



Lake Parramatta Reserve Plan of Management



PARRAMATTA CITY COUNCIL



GOVERNMENT

Department of
Primary Industries
Catchments & Lands



Environmental Partnership

February 2012

Lake Parramatta Reserve

Plan of Management

Prepared For

Parramatta City Council

Catchments & Lands Division, NSW Department of Primary Industries

By

Environmental Partnership NSW Pty Ltd

February 2012

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FOREWORD

Lake Parramatta Reserve is a unique urban bushland remnant of high conservation value, due to its large size, structural integrity and historic association with Parramatta's first water supply. This Plan of Management (PoM) aims to provide a consistent approach to the management of these highly significant environmental and cultural resources.

The group of reserves known as Lake Parramatta Reserve is Crown land owned under the care, control and management of Parramatta City Council (Council) who is the Reserve Trustee.

This PoM has been funded by Council and prepared in accordance with the requirements of the Crown Lands Act 1989.



Photo: Lake Parramatta Dam Wall

1 INTRODUCTION

1.1 THE NEED FOR A PLAN OF MANAGEMENT

Lake Parramatta Reserve is a highly valued natural area originally set aside to protect the water quality of Parramatta's drinking supply following the damming of Hunts Creek in 1855. The Reserve and its extensive areas of remnant native vegetation remains as a habitat for native wildlife and is also highly valued as a place for passive recreation and a retreat from the surrounding urban development.

Lake Parramatta has several layers of importance to Aboriginal people, including as a place containing evidence of previous occupation and more recently as a symbol of the Parramatta City Council apology to Aboriginal people *"for the wrongs that have been committed against them by previous generations and Governments"* (in 1997 Parramatta City Council became the first Australian Government to make a formal apology to Aboriginal people).

Council prepared a PoM for the Reserve in 1999 that has provided a basis for its management. However in accordance with the 1999 PoM it is time to review its achievements and to provide an updated management vision and action plan for the Reserve.

1.2 WHAT IS A PLAN OF MANAGEMENT?

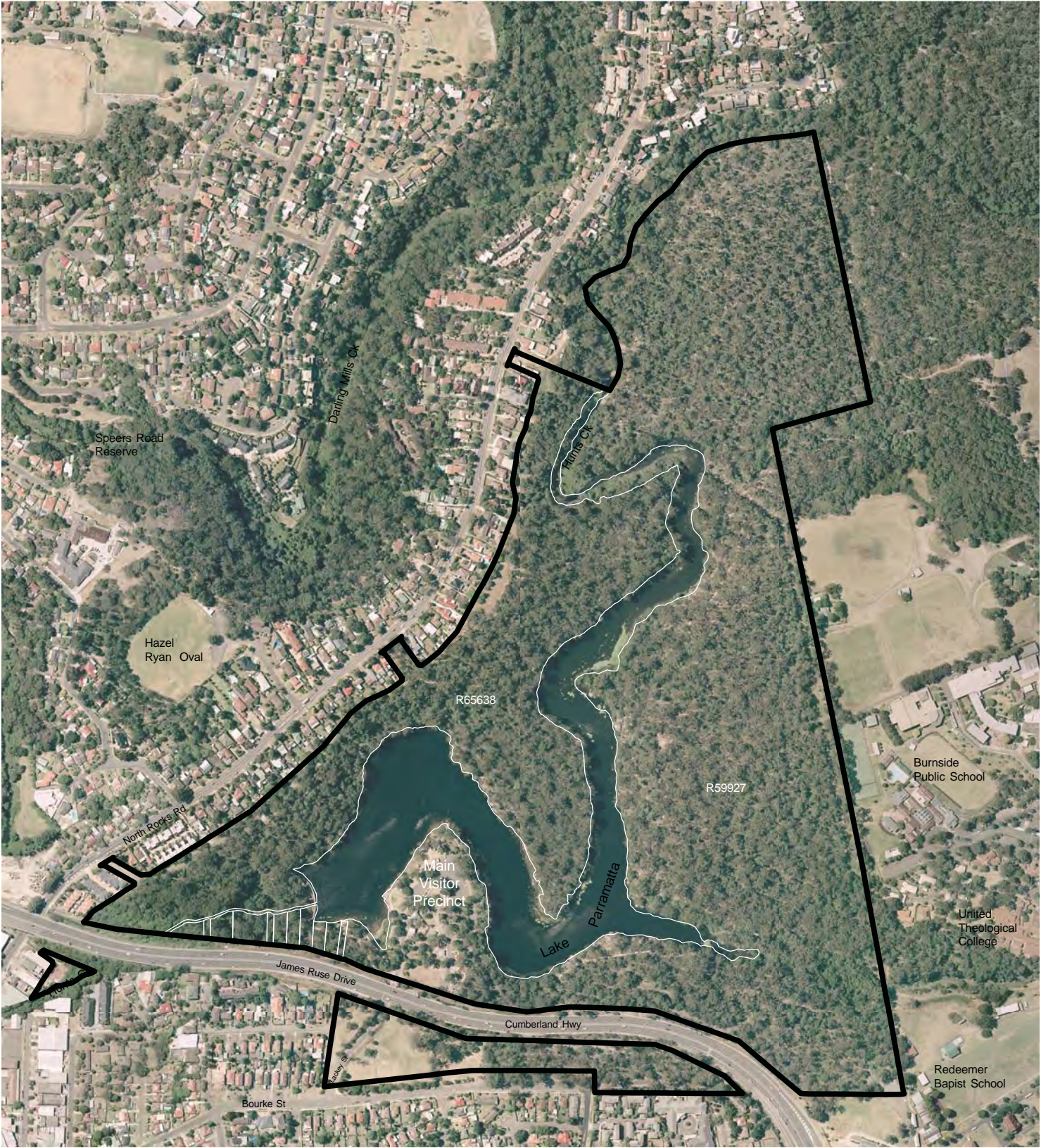
A PoM is a document that outlines how Council, as Reserve Trust Manager, proposes to manage the Reserve for the benefit of the community in accordance with the Crown Lands Act 1989 and other relevant legislation.

1.3 SITE DESCRIPTION

Lake Parramatta Reserve is located 2.2 kilometres north of Parramatta's central business district. The main features of the Reserve include the main visitor precinct accessed from Lackey Street, Lake Parramatta and extensive areas of remnant native bushland. The main watercourse entering the Reserve, Hunts Creek, is a tributary of the Parramatta River.

The Reserve consists of 74 hectares, with approximately 10 hectares being the lake water surface. The catchment for the lake covers an area greater than seven square kilometres, bounded by North Rocks Road to the west and Pennant Hills Road to the east and south.

As identified by *Figure 1.1*, the Reserve's boundaries are delineated to the west by suburban residential development along North Rocks Road, to the north by Hunts Creek, to the east by bushland, Redeemer Baptist School, United Theological College, Burnside Public School and playing fields privately owned by Tara Anglican Girls School, and the Kings School, and to the south predominantly by James Ruse Drive. There is also an area of the Reserve on the southern side of James Ruse Drive that adjoins residential development to the south. Land adjoining the eastern, northern and western boundaries of the Reserve falls within the Hills Shire Council LGA.



Lake Parramatta Reserve
Plan of Management



FIGURE 1.1: STUDY AREA

1.4 CROWN LAND PUBLIC PURPOSE

Lake Parramatta Reserve is Crown land reserved for “Public Recreation” under the *Crown Lands Act 1989*. Parramatta City Council acts as the Trust Manager and as such is responsible for maintenance and upgrading works. All works must be undertaken within the guidelines of Section 11 of the Crown Lands Act, which details the principles of Crown Land Management including: observation of environmental principles; preservation of natural resources; and encouragement of public and multiple use.

To reflect the significant natural and cultural heritage of the reserve, this PoM recommends that in addition to the “Public Recreation” purpose, an “Environmental Protection” purpose be assigned to the bushland areas of the reserve in accordance with s112A and s121A of the Crown Lands Act 1989. This additional public purpose is consistent with the existing declared ‘Public Recreation’ purpose, Aboriginal cultural heritage interpretation and bush regeneration activities undertaken in the Reserve.

Refer Figure 1.2 Crown Land Purpose

1.5 LEGISLATION AND PLANNING CONTEXT

Under the Parramatta LEP 2011, Lake Parramatta Reserve is zoned as E2 (Environmental Conservation) except for the main visitor precinct which is zoned RE1 (Public Recreation). The lake and Hunts Creek are zoned W1 (Natural Waterways).

Refer Figure 1.3 Land Zoning

In addition to the Crown Lands Act 1989 and Parramatta LEP 2011, the management and development of Lake Parramatta Reserve is subject to a range of legislation, plans and policies which are outlined below:

Table 1.1: Commonwealth & State Legislation, Plans & Policies

Hierarchy	Type	Name
Commonwealth	Legislation	Environment Protection and Biodiversity Conservation Act 1999 Disability Discrimination Act 1992
State	Legislation	Aboriginal Land Rights Act 1983 Catchment Management Authorities Act 2003 Dam Safety Act 1978 Environmental Planning & Assessment Act 1979 Fisheries Management Act 1994 Heritage Act 1977 Local Government Act 1993 National Parks & Wildlife Act 1974 Noxious Weeds Act 1993 Protection of the Environment Operations Act 1997 Threatened Species Conservation Act 1995 Water Management Act 2001
	Strategy	Metropolitan Plan for Sydney 2036 Draft NSW Biodiversity Strategy 2010-2015
	Policy	Food & Beverage Outlets on Crown Reserves Policy (Version 3) Tourist & Associated Facilities On Crown Land Policy (2007)
	Environmental Planning Instrument	State Environmental Planning Policy (Infrastructure) 2007 State Environmental Planning Policy 19 (Bushland in Urban Areas)

Table 1.2: Local Plans and Policies

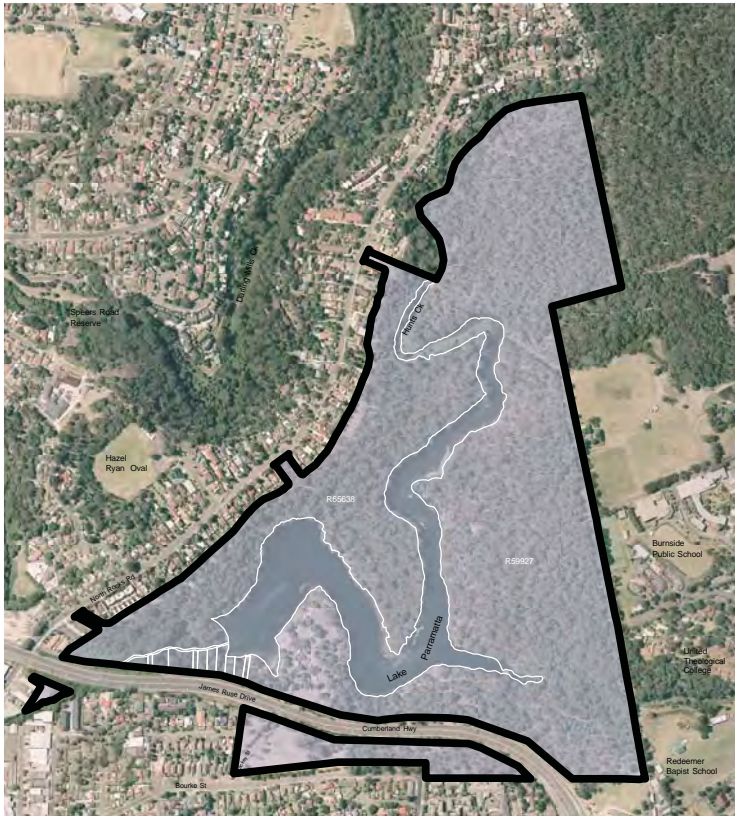
Hierarchy	Type	Name
Local	Strategy	Parramatta Twenty25 Strategic Plan Parramatta Biodiversity Plan Parramatta Open Space Plan Parramatta Sport & Recreation Plan Catchment & Floodplain Management Plans
	Policy	Commercial Mobile Vending Policy (Policy 235) Environmental Policy (Policy 282) Filming Applications Policy (Policy 231) Local Floodplain Risk Management Policy (Policy 234) Outdoor Dining Policy (Policy 236) Volunteer Bushcare Program Charter & Policy (Policy 195) Waste & Resource Recovery Action Plan - Policy Directives (Policy 292)

1.6 LAKE PARRAMATTA WATER SAFETY PLAN

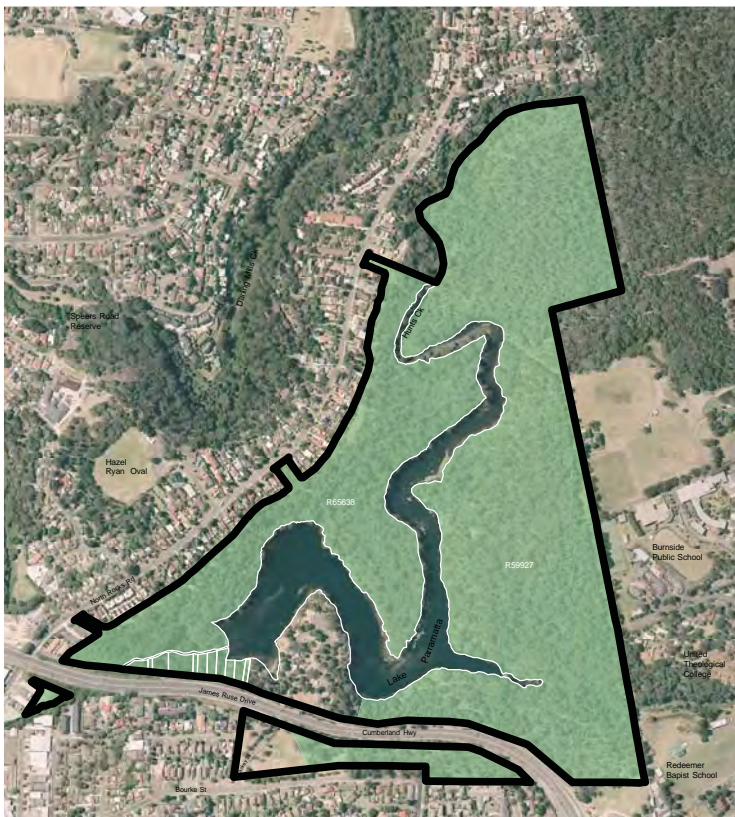
The Water Safety Plan (WSP) for Lake Parramatta aims to inform Council of ways to reduce risks to primary contact recreational users of the Lake during a controlled swimming event organized by Council or any other organization. It has been developed in accordance with *Practice Note No. 15: 'Water Safety 2010'* to ensure best-practice risk management and compliance with legislative and policy requirements. The WSP provides guidance on required actions to:

- Minimise microbial contamination of Lake Parramatta and its tributaries based on the principles outlined in the National Health and Medical Research Councils *'Guidelines for Managing Risks in Recreational Waters'* (2008);
- Timely identification and response to short-term and long-term microbial contamination problems;
- Development of a scheme for minimizing microbial health risks to Lake Parramatta Water users (both primary and secondary contact);
- Timely recognition and reporting of hazardous events which will temporarily degrade microbial water quality;
- Recognition of adequate water quality recovery following hazardous events;
- Prevention, remediation or avoidance of hazards.

All primary and secondary water contact activities in Lake Parramatta are to be undertaken in accordance with the guidelines in the WSP which details appropriate management practices including signage, equipment and water safety personnel training.

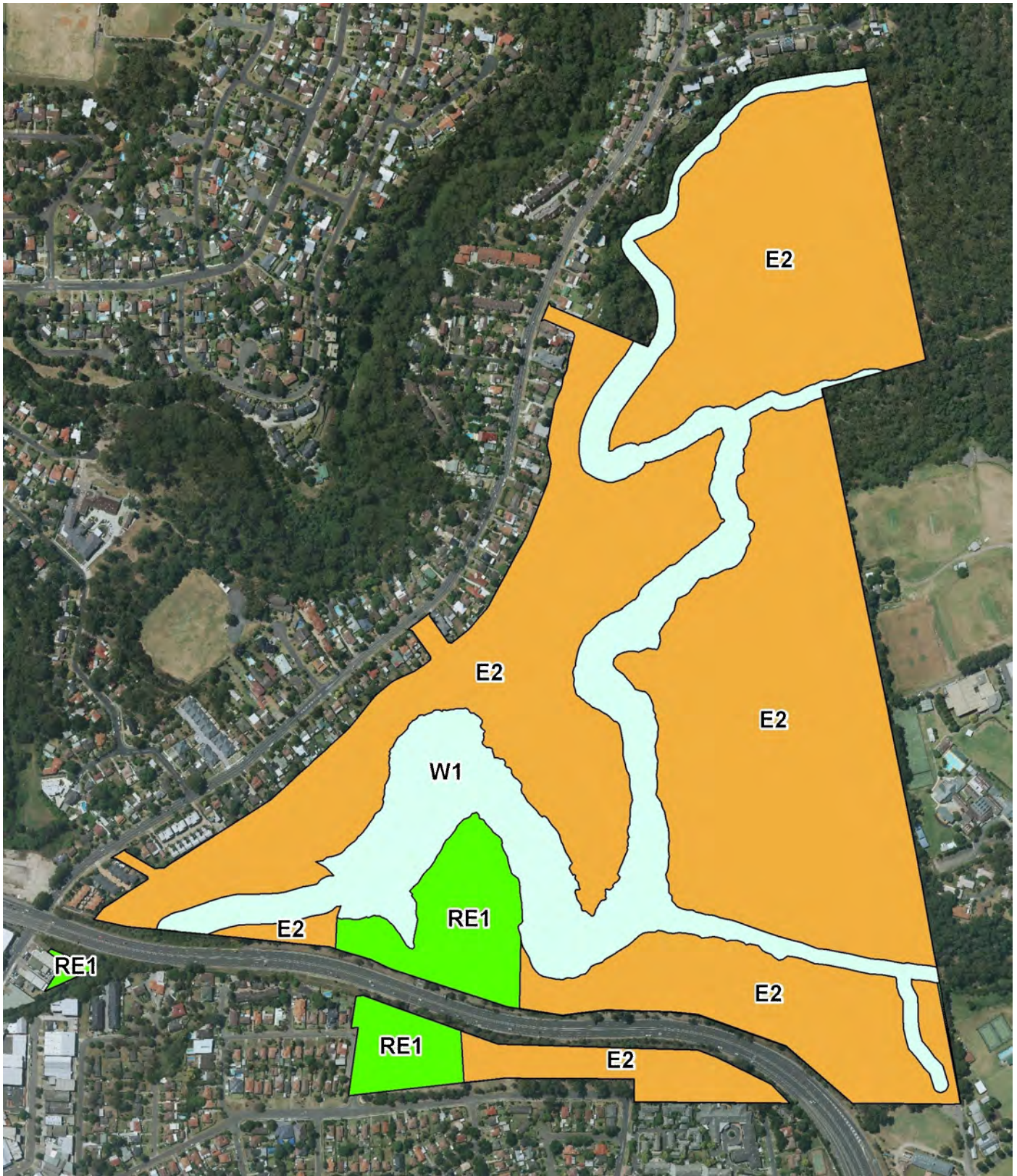


Original "Public Recreation" Purpose



Proposed additional "Environmental Protection" Purpose





Source: Parramatta Local Environmental Plan 2011



1.7 CROWN RESERVE DETAILS

Land covered by this PoM consists of the following land parcels as indicated on *Figure 1.4: Reservations Plan*

Table 1.3: Property details for Lake Parramatta Reserve

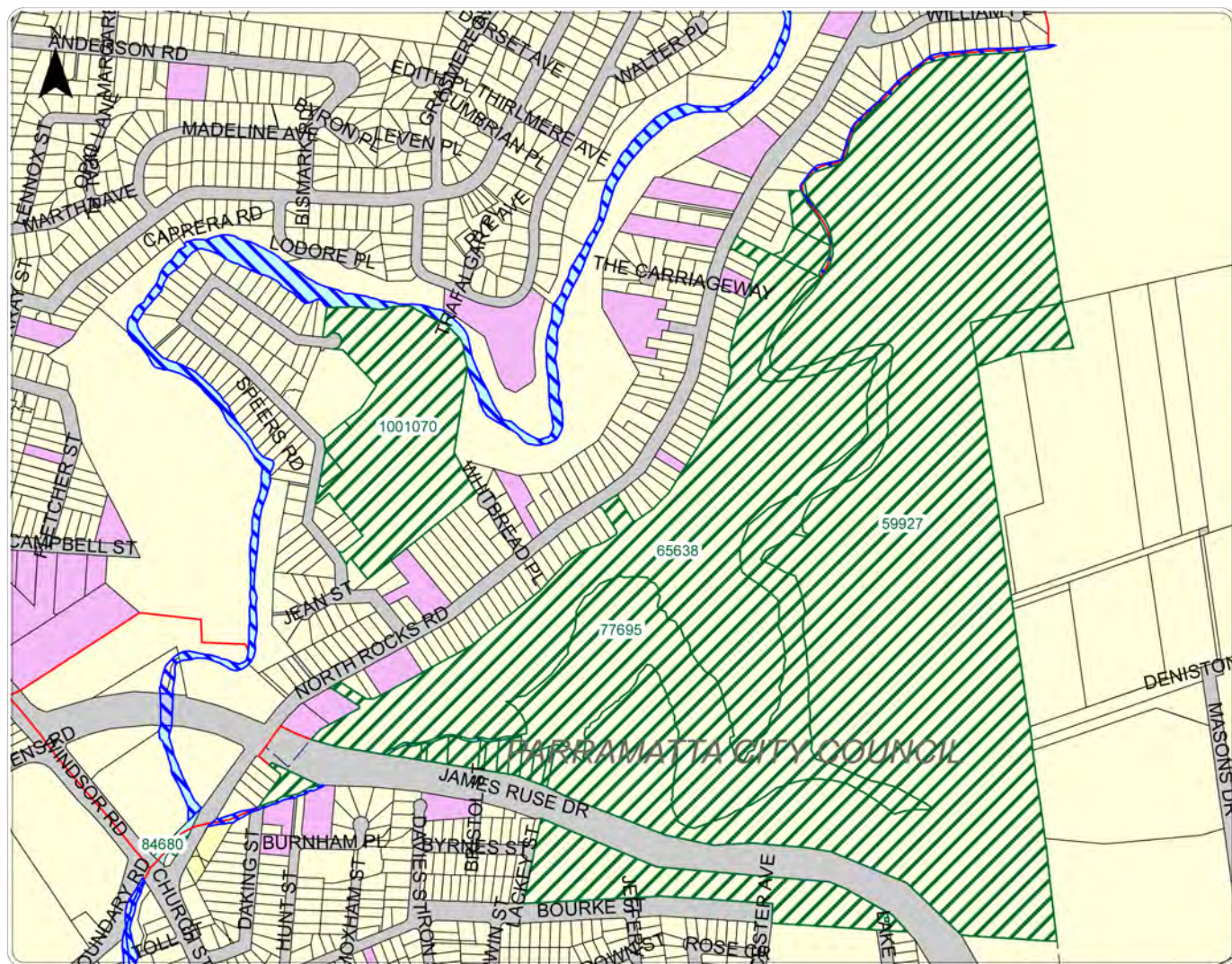
Lake Parramatta Reserve (Crown Land Reserve No. 146)					
Portion	Crown Plan	Reservation	Notified	Gazetted	Comments
3	MSP8842.3000R MSP21846.3000R	Part Reserve 65638 *	22.11.1935	02.4.1971 18.06.1976	
5	C817690	Reserve 59927 *	19.08.1927		Contains easement for access, electricity and telephone to DP210580
6	MSP11632.3000R	Reserve 77695 *	17.06.1955		
26	MSP11362.300R	Reserve 77695 *	17.06.1955		
27		Part Reserve 59927 *	19.08.1927	21.08.1987 24.10.1986 25.09.1987	
28	MSP8842.300R	Part Reserve 65638 *	22.11.1935		South west corner cut-off by James Ruse Drive
225		Part Reserve 59927 *	20.12.1985	24.10.1986	Closed road

Note:

No titles are issued for land acquired by the Crown

Crown Land includes all submerged land (i.e. the lake proper)

* Reserved for public recreation



Legend

Plan courtesy of NSW Catchments & Lands Division

- Crown Waterway
- crown_poly_reserves
- Crown Road
- Shared Crown / Council Road
- crown_poly_waterways
- Localities
- LGAs
- Rail Corridor
- WaterFeatureCorridor
- Waterways
- Unidentified Parcel
- Standard Lot
- Standard Part Lot
- Strata
- Stratum
- Road



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1.8 METHODOLOGY AND FORMAT

The following summary sets out the methodology adopted in developing the PoM and the format chosen for its presentation. The approach to the project has involved four principal stages

Document review

A key component of the PoM process has been the review and evaluation of previous reports and studies along with current planning policies. Of particular relevance has been the previous PoM for the Reserve, along with PCC policies which have been updated or developed since the PoM's adoption in 1999. These have been reviewed for inclusion and consideration where appropriate.

Fieldwork

Several site visits were undertaken to the main visitor precinct and the network of walking trails to understand how the Reserve is used, where user issues arise, and what improvements might be made.

Consultation

Consultation has been undertaken in several ways. An inception meeting was held on site with key Council stakeholders to confirm the actions that had been implemented from the 1999 PoM, discuss past issues and what new issues had arisen since the 1999 PoM was prepared.

An invitation to a community workshop including a park visitor questionnaire was circulated to nearby residents. And a notice for the community workshop was provided on the Reserve's notice board and in the local newspaper. These notices advertised the time and venue of the community workshop and included details for the park visitor questionnaire that could be completed on Council's website.

Refer 2.14 for a summary of community questionnaire responses.

A community workshop held at Parramatta Town Hall on 1 July 2010 provided an opportunity for stakeholders to discuss values and issues related to the reserve. The workshop was attended by 6 Councillors, 24 community members, 2 Council officers and 4 consultant team members. Refer appendix for a summary of workshop discussions.

The study team consulted with the Parramatta Aboriginal and Torres Strait Islander Advisory Committee on 24 August 2010 to discuss the draft PoM document and any specific requirements of the group.

1.9 ABBREVIATIONS, TERMS AND DESCRIPTIONS

Parramatta Local Environment Plan 2011	LEP
Local Government Area	LGA
Crown Lands Act 1989	CLA
Local Government Act 1993	ACT
Environmental Planning Instrument	EPI
Crown Lands Division	CLD
Parramatta City Council	PCC
Environmental Protection Agency	EPA

2 SITE APPRECIATION

2.1 HERITAGE

Schedule 5 (Environmental Heritage) of the Parramatta LEP 2011 lists the Hunts Creek Dam Wall (I334) and Lake Parramatta Reserve (I335) as local heritage items. The NSW State Heritage Committee has also endorsed a nomination to list the Lake Parramatta Dam Wall on the NSW State Heritage Register under the NSW Heritage Act 1977.

Prior to European colonisation of the Parramatta area, Lake Parramatta Reserve was used extensively on a semi-permanent basis by local Aboriginal people due to the abundance of fresh water and diversity of food types available. The Parramatta City Council Aboriginal Heritage Study (2003) outlines that the Aboriginal people originally living at the head of the harbour in Parramatta are believed to be the 'Burramattagal' group of the 'Darug' People.

There remains evidence today of Aboriginal occupation within the boundaries of Lake Parramatta Reserve in the form of remnant shelters, hand-stencils, flaking scars and deposits. It is possible that other sites were inundated with the construction of the dam in the mid 1800s.

The City of Parramatta was founded in November 1788 and from as early as 1804 records exist that describe the use of Hunts Creek as a pleasure ground in which "several hours (may be) occupied in contemplating the natural beauties of the variegated scene, surrounded by the stately forest which protects it from the scorching summer sun, in the centre of its valley, encompassed by stupendous rocks, a murmuring stream, delectable to the taste, meanders to the untaught notes of nature's feathered care, that charm the ear with wild irregularity. Here caverns open to the untouched tribe, whose far recess forbids the approach of rude and chilling winds" (as cited in James Jervis, 1938).

Hunts Creek was originally located at a level marginally above the tidal limit of the Parramatta River. Its freshness, purity and abundant supply, contributed to the Creek being used by locals to manufacture illegal alcohol known as 'moonshine'. By 1840, as Parramatta's population was growing, and likewise its demand for fresh water, Hunts Creek was advocated for damming.

The foundation stone for the dam was laid in 1855 with all sandstone used for construction quarried from Hunts Creek, thereby allowing for completion in the following year. The dam is historically important in that it was only the twelfth engineered dam built in the western world, and the second arch dam built universally that involved calculations for its construction (Ash, (c.1970).

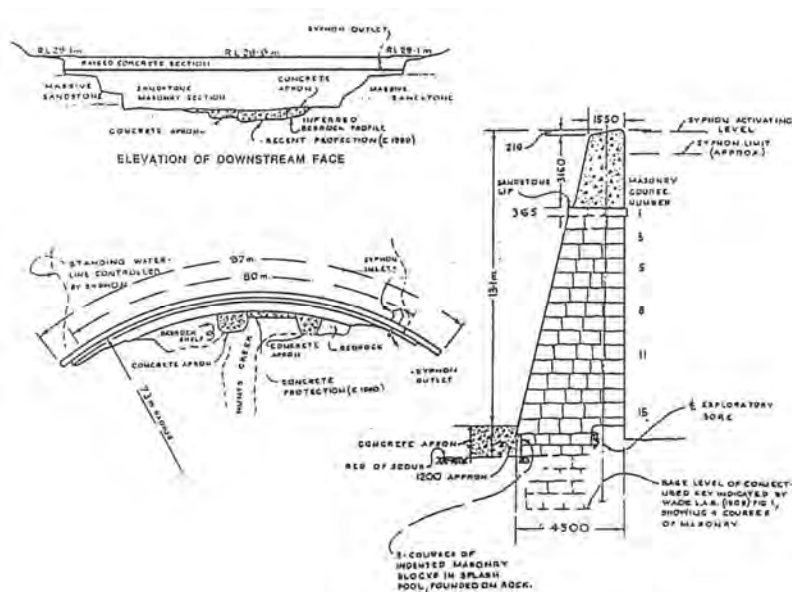


Figure 2.1: Plan, elevation and section details of the Lake Parramatta dam wall. Source: Ash (c.1970).





As Hunts Creek lay within a deeply dissected sandstone valley, the dam created an extensive, irregularly shaped water body with a volume in excess of 280 megalitres (or approximately 280 Olympic sized swimming pools). Water was not reticulated from the dam to the City of Parramatta until 1881 when it was required to augment the then dwindling water supply. Additional water was held in filtering beds in an area to the south of the Reserve (now filled at the corner of Jeffery Avenue and Bourke Streets). When the dam was being used at full capacity, an extensive road network around the lake edge was built by unemployed labour in 1887, significant remnants of which are still apparent. With increasing demand for fresh water the dam was raised 12 feet (3.3 metres) in 1898 (refer Table 2), managing to retain its 'respectable proportions' (Wade, 1909), however, concrete was chosen in preference to sandstone.

To protect the water quality of the dam, extensive portions of land adjoining the waters edge were reserved, conserving the original bushland character of the area. The Reserve was known at this time as Hunts Creek Water Reserve. In 1909, however, the supply of water to the City of Parramatta from Hunts Creek Water Reserve was discontinued as the city connected to the Sydney system. At this time the ownership of the Reserve by the Metropolitan Water and Sewage Board was divested to the Crown. The Reserve was subsequently entrusted to Parramatta City Council as a recreational area.

Lake Parramatta Reserve, as it was now recognised, enjoyed immense popularity as a recreational destination from the 1920's. The main physical attractions were the bushland environment, fauna and the lake itself. The lake was used extensively for swimming, rowing, water-skiing and other aquatic activities. A swimming club, clubhouse and lifesaving organisation were established in the 1930's and a kiosk later opened to service visitor demand in 1937 (Parramatta City Council Records).

Unfortunately, with increasing motorcar usage and personal mobility, the Reserve experienced a decline in patronage in the 1950's. This was compounded by restrictions to water based activities an overall decline in the Reserve's amenity. Restrictions and reduced amenity evolved largely in response to encroaching residential development, for example, new residents to the area complained of noise generated by water-skiers, new development resulted in reduced water quality and an escalation in the dumping of building waste was evident.

Following representations by the Wildlife Preservation Society in 1958, Parramatta City Council adopted as its objectives for the Reserve, "the preservation and restoration of the bushland area and the maintenance and development of the recreational area" (Parramatta City Council Records, 1958). Lake Parramatta Reserve was proclaimed a wildlife 'Complete Sanctuary' (with the exclusion of the lake proper) on October 7 1960 under section 22 of the Fauna Protection Act 1948; however this proclamation was not transferred to the current National Parks and Wildlife Act 1974 and is no longer in-force.

The establishment of the Reserve as a sanctuary did not arrest the decline to either bushland or recreational areas. The lake and surrounding bushland were frequently used to dispose of garden and household rubbish, car bodies and commercial waste. Natural resources such as bushrock were also removed without consent. Trail bikes and off-road motor vehicles continued to damage both soil and vegetation. In 1978, the Reserve was closed to traffic causing a visible reduction in ongoing degradation, however, no remediation works were undertaken to damage already incurred.

The construction of the main arterial road, James Ruse Drive, created a new set of still unresolved issues when it was opened in September 1979. The road cut through the Reserve, increasing traffic noise and again causing a further decline in recreational popularity. The road effectively isolated a substantial stand of remnant vegetation to the south and created new visual and physical access problems for the Reserve. Whereas the original point of entry through to Illawong Drive captured lake vistas and was clearly separated from the ancillary clubhouse and caretaker facilities, the new Lackey Street underpass created a poor impression for the main Reserve entry and continues to negatively affect visitation.

In an attempt to overcome the decline in the popularity of the Reserve, and as a means of arresting the prevalent trend of the Reserve's decline as natural resource, Parramatta City Council pursued a number of remediation measures. In 1983 the lake was emptied to carry out maintenance work on the dam wall and this provided an opportunity to remove rubbish, including car bodies from the lake floor. To improve recreational fishing opportunities, the Department of Industry & Investment (formerly Department of Agriculture) has undertaken regular stocking of native bass in the lake since the early 1980s, including:

Year	No.
1982	17,000
1983	11,000
1989	7,500
1998	10,745
1999	5,000
2002	6,000
2003	4,000
2010	5,200

In the 1990's, barbeque and picnic facilities were upgraded, the lake periodically cleared of salvinia infestations and some new bush regeneration projects undertaken by local residents, Council, bush regeneration contractors and Sydney Water.

In recent years Council has undertaken a range of capital works improvements to facilities in the main visitor precinct including additional picnic tables, shelters, pathways and planting along the lake edge along with new toilets, playground, Bush Food Garden and Sorry Day Plantings which are located on the eastern side of the precinct. A rain garden has been constructed near the main picnic area to improve water quality of stormwater runoff from James Ruse Drive before it enters the lake. In the natural areas of the reserve, improvements in the track signage and track surfaces over recent years has allowed for improved access to the reserve and a number of bushland regeneration projects have been implemented (refer environment for further details).

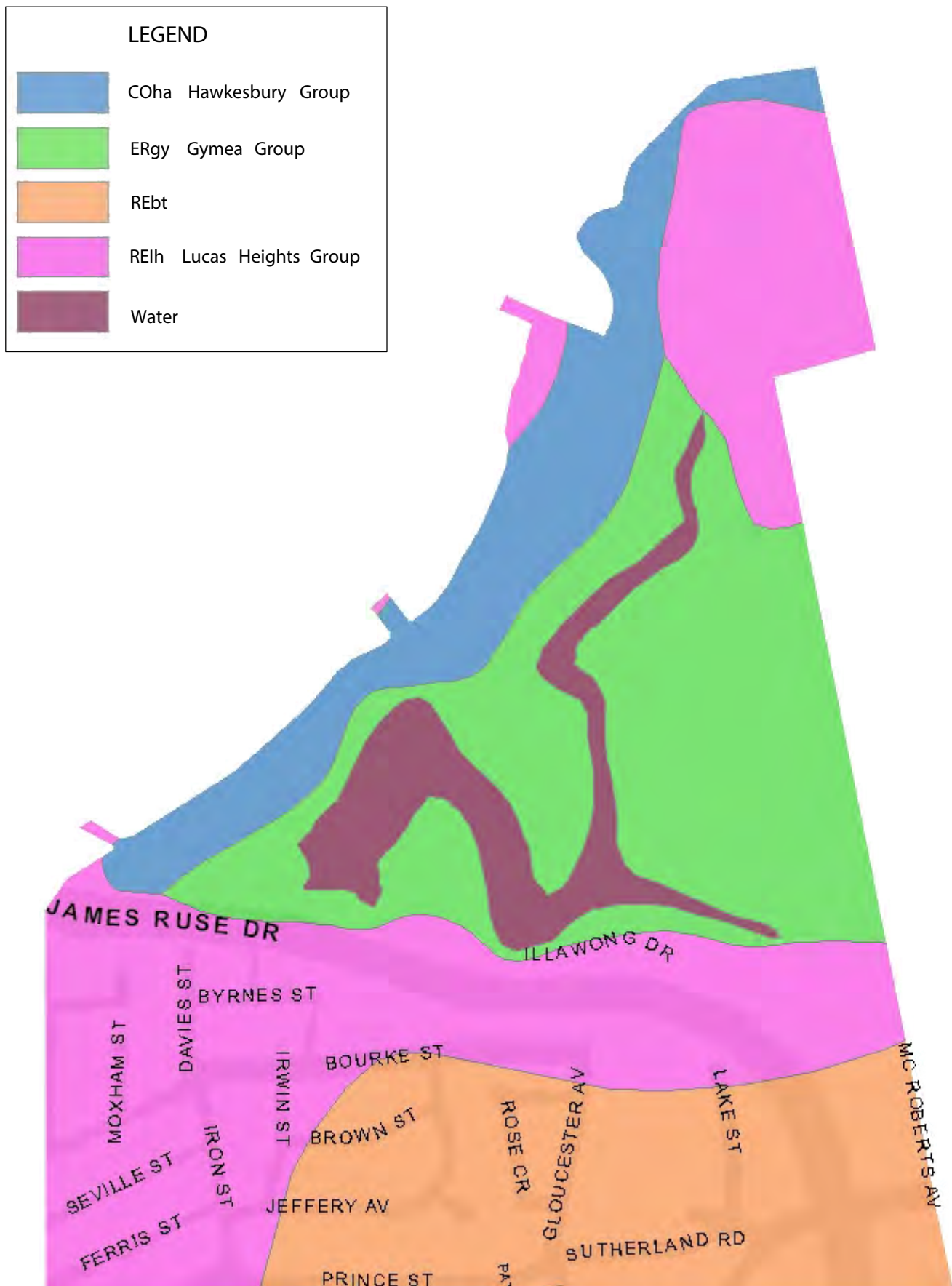
2.2 TOPOGRAPHY, GEOLOGY AND SOILS

Lake Parramatta Reserve is situated on the edge of the Hornsby Plateau, abutting the Cumberland Basin. The topography, which is typical of the underlying Hawkesbury Sandstone, is one of deeply dissected valleys and rocky outcrops. The lake has flooded the main Hunts Creek Valley leaving the less steep side-slopes, wide benches and narrow, broken crests exposed. In addition to the prevalent Hawkesbury Sandstone geology, some parts of the upper eastern ridge within the Reserve merge with the Wianamatta group of sandstones and shales.

The soils throughout the site are generally shallow, strong and acidic, with a low water retaining capacity and low soil fertility, with the exception of those areas impacted significantly by urban runoff. There are three main soil groupings within the Reserve and these significantly influence the composition of existing vegetation.

As indicated on *Figure 2.4*, the prevalent soil group is of GyMEA origin with shallow to moderately deep (300 - 1000mm) yellow earths and earthy sands located on crests inside of benches, and shallow (< 200mm) siliceous sands on leading edges of benches. Localised gleyed and yellow podzolic soils to a depth of no more than 1000mm are found on shale lenses, and siliceous and leached sands are found along drainage lines. The GyMEA is typically an erosional soil landscape in which slopes vary from 10 to 25%. Soils are shallow to moderately deep yellow earths and earthy sands on crests and sands along drainage lines. Gleyed podzolic soils and yellow podzolic soils are associated with shale lenses.

Limited occurrences of two other soil groups, those of Lucas Heights and Hawkesbury origin, are found within the Reserve to the northern and western areas respectively, and as such those areas dominated by less fertile heath vegetation (Chapman, et al., 1989). These soils usually typify steeper topography and shallower pocketed soils – highly subject to erosion when access paths or other clearing occurs. The management of use and provision of facilities in the Main Visitor Precinct, as well as walking track alignments, should recognise the need to manage gradients below 25% to avoid erosion.



Plan courtesy of Parramatta City Council



2.3 HYDROLOGY

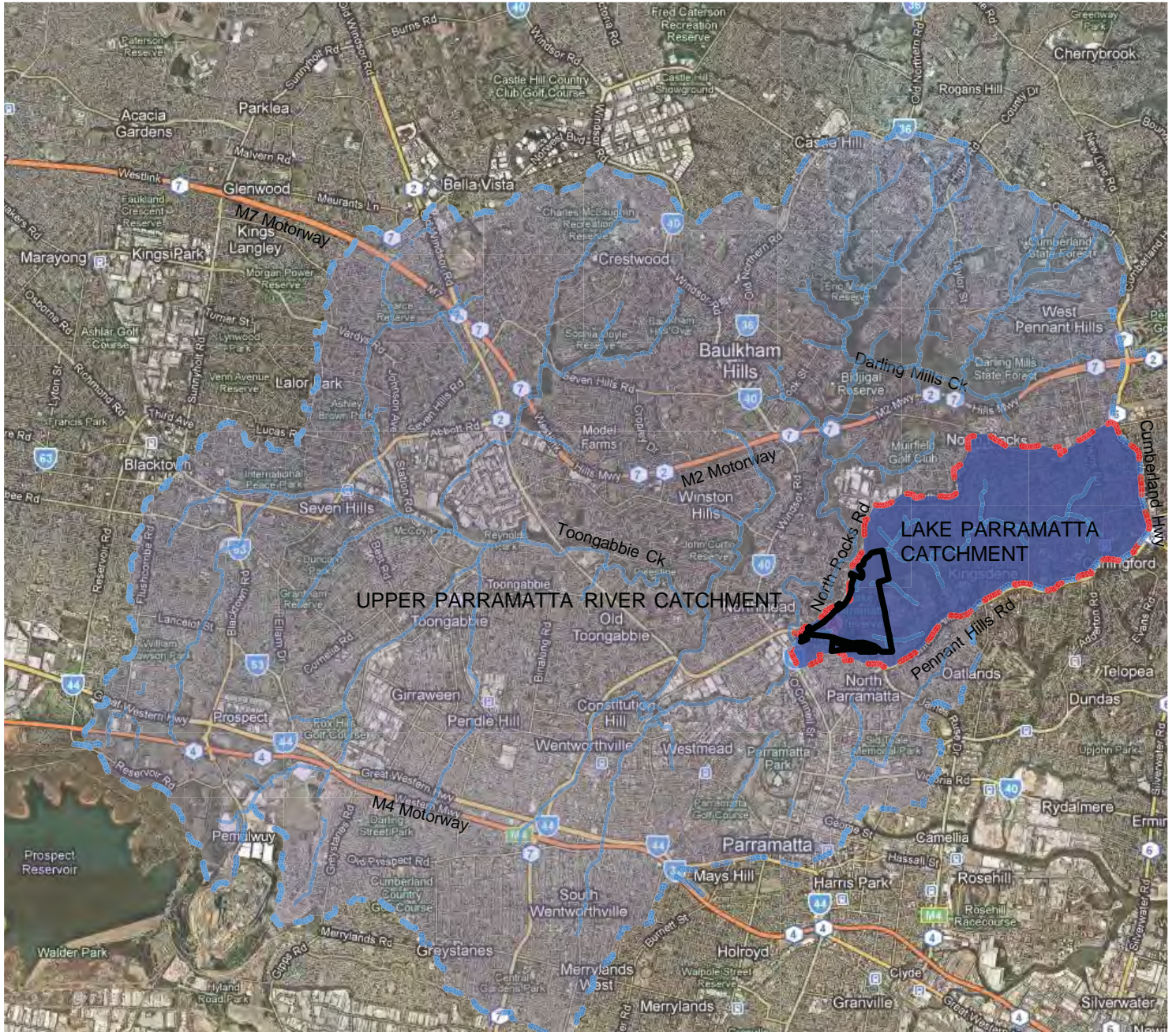
There are three creeks within Lake Parramatta Reserve, with only Hunts Creek being named. Hunts Creek enters the Reserve from the north-east, becomes Lake Parramatta due to damming, and leaves via the south western corner, flowing west into Darling Mills Creek then into the Parramatta River. Of the two unnamed creeks, one flows down a gully to the south of Hunts Creek and the other flows from the Kings School into the south-eastern gully of the Reserve. Both are tributaries of Hunts Creek.

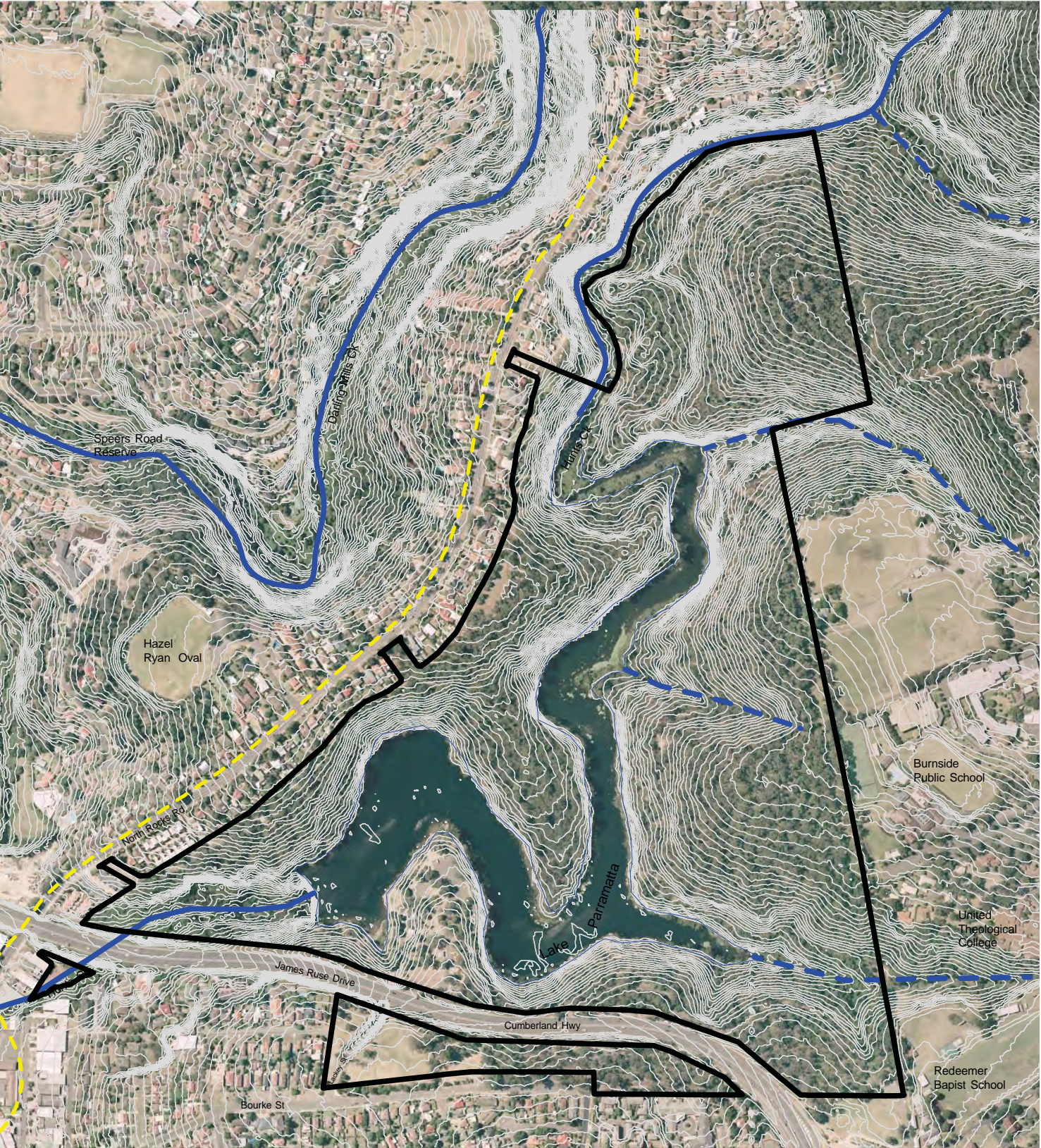
Stormwater entering the lake from upstream sources including a significant catchment outside the Parramatta Local Government Area is a major impact on water quality and will continue to impact potential for recreational use of the Lake.

Stormwater runoff through the Reserve is the source of many weed and pollution problems that impact upon both the lake and native bushland. There will need to be collaboration between the Hills Shire and Parramatta City Councils to plan and implement point source controls and management within the catchment. Council should also ascertain the quantity and location of discharge points within the Reserve for the implementation of appropriate stormwater amelioration techniques.



Photo: Swimming at Lake Parramatta c. 1930s





- LEGEND
- Contours (1m intervals)
 - Creeks
 - Drainage line
 - Lake Parramatta sub-catchment boundary



1:7500 @ A4

2.4 CLIMATE

The North Parramatta Meteorological Station is the nearest location for which any climatic records for Lake Parramatta Reserve are available. The mean daily maximum temperatures range from 17°C to 28°C, with a mean minimum daily temperature range from 6.1°C to 17.7°C. The mean annual rainfall is 935mm with the mean monthly rainfall displaying a degree of seasonality, wet summers and drier winters.

2.5 VEGETATION

2.5.1 Bushland

Lake Parramatta Reserve is dominated by large bushland remnants of the Coastal Shale-Sandstone Transition Forest. Dominant canopy species comprise of *Syncarpia glomulifera* and *Eucalyptus pilularis*, with *Angophora costata*, *Corymbia gummifera* and *Eucalyptus punctata* locally common, whilst the Bourke Street site is dominated by *Eucalyptus fibrosa* ssp. *fibrosa*.

A wide variety of shrubs and groundcovers are found within the reserve, reflecting both the size and generally good bushland condition found within the contract area. The creek-line vegetation is typical of Sydney Sandstone riparian flora, and includes *Ceratopetalum apetalum*, *Tristaniopsis laurina*, *Lomatia myricoides*, *Gahnia sieberiana*, *Callicoma serratifolia*, *Christella dentata*, *Pteris tremula*, *Pteridium esculentum*, *Calochlaena dubia* and *Adiantum aethiopicum*.

More elevated areas contain species typical of mid-slope Western Sandstone Forest including *Breynia oblongifolia*, *Dodonaea triquetra*, *Acacia decurrens*, *Kunzea ambigua*, *Leucopogon juniperinus* and *Pomaderris ferruginea*.

In 2009 the Sydney Metropolitan Catchment Management Authority (SMCMA) published detailed mapping of native vegetation communities present within the Sydney metropolitan area. This mapping identifies the following vegetation within the reserve:

- Coastal Shale-Sandstone Transition Forest (most of the reserve)
- Coastal Enriched Sandstone Moist Forest (along the edge of Hunts Creek and Lake Parramatta)
- Sydney Turpentine-Ironbark Forest (below the dam wall and south of James Ruse Drive)
- Urban Exotic / Native (main visitor precinct and along Hunts Creek)
- Weeds and exotics (south western corner of the reserve)

Refer figure 2.7 for vegetation community locations.

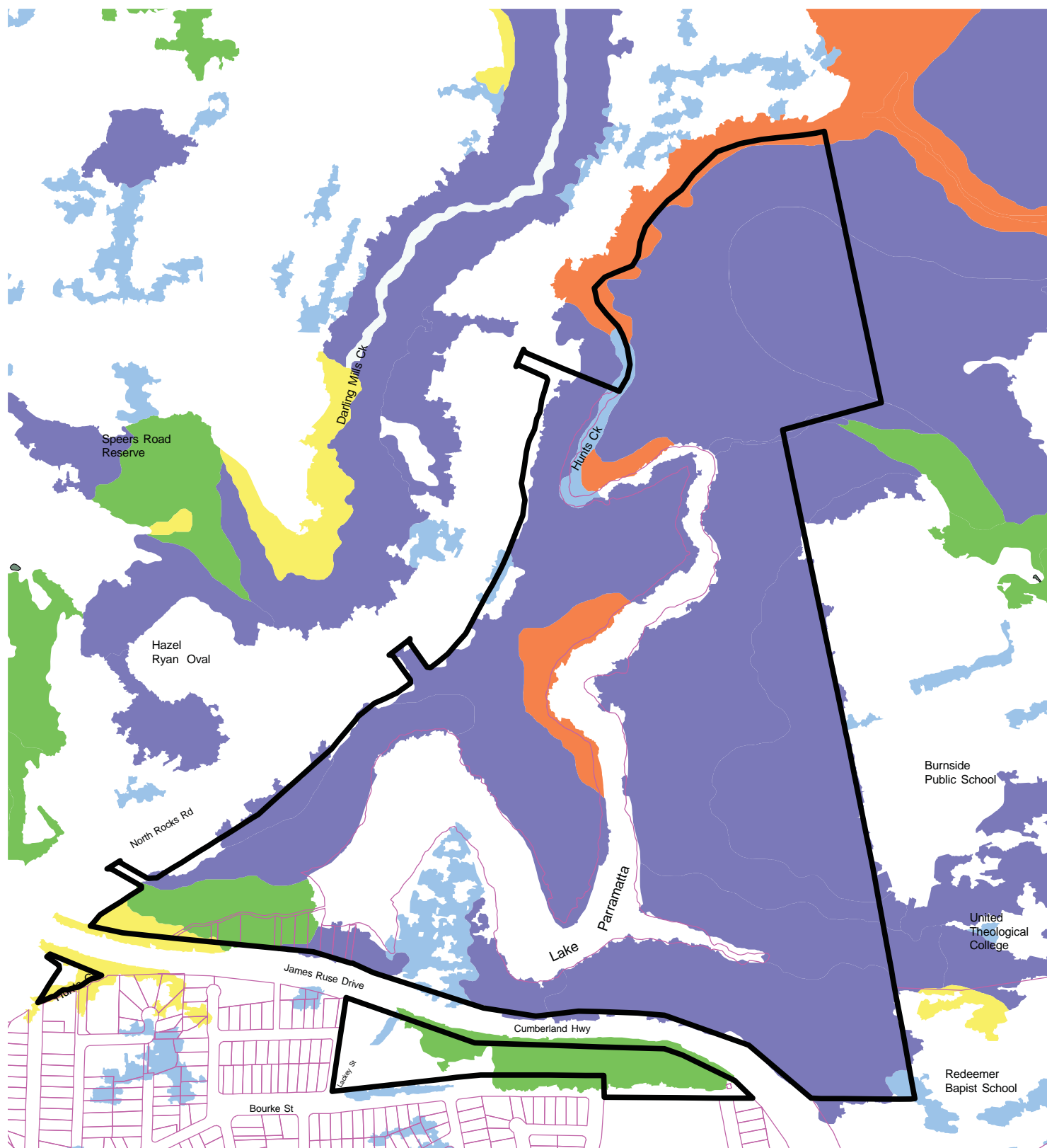
The *Sydney Turpentine-Ironbark Forest* vegetation community within the reserve is listed as an 'Endangered Ecological Community' under the *NSW Threatened Species Conservation Act 1995* (TSC) and 'Critically Endangered' under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999. Bush regeneration within or in proximity to this vegetation community is undertaken in accordance with the NSW Department of Environment and Climate Change 'Best Practice Guidelines – Sydney Turpentine-Ironbark Forest' (2008).

A 2011 survey of the Reserve identified a diverse range of flora species within the reserve including *Epacris purpureascens* var *purpureascens* which is listed as Vulnerable under the TSC Act 1995.

Refer appendix 9.1 for the full list of flora found in the reserve.

Despite the size of Lake Parramatta Reserve it still has a substantial and varied disturbance history with impacts ongoing to this day. Subsequently, large good bushland areas are frequently intermixed with weed infested dumped fill areas, creek lines, drainage lines and edges. Exacerbating these urban disturbances the aggressive and invasive exotic perennial grass *Eragrostis curvula* has previously been used as a landscaping species within park areas of the reserve and has expanded throughout much of the drier southern bushland areas.

Other management issues of concern for Lake Parramatta bushland include trampling (especially in burn areas), feral animals, fire management, vandalism and littering.



Source: Draft Sydney Metro Catchment Management Authority Vegetation Mapping (2009)

LEGEND

- Coastal Enriched Sandstone Moist Forest
- Coastal Shale-Sandstone Forest
- Sydney Turpentine-Ironbark Forest
- Urban Exotic/Native
- Weeds and Exotics



1:7500 @ A4

Lake Parramatta Reserve
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FIGURE 2.7: VEGETATION COMMUNITIES

2.5.2 Wetland

Several small wetland communities are found on the shore of Lake Parramatta and where creeks enter the lake. No submerged aquatic plants are found as the lake edge falls away sharply due to the original sandstone steep gully formation. The most common wetland species found (as identified in the 1999 PoM) include: *Nymphaea caerulea* * (Cape Water), *Juncus usitatus* (Common Rush), *Alisma plantago-aquatica* (Water Plantain), *Typha orientalis* (Cumbungi), *Gahnia melanocarpa* (Sword Grass,) and *Cyperus eragrostis* * (Umbrella sedge). * denotes exotic species.

Salvinia molesta is an aquatic fern native to south eastern Brazil. It is a free floating plant that does not attach to the soil, but instead remains buoyant on the surface of a body of water. *Salvinia* is a common weed in slow moving waters such as lakes and ponds and is currently controlled at Lake Parramatta by use of herbicides.

2.5.3 Cultural Landscape

The cleared landscape adjacent to the dam and main picnic areas contains both cultural plantings and shrubs popular in the early twentieth century. These plantings are therefore valuable in that they reflect the post 1788 cultural heritage of Lake Parramatta Reserve. Significant trees include *Brachychiton acerifolius* (Illawarra Flame Tree), *Grevillea robusta* (Silky Oak), *Jacaranda mimosifolia* (Jacaranda), *Lophostemon confertus* (Brush Box), and *Stenocarpus sinuatus* (Fire Wheel Tree).

Remnant canopy trees and understorey plants suggest that this area originally supported a combination of Open Forest and Woodland communities. There is evidence of considerable die back and tree death amongst the remnant native species and this is likely to be due in large part to the intensive recreational use of the area; including soil compaction, altered soil levels, changed drainage patterns and competition from exotic weeds.

2.6 WILDLIFE

As previously mentioned, Lake Parramatta Reserve was the first wildlife refuge created in the Sydney metropolitan area. The Reserve is significant as it contains a range of landscape types that support a diversity of wildlife species. Its size assists in its integrity as a wildlife habitat, as do the surrounding pockets of open space and adjacent green corridors, most notably in The Hills Shire Council.

A recent survey (2011) identified a range of fauna species within the reserve. The following species were recorded and are listed as Vulnerable (TSC Act 1995): *Glossopsitta pusilla* (Little Lorikeet), *Ninox strenua* (Powerful Owl), *Miniopterus schreibersii oceanensis* (Eastern Bentwing-bat), *Scoteanax rueppellii* (Greater Broad-nosed Bat), *Mormopterus norfolkensis* (Eastern Freetail Bat), *Meridolum corneovirens* (Cumberland land Snail) and *Pteropus poliocephalus* (Grey-headed Flying-fox) which is also listed as Vulnerable nationally under the EPBC Act 1999. Refer to appendix 9.1 for the full list of fauna found in the reserve

2.6.1 Birds

Birds form the most conspicuous component of fauna within the Reserve. The age of mature native canopy trees is of significance as there are many hollows and dead limbs available for nesting, especially by parrots. Native waterfowl on the other hand have their population limited by competition from both exotic birds and other predators such as foxes and feral cats, and because the lake edge profile restricts habitat. A slope of 1:5 would encourage native waterfowl habitat, but opportunities for such are severely limited by the existing sandstone topography and the generally steep falling away of the lake bottom at the shoreline.

2.6.2 Reptiles and Amphibians

Frogs may be heard in the vicinity of the lake; however the population is likely to have been affected by herbicide application to waterweeds, pollution from stormwater runoff and ingestion of other poisons. Long-necked tortoises inhabit the lake and many lizards, including blue-tongues, garden and striped skinks and water-dragons can be observed sunning on sandstone platforms (National Trust, 1990). It is a recommendation of this PoM that a full listing of reptiles and amphibians within the Reserve be undertaken and reassessed at regular intervals so as to monitor population trends and the subsequent impact of environmental factors.

2.6.3 Fish

The former PoM (1999) outlined the sparse presence of native Gudgeon and Bass in the lake, with the majority of the fish population consisting of mosquito fish and bass species introduced during regular NSW Department of Industry and Investment fish stocking events. Advice received from local anglers is that the Lake Parramatta fishery is performing well, with Bass having been captured from both kayaks and from the bank, indicating the success of the regular stocking program.

A 2010 Parramatta Waterways survey also identified Australian Smelt, Fire-tailed Gudgeons, Short-finned Eels and Eel-tailed Catfish, with European Carp also present. It is of interest to note that the title of Wildlife Refuge does not cover fish within the dam. This Plan recommends that if the dam is emptied for water quality improvement works, the fish population be tabulated and the dam later stocked with appropriate numbers of native species. This will need to occur after stormwater, pollution, habitat and water weed management issues are satisfactorily addressed.

2.6.4 Mammals

There are few indigenous mammals remnant at Lake Parramatta Reserve, largely due to the impacts of suburban development and predation by foxes and cats. Native mammals for which indications have been observed (e.g. scratch marks on trees and droppings) include Bandicoots, Possums (National Trust, 1990) and Bats. Otherwise the mammal population is dominated by Rabbits, Foxes and Cats (National Trust, 1990), which in turn impact on reptile, amphibian and bird populations. It is a recommendation of this PoM that a full listing of mammals within the Reserve be undertaken and reassessed at regular intervals so as to monitor population trends.

2.7 USE OF THE RESERVE

Lake Parramatta Reserve is a regional urban bushland remnant that caters to two broad user groups – the local community, and those who travel further distances specifically to visit the Reserve. In terms of the local community, the Arthur Philip Ward in which Lake Parramatta Reserve is located, has a population density comparable with the Parramatta Local Government Area (LGA) average. This is due largely to the amount of non-residential land that exists rather than an overall low housing density.

The reserve is surrounded by established urban residential areas which are experiencing significant growth and new housing developments through urban consolidation. These areas have a high population density relative to the overall Parramatta LGA, with residents living in separate dwellings decreasing from 44% in 1991 to 21% in 2006 (ABS 2006). Increasing residential densities in the surrounding area, together with the national housing trend towards smaller lot sizes and larger building footprints, are impacting on local access to open space. Public reserves such as Lake Parramatta Reserve are increasingly becoming the 'new backyard' for residents, providing social meeting places and only spaces for physical activity and other recreational activities. The local community is also becoming increasingly diverse, with residents from Non-English speaking backgrounds increasing from 20% to 33% between 1991 and 2006 (ABS 2006). It is expected that housing densities within the vicinity of the Reserve will continue to rise, placing increasing pressures on the open space and recreational resource of Lake Parramatta Reserve.

The Reserve is located at the northern edge of the Parramatta LGA, with its remaining boundaries (approximately 70%) adjoining The Hills Shire Council LGA. However with the only entry to the main visitor precinct located in the Parramatta LGA to the south of James Ruse Drive, visitation is currently tailored to Parramatta residents. It is frequently used by visiting clubs and organised groups for picnics and barbecues; school education groups; daily excursion groups from local hospitals; as a photographic venue (especially for wedding parties); organised bushwalking clubs; for orienteering purposes; as a venue for displays, and as a tourist destination for visitors to the Parramatta area.

Whilst the Reserve provides considerable amenity for adjoining residents (many of whom use it or simply enjoy its proximity), significant opportunities exist to make the Reserve more accessible to a wider cross section of the community, both locally and regionally. The opportunity to provide for greater visitation to the Reserve needs to be balanced by the carrying capacity of the Reserve's environment and the expressed concerns of local residents for reasonable levels of quiet and privacy, whilst satisfying the Crown Land objective for the encouragement of public use and enjoyment.

2.7.1 Main Visitor Precinct

The majority of visitor facilities are concentrated in a peninsular dissected by the main entry off Lackey Street. These include a kiosk, cottage, training / education room (with under-building boat storage area), picnic and barbeque facilities, public toilets, a children's playground, seating, rubbish receptacles and parking.

Refer figure 2.8 for Main Visitor Precinct facilities

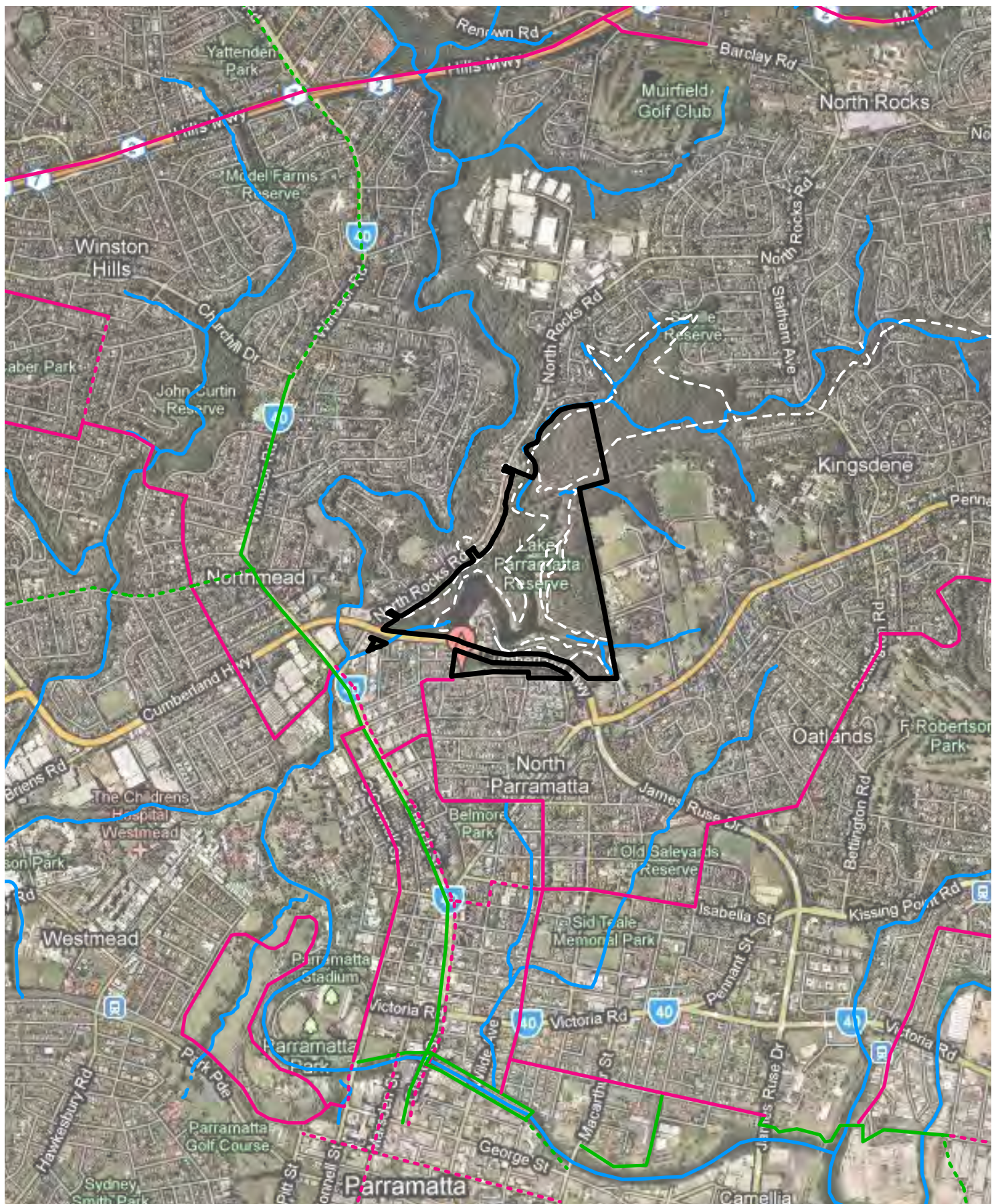
The layout of the kiosk, cottage and combined education/boatshed facility is poor given the focus of vehicular entry from Lackey Street. Prior to the construction of James Ruse Drive, these buildings were sited away from the main entry; however, this varied assemblage of structures now constitutes a major portion of the Reserve's entry experience.

The main vehicle access and car parking currently occupies a level zone parallel to the lake edge, which is open space that otherwise might have high value for passive recreation. The parking and circulation area is inefficient and is larger than required for the number of parking spaces. The extent and location of parking should be reviewed to improve efficiency, optimize use of high value open space, and manage environmental impacts of roads and paths such as stormwater runoff.

Toilets and a playground to the south eastern part of the main visitor precinct are well utilised and kept in good condition, however their location is separated from other complimentary facilities / uses in the main visitor precinct. The sewage system for the toilets, kiosk and cottage comprises of two underground tanks which are pumped to the sewer line adjoining James Ruse Drive. Council has recently been advised that the system should be upgraded with new pumps, sewer line and alarm system to prevent any incidence of overflow to the lake if the system failed.



Photo: Lake Parramatta Looking North-East from Main Visitor Precinct



LEGEND:

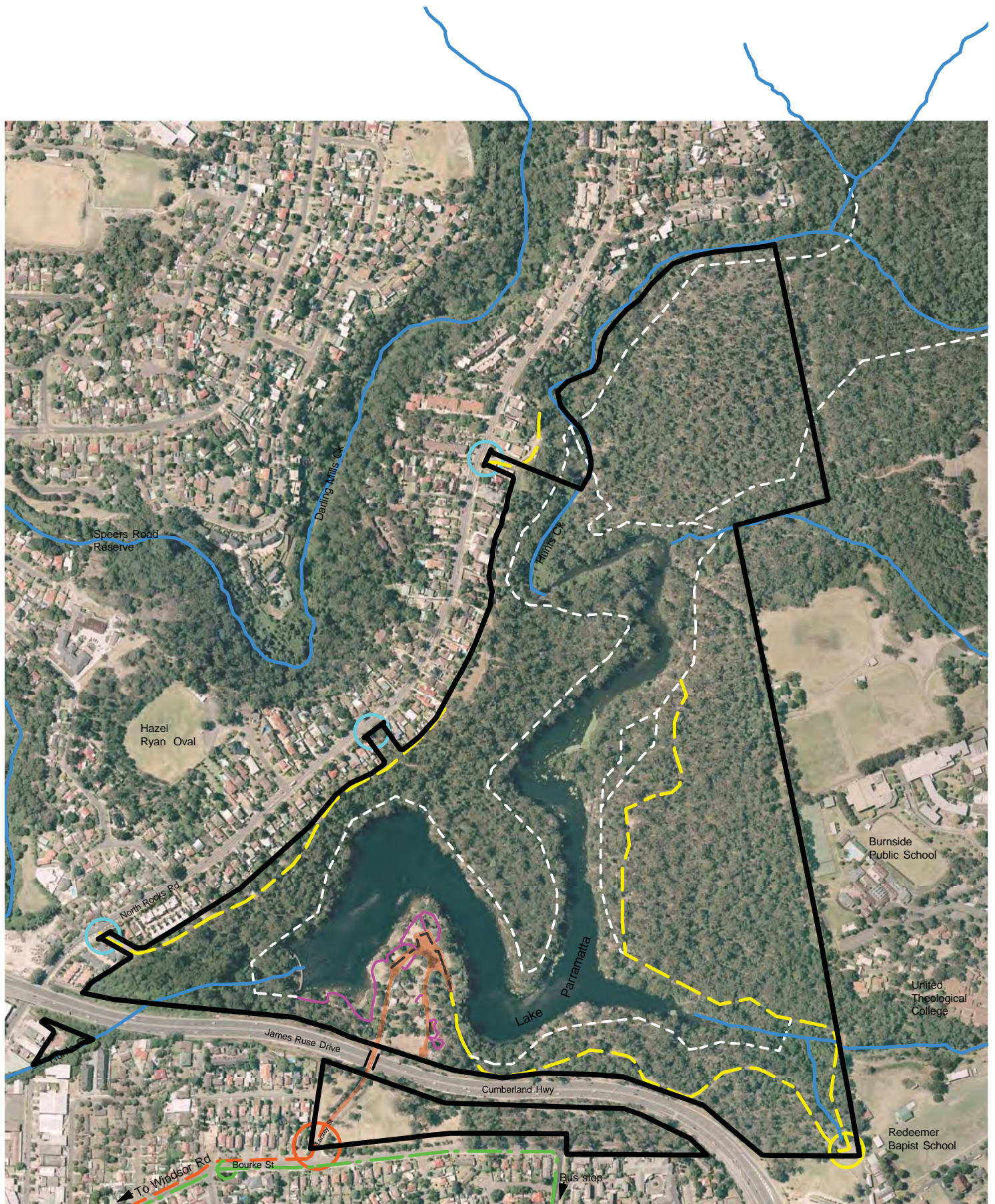
- Existing on road cycle route
- - - Proposed on road cycle route
- Existing off road cycle path
- - - Proposed off road cycle path
- - - Bush walking track
- Creeks and drainage lines



1:25000 @ A4

Lake Parramatta Reserve
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FIGURE 2.9: CYCLE & WALKING TRACK CONNECTIONS



LEGEND

- | | | | |
|---|--|---|--|
| — Vehicle route to site | Vehicle entry | Pedestrian entry | Service vehicle entry |
| — Bus route / stop
Hills bus #609 | Vehicle access | --- Walking track | --- Service vehicle track (Firetrail) |
| --- Car parking | --- Pedestrian pathway | --- Creeks and drainage lines | |



1:7500 @ A4



- LEGEND
- - - Ridgelines limiting views within site
 - - - Views into the site limited by tree canopy
 - ↗ Panoramic vantage points



1:7500 @ A4

FIGURE 2.11: VIEWS OF AND WITHIN THE RESERVE

2.7.2 The Kiosk

A kiosk located within the main visitor precinct is popular with visitors and serves take away coffee and snacks along with a range of hot meals for breakfast, lunch and dinner. The kiosk lessee is permitted to cater for small private functions within the leased area, provided they do not impact on the community use of the Reserve or amenity of nearby residents. The functions are usually held on an evening and finish by 10pm with the kiosk lessee being responsible for opening / closing the gates and controlling access for visitors.

The lessee of the kiosk utilises the adjoining cottage (formerly a caretakers residence) for food and beverages storage. The two buildings are currently in a poor condition and a major overhaul is required to improve the facilities for continued kiosk use.

The 1999 PoM included a concept masterplan for the main visitor precinct which proposed the development of a new restaurant / café / function building in a waterfront location. However this recommendation has not been implemented.

This PoM has considered the potential for an upgraded kiosk building and the facilities required to operate a suite of different services ranging from take away, eat in dining and small function use.

A range of preliminary concept options were presented at the Community Workshop for discussion (*refer 9.4*). In response to questions about the kiosk in a recent visitor survey the majority of respondents indicated that they supported an upgraded kiosk but were not in support of a large dedicated function centre.

The feasibility of an upgraded kiosk development, including spatial requirements, and operating hours are analysed in the report prepared by Jenny Rand and Associates (*refer 9.5*). In summary this document recommends that the kiosk should be developed to cater for existing and increased community usage including the holding of small functions with guest numbers capped at 120 people and closing no later than 10pm.

To minimise potential impacts on the Reserve use and environment, the PoM recommends that the location for a new / upgraded facility should be in the location of the existing kiosk / cottage / meeting rooms and may be either a completely new building or a refurbishment of the existing buildings (subject to detailed design and Council approval).

The benefits to the community of an upgraded kiosk include:

- Potential improved experience for visitor seeking eat-in hot meal options
- Upgraded kitchen to comply with current OHS requirements
- Increased capacity of under cover and outdoor seating options
- Potential to cater for a wider range of visitors including tour groups and functions
- An improved and commercially viable business model could provide increased revenue for Council to fund management and maintenance of the Reserve

Lake Parramatta Reserve is identified as a heritage item under Schedule 5 of the Parramatta Local Environmental Plan 2011 (LEP). The development or upgrade of Kiosk / function / meeting room facilities would accordingly be subject to the provisions of Clause 5.10 (Heritage Conservation) of the LEP and Clause 3.5 (Heritage) of the Parramatta Development Control Plan 2011.

2.8 WALKING TRACKS

A number of bush walking tracks exist within the Reserve. Council has produced a brochure outlining a number of circuits including two shorter loop options on the south eastern side of the lake and a larger loop around the lake. Walking track condition and signage varies and could be upgraded in key areas to improve access and legibility. Council has also been working to close a number of trails that threaten to fragment bushland areas, impacting on natural vegetation, wildlife and Aboriginal cultural heritage sites.

2.9 CYCLING & MOUNTAIN BIKES

It is recognised that cycling, particularly mountain biking, is a rapidly growing recreational activity with increasing demand for unsealed single-track experiences as highlighted in the National Parks & Wildlife Service *Sustainable Mountain Biking Strategy (NPWS Strategy)*. However, there are significant concerns that the narrow uneven walking tracks in the reserve have not been constructed to cater for cycling / mountain biking and there is a risk of conflict between user groups resulting in collisions and injuries.

Similar narrow off-road facilities are available to cyclists / mountain bikers within a reasonable distance to residents in areas in metropolitan Sydney, such as Hornsby and Ku-ring-gai LGAs. However, these sites are generally established in former quarries or land fill areas which do not contain significant remnant bushland, threatened native species or Aboriginal cultural heritage sites as occur in Lake Parramatta Reserve.

In recognising the compact nature of the reserve, potential for user conflict and environmental impacts, cyclists and mountain bikes are to be restricted to using the eastern fire trail (formerly Illawong Drive). It is of sufficient width to provide for safe riding, reduce potential conflicts with other trail users and minimise disturbance to endangered species and ecological communities. The prohibition of cycling / mountain biking on narrow walking trails within the reserve is consistent with the NPWS Strategy as it would conflict with other environmental management principles.

2.10 TRAFFIC AND NOISE

Major roads delineate the watershed boundaries for Lake Parramatta Reserve, namely Pennant Hills Road to the east and south-east, North Rocks Road to the west and north-west and James Ruse Drive to the south. From any of these roads, and similarly from Windsor Road or Victoria Road, there is no clear signage or identity marker indicating either the existence or location of the Reserve.

Traffic noise generated along James Ruse Drive is an ongoing issue identified in the 1999 PoM. Noise generated along the other main arterial roads is diffused within the Reserve due to the intervening housing between the roads and the bushland. Traffic noise can detract from the recreational experience of the Reserve as a natural setting and potentially its habitat value for wildlife.

James Ruse Drive was opened in 1978 and now has in excess of 40,000 traffic movements per day (RTA, 1993). Part of Lake Parramatta Reserve was excised by the Roads and Traffic Authority (RTA) to form the road. This resulted in the southern portion of the Reserve being isolated. Small portions of remnant urban bushland are typically subjected to greater environmental damage due to increased proximity of conflicting adjoining landuses.

Only the extreme northern area of the Reserve and some occasional isolated pockets comply with the EPA guidelines for 'acceptable' noise levels in passive recreation areas (Acoustic Logic Consultancy, 1997). The majority of the Reserve exceeds the 'acceptable' noise goal, and the intensive recreation area in the southern portion of the Reserve significantly exceeds the EPA 'extreme limit' goal.

Consideration of noise attenuation options by Council's traffic engineers identified that a significant scale of barrier would be required that would potentially have significant visual impacts on the road corridor and adjoining residences. Council and the NSW Government Crown Land Division should liaise with the RTA for ongoing review of opportunities to redress the amenity loss in the reserve due to noise impacts.

2.11 VIEWS

Views of Lake Parramatta Reserve are limited by the lack of significant public lookout points into the Reserve, the nature of existing landform and the density of tree cover.

Residents to the north of Hunts Creek have minimal views of the Reserve due to steep topography and density of woodland cover.

Residents along the western boundary adjoining the lake are afforded picturesque glimpses of the lake, enframed by large Open Forest. This housing provides a visual and partial noise barrier to traffic along North Rocks Road.

The Redeemer Baptist School, United Theological College, Burnside Public School, Kings School and Tara Girls School which adjoin the eastern boundary of the Reserve, gain minimal views beyond the Reserve boundary due to the height and density of adjoining vegetation.

Motorists travelling along the southern James Ruse Drive boundary are unaware of the Lake's existence due in the main to the screening effect of vegetation and steeply falling topography from the road to the lake's edge.

Due to the nature of the Hawkesbury Sandstone topography, views within the Reserve itself are generally restricted to enframed and feature views rather than panoramic outlooks. The major exception to this pattern are the views obtained from the main picnic and parking areas and a lookout off adjacent Illawong Drive at the confluence of the south-east arm of the lake and the lake body proper. However this general absence of panoramic views is not a negative attribute, as it enhances the feeling of isolation from the urban environment for Reserve users, and contributes to a sense of discovery i.e. seeking to find what is around the next bend.

Views within the Reserve are of exceptional quality for a remnant bushland area, and comprise a valuable contrast to the surrounding urban environment. The variety of natural views, for example across the lake, down gullies and along ridges, contribute to a feeling of being immersed in nature, despite the proximity of suburban development. The site's visual character is a very important link with the sites pre-European history and the lack of comparable environments increases the importance of its visual management considerations.

2.12 THE ROLE OF VOLUNTEER PARK COMMITTEES

Councils park committees were originally established under the *Local Government Act 1919*. The *Local Government Act 1993* provides Council with a similar opportunity to facilitate the formation of volunteer park committees. Since 1991, Parramatta City Council has relied on a park committee for the Reserve, to provide information relating to general community needs and concerns regarding the condition and quality of open space and recreation facilities.

The Lake Parramatta Reserve Committee is important not only as volunteers who contribute their time and effort to many bush regeneration and maintenance exercises, but also as a link between Council and the community. Their involvement in the management of the Reserve provides essential local knowledge, enthusiasm and personal interest necessary to achieve the desired outcomes of this Plan.

2.13 PRESCRIBED DAM REQUIREMENTS

Lake Parramatta is the oldest prescribed dam in New South Wales (Dam Safety Committee, 1995, pg32). As Parramatta City Council has care, control and management responsibilities for Lake Parramatta Reserve on behalf of the NSW Crown Lands Division and is defined as the owner of the dam (Ibid, 1995, p32), it is required to satisfy all safety requirements for the dam on a continual basis. Normally only dams over a height of 15m are prescribed, however, Lake Parramatta (at 14m) is prescribed, as it could pose a threat to public safety, property or the environment if it failed. Parramatta City Council has the legal obligation to make informed judgments as to the degree of risk of dam failure, and the on-going tasks required to maintain it in a sound condition.

Systematic operation, maintenance and surveillance procedures contribute to the proper functioning of a dam under all conditions. Because the dam is already 140 years old, it needs to be regularly reviewed to take into account changing standards and knowledge since the time of its construction, as well as the aging and/or deterioration of original materials and foundations. The activities around, on and below the dam, as well as changes in development downstream, also need to be regularly reviewed.

The NSW Dam Safety Committee requires Council, as the owner of the structure to arrange:

- regular monitoring and surveillance of the dam;
- ongoing assessments of the dam's behaviour on the basis of monitoring and surveillance information;
- regular review of the compliance of the dam with current standards; and
- reviews of all such information by experienced personnel followed by appropriate action to ensure that the dam is maintained in a safe condition.

Council has in place an appropriate dam safety plan, with relevant information being supplied to the State Emergency Service and local emergency management agencies.

Surveillance reports on the Dam must be provided by Council to the Dam Safety Committee at five (5) yearly intervals. The standard of reports in the past has been very high, however, to maintain such a standard it is recommended that Council ensures that the person(s) nominated responsible for the Dam attend all advertised dam safety education workshops, and obtain and read all copies of educational material promoted and/or freely loaned by the Committee.

2.14 CURRENT MAINTENANCE PRACTICES

The current maintenance standard at Lake Parramatta Reserve is reasonably high. Council's efforts are largely concentrated around the main picnic area, with works undertaken by a roving maintenance team.

Maintenance of the main picnic area includes:

- rubbish removal;
- cleaning of toilets;
- barbecues and picnic facilities;
- minor repairs;
- grass mowing;
- weeding; and
- occasional large exercises such as Salvinia removal.

Bush regeneration efforts have been carried out on a large scale by contract labour, and supplemented by volunteer groups including the Lake Parramatta Conservation Committee.

Management and maintenance of the Reserve are issues that need to be appropriately budgeted and planned for, so as to achieve the desired recreation and environment outcomes.

2.15 COMMUNITY CONSULTATION FINDINGS

As previously mentioned, community consultation was undertaken through the preparation of the PoM included a meeting / information night for nearby residents and park visitors, a park user survey (questionnaire) and general submissions to Council.

The findings from the consultation are detailed in the meeting minutes (refer appendix) and summary of questionnaire responses below:

- 1 The majority of local users visit the Reserve monthly or several times per year
- 2 Most popular times to visit the Reserve were split between weekdays and weekends (probably for different user groups)
- 3 Visitors usually spend 2 hours or more in the reserve per visit
- 4 The majority of visitors drive to the Reserve, but walking and cycling are also popular
- 5 Visitors generally came to the Reserve with family, friends or organized groups
- 6 Visitors like a range of things about the Reserve including:
 - family friendly environment, safe
 - kiosk / café
 - picnic / bbq facilities
 - children’s playground
 - walking tracks
 - good access for disabled and elderly (main visitor precinct)
 - close to home
 - natural ‘oasis’ from adjoining urban areas
 - the lake, water side setting
 - heritage (Aboriginal, Colonial and Natural)
 - native bushland and wildlife (birds, ducks, etc)
 - natural beauty
 - serenity, peace and quiet, calm atmosphere
 - views
 - well maintained facilities
 - not over developed
- 7 The most popular activities to undertake in the Reserve include: bush walking, picnic / barbecue, children’s playground and visiting the kiosk
- 8 Whilst question 7 indicated that approximately half the respondents have visited the kiosk, only 25% visit the kiosk every time they come to the Reserve
- 9 When asked if they supported any potential improvements within the Reserve, the majority of respondents indicated that:
 - they supported an upgraded kiosk / café
 - they were against the development of a permanent function centre
 - they were divided on the provision of upgraded water access, boat ramp and functions in a temporary marquee
- 10 The majority of visitors are satisfied / very satisfied with facilities at the Reserve

- 11 What could be improved:
- promote community use (hire) of meeting / training room
 - allow swimming in the lake
 - more picnic shelters / barbecues
 - canoe hire
 - more play equipment
 - upgrade the bush food garden
 - potential markets on weekends
 - playground – consider fencing and consider moving to a central location adjoining café
 - improved carparking (potential one way circulation and move away from water – more spaces adjoining James Ruse Drive)
 - upgrade secondary entry points for walkers
 - better marking of walking tracks,
 - improve walking tracks (especially below dam wall)
 - guided walks and talks on native bushland
 - close excessive tracks
 - improve trail connection upstream along Hunts Creek to Seville Reserve (Hills Shire)
 - investigate sustainable mountain bike use
 - consider a bridge across lake to create a shorter walking loop
 - better information about how to care for bushland
 - environmentally sensitive improvements
 - general awareness of the reserves existence – all upgrade works should utilise best practice ESD
 - improve water quality (weeds, stormwater and sewage impacts),
 - better information (interpretive signage) about Aboriginal heritage, sorry garden, etc
 - visitor education / environment / information centre
 - improved signage
 - better toilets
 - weed control / bushland management
 - provision of recycling and dog waste bins
 - sensitive upgrading of kiosk including toilets
 - sound barrier along James Ruse Drive
 - eliminate private property encroachment onto the Reserve (e.g. Some properties on North Rocks Road)

Refer to Appendix 9.3 for a full copy of the park user survey results.

3 ISSUES

Lake Parramatta Reserve is a highly valued 'island' of remnant natural bushland surrounded by urban development. The Reserve is a haven for visitors who are attracted to its natural outlook and lakeside bushland setting. It is well utilised for passive recreation (picnic / barbecue), kiosk / cafe and bushwalking and has a range of adjoining land uses including roads, residences, schools and other open spaces. With such a broad user base and variety of potential activities, a range of issues need to be considered.

The following section outlines issues which have been ascertained from a review of documents, field evaluation, reference group input, community feedback and liaison with managing group interests.

The issues have been outlined in the following table format:

Topic Headings

Topic headings were established as a framework for discussion of specific issues relating to the study area. These are as follows:

- Enjoying the Reserve
- Getting to and around the Reserve
- Protecting the Reserve environment, heritage and character
- Looking after the Reserve and buildings

Topics

Each of these topic headings has specific topics that relate only to that topic such as 'Swimming' in 'Enjoying the Reserve.

Issues

The issues as ascertained by the PoM process and related consultation.

TOPIC	ISSUE
3.1 ENJOYING THE RESERVE	
Picnicking	<ul style="list-style-type: none"> Existing picnic facilities are in good condition Demand for additional facilities during peak periods
Swimming	<ul style="list-style-type: none"> Community desire for lake swimming Lake is usually unsafe for swimming due to poor water quality – only ok after extended periods with no rainfall Lake swimming can also be dangerous due to cold water temperatures which can cause cramps and lack of visibility under water
Fishing	<ul style="list-style-type: none"> Fishing currently occurs, however due to water quality issues the fish should not be eaten
Boating	<ul style="list-style-type: none"> Kayaking in the lake is undertaken by a local club which utilises the boat storage under the community meeting room in the main visitor precinct A safe water access point is required similar to a sandy beach with shallow water Community interest in a kayak hire business operating from the main visitor precinct
Reserve identity and promotion	<ul style="list-style-type: none"> The site is not well known by locals or visitors from the greater metropolitan area
Kiosk	<ul style="list-style-type: none"> The existing kiosk building and facilities could be improved in order to provide a better support of recreational use Some community members are concerned that night time use of the Reserve would increase potential for negative impacts (views, noise, vandalism and impacts on native wildlife)
Meeting / training room	<ul style="list-style-type: none"> The meeting / training room within the main visitor precinct is under utilised
Playground	<ul style="list-style-type: none"> The existing playground is in very good condition The playground includes a wheelchair liberty swing The location of the playground to the eastern edge of the main visitor precinct is separated from other visitor focal points and access
Bush food garden	<ul style="list-style-type: none"> The bush food garden has a good level of community support, but has not been well maintained
Sorry garden	<ul style="list-style-type: none"> The Sorry Day plaques and the Aboriginal interpretive information are in separate areas and lack a cohesive landscape design to support these important elements
3.2 GETTING TO AND AROUND THE RESERVE	
Public transport	<ul style="list-style-type: none"> Public transport to the Reserve is provided to the main visitor precinct via the #609 Hills Bus stopping at Bourke Street
Cars and parking	<ul style="list-style-type: none"> Car is the primary transport for visitors to the Reserve Carparking dominates the foreshore areas of the main visitor precinct and does not make efficient use of space There are not enough parking spaces available during peak visitation times
Cycling	<ul style="list-style-type: none"> Some community members have concerns about mountain bike use of trails and the potential conflict with walkers and wildlife Park user survey results indicate that only a small proportion of visitors cycle to the Reserve (15%) Increasing use of the reserve by mountain bikers due to lack of alternative local facilities
Walking	<ul style="list-style-type: none"> Disabled accessible tracks required to appropriate areas Bush walking is a popular pastime in the Reserve but needs to be managed for safety and reduced environmental impacts Secondary pedestrian access points need to be upgraded Some community members have concerns that orienteering events held within the Reserve could lead to bushland degradation Numerous trails have been created that fragment bushland and increase chances of visitors becoming lost

TOPIC	ISSUE
3.3 CONSERVING THE RESERVES ENVIRONMENT, HERITAGE & CHARACTER	
Aboriginal and non-Aboriginal Heritage	<ul style="list-style-type: none"> The Reserve is important to Aboriginal people as the location of several examples of Aboriginal occupation and artefacts Location of Aboriginal sites is not made public with the aim of protecting sites from damage by vandals European heritage has been identified in recreation, water storage and infrastructure (the dam wall is listed as having local and state significance)
Natural heritage and environment	<ul style="list-style-type: none"> Lake Parramatta Reserve has extensive natural vegetation communities throughout
Native vegetation	<ul style="list-style-type: none"> The Shale Sandstone Transition Forest which covers the majority of the Reserve is an Endangered Ecological Community listed under the <i>Threatened Species Conservation Act</i> A number of plant species found within the Reserve are listed as rare, vulnerable or endangered
Bushland management	<ul style="list-style-type: none"> Weeds are an ongoing problem in bushland areas Encroachment and garden escape from private properties Excessive tracks are fragmenting bushland
Native wildlife	<ul style="list-style-type: none"> Foxes, off-leash dogs and feral cats impact on native fauna species Lake Parramatta Reserve was the Sydney Regions first Wildlife Refuge, however legislation has changed and this status needs to be reinstated
Water quality	<ul style="list-style-type: none"> Water quality is impacted by stormwater runoff and sewage surcharging during heavy rain Salvinia weed is a problem around the lake edges and needs to be continually suppressed
Environmental sensitivity and awareness	<ul style="list-style-type: none"> Community members have expressed an interest in caring for the Reserve's natural heritage The main visitor precinct sits within an environmentally sensitive area and all efforts should be made to reduce environmental impacts on the reserves native flora and fauna
Noise	<ul style="list-style-type: none"> Traffic noise from adjoining roads severely impacts the Reserve especially the main visitor precinct
Views	<ul style="list-style-type: none"> Views of the lake surrounded by natural vegetation are highly valued by visitors
3.4 LOOKING AFTER THE RESERVE AND BUILDINGS	
Leases and licensed premises	<ul style="list-style-type: none"> The existing kiosk lease is due to expire Some community interest in a kayak hire facility The existing meeting room and cottage are underutilised The existing kiosk requires an upgrade to improve visitor amenity
Toilets	<ul style="list-style-type: none"> The existing toilets are in good condition, but are located too far from the main lake edge picnic barbecue facilities and the kiosk The toilet sewage system needs to be upgraded
Waste	<ul style="list-style-type: none"> Lack of recycling facilities Lack of dog waste bins
Facilities and infrastructure	<ul style="list-style-type: none"> If the dam wall breaks then major flooding would occur downstream

4 BASIS FOR MANAGEMENT

4.1 VALUES AND SIGNIFICANCE

Section 11 of the Crown Lands Act (1989) outlines management principles for Crown Land and the Local Government Act (NSW) 1993 specifically addresses the needs for Plans of Management to identify the value and significance of the subject site for a range of criteria.

Set out below are the assessments of values and significance which are based on an overview of the key issues and objectives described in the previous sections.

4.1.1 Heritage value

Regional and Local Significance

The Reserve has significance as an area that was used extensively on a semi-permanent basis by Aboriginal peoples. A number of artefacts including remnant shelters, hand-stencils, flaking scars and deposits are located in remnant bushland areas and require effective management and protection.

State Significance

Lake Parramatta Reserve has significance as the first wildlife refuge in the Sydney Region, a former water supply for Parramatta, a large recreation area close to a major CBD and a large proportion of intact remnant bushland, unusual in the region.

Hunts Creek Dam Wall is an example of a rare and innovative construction technique – first use of a proper dam wall in the colony. It has a strong association with James Pye who purchased the land for construction of the dam, and a strong association with the provision of drinking water.

4.1.2 Social value

Regional and Local Significance

Recreational and wellbeing values to the urban catchment.

4.1.3 Visual quality

Regional and Local Significance

Scenic water views with a pristine natural bushland setting.

4.1.4 Natural value

State, Regional and Local Significance

The geography and waterways of the LGA provides the advantage of many linked open space areas that are highly valued by the community.

The remnant natural vegetation is extremely rare for this part of Sydney.

4.1.5 Recreational value

Regional and Local Significance

Lake Parramatta Reserve is highly valued by local residents and visitors from the region as a 'pleasure grounds' destination for passive recreation in an idyllic waterside natural setting along with passive trail based activities throughout the adjoining bushland.

4.2 MANAGEMENT PRINCIPLES

The issues and opportunities identified by the community, stakeholders and consultants have been used to develop key principles that will underpin management strategies for Lake Parramatta Reserve. These principles encompass the principles of Crown Land management (Section 11, Crown Lands Act, 1989) and represent the key areas of consideration in this PoM.

4.2.1 Enjoying the Reserve

- Optimise the recreational use of existing open space resources through multi-use and design flexibility
- Provide recreation facilities that reflect the high value that the community places on open space for social and physical activities
- Maximise shade and shelter in exposed areas of the park
- Provide swimming facilities that are safe and enjoyable to use (long term subject to water quality improvements)
- Cater to secondary contact water sports (kayak and fishing)
- Raise the profile of the Reserve as a destination for nature based recreation
- Ensure paths are capable of servicing the number and variety of users in the main visitor precinct
- Encourage shared use of buildings for community purposes
- Control / manage recreational use within the environmental carrying capacity of the Reserve

4.2.2 Getting to and around the Reserve

- Minimise impact of vehicles through the park by optimising car parking and management of traffic movement
- Optimise safe and convenient non-vehicular connections within the main visitor precinct and to surrounding areas of open space and adjacent residential areas
- Encourage and promote sustainable and collective public transport to the Reserve along with cycle access
- Ensure user conflicts are minimised through appropriate design of Park elements, features and facilities
- Ensure that visitors can easily navigate their way around the Park

4.2.3 Conserving the environment, heritage and character of the Reserve

- Provide opportunities for interpretation of the Reserve's natural and cultural heritage
- Conserve and promote appreciation of Aboriginal heritage sites and values in the Reserve whilst providing appropriate protection
- Ensure that any changes to or development in the Reserve does not negatively impact on the natural environment of both land and water
- Protect, maintain and enhance regenerating native vegetation and areas of remnant vegetation

4.2.4 Looking after the Reserve and buildings

- Adopt sustainability principles (balance economic, environmental and social performance) in the design and maintenance of facilities
- Ensure leased premises or licensed premises are for purposes that promote or are related to the use and enjoyment of the Reserve
- Seek opportunities within the Reserve to assist in recouping maintenance costs that are appropriate to the Reserve's principle function and purposes
- Manage waste in the Reserve by a balanced combination of facilities management and education

5 STRATEGIES

The strategies for the Reserve have been arranged in a table format for ease of use and implementation. They are arranged columns from strategy through to responsibility. The columns are as outlined briefly below:

Strategies

These have been formulated firstly as a response to the issues and tested against the Management Principles to ensure they are both sustainable and appropriate to the Reserve. Some strategies may fall under a number of topics but have been placed into only one to avoid repetition.

Planning, Construction, Management

These columns have been included for ease of use to identify at a glance the type of action required to implement the strategy. In some cases a strategy will have more than one component for example Planning and Construction often occur together as much of the construction noted will have a design or planning component before works can be undertaken. Construction may also be as simple as road marking and does not necessarily involve assembly or installation

Responsibilities

Against each strategy parties are nominated for review, evaluation or implementation, including:

COMM	Local Community
OEH	Office of Environment & Heritage
CLD	Catchment & Lands Division
PCC	Parramatta City Council
HSC	The Hills Shire Council
SW	Sydney Water
RTA	Roads and Traffic Authority
KS	The Kings School
CMA	Catchment Management Authority

Priorities

Against each strategy in the table a column is provided indicating the priority of implementation of the strategy. This priority is based on both urgency of implementation and opportunity. Many strategies based on simple changes to procedure for example are given a high priority as they cost little to implement whereas a strategy based on funding allocation or implementation of another strategy is given Priority may be more limited

1. Requires implementation as soon as feasible
2. Implementation is urgent but not highest priority
3. Requires action in the medium term
4. Undertake as specific funds become available
5. Not urgent but should be undertaken when key priorities addressed and fund available

Timeframe

Crown Land policy is that Plans of Management are reviewed in general every 5 years to ensure that strategies and priorities remain relevant. The strategies have been set into 5 levels of priority for ease of implementation although it is likely that there will be some overlap.

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Lake Parramatta Reserve Plan of Management

STRATEGY	PRIORITY	PLANNING	CONSTRUCTION / INSTALLATION	MANAGEMENT	RESPONSIBILITY
5.1 ENJOYING THE RESERVE Overarching Principle: <i>Enable sustainable recreational use of the Reserve that takes advantage of its natural environment and visual setting</i>					
Picnicking • Provide additional picnic facilities (shelters, picnic tables and barbecues) adjoining the lake edge (refer 6.2 masterplan)	3	✓	✓		PCC
Swimming • Improve water quality through a range of catchment wide initiatives	2	✓	✓	✓	PCC, HSC, COMM, SW
• Undertake regular testing of water quality	2			✓	PCC
• Install a water quality information sign (similar to fire danger signs) for visitor information	2		✓		PCC
• Consider development of a swimming area in the long term for organized events in accordance with the Lake Parramatta Water Safety Plan (i.e. safe water access point, roped off area and life guard on duty)	5	✓	✓		PCC
Fishing • Facilitate regular native fish stocking event s and investigate potential contamination issues	3	✓	✓		NSWI&I
• Erect signage to alert visitors that fishing should be undertaken on a catch and release basis due to poor water quality	1	✓	✓		PCC
Boating / Canoeing / Kayaking • Formalise / construct a safe water access point for kayaks (refer 6.2 masterplan)	3	✓	✓		PCC
• Restrict water access to single designated access point in main visitor precinct	1			✓	PCC
• Allow a trial of kayak hire business operating from the main visitor precinct – monitor usage and allow a license if trial proves complimentary with existing activities	2	✓	✓		PCC, CLD
Abseiling / Rock-climbing / Bouldering • Prohibit rock climbing / bouldering / abseiling to prevent damage to sensitive vegetation and aboriginal heritage sites	1			✓	PCC
Reserve identity and promotion • Undertake a community awareness program about the Reserves heritage, recreational and environmental resources including Council's website and appropriate signage on nearby Cumberland Highway, North Rocks Road and Windsor Road	2	✓	✓	✓	PCC
Events • Provide open space areas for events and festivals compatible with the Reserves character and scale (refer 6.2 masterplan)	3	✓	✓		PCC
Kiosk • Upgrade kiosk / cottage building complex with larger kitchen, upgraded indoor seating and outdoor deck area	3	✓	✓		PCC, Kiosk lessee
• Permit the continued staging of evening functions at the kiosk with guest numbers capped at 120 and closing no later than 8:00pm. The holding of functions shall not interfere with regular small group / family use of the main visitor precinct. Entry to the Reserve during these times is to be strictly limited to kiosk guests and controlled by security.	3	✓	✓		PCC, Kiosk lessee
Meeting / training room • Advertise availability of the meeting / training room for hire in the Reserve noticeboard and on Council's website	1			✓	PCC
• Review community group meeting room hire fees to encourage greater use	3			✓	PCC
• Review if any works to building could be undertaken to improve appeal for community use	2	✓			PCC
Playground • Relocate playground to a more central location and adjoining visitor focal points and increase playground size to provide a district scale facility	5	✓	✓		PCC
Bush food garden • Upgrade the bush food garden in its current location (refer 6.2 masterplan)	4	✓	✓		PCC
Sorry garden • Upgrade the interpretive memorial garden on the eastern side of the main visitor precinct to assist with recognition and interpretation of Aboriginal heritage within the Reserve and Parramatta area (refer 6.2 masterplan)	4	✓	✓		PCC

STRATEGY	PRIORITY	PLANNING	CONSTRUCTION / INSTALLATION	MANAGEMENT	RESPONSIBILITY
5.2 GETTING TO AND AROUND THE RESERVE Overarching Principle: <i>Formalise access points and internal access network maximising recreation opportunities whilst minimising environmental impacts</i>					
Public transport <ul style="list-style-type: none"> Monitor community feedback to the effectiveness of public transport to access the Reserve Provide bus parking along eastern side of picnic area and amenities building (refer 6.2 masterplan) 	2 3	✓	✓		PCC, STA PCC
Cars and parking <ul style="list-style-type: none"> Rationalise parking and access road around the lake edge to improve pedestrian safety and maximise lakeside open space (refer masterplan) 	3	✓	✓		PCC
<ul style="list-style-type: none"> Provide additional carparking adjacent playground and bushfood garden (refer 6.2 masterplan) 	4	✓	✓		PCC
<ul style="list-style-type: none"> Provide additional sealed carparking south of James Ruse Drive (off Bourke Street) with perimeter bollards to prevent access to nearby Endangered Ecological Community and Aboriginal heritage site (refer 6.2 masterplan) 	4			✓	PCC
Cycling <ul style="list-style-type: none"> Encourage nearby residents to cycle and walk to the Reserve instead of driving 	1	✓		✓	PCC
<ul style="list-style-type: none"> Restrict non-motorised bike access to the main visitor precinct and the existing eastern fire trail (Illawong Drive) 	1		✓	✓	PCC
<ul style="list-style-type: none"> Provide racks for secure bike parking in the main visitor precinct 	2		✓		PCC
<ul style="list-style-type: none"> Erect signage at track heads and intersections that notify users where cycling is/isn't permitted 	2		✓	✓	PCC
<ul style="list-style-type: none"> Adopt the International Mountain Biking Association 'Rules of the Trail' for mountain biking and cycling within the reserve (Appendix 9.6) 	1	✓			PCC
<ul style="list-style-type: none"> Liaise with cycling and mountain biking groups to ensure that users stay on the designated trail 	3			✓	PCC, COMM
<ul style="list-style-type: none"> Upgrade cycle connections to and from the Reserve 					PCC, HSC
<ul style="list-style-type: none"> Liaise with The Kings School to establish a formalized access link through their property into the Reserve fire trail 	2			✓	PCC
Walking <ul style="list-style-type: none"> Encourage nearby residents to walk to the Reserve instead of driving 	1	✓	✓		PCC
<ul style="list-style-type: none"> Ensure that new tracks within the main visitor precinct comply with disabled access requirements 	4	✓	✓		PCC
<ul style="list-style-type: none"> Investigate potential for a disabled accessible bush walking track adjoining the main visitor precinct 	3	✓	✓		PCC
<ul style="list-style-type: none"> Upgrade signage throughout the main visitor precinct, at trail heads and along walking tracks 	2	✓	✓		PCC
<ul style="list-style-type: none"> Upgrade She-Oak, Banksia and Lake Circuit walking tracks for improved access and environmental sustainability 	2	✓	✓		PCC
<ul style="list-style-type: none"> Improve track and signage connections to nearby Hunts Creek and Seville Reserves and The Kings School bushland 	4	✓	✓		PCC, HSC
<ul style="list-style-type: none"> Upgrade secondary Reserve access points along North Rocks Rd with a consistent and identifiable landscape approach to pathways, signage, seating (if applicable) and vehicle barriers 	3	✓	✓		PCC, HSC
<ul style="list-style-type: none"> Liaise with orienteering groups to ensure that users stay on marked tracks and participate in looking after the Reserve with clean up days and track working Bees 	4			✓	PCC
<ul style="list-style-type: none"> Close unsustainable tracks at trail heads and erect signage outlining the environmental degradation that is being caused 	3			✓	PCC, COMM
<ul style="list-style-type: none"> Improve connectivity to the Parramatta River Walk and Great North Walk through upgraded track access points and signage 	3		✓		PCC, HSC
<ul style="list-style-type: none"> Existing stepping stones to be upgraded to provide improved access across Hunts Creek 	3		✓		PCC

STRATEGY	PRIORITY	PLANNING	CONSTRUCTION / INSTALLATION	MANAGEMENT	RESPONSIBILITY
5.3 CONSERVING THE RESERVES ENVIRONMENT, HERITAGE AND CHARACTER Overarching Principle: <i>Manage natural assets to protect and improve remnant vegetation, wildlife corridors, riparian and aquatic ecosystems, endangered ecological communities and native fauna</i>					
Aboriginal and non-Aboriginal Heritage • Conserve and protect heritage items for future generations	1			✓	PCC, COMM
• Provide interpretive information to convey the significance of the Reserves heritage to visitors	2	✓	✓		PCC
• Community meeting / function rooms to include interpretive displays for cultural and natural heritage	3	✓	✓		PCC
Natural heritage and environment • Conserve the Reserves native vegetation communities and minimise impacts from visitors and adjoining areas	1			✓	PCC, COMM
• In compliment to Lake Parramatta Reserves original reservation for “Public Recreation” an additional purpose of “Environmental Protection” should be assigned to support the natural heritage values of the site	1			✓	PCC, CLD
Native vegetation • Participate in recovery and threat abatement planning with respect to endangered ecological communities and threatened flora species and implement actions of Recovery Plans and Threat Abatement Plans where possible	2			✓	PCC, OEH, COMM
• Undertake a remnant tree management plan for the main visitor precinct to inform detailed design for the precinct including upgraded kiosk and car parking areas	2	✓			PCC
• Protect and enhance threatened plant species in accordance with the <i>Threatened Species Conservation Act 1995</i>	2			✓	PCC, OEH, COMM
• Establish a partnership with The Kings School to ensure protection of identified endangered / threatened species and endangered ecological communities in adjoining bushland	3			✓	PCC, KS
• Investigate protection mature remnant native tree in entry roadway adjacent kiosk (refer 6.2 masterplan)	3	✓	✓		PCC
Bushland management • Minimise the invasion and displacement of native species by controlling both noxious and environmental weeds	2			✓	PCC, COMM
• Encourage regeneration of endemic species	3			✓	PCC, COMM
• Increase native species diversity through improvement of the natural environment	1			✓	PCC, COMM
• Remove encroachments and/or unauthorized structures within the Reserve (where possible)	1			✓	PCC, COMM
• Maintain consistent edge treatments that delineate and protect property and bushland	1			✓	PCC, COMM
• Promote and expand volunteer bushcare activities (e.g. information in reserve noticeboard)	2	✓		✓	PCC, COMM
• Link fragmented bushland and creek corridors to increase core habitat areas for species and populations	1			✓	PCC, COMM
• Monitor condition of bushland and report on an annual basis	1			✓	PCC, COMM
Native wildlife • Reduce impacts from feral animals that threaten native fauna species	1			✓	PCC
• Undertake regular flora and fauna surveys	2	✓			PCC
• Dogs to remain on-leash at all times to prevent conflicts with native wildlife. Appropriate signage to be installed at track /reserve entry points	3		✓	✓	PCC
• Declare the Reserve a Wildlife Refuge under s68 of the <i>National Parks & Wildlife Act 1974</i>	2	✓		✓	PCC, OEH
• Declare the Reserve a Wildlife Protection Area under s 30(1) of the <i>Companion Animals Act 1998</i>	2	✓		✓	PCC
• Erect appropriate educational signage in main visitor precinct discouraging visitors to feed wildlife	1		✓	✓	PCC

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Environmental sensitivity and awareness					
• Develop an outdoor amphitheatre for outdoor education of school groups with information / interpretation signs exploring a range of issues (refer 6.2 masterplan)	3	✓	✓		PCC
• Install educational information signs at secondary entries explaining simple things that people can do within the Reserve to minimise impacts on the natural environment. Also provide detail for the local bushcare group	4	✓	✓		PCC, COMM
• Review potential for guided walking tours to operate within the Reserve	3	✓		✓	PCC
• Investigate use of the Reserve by an environmental education officer during opening hours					
• All upgrade works to the Reserve should incorporate best practice techniques / technology for environmentally sustainable design	2	✓	✓	✓	PCC
Noise					
• Review potential for construction of noise attenuation walls along the James Ruse Drive boundary of the Reserve. The wall design should be of minimal visual impact incorporating clear panels and artworks reflecting the Reserves natural and cultural heritage to raise awareness with passing motorists	3	✓	✓		PCC, RTA
• Undertake planting of native vegetation along James Ruse Drive to minimise visual impact of traffic and proposed sounds walls on Reserve (refer 6.2 masterplan)	3		✓		PCC
• Liaise with RTA to repair existing collapsing fence along James Ruse Drive	1	✓	✓		PCC, RTA
Views					
• Ensure that views of the lake surrounded by natural vegetation are preserved as an intrinsic quality of the Reserve	1	✓		✓	PCC

STRATEGY	PRIORITY	PLANNING	CONSTRUCTION / INSTALLATION	MANAGEMENT	RESPONSIBILITY
5.4 LOOKING AFTER THE RESERVE AND BUILDINGS Overarching Principle: <i>Improve visitor facilities and experiences whilst minimising environmental impacts</i>					
Leases and licensed premises • Continue leasing of a kiosk within the main visitor precinct ensuring that it is operated for a clear community benefit	2			✓	PCC, Kiosk lessee
• Allow a trial of kayak hire business operating from the main visitor precinct – monitor usage and allow a license if trial proves complimentary with existing activities	2			✓	PCC
Toilets • Construct a new amenities building as part of kiosk upgrade works (refer 6.2 masterplan)	3	✓	✓		PCC
• Upgrade toilet sewerage system	2	✓	✓		PCC
Waste • Install recycling bins (and dog waste bins) in appropriate locations around the main visitor precinct	3	✓	✓		PCC
• Undertake ongoing remediation of contaminated asbestos in the Reserve	1			✓	PCC
• Liaise with The Hills Shire Council regarding the installation of GPTs on creeklines flowing into Lake Parramatta	2		✓	✓	PCC, HSC
• Liaise with Sydney Water to address identified water pollution issues	2	✓		✓	PCC, SW
Facilities and Infrastructure • Continue testing and monitoring of the dam wall structure	1			✓	PCC
• Restrict kayak access to dam wall with a floating cordon	2	✓	✓		PCC
• Undertake regular ranger patrols to ensure compliance with conditions of use	1			✓	PCC
• Future carpark design will incorporate appropriate measures to protect existing mature tree root zones	3	✓			PCC
• Future visitor facilities design will incorporate appropriate measures to protect existing mature trees	1	✓	✓		PCC
• Ensure the design of future reserve infrastructure minimizes stormwater impacts on native vegetation	1	✓	✓		PCC
• Protect and incorporate existing heritage sandstone landscaping in future upgrade works	1	✓	✓		PCC
• Investigate the provision of rainwater tanks at new kiosk / meeting room and at large picnic shelters for visitor use	3		✓		PCC
Landscaping and pathways • All pathways, tracks and trails located within bushland areas are to utilise natural materials, such as crushed sandstone, to minimise environmental impacts	1	✓	✓		PCC
• New or upgraded pathways will utilise permeable materials to minimise run-off and maximise soil penetration	1	✓	✓		PCC
• Utilise non-invasive and low water use turf in new picnic areas to minimise encroachment into nearby bushland	1	✓	✓		PCC
• Utilise locally indigenous plant species in all reserve plantings (except cultural plantings) to prevent the invasion of exotic species into nearby bushland	1	✓	✓		PCC
Boundaries • Liaise with Hills Shire Council to address encroachment issues and environmental problems along North Rocks Road	2	✓		✓	PCC, HSC
• Investigate transfer of Crown land (Lot 2 DP 581960 and Lots 1-2 DP 540643) from The Hills Shire Council to Parramatta City Council under Lake Parramatta Reserve Trust					PCC, HSC, CLD
Regulation • Educate Council Community Safety Officers regarding reserve regulations and environmental sensitivities	2			✓	PCC
• Facilitate increased surveillance and regulation by Council Community Safety Officers in the Reserve	1			✓	PCC

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6 MASTERPLAN

The following plans for the main visitor precinct illustrate the proposed improvement works recommended by the PoM.

Figure 6.1 Masterplan Principles identifies existing and proposed main visitor precinct facilities individually under the following usage headings:

- Vehicle Access and Parking
- Buildings and Structures
- Pedestrian Access and Grassed Picnic Areas

Figure 6.2 Masterplan provides a proposal for improvement works to the main visitor precinct aimed at realising the objectives of the PoM.

Existing



Potential



Vehicle access and carparks



Pedestrian access

- Picnic areas
- Pedestrian access



Buildings and structures

- Existing building and structures
- Proposed building and structures
- Proposed low retaining walls to define activity nodes
- Proposed water access point



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7 IMPLEMENTATION

7.1 TARGETS AND PERFORMANCE INDICATORS

In establishing a programme for implementation of strategies Council should establish a means to demonstrate what has been achieved. These are identified as targets and performance indicators.

Some success of the implementation of some strategies can be more easily measured in quantitative ways than others, but all must be measured by some means if performance is to be gauged.

In particular, the following are considered practical and useful survey methods that may cover a number of targets and performance measures.

Exit surveys:

A questionnaire carried out at 5 year intervals; qualitative and quantitative in nature. This survey/questionnaire will cover such diverse matters as measures of changes in Reserve usage, visitor experience and perceptions, etc.

Specific Web surveys:

Surveys on Council's website; these can be designed as questionnaires requesting for example input on the implementation of particular programs or and feedback on review in management strategies.

Log of letters:

Review of letters, emails etc. received each year (positive and negative) on various subjects in the Reserve indicating changes in praise and criticism of the Reserve's management according to performance. Some care must be exercised in specific interpretation and this method should be used to measure general trends and common topics rather than letter by letter.

Photographic survey:

Taken at consistent key locations every 5 years to establish degrees of change, either positive or negative. This should be compared with aerial photographs reviewed every 5 years.

7.1.1 Enjoying the Reserve

Enjoyment of the Reserve can be to some extent measured by the number of visitors and the quality of their experience. Due to its size and the variety of experiences within the Reserve, simple usage may not be an adequate measure. Length of stay and satisfaction level should also be considered.

Target: To ensure that there is equity in public access within the Reserve.

Performance Indicator: Measure visitation numbers to the main visitor precinct and quantify peak usage periods with a traffic counting device installed on the entry road.

Target: Sustainable use of the site. Visitors satisfied with facilities and experiences within the Reserve

Performance Indicator: Measure by use of visitor survey (every two years) of visitor perceptions value, quality and usage of the open space

7.1.2 Getting To and Around The Reserve

Increasing the number of visits to the Reserve by foot and/or cycle for nearby residents will promote a healthy lifestyle and reduce the impact of cars on the main visitor precinct. Upgrading of walking tracks to minimise environmental impacts and improve way finding will make the tracks more accessible to a wide range of users.

Target: Reduce impacts of vehicles on visitors especially in the main visitor precinct.

Performance Indicator: Delivery of carpark capital works improvements to the main visitor precinct. Results of visitor survey / questionnaire.

Target: Encourage nearby residents to walk and/or cycle to the Reserve.

Performance Indicator: Visitor counts and observations. Results of visitor survey / questionnaire.

Target: Improve disabled access and pedestrian circulation in the main visitor precinct.

Performance Indicator: Delivery of pathway capital works improvements to the main visitor precinct. Results of visitor survey / questionnaire.

Target: Improve condition and way finding to bush tracks.

Performance Indicator: Implementation of works. Results of visitor survey / questionnaire.

7.1.3 Protecting the Reserve's Environment, Heritage And Character

Aboriginal sites and European cultural heritage elements are to be preserved for the enjoyment of future generations. Integrity of the Reserve's biodiversity and natural systems need to be optimised.

Target: Aboriginal sites are protected from the elements and potential vandalism

Performance Indicator: Photo survey and documentation of sites. Ongoing assessment of sites to monitor condition.

Target: Improve the integrity natural bushland.

Performance Indicator: Reports prepared outlining the ongoing bush regeneration works implemented in the Reserve and a snapshot of the total bushland health.

Target: Increased diversity of wildlife species and total numbers that can be sustainably supported within the Reserve.

Performance Indicator: Wildlife assessment study outlining the above requirements.

Target: Water quality is improved for biodiversity and recreational benefits.

Performance Indicator: Ongoing regular testing of water quality.

Target: Comprehensive approach to interpretation of the Reserve's natural and cultural heritage.

Performance Indicator: Implementation of works. Results of visitor survey / questionnaire.

7.1.4 Looking After the Park and Buildings

Measuring the effectiveness of the administrative processes and maintenance program is essential to ongoing review and amendment of the management structures and implementation programme.

Target: Ongoing program of upgrading or replacement of buildings and structures.

Performance indicators: Public satisfaction with toilets and facilities and reduced complaints as measured by exit surveys of Park users

Target: Improved services such as litter collection, toilet maintenance etc.

Performance indicators: Measured by exit surveys to determine public satisfaction

Target: Cost reduction and minor increase in revenue required for maintenance and management.

Performance Indicator: Measured by Council's annual accounts.

Target: A smooth running and well integrated management structure. Consistent progress on achieving strategic outcomes on the ground.

Performance Indicator: Measured by monitoring such factors as changes in degree of unanimity of decisions amongst the management body (minutes), success with achieving funding for initiatives etc.

7.2 POTENTIAL FUNDING SOURCES

Listed below are some of the relevant available grants indicated in the Australian Parliaments website guide to Community Grants. Other grants shown on this website could be undertaken as a joint venture with community groups.

Department of Planning & Infrastructure	Metropolitan Greenspace Program Sharing Sydney Harbour Access Program
Office of Environment and Heritage	Environmental Restoration and Rehabilitation grants Local government heritage management program Aboriginal heritage projects
Catchment & Lands Division NSW Department of Primary Industries	Public Reserve Management Fund (PRMF): <ul style="list-style-type: none"> • funds are available for improvement works to Crown reserves and provide for both capital development and maintenance projects • PoM grants
Arts NSW	The Arts Funding Program: <ul style="list-style-type: none"> • Sustainable arts and cultural organisations, services and infrastructure • Increased access to arts and cultural activities • A creative and diverse arts sector.
Clubs NSW	Community Development Support Expenditure Scheme

Council must also consider management strategies that ensure that legitimate costs of upgrading of the Reserve are recouped wherever possible by equitable leases and licences. Public hiring fees should also be set at a realistic and equitable level.

7.3 REVIEWING THE PLAN

If this Plan is to remain relevant in the coming years it will be essential that some degree of consistent review be carried out in a logical order.

The Plan has set up in such a manner that the separate elements can be readily reviewed and updated on differing time spans.

In line with the targets and performance indicators set out in a previous section it is recommended that the Plan be reviewed in the following sequences and time spans, starting from the most frequent review requirement.

EVERY YEAR

- Review progress of programme prepared after this Plan

EVERY TWO YEARS

- Review progress on all strategies
- Review Management and Administration structures
- Review priorities

EVERY FIVE YEARS

- Major Review of all Strategies
- Review of all Objectives
- Review and update Resource and Issues
- Review/update Statutory Controls (LEPs/DCPs)
- Review Targets and Performance Indicators

EVERY TEN YEARS

- Review of Strategies and Objectives
- Review and update all background Issues
- Review and update The Values and Significance if external circumstances require or community values change markedly

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9 APPENDICES

9.1 NATIVE FLORA & FAUNA OF LAKE PARRAMATTA RESERVE

Source: Applied Ecology Flora & Fauna Surveys of Core Bushland (2011)

* Bush Regeneration Contractors & Volunteers

** Biological Survey of Parramatta Waterways (2010)

Common name	Scientific name	Commonwealth Environment Protection & Biodiversity Conservation Act 1999	NSW Threatened Species Conservation Act 1995
BIRDS			
Australian Magpie	<i>Gymnorhina tibicen</i>		
Australian Raven	<i>Corvus coronoides</i>		
Australian Wood Duck	<i>Chenonetta jubata</i>		
Australasian Grebe	<i>Tachybaptus novaehollandiae</i>		
Azure Kingfisher*	<i>Alcedo azurea</i>		
Black-faced Cuckoo-shrike	<i>Coracina novaehollandiae</i>		
Brown Thornbill	<i>Acanthiza pusilla</i>		
Channel-billed Cuckoo	<i>Scythrops novaehollandiae</i>		
Common Koel	<i>Eudynamys scolopacea</i>		
Crimson Rosella*	<i>Platycercus elegans</i>		
Darter	<i>Anhinga melanogaster</i>		
Dusky Moorhen	<i>Gallirallus tenebrosa</i>		
Eastern Spinebill	<i>Acantorhynchus tenuirostris</i>		
Eastern Whipbird*	<i>Psophodes olivaceus</i>		
Galah	<i>Cacatua roseicapilla</i>		
Golden Whistler	<i>Pachycephala pectoralis</i>		
Grey Fantail	<i>Rhipidura fuliginosa</i>		
King Parrot (Australian)	<i>Aprosmictus erythropterus</i>		

Common name	Scientific name	Commonwealth Environment Protection & Biodiversity Conservation Act 1999	NSW Threatened Species Conservation Act 1995
Laughing Kookaburra	<i>Dacelo novaeguineae</i>		
Little Black Cormorant	<i>Phalacrocorax sulcirostris</i>		
Little Lorikeet	<i>Glossopsitta pusilla</i>		Vulnerable
Little Pied Cormorant	<i>Phalacrocorax melanoleucos</i>		
Magpie-lark (Pee-wee)	<i>Grallina cyanoleuca</i>		
Mistletoe Bird*	<i>Dicaeum hirundinaceum</i>		
Musk Lorikeet	<i>Glossopsitta concinna</i>		
Nankeen Night Heron	<i>Nycticorax caledonicus</i>		
Noisy Miner	<i>Manorina melanocephala</i>		
Pacific Baza*	<i>Aviceda subcristata</i>		
Pacific Black Duck	<i>Anas superciliosa</i>		
Grey Butcherbird	<i>Cracticus torquatus</i>		
Pheasant Coucal	<i>Centropus phasianinus</i>		
Pied Cormorant	<i>Phalacrocorax varius</i>		
Pied Currawong	<i>Strepera graculina</i>		
Powerful Owl	<i>Ninox strenua</i>		Vulnerable
Purple Swamp Hen	<i>Porphyrio porphyria</i>		
Rainbow Lorikeet	<i>Trichoglossus haematodus</i>		
Red Browed Finch	<i>Neochmia temporalis</i>		
Red-rumped Parrot	<i>Psephotus haematonotus</i>		
Red Wattlebird*	<i>Anthochaera carunculata</i>		
Restless Flycatcher	<i>Myiagra inquieta</i>		
Rufous Fantail	<i>Rhipidura rufifrons</i>		
Sacred Kingfisher*	<i>Todiramphus sanctus</i>		
Scarlet Honeyeater*	<i>Myzomela sanguinolenta</i>		
Silvereye	<i>Zosterops lateralis</i>		

Common name	Scientific name	Commonwealth Environment Protection & Biodiversity Conservation Act 1999	NSW Threatened Species Conservation Act 1995
Spotted Pardalote	<i>Pardalotus punctatus</i>		
Striated Thornbill	<i>Acanthiza lineata</i>		
Sulphur-crested Cockatoo	<i>Cacatua galerita</i>		
Superb Fairy-wren	<i>Malurus cyaneus</i>		
Tawny Frogmouth	<i>Podargus strigoides</i>		
Welcome Swallow	<i>Hirundo neoxena</i>		
White-browed Scrubwren	<i>Sericornis frontalis</i>		
White-faced Heron	<i>Egretta novaehollandiae</i>		
White-throated Tree-creeper	<i>Cormobates leucophaeus</i>		
Yellow-faced Honeyeater	<i>Lichenostmus chrysops</i>		
Yellow Robin	<i>Eopsaltria australis</i>		

Common name	Scientific name	Commonwealth Environment Protection & Biodiversity Conservation Act 1999	NSW Threatened Species Conservation Act 1995
REPTILES & AMPHIBIANS			
Broad-tailed Gecko	<i>Phyllurus platurus</i>		
Burtons Snake-lizard*	<i>Lialis burtonis</i>		
Common Eastern Froglet	<i>Crinia signifera</i>		
Copper-tailed Skink	<i>Ctenotus taeniolatus</i>		
Delicate or Garden Skink	<i>Lampropholis delicate</i>		
Eastern Banjo Frog	<i>Limnodynastes dumerilii</i>		
Eastern Blue-tongue Lizard	<i>Tiliqua scincoides</i>		
Eastern Stone Gecko	<i>Diplodactus vittatus</i>		
Eastern Water Dragon*	<i>Physignathus lesueurii</i>		
Eastern Water Skink	<i>Eulamprus quoyii</i>		
Grass Sun-skink	<i>Lampropholis guichenoti</i>		
Jacky Lizard	<i>Amphibolurus muricatus</i>		
Lace Monitor	<i>Varanus varius</i>		
Peron's Tree Frog	<i>Litoria peronii</i>		
Red-bellied Black Snake*	<i>Pseudechis porphyriacus</i>		
Smooth Toadlet	<i>Uperoleia laevisgata</i>		
Striped Marsh Frog	<i>Limnodynastes peronii</i>		
Wall Skink	<i>Cryptoblepharus virgatus</i>		

Common name	Scientific name	Commonwealth Environment Protection & Biodiversity Conservation Act 1999	NSW Threatened Species Conservation Act 1995
MAMMALS			
Bush Rat	<i>Rattus fuscipes</i>		
Chocolate Wattled Bat	<i>Chalinolobus morio</i>		
Common Brush-tail Possum	<i>Trichosurus vulpecula</i>		
Eastern Freetail Bat*	<i>Mormopterus norfolkensis</i>		Vulnerable
Eastern Bentwing-Bat	<i>Miniopterus schreibersii oceanensis</i>		Vulnerable
Gould's Wattled Bat	<i>Chalinolobus gouldii</i>		
Greater Broad-nosed Bat	<i>Scoteanax rueppellii</i>		Vulnerable
Grey-headed Flying-fox	<i>Pteropus poliocephalus</i>	Vulnerable	Vulnerable
Little Forest Bat	<i>Vespadelus vulturnus</i>		
Long-eared Bat	<i>Nyctophilus sp.</i>		
Ringtail Possum	<i>Pseudocheirus peregrinus</i>		
Short-beaked Echidna	<i>Tachyglossus aculeatus</i>		
Southern Freetail Bat	<i>Nyctinomus austra</i>		
Sugar Glider	<i>Petaurus breviceps</i>		
White-striped Freetail Bat	<i>Tadarida australis</i>		
FISH & INVERTEBRATES			
Cumberland Land Snail	<i>Meridolum corneovirens</i>		Endangered
Australian Smelt	<i>Retropinna semoni</i>		
Short-finned Eel	<i>Anguilla australis</i>		
Firetailed Gudgeon	<i>Hypseleotris galii</i>		
Eel-tailed Catfish	<i>Tandanus tandanus</i>		

Species	Common name	Commonwealth Environment Protection & Biodiversity Conservation Act 1999	NSW Threatened Species Conservation Act 1995
<i>Acacia decurrens</i>	Sydney Green Wattle		
<i>Acacia falcata</i>	Sickle Leaved Wattle		
<i>Acacia floribunda</i>	Gossamer Wattle		
<i>Acacia linifolia</i>	Flax Leaved Wattle		
<i>Acacia longifolia</i> subsp. <i>longifolia</i>	Sydney Golden Wattle		
<i>Acacia parramattensis</i>	Parramatta Green Wattle		
<i>Acacia suaveolens</i>	Sweet Wattle		
<i>Acacia ulicifolia</i>	Prickly Moses		
<i>Acmena smithii</i>	Lilly Pilly		
<i>Actinostus helianthi</i>	Flannel Flower		
<i>Adiantum aethiopicum</i>	Maiden Hair Fern		
<i>Allocasuarina littoralis</i>	Black She-oak		
<i>Allocasuarina torulosa</i>	Forest She-oak		
<i>Angophora bakeri</i>	Narrow-Leaved Apple		
<i>Angophora costata</i>	Sydney Red Gum		
<i>Anisopogon avenaceus</i>			
<i>Aristida vagans</i>			
<i>Arthropodium milleflorum</i>	Pale Vanilla-lily		
<i>Asplenium australasicum</i>	Bird's Nest Fern		
<i>Asplenium flabellifolium</i>	Necklace Fern		
<i>Astrotricha floccosa</i>	Flannel Leaf		
<i>Austrostipa pubescens</i>	Speargrass		
<i>Banksia serrata</i>	Old Man Banksia		
<i>Banksia spinulosa</i> var. <i>spinulosa</i>	Hairpin Banksia		
<i>Baumea juncea</i>			
<i>Billardiera scandens</i>	Appleberry		

Species	Common name	Commonwealth Environment Protection & Biodiversity Conservation Act 1999	NSW Threatened Species Conservation Act 1995
<i>Blechnum cartilagineum</i>	Gristle fern		
<i>Breynia oblongifolia</i>	Breynia		
<i>Brunoniella pumilio</i>	Dwarf Trumpet		
<i>Bursaria spinosa</i>	Blackthorn		
<i>Callicoma serratifolia</i>	Black Wattle		
<i>Callistemon citrinus</i>	Crimson Bottlebrush		
<i>Calochlaena dubia</i>	Soft Bracken		
<i>Cassytha pubescens</i>	Devils Twine		
<i>Casuarina glauca</i>	Swamp She-oak		
<i>Caustis flexuosa</i>	Old Man's Beard		
<i>Cayratia clematidea</i>	Native Grape		
<i>Centella asiatica</i>	Pennywort		
<i>Ceratopetalum apetalum</i>	Coachwood		
<i>Ceratopetalum gummiferum</i>	NSW Christmas Bush		
<i>Cheilanthes seiberi</i> subsp. <i>sieberi</i>	Mulga Fern		
<i>Christella dentata</i>	Binung Fern		
<i>Cissus hypoglauca</i>	Water Vine		
<i>Clematis glycinoides</i> var. <i>glycinoides</i>	Forest clematis		
<i>Clerodendrum tomentosum</i>	Hairy Clerodendron		
<i>Commelina cyanea</i>	Scurvy Weed		
<i>Correa reflexa</i>	Correa		
<i>Corymbia gummifera</i>	Red Bloodwood		
<i>Cryptocarpa microneura</i>	Murrogun		
<i>Cyathea australis</i>	Rough Tree Fern		
<i>Cymbopogon refractus</i>	Barbed Wire Grass		
<i>Daviesia ulicifolia</i>	Gorse Bitter-pea		

Species	Common name	Commonwealth Environment Protection & Biodiversity Conservation Act 1999	NSW Threatened Species Conservation Act 1995
<i>Dianella caerulea</i>	Blue Flax Lily		
<i>Dianella revoluta</i>	Mauve Flax Lily		
<i>Dichelachne micrantha</i>	Shorthair Plume Grass		
<i>Dichondra repens</i>	Kidney Weed		
<i>Digitaria parviflora</i>	Smallflower Fingergrass		
<i>Dillwynia retorta</i>	Egg & Bacon		
<i>Dillwynia sieberi</i>	Prickly Parrot Pea		
<i>Dipodium variegatum</i>	Hyacinth orchid		
<i>Dodonaea triquetra</i>	Common Hop Bush		
<i>Doodia aspera</i>	Rasp Fern		
<i>Echinopogon caespitosus</i> var. <i>caespitosus</i>	Tufted Hedgehog Grass		
<i>Echinopogon ovatus</i>	Forest Hedgehog Grass		
<i>Einadia hastata</i>	Berry Saltbush		
<i>Elaeocarpus reticulatus</i>	Blueberry Ash		
<i>Empodisma minus</i>	Spreading Rope-rush		
<i>Entolasia marginata</i>	Bordered Panic Grass		
<i>Entolasia stricta</i>	Wiry Panic Grass		
<i>Epacris pulchella</i>	NSW Coral Heath		
<i>Epacris purpurascens</i> var. <i>purpurascens</i>*	Port Jackson Heath		Vulnerable
<i>Eragrostis brownii</i>	Browns Love Grass		
<i>Eragrostis leptostachya</i>	Paddock Lovegrass		
<i>Eucalyptus amplifolia</i>	Cabbage Gum		
<i>Eucalyptus fibrosa</i>	Broad-leaved Ironbark		
<i>Eucalyptus paniculata</i> subsp. <i>paniculata</i>	Grey Ironbark		
<i>Eucalyptus pilularis</i>	Blackbutt		
<i>Eucalyptus piperita</i>	Sydney Peppermint		

Species	Common name	Commonwealth Environment Protection & Biodiversity Conservation Act 1999	NSW Threatened Species Conservation Act 1995
<i>Eucalyptus punctata</i>	Grey Gum		
<i>Eucalyptus resinifera</i>	Red Mahogany		
<i>Eucalyptus tereticornis</i>	Forest Red Gum		
<i>Eustrephus latifolius</i>	Wombat Berry		
<i>Exocarpus cupressiformis</i>	Native Cherry		
<i>Gahnia aspera</i>	Rough Saw Sedge		
<i>Gahnia clarkei</i>	Tall Saw Sedge		
<i>Glochidion ferdinandi</i>	Cheese Tree		
<i>Glycine clandestina</i>	Love Creeper		
<i>Glycine microphylla</i>	Small-leaf Glycine		
<i>Glycine tabacina</i>	Love Creeper		
<i>Gonocarpua teucrioides</i>	Germander Raspwort		
<i>Goodenia hederacea</i> subsp. <i>hederacea</i>	Violet-leaved Goodenia		
<i>Goodenia heterophylla</i>	Variable-leaved Goodenia		
<i>Grevillea linearifolia</i>	White Spider Flower		
<i>Grevillea sericea</i> subsp. <i>sericea</i>	Pink Spider Flower		
<i>Hardenbergia violacea</i>	False Sarsaparilla		
<i>Hibbertia dentata</i>	Twining Guinea Flower		
<i>Hibbertia empetrifolia</i>	Trailing Guinea Flower		
<i>Histiopteris incisa</i>	Batswing Fern		
<i>Homolanthus populifolius</i>	Bleeding Heart		
<i>Hovea linearis</i>	Common Hovea		
<i>Imperata cylindrica</i>	Blady Grass		
<i>Isopogon anemonefolius</i>	Drumsticks		
<i>Joycea pallida</i>	Red Anther Wallaby Grass		
<i>Juncus planifolius</i>	Broad-leaf Rush		

Species	Common name	Commonwealth Environment Protection & Biodiversity Conservation Act 1999	NSW Threatened Species Conservation Act 1995
<i>Juncus usitatus</i>	Common Rush		
<i>Kennedia rubicunda</i>	Running Postman		
<i>Kunzea ambigua</i>	Tick Bush		
<i>Lachnagrostis filiformis</i>	Blown Grass		
<i>Lambertia formosa</i>	Mountain Devil		
<i>Lasiopetalum ferrugineum</i>	Rusty Petals		
<i>Lepidosperma laterale</i>	Variable Sword-sedge		
<i>Lepidosperma lineare</i>			
<i>Leptospermum polygalifolium</i> subsp. <i>polygalifolium</i>	Lemon-scented Tea-tree		
<i>Leptospermum trinervium</i>	Paperbark Tea-tree		
<i>Lepyrodia scariosa</i>			
<i>Laeucopogon juniperinus</i>	Bearded Heath		
<i>Lindsaea linearis</i>	Screw Fern		
<i>Livistona australis</i>	Cabbage-tree Palm		
<i>Lobelia gracilis</i>			
<i>Logania albiflora</i>	Logania		
<i>Lomandra filiformis</i>	Wattle Mat-rush		
<i>Lomandra longifolia</i>	Mat-rush		
<i>Lomandra multiflora</i>	Club Rush		
<i>Lomandra obliqua</i>	Fish Bones		
<i>Lomatia myricoides</i>	River Lomatia		
<i>Lomatia silaifolia</i>	Crinkle Bush		
<i>Maytenus silvestris</i>	Orange Bark		
<i>Melaleuca linariifolia</i>	Snow-in-Summer		
<i>Melaleuca styphelioides</i>	Prickly-leaved Paperbark		

Species	Common name	Commonwealth Environment Protection & Biodiversity Conservation Act 1999	NSW Threatened Species Conservation Act 1995
Melia azedarach	White Cedar		
Micrantheum ericoides			
Microlaena stipoides var. stipoides	Weeping Rice Grass		
Morinda jasminoides	Jasmine Morinda		
Notelaea longifolia	Mock Olive		
Notelaea ovata	Mock Olive		
Olearia microphylla	Bridal Daisy Bush		
Opercularia varia	Variable Stinkweed		
Oplismenus aemulus	Basket Grass		
Oplismenus imbecillis	Basket Grass		
Oxalis perennans	Grassland Wood-sorrel		
Ozothamnus diosmifolium	Everlasting / Paper Daisy		
Pandorea pandorana	Wonga Wonga Vine		
Panicum simile	Two Colour Panic		
Parsonsia straminea	Monkey Rope		
Passiflora herbertiana	Native Passionfruit		
Paterosonia sericea	Silky Purple Flag		
Persicaria hydropiper	Water Pepper		
Persicaria lapathifolium	Knotweed		
Persoonia levis	Smooth Geebung		
Persoonia linearis	Narrow-leaved Geebung		
Persoonia pinifolia	Pine-leaf Geebung		
Phyllanthus hirtellus	Thyme Spurge		
Pimelia linifolia	Slender Rice Flower		
Pittosporum revolutum	Hairy Pittosporum		
Pittosporum undulatum	Common Pittosporum		

Species	Common name	Commonwealth Environment Protection & Biodiversity Conservation Act 1999	NSW Threatened Species Conservation Act 1995
<i>Platylobium formosum</i>	Handsome Flat-pea		
<i>Platysace lanceolata</i>	Native Parsnip		
<i>Platysace linearifolia</i>	Carrot Tops		
<i>Plectranthus parviflorus</i>	Cockspur		
<i>Poa affinis</i>	Tussock Grass		
<i>Polyscias sambucifolia</i>	Elderberry Panax		
<i>Pomaderris aspera</i>	Hazel Pomaderris		
<i>Pomaderris ferruginea</i>	Rusty Pomaderris		
<i>Pomaderris intermedia</i>	Tree pomaderris		
<i>Pomax umbellata</i>	Pomax		
<i>Pratia purpurescens</i>	White Root		
<i>Pseuderanthemum variabile</i>	Pastel Flower		
<i>Pteridium esculentum</i>	Bracken Fern		
<i>Pultenaea daphnoides</i>	Bush Pea		
<i>Pultenaea flexilis</i>	Graceful Bush-pea		
<i>Pultenaea retusa</i>			
<i>Pultenaea scabra</i>	Rough Bush-pea		
<i>Quintinia sieberi</i>	Rough Possumwood		
<i>Rapanea variabilis</i>	Muttonwood		
<i>Rhytidosporum procumbens</i>	White Marianth		
<i>Senecio diaschides</i>	Groundsel		
<i>Setaria distans</i>			
<i>Sigesbeckia orientalis</i>	Indian Weed		
<i>Smilax glyciphylla</i>	Native Sarsparilla		
<i>Solanum prinophyllum</i>	Forest Nightshade		
<i>Sporobolus creber</i>	Slender Rat's Tail Grass		

Species	Common name	Commonwealth Environment Protection & Biodiversity Conservation Act 1999	NSW Threatened Species Conservation Act 1995
<i>Stylidium productum</i>	Trigger Plant		
<i>Syncarpia glomulifera</i>	Turpentine		
<i>Tetragonia tetragonioides</i>	Warrigal Greens		
<i>Themeda australis</i>	Kangaroo Grass		
<i>Trema tormentosa</i>	Native Peach		
<i>Tristaniopsis laurina</i>	Water Gum		
<i>Tylophora barbata</i>	Bearded Tylophora		
<i>Veronica plebeia</i>	Creeping Speedwell		
<i>Viola hederacea</i>	Native Violet		
<i>Wahlenbergia gracilis</i>	Native Bluebell		
<i>Xanthorrhoea arborea</i>	Broadleaf Grass Tree		
<i>Xanthosia pilosa</i>	Hairy Xanthosia		
<i>Xanthosia tridentata</i>	Rock Xanthosia		
<i>Xylomelum pyrifforme</i>	Woody Pear		
<i>Zieria pilosa</i>	Hairy Zieria		
<i>Zieria smithii</i>	Sandfly Zieria		

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9.2 COMMUNITY WORKSHOP MEETING SUMMARY

LAKE PARRAMATTA RESERVE POM

Community Workshop

6.00pm, Thursday July 1, 2010

Jubilee Hall at Parramatta Town Hall, 182 Church Street Parramatta

Attendees:

6 Councilors, 24 community members, 2 council officers, 4 Consultant team

No.	Item
1.0	INTRODUCTION
1.1	Neville Davis (Council's parks officer) welcomed all present and provided an introduction to the meeting.
2.0	STUDY TEAM PRESENTATION
2.1	Adam Hunter and John Newman from Environmental Partnership gave a short presentation that included: <ul style="list-style-type: none">• Aim of the workshop• Background to Plans of Management• Principles for crown lands management• Background preliminary issues and context to Lake Parramatta Reserve.
2.2	<i>Aim of the workshop</i> <ul style="list-style-type: none">• Provide stakeholders an opportunity to discuss issues for reserve management that should be addressed in the draft PoM• Discuss initial strategies for reserve management that should be addressed in the draft PoM• Outline what happens from here in development of the draft PoM
2.3	<i>What is a PoM</i> <p>A PoM is a report outlining how Council proposes to manage a reserve for the benefit of the Community.</p> <p>Plans of Management usually derive their management recommendations from the following criteria established by Council and stakeholders:</p> <ul style="list-style-type: none">• Roles and values• Desired outcomes• Issues (opportunities and constraints)• Local Government Act requirements <p>This PoM must identify how the reserve is to be managed in accordance with its public recreation purpose and in accordance with the principles of Crown land management</p>
2.4	<i>Principles for Crown Lands Management</i> <ol style="list-style-type: none">a. Environmental protection principles are observed in relation to the management and administration of Crown land.b. The natural resources of Crown land (including water, soil, flora, fauna and scenic quality) be conserved wherever possible.c. Public use and enjoyment of appropriate Crown land be encouraged.d. Where appropriate, multiple use of Crown land be encouragede. Where appropriate, Crown land should be used and managed in such a way that both the land and its resources are sustained in perpetuityf. Crown land be occupied, used, sold, leased, licensed or otherwise dealt with in the best interests of the State consistent with the above principles.

No.	Item
2.5	<p><i>Other Crown Lands management requirements</i></p> <ul style="list-style-type: none"> The POM must authorise any existing and new facilities to be leased and licensed to commercial operators or special interest groups in accordance with the Crown Lands Act requirements as listed in Crown Lands Policy for Food and Beverage Outlets on Crown Reserves The draft PoM must observe appropriate reserve policy applicable to the site along with relevant land management case law in respect of acceptable uses on public recreation reserves. Council must notify the CLD of its intention to prepare a PoM for the reserve and approval be provided by the Minister. The draft plan must be prepared in consultation with the CLD and will be placed on public exhibition for a minimum period of 28 days. Following the exhibition and consideration of public comments, Council will seek formal adoption of the plan by the Minister of Lands
2.6	<p><i>Background and context to Lake Parramatta Reserve</i></p> <p>The study outlined some important physical characteristics of the study area including:</p> <ul style="list-style-type: none"> The site Heritage Access Topography and drainage Vegetation Usage <p>Statutes of previous PoM actions were reviewed along with recommendations from the Parramatta River Foreshore Strategy</p>
3.0	<p>WORKSHOP DISCUSSIONS</p> <p>Adam Hunter & John Newman Provided a brief overview of issues as a lead in to workshop discussions</p>
3.1	<p><i>Enjoying the reserve (use)</i></p> <p>Preliminary Issues (study team)</p> <ul style="list-style-type: none"> Potential improvement of lake edge passive recreation areas (seating / picnic tables) Is it possible to create more open space near the lake through such strategies as relocating parking / making more car park space more efficient. Provisions for water access for kayakers, etc. (secondary water contact) Role of kiosk and hall: <ul style="list-style-type: none"> - Would kiosk be desirable closer to lake - Is a function centre desirable and feasible within the reserve? - Should kiosk be upgraded/ extended <p>Community workshop comments:</p> <p>Generally:</p> <ul style="list-style-type: none"> There are problems with trail bikes Problems with people creating more trails – fragmenting bushland and leading to an increased chance of getting lost. Event usage varies at different times of year, and can reduce occurrence of vandalism. Events can be managed so that security only permits entry to official guests. Risk of developing the function use beyond the demand for functions on the site. High level of family usage on the weekend – increase in function use could impact existing users.

No.	Item
	<ul style="list-style-type: none"> • Perceived range of negative impacts to night use (views, noise, vandals) • Concerns about use of reserve for orienteering due to environmental impacts-prefer large-scale restrictions this type of usage. • Problems with dogs off leash difficult to enforce rules. • Potential guided tours around lake • Review potential to make Lake Parramatta a wildlife sanctuary or nature reserve. • Some people concerned about development more seating /access in main visitor precinct • Concerns about sustainable mountain bike use on existing trail network and conflict with other users. • Allowing a range of uses to continue in an ORGANIC way is supported. • Encourage visitors to be responsible for their own safety • Deputy mayor - council trying to encourage a range of outdoor activities • Concerns about over development of Parramatta – prefer to leave the park as it is • Range of opinions about level of facilities (tables/chairs) should be provided some say more is justified, while others thought that - a “bring your own furniture” approach could work. • Mid week use (older groups, retirees, pre-schoolers) is different to weekend use (families, larger groups). • Noise mitigation from James Ruse Drive is still an important issue to be addressed in the POM. • Natural heritage were seen by many to be the most important aspect of the reserve. • Large groups can dominate the public picnic grounds and spoil the atmosphere for other park visitors. • Booking of large groups can be enforced by rangers <p>Kiosk:</p> <ul style="list-style-type: none"> • Daytime use supported, concerns regarding night time use– vehicle access, vandalism, environmental damage (theft of bush rock), dumping and noise impacts on fauna and residents. • Can currently hire the kiosk at night until 10 pm - fairly occasional usage – with gates locked afterwards • Security guards open / close gates 7 – 5.30 (7.00 daylight savings time) • Policing of entry during functions may be required – the fire trail remains locked with boom gates during functions. • DA process to govern type and operation of any potential developments. • Council would be relying on outside investors to put up the capital to undertake development. • Support for additional deck area adjoining the kiosk. • Carrying capacity for the reserve. What is it? - Generally related to vehicle access and parking, in addition to amenity for visitors and environmental impacts. • Support for a range of improvement to kiosk, parking, picnic and bbq areas etc. • Function centre could raise revenue. • Potential corporate conferences and functions. • Potential demand for small weddings. • Balance of heritage buildings to be preserved. Also building could be upgraded. • Potential for development that is best practiced for environmental sustainable design, in keeping with natural environment. • Potential use of a temporary function site located on the carpark adjoining the waterfront. • Public private partnership – public interest needs to be at forefront
3.2	<p>Getting to and around the reserve (access)</p> <p>Preliminary issues (study team):</p> <ul style="list-style-type: none"> • Improving entry points (functionally and aesthetically) • Improve cycle connections to and from the reserve • Reduce impact of vehicular access and parking on recreational use and visual amenity • Hierarchy of access • Disabled accessible pathways linking focal points of main visitor precinct • Network of gravel walking tracks to bushland areas beyond main visitor precinct • Pressure for sustainable shared use of fire trails (mountain bikes) • Identification of secondary entry points

No.	Item
	<p>Community workshop comments:</p> <p>Generally</p> <ul style="list-style-type: none"> Concerns about sustainable mountain bike use on existing trail network and conflict with other users Dumping – asbestos and garden waste, particularly in areas that have access to north rocks roads <p>Local context</p> <ul style="list-style-type: none"> Lake Parramatta reserve is still not as widely known as other regional outdoors spaces. <p>Lake edge parking:</p> <ul style="list-style-type: none"> Large amounts of overflow parking available near entry to reserve. (south of James ruse drive) Review potential to provide a separate vehicle access to parking before buildings. On site car parking currently at capacity. Review potential to reduce the extent of car parking adjoining water. Parking is a major constraint on potential development Multiple benefits of moving cars away from water - much safer for pedestrians and improved amenity for passive recreation area. <p>Water Access:</p> <ul style="list-style-type: none"> Swimming in the reserve was popular approximately 50 years ago before the adjoining catchment land was developed for housing Water quality is now only suitable for swimming in certain times, (when there hasn't been a rain event) Swimming also has issues in related to water safety and requirement for lifeguards. Difficult to make improvements to water quality due to residential areas (sewage and stormwater) within the catchment. Natural water views highly valued. Was popular for swimming before water quality impacted adjoining development <p>3.3 <i>Conserving the reserves environment, heritage and character (conservation)</i></p> <p>Preliminary issues (study team):</p> <ul style="list-style-type: none"> The reserve is important to Aboriginal people as the location of several examples of Aboriginal occupation and artefacts. European heritage has been identified in the recreation, water storage and infrastructure. Lake Parramatta Reserve has extensive natural vegetative communities throughout. Conserve the reserves native vegetation communities and reduce the impact from adjoining residential areas <p>Community workshop comments:</p> <p>Heritage</p> <ul style="list-style-type: none"> Consultation with the local Aboriginal Community is important. Parramatta led the way in saying sorry to aboriginal people, which is recognized by the plaque within Lake Parramatta Reserve. Additional WSUD infrastructure is required to further improve storm water from James Ruse Drive The Reserves 'Natural' environment is partly a result of a river valley that was flooded to create a lake

No.	Item
	<p>Vegetation</p> <ul style="list-style-type: none"> Problems with people creating more trails – affecting bush land increased chance with getting lost Additional investment in weed management bush regeneration is required Potential to interpret the reserves intrinsic qualities (natural / cultural heritage), could be built into ‘layers’ of development. Leaflets for self guided walk would be good for interpretation
3.4	<p><i>Looking after the reserve and its facilities (maintenance)</i></p> <p>Community workshop comments:</p> <ul style="list-style-type: none"> Who pays for upgrade of ‘Crown Land’ Parramatta city council has care, control and management of the reserve for the Crown(State Government) Improvements come from annual capital works budget, government grants, sponsorship, volunteer labour Spent \$ 250 000.00 per year for 4-5 years after the last PoM. - Section 94 contributions scheme is the main source of funding There are currently no plans to charge for entry, into the reserve however a charge may be applied to booking in the future. Continue bush land regeneration and weed management programs. Consolidate network of trails to reduce potential environmental impacts.
4.0	<p>WHERE TO FROM HERE?</p> <ul style="list-style-type: none"> Study team to review with Council the findings from the workshop Study team to prepare a draft PoM for public exhibition. Council and study team to review community comments on the draft POM prior to finalization and adoption by council.

9.3 PARK USER QUESTIONNAIRE RESULTS

Lake Parramatta Reserve Survey (23 July 2010)

Q1. How often do you visit the reserve?	Total	127 (100%)
	Every Day	8 (6%)
	Several Times a Week	11 (9%)
	About Once a Week	12 (9%)
	About Once a Fortnight	17 (13%)
	About Once a Month	25 (20%)
	About 2 to 6 Times a Year	41 (32%)
	About Once a Year	10 (8%)
	Less Than Once a Year	3 (2%)
Q2. When do you visit the reserve?	Total	127 (100%)
	Weekdays	71 (56%)
	Weekends	112 (88%)
	Public holidays	36 (28%)
	Special events	20 (16%)
	No Answer	2 (2%)
Q3. How long do you usually stay in the reserve?	Total	127 (100%)
	Less than 15 mins	0 (0%)
	Half hour	4 (3%)
	1 hour	22 (17%)
	2 hours	58 (46%)
	3 hours or more	42 (33%)
	No Answer	1 (1%)

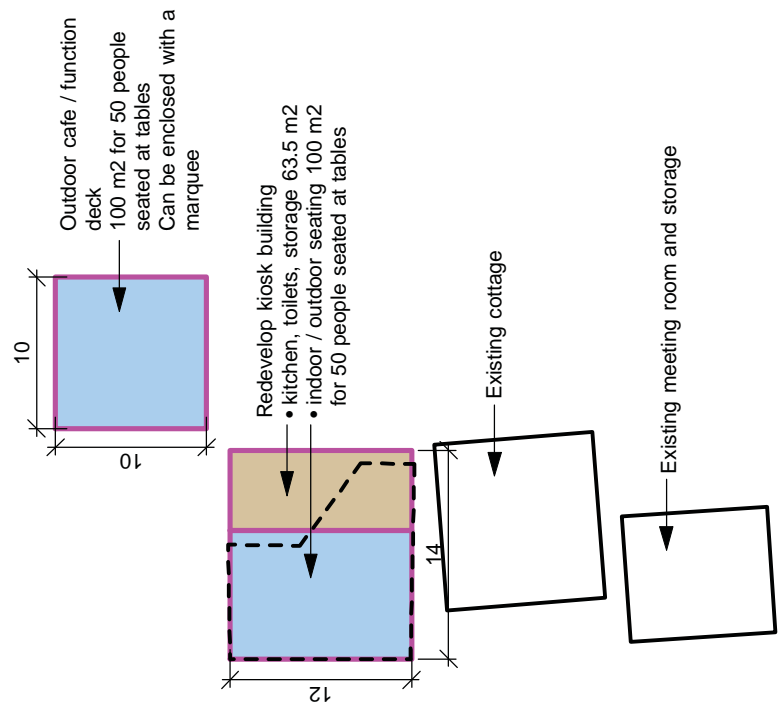
Q4. How do you travel to the reserve?	Total	127 (100%)
	Walk	40 (31%)
	Car	104 (82%)
	Bicycle	19 (15%)
	Tour mini bus	0 (0%)
	Coach tour	0 (0%)
	Motor bike	1 (1%)
	Other	2 (2%)
	No Answer	1 (1%)
Q5. Who do you go to the reserve with?	Total	127 (100%)
	Alone	35 (28%)
	Family	89 (70%)
	Partner	42 (33%)
	Children	44 (35%)
	Friends	59 (46%)
	Part of a club or organisation	29 (23%)
	Part of a school group	3 (2%)
	Volunteer	13 (10%)
	Other	5 (4%)
	No Answer	1 (1%)

Q7. Which of the following activities do you do in the reserve?	Total	127 (100%)
	Relaxing in Picnic Area	89 (70%)
	Bush Walking	106 (83%)
	Jogging	6 (5%)
	Children's Play	51 (40%)
	Picnic/ Barbecue	69 (54%)
	Kiosk - take away	47 (37%)
	Kiosk - eat in - coffee	59 (46%)
	Kiosk - eat in - snack	33 (26%)
	Kiosk - eat in - breakfast	44 (35%)
Q8. How often do you visit the kiosk?	Kiosk - eat in - lunch	35 (28%)
	Other	24 (19%)
	No Answer	1 (1%)
	Total	127 (100%)
	Every time you visit the reserve	31 (24%)
	Every second time	40 (31%)
	Rarely	42 (33%)
	Never	13 (10%)
	No Answer	1 (1%)

Q8. How often do you visit the kiosk?				
	Total	Yes	No	No Answer
Upgrade Kiosk/ Cafe	127	88	30	9
Functions in a temporary marquee	127	44	67	16
Permanent function centre	127	19	95	13
Upgraded boat ramp	127	40	68	19
Improved Water Access (Jetty)	127	57	55	15

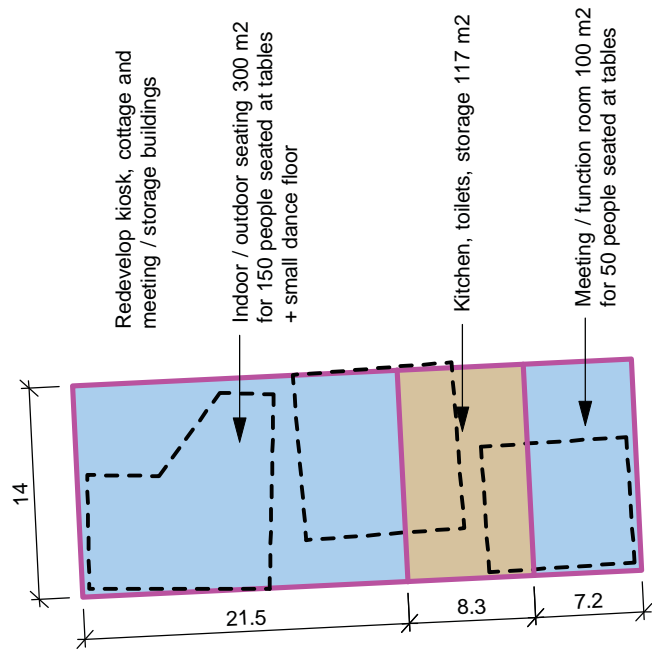
Q10. How satisfied are you with the facilities at the reserve?	Total	127 (100%)
	Very dissatisfied	6 (5%)
	Dissatisfied	2 (2%)
	Neither satisfied nor dissatisfied	15 (12%)
	Satisfied	58 (46%)
	Very satisfied	46 (36%)

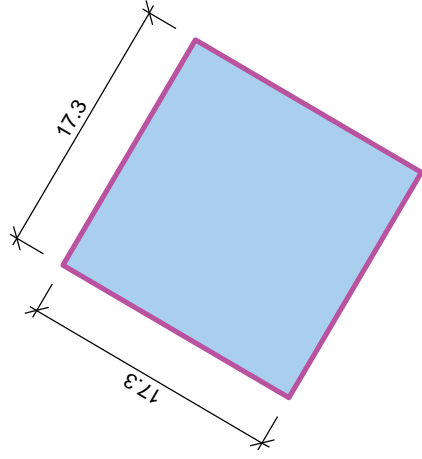
9.4 KIOSK DEVELOPMENT OPTIONS PRESENTED AT COMMUNITY WORKSHOP



1:1500 @ A4

FIGURE 9.4.1: KIOSK OPTION 1





Temporary marquee

- 300m²
- space for 150 seated patrons + small dance floor
- catering to be provided by kiosk or brought in
- 'porta-loo' toilets may be required



1:1500 @ A4

9.5 FEASIBILITY OF KIOSK / FUNCTION CENTRE OPERATIONS AT LAKE PARRAMATTA RESERVE

Background

As part of the preparation of the 2010 PoM for the Reserve, Council sought advice on the likely feasibility of redeveloping the existing kiosk as a cafe-restaurant and/or conference-function centre. Jenny Rand & Associates (Commercial Analysts specialising in the Leisure & Tourism sector) undertook the study.

History

Key history prior to the 2010 study includes:

- In 1996 a report on the kiosk operation was prepared as part of the preparation a PoM for the Reserve (Plan adopted 1999). The Report recommended the development of a combined cafe-restaurant-function centre in the Reserve.
- In 2001/2 Council called for Expressions of Interest for parties interested in developing and operating a restaurant – function centre on the reserve. There were no interested parties.
- The small demountable building has continued to be used as a kiosk.
- Since 1999 the kiosk has had three operators, the first two of whom failed
- The kiosk was empty for 18 months, before the lease was taken up in 2005 by the current operator.
- The current operator improved kiosk by constructing a deck around the building, with Council supplying the materials and the operator undertaking the work. The operator has successfully grown the business into a cafe operation

Community perspectives

The community workshop held as part of the 2010 PoM review Community on 1st July 2010 included the following discussions related to kiosk / function Centre uses in the reserve:

- Concerns regarding night time use– vehicle access, vandalism, environmental damage (theft of bush rock), dumping and noise impacts on fauna and residents;
- Can currently hire the kiosk at night until 10 pm – fairly occasional usage – with gates locked afterwards;
- Policing of entry during functions may be required – the fire trail remains locked with boom gates during functions;
- Would Minister for Lands agree to such a development;
- Support for additional deck area adjoining the kiosk;
- Carrying capacity for the reserve (What is it?) – Generally related to vehicle access and parking, in addition to amenity for visitors and environmental impacts;
- Support for a range of improvements to kiosk, parking, picnic and bbq areas etc;
- Public interest needs to be at forefront

Process

The key tasks undertaken in the preparation of the Feasibility review study included:

- Review of relevant studies;
- Inspection of Lake Parramatta Reserve, kiosk and meeting room facilities;
- Discussions with the current kiosk lessee;
- Discussions with the Venue Booking Manager for the meeting room regarding enquiries received for venues in the City and a review of the bookings for the room;
- Discussions with the Tourism Manager and relevant Council officers regarding dining options in the Parramatta Area and Lease and Licence Agreements;
- Review of the competitive environment for cafe-restaurants and conference – function centres in Parramatta CBD and surrounding area;
- Assessment of the conference, meetings and functions market in Parramatta, including telephone interviews with a number of venue managers;
- Discussions with Councils and Land Management Agencies regarding performance of cafe – restaurant operations in similar parks and reserves and rents achieved.

Current environment

Since the 1996 report, there have been significant changes in the restaurant, function and conference scene in Parramatta and the surrounding region. There are now more than 150 cafes and restaurants in the Parramatta CBD and more than 300 in the Parramatta LGA. Changes include:

- The Reserve kiosk has been substantially upgraded with the introduction of terrace dining, significantly expanded menu and quality service. The facility meets the needs and expectations of users that were identified in the 1996 study;
- Emergence of the Church Street dining precinct (over 30 eateries) as a regional 'Eat Street';
- Emergence of dining precincts in George Street and Church Street South, Parramatta;
- The opening of the Parramatta Park Cafe and Events Centre on Parramatta River;
- Opening of a number of eateries along the Parramatta River corridor;
- Establishment of a number of eateries in the North Parramatta industrial area;
- Upgrading of the function and exhibition facilities at Rosehill Racecourse;
- The opening of a number of historic buildings, including Elizabeth Farm, and Old Government House for small functions and events;
- The development of Sydney Olympic Park at Homebush Bay. The Olympic Precinct has 9 venues which provide more than 90 function and meeting rooms, as well as 4 hotels with function and meeting facilities and an emerging dining precinct;
- The development of Bicentennial Park and the Waterview Cafe and Function Centre at Homebush.

Main Findings: Lake Parramatta Reserve

- The Reserve is extremely attractive – with the Lake surrounded by bushland. This is the main asset;
- The area of parkland close to the water has very limited capacity. The area is very popular on sunny weekends, with the area being at capacity. This has a self-regulating impact on visitation, and restricts the potential market for a cafe – restaurant operation;
- For a range of markets, the distance from the CBD and very limited public transport are constraints to using the reserve;
- The Reserve is operating in a highly competitive environment. Places like Parramatta Park are far more accessible and visible, and have an established profile in the marketplace;
- The Cafe building and caretakers cottage, and possibly the meeting room, have reached the end of their economic lives. Neither the Cafe nor cottage has intrinsic appeal or heritage value;
- The public consultation undertaken by Environmental Partnership, identified that the majority of Reserve users would like to see the Cafe upgraded.

Main Findings: Cafe

- The Cafe is a high risk operation. Trading is highly weather dependent. It is also influenced by the demographic and ethnic mix of the people using the Reserve. The operator has no control over either factor;
- The current Lessee has been successful in building a cafe business at the Reserve. There are a range of factors that contribute to the success of the venue, including the business acumen of and service provided by the Operator;
- The Cafe largely meets the needs and expectations of users identified in the 1999 PoM;
- The profitability of the Cafe operation is constrained by the premises. Operating out of three non-purpose built spaces is inefficient and increases staff and operating costs. The operator does not have the space or flexibility to up and down scale the seating depending on demand, which restricts the ability to make 'good' money during peak times to carry the operation through poor trading days;
- The small size of the Cafe and the night curfew, combined with the Cafe not being 'weather-proof' limits the potential to build the function market.

Main Findings: Function Centre

- There was minimal public support for the development of a permanent function-conference in the Reserve. There was more support for allocating an area to erect a temporary marquee for functions;
- The space and facilities (e.g. toilets storage, etc) needed to support the proposed large conference venue would not fit within the footprint identified as suitable for the natural character of the reserve;
- Given the intrinsic value of the Reserve and the likely impact on the recreational use of the area, it is highly likely that the Minister would not approve a large function-centre development;
- While the views and setting are very attractive, the North Parramatta location and the access through and proximity to residential areas are constraints to the use of the area for functions;
- Demand for the venue for conferences and meetings is likely to be relatively low. The Centre could expect to attract some corporate and government meetings if state-of-the art equipment is available and the venue is professionally operated;
- Community groups are also a potential market, if the venue is available at no or minimal charge. Council is likely to remain the main user of the venue for meetings;
- The Centre could expect to gain a share of the weddings and private functions market. This use will be concentrated on weekends, which coincides with peak use times for recreational use of the Reserve.

Recommendations

- It is recommended not to proceed with a proposal for a 300 seat function-conference centre and a 100 seat cafe-restaurant. It is highly likely that the Minister would not approve the development. Instead it is suggested that consideration be given to redeveloping the cafe area;
- While water frontage would be ideal, such a proposal would be likely to be met with strong opposition from Reserve users;
- As such it is suggested that consideration be given to demolishing the existing Cafe and Cottage, and possibly the meeting room;
- The site could likely sustain a 120 seat facility (refer size of operation following) as the maximum size facility appropriate to the site. As such a smaller facility would also be appropriate but may be less operationally and financially desirable for a potential operator.

Design Considerations

Relationship with the Surrounding Environment:

- The attractive setting and view over the lake is a significant part of the appeal of the existing Cafe and the dining experience being offered. This should be retained;
- The access link between the Café and the picnic areas needs to be strengthened;
- If the meeting room is to be retained, consideration should be given to providing a link between the meeting room and cafe to improve catering and remove current issues with food service delivery to the meeting room;
- The café theming and presentation should reflect park values. A high standard of fitout should be required. Council needs to provide parameters for fitout in the tender and lease documentation;
- There is a need for climate control – ideally the Café area needs to be air-conditioned in summer and heated in winter. The outdoor area is likely to need some shade in summer and possibly upright gas heaters in winter;
- Given the market mix, the cafe needs stroller and wheel chair friendly access from the car park, foreshore and picnic shelters.

Market Environment

The Café needs have the flexibility to cope with a diversity of markets and significant fluctuations in demand with strong peaks and troughs. Consideration needs to be given to:

- Having a core area, with the ability to increase seating during peak times;
- Separating the dine-in and takeaway functions, to remove congestion, conflict and OH&S risks, while enabling both parts of the operation to be serviced and supervised with minimal staff;
- Accommodating strollers and wheelchairs in the circulation and seating patterns;
- The Cafe should have the flexibility to do small functions (up to 120 people);
- Providing a level area in the Reserve, preferably adjoining the Cafe, which can be used for the erection of a temporary marquee if required, or as an overflow area for the Cafe in peak times.

Size of Operation

- A capacity of 60 indoor and 60 on an adjoining deck or terrace (becomes an extension of the indoor space) should be adequate for all but peak days. 120 seats would also enable the Operator to cater for small functions;
- During peak periods, such as Mothers Day, Fathers Day, Public Holidays etc, or if the Café has a bus or social group in for lunch, then additional capacity is likely to be required. On these occasions, additional space could be provided by having a level, possibly paved terrace adjacent to the Café;
- The cafe needs bathroom facilities including a disabled toilet.

Type of Operation

Based on the market research it is envisaged that:

- The Café-Kiosk will continue to be positioned base to mid-market. The market is not likely to support an up-market operation;
- The takeaway and dine-in menus will remain similar to the current menu with a mix of more traditional and contemporary items.

9.6 INTERNATIONAL MOUNTAIN BIKING ASSOCIATION (IMBA) 'RULES OF THE TRAIL'

1. Ride on open trails only

Respect trail and road closures (ask if uncertain); avoid trespassing on private land; obtain permits or other authorisation as may be required. The way you ride will influence trail management decisions and policies.

2. Leave no trace

Be sensitive to the dirt beneath you. Recognise different types of soils and trail construction; practise low-impact cycling. Wet and muddy trails are more vulnerable to damage. When the trailbed is soft, consider other riding options. This also means staying on existing trails and not creating new ones. Don't cut switchbacks. Be sure to pack out at least as much as you pack in.

3. Control your bicycle!

Inattention for even a second can cause problems. Obey all bicycle speed regulations and recommendations.

4. Always yield trail

Let your fellow trail users know you're coming. A friendly greeting or bell is considerate and works well; don't startle others. Show your respect when passing by slowing to a walking pace or even stopping. Anticipate other trail users around corners or in blind spots. Yielding means slow down, establish communication, be prepared to stop if necessary and pass safely.

5. Never scare animals

All animals are startled by an unannounced approach, a sudden movement, or a loud noise. This can be dangerous for you, others and the animals. Give animals extra room and time to adjust to you. When passing horses, use special care and follow directions from the horseback riders (ask if uncertain). Disturbing wildlife is a serious offence. Leave gates as you found them or as marked.

6. Plan ahead

Know your equipment, your ability, and the area in which you are riding – and prepare accordingly. Be self-sufficient at all times, keep your equipment in good repair, and carry necessary supplies for changes in weather or other conditions. A well-executed trip is a satisfaction to you and not a burden to others. Always wear a helmet and appropriate safety gear. Keep trails open by setting a good example of environmentally sound and socially responsible off-road cycling.