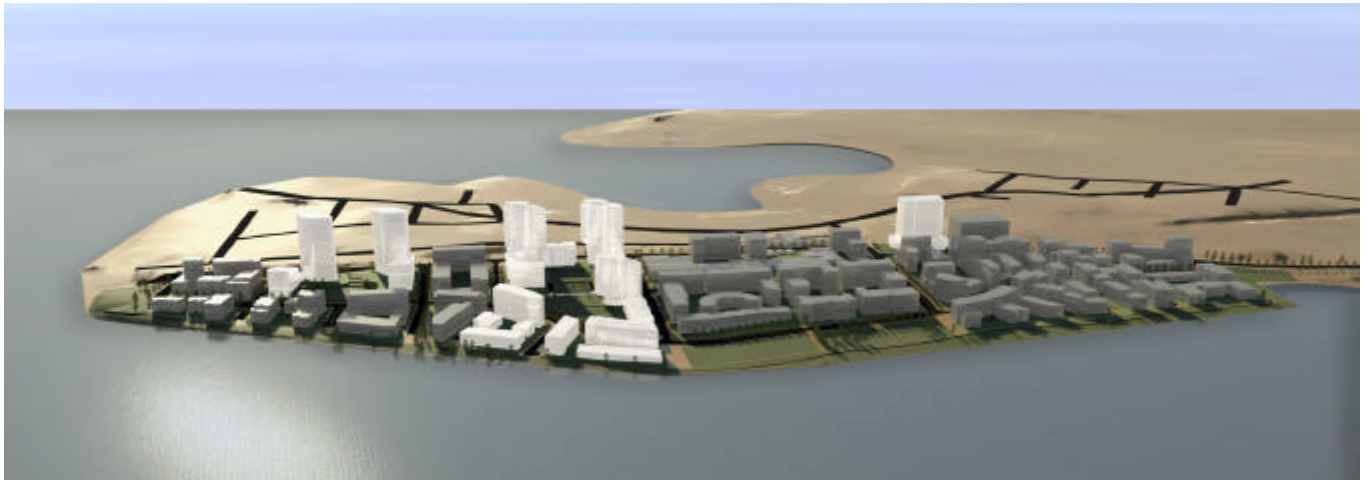

Figure 5. Master Plan for Precincts A, B and C looking east
Aerial view of 3D massing model

2.3 Implications for remediated sites

Land at Rhodes West was formerly used for heavy industry including chemical manufacturing, and the residual contamination continues to be the subject of significant remediation works to make the land suitable for high density residential as well as open space uses. Remediation works are scheduled for completion in August 2010.

The Department of Planning submission to the exhibited RWMP states that:

> *"Clarification is sought on whether the development under the Master Plan would involve the potential disturbance or excavation of treated/decontaminated soil and whether further treatment is required prior to disposal or re-use on the affected sites".*

Further detailed investigations for the remaining development sites have been undertaken by the developers of Precinct B: Renewing Homebush Bay Pty Ltd and Billbergia Developments Pty Ltd to determine the implications of the RWMP for the remediated conditions of their remaining development parcels. The remaining development sites Lots 101 and 102 are located in an area of the Precinct which is on the original landform and outside the reclaimed areas of land which contained contaminated materials. As such Lots 101 and 102 in Precinct C do not have remediated materials located at depth below the developments and therefore do not require further consideration as a result of the RWMP.

Renewing Homebush Bay Pty Ltd has prepared a response to the Department of Planning submission in relation to potential disturbance or excavation of treated/decontaminated soil on their remaining Sites 3B, 3C and 3D. Refer to **Appendix J**.

The development of the remaining areas of Precinct B will be carried out in accordance with the current approved remediated levels. Any works required within the maintenance layer will be subject to the accepted protocols and procedures in an approved Site Management Plan, which has been approved by DECCW for the completed Site 1A development.

The current approved remediated levels for future development of the remaining development parcels in Precinct B are provided in **Table 6**.

Table 6. Approved Precinct B remediation levels
(Source: SJB Architects)

Site	Remediated earthworks (approved)	Bulk earthworks (approved)	Level 1 Basement (proposed)	Level 2 basement (proposed)
Site 2A	RL 8.600	RL 9.100	RL 10.600	RL 13.250
Site 3A	RL 7.550	RL 8.050	RL 9.550	n/a
Site 3B (west)	RL 4.150	RL 4.650	RL 5.150	RL 7.800
Site 3B (east)	RL 5.150	RL 5.650	RL6.150	RL 8.800
Site 3C	RL1.15	RL 1.65	TBC*	TBC*
Site 3D	RL1.15	RL 1.65	TBC*	TBC*

Notes for Table 6:
* Basement levels on Sites 3C and 3D are to be confirmed following detailed design with future development applications.

A Site Management Plan (SMP) has been agreed to by the NSW Department of Environment, Climate Change and Water (DECCW) for Site 1A in Precinct B. This document is to be maintained on the title of residential lots to inform relevant stakeholders of the remediated conditions of the site. The objectives of the SMP are as follows:

- Provide key information for the stakeholders (e.g. occupants, residents and their short term workers) during the maintenance of remediation works (post construction/residential occupation phase); and
- Place requirements on current and future owners, managers, occupiers and contractors working on site for the management of issues related to the potential disturbance of, and or exposure to, the re-used fill materials beneath the currently developed Stage 1A building on the site.

The SMP includes details of the known locations of the re-used backfill materials, mitigation measures for the management or minimisation of potential environmental impacts and health and safety procedures in relation to these impacts for future works at the site.

The maintenance worker layer below the lowest basement level is to act as a barrier that is not to be penetrated to minimise health and environmental risk of exposure to remediated fill. The site owner is required to ensure that the following measures are taken for any excavation works or activities undertaken within the maintenance layer:

- All excavations must be reinstated with the material that has been removed from the excavation or VENM;
- Surface water flows must be controlled to prevent erosion and subsequent exposure/transportation of contaminated material;
- All surfaces must be finished and maintained so as to be stable. Suitable finishes include those that eliminate the risk of erosion or exposure of the underlying materials, such as turf, concrete, or any other similar finish;
- Any excavation, construction, maintenance work or activities within the maintenance worker layer is carried out in accordance with this SM and NSW Legislation as in force from time to time;
- Any excavation, construction, maintenance work or any activities that could result in the disturbance, or further disturbance, of the contaminated soil beneath the 'maintenance worker layer is not carried out without the approval of EPA.
- Any excavation, construction, maintenance work or any activities that could result in the disturbance of the contaminated soil beneath the maintenance worker layer is carried out in accordance with the approval of the EPA;
- Prior to any such works or activities described in the second bullet above being commenced, the person proposing to conduct the works or activities has prepared and submitted to the EPA a written management plan with specific measures directed at minimising the disturbance and migration of the contaminants beneath site and the EPA has approved that plan;
- All excavated/disturbed materials are replaced in the corresponding order/depth that they were removed or with certified Virgin Excavated Natural Material (VENM);

- The surface level is to be restored at the completion of the excavation/maintenance works and continues to be maintained;
- Excavated/disturbed materials are to be managed on site. Any excess spoil generated that cannot be reinstated to the original excavation area (or at another suitable location) must be treated, classified and assessed for off-site disposal in accordance with any NSW legislation, as in force from time to time; and
- No one extracts or uses groundwater from the site.

Remaining development sites within Precinct B will be subject to a similar management plan.

Having regard to the information provided by the developers of Precinct B, the remaining developments will not result in a requirement for additional basement levels to be provided for car parking below the approved bulk excavation levels. Potential excavation below the approved bulk excavation levels to allow for the additional depth of pile caps beneath the tower buildings is to be managed in accordance with a site management plan, similar to the agreed site management plan for Site 1A.

3 Background

3.1 Introduction

The City of Canada Bay Council report of 8 December 2009 provides a detailed timeline of the process undertaken up to Council's consideration of the RWMP. The events leading to Council's adoption of the RWMP are summarised as follows:

- Council engaged Simply Great Leisure (SGL) to undertake a recreational needs analysis that recommended a community centre twice the size of the centre in the existing planning framework;
- Expressions of Interest from major Landowners were provided to Council offering to contribute to the larger community centre;
- Master Plan broadened to include a range of public benefits with the community centre remaining the core proposal. Additional public benefits included additional public open space, and other infrastructure works considered necessary to better connect the area to facilities and services in the locality;
- Council commissioned Pikes Lawyers to provide independent advice and prepare a Voluntary Planning Agreement policy for Council to consider the public benefit proposals;
- Council placed the Draft Master Plan 2009 on public exhibition and received submissions from the public and from government agencies. Further discussions of the public exhibition process is provided in Council's 8 December 2009 report at **Appendix D** and in the following section of this report.

3.2 Public exhibition

The RWMP was exhibited initially for a 28 day period, from 2 to 29 September 2009. The consultation period was further extended until 5 October 2009. Council's report dated 8 December 2009 outlines the process of community consultation and provided responses to key issues identified in public and government agency submissions.

It is not the purpose of this report to repeat the responses of Council, however further detailed responses are provided to address issues raised in the submission of the NSW Department of Planning.

The Department of Planning wrote to the City of Canada Bay Council on 29 October 2009 to provide their comments on the RWMP and Voluntary Planning Agreement. The Department has requested that further consideration be given to a number of matters before the Master Plan can progress. These matters include:

- Demonstrate how consistency can be achieved with the following plans:
  - The Metropolitan Strategy
  - The draft Inner West Subregional Strategy
  - *Sydney Regional Environmental Plan No. 29-RhodesPeninsula*
  - *Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005*
- Review planning controls to establish which planning principles should be retained to identify the extent and appropriate location of any additional development, given constraints such as the capacity of the road network;
- Consideration should be given to how the proposal enhances:
  - The current built form, scale and relationships of development across the peninsula;
  - Urban Design and built form with particular focus on building setbacks, solar access, wind impacts, overshadowing and visual impacts, and impacts on view corridors
  - Existing and proposed additional open space, with regard to both spatial distribution and provision per capita, taking account of proposed dwelling numbers and resulting population;
  - Connectivity of open space networks;
  - Parking, traffic and traffic circulation, access and permeability, particularly responding to the views of the Roads and Traffic Authority; and
  - Other infrastructure requirements resulting from the proposal.
- Clarification is sought on whether the development under the Master Plan would involve the potential disturbance or excavation of treated/decontaminated soil and whether further treatment is required prior to disposal or re-use on the affected sites.

This report seeks to address the matters raised by the Department of Planning in order for the Master Plan to progress to the stage of preparing the necessary amendments to the Sydney Regional Environmental Plan 29: Rhodes Peninsula supported by a new Development control Plan with detailed planning controls.

3.3 Next steps

The next steps in the process of implementing the RWMP in relation to the necessary changes to the planning framework, as outlined in the Council's resolution of 8 December 2009 are as follows:

> *"5. That the Department of Planning be requested to review and amend the SREP 29 controls to allow the proposals or Precinct A, B, C and D to proceed, in their amended form, and in accordance with these recommendations;*
>
> *7. That a new Development Control Plan is to be prepared to guide the development of specific proposals in Precincts A, B, C and D to ensure compliance with Council's objectives in terms of minimising car dependency in the area, a range of sustainable development initiatives, and excellence in building design, including areas specifically designed for Go-Get type car schemes. The new DCP will replace the existing Renewing Rhodes DCP".*

Since Council's resolution of 8 December 2009 the City of Canada Bay Council has engaged Architectus to prepare this supplementary planning report and a new Draft DCP, and Professor John Toon to provide urban design advice and peer review the DCP. Council has also engaged Lindsay Taylor Lawyers to provide advice on the necessary amendments to Sydney Regional Environmental Plan 29: Rhodes Peninsula, specifically in relation to the Voluntary Planning Agreement process and the necessary statutory provisions to trigger the uplift in residential densities.

This report provides a progress report on the actions undertaken by the City of Canada Bay Council and their consultants to address items 5 and 7 of Council 8 December 2009 resolution.

Council is to pursue the following community infrastructure through a combination of existing funding under the Rhodes Contributions Framework Plan and additional funds generated by the Voluntary Planning Agreements which are considered necessary for the additional residential population at Rhodes:

- Community centre;
- Public open space;
- Affordable housing;
- Upgrade to Blaxland Road/Leeds Street intersection;
- Right-hand turn from Averill Street to Concord Road;
- Upgrading roads and pathways when construction is complete;
- Full upgrade to the area around the John Whitton Bridge, including stairs and ramps.

Council has resolved to pursue the following community infrastructure through other means:

- New primary school within the Rhodes East area;
- Sustainable energy solutions being offered by Energy Australia and/or Gridex; and
- Pedestrian/cycle bridge from Rhodes West to Homebush Bay West.

Council' report and resolution of 8 December 2009 is provided in full at **Appendix D**.

CBLEP 2008 – Amendment No. 1: Rhodes West

Council's Planning Officers met with the Department of Planning on 2 March 2010 to discuss the process for amending planning controls for Rhodes West. The Department of Planning wrote to Council on 17 March 2010 advising that the preferred process for amending the planning controls would be through the new 'Gateway process' under Part 3 of the *Environmental Planning and Assessment Act 1979* and that Council was requested to submit a planning proposal and a timetable to prepare Amendment No. 1 to the CBLEP 2008. Refer to **Appendix K**.

Council submitted a planning proposal to the Department of Planning on 26 March 2010 which was prepared in accordance with the document *"A Guide to Preparing Planning Proposals"* published by the Department of Planning in July 2009.

Urban design review process

Since Council's 8 December 2009 resolution, Council's urban design consultant John Toon and Architectus have meet with the major landowners and developers of Precincts B and C on four (4) occasions and with the Precinct A landowner on one (1) occasion to investigate further options and refinements to the RWMP. The objective of the workshops has been for Council and their consultants to discuss and implement through design new agreed planning and urban design principles, to understand the landowner's objectives, and to provide feedback with a view to finalising a preferred Urban Design framework for the new DCP.

Development Control Plan (DCP)

A new DCP is currently being prepared which will provide a new urban design framework of open spaces, roads, pedestrian pathways and built form. Much of the existing DCP remains relevant to the future development of the remaining parcels however additional controls will aim to achieve Council's core objectives of design excellence, sustainability and amenity considerations for future development.

4 Metropolitan Planning context

4.1 Introduction

The Department of Planning has requested that the City of Canada Bay demonstrates how the RWMP is consistent with the following plans that provide a metropolitan planning context to the Rhodes Master Plan:

- Sydney Metropolitan Strategy: City of Cities
- Inner West Subregional Strategy

State Environmental Planning Policies, which are relevant to the RWMP, are addressed at **Appendix C** of this report.

The existing local planning framework is addressed in **Section 6** of this report to identify the planning provisions for the necessary amendment to CBLEP 2008 and the Renewing Rhodes Development Control Plan 2000 (RRDCP 2000).

The Metropolitan Planning context sets out the broad strategies and numerical targets for accommodating population and jobs growth to the year 2031. From these broad strategies local Council have been advised by the NSW Government to prepare Environmental Planning Instruments to achieve the strategies and targets of the Metropolitan Strategy and Inner West Subregional Strategy.

The Environmental Planning and Assessment Act 1979 was amended in 2008 to increase the power of the Minister for Planning to appoint a Planning Administrator to carry out the functions of a council. Section 118 of the Act allows the Minister to appoint an administer if a "*council has failed to comply with its obligations under the planning legislation".*

Failure to comply with planning legislation includes a failure to carry into effect or enforce the provisions of a direction under Section 117 of the Act. A Direction has been issued under Section 117(2) of the Environmental Planning and Assessment Act 1979 giving *"legal effect to the vision, land use strategy, policies, outcomes and actions contained in the regional strategies".*

The *Draft Inner West Subregional Strategy* will form part of this direction when it is finally adopted by the State Government. As such the dwelling targets of the draft subregional Strategy must be considered as a mandatory requirement upon the City of Canada Bay Council. In this regard, Council undertook a Housing and Employment Strategy in 2008-09 which sought to determine the location for additional housing and jobs within the Local Government Area.

The timing of the new comprehensive Local Environmental Plan for the City of Canada Bay Council is known to be towards the end of 2011. Critically, the major landowners at Rhodes have indicated they are not prepared to hold back the development on the remaining development parcels, under the existing planning framework until a comprehensive LEP including new development standards for Rhodes is gazetted.

4.2 Sydney Metropolitan Strategy: City of Cities

The new Master Plan for Rhodes will assist in implementing the Metropolitan Strategy which requires efficient use of existing infrastructure and services by accommodating 60-70% of Sydney's growth within existing urban areas.

Rhodes West has long been identified as a suitable place for high density residential and mixed use development supporting a suburban business park. The remediation of the former industrial sites has largely been achieved through the rise in the values of waterfront land and the environmental objective to remove heavy industry from Sydney Harbour foreshore.

The Metropolitan Strategy requires the Inner West Subregion to accommodate 30,000 additional dwellings to the year 2031. The City of Canada Bay component is 10,000 dwellings. The RWMP further supports the Metropolitan Strategy which aims to focus development within existing urban areas on centres and corridors. The additional dwellings will contribute to Council achieving its housing strategy target.

The remaining sites at Rhodes peninsula offer large consolidated landholdings all within 800m of Rhodes Railway Station. High frequency bus services are also available to Rhodes which link the Rhodes community to other Specialised Centres and Town Centres of Burwood,

Epping and Macquarie Park. The remaining sites in Precincts A, B and C at Rhodes form major land holdings within the Specialised Centre. Precinct D are strategically important due to the direct accessibility to the Rhodes railway station, and will be investigated in Stage 2 of the RWMP.

4.3 Draft Inner West Subregional Strategy

The Rhodes Specialised Centre is located within the Inner West Subregion of Sydney. Each subregion of Sydney has a Strategy to accommodate a share of the residential and employment growth in the Metropolitan area.

The Draft Inner West Subregional Strategy was released by the NSW Department of Planning for public comment in August 2008. The Inner West Strategy introduced the following key priorities for Rhodes:

- Identification of Rhodes as a Specialised Centre coupled with Sydney Olympic Park, having a strategic employment role supported by medium and high density housing (Refer to **Figure 7**); and
- Complements Burwood as a Major Centre and Parramatta as a Regional City with commercial offices and employment uses.

Rhodes Peninsula is identified in the Subregional Strategy as being planned under SREP 29, for approximately 50,000m^2 of commercial offices and 40,000m^2 of retail uses. The Metropolitan Development Programme 2007/2008 Data Book provides a total of 4909 dwellings to be built at Rhodes. Refer to **Figure** 6Rhodes Corporate Park provides commercial office space with the national headquarters of a number of major national and international companies including Nestle and Australand.

It is considered that the strategic importance of Rhodes to the metropolitan area in terms of commercial and retail employment uses as a highly accessible urban centre makes Rhodes a desirable place to live and therefore the additional dwellings sought in the Rhodes West Master Plan will enhance Rhodes as a Specialised Centre and support the planning strategies under the Inner West Subregional Strategy.

Rhodes Peninsula will further develop as a mixed use retail, residential and commercial town centre, playing a complementary role to Sydney Olympic Park. The key assets and drivers for Rhodes Specialised Centre are identified in the subregional strategy are:

- Proximity to Parramatta, Concord Hospital and Sydney Olympic Park
- The high amenity waterfront location;
- Transport accessibility provided by:
  - the Northern Railway Line;
  - M4 Concord Road; and
    Homebush Bay Drive the Strategy Bus Corridor 39 (Burwood to Macquarie).

The Inner West subregional Strategy provides a sound basis for determining the location for additional dwellings. The Strategy provides for an increase in housing supply, which is affordable in areas of good public transport access.

Figure 6. Rhodes Specialised Centre
Source: Inner West Subregional Strategy

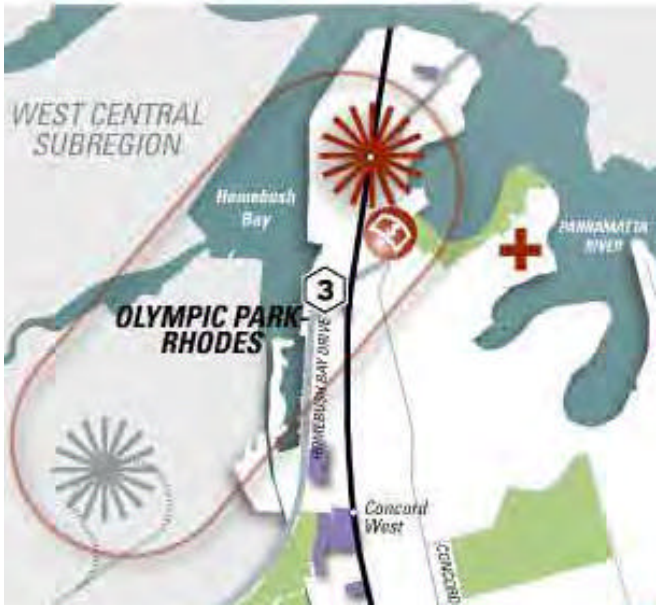

Figure 7. Rhodes and Sydney Olympic Park Precincts
The two precincts provide complementary functions of business parks supported by mixed use and high density residential development.
Source: Inner West Subregional Strategy 2030

4.4 City of Canada Bay Local Planning Strategy

The City of Canada Bay prepared a Local Planning Strategy in 2009. The purpose of the Local Planning Strategy (LPS) was to provide a framework for future land use planning of the City of Canada Bay to guide the preparation of the new Local Environmental Plan (LEP) and Development Control Plan (DCP). The Draft LPS was required to ensure that the Metropolitan Strategy for Sydney and the draft Inner West Subregional Strategy are implemented.

The LPS identified the location for additional housing to meet the residential dwelling demands consistent with the principles for housing location under the Metropolitan Strategy and Inner West Subregional Strategy.

In relation to Rhodes Peninsula, the LPS identified that future development will focus on providing a lively mixed-use retail, residential and commercial district, playing a complementary role to Sydney Olympic Park and the creation of a well serviced community that supports the Metropolitan Planning objectives of the Department of Planning.

Council's LDS identified a need to build on the planning framework devised and implemented by the Department of Planning via SREP 29, but also a need to address a number of shortcomings which have emerged in the development of the area, via a review of the existing planning controls, and taking into account current market trends and housing scenarios.

The LPS recommended that such a review gives consideration to the following matters:

- Recognising the need for connectivity to Sydney Olympic Park, especially new facilities proposed to be located in the new town centre (i.e. hospital and tertiary education facility under the Sydney Olympic Park Master Plan 2030) and the proposed Homebush Bay West residential and commercial area proposed by the Department of Planning.
- Recognising the Parramatta River as an important waterway, recreation area and transport corridor.
- Recognising the importance of providing sufficient accessibility to and from the Peninsula especially via pedestrian pathways and cycleways to other public transport options such as buses and ferry, as well as rail and providing people with options to discourage car usage.
- Recognising the need for more open space within the Peninsula and considering increasing building heights to obtain more open space at ground level.
- Recognising that the precinct needs a high quality community facility which will function as the centre of the community life on the Peninsula, meeting a range of purposes and functions within walking distance of over 12,000 residents.
- Facilitate planning in Rhodes in recognition of its role as a Specialised Centre.
- Rhodes is identified as a Specialised Centre in the Metropolitan Strategy. The Specialised Centre performs a vital economic and employment role which generates metropolitan wide benefits. Also, the Rhodes Peninsula will accommodate nearly half of all housing and employment growth in Canada Bay to 2031. It is important to ensure

planning for this area is coordinated in line with this growth.

To achieve these objectives, a series of strategies and associated actions are recommended in the LPS. The relevant objectives and actions are discussed as follows below:

Objective S8

- Facilitate planning in Rhodes in recognition of its role as a Specialised Centre.

Action S19: Integrate SREP 29 into Canada Bay LEP

- The existing controls contained within the SREP will be integrated into the LEP using compatible controls contained within the standard instrument for LEPs, including zoning, building height and floor space ratios subject to Department of Planning concurrence.

Action S20: Improve accessibility to the Peninsula

- Improve the accessibility of the Peninsula to other adjoining localities in the City of Canada Bay, especially pedestrian and cycle ways connecting to foreshore reserves and other local and regional open space.

Action S22 Provide a community facility and increased public open space in Rhodes

- Provide for a landmark design, multi-purpose community facility in the centre of the Rhodes Peninsula urban renewal precinct as well as an increase in public open space.

Conclusion

Council's Planning Proposal identifies the necessary amendments to the CBLEP 2008.. Initiatives to improve access to the Peninsula are investigated and the mechanisms for achieving enhanced community facilities and additional public open spaces are achieved through the LEP Amendment, new DCP and future voluntary planning agreements with landowners.

5 Best practice urban design for sustainable centres

5.1 Introduction

This section of the report identifies best practice planning and urban design principles for sustainable urban centres, which are to be used in the preparation of new planning controls for Rhodes. This section also outlines Council's vision and objectives for the remaining development parcels at Rhodes, having regard to Council's adopted policies for residential flat development.

Rhodes Peninsula is a Specialised Centre under the hierarchy of centres introduced in the Sydney Metropolitan Strategy.

5.2 Development controls for urban centres

Regional Cities

A comparison to the key planning controls of the six Regional Cities and other Specialised Centres in Sydney is useful to determine the appropriate scale and intensity of development as well as to determine the types of controls necessary for Rhodes.

The State Government's Cities Taskforce prepared Local Environmental Plans, Development Control Plans and Public Domain Technical Manuals for the six Regional Cities identified in the Sydney Metropolitan Strategy:

- Parramatta
- Liverpool
- Gosford
- Wollongong
- Penrith
- Newcastle

Plans for the six Regional Cities provide a consistent set of planning controls, with variations as to the location of different land uses, street hierarchy and urban structure. The six cities plans provide general controls as well as controls for special character areas within centres. This consistent approach to development controls for urban centres may result in an overly uniform built form and public domain without regard to local character.

The planning of Specialised Centres such as Rhodes Peninsula provides an opportunity to introduce a greater variety of building forms in height, scale and massing to create interesting streets and public spaces, which are unique to Rhodes and contribute to meaningful place making. Input from urban design consultants during the preparation of the new planning framework including a DCP, provides an opportunity to craft site-specific solutions for the remaining development parcels.

Table 7 provides a comparison between of the key planning controls for four of the six Regional Cities in the Sydney Metropolitan Area, as well as the Specialised centres of Sydney Olympic Park, Macquarie Park and St Leonard's centres with the Rhodes Master Plan 2009. This comparison is a guide to the preparation of new controls for Rhodes in terms of building height, and floor space ratio.

Specialised Centres

Consideration was given to the planning controls of Sydney Olympic Park and St Leonard's in the formulation of the Rhodes Master Plan 2009 and presented in the report prepared by Architectus titled: Floor Space Review Submission dated March 2009.

The recently adopted Sydney Olympic Park Master Plan 2030 provides a framework for developing the former Olympic Precinct into a Specialised Centre with a mixed use and commercial office core and surrounding high density residential precincts. Building height controls permit tower buildings up to 30 storeys (90 m) along Australia Avenue and Olympic Boulevarde and floor space ratios (FSRs) of up to 6:1.

Macquarie Park, within Ryde Local Government Area is a Specialised Centre with predominantly commercial offices surrounded by medium

densities precincts. Building heights under the Draft Ryde LEP 2008 provides building heights of up to 12 storeys and floor space ratios (FSRs) of up to 3:1 in the commercial core areas surrounding the Lane Cove Road railway station. Ryde Council has prepared Draft Amendment No. 1 to the Draft Ryde LEP 2008, which proposes building heights up to 18 stories at the Lane Cove Road Railway station.

St Leonards Specialised Centre straddles three (3) LGAs, Willoughby, Lane Cove and North Sydney.

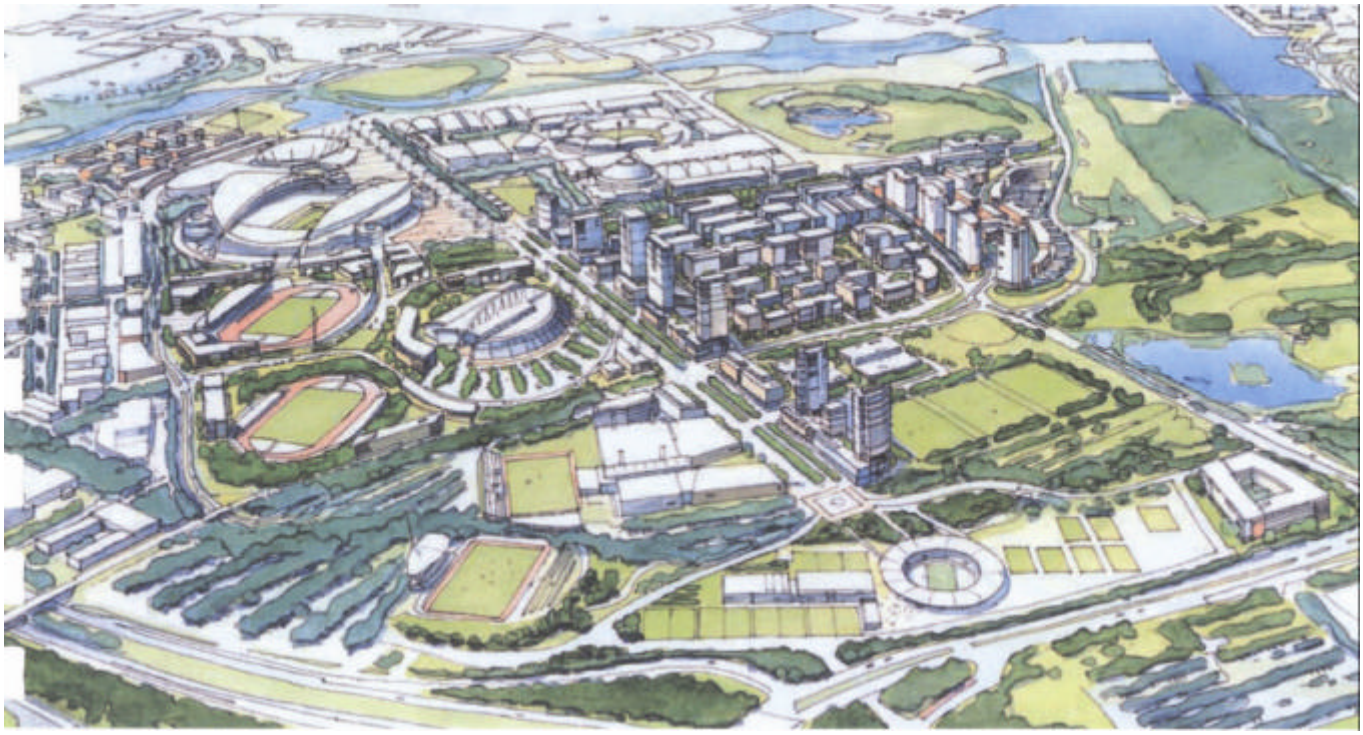

Figure 8. Artist's impression of aerial view of Sydney Olympic Park
(Source: Sydney Olympic Park Master Plan 2030)

Table 7. Key planning controls for Regional Cities and Specialised Centres

Urban Centre	Building height standard		FSR standard	
	Core	Surrounding area	Core	Surrounding area
Regional Cities				
Parramatta	60m -200m	7m - 54m	6:1 - 10:1	3:1 - 4.2:1
Liverpool	45m -100m	8.5m - 54m	3:1 - 5:1	1.5 - 2.5:1
Penrith	24m - 80m	8m - 20m	3:1 - 5:1	1.5 - 2.5:1
Newcastle	35m - 90m	10m - 24m	3:1 - 8:1	1:1 - 2.5:1
Specialised Centres				
Sydney Olympic Park	30m - 122m	15m - 29m	3:1 - 6:1	2:1 - 3.5:1
Rhodes	10-12 storeys	4-8 storeys	3:1 – 3.5:1	1.8 – 3:1

Comment

Sydney is a polycentric city with a hierarchy of centres formulated under the metropolitan planning framework, discussed in Section 4 of this report. Residential densities range across the region depending on proximity of land to urban centres, employment and retail uses, transport and social infrastructure including educational and medical facilities.

Densities in urban centres range up to 10:1 in the core areas of Parramatta. In centres with comparable public transport access and access to social services and employment to Rhodes, including Sydney Olympic Park densities from 3:1 to 6:1 FSR in core areas.

The density proposed in the RWMP is not inconsistent with similar urban centres in the Sydney metropolitan region.

Building heights define the identity of urban centres within Sydney metropolitan region. The existing planning framework at Rhodes has resulted in buildings with higher site coverage and less public open space. Building heights up to 25 storeys (80-90 m) at Rhodes will be comparable with the height of buildings at the Sydney Olympic Park Specialised Centre along Australia Avenue (90 m) and Olympic Boulevarde (120 m).

5.3 City of Canada Bay Council vision and objectives

The City of Canada Bay Council has adopted a new vision for Rhodes Peninsula, which will deliver, in part, the State Government's residential housing targets in the short to medium term.

The new vision for Rhodes is for a vibrant mixed use town centre. Development within the town centre is to be supported by new community destinations that can make Rhodes a unique waterfront urban centre well connected with public transport choices and high quality streets, pathways and cycleways for future residents. Council's vision builds on the existing planning framework.

Design excellence, amenity and sustainability are to be the foundations of the new planning provisions that will apply to the remaining development at Rhodes Peninsula.

This section of the report describes how Council's objectives for design excellence, amenity and sustainability can be implemented through the new development control plan for the remaining development at Rhodes which will build on the existing planning framework. **Section 6** of the report identifies the elements of the existing planning framework that have successfully been implemented and should be carried forward into the new planning provisions. Additional planning controls are necessary to manage the achievement of design excellence, sustainability and amenity for the remaining development areas.

On the 7 April 2009, the City of Canada Bay Council resolved to adopt a policy to improve the social and environmental amenity of multi dwelling residential buildings.

Council's policy was adopted to incorporate new provisions into its Development Control Plans and Local Environmental Plans applying to Residential Flat Buildings (Part 6 – City of Canada Bay DCP and CCBC LEP 2008). The purpose of upgrading the provisions is to deliver improved Ecological, Social and Economic outcomes for residents.

Council's policy identified the following key issues that require consideration in the upgrading of its planning provisions related to residential flat buildings:

- The quality of the external appearance of the building its self;
- The quality of the ecological, social and economic outcomes from the design, construction and on-going operation of the building for its residents;
- The quality of the amenity for residents of the building;
- The quality of the amenity of the community as a whole; and
- The quality of community benefit.

Council's policy identifies a number of options to consider in upgrading its planning provisions for residential flat buildings, in relation to social, environmental and economic sustainability:

Social sustainability

- Provide an incentive for developers to provide common areas within residential flat buildings for social, cultural and general community pursuits. The floor space for common areas should be treated as bonus floor space;

Environmental sustainability

- In addition to BASIX compliance, consideration should be given to the following initiatives:
  - Provide discrete natural clothes drying areas;
  - Reduce car parking subject to acceptable alternative transport arrangements;
  - Provision of dedicated affordable housing as a contribution to Council/community; and
  - Provision of recycled water capability and roof water for reuse.

Economic sustainability

- Concentrate residential densities around local shopping and neighbourhood centres to enhance economic viability of businesses within those centres;
- Levy residential flat buildings under Section 94 of the EP&A Act 1979 to contribute to the planning and enhancement of local centres.

Council has requested that the matters raised in its policy for upgrading planning provisions that apply to Residential Flat Development throughout the Local Government Area are to be addressed in the new DCP for Rhodes.

This report addresses how the above policies can be translated into planning controls for Rhodes in terms of design excellence, amenity and sustainability.

5.4 Urban design review process

The following section of the report outlines the progress for preparing new planning controls for Rhodes. The first step in the process has been the commissioning of an urban design review of Rhodes. The intention for the urban design review was to assist in guiding future development proposals under the Master Plan by identifying appropriate urban design and place making principles.

The urban design review by Professor John Toon identified the following observations with the existing built form at Rhodes:

- There is a lack of variety in the housing types at Rhodes;
- There is a uniformity of the residential development which is a function of the controlled building heights, consistent setbacks and screen walls at ground level. As a consequence the streets are uninteresting and devoid of activity. Refer to John Toon's comments on the public domain at **Appendix E**.
- Greater variation in height and setback has the potential to create more interest in the streets and opening up ground floor uses in selected locations has the potential to create activity and visual attraction;

- The height controls appear to be designed to make Rhodes invisible. Some higher buildings would give Rhodes a visible presence and open up views to the river, down-harbour and towards Sydney Olympic Park. A review of height controls is essential for additional floor space is to be accommodated.

The Rhodes DCP has commenced with a series of workshops with the landowners within Precinct A, B, C and D. The individual developers of these areas were requested to prepare options as to how to accommodate the additional floor space, whilst delivering additional public benefits.

The purpose of the urban design review of the development proposals, following the adoption of the Rhodes West Master Plan is to refine the preferred development options with the benefit of additional urban design expertise to achieve Council's objectives for design quality, sustainability and amenity. Following an analysis of options, a preferred option is to be selected to form the basis of a new urban design framework from which to base the preparation of new planning framework with the a new LEP replacing the SREP 29, and a new DCP.

Refinement of preferred urban design framework

The new framework plan is to be prepared from which new development controls are to be written to guide future development at Rhodes. The Framework Plan is to be prepared in consultation with the developers of Precincts A, B and C and with urban design assessment and critique from Professor John Toon and Architectus.

The new urban design framework has identified where improvements can be made to the public and private domain based on place making principles and best practice urban design principles. **Figure 1** and **Figure 2** provides a comparison between the existing urban design framework and the new urban design framework to be introduced in the Rhodes DCP 2000. Further review and testing is necessary to determine the preferred framework plan from which final development controls are to be prepared for the new DCP.

The key refinements introduced in the existing urban design framework are:

- Deletion of streets
- New public open spaces
- New through site pedestrian/cycle links
- Increase in the maximum height of development from 12 storeys to 25 storeys in Precinct A
- Increase in the maximum height of development from 8 storeys to 25 storeys in Precinct B
- Increase in the maximum height of development from 10 storeys to 25 storeys in Precinct C
- Increase in the maximum height of development from 8 storeys to 25 storeys in Precinct D

The introduction of additional publicly accessible open space and through site links and the significant increase in height will require new development standards and controls.

The new framework plan, which is being developed in consultation with Council's planning staff and consultant urban designer will inform the preparation of the new DCP including additional controls to supplement the existing controls which remain relevant to the proposal.

5.5 Urban design and place making objectives and principles

This section of the report describes the objectives and principles which are to be used to develop a new urban design framework for the remaining development parcels at Rhodes. The RWMP consolidated development concepts based on broad urban design principles. Further detailed urban design analysis is underway which will lead to the preparation of a new planning framework to guide future development proposals.

Professor John Toon has been engaged by Council to provide a planning review of Rhodes and has recommended design objectives and principles to be incorporated into the new planning framework. A number of these recommended objectives and principles are outside the scope of the new planning framework for the remaining development lots and have therefore been excluded. The full version of Professor John Toon's report is provided at **Appendix E**. These objectives and principles include:

Objectives

- More focal points need to be established with different levels of activity, and different activities;
- More active recreation spaces need to be created;
- More visual complexity needs to be introduced;
- Streets need to be made more attractive for people to use;
- The waterfront should be more strongly exploited for a range of uses; and made more accessible;
- Rhodes should give a stronger identify to enable it to achieve its wider metropolitan potential, particularly for employment generating activities;
- Views towards and from Rhodes would be given greater emphasis – (consider, for example, the inadequate visual appearance of the development when seen from the waters and foreshore areas of Homebush Bay and Parramatta River); and
- The curved shape of Shoreline Drive should be exploited by the associated built form to create a visually interesting street.

Principles

- Eliminate proposed northern extension of Marquet Street between Gauthorpe Street and Shoreline Avenue (not necessary in traffic terms) and convert to parkland;
- Establish waterfront activity centre incorporating community centre, cafes and restaurants, a mini-mart, a jetty and an observation tower similar in design and height to the one in Bicentennial Park;
- Establish street level plaza plus commercial uses adjacent to railway

station;

- Establish local centre at mid-level to capture views towards the bay;
- Establish street level plaza plus commercial uses adjacent to railway station;
- Establish large playing field at Shoreline Avenue;
- Explore options for ferry wharf;
- Generally aim to 'cluster' towers. Towers to be setback from Walker Street with some intervening development to maintain the street wall effect but discontinuous;
- Towers to be 'staggered' to avoid any notion of a row of buildings and varied in height. Towers ranging in height for 15, 20 and 25 floors with highest located so as to contain shadows within Rhodes Peninsula;
- Curved forms are preferred;
- Central park in Precinct B to be defined by buildings with curved ends and diagonal view from the railway to Homebush Bay maintained;
- Small square line with shops at the bay side end of Gauthorpe Street with an outlook tower as in Bicentennial Park on the axis of the street. Consideration given to the Newcastle Waterfront Plan for this area of Rhodes;
- Introduce diagonal views off Walker Street with views from elevated positions in the public domain are very important and should be captured wherever possible and used (for cafes);
- Railway station is a natural focus for local services and shops and should be reinforced.

The objectives and principles are to be translated into amendments to SREP 29: Rhodes Peninsula and a new development control plan, where they can feasibly be accommodated.

5.6 Design Excellence

Council has identified design excellence as a key policy objective to guide the remaining development at Rhodes. The Rhodes West Master Pan 2030, which was adopted by the City of Canada Bay Council (Stage 1 – Precinct A, B and C), envisages buildings up to 25 storeys in height surrounding new public spaces. This represents a significant change in the skyline and streetscape character of Rhodes. The quality of the external appearance of buildings, streetscapes and public domain areas will need to be controlled to achieve design excellence.

The emergence of Rhodes as a Specialised Centre with Sydney Olympic Park should be identified by high quality architecture and urban design. Tower buildings will act as a visual marker which defines Rhodes as a Specialised Centre.

The proximity of Rhodes to the Parramatta River and Homebush Bay water front, will mean that buildings will be highly visible from many vantage points in Sydney. There are multiple centres throughout Sydney which are visibly marked by tall buildings. The skylines of Central Sydney, North Sydney, St Leonards and Chatswood are visually distinct in the eastern region of Sydney and Sydney Olympic Park and Parramatta in the western are defined by tower buildings in the western region.

Council's 7 April 2009 resolution states that:

> *"The quality of the external appearance of the building will be a primary driver of how the building and the surrounding community is judged".*

In order to achieve design excellence in future development the new DCP is to introduce controls to achieve the following objectives:

- High quality public domain;
- High quality "slimline" tower building designs;
- Human scale with active street frontages; and
- High quality architectural design through composition and modulation of buildings facades.

The way a building performs environmentally is also linked to design excellence, through the internal amenity of buildings as well as the way buildings facades are treated to control heating loads. The orientation of buildings will need to have regard to heat gains particularly from the west. Further discussions of ESD performance in building design and construction as well as amenity is provided in the following sections of this report.

Urban design analysis by Professor John Toon has looked at the results of the existing planning framework in completed developments and identified where changes are necessary to introduce best practice urban design and sustainable built form and public domain for the remaining development parcels.

Consideration is given below to the changes to the existing planning framework, and identifies how best to control these changes to achieve Council's objectives for design excellence. The primary elements of the RWMP that need to be given further detailed consideration are:

- Tower buildings
- Building modulation and facade articulation
- Streetscape character
- Building setbacks
- Design quality and amenity of public open space

These matters are addressed below:

Tower buildings

The introduction of a 25 storey height limit will result in a significant change to the Rhodes skyline. Managing this change is best achieved through the introduction of new development controls in order to achieve high quality building designs which will enhance the identity of Rhodes.

Residential tower buildings are residential flat buildings which are vertically proportioned and have a limited number of dwellings arranged around a central core. The floor plates are typically repetitive. In Sydney tower buildings are incorporated into urban centres where higher densities are desirable such as within an urban centre with subregional or regional retail and commercial functions served by high frequency public transport. Tower buildings are used to reinforce a regional urban centre structure and to visually define the importance of a place within that structure.

The NSW Residential Flat Design Code 2002 (NSW RFDC 2002) suggests tower buildings are best used when:

- *"the existing context is an urban area;*
- *Higher density housing is desired;*
- *The existing context has towers, such as a central business district or a town centre.*
- *Use of towers should reinforce a regional urban form strategy;*
- *A strong urban form is desired, for example, reinforcing an important precinct, or defining an edge; and*
- *Mixed use is desired;*
- *Lower levels are generally suited to retail, commercial or community uses".*

Sound urban design practice should consider the following principles for the siting, orientation, location, form, and height of tower buildings:

- Height should consider overshadowing of neighbouring sites, the streets and open space;
- The length and depth of tower buildings should make provision for residential amenity in terms of adequate solar access and ventilation;
- Avoid overly long tower buildings that create a high wall to the street;
- Wind conditions should be considered to avoid wind impacts on pedestrians and neighbouring properties;
- Buildings with frontages to streets should have a human scale to minimum the over bearing impact of the tower form; and
- Ground floor levels should be designed with active uses on the street along the street.

In urban renewal areas such as Rhodes where large sites remain to be developed, tower buildings can create a strong urban form to reinforce edges, terminate vistas or define important street corners.

Tower buildings can be used in perimeter block building types, to define a corner within the block, setback from and above a street wall building or can be stand alone buildings, either with or without podiums. Site specific conditions, and the desirable streetscape character should determine the appropriate location for taller buildings in urban centres.

Tower buildings can contribute to a visually interesting skyline if the buildings are of high architectural quality. High quality architectural design is critical to the acceptance of development at Rhodes. The remaining sites are located between the ridgeline and waterfront peninsula locations and tower buildings and will be highly visible.

New development controls for tower buildings are to be prepared based on the following objectives:

- Towers buildings are to be of the highest architectural quality and finish;
- Towers and tall buildings are to be located to reinforce the urban structure and street hierocracy;
- The location, orientation and form of towers are to address overshadowing, impact on neighbouring buildings, public and private open space;

- Tower buildings greater than 8 storeys are to be slender and "slim line" in design;
- Tower buildings more than 8 storeys are to have limited floor plate sizes to achieve a slender and slim line design;
- Architectural roof features on tower buildings are to be integrated into the overall building design, screen roof plant and of a scale to have a minimal overshadowing impact on neighbouring properties and open spaces.

These objectives are described in further detail below.

Architectural design input

The highly visible nature of tower buildings at Rhodes will mean the quality of the overall design as well as the detailed construction is important. Therefore it will be important for qualified and highly skilled architects to maintain an involvement in these projects through the completion of the construction.

Location of tower buildings

Tower buildings are best located to define an important street edge, or corner. One concern raised with the perimeter block building type that predominates Rhodes, is the quality of the internal courtyard open space which is private as well as the repetitive street character of buildings drawn close to the street with little street front landscaping.

In some locations on the remaining development lots, it may be appropriate to use slender tower buildings with limited floor plate sizes to break up the homogeneity of street edge building to provide interest in the street.

The orientation of tower buildings is to have regard to the desired street character, pedestrian amenity, wind impacts on pedestrians and overshadowing impacts on neighbouring properties.

Adequate separation distance is required between tower buildings to ensure tower buildings read as slender buildings from distant views and to avoid a high wall of buildings. Generally, shadows from tower buildings with limited floor plate sizes and adequate separation distances can avoid creating a wall of shadow falling on neighbouring properties. Also, views and visual privacy for apartments in tower buildings can be optimised.

Slender and slim line design

Given the high visibility of this waterfront location, tower buildings can have a landmark effect on the Rhodes skyline. Buildings up to 25 storeys in height will be seen in the round from various vantage points and as such the new DCP will require buildings to display a slimline appearance. Tower buildings which are slender or slimline can exhibit less bulk, have shorter term overshadowing impacts and can appear as sculptural elements on the skyline providing visual interest. The height to width proportions with vertical emphasis, floor plate size and length of buildings facing significant views are all elements of a tower building that influences the bulk of a building and its achievement of a slim line form.
Slender and slimline buildings display an emphasis on the vertical and are taller than they are wide. To appear slim a tower building needs to have a

height to width ratio of any building orientation greater than 2:1. Preferably, the height to width ratio of the tower building is greater than 2.2:1.

A vertical emphasis can also be achieved in the design of a building's facades. Including vertical elements in the design of the building facades in favour of horizontal elements will assist to emphasis the vertical and hence slimline appearance of tower buildings. As mentioned in relation to the siting, location and orientation of tower buildings, it is important to consider the length and depth of buildings, having regard to potential overshadowing impacts.

In this regard it is recommended that the following controls be introduced at Rhodes:

- Residential floor plates (excluding balconies) are not to exceed 800m^2 GFA for buildings above 8 storeys in height;
- The maximum length of a tower building above 8 storeys and with a predominant north-south alignment/orientation is 40m (excluding balconies);
- Building depth is to be generally consistent with SEPP 65 and the NSW Residential Flat Design Code 2002. In tower buildings with units arranged around a central core it may be appropriate to allow additional depth provided the development achieves the maximum height to width proportions to achieve a vertical emphasis and natural ventilation can be adequately demonstrated.
- Tower buildings more than 12 storeys in height should be adequately separated from other tower buildings by a minimum of 40m.

Architectural roof features

Architectural roof features can add visual interest to the new skyline at Rhodes. It is considered appropriate to allow roof features to exceed the maximum height limit for the site. This is permitted in the regional Cities of Sydney including Parramatta, Liverpool, and Penrith for buildings greater than 12 storeys in height. For consistency, architectural roof features:

- Comprise decorative elements;
- Should not incorporate advertising;
- Do not include floor space or able to be converted to floor space; and
- Will have minimum overshadowing impacts on public open space areas and neighbouring properties.

Building modulation and facade articulation

The architectural appearance of buildings in the remaining development parcels in terms of building massing and façade articulation must enhance the public domain. The new DCP will adopt the following principles:

- Street blocks are to consist of a group of buildings differentiated by massing, façade articulation, window treatment, balcony design and architectural character. Single architectural expressions for large development sites (greater than 5,000m^2) are to be avoided.
- Building façade articulation and use of materials along street frontages to achieve a human scale so as not to overly dominate the

street;
- Incorporate vehicle entries into secondary street frontages and minimise the proportion of the facades taken up by these elements; and
- Ensure a variety of high quality materials and finishes are used.

Streetscape character

The urban design review undertaken by Professor John Toon identified concerns with the quality of the public domain and streetscapes at Rhodes. These concerns were as follows:

- The public domain is neat but lacks any stimulating element that might attract greater use.
- The footpaths are empty.
- The foreshore walkway is unused.
- The foreshore children's play area is barely used.
- There is little activity in the streets;
- The small park adjacent to the retail centre is sparsely used, despite being elevated with an attractive outlook over Homebush Bay. The two street cafes are popular, as are the cafes at the Rider Boulevard pedestrian entrance to the retail centre.
- There are no active outdoor recreation areas.
- Overall the excessive 30% of the site area allocated to roads does not yield an adequate public benefit.
- Street tree planting is inconsistent with no indication of a positive design intention; and
- The bay side reserve is well planted but lacks good shade trees and the space is not well articulated to provide more elevated points which might provide more panoramic views over the bay.

The RWMP proposes a new urban design framework. Refinements to this framework are currently being developed to guide the preparation of a new DCP. The framework makes a number of changes to the existing and approved public domain network of streets and open spaces. These refinements have been described elsewhere this report.

The new DCP for Rhodes is to promote a finer grain of pedestrian connections and additional areas of public open space. It is desirable where retail economics permits to activate these new spaces with ground level uses to promote pleasant pedestrian experiences. Active frontages can include but not limited to retail and commercial uses including cafés, restaurants, home based businesses and maisonette type apartments with street entries (suitable for small business on the ground floor level and dwelling above).

Views from streets and open space areas to the water should be optimised. This is a water front location and in order to optimise the value of the water front, views from as many locations in the public domain should be enhanced through the appropriate siting and heights of buildings.

Where appropriate to define entries to precincts and sites and along mixed use street frontages with retail and commercial activation, awnings are appropriate to provide weather protection and to minimise wind impacts on pedestrians. Also awnings may be required for tower buildings to mitigate the impact of wind.

The new DCP is to include new controls and specifications for public domain embellishment to Council's standards. Council's landscape, planning and engineering departments are to provide input into the new controls and specifications which will update the public domain technical manual in the RRDCP 2000.

Building setbacks

Building setbacks mark the edges of a building in relation to street boundaries. Setbacks are measured from the boundary line to the main external face of the building.

Controls for setbacks should maintain and create the desired character and positively influence the experience of people using the street.

The NSW Residential Flat Design Code 2002 states that:

> *"Setbacks ensure that residential developments maintain or improve the quality of streets and public streets adjoining them".*

The existing building setback controls under the Rhodes DCP 2000 are as follows:

Table 8. Existing building setback requirements

Street setback	Required
Foreshore setback	3-10m 3m for buildings <18m wide
Primary Street (Walker Street)	3 m for street wall of 2 to 4 storeys. 5 m above street wall.
Walker Street, Urban Street and Mangrove Streets (generally the mixed use zones)	3 m for street wall of 2 to 4 storeys. 5 m above street wall.
Secondary Streets	3 m min 5 m preferred

The approach to building setback controls in the RRDCP 2000 provides a strong street definition with generally uniform setbacks. This approach of aligning buildings with streets has created an urban character along primary as well as secondary streets.

Building setbacks for the areas developed under SREP 29 have resulted in an overly homogenous urban environment, with buildings drawn close to the street with a repetitive sameness providing little space for landscaping, which would otherwise assist in softening the appearance of building facades. The perimeter block housing type, employed throughout Rhodes provides common courtyard spaces for private use, but typically they are heavily overlooked, occupied largely by access pathways and other hard elements, and poor amenity.

It is acknowledged that street setbacks have achieved a desirable street character in some locations such as in the mixed use zone along Walker Street and Rider Boulevard. Also the foreshore setbacks are more generous, and provide a comfortable scale and a desirable landscaped

character to this water front location. However it is felt that the area would benefit by greater variety.

East-west streets provide views from Walker Street (ridgeline) towards Homebush Bay. In many cases these view corridors are constrained and walled in by buildings drawn close to the streets. Under the existing RRDCP 2000 building setbacks to secondary streets are preferred to be 5 m with a minimum of 3 m. The current DCP allows balconies may encroach in the main building setback line for a maximum of 50% of the length of the site. In appears that some buildings at Rhodes have balconies that extend beyond the main building line for more than 50% of the length of the site. In some buildings the overuse of shutters for solar protection has extended the feeling that the building is crowding the public view corridor. In some locations this has resulted in an undesirable visual dominance of building over the public domain.

The new framework plan that is currently being prepared by Architectus on behalf of the City of Canada Bay is to be based on the desired streetscape character for streets which interface with the remaining development parcels. The objective is to create more varied and interesting streets.

The new DCP controls are to identify building setbacks of buildings from streets, and the accommodation of private landscaping for ground floor level courtyard apartments. Building setbacks for the remaining development parcels are to be based on the following principles:

- Reinforce the street hierarchy;
- Achieve a clear definition between public street and private dwelling;
- Achieve an efficient use of open space between the building and the street by designing for:
  - Visual privacy
  - Quality entry space
  - Surveillance over the street
  - Soft landscaping balanced with the requirement for entries to ground level units
- Enhance east-west views from Walker Street to Homebush Bay with greater building setbacks along secondary streets than required by the RRDCP 2000.
- Increase building setbacks from secondary streets.
- Increase building setbacks where tower buildings address streets.

In order to promote high quality streetscapes the new DCP is to introduce development controls for minimum building setbacks in order to achieve the desirable streetscape character for the remaining development lots:

- **Walker Street**: Walker Street setbacks are currently 3 m for 2-4 storeys in height and 5 m above the street wall to the top of the building. It is desirable to maintain the existing minimum street setback control along Walker Street to continue the street wall building alignment for buildings with podium elements. Greater setbacks are to be introduced for buildings above 8 storeys in height to minimise impacts of the towers on the street.
- **Shoreline Avenue**: maintain the existing minimum street setback control. Greater setbacks may be introduced depending on the final location for tower buildings to be defined in the new urban design framework plan.

- **Secondary streets**: the minimum setback from a secondary street setback is required to be 5-6 m. The new control adds a further 2-3 m to the current RRDCP 2000 setbacks in order to enhance views to the water along east-west streets and to provide greater amenity and usability for ground level courtyards.

5.7 Amenity

The amenity of residents living in the buildings as well as the community as a whole are key concerns for the City of Canada Bay Council. Residential amenity in apartments is influenced by many factors including, but not limited to:

- Visual privacy;
- Acoustic privacy;
- Thermal comfort;
- Natural airflow and ventilation;
- Sunlight access;
- Adequacy of storage areas;
- Living room and bedroom size;
- Views and aspect;
- Kitchen ventilation;
- Depth and overall size of private open space;
- Interface between public and private domain;
- Floor to ceiling height; and
- Opportunity to naturally dry washing.

The RRDCP 2000 contains development controls for residential amenity. SEPP 65 and the RFDC includes rules of thumb and design guidelines to promote a high standard of amenity for building occupants. SEPP 65 and the RFDC are mandatory considerations in the assessment of all residential flat development in NSW.

From a review of the Rhodes DCP 2000 it was noted that the controls for residential amenity in terms of sunlight access and natural cross ventilation are more onerous than the SEPP 65 and the NSW Residential Flat Design Code 2002. SEPP 65 and the RFDC will continue to apply to future development at Rhodes. It will be important that there is consistency at Rhodes and therefore SEPP 65 is to apply to future development proposals.

The amenity of common areas in residential flat developments is influenced by many factors including, but not limited to:

- Areas set aside for communal meetings and functions within the buildings such as a community rooms;
- The quality of the common open space within a development;
- The location of building entries;
- The safety and security of the building's common areas;
- Outlook, views, natural light and air into common corridor areas within buildings and external common open space areas; and
- Legibility of building entries from streets.

The amenity of the community as a whole is influenced by many factors including:

- Quality public open spaces with shaded areas, seating and areas

for children to actively play with adequate lighting to promote their safe and comfortable use;
- Pleasant streets and pedestrian pathways which are direct, convenient highly accessible for disabled, aged persons and prams and provide a clear sense of way finding; and
- Active street edges which are human in scale and have appropriate ground floor thresholds from public streets for public access as well as privacy for ground floor occupants.

The amenity of existing and new public domain areas are influenced by the amount of sunlight access and overshadowing impacts and the wind environment. Potential impacts on the amenity of public domain areas are provided as follows:

Solar access and overshadowing impacts

Shadow diagrams were prepared for the RWMP exhibition illustrating the shadowing impacts of the proposed developments at midwinter, midsummer and the equinoxes. The Council resolved to reduce the height of the tower buildings to a maximum height of 25 storeys along Walker Street and 15 storeys at the corner of Marquet Street and Gauthorpe Street. Additional shadow diagrams were prepared and presented to Council prior to their 8 December 2009 resolution showing the effect of reducing the building heights to a maximum of 25 storeys along Walker Street and 15 storeys at the corner of Marquet Street and Gauthorpe Street. The shadow analysis was for Precinct B and C. The Precinct A shadow analysis is to be included in the new DCP, but it is expected that this building will maintain acceptable levels of sunlight access to adjacent residential areas given the north-south orientation of the tower and that commercial land uses are located to the east of the railway line adjacent this the Lot 62, Precinct A site. Refer to **Figure 9** to **Figure 13**. The shadow diagrams are reproduced at A3 at **Appendix I**.

The built form proposals for Precinct B and C have created new local parks by deleting some secondary streets and moving buildings. Opening up development parcels and providing wide street frontages to open space areas allows greater solar access to open spaces and streets. The location of tower buildings are generally arranged along Walker Street. The urban design review process, which is currently underway for the new DCP provides a more detailed analysis to determine the most appropriate tower locations. Consideration is being given to moving one of the 25 storey towers westward towards Shoreline Avenue, reducing the heights of some of the buildings in Precinct B whilst introducing a 20 storey building on Shoreline Avenue. These changes maintain the same floor space area.

The new DCP is to provide controls for limiting the length, depth and floor plate size of buildings. Buildings are to generally have a north-south orientation to minimise overshadowing impacts on open space areas and existing residential areas. It is noted that shadows from tower buildings that generally have a north-south orientation and are limited to a maximum floor plate size of 800m^2 (excluding balconies) are cast over adjoining properties and public domain areas for shorter periods when compared to shorter buildings which have a higher site coverage.

The urban design review process in the preparation of the new DCP has considered potential overshadowing impacts of tower buildings in their location and orientation with the objective of maintaining adequate sunlight access to public domain areas, and new private residential areas. The DCP is to define the minimum sunlight access requirements for public and private domain areas.

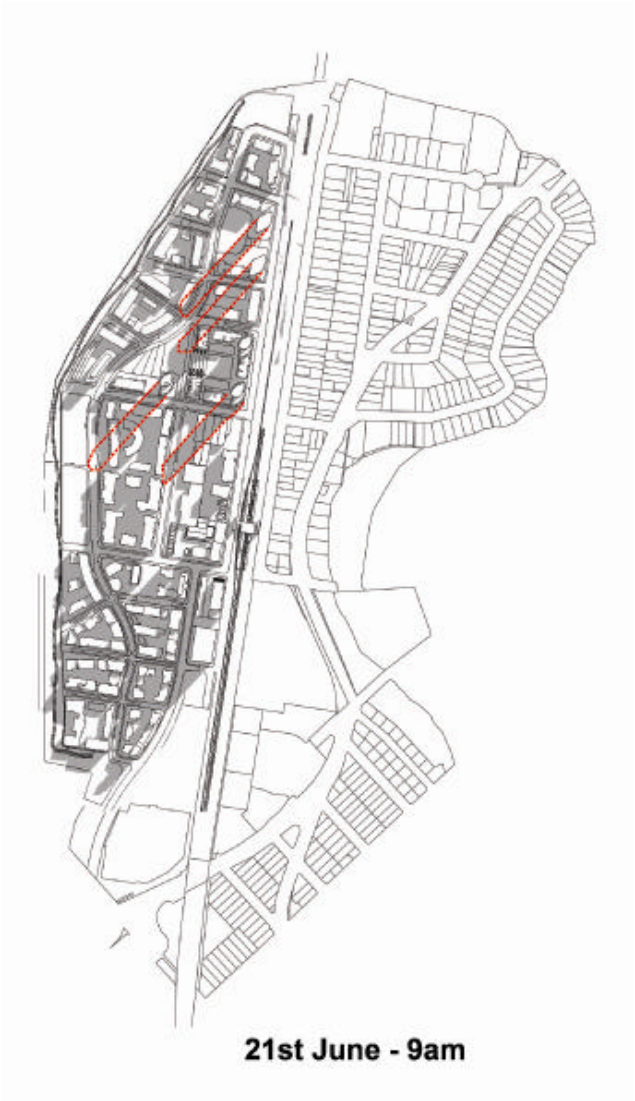

Figure 9. Shadow diagram June 21 9.00am

Figure 10. Shadow diagram June 21 12.00am

Figure 11. Shadow diagram June 21 1.00pm

Figure 12. Shadow diagram June 21 2.00pm

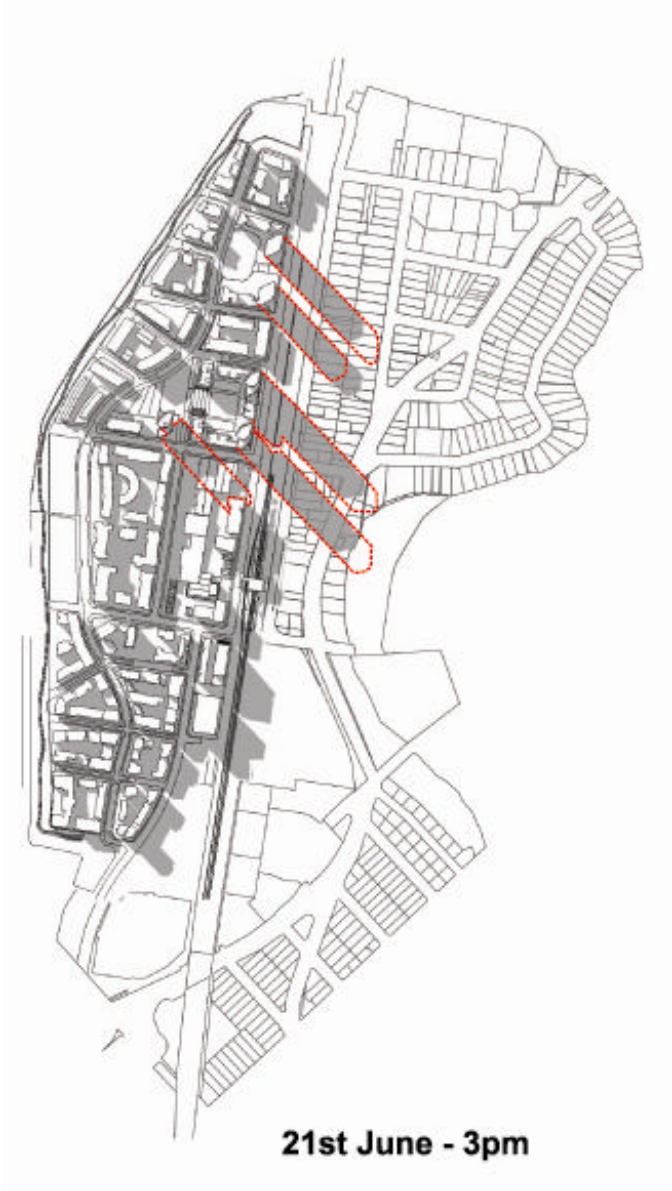

Figure 13. Shadow diagram June 3.00pm

Wind impacts

The wind impacts from the development are to be carefully considered in formulating the urban design framework for the new DCP. Special attention is to be given to tower buildings and the setbacks from public streets, pedestrian pathways and open space areas. New developments will be required to satisfy nominated wind standards and to maintain comfortable conditions for pedestrians. Generally, tower buildings should be setback from streets behind the main street alignment of buildings to protect pedestrians from down drafts at the base of the towers. Awnings may also be used to mitigate wind impacts where taller buildings align to the street.

Wind impact assessments are to be submitted with development proposals for buildings above 8 storeys in height and shall include the results of wind tunnel testing to demonstrate that specific wind speed criteria are met to maintain pedestrian amenity.

Cooling breezes should be encouraged into public and common open space areas. The new DCP will require that buildings are to be adequately separated to allow cooling breezes to penetrate between buildings to low-rise buildings and open spaces.

Reflectivity

The new DCP is to include controls on the maximum reflectivity of external building materials and finishes to avoid glare impacts on motorists and pedestrians. As a general rule, that have more than 20% reflectivity can cause glare impacts.

Views and view corridors

The existing urban design framework for Rhodes provides narrow view corridors from the ridgeline to the waterfront along east-west streets.

Existing view corridors are maintained and enhanced in the RWMP with greater emphasis on the east-west streets with deeper building setbacks to secondary streets. New vistas are to be achieved across open spaces to align with existing view corridors.

Buildings are to be aligned to maximise and frame view corridors between buildings. Elevated locations in the new local parks are to promote views to the water front, and pedestrian pathways through the new parks are to align with view corridors.

Conclusions

The new urban design framework is to promote a high level of amenity for future residents, by opening up development blocks with open space areas created which are publicly accessible and have frontages to streets. The amenity of residents is to be achieved through the continued application of RRDCP 2000 controls, as supplemented by the current review.

5.8 Ecologically Sustainable Development

Introduction

The City of Canada Bay Council has identified a need for greater consideration to the principles of ecologically sustainable development in future development in the LGA including Rhodes, and including social, environmental and economic sustainability. In considering what sustainable development initiatives are suitable for Rhodes, it is important to consider what measures are already in place under the existing regulatory framework.

This section of the report identifies the initiatives that are to be given further consideration in the preparation of the new planning controls for Rhodes.

Developer proposals

The developers of Precinct A, B and C were asked by Council to provide feedback on ESD initiatives they are seeking to have considered as part of future development proposals and Voluntary Planning Agreements. Developments in Precincts D should similarly be required to achieve a high standard of ESD performance.

Precinct A – Mirvac (Lot 62)

Social sustainability initiatives employed by Mirvac in the design for Site 6A include the following:

- Broad mix of accommodation types (i.e. studio, 1 bed, 2 bed, 3 bed units) to provide a diversity of socio-economic groups in Rhodes; and
- Community room/function space to be provided within the development

A range of **energy based sustainability initiatives** will be implemented including the following:

- Meeting BASIX requirements;
- Gas water heating, including ring main insulation;
- High efficiency lighting throughout;
- Natural lighting and ventilation to lobby areas;
- Maximising cross ventilation to apartments;
- 4.5-6 star efficient air conditioning;
- Water efficient fittings to exceed performance of industry standards
- 75% recycling of waste during the construction savings;
- Low VOC content in paints, adhesives and carpets; and
- All timber to be from sustainably harvested sources.

With respect to **minimising car usage**, we confirm the following initiatives:

- The proximity of Lot 62 to the train station was a key factor when Mirvac purchased it and the other Rhodes sites. In
- developing such a site, there is a passive but significant contribution to reducing car usage, in that it places people in close proximity to public transport.
- Providing up to 20% fewer spaces than is permissible by the Rhodes DCP (we note that to reduce this further would potentially lead to problems with on-street parking);
- Provision on-site for a dedicated space to facilitate a car-share operation
- (to be run by the owner's Corp);
- Provision of up to 50% more bicycle parking in the development than is currently required by the Rhodes DCP;
- Provision of publicly accessible bicycle lockers alongside the bicycle way on the eastern side of the development;

Precinct B – Billbergia (Lots 2A and 3A)

- **Solar Cells or PV** - Solar collection modules have been identified as a core ingredient for this project. A large number of panels which are visible from public areas such as on the roof of pavilions in the new local park and on lower rise buildings surrounding the park are proposed to raise environmental awareness. Highly visual areas are planned to showcase this renewable energy saving technology.
- **Solar Hot Water** - Gas boosted Solar Hot Water thermo mixed couplers are sized to offer a balance between using solar heating and natural gas. Solar Vacuum tube technology is utilized where possible as it uses a smaller roof foot print over the conventional flat plate technology, offers higher thermal efficiencies and requires less supporting roof plant.
- **Windows** - Double glazing window components (argon filled). IGU units are selected to allow for the maximum spacing between the glass components. This not only improves the efficiency of the IGU unit but also acts as an added benefit reducing the amount of background noise penetrating the residential dwelling.
- **Water efficient appliances** are specified to reduce water usage such as Dual Flush 4 star toilets, 3 Star shower roses, 6 Star tapware, etc
- **Energy Reduction**
  - Compact fluorescent lights to apartments, gas heating & cooking.
  - 5 Star reverser cycle air-conditioning systems for individual user control.
  - Integrated Building Management System with movement detectors to common area foyers enhanced with compact fluorescent lights.
  - Energy efficient variable speed fans to basement areas.

- **Passive Solar Design / Thermal Mass**
  - Concrete is not only used for structure but to enhance thermal mass within the design.
  - Building elements can be used for shading externally then on the high heat load walls treated with varying walling insulation to ensure heating & cooling efficiencies balance is maintained. This methodology is also applied to the roof and basement levels as required.
- **Eco-Building Products**
  - Preliminary specification of Ecomixcrete a precast panel for wall construction. The panel consists of 40 – 70% recycled material, being polystyrene and wood chips. The product dries like normal concrete and does not place demand on high energy needed to perform autoclaving as in aerated concrete. The panel has other benefits to repel water, encompasses a high level of fire resistance (2 – 4 hours), sound resistance 46 – 60 dB and offers high thermal insulation up to R3.0.

Correspondence from Billbergia confirming these ESD initiatives is provided at **Appendix G**.

Precinct C – Meriton (Lots 101 and 102)

The list of ESD commitments are as follows.

- **Bicycle parking facilities** provided at strategic locations within the site.
- **Extend the bike path** to the bottom of the stairs for residents to access the John Whitton Bridge which leads to Meadowbank trains, ferries and employment.
- **Provide on-street car spaces for a car-share company** to create the opportunity of reducing car ownership dependency.
- **Install grey-water piping** to connect to the Sydney Water recycling system when it is completed.
- **Prepare a Resident Transport Management Plan** document for tenants and purchasers which states the availability of public transport, car parking arrangements, use of car sharing, car pooling opportunities, bicycle parking, use of visitor spaces etc.
- **Compliance with BASIX requirements** which includes amongst other items, efficient lighting systems, water saving devices, energy efficient glazing/ whitegoods and building materials.
- **Provide stormwater retention tanks** in the basement to irrigate private open space areas.
- **Use native plant species** in private and public open space areas that are drought tolerant.
- **Provide an outdoor clothes-line in discrete locations** on private balconies.
- Lobby the Department of Transport to provide a **Sydney Ferry stop** at Rhodes Peninsula.

In additional to the environmental sustainability initiatives listed above, Meriton propose to incorporate social sustainability initiatives as follows:

- **Provision of a community room** for body corporate meetings.
- **Proposal for childcare centre** at ground level.

Correspondence from Meriton confirming these public and ESD initiatives is provided at **Appendix H**.

The following sections of this report address environmental and social sustainability initiatives which are to be investigated in the preparation of the new planning controls for Rhodes.

Environmental Sustainability

Additional environmental sustainability initiatives

Council identified a number of desirable measures to improve sustainability which are additional to BASIX compliance:

- Provide discrete natural clothes drying areas;
- Reduce car parking subject to acceptable alternative transport arrangements;
- Provision of dedicated affordable housing as a contribution to Council/community; and
- Provision of recycled water capability and roof water for reuse.

These matters are addressed below:

Natural drying of clothes

The existing Rhodes DCP 2000 requires that all units are to have areas on balconies for the natural drying of clothes although the requirement has not been achieved on all developments to date. The DCP requires that clothes drying areas on balconies are required to be concealed from view behind balustrades to avoid cluttering of balconies with clothes lines.

In high-rise developments, wind can cause clothes to be blown from balconies and some residents prefer internal dryers to avoid losing clothes in windy conditions. Energy efficient dryers are available and can be considered by developers to meet the BASIX energy efficiency targets.

However, some residents prefer to dry clothes naturally when possible and seek the option of having both dryers and outside drying lines (concealed and retractable).

Wintergardens or enclosed balconies are often preferred in high-ride developments to open balconies and those may be appropriate alternatives to promote the use of clothes racks. It is noted that wintergardens are currently excluded from the floor space calculations at Rhodes for a maximum of 5% of the total floor space area of a development.

Reduce car parking subject to acceptable alternative transport arrangements

The RTA raised concerns that traffic congestion would worsen on Concord Road and Homebush Bay Road, and access to and from Rhodes

will become difficult unless changes are made to the car parking provisions and other forms of transport are encouraged.
It is proposed to introduce new car parking rates for additional development in the new DCP for Rhodes as follows:

1. No additional parking over what is currently available for the retail component;
2. No additional parking over what is currently available for the existing commercial component;
3. A maximum of 1 car space per additional dwelling (irrespective of the size of the dwelling);
4. Potentially, any affordable housing units provided could be without a car space.

Currently street front retail uses are not required to be provided with car parking spaces. Additional commercial floor space is not proposed within Precincts B and C. Affordable housing within Precinct's A and D close to the railway station if proposed could be developed without any car parking spaces due to the close proximity to the railway station.

Further consideration is given to reducing energy used in transportation and reducing dependence on automobiles in the following sections of this report.

Provision of dedicated affordable housing

It is considered that a desirable location for affordable housing is within Precinct A and D which is immediately adjacent the railway station. Affordable housing may be provided by future developers of these precincts in accordance with new planning policies introduced by the State Government relating to the provision of different types of affordable housing.

Provision of recycled water capability and roof water for reuse

Reducing potable water usage is mandated under State Environmental Planning Policy (Building Sustainability Index) 2004: BASIX. All development at Rhodes Peninsula is currently required to achieve a 40% water reduction target when compared to a standard residential flat building with no water efficiency measures.

To achieve these water saving targets, a combination of the following measures have generally been installed into developments:

- Recycled mains water to irrigate landscape areas, supply to laundry, and toilets (upon connection to Olympic Park WRAMS supply);
- Water efficient bath taps, hand wash basins and showerheads;
- Water efficient toilets;
- The diversion of fire sprinkler testing water to storage tanks for reuse; and
- Roof water collected for watering site landscaping and car washing.
- Indigenous and draught tolerant plant species used in site landscaping for low water use.

The implementation of a combination of these measures demonstrates a high level of compliance with the BASIX water efficiency targets. The future connection of the developments to the Olympic Park WRAMS

recycled water system is the most significant contribution to the achievement of the BASIX water efficiency target. This is demonstrated by the example of Site 1B, 40 Walker Street a residential flat development comprising 141 dwellings in Precinct B, which is approved by the Minister for Planning with a 56% (well above the 40% water reduction target). The connection to the WRAMS alternative water supply contributed 20% of the 56% water reduction achieved.

The alternative water supply is to be connected to Rhodes through a dual water pipe system laid in the streets and connected to development sites for landscape irrigation, car washing, to recharge fire sprinkler water and can be used in toilet flushing and laundries for washing clothes. This system will be an extension of an existing alternative water supply that is already recognised by BASIX. The Sydney Olympic Park scheme is currently supplied by sewerage and stormwater from the Sydney Olympic Park precinct and is treated and supplied as a non-potable water source to a number of users in the residential, commercial and recreational sectors. The reticulated water supply is approved for various uses including laundry, toilet flushing and landscape irrigation.

The new DCP cannot dictate to the landowners and developers which water saving measures must be incorporated into the future developments nor can the new DCP be inconsistent with or introduce more onerous water saving targets from BASIX which is a State Environmental Planning Instrument. However, certain initiatives and measures may form part of specific planning agreements between the developers and Council to ensure that Council's environmental sustainability objectives are in fact achieved.

Environmental sustainability at Rhodes will also be achieved through initiatives to minimise the use of finite resources in the areas of:

- Urban structure
- Building design and construction
- Transportation

These components of Ecologically Sustainable Development are addressed below:

Urban Structure

The structure of a city is known to influence the achievement of environmental sustainability. The network of roads and open space influences the walkability of neighbourhoods and urban centres by providing alternative routes to local destinations. These can be achieved by providing an interconnected network of streets and pedestrian links. Generally the existing planning framework attempts to provide connectivity, however the network can be enhanced by provided more emphasis on activity destinations of the community centre, shopping centres and local parks.

The structure of Rhodes can be sustainable through improved connections to areas and facilities adjoining Rhodes such as Meadowbank foreshore, Homebush Bay West foreshore, Sydney Olympic Park Town Centre, Concord parklands such as McIlwaine Reserve, Concord Hospital and Concord West Public School.

Building design and construction

Environmental sustainability in building design and construction is best achieved in terms of energy and water efficiency and waste minimisation during the construction and operational phases of development.

The design of residential flat buildings in NSW is regulated to achieve energy and water (as well as thermal comfort) performance standards through the State Environmental Planning Policy (Building Sustainability Index) 2004. BASIX, as it is known, benchmarks developments against the standard development and sets the following targets for energy and water efficiency and thermal comfort performance. **Table 9** provides a schedule of minimum energy and water efficiency targets for buildings greater than 3 storeys.

Currently there are no incentives for developers to provide ESD initiatives which go beyond the mandatory BASIX targets. Further consideration should be give by Council as to whether incentives is an appropriate or desirable way of promote a higher standard of building energy and water efficiency.

Table 9. BASIX energy and water efficiency targets

Building height	Energy reduction target	Potable water reduction target
3 storeys	20%	40%
4 storeys	25%	40%
5 storeys	30%	40%
6 storeys or greater	40%	40%

Energy efficiency and thermal comfort

Energy efficiency targets are commonly achieved in developments at Rhodes through a combination of the following measures:

- Efficient kitchen and laundry appliances
- Efficient lighting
- Solar and gas boosted hot water heating
- Efficient AC units within units including zoned systems
- Efficient car ventilation systems
- Natural ventilation
- Sun shading of facades (north, east and west elevations) to minimise heat gain and achieve acceptable internal thermal comfort.
- Solar water heating for pools

Further investigations are recommended during the preparation of the new DCP to address the issue of achieving acceptable thermal comfort particularly for the tower buildings. The western orientation of many of the development sites towards Homebush Bay for views to Homebush Bay also means that there is major heat load on the buildings due to the afternoon sun.

Managing this heat load on the western (but also northern and eastern) elevations of the tower buildings will need to have regard to a number of competing issues including, the optimisation of views, natural cross ventilation to avoid reliance on mechanical air conditioning, the desire for vertically proportioned buildings in the façade articulation and use of materials.

Water efficiency

The developments which have been completed at Rhodes demonstrate water efficiency generally greater than the minimum BASIX targets.

The key water efficiency initiative, which is yet to be implemented at Rhodes Peninsula, is the connection of residential developments to the WRAMS system from Sydney Olympic Park. All developments at Rhodes Peninsula are required, through conditions of development consent, to demonstrate that connections can be made to the waste water system at Rhodes. The necessary pipes have been laid in the streets to run the dual water supply (potable and recycled water).

Waste Minimisation

A high standard of waste minimisation is recommended in the construction and operational phases of development.

Construction waste

It is recommended that Council require Applicants to provide construction waste management plans with future development proposals which promote a high standard of waste minimisation. Construction Waste Management Plans are to provide procedures for, but not limited to, the handling and storage of materials; the appropriate packaging of materials, materials separation to promote reuse and litter management on-site.

Operational waste

Applicants should also be required to provide the consent authority with Waste Management Plans for the operational phase of developments.

"Better Practice Guide for Waste Minimisation in Multi-unit Dwellings: High Rise Residential Blocks more than Seven Storeys" published by the NSW Department of Environment, Climate Change and Water (DECC) will be considered in the preparation of operational waste management controls.

Best practice waste management and minimisation measures from published guidelines are to be promoted through the new DCP. In residential high-rise it is preferred that chute systems are installed for garbage from each level of the building that leads to a garbage room in basement levels. Generally, buildings above 7 storeys require compactors.

Common storage rooms for recyclables are recommended on each level of a building to promote recycling as convenient. Also, large recycling products such as cardboard box packaging can obstruct general garbage chutes. From these storage areas, building caretakers can take recyclables to a central storage area in the basement to await collection.

Transportation

It is well-known that energy for transportation can be a major contributor to greenhouse gas emissions and human-induced climate change.

Rhodes is one of the more accessible places outside central Sydney as it is served by high frequency train, bus and ferry services within walking

distance of larger areas of the peninsula.

Professor John Toon has provided urban design comments and offers some suggestions about how to improve access to Rhodes as follows:

- Make provision for a river-cat wharf.
- Providing a combined bicycle/footpath on John Whitton Bridge.
- Install low grade boardwalk connections to the bicentennial pathway system should be investigated.

It is noted that both the cycleway/pedestrian pathway on the John Whitton Bridge and the connections to the Bicentennial pathway system already exist. There is a River-Cat stop at Meadowbank within 1km of the major of residents at Rhodes and is easily accessible. Additional ramps and stairs to the John Whitton Bridge are to be constructed under the existing planning framework to enhance access between Rhodes and Meadowbank.

At the time of writing this report, it is understood that Council is preparing a Master Plan for the area north of Blaxland Road around the southern landing area of John Whitton Bridge. This Master Plan is to include stairs and ramps for pedestrians and cyclists, as well as a new pedestrian a footpath and cycleway connection under the bridge to link to Blaxland Road on the eastern side of the railway line. The area is to be landscaped and well lit to provide amenity for residents.

In preparing recommendations for transport strategies to achieve a reduction in car usage, it is important to have regard to the infrastructure already completed and yet to be completed which falls under the Rhodes Transport Management Plan (TMP) prepared by Halcrow MWT in 2001.

The TMP states that before the redevelopment commenced at Rhodes 70% of people living in Concord LGA (now part of the City of Canada Bay LGA) travelled to work by car with some 20% by train, 3% of travellers to work used the bus and 4% walked to work. For non-journey to work trips from home Concord experienced close to 79% by car with 2% of travellers using the train, 2% the bus and 17% walking and cycling.

Table 10 provides the model share targets adopted in the Rhodes Transport Management Plan (TMP) in 2001.

Table 10. Transport modal share targets
TMP, 2001

	Car	Train	Bus	Walk	Other
Journey to work	55%	24%	10%	10%	1.0%
Retail/ Recreational	61%	9%	5%	20%	5%

When compared with Concord's overall modal choice pattern, the targets represent a shift of some 20% from car borne to non car borne modes for the journey to work and a shift of some 17% for non journey to work trip purposes. These targets were considered to be achievable and realistic by the authors of the TMP for the following reasons:

- Implementation of a restrictive parking policy for Rhodes Peninsula;
- The augmentation of rail and bus services;
- The facilitation of pedestrian/cycle routes to shopping/schools and to the railway station/ and surrounding areas;

- Provision of a diverse mixture of services/shopping/recreational and residential uses;
- Measures to influence travel behaviour of new residents/employees.

Table 11 provides a summary of the TMP infrastructure works with commentary on the delivery of these works to achieve the targeted travel mode share.

Table 11. TMP infrastructure works

TMP infrastructure works	Status
External road works	
1. Intersection of Oulton Avenue and Homebush Bay Drive	Complete
2. Intersection of Concord Road and Homebush Bay Drive	Complete
3. Intersection of Concord Road and Averill Street	Complete
4. Leeds Street to Cavell Avenue to Averill Street	Design stage
5. Traffic Calming to Blaxland and Cavell Avenue	Design stage
6. Existing Bridge from Walker Street to Blaxland Street	Unknown
Internal roadworks	
Distributor connection from Mary Street to Oulton Avenue.	Complete
Rail interface Upgrade railway station including access for the disabled.	Complete
Bus/taxi Interface	Unknown
Bus shelters	Complete Additional bus stops at Planning stage
Foreshore cycleway from Bicentennial Park to John Whitton Bridge	Precinct A complete Precincts B design approved Precinct C under construction
Pedestrian/cycleway links and facilities	
Pedestrian/cycle link from Homebush Bay to John Whitton Bridge	Partially complete
Provide bicycle lockers/parking at Rhodes station	Not provided
Provide a commuter cycle route along Walker Street to link to Rhodes Station	Partially complete
Ensure commercial and retail developments make provision for cycle parking (in line with Council of City of Sydney rates).	Not provided
Stairs/ramps from John Whitton Bridge to foreshore on both northern and southern ends.	Design stage
Lighting of existing cycle/walking route on John Whitton Bridge	Complete
Underpass connection between Digital development site and new retail area	Overpass provided
Overpass connection between Oulton Avenue and reserve behind Killoola Street.	Complete
Studies	
Possible Homebush Bay Bridge	To be pursued through development of Homebush Bay West
Possible Ferry Wharf and Private Ferry Service	Representations made by Developer (Meriton) to Sydney Ferries to pursue new ferry wharf.
Monitor and update TMP	A review of the TMP is recommended.

In addition to the infrastructure works, the Rhodes TMP provided the following transport initiatives:

Parking policy

To help persuade people to travel by non car borne means the following restrictive parking policy was introduced.

Residential

- Minimum 1 space per unit plus 1 visitor space per 10 units;
- Maximum 0.6 spaces per studio
- Maximum 1 space per 1 bedroom unit
- Maximum 1.2 spaces per 2 bedroom unit
- Maximum 1.5 spaces per 3+ bedroom unit

Commercial office

- Maximum parking rate of 1.75 spaces per 100m^2 GFA.

Retail

- Maximum 4 spaces per 100m^2 leasable area
- Employee parking to be charged for
- No parking required for street level retail

Bulky retail

- 2.5 spaces per 100m^2 leasable area
- Employee parking to be charged for to encourage public transport usage.
- Retail parking should have a fee regime discouraging long stay parking.

Travel demand management

The TMP proposed the following travel demand management initiatives:

- Flexibility in start/finish times for employment
- Facilitating walking and cycling for a range of trip purposes
- Encouraging car sharing through incentive/van pooling schemes
- Encouraging trips to be linked for multiple purposes
- Marketing and health programs
- Transport access guides for employees and visitors

The TMP recommended the following strategies to help influence travel demands at Rhodes Peninsula:

- Transport option information in “Welcome Kits” for new residents;
- Transport Access Guides for employees and major facility visitors;
- Transport information seminars early in the life of the development; and
- Possible implementation of individual marketing techniques if required.

The following section of this report identifies the existing and potential additional sustainable transport solutions for Rhodes to cater to the additional population under the Master Plan.

Rail

The northern most point of Rhodes is approximately 800m walking distance along Walker Street to Rhodes Railway Station. The topography has a gradual slope up to the crest along Walker Street from RL 9 AHD to RL 15 AHD at the mid point along Walker Street and is relatively flat the remainder of the distance to the train station. Rhodes Railway Station is part of the City Rail network's Northern line. Rhodes has direct train services to the City in the east and Hornsby in the north. The train service frequency at Rhodes is approximately 15 minutes in the peak direction (i.e. inbound during the morning peak period and outbound during the evening peak period).

It is noted that RailCorp's submission to the RWMP is supportive of the additional residential densities proposed and suggests that the additional density can be accommodated under the new (October 2009) timetable for the Northern Railway Line.

Bus

Sydney Buses operates two services along Homebush Bay Drive adjacent to Rhodes Peninsula – the 458 and 459 services. The 458 service operated between Burwood to Macquarie University. The 459 service operated between Strathfield to Macquarie University. The 458 service was diverted to serve the Rhodes Shopping Centre, operating along Oulton Avenue/Rider Boulevard/Walker Street/Leeds Street/Averill Avenue.

The additional population at Rhodes may provide additional demand for bus travel within the western and inner western sub-regions. The need for new services could be investigated as demand arises, which is the normal practice for route planning and network expansion in Sydney.

Ferry

A ferry wharf is located at Meadowbank, approximately 1km from Rhodes Railway Station. Regular services are available at this wharf as part of the Circular Quay to Parramatta service. There are approximately six ferry services in the peak direction during peak periods (morning and afternoon/evening). Access to the Meadowbank ferry service from Rhodes is via the John Whitton Bridge which has a pedestrian footpath/cycleway that is located on the eastern side of the bridge.

A ramp to the pedestrian footpath/cycleway on the John Whitton Bridge currently exists from the eastern side of the railway line on Blaxland Road. As stated previously, the current Contributions Framework Plan new ramps and stairs are to be constructed from Blaxland Road to the John Whitton Bridge pedestrian footpath/cycleway which will enhance access for Rhodes residents to the ferry wharf at Meadowbank. New ramps and stairs will provide an alternative to crossing the busy intersection of Blaxland Road/Leeds Street, as well as being closer to Rhodes residents.

Walking

The Renewing Rhodes DCP 2000 introduced the following principles for pedestrian access:

- Provide a continuous pedestrian network through the streets, parks and public rights of way;
- Connect to the regional network by linking to the Bicentennial Park path system at the southern end of the peninsula, and to Leeds Street and the foreshore pedestrian easement in front of industrial properties at the northern end.
- Supplement connections to the street system of the existing eastern side of Rhodes, through new links at Walker Street rail underpass, overpasses at Mary Street, the retail area at Oulton Avenue.
- Extend pedestrian access to the south of Walker Street rail to improve connections to Homebush Bay Drive, Liberty Grove, Concord West and residential areas to the east.
- Provide links to Meadowbank Park and the ferry wharf via the pedestrian link across John Whitton Bridge.

The delivery of some of this connecting infrastructure has been prevented by a range of constraints, emerging through detailed consideration of the works and facilities required.

Additional initiatives to encourage greater pedestrian access and amenity

The following additional opportunities to promote walking and cycling for local trips at Rhodes include:

- Extend foreshore pedestrian pathway and cycleway under John Whitton Bridge to link the western side of Rhodes with the eastern side, with provision of landscaping, seating, lighting and public toilets to enhance residential amenity;
- Enhance local destinations including the community centre precinct, civic spaces close to the railway station and new local parks to encourage walking; and
- Open up large consolidated sites with through site links for more direct pedestrian connections.

Cycling

The Rhodes DCP 2000 provides the following controls which guide the implementation of a cycling strategy:

- Provide a cycle network through the public streets and the foreshore park as set out in the Framework Plan.
- Connect to the regional cycleway, and improve access to the pedestrian/cycleway.
- Provide commuter cycle lanes along Walker Street, from Mary Street to the underpass at the northern end of the Peninsula at a minimum width of 1.4 m.
- Provide a recreational cycle path through the Foreshore Reserve, which also connects to the regional cycle routes at both ends.
- Design intersections and crossings along dedicated cycle routes to favour cyclists, safety and convenience.
- Provide lockable bicycle storage at Rhodes Peninsula, the retail centre, and in publicly accessible facilities.
- Separate cycle and pedestrian routes through the Foreshore Reserve.
- Design cycle paths, cycle parking and end of trip facilities to the minimum design standards set out by Austroads.

The cycleway strategy has in part been implemented through the construction of the cycleway along the foreshore through Precinct A, and the partial implementation of commuter cycleway which generally follows the north/south alignment of Walker Street and the partial completion of the east-west connection to the foreshore through Precinct A.

The portion of the east west connection through Precinct D is partly completed from Walker Street. The new DCP for Precinct D will consider appropriate locations for more direct connections from Walker Street which will make a positive contribution to cycling in the locality to connect the railway station to the foreshore reserve and the planned community facility.

The commuter cycleway will be completed with the embellishment works to Walker Street, which will be completed with the progressive development of Precincts B, C and D. Stairs and ramps to the John Whitton Bridge, are committed to under the contributions framework Plan and the responsibility of the developers of Precincts B and C.

In terms of bicycle parking requirements for future residential developments, it is noted that the RRDCP 2000 already has bicycle parking requirements. The RRDCP 2000 has the following minimum requirements:

- Residents – 1 space per 3 units
- Visitors – 1 space per 12 units

In relation to bicycle parking for residents the RRDCP 2000 requires that resident and employee bicycle parking are to be secure. Bicycle parking in the existing residential developments at Rhodes is provided in a combination of common cages and individual bicycle lockers.

Table 12 provides a comparison of resident and visitor bicycle parking requirements in a number of urban centres in Sydney as well as large residential density precincts in Canada Bay Local Government Area.

The table shows that the bicycle parking rates at Rhodes are generally consistent with other major centres and high density areas in Sydney and Canada Bay LGA. Interestingly, residential developments at Rhodes require more bicycle parking than central Sydney or North Sydney.

Table 12. Comparison of resident bicycle rates for urban centres

LGA/Locality	Bicycle parking spaces required	Visitor parking spaces required
City of Sydney	1 bicycle parking space for every 100 car parking spaces or part there of	N/A
North Sydney	No bicycle parking controls	
Parramatta	1 car parking space for every 100 car parking spaces or part thereof	N/A
Chatswood	1 bicycle locker per 10 units	1 space per 12 units
Hurstville	No bicycle parking controls	
Macquarie Park	1 space per 3 units	1 space per 12 units
Sydney Olympic Park	1 space per 1 bedroom dwelling 1.2 spaces per 2 bedroom units 1.5 spaces per 3 bedroom dwellings 2 spaces per 4 bedroom dwelling	1 space per 5 units
Burwood	-	-
Green Square	1 space per 3 units	1 space per 10 units
Canada Bay LGA	1 bicycle storage space per dwelling	1 bicycle space per 12 units
Breakfast Point	Bicycle storage required at a rate of 1 space per 3 bedrooms	N/A
Liberty Grove	No bicycle parking controls	
Rhodes Peninsula	1 spaces per 3 units	1 space per 12 units

Additional initiatives to encourage greater bicycle use

Cycling is a popular past time and a growing number of people are pursuing cycling to commute to work. Rhodes is on the doorstep of a major network of recreational and commuter cycleways. It is considered that the cycle strategy introduced in the RRDCP 2000 is a good strategy, and that following its full implementation, will provide the hard infrastructure necessary to encourage increased cycleway usage for recreational and commuter travel. There are however additional measures which are recommended to support bicycle use.

It is considered that the provision of bicycle storage facilities, both within future residential developments and at the railway station and bus stops will make it more convenient for cyclists to commute to work, but also to cater for those wishing to store bikes to use for recreation.

Currently there are no secure bicycle storage facilities at the Rhodes Station. It is therefore suggested that bicycle spaces are needed for the convenient storage of bicycles close to or at the station so that people feel comfortable leaving their bicycles to continue their commute on the bus or train.

The Department of Planning published “Planning guidelines for walking and cycling” in 2004. The Department’s guidelines in relation to bicycle racks and hardware provide principles and specifications which can be used to determine the appropriate location and design for these facilities:

Proximity

- Conveniently located near entrances to buildings – Bicycle parking located within 50m of the destination it is intended to serve;
- Rack installations as close or closer than nearest car parking space;
- Local bicycle users and/or Bicycle User Groups (BUGs) consulted on the precise location of bicycle parking.

Secure/safe

- Bicycle parking facilities situated where there is active and passive surveillance i.e. people passing the facilities, and where possible, people overlooking the facilities;
- Bicycle parking has good lighting in accordance with Austroads Part 14;
- Bicycle parking securely anchored and non-removable. Bicycle parking facilities offer a level of security appropriate to the location and expected usage.

Access/comfort

- Easy accessible from the road or dedicated bicycle path.
- Access and egress designed to minimise conflict with flows of pedestrian and/or vehicles.
- Bicycle parking facilities on private land located so that the minimum clearance between parked bicycles and the edge of a motor vehicle traffic lane is 600mm, and 1000mm where the average traffic speed exceeds 60km/hr
- Bicycle parking facilities located so that the minimum clearance (of a pedestrian to pass) between a parked bicycle and any other obstruction is 1200mm.
- Rack installation protected from rain – of more than 10 spaces, at least 50% should be covered.
- Where an access path to a bicycle storage or parking facility includes stairs, such stairs include a bicycle wheeling ramp in accordance with Austroads Part 14.

Visible

- Rack area clearly visible form the entrance it serves;
- Well-positioned signs provided for all bicycle parking facilities, including visitor parking.
- Bicycle parking facilities included on relevant maps.

Attractive

- Quality racks harmonious with their environment in both colour and design. Sitting sensitive to both user needs and the design and management of the surrounding area.

Further detailed investigations are necessary to determine the precise location for additional bicycle parking. It is recommended that Council discuss plans for additional bicycle parking facilities at the station with RailCorp and with Rhodes Waterside Shopping Centre. Also, there may be opportunities for publicly accessible bicycle storage within the new civic spaces or within buildings in Precincts A and D which are close to the railway station.

Impact of additional development on transport demand

Halcrow MWT has undertaken an assessment of the increase in residential dwellings provided for in the RWMP. The additional development would generate approximately 745 to 885 trips per hour, which is approximately 10-15% of trips. In terms of new trips, the originally approved development that is yet to be completed plus the extra additional units proposed in the RWMP would generate approximately 3,600 to 3,900 person trips in addition to the existing person trips at the time of the traffic survey.

Impacts on public transport demand

In terms of public transport trips, the additional development would generate 280 additional public transport trips per hour. The additional trips from all future development including those already approved, but yet to be completed and the additional proposed, would be approximately 1,300 public transport trips per hour. This equates to approximately a 10 per cent increase in public transport trips.

Of the 1,300 future public transport trips, approximately 900 trips per hour would be train trips. These train trips equate to about 1450 trips over the whole morning peak period of 6.00am to 9.30am.

It is noted that the current patronage at Rhodes Station totals approximately 1200 passengers in the morning peak period (6.00am to 9.30am). With the additional rail patronage yet to come this would equate to 2650 passengers in the peak period. The additional patronage would make Rhodes comparable to the three busiest stations on the Northern Line (Pennant Hills – 2,890, West Ryde – 3,140 and Meadowbank – 2,080).

The additional train loading due to the additional development would be about 110 passengers in one direction. The Halcrow MWT assessment report states that:

> *"In the context of overall train loadings on this corridor this would be small representing the capacity of about 10 percent of a single train. This train capacity is not expected to be an issue.*

The submission on the Rhodes West Master Plan 2030 from RailCorp advised that it:

> *"supports City of Canada Bay Council Strategies for maximising development around existing rail infrastructure and encouraging the use of public transport. While increasing the density and number of dwellings in Rhodes will increase demand at public transport nodes, the extra patronage demand projected for Rhodes station will be sufficiently catered for, with the introduction of the October 11, 2009 CityRail timetable".*

The NSW Transport and Infrastructure (NSWTI) made supportive comments in their submission to the RWMP. The NSWTI supports the planned accommodation of population and employment growth in areas of high accessibility to public transport such as Rhodes Peninsula, with its proximity to Rhodes station and the Strategic Bus Corridor 29 (Burwood to Macquarie via Concord Road), which is provided by the 458 Sydney Buses service.

The NSWTI submission states that:

> *"pedestrian connectivity, safety and amenity along with provision of bicycle facilities and infrastructure will be fundamental to realise the full benefits of this accessibility and reduce car dependency".*

The NSWTI submission indicated support for the following aspects of the Master Plan:

- Active street frontages;
- Improved pedestrian connectivity;
- Reduction in the number of general traffic roads;
- Encouragement of improved links through street blocks for pedestrians
- Provision of bicycle parking adjacent the station;
- Upgrading of cycleways; and
- Pedestrian pathways and stair/ramp to the John Whitton Bridge.

NSWTI also recommends that Council consider the following issues:

- Provide bicycle parking and amenity across a range of locations such as the proposed community centre;
- Provide direct through-block pedestrian links from Rhodes Station to the community centre; and
- Improve connection to and across Concord Road to improve accessibility and safety with access to buses on the east side of the Strategic Bus Corridor.

In response to these recommendations, it is recommended that Council investigate the following in the preparation of the new planning controls for Rhodes:

1. Bicycle parking in a range of locations including:
    a. Residential developments for residents and visitors as per the current Renewing Rhodes DCP rates;
    b. The area at and around the Rhodes Waterside Shopping Centre;
    c. The area around Rhodes station; and
    d. At public parks and new and existing civic spaces.
2. Extend through block links in Precinct D to complete the link between the station and the foreshore park with the future community centre in accordance with the RRDCP 2000;
3. Crossing of Concord Road to be further considered but at this stage is outside the scope of the RWMP.

The recently released Metropolitan Transport Plan: Connecting the City of Cities Kristina Kennelly announced the $4.53billion Western Express city Rail Service - a dedicated rail track to cut travelling times from western Sydney to the CBD.

The NSW Premier states in her media release of 21 February 2010 that:

> *"The Western Express City Rail Service would have an impact across the entire CityRail network. It will free up capacity to increase services from the North and from the South West including Liverpool, Campbelltown, Rhodes, Sydney Airport, Green Square, Fairfield, Leppington and Sutherland."*

The Media Release further states that the Metropolitan Transport Plan includes an additional four services on the Main Northern Railway Line to the Central Sydney via Strathfield.

Impacts on private vehicle traffic

The additional dwellings will generate up to 260 vehicle trips per hour during peak periods, which represents 12% of the vehicles trips generated by the approved development.

Halcrow MWT undertook an analysis of existing intersections which serve Rhodes Peninsula on Homebush Bay Drive and Concord Road. In summary, the intersection analysis indicates that generally the additional traffic from the additional proposed development would not create measurable adverse impacts when compared with the traffic conditions which have been approved under the current Rhodes planning framework. Intersections will essentially operate at the same level of performance as forecast for the approved development.

It is important to note that traffic generated by the additional dwellings under the RWMP would be able to avoid using the Homebush Bay Drive – Concord Road intersection by using the Concord Road/Mary Street intersection or the Homebush Bay Drive – Oulton Avenue interchange. The analysis undertaken in the Halcrow MWT study suggests that:

> *"these two intersections will have sufficient spare capacity to be able to accommodate this extra traffic".*

The RTA made a submission on the RWMP, which raised concerns with the existing traffic conditions along Concord Road/Homebush Bay Drive.

Council commissioned an independent traffic report by Transport and Urban Planning. This independent peer review agreed with the conclusions of the Halcrow MWT report.

In addition to the concerns about the main roads serving Rhodes Peninsula, the Council provided a response to the RTA submission in their report to Council dated 8 December 2009. Council's response to the concerns of the RTA provide that:

> *"Should the uplift of density be approved, then Council will be able to use money generated by the uplift over that required for the community centre, to upgrade roads and intersections in the area in addition to what is provided for under the existing planning framework. These include the follow works:*
>
> - *New right hand turn into Concord Road from Averill Street;*
> - *Lights at the Blaxland Road/Leeds intersection – under current plans, only an elongated dividing island is intended;*
> - *Restoration of all pathways in the area, including construction of new pathways where they can be accommodated;*
> - *Full upgrade of the area around the northern part of Blaxland Road in the vicinity of the John Whitton Bridge, including the construction of stairs and ramps up to the Bridge to improve access, pathways, lighting, landscaping and seating.*

Resident and visitor parking rates

At the time of preparing the Rhodes Peninsula Planning Framework, the adopted parking rates were considered to be restrictive, particularly for commercial uses. The authors of the TMP recommended that a balance needs to be struck between the restrictive parking requirements within developments and potential over parking of surrounding on-street areas.

The use of restrictive parking needs to be combined with strategies to enhance the use of available public transport options or a walking/cycling alternative for short local trips.

Table 13 provides a comparison of car parking rates for residential dwellings and visitors in metropolitan urban centres and high density residential precincts at Rhodes.

Residential parking rates at Rhodes are comparable with other Specialised Centres at Sydney Olympic Park and Macquarie Park. Fewer visitor parking spaces are required than other centres. Canada Bay LGA parking rates are higher for residents and visitors than the high density suburb of Rhodes which is well served by public transport. Many of Sydney's centres served by passenger rail have restrictive parking and Rhodes in now on par with many of these centres.

It is proposed to change the parking rates to further restrict parking in order to promote greater use of trains, buses, walking and cycling. Under the RWMP, any further development will be restricted to provide a maximum of 1 car space for each unit. This new parking rate was recommended by the RTA in their comments on the Master Plan in order to manage traffic generated by the development and minimise the impact of the new density on the local road network particularly Concord Road.

A reduction in on-site parking should be implemented for all future residential development with travel demand management measures to promote public transport, walking and cycling as alternatives to the car.

There are certain times when visitors find it difficult to find a car space on the streets at Rhodes. This is in part due to the current construction vehicles parking related to the progressive development of Rhodes. Construction will continue for a number of years, but is not a permanent cause of resident parking stress.

It will be important that residents moving into the area are aware of the transport options available for commuting as well as recreational trips. As part of future development proposals, it is recommended that Council requires applicants to provide details of how future residents are to be informed of transport options in the locality in the form of transport management plans, being a submission requirement on every Development Application.

Travel demand management initiatives are discussed below.

Table 13. Comparison of resident and visitor car parking rates

LGA/Locality	Parking per dwelling	Parking per studio	Parking per 1 bedroom unit	Parking per 2 bedroom unit	Parking per 3 bedroom unit	Visitor parking
City of Sydney	N/A	1 space per 4 dwellings	1 space per two dwellings	1 space per dwelling plus 1 additional space per 5 dwellings	2 spaces per dwelling	Included in resident parking rates
North Sydney	N/A	1 space per dwellings	1 space per dwelling	1 spaces per dwelling	1.5 spaces per dwelling	1 space per 4 dwellings
Parramatta	1 space per dwelling	N/A	N/A	N/A	N/A	1 space per 5 dwellings
Chatswood	1 space per dwelling	N/A	N/A	N/A	N/A	1 space per 3 dwellings
Hurstville	1 space per 100m^2	N/A	N/A	N/A	N/A	1 space per 4 dwellings
Macquarie Park	N/A	N/A	1 space per dwelling	1.4 space per dwelling	1.6 spaces per dwelling	1 space per 4 dwellings
Sydney Olympic Park	N/A	N/A	1 space per dwelling	1.2 space per dwelling	1.5 spaces per dwelling	1 space per 5 dwellings
Burwood	N/A	N/A	1 space per dwelling	1.3 spaces per dwelling	2 spaces per dwelling	1 space per 4 dwellings
Green Square	N/A	0.5 spaces per dwelling	0.5 spaces per dwelling	0.8 spaces per dwelling	1.2 spaces per dwelling	1 space per 6 dwellings
Canada Bay LGA	N/A	1 space per dwelling (small dwellings)	1 space per dwelling (small dwellings)	1.5 spaces per dwelling (medium dwellings)	2 spaces per dwelling (large dwellings)	If 5 or less dwellings: 1 space If more than 5 dwellings: 0.5 spaces per dwelling
Breakfast Point	N/A	N/A	1 space per dwelling	1.5 spaces per dwelling	2 spaces per dwelling	1 space per 4 dwellings
Liberty Grove	1 space per dwelling	N/A	N/A	1 additional space per 5 dwellings	1 additional space per 2 dwellings	1 space per 5 dwellings
Rhodes Peninsula	Min 1 space per dwelling	N/A	1 space per dwelling	1.2 spaces per dwelling	1.5 spaces per dwelling	1 space per 10 dwellings
RWMP	Max 1 space per unit	optional	Max 1 space per dwelling	Max 1 space per dwelling	Max 1 space per dwelling	1 space per 10 dwellings

Additional measures to reduce car dependence and ellivenate demand for on-street parking

Development at Rhodes is approximately 30% complete. It is too early in the development process at Rhodes to determine the success of achieving the travel mode targets set by the Department of Planning in the TMP. It is believed that the full implementation of the TMP will provide a sustainable transport management approach and will successfully reduce car dependence. The continued implementation of travel demand management strategies will assist in educating residents of the high level of public transport accessibility in the locality.

Travel demand management

In addition to the physical improvements initiated under the Transport Management Plan for the approved development and additional measures proposed as part of the RWMP, travel demand management is recommended. Travel Demand Management refers to a range of initiatives which are used to promote the use of certain transport infrastructure and to influence people's travel behaviour. In the case of Rhodes, the objective of travel demand management is to change the travel behaviour so as to minimise car use and enhance the use of public transport and non-car borne travel modes.

The TMP recommended a number of travel demand management measures. The initiatives relevant to the residential development at Precincts B and C are:

- Facilitating walking/cycling for a range of trip purposes;
- Encouraging car sharing through incentive/car pooling schemes;
- Encouraging trips to be lined for multiple purposes;
- Marketing and health programs;
- Transport option information in "Welcome Kits" (Homeowner's Manuals) for new residents; and
- Transport information seminars early in the life of the development.

These transport demand management measures are discussed in further detail below:

Facilitating walking/cycling for a range of trip purposes

Measures to encourage walking and cycling at Rhodes are described previously in this section of the report.

Encouraging car sharing

There are number of car share companies operating in Sydney providing cars to work places and residents wishing to lease cars on a share basis for short periods.

One such car share company, GoGet offers a car share system, where vehicles are parked in 'pod' locations across medium-high density residential and commercial suburbs. Users of the vehicles sign up for a GoGet membership which allows them to use the car for an hour or longer (at an hourly or daily charge) from the pod, and then return to vehicle to same spot when finished. A range of cars are available for use. GoGet is responsible for the car maintenance, cleaning and petrol.

There are two options for providing dedicated parking spaces for car share schemes: either within residential developments or within the public domain.

Existing car share services operated in proximity to Rhodes include Parramatta and Macquarie Park (Go Get), The Waterfront development, Homebush Bay (Car Club) a high density residential suburb on the western side of Homebush Bay. The Waterfront development has a dedicated car share space on the street in front of the development. Decidated car share spaces in the public streets is preferred due to the difficulties of managing communal car spaces within developments. As a

positive message, car share scheme signage can promote reducing car dependence, when the car share spaces are visible in the public domain.

A car share scheme would be part of the sustainable transport strategy for the Rhodes area. It is considered that such a system could easily be implemented at Rhodes Peninsula in the following form:

- Council will need to dedicate car share spaces on the street immediately adjacent the residential developments at Rhodes; and
- It is recommended that at least 1 space be allocated for each precinct, which is similar to the Homebush Bay West car share scheme. Depending on the successful take up of this service, additional spaces can be easily allocated, if required.

The City of Canada Bay Council and the developers should engage with a car share company to seek advice on the appropriateness of such a scheme for Rhodes. Some preliminary consultation in this regard has already occurred. Advice should be sought on the number and location of car share spaces.

Transport information in homeowner's manuals

The developers have been asked by Council to provide the information they intend to provide future residents about transport choices in the vicinity of their developments as part of the travel demand management measures to be implemented at Rhodes. It is also recommended that Council requires details of proposed travel demand management measures with future development proposals.

Information on transport options available to future residents should be provided in homeowner's manuals or "Welcome Kits". Future residents will make their own choices about the travel habits and, armed with information about the range of transport options available at Rhodes, residents can make informed choices. Due to the high level of public transport availability at Rhodes, people can use the information, which may otherwise be unknown and therefore be less inclined to use their car(s).

It is recommended that the following information is to be included in homeowner's manuals:

- A map showing the location of the train station bus stops and ferry stop including walking distances and average walking times to these locations;
- Train, bus and ferry timetables;
- Map showing the location of commuter and recreational cycleways and the location of secure bicycle parking; and
- Accessibility Maps

Train, bus and ferry timetables can also be made available for residents on owner's corporation notice boards in each building with a map of the location of these services. It is also desirable to inform residents of the location of bicycle storage facilities to encourage their convenient use.

Conclusion

Transport management strategies that promote reducing car dependence have been or are in the process of being implemented at Rhodes. Rhodes development is now 30% completed, however it is too early to measure the success of the modal share targets set by the current Transport Management Plan. Full implementation of the TMP is recommended, as well as other additional measures to achieve Council's sustainable transport objectives.

Social sustainability

Community infrastructure and public benefits

Much work has been done by Council on the need for additional community infrastructure to meet the demands from existing and future residents. The RWMP 2009 identifies more opportunities for public benefits having regard to principles for better place making to create desirable destinations for the people of Rhodes as well as linking these destinations, with improved access.

Enhancements to community infrastructure and additional public benefits introduced in the Master Plan are:

- Waterfront community centre precinct with potential for complementary neighbourhood retail uses;
- Civic plaza close to the railway station (Precinct D);
- Cycle and pedestrian connection from Rhodes East to Rhodes West;
- Retail plaza and civic space (Precinct A);
- Additional local parks (Precinct B and C); and
- Provision of public toilets at the northern end of the Peninsula.

The achievement of high quality community infrastructure will depend on the detailed design of these spaces and pedestrian links. In this regard, concept plans for the new public open space areas are to be included in the new DCP.

6 Local planning framework

6.1 Introduction

It is appropriate planning practice to review the outcome of planning frameworks during their implementation. Rhodes Peninsula is 30% complete. The major retail and commercial areas of Rhodes are complete. The Rhodes Waterside Shopping Centre has proved successful as a sub-regional shopping centre and is popular with local residents. The commercial office together with Rhodes Corporate Park provide jobs which support the employment role of the Rhodes Specialised Centre.

Residential developments are progressing with Precinct A developments now 85% complete. Precinct B and C are predominantly residential precincts with some neighbourhood retail uses. Construction for the residential buildings in Precincts B and C has commenced. Precinct D is a mixed use precinct with three developments completed along Walker Street. The land ownership, land use zoning, existing/approved and remaining floor space is provided in **Table 2** of this report.

The Rhodes Peninsula redevelopment has been guided by a number of Environmental Planning Instruments, Development Control Plans and policies. These documents include the following:

- *Sydney Regional Environmental Plan 29: Rhodes* Peninsula (SREP 29)
- *Renewing Rhodes DCP 2000* (RRDCP 2000)
- Rhodes Contributions Framework Plan (RCFP)

The following sections of this report provide a review of these documents to highlight the changes required to implement the RWMP and identify which controls should be carried forward to guide the development of the remaining development parcels.

6.2 Proposed amendments to existing planning framework

This section of the report summarises the key amendments to the local planning framework to implement Council's objectives for the remaining development at Rhodes.

Canada Bay Local Environmental Plan 2008 – Amendment No. 1: Rhodes West

- Adopt the Standard Instrument LEP definition except for the definition of Gross Floor Area (GFA) which will be retained from SREP 29: Rhodes Peninsula;
- Adopt Exempt and Complying Development provisions in the LEP and the SEPP (Exempt and Complying Development);
- Remove reference to the Model Provisions;
- Move the planning principles from the SREP 29 to the new DCP;
- Adopt the Standard Instrument zones as follows:
  - R4 High Density Residential Zone;

- B1 Neighbourhood Centre
- B4 Mixed Use Zone
- RE1 Public Recreation Zone

- Amend the zone objectives of the Standard Instrument LEP zones.
- Introduce Floor Space Ratio (FSR) standards for Rhodes including the additional floor space under the RWMP;
- Introduce Building Height standards to allow buildings up to 25 storeys in height. Height is to be measured in metres in accordance with the Standard Instrument LEP definitions.

The Planning Proposal, prepared by the City of Canada Bay Council provides a detailed analysis of the SREP 29 in terms of the necessary amendments to the CBLEP 2008 to progress the RWMP.

New DCP

A new DCP will contain controls that cover the following issues, in addition to the controls that apply generally to all development at Rhodes:

- Incorporating the Planning Principles from SREP 29: Rhodes Peninsula as well as additional built form and public domain principles;
- New urban design framework plan which defines the location of streets, pedestrian and cyclist connections, open space and building footprints, setbacks and preferred uses and vehicle and pedestrian entries;
- New development controls for new building types contemplated in the RWMP particularly tower buildings including:
  - Maximum floor plate size,
  - Maximum building length and depth,
  - Façade articulation and materials and finishes,
- Concept designs for new public open spaces and controls to achieve a high quality of embellishment that promotes public use and enjoyment.

The proposed amendments to the planning framework are discussed in further detail in the following section of this report.

6.3 Sydney Regional Environmental Plan 29: Rhodes Peninsula (SREP 29)

SREP 29 has the legal status of a State Environmental Planning Instrument as a result of the decision by the Minister for Planning to remove Regional Environmental Plans from the hierarchy of Environmental Planning Instruments in the planning system. The SREP 29 has been retained in its existing form however is referred to a 'deemed SEPP'.

SREP 29: Rhodes Peninsula applies to the land known as the Rhodes Peninsula, which is an area of approximately 43 hectares of former industrial land on the eastern foreshore of Homebush Bay and the Parramatta River. SREP 29 is the principal Environmental Planning Instrument that applies to Rhodes. The SREP was gazetted in 1999 and has the following aims:

(a) to establish planning principles for development within the Rhodes Peninsula, and
(b) to rezone land in the Rhodes Peninsula, and
(c) to promote the orderly and ecologically sustainable use and development of land, and
(d) to identify appropriate levels of retail and commercial floor space, and
(e) to promote the orderly and economic use and development of land within the Rhodes Peninsula.

SREP 29 includes planning principles that the consent authority is required to consider before granting consent. A response as to how the proposed amendments to SREP 29 will remain consistent with these original planning principles is outlined in **Appendix A**.

The Department of Planning's submission on the Rhodes West Master Plan requested a response from the City of Canada Bay Council on the consistency of the Rhodes West Master Plan with SREP 29: Rhodes Peninsula, which this part of the report provides. It is noted that Council's report at **Appendix D**, includes a number of comments in this regard. It is not the purpose of this report to repeat Council's responses, but to identify the necessary amendments to the SREP to allow the Master Plan to proceed.

In summary, the planning principles are sound and the RWMP demonstrates consistency with the role and land use activities, public domain, accessibility, movement and parking and ecological principles. The planning principles have, in some circumstances, resulted in undesirable urban design and planning outcomes notwithstanding the intentions. While the planning principles are generally sound, the detailed planning controls under the SREP as well as the RRDCP 2000 have contributed to an overly homogenous built form, limited street activity and limited active open space for public use.

Professor John Toon, has provided further detailed observations on the existing environment at Rhodes and has offered urban design objectives and principles to guide the preparation of a new urban design framework and additional development controls.

The new Master Plan is generally consistent with the built form planning principles, and on the whole, the principles should be retained. It is recommended that additional built form and public domain principles which more specifically relate to the new desired future built form character of the RWMP be introduced with any amendments to the development standards for building height and floor space area to be incorporated into CBLEP 2008 – Amendment No. 1: Rhodes West.

The Rhodes Master Plan 2009 provides for additional floor space area and additional open space areas to create public open spaces and additional community infrastructure. Additional building height is therefore required to accommodate the floor space allocations. The SREP 29

controls building height and floor space and these development standards need to be amended if the Master Plan is to proceed. New height and FSR maps are required in the CBLEP 2008.

In response to the Department of Planning letter dated 17 March 2010 (**Appendix K**), Council have prepared a Planning Proposal, as the first step in the 'Gateway process' to amend CBLEP 2008 – Amendment No. 1 and submitted this to the Department of Planning on 26 March 2010. The Planning Proposal describes how the provisions of SREP 29 are to be consolidated into the CBLEP 2008 – Amendment No. 1: Rhodes West.

Additional Planning Principles

Additional planning principles in relation to built form and public domain to be incorporated into the new DCP are suggested as follows:

Built form

- A variety of building types and heights are to range from 4 to 8 storeys for street edge buildings to tower buildings up to 25 storeys where more consolidated public open space and/or pedestrian through site links are provided;
- Tower buildings are to be located predominantly along the ridgeline, to the east of Shoreline Avenue and staggered to avoid a row or wall of buildings.
- Tower buildings are to be located and oriented to minimise overshadowing impacts on neighbouring properties and public open space. Buildings are to be adequately separated to manage overlooking and achieve adequate privacy and optimise views;
- Tower buildings must have a slender appearance with an emphasis on vertical proportions, and demonstrate design excellence with significant architectural merit so as to make a positive contribution to the identify of Rhodes as a Specialised Centre, and the Sydney skyline.
- Buildings are to be oriented onto public streets and open spaces to address and define the public domain.
- Community facilities are to be co-located in a central location and of an appropriate scale and design to cater to a wide range of uses.

Public domain

- Well distributed public open space will add to the network of civic and recreational open space experiences for local residents as well as the general public;
- New local parks are to be centrally located within precincts and have adequate address to public streets to promote meaningful public use;
- Scenic quality and civic amenity is to be achieved through high quality landscape embellishment of the public domain with consideration of site topography, pedestrian access and passive as well as active recreational needs.
- Pedestrian accessways connecting to desirable public destinations at Rhodes including the Rhodes railway station, foreshore open space, local parks and community facilities.

6.4 Renewing Rhodes Development Control Plan 2000 (RRDCP 2000)

The RRDCP 2000 was prepared by the Department of Planning under the then Section 51A of the Environmental Planning and Assessment Act 1979. The RRDCP 2000 has been used together with the SREP 29 and SEPP 56 – Sydney Harbour and Tributaries (now repealed) to guide the development of the Rhodes Peninsula.

The DCP provides the detailed objectives and controls for new development including controls and guidelines for the public and private domain.

Comments on each section of the DCP and how these may be strengthened, added to, or disregarded in the drafting of a new DCP are provided at **Appendix B**.

The following is a summary description of each section of the DCP and comments on where the DCP objectives and controls should be used in the new DCP or whether additional objectives and controls are necessary.

Section 1 provides an introduction to the RRDCP 2002.

Section 2 of the RRDCP 2000 provides background information including information on public open space, road network and local context.

Section 3 of the RRDCP 2000 provides objectives and outlines a framework plan, which is described as a "synthesis of the DCP Objectives". The framework plan defines the new street and public open space network, identifies where mixed use and retail areas are located and defines view corridors. The framework presents the key development controls for Rhodes Peninsula in a single diagram followed by a series of plans for street hierarchy, public open space, land use and built form.

Key principles for the RRDCP 2000 framework plan in terms of streets and public open space, land use and built form are outlined as follows:

Streets

A hierarchy of public streets includes:

- **Primary streets** (Walker Street/Rider Boulevard/Shoreline Drive are examples). Primary streets are the main distributors of vehicle traffic through Rhodes Peninsula and unify all precincts. Walker Street runs along the ridgeline, whilst Shoreline Avenue interprets the pre-reclamation shoreline.

- **Secondary streets** provide vehicle, pedestrian and bicycle access and connections from Walker Street (ridgeline) down to the foreshore. Generally, vehicle access to residential and commercial developments is provided off secondary streets (Nina Grey Avenue, Darling Street are examples).

  Generally, secondary streets that terminate in views of Homebush Bay widen out to promote a spacious appearance to the street and enhance view corridors.

The street framework has generally been successful in dividing the precincts into a finer grain network. There are streets which are considered unnecessary for vehicle access and therefore provide an opportunity to create large consolidated local parks central to the developments which are accessible to the public. These spaces can maintain pedestrian access from Walker Street to Shoreline Avenue and down to the foreshore.

Public open space

A linear open space area is located along the entire length of the foreshore. The width of the park is generally 20m and this widens out at Point Park (North), Foreshore Park (centre) and Mangrove Park (South). A small number of pocket parks also exist or are planned) under the current framework. The parks and squares were intended to provide a range of uses and facilities as well as provide riparian vegetation (foreshore reserve and Mangrove Park).

The foreshore reserve provides a linear park linking other larger open space areas. This space is narrow at 20 m and divided by a cycleway and pathway and with pockets of riparian vegetation. There is little space for community gathering or active recreation. Larger parks along the foreshore provide some areas for community gathering, with seating, children's playgrounds and a central location for community centre, but an area intended as a more active area north of the playground at the end of Mary Street was taken for the purpose of a sewer pumping station (625m^2) significantly reducing the usefulness of this area.

Land use

The land use framework at Rhodes was developed from the vision for a mixed use and residential neighbourhood based on principles for transit-oriented development. High density residential development is located within walking distance of the railway station. Retail uses were developed into the Rhodes Waterside Shopping Centre, with some local street front retail uses along Mary Street and Walker Street.

The aim of the land use framework was to reduce travel demand and promote a higher than average public transport usage. Transport Management Plans were prepared to achieve a modal share of:

- Train
- Bus
- Ferry
- Car
- Walk/cycle

The Rhodes Shopping Centre provides a sub-regional shopping facility and has proven successful and popular amongst locals. IKEA is a major drawcard from across Sydney.

Built form

The Framework Plan divides Rhodes Peninsula into a number of precincts (along major landownership boundaries for Precinct A, B and C). Precinct D comprises multiple landowners). Precincts are then divided into development parcels divided by streets and open spaces. The framework determines the subdivision size of blocks and the grain of development

that has occurred under the DCP. The DCP aims to create smaller development lots to create a “finer urban grain” and a variety of building forms.

Generally, there is little public permeability and connectivity through development sites. Central courtyards are generally gated spaces and appear to be poorly utilised. Some of these spaces are entirely surrounded by buildings and therefore have poor sunlight access (for long periods of the day).
Perimeter block housing forms with central courtyards and high street walls define the public domain and have been successfully provided a robust definition of the public domain. This built form approach has been used elsewhere in Sydney (Green Square and Victoria Park are examples). Despite the success in some areas, this approach has been religiously applied with little variety.

A variety in built form is missing, where taller buildings can define important street axis and alignments, and there is a lack of open space not catered for in that adjacent to the foreshore.

Section 4 of the RRDCP 2000 provides controls and guidelines for the public domain. Key public domain controls in the RRDCP 2000 relate to the following:

- Cycle strategy
- Public transport
- Vehicle circulation and parking
- Landform and views
- Landscape
- Street furniture, paving and lighting
- Water / land interface
- Infrastructure and water management
- Public art
- Primary streets
- Secondary streets
- Public open spaces
- Point Park
- Foreshore Reserve
- Foreshore Park
- Mangrove Park
- Neighbourhood open space
- Paving and surface treatments
- Furniture and lighting
- Signage
- Water edge
- Tree planting

Section 5 of the RRDCP 2000 provides controls and guidelines for the private domain. Key controls contained in the Rhodes DCP for the public domain include:

- Use
- Publicly accessible facilities
- Built form
- Number of storeys and floor space
- Building Bulk
- Setbacks
- Special edge conditions

- Definition of streets and open spaces
- Building articulation and address
- Diversity of apartment types
- Flexibility
- Visual privacy
- Acoustic privacy
- Solar access and glazing
- Natural ventilation and daylight
- Building materials
- Public domain interface
- Active street frontage
- Awnings and entrance canopies
- Signage and advertising
- Private and communal open space
- Garden spaces
- Front gardens
- Above ground open space
- Services
- Water conservation
- Stormwater management
- Waste management, storage and removal
- Site facilities
- Pedestrian access and mobility
- Vehicle access
- On-site parking

The RRDCP 2000 provides a public domain technical manual with detailed specifications for the design and construction of public domain elements in Rhodes Peninsula. The public domain elements are:

- Paving and surface treatments;
- Furniture and lighting
- Signage
- Water edge
- Trees

The manual establishes a series of generic design principles, materials and finishes, and performance standards to be used in the public domain. For streets there is a standard range of furniture, lighting, paving and surface treatments to ensure a continuity and uniformity of the public domain.

Since the preparation of the DCP and public domain technical manual, the public domain areas in Precinct A are predominantly complete.

Under the existing planning framework, the developers are required to complete embellishment works for public domain areas surrounding their development sites prior to the occupation of the developments. Developers are required to maintain public access to public domain areas following their embellishment. After an agreed period of private maintenance of the adjoining public domain (Precinct A – 5 years, or by negotiation with Council), the public domain areas are dedicated free of cost to Council to own and maintain.

The landscape and civil design plans for Precincts B and C have been approved by the Minister for Planning. The City of Canada Bay Council had input into these approvals.

No changes are to be made to the standard of design and construction of streets and parks already approved by the Minister for Planning and Council. The Master Plan provides for the following public domain changes:

- Additional 1.753 Ha of public open space including:
  - Plaza space in Precinct A
  - Local park in Precinct B
  - Local park in Precinct C
- Deletion of Peake Street between Walker Street and Shoreline Avenue in Precinct B with the amalgamation of Lots 2A, 3A and 3B;
- Deletion of Marquet Street between Gauthorpe Street and Shoreline Avenue in Precinct B with the amalgamation of Lots 2A, 3A and 3B; and
- Deletion of Darling Street between Walker Street and Shoreline Avenue in Precinct C with the amalgamation of Lots 101 and 102.

Additional public open space may be possible in Precinct D which will be subject to a further new Master Plan for the new DCP. Concept designs for the new public parks in Precincts B and C were exhibited with the RWMP.

Council, who will take ownership of the new parks, has indicated that designs for the parks will need to be acceptable for Council. It is proposed to hold a workshop with Council's planning, engineering and landscape staff during the preparation of the Rhodes DCP to determine the appropriate levels of embellishment for these additional public open space areas under the new DCP, giving consideration to long term maintenance issues and Council's specific requirements as the future owner.

Changes to the current public domain technical manual are recommended to be to be incorporated into the new DCP. These new specifications will inform the preparation of future development proposals that include public domain areas.

It is also recommended that Council's staff work closely with developers and their consultants in the detailed design for the new parks.

Appendix B provides a review of these controls, as they may apply to the future design and construction of the new parks proposed in the RWMP.

A new DCP for Rhodes is in the process of being prepared. It is suggested that the new DCP should follow the same structure as the current DCP. The current structure is logical. In summary the new DCP will make the following refinements to the DCP:

- A new urban design framework diagram will graphically illustrate the key controls for including maximum building height, minimum building setbacks, floor plate sizes; public open space and pedestrian through-site links, private open space, vehicle entries, and pedestrian entries;
- New built form controls for tower buildings in order to achieve design excellence; and
- Retain development controls for residential amenity.

7 Conclusion

It is good planning practice to review planning instruments periodically to assess the successes and identify any failings in their implementation to ensure evolving principles in urban design, responsiveness to community needs and that ecological sustainable development is being achieved. The RWMP sought to demonstrate how future development can build on the current planning framework by introducing contemporary planning principles of place making through additional community facilities, public open space, pedestrian connections, cycling facilities as well as in the design and construction of buildings on the remaining development parcels.

The RWMP provides for additional floor space area and additional public open spaces, which will be much needed in high density areas such as Rhodes. To deliver the additional parks and infrastructure, a new LEP with new building heights and FSR standards is proposed.

The previous version of this report sought to describe the necessary amendments to SREP 29 to progress the RWMP. Following Council's receipt of a letter from Department of Planning dated 17 March 2010 advising of its preferred process to progressing the RWMP through the 'Gateway process' under Part 3 of the *Environmental Planning and Assessment Act 1979*, this report has been amended and refers to Council's Planning Proposal for amendments to the CBLEP 2008.

A new Development Control Plan is currently being prepared in response to Council's 8 December 2010 resolution. This Supplementary Planning Report has provided a review of the existing RRDCP 2000, particularly in relation to the controls for multi-unit residential development. A description of the types of development controls which should be considered for the DCP in order to deliver Council's objectives of design excellence, amenity and sustainability has been provided.

A new urban design framework for the remaining sites is currently being prepared in consultation with Council's urban design consultant Professor John Toon and this will provide Council with some certainty in the preferred location of open space, building envelopes and uses, pedestrian and vehicle access.

The issues raised by the Department of Planning and other government agencies in relation to urban design, access and parking, open space, building setbacks and the potential impacts of development in terms of solar access, wind impacts and overshadowing are to be addressed with new planning controls in CBLEP 2008 – Amendment No. 1 – Rhodes West and the new DCP.