

## Millennium Parklands 10 Years On

A Performance Review of the 1997 Concept Plan and Aspects of its Implementation



Prepared by HASSELL in consultation with  
Fathom Consulting and the Sydney Olympic Park Authority  
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*The future park of Homebush must move beyond the concept of the picturesque landscape, beyond images of embalmed nature, and beyond the realm of landscape as a spectacle for the masses. The landscape at Homebush Bay is not intended to be experienced as a fixed element, nor an object of desire, but an on-going process of evolution.*

*Millennium Parklands Concept Plan, 1997.*

As authors of the Millennium Parklands Concept Plan and the designers of the parklands and much of the public domain at Homebush Bay, HASSELL, a long term partner and supporter of Sydney Olympic Park Authority (SOPA), has funded the research and preparation of this review. The review was undertaken by Mary Beatty, Researcher, HASSELL. Sincere thanks to all contributors who took the time to share their thoughts about this project.

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## EXECUTIVE SUMMARY

*"The park is a wonderful metaphor for the changing values of our society...the whole site is representative of the cumulative abuses of the land - the ignorance of previous generations, a massively abused site - it is a metaphor for what we have done to the world as a whole. The Sydney Olympic Games and the parklands are a symbol of the changing attitudes towards the land...the need to protect it, restore it, heal and make it into a place of value and support for the community. It is proof that nothing is so damaged that it can't be repaired."*

*- Penelope Figgis, AO, July 2008*

This 10 year review goes beyond a "tick the boxes" evaluation of implementation of the concept plan for the Millennium Parklands. It canvases the thoughts of selected experts who have participated in its design and management, and overseen and observed its development, to see if the aspirations of the concept plan have been achieved. The group as a whole is an informed body, well qualified to assess whether the concept plan delivered.

By almost any measure the park has satisfied the key objectives of that plan in its relatively short life. Ten years ago the site was one of the most degraded areas of land and waterways in the entire country. Now it is a rich, naturalistic landscape with thriving communities of plants, birdlife and an endangered frog species. It is used and visited by millions of people annually for recreation and leisure. It is an inspiring example of how industrial wastelands can be rehabilitated following degradation by human use.

This review is also an evaluation of what the Millennium Parklands Project *meant* in 2000, and what it *continues to mean*, for our city, our country and the world in 2008 and beyond. The concept plan imagined the vast potential of this special site, and articulated it to a degree uncommon in traditional landscape design.

Most participants in this review acknowledged the achievements of Millennium Parklands over the past 10 years have been impressive. While there remain aspects of the concept plan yet to be fully achieved, continuing evolution was a key element of the concept plan. As Catherin Bull noted in her 2000 article Landscape of Hope, "one of the most significant aspects of Millennium Parklands is that it takes its own development as a central theme in its program, thus becoming one of the first self-referential parks in the world."<sup>1</sup>

*The articulation of the design concept - the clear articulation of a simple set of design principles enabled the design to be understood and followed through...it stitched together a very difficult alignment of interests.*

*- Peter Duncan*

It is a testament to the strength, continued relevance and resilience of the 1997 concept plan that everyone who contributed feedback for this review – whether they were involved in the creation and execution of the concept plan, or had never seen it – reiterated the values and principles as written in the plan and their continued relevance.

The great pride and sense of ownership that the contributors to this review expressed is also noteworthy. Even when disappointment was expressed that certain aspects of the concept plan are yet to be achieved, or have been poorly achieved, it was always tempered with recognition of the incredible transformation that has been taken place in such a relatively short time.

<sup>1</sup> Bull, Catherin, 1999, Millennium Parklands: A Landscape of Hope, Land Forum 04, PP.54-71.

## EXECUTIVE SUMMARY

The *process* of assembling a multi-disciplinary panel of experts from various fields associated with parklands was one of the most critical factors in the success of the design and early implementation of the concept plan. It was also strongly recommended by contributors to this review that continued expert involvement, through the strengthening of the Expert Advisory Panel with representatives of the design team, would be essential for the fulfilment of the concept plan into the future.

*The initial inputs of experts lead to early success. The lesson learned from this is that there needs to be ongoing expert input so that the concepts can continue to be executed and not stray off course during the process of evolution. Advisory panels over the past 10 years have ensured this, although perhaps going forward this role should be formalised and strengthened.*

- Catherin Bull AM

While the feedback from experts involved in the creation and ongoing management of the parklands is extremely valuable, a significant measure of success of the concept plan is the feedback from the people who, on a daily basis, deal with the public and manage and maintain the parklands in a “hands on” role – the rangers, the ecologists and the volunteer coordinators. These people share the vision of a park that is evolving. They are passionate about its intrinsic value and its importance to the local community, the environment and as an example for the rest of the world.

It is clear from this review that the 1997 concept plan expressed the values of current and future generations of Australians who would be involved with the parklands. The plan has proved to be a robust document which has guided the parklands towards becoming one of Australia’s most valuable natural and cultural resources in a central urban location. Many of the key ideas that formed the basis of the concept plan – sustainability, adaptability, diversity and valuing the Australian natural environment are more relevant now than ever before.

*Publicising innovations and environmental achievements has been a missed opportunity. Millennium Parklands has fallen well short of its potential to be a world showcase for environmental management. ... Bio-remediation... the leachate system is one of the highlights of the design, it something we can showcase, ... this really needs active promotion through a world class visitor centre, improved electronic access and international promotion and marketing, as envisaged in the concept plan.*

- Phil Straw

Many contributors to this review expressed a strong view that any future plans for development and activities at Sydney Olympic Park must continue to comply with the principles of the concept plan so as to protect the integrity and ensure the continued success of the Millennium Parklands.

The contributors, not unexpectedly, at times expressed differing views about the priorities for future management and development, however, the most strongly held view, almost uniformly, is that the success of Millennium Parklands is not as widely known as it should be, notwithstanding the park's influence on similar projects at the Beijing and London Olympic Games sites.

This evaluation has shown that Millennium Parklands have been a monumental achievement in landscape design, engineering, technological innovation, and the creation and management of urban wetlands. Clearly, achieving wider national and international recognition is one of the greatest responsibilities and opportunities for the parklands in the future and will ensure they are a legacy of the scope and leadership role that was envisaged in the 1997 concept plan.

# 01 BACKGROUND TO REVIEW

*There is no need to find a wholly new recipe for urban park planning. In fact, users would not want this. This planning successfully took the core urban park elements and married them into modern environmental recovery principles using advanced technology of the day.*

*- Brett Cheatley*

## Background and Purpose

It has been 10 years since the vision for the Millennium Parklands was articulated in the concept plan. In recent years there has been growing international interest in major urban parklands, the conversion of degraded lands to productive ecological and community landscapes, and the success of many of the pioneering design approaches and techniques used to achieve this at Homebush Bay.

The purpose of this review is to evaluate the extent to which the vision, aspirations and proposals of the 1997 concept plan have successfully guided the first 10 years of the life of the parklands, and to provide recommendations about any improvements that could be made to better align the future management direction for the parklands with the original concept plan. It is also an opportunity to reflect, with the beginnings of historical perspective, on the meaning of the parklands in a cultural, environmental and sociological sense. The time frame of the review is from 1998 to 2008, from the formulation of the concept plan to the present.

The review client is the Sydney Olympic Park Authority, which was represented by Andrew Ferris, Director Park Management, Place Management, SOPA. Participants in the review process include experts involved in the design, development and implementation of the concept plan, and others who have been involved in the management and operations of the parklands at various times over the past 10 years, which included the period of the 2000 Sydney Olympic Games.

Ten years is a short period of time in the life of any major regional park. One of the key objectives of the Millennium Parklands is that they were intended to evolve, and would never really be “finished”. Therefore, this is not a review of whether every objective has been achieved, but rather whether the values, principles and proposals contained in the concept plan remain relevant, are resilient and continue to be upheld by those managing the parklands.

## Methodology and Scope

This report contains the results of an expert-based review process that involved the evaluation of the various aspects of the concept plan including its aspirations, its implementation, the successes, missed opportunities and lessons for the future. Over 20 experts from a variety of fields associated with the parklands contributed to this review - ecologists, wildlife experts, landscape architects, environmentalists, people involved in the management of urban parklands, and people who interface with the users of the parklands on a day to day basis. These experts are acknowledged in **Appendix A: Review Participants** of this review.

The review contributors either participated in an interview or completed a questionnaire. A sample of the questionnaire can be found in **Appendix B: Questionnaire** and representative responses to the issues probed are provided in **Appendix C: Representative Comments from Interviewees and Questionnaire Respondents**. The questionnaire was used to guide discussions. Interviewees were encouraged to speak on any matters of interest to them and relevant to the parklands.

## 01 BACKGROUND TO REVIEW

Other research sources included the Millennium Parklands Concept Plan 1997, working documents that preceded it, results of satisfaction surveys conducted by SOPA over the last 10 years, SOPA annual reports, SOPA State of the Environment reports and journal articles about Millennium Parklands. These documents were used to provide background, context and to validate many of the expert's observations and opinions.

This report is a drawing together of the observations, opinions and recommendations of informed experts with often differing perspectives of the Millennium Parklands. Through this process various aspects of the concept plan and the success of aspects of its implementation have been evaluated and recommendations made for the future direction of the parklands. The review is not a detailed analysis of all aspects of implementation. It concentrates on the big picture - its scope is confined to the wide aspirational and visionary canvas with aspects of implementation considered to the extent it provides evidence of the achievement of key objectives.

The research was largely undertaken by Mary Beatty with advice from Lorraine Cairnes, Fathom Consulting, under the direction of Tony McCormick, HASSELL. Lorraine Cairnes was the environmental consultant to the Millennium Parklands and Tony McCormick was the concept plan team leader.

It is intended that this report will provide a benchmark and framework for future reviews.

### History and Context

Prior to European settlement of Sydney, Homebush Bay and the neighbouring lands and waterways were believed to have comprised a diverse environment of forest, grasslands, waterways, saltmarsh and mangrove wetlands, with associated communities of fauna, and was home to the Wann-gal Aboriginal people.



*The aerial photographs show the SOPA site in the 1980s prior to development, during construction of the first phase of the parklands along Haslams Creek in about 1998 and in about 2007. The change has been significant.*

## 01 BACKGROUND TO REVIEW

During the 20th century, the 450ha of land and waterways which have become the Millennium Parklands were home to a munitions factory, an abattoir, a quarry and their related industrial uses. A large part of the site came to be used as an unauthorised and uncontrolled dumping ground for commercial and industrial waste. By the 1970s these uses of the land had all but destroyed the natural habitats and ecological processes of the area. Fortunately, a small remnant forest and some wetlands remained to provide clues to the original natural environment, and hope for its ecological future.

*We felt strongly we were at a place in the evolution of our country, having just had the Bicentenary in 1988, that it was time for the next wave, the new millennium...it was time to demonstrate that we've learned that we have a responsibility as Australians to heal the landscapes and make a better start in the new millennium.*

*- Tony McCormick*

Towards the end of the 20th century, society views about indigenous land and culture began to alter and Australians realised the need to protect the natural environment. By the 1970s landfills required licensing and the dumping of rubbish in the wetlands of Homebush Bay eventually ceased. However, it was not until Sydney won the Summer 2000 Summer Olympic Games bid in 1993 that the opportunity arose and the need for active remediation, in addition to conservation and protection, became urgent.

Sydney's bid to the International Olympic Committee (IOC) to host the 2000 Summer Olympic Games included a commitment to environmental sustainability in all projects associated with the games, including sporting facilities, residential accommodation and landscape designs, and this was expressed in the Environmental Guidelines for the Summer Olympic Games (1993). The five key environmental areas in the guidelines (water conservation, waste avoidance and minimisation, pollution avoidance, and the protection of significant natural and cultural environments) influenced all aspects of games preparation and operation and led to the Sydney games being unofficially known as "the Green Games".

The concept plan for the parklands was required to respond to the challenge of these environmental guidelines by developing practical strategies for bringing the environmental principles of the guidelines into practice. The guidelines became part of NSW legislation once Sydney won the right to host the games and an updated version of these guidelines, Environmental Guidelines of Sydney Olympic Park (2008) remains a requirement of management of the Sydney Olympic Park, (see Section 4 of the Sydney Olympic Park Authority Act (2001).

During the 1990s an area of remnant vegetation, now known as the Newington Nature Reserve, was recognised for its ecological value. Threatened species were identified, and development consents, obtained in 1996, provided for the protection of the habitat of the Green and Golden Bell Frog and other native species.

In early 1997 HASSELL, a multi-disciplinary planning and design firm, began work on the designs for the Millennium Parklands. In parallel with this HASSELL was also appointed to design the urban transport infrastructure, which included much of the public domain of the urban core such as streets, rail routes, small parks and plazas. As a result, the concept plan developed with a high level of integration between the natural and the built environment of the entire Homebush Bay site.

The concept plan followed the celebration of Australia's Bicentenary in 1988, a time during which Australian pride in the nation's unique heritage and landscape was reinforced. The Millennium Parklands provided an opportunity to express this sentiment and break from the European "picturesque" landscape traditions that had guided planning of the urban parklands over most of Australia.

## 01 BACKGROUND TO REVIEW

*We created a bookmark in the story of our evolution towards greater environmental responsibility in Australian society. As such it should now represent a benchmark for all similar activities in the future.*

*- Peter Hitchcock AM*

Considering the level of environmental *action* in the late 1990s (as opposed to environmental interest), the concept plan was not only visionary, but courageous. It is worth noting that in 1997:

- there was no Department of Climate Change and the Environment and no Green Building Council;
- in March 1998 Warragamba Dam, the city's major water supply, was full to overflowing and the east coast had experienced more than a decade of mostly good rainfall;
- there were few, if any, large scale commercial water recycling systems in Australia, and none that were incorporated into the rehabilitation of wetlands and the aesthetics of a major parklands design;
- there was no precedent for a land remediation project of this scale and complexity;
- renewable energy generation technology (eg, photovoltaic cells) was still to gain widespread acceptance; and
- Sydney's commitment to the IOC to provide a "Green Games" demanded the highest possible environmental performance for all the site's projects including the parklands. Such rigorous requirements were unusual in the context of park planning anywhere.

### Overview of the Concept Plan

*The purpose of a concept plan is to join the diverse landscape and cultural elements within the parklands to form a cohesive, understandable, visually and spatially rich park for the 21st Century and beyond. This plan combines the physical elements with an expandable and ambitious management and educational program in recreation, cultural and arts, history and science emphasising interpretation and public service.*

*- Millennium Parklands Concept Plan, November 1997*

The concept plan for the Millennium Parklands was unique in many ways. For a start, it was concerned with not only the "plan", the actual places in the parklands, but also with the "program", the experiences people would have in the parklands. This was an uncommon approach at a time when most parks were simply designed as places to see and visit, with little consideration for how visitors would actively experience the place through interaction, education and interpretation. The creators of the concept plan anticipated that the success of parklands with the scale, the history and the topography of Homebush Bay would be as much dependent upon planning for various activities in the different areas, as creating interesting and attractive places within the park. This was done to ensure the parklands would remain both responsive and resilient.

The physical *plan* was based on three unifying design themes - lowlands, "walls and rooms" in the landscape, and elevated landforms. By restoring the important ecological resources of Homebush Bay's lowlands into functioning waterways and wetlands, a strong conservation message would be conveyed to the country and the world. A park-wide system of woodlands and forests (walls) that define spaces and settings (rooms) were designed to provide connections between the various settings and facilities within the park. The walls would also play a key role in providing habitat diversity and green corridors to connect the various ecosystems of Homebush Bay. Elevated landforms, the "markers", were to provide identification, orientation and visitor understanding of the complexity of the low relief landscape, as well as containing the clean fill which had been generated by the construction of the major sports facilities. This was in keeping with the overriding OCA commitment that no material be exported from the site. It was challenging for the park designers as millions of cubic meters of fill above the original estimates were generated. Refer to **Figure 1: Concept Plan** (over page) which was developed in the office of Peter Walker and Partners.

# 01 BACKGROUND TO REVIEW



**CONCEPT DESIGN TEAM**

- HASSELL
- PETER WALKER AND PARTNERS
- BRUCE MACKENZIE DESIGN

NOT TO SCALE



**LEGEND**

- |  |  |  |
|--|--|--|
| <ul style="list-style-type: none"> <li>1. RECREATIONAL / COMMERCIAL</li> <li>2. COMMERCIAL / RESIDENTIAL</li> <li>3. RESIDENTIAL</li> <li>4. GRASSLANDS</li> <li>5. MANGROVE</li> <li>6. ARCHERY FIELD</li> <li>7. INTENSIVE RECREATION</li> <li>8. BRICK PIT</li> <li>9. NEWINGTON FOREST</li> <li>10. GOLF DRIVING RANGE</li> <li>11. TENNIS CENTRE</li> <li>12. BICENTENNIAL PARK SOUTH</li> <li>13. BUS PARKING</li> <li>14. HILL ROAD CAR PARK</li> </ul> | <ul style="list-style-type: none"> <li>15. RAS FACILITIES</li> <li>16. WATER STORAGE POND</li> <li>17. TEMPORARY CARNIVAL</li> <li>18. PLAZA PARK</li> <li>19. OLYMPIC VENUES</li> <li>20. FRESH-WATER WETLAND</li> <li>21. SALT-WATER WETLAND</li> <li>22. HASLAM'S CREEK</li> <li>23. HERITAGE BUILDINGS</li> <li>24. NORTHERN WATER FEATURE</li> <li>25. WASTE TREATMENT PLANT</li> <li>26. OLYMPIC VILLAGE</li> <li>27. NEWINGTON HOUSE</li> <li>28. FUTURE HISTORIC SITE</li> </ul> | <ul style="list-style-type: none"> <li>29. PARRAMATTA RIVER</li> <li>30. MILLENNIUM MARKER</li> <li>31. POINT PARK</li> <li>32. FERRY TERMINAL</li> <li>33. OLYMPIC PARK RAIL STATION</li> <li>34. MILLENNIUM ENTRANCE MARKER</li> <li>35. NORTHERN VILLAGE ACCESS ROAD</li> <li>36. TRELLAGE</li> <li>37. NAVY WHARF</li> <li>38. SCHOOL SITE</li> <li>39. APARTMENTS</li> <li>40. PARKVIEW CAFE</li> <li>41. NORTH NEWINGTON GRASSLANDS</li> <li>42. AUSTRALIA CENTRE</li> </ul> |
|--|--|--|

**HASSELL**

**Figure 1: Concept Plan**

## 01 BACKGROUND TO REVIEW

Supplementary themes included creating roads through out the parklands that were subservient in scale and character to the landscape setting, creating active links with the urban core, and ensuring adaptability and flexibility of places so that the parklands could grow and evolve to meet the needs of future generations.



*The physical component of the Millennium Parklands Concept Plan had three key design themes - celebration of the lowlands (ie. the waterways), walls and rooms which both linked and separated the activity/habitat areas, and the landforms which provided opportunities for visitors to gain orientation and an appreciation of the scale and diversity of the parklands.*

The *program* was conceived as a layering of historic, cultural, recreational, artistic and environmental activities, events and research, together with a sophisticated, interactive program of visitor interpretation. It was considered equally important that parklands for the 21st century have the capacity to adapt and respond to community needs as they change over time within the context of the values established for the parklands in the concept plan.

The interpretation of the site's cultural and natural heritage was a critical part of the concept plan. Programs for education about the site's history that encompassed the industrial, defence, and agricultural uses would be central to the success of the parklands. This approach required that the reclamation and decontamination activities not be hidden in traditional European derived scenic treatments, but be celebrated physically and through interpretation so as to become an example for future projects involving the productive use of rehabilitated land that responded to the special qualities of a site.

## 01 BACKGROUND TO REVIEW

*The concept plan created a documentary base for the actual program ... the bureaucrats were left with something substantial and workable.*

*- Catherin Bull AM*

### From 1997 Concept Plan to the Master Plan 2030

The concept plan provided the direction for the detailed planning and implementation process that would, over time, realise the vision of an urban parkland of international scale and stature. It incorporated the environmental protection requirements of previous development approvals obtained for the site in the early 1990s, and was the basis for the Plan of Management which guided the evolution of the places and programs of the parklands. An important component was the Site Wide Planting Strategy developed by Bruce Mackenzie as a part of the concept plan. This provided an analysis of the existing landscape, a vision of how the landscape could be transformed through correct planting strategies, and the documentation needed to guide others who were not necessarily involved in the original concept.

The 1997 concept plan was updated in 2002 as "Parklands 2020" to reflect the vision for the future of the parklands. According to the SOPA 2001/02 State of the Environment Report, "Parklands 2020... revised the 1997 plan and projects well into the new century. The proposed programs, which included educational tours and various events and activities as well as research and development, would introduce all aspects of the parklands to many different audiences including independent visitors, school groups, institutions and corporations."

Under the Sydney Olympic Park Authority Act (2001) SOPA was required to develop and implement a Plan of Management for the Parklands - it commenced development of this Plan in 2002. The Plan of Management translated into operational terms the conceptual framework established by Parklands 2020 and the 1997 concept plan for Millennium Parklands, and detailed the scheme of operations for how the parklands would be managed. This Plan of Management has guided the development and evolution of the parklands over the past 6 years. SOPA has recently released Master Plan 2030 which commits to the protection and enhancement of the natural heritage of the Millennium Parklands, and articulates plans for future developments that are generally in line with the principles of the original concept plan. It is reassuring that many of the issues raised in this review about aspirations yet to be realised are addressed in the 2030 Master Plan. **Refer to Figure 2: Sydney Olympic Park Main Features** (over page) to gain an idea of the location of the settings and sites referred to in this document.



*A feature of the parklands design was turning utilitarian components into elements of beauty. This water quality pond performs a variety of water purification and habitat functions as well as adding to the visual experience of the area.*

01 BACKGROUND TO REVIEW



Key



Sydney Olympic Park



Town Centre

Figure 2: Sydney Olympic Park Main Features.

## 02 EVALUATION OF THE CONCEPT PLAN PERFORMANCE

### The Aspirations and Process of the Concept Plan

*(If I were approaching a similar concept plan today) I would use the marvellous team of experts Tony put together. They were the backbone of the design.*

- Peter Walker

*Total involvement by all members of the multi-disciplinary team, not just invitations to attend when 'perceived' to be necessary... This involvement assumes that the team is experienced, willing to listen and contribute positively to ideas and solutions.*

- Christine O'Brien

*I keep coming back to this sense of "an integration of needs" and an integration of priorities... there's been this incredible sense of integration that everybody was working together to meet a variety of needs.*

- Bruce Mackenzie AM

*The Millennium Parklands are representative of a young, optimistic, classic Australian characteristic of playfulness, of irrepressible hope, of "she'll be right", particularly with regards to the challenge of rehabilitating such a severely degraded landscape.*

- Catherin Bull AM

The concept plan expressed a vision for the parklands which has been described as "heroic". It sought to seize the opportunity provided by the Olympic Games to experiment with new ideas, raise the benchmarks for accepted environmental practices and landscape principles, use existing and emerging environmental technologies on a grand scale, and use innovation and creativity to solve the complex and multi-faceted challenges presented by the site and the development conditions. A summary of the aspirations expressed by contributors to this review is contained in Appendix C of this report.

To realise a concept plan of this ambition and complexity, the authors of the plan coordinated a team of experts from 15 different organisations including specialists in landscape architecture, engineering, park management, environmental management, recreation, cost planning, lighting, solar energy, communications, landfill, water management, soil science, education and interpretation. The project team used benchmark advisors for conservation and park management review. Most of these original experts have contributed to this review process.

This highly collaborative process encouraged debate and exchange, often highly charged and passionate, and resulted in robust design decisions that withstood challenge and interrogation, and consequently have been able to withstand the external pressures that are inevitable, and were anticipated, throughout the life of the parklands.

Such skills diversity and wide-based collaboration was not common in regional park projects (traditionally they were the vision of one person) and the experts who contributed to this review commented on the rigour and integrity that this process lent the concept plan.

The concept plan was also courageous in that it embraced relatively new technologies such as solar energy generation and stormwater collection and recycling on an unprecedented scale for an urban parkland. This endorsement contributed to these technologies becoming more widely accepted.

Additionally, the process of realising the goals of the concept plan tapped into the quintessentially Australian characteristics of optimism and improvisation and led to the development of ground breaking technologies such as large-scale use of facsimile soils and on-site land remediation strategies that, according to experts who contributed to this review, have influenced subsequent projects both in Australia and overseas.

The concept plan imagined vast possibilities for the place and the program. That not all of these possibilities were fully realised in the first 10 years of the parklands is understandable. That so many of them have been realised is remarkable. Several contributors to this review commented that in the first 10 years the parklands have achieved success beyond their initial expectations. Given that the concept plan was developed with a view to the long term evolution of the parklands as a dynamic, adaptive place, this is in itself a fulfilment of the plan's aspirations and an indication of its continued relevance.

## 02 EVALUATION OF THE CONCEPT PLAN PERFORMANCE

*I am still confident with the statement I made at the time, "Millennium parklands will be the greatest legacy of the 2000 Sydney Olympic Games".*

*- David Richmond*

*Parks aren't simple, they are multi-dimensional, they involve a complexity of design, creating the start of a process that, if successful, will continue on for hundreds of years, far longer than most buildings.*

*- Tony McCormick*

*The Millennium Parklands have become a living research project for many parklands both in Australia and Internationally. They have been studied, and have influenced parklands in London, Singapore and Hong Kong. They have put Australia on the map in terms of park design and have also been very influential in terms of how to manage parklands.*

*- Peter Duncan*

### The Legacies

There are many legacies of the concept plan but perhaps the greatest is that it inspired the creation of *active*, parklands that worked at many integrated levels. The Millennium Parklands were described by contributors to this review as a dynamic place of continuing education and experimentation in ecology, in wetlands management, and in land remediation, as well as a place for recreation and enjoyment of the landscape.

The *simple* legacies, the quantifiable measures of success, confirm that many of the aspirations of the concept plan are being achieved, according to information published by SOPA as follows.<sup>2</sup>

- **Visitation** to the parklands has grown from 750,000 in 2002 to 2.3m in 2007 and 48% of total parklands visitors are now going to areas other than Bicentennial Park.
- **Visitor satisfaction** surveys conducted annually by an independent research company for SOPA indicated that the parklands rated 8.1 out of 10 for overall satisfaction, and were ranked first out of 10 parklands precincts in Sydney in 2007. The "aesthetics of the park and design" was the most popular feature followed by "active recreation facilities", which was the second most popular feature.
- There has been gradual and sustained **development of new places and programs** in the parklands. A Treasury funded capital program of \$26m was implemented between 2003 and 2007 and focussed on visitor services and amenities, access and connectivity, environmental improvements and heritage building adaptive reuse projects. Stage 1 of Blaxland Riverside Park has opened and historic buildings around the Newington Armory site have been adaptively reused as artist studios, offices for conservation organisations and lodgings for educational groups and numerous seasonal events and associated activities.
- The **number of cyclists** using the parklands has grown steadily, with 650,000 cycling visits in 2007, a monthly average of 52,000. Increased daily use, combined with special events such as the Festival of Cycling, have activated and connected the different "rooms" in the parklands.
- **Educational programs** are expanding with 18,600 school students participating in curriculum-based environmental education programs in the parklands in 2006-07.
- **Relationships** have been formed **with the local community and organisations** such as Birds Australia, the Newington Residents Garden Club, Scouts, the YMCA, Cycle NSW and various sporting groups. The parklands also benefit from the support of many volunteer groups including the Cumberland Bird Observers Club, the Frog and Tadpole Society, and the Australian Herpetological Society.
- As a result of the **innovative water recycling strategies**, the parklands have been virtually drought proof in one of the worst droughts in Australia's history. Of total water consumption in the past 7 years, only 2% was sourced from Sydney's water supply.
- **Species Conservation** has been successful. The Green and Golden Bell Frog and several small bird populations, threatened in other urban areas, are increasing at Millennium Parklands.
- The **treatment of contaminated soils** remains effective, with no systems failures recorded since the inception of the treatment programs. Some 35 megalitres of leachate were collected and transferred to a commercial liquid waste treatment facility, and contaminated groundwater containing approximately 750kg of total hydrocarbons, including 430kg of benzene, was successfully degraded by micro-organisms in the Wilson Park bio-remediation ponds.

<sup>2</sup> Statistics and facts referred to in this section of the review had been drawn from SOPA documents, including the State of the Environment 2006-2007 and the SOPA Annual Report 2006-07. A full list of SOPA reference material is provided in the bibliography, Section 04.

## 02 EVALUATION OF THE CONCEPT PLAN PERFORMANCE

The *complex*, and perhaps more meaningful legacy, is a legacy that has the potential for a sustained “ripple effect” influencing park design and management practices throughout the world - the physical, social, historic and educational contributions of the Millennium Parklands project.

The parklands have made significant contributions to disciplines associated with this park - ecology, landscape architecture, land remediation, and water recycling.



*The settings provided at Millennium Parklands provide venues for a diversity of recreation and leisure pursuits enjoyed by 2.5m people annually who primarily live in Sydney's Western Suburbs.*

### *Physical and Recreational Legacy*

The parklands are a lasting, adaptive and ever improving asset which provide respite and delight to a regional urban population which is increasing in density beyond that which was anticipated in 1997 due to an increase in residential development in the Homebush Bay area. Local residents are taking advantage of the 34km of cycle and walk ways to take exercise and are enjoying the recreational facilities of Bicentennial Park, Wentworth Common and the newly opened Blaxland Riverside Park. The successful growth of the trees and plants in this rehabilitated land contributes to air quality and amenity in this urban environment.

## 02 EVALUATION OF THE CONCEPT PLAN PERFORMANCE

*Looking at the drawings in the concept plan, what you see in these sketches is what you see when you visit many areas of the parklands, it is now pretty much as we anticipated...it's very important to hold to that vision.*

*- Penelope Figgis*

One of the experts interviewed for this review noted as she flicked through the concept plan that the images, in particular the sketches of the original vision for the landscapes of the parklands, are now there in reality, in particular the boardwalks and cycle ways.

The staged development and implementation of new facilities and activities over the past 10 years has allowed the plantings to become established and the “new” lands to stabilise. This demonstrates that the park management has clearly understood and faithfully implemented the guiding principles of the concept plan.

The maturing landscape settings provide an effective “stage” for the various programs and activities now undertaken in the parklands. The degraded landscape has been healed, which was a primary objective of the concept plan, and is now able to support increasing levels of use.



*Perspective sketch prepared by Christopher Grubb to show the proposals for the marker treatment (above). It was originally envisaged that each marker be of a different colour, however implementation has focussed on the use of native grasses (top). Tree planting in this area has grown significantly since the top photograph was taken.*

## 02 EVALUATION OF THE CONCEPT PLAN PERFORMANCE

### *Ecological Legacy*

The concept plan established the framework for habitat reinstatement for local flora and fauna as well as migratory birds. The parklands provide 300 hectares of habitat for threatened species, estuarine/riverine vegetation and endangered ecological communities that are protected under state and commonwealth legislation. There are some 175ha of freshwater and saltwater wetlands, including the largest estuarine wetland system on the Parramatta River. Other successes noted by contributors to this review, and supported by SOPA publications, included:

*Environmentally, protection of the woodlands is excellent. Sea eagles have nested (which was expected), and Homebush now has a high level of biodiversity...*

*-Phil Straw*

- Populations of small bush birds that are declining in other areas, such as Fairy Wrens - an iconic Australian species - are growing in the parklands. There are now more than 180 native species of birds in the parklands.
- The Green and Golden Bell Frog population at Sydney Olympic Park, once endangered, is now one of the largest populations of the species in New South Wales. The original population in the Brick Pit has been conserved and two new self-sustaining populations have been established.
- Fish ramps recently installed in Bicentennial Park have aided the migration of native fish throughout the waterways of the parklands.

*In terms of threatened frog conservation, the Green and Golden Bell Frog project has produced many research papers and practical management articles.*

*- Hal Cogger*



*The Green and Golden Bell Frog population at Sydney Olympic Park, once endangered, is now one of the largest populations of the species in New South Wales.*

*We created a place where landscapes could be experienced with both "freedom and constraints" ... Freedom to interact, to engage in human activities in the natural environment of the parklands but with constraints designed to protect that natural environment, to prevent it from being damaged or altered ... A design which enhances but also constrains the experience of the natural environment*

*- David Richmond AO*

- On-site research and innovation has resulted in the completion of a tidal gate in the Badu Mangroves to improve the quality of the water bird refuge and ecological diversity, particularly for migratory birds. The salt marsh communities, once threatened, are now thriving along the Narawang Wetlands. The Millennium Parklands have become an example for other wetlands projects in Australia and overseas.
- Migratory birds, protected under the RAMSAR Convention, have continued to use the wetlands and this offers enormous potential for the parklands to gain an international profile as an "environmental destination". The arrival of migratory birds in August of each year was the driving factor in the original programming of wetlands construction and the successful construction of the initial 8ha of freshwater wetlands between seasonal migrations was one of the concept plan's early achievements.

## 02 EVALUATION OF THE CONCEPT PLAN PERFORMANCE

*The landscape at Homebush Bay is not intended to be experienced as a fixed element, nor an object of desire, but an on-going process of evolution. It must function as an example of people as nature, not man in nature or man and nature, if it is to be a sustainable legacy for our children.*

*HASSELL, 1997 Concept Plan*

*As the Parklands have continued to evolve and mature I always have the feeling, as I have had the opportunity to visit many times on SOPA business post Olympics, that what has been created has provided a wonderful living legacy for the millions of residents and visitors in the virtual heart of a great international city. Even on weekdays you see joggers, mothers with babies, people picnicking, people just walking and relaxing, young children playing are contrasted with older people who are just simply relaxing in the open space and fresh air.*

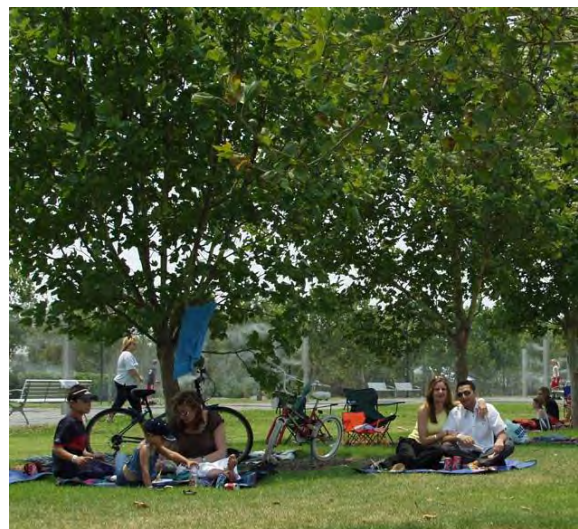
*- Graeme Dodds*

- In the last seven years, over 4,600 megalitres of recycled water has been produced from parkland sources and these water recycling strategies are being expanded to serve sporting facilities in the urban core in addition to providing irrigation and grey water for the parklands.
- There is generally perceived to be a healthy balance between environmental protection and public access to the parklands, although there remains a degree of tension associated with these competing interests. It is important to note that creating parklands for the recreation, education and delight of urban dwellers was central to the concept. While respect for the natural environment was a fundamental principle, the idea of “embalming nature” to the detriment of acceptable use was not recommended in the concept plan.

### *Social Legacy*

The concept plan promoted a new way for people to engage with parklands in an urban setting, encouraging an interactive relationship between humans and the environment. Interpretive elements in the parklands provide opportunities to engage with the setting, rather than simply observe the scenery.

The diversity of the precincts, habitats, and ecology is mirrored by a diversity of uses and users. This is an example of how the parklands have demonstrated the capacity to grow and evolve in response to the needs of the current generation of Australians. On the weekend you will find every conceivable ethnic group using the parklands in one way or another. The satisfaction surveys conducted over the past 6 years confirm this diverse mix of park uses and users.



*The parklands have become a meeting place for families and groups to celebrate and relax - they are an extension of the backyard.*

One respondent commented that, unlike the sites of previous Olympics - Los Angeles, Barcelona, and Atlanta, the 2000 Olympic Games marked the beginning of the relationship between Millennium Parklands and the Homebush/Newington community. The parklands have enhanced the value of the residential developments and the commercial success and sustainability of the urban core. The 90 businesses that are located in Sydney Olympic Park have access to Sydney's biggest back yard and are able to provide a unique and attractive environment for more than 6,000 workers.

## 02 EVALUATION OF THE CONCEPT PLAN PERFORMANCE

*The Millennium parklands enabled the people of the Inner West to rediscover the water. The previous generations had turned their back on the water, had not recognised or valued it. A great achievement was the development of the waterways and the contribution that they have come to make to the residential developments in the area ... Millennium Parklands has established a new and alternative relationship with the water, which has added value to the housing in the area ... it has forced a cultural shift in how people relate to the landscape.*

*- David Richmond AO*

For the people of western Sydney, Millennium Parklands provides a venue for families and groups to come together to relax, recreate and be renewed by nature in a variety of settings and dimensions that was not possible at a single site before the parklands were constructed.



*The implementation of the Millennium Parklands Concept Plan has enabled people of the Western Suburbs to reconnect with Sydney's major waterway. Users consider the site an extension of their backyard that offers enjoyment to all members of the family.*

### *Historical*

The concept plan demonstrated that thoughtful and sensitive design and programming can acknowledge, respect and reconcile the past uses of the land in ways that enhance and inform current and future uses. Some of the heritage buildings at the Newington Armory have been adaptively reused as artist studios, lodgings for overnight school excursions, and offices for community and volunteer groups. Other buildings have been preserved in their original state as interpretive elements of the parklands. The adaptive reuse of the track work and rolling stock of the armaments railway has been successful in helping tell the story of the Armory as well as providing users a special experience. The rolling contours of the landscapes of Woola demonstrate the creative strategies employed to rehabilitate the soil over time.

The history of the site and its past uses has also begun to be told through interpretation and environmental education. The diversity of stories reflects the role the site has played in the social, cultural, industrial, military and environmental history of the area. Another interpretative theme is the rehabilitation of the site itself - how "new lands" were developed for productive, ecological and cultural benefit of the citizens of Sydney. The telling of these stories is a work in progress and will evolve in accordance with the availability of funds.



*The buildings of the former Royal Australian Navy Armaments Depot (RANAD) have been conserved at The Armory. They are used to tell the story of munitions storage as well as for a variety of cultural programs.*

## 02 EVALUATION OF THE CONCEPT PLAN PERFORMANCE

### *Educational Legacy*

The concept plan created a place that has made continuous contributions to the fields of study of environmental science, ecology, sustainable design, and landscape architecture. It has become a working laboratory for research in ecological management, land remediation, and water conservation, with many Australian and international post graduate students from a variety of disciplines visiting and conducting research projects in the parklands.

The parklands also provide venues for interactive environmental educational programs for school children from Kindergarten to Year 12 participating in curriculum-based excursions and activities.

Recently, SOPA has begun marketing “Technical Tours” to business organisations both in Australia and overseas to capitalise on the value of the intellectual property that has become a product of the parklands operations over the last 10 years.



*Nearly 20,000 children participate in curriculum based environmental education programs each year in Millennium Parklands.*

## 02 EVALUATION OF THE CONCEPT PLAN PERFORMANCE

### *Art and Cultural Legacy*

The concept plan envisaged the Millennium Parklands as a place of ongoing artistic expression providing opportunities for students, and for professional artists. This vision has been realised in the numerous works of public art and architecture exhibited throughout the parklands, including the award winning Brick Pit Ring Walk. The Newington Armory precinct hosts artistic and cultural programs including Art Express, and events such as music festivals and outdoor theatre.



*The adaptive reuse of the buildings at the former RANAD site has been innovative. Examples include a small theatre and stage for a variety of performance types and the use of buildings by artists for exhibition and workshop purposes.*

### *Landscape Design Legacy*

*I remain really proud of the concepts and philosophies of the plan. People understood key things... The process involved a range of skills, not just design. It was a design process that was informed by various experts... and because HASSELL was involved in both the parklands the urban core there was a high level of integration and overlapping, a seamless connection between urban core, roads and landscapes. The landscape was allowed to roll over the roads rather than being divided by them.*

*- Tony McCormick*

The concept plan's vision was to demonstrate a capacity to heal abused and degraded landscapes through a creative process that gives birth to new places without obliterating the memory of former places, and that acknowledges prior uses of the land, good or bad. The creation of diversity of spaces with harmony between the old and new landscapes, supporting an array of potential uses, is testament to the resilience of the design. The way the landscape unfolds, different setting after different setting, allows users to embark on journeys of discovery that delight, renew and excite them. The celebration of the beauty of the Australian flora brings great pleasure to thousands of urban dwellers. The strong commitment of SOPA to the three main tenets of the concept (walls and rooms, lowlands and landforms) is evident.

The strategies devised to deal with huge quantities of both contaminated material and clean fill on site, to integrate the technical water recycling systems with the aesthetics of the wetland environment for the benefit of both, and to create facsimile soils in which native plants can thrive, have set world standards. The parklands have been visited and studied by many park designers and international organisations, including both the Beijing and London Olympic Committees and their consultants.

## 02 EVALUATION OF THE CONCEPT PLAN PERFORMANCE

*... a "holistic vision" for a highly fragmented site with disparate relationships... Making this mishmash into something conceived of as a "whole" was truly innovative. It is now easy to imagine the park as a single patch... Tony putting together this group of experts was an innovative approach, the combined wisdom, robust structure, series of reports and ways of thinking were in themselves innovative.*

*- Catherin Bull AM*

The *process* that was adopted to develop the concept plan, the bringing together of experts from different fields—ecologists, wetlands specialists, recreational experts, heritage advisors, biologists, and others was itself an innovation in the practice of major park design. Additionally, the integration of the landscape architecture and the architecture of the public domain was a great benefit. This came as the result of HASSELL being responsible for the roads and rail infrastructure and many of the smaller parks and places within the urban core, resulting in consistency of treatment and an unusual cohesion and seamlessness of character between the two projects.



*The Brick Pit ring is an inventive solution which provides access for people to experience this dramatic landform while protecting the primary habitat of the Green and Golden Bell Frog.*

## 02 EVALUATION OF THE CONCEPT PLAN PERFORMANCE

*Bruce Mackenzie's planting strategy ... making sure it was done, has enabled year to year program to roll out ... it represents a "holistic vision" for a highly fragmented site with disparate relationships.*

*- Catherin Bull AM*

The planting strategy and integration of the wetlands with the residential communities was very influential. Prior to the Millennium Parklands, creating "golf course landscapes" was the traditional approach to residential developments, notwithstanding the high water use and maintenance costs. The concept plan challenged that notion and the principles of using indigenous plants and celebrating the beauty and ecological value of "naturalistic" waterways were applied to the residential developments at Newington. The success of establishing these naturalistic landscapes has brought about a paradigm shift in landscape architecture with the principles of the concept plan being widely applied to subsequent residential developments throughout the country which seek to retain or reintroduce the natural processes and landscapes.



*Haslams Creek following restoration of the sinuous creek from and wetlands in 2000 was the first stage of the parklands construction.*

## 03 FINDINGS AND RECOMMENDATIONS

*Reconstructed landscapes, especially in an urban setting, need continual management. The work will never really be finished. Even though the wetlands and forests have the appearance of a natural setting, it is important to remember that it was artificially created and needs constant monitoring and managing, even the nature reserve. You can't just fence it off and leave it like you might in a rural area. Because of the nature of the project, it has to be proactively managed if it is to survive and thrive.*

-Phil Straw

*If the water harvesting project with the supplementary harvesting storage, bi-directional low head transfer network, linking supplementary sources and storages and a central harvesting monitoring and control system been fully established as proposed in the concept plan, integrated with WRAMS as a back up supply to the irrigation pump station, it would have been considered state of the art and at the cutting edge of water harvesting and water reuse schemes for sustainable open spaces and a benchmark most likely anywhere in the world today.*

- Graeme Dodds

*Connectivity is the main issue and competing use. An ongoing issue is that West Homebush Bay was not included in the original plan and the parklands roads are becoming their commuter roads. 8000 residents are using the parkland roads.*

- Penelope Figgis

### Lessons from the first 10 years

The natural beauty and environmental experience of the parklands belies a fundamental truth - that it is a "man-made" place that involved extraordinary innovation and creativity to construct, and will require ongoing expert involvement and professional management to maintain. It is not unlike a zoological park, which provides opportunity for continual experimentation and education but requires careful, specialist input to management, and a high level of ongoing maintenance. The Millennium Parklands will always be a work in progress and must be regarded as such by its future custodians.

The following is a summary of additional key observations expressed by contributors to this review about the lessons to be taken from the first 10 years of the Millennium Parklands and their views about what the priorities should be for future application of the concept plan.

- Familiarity with the concept plan, and the involvement of personnel with good landscape design skill, is needed for the successful ongoing implementation and development of the concept plan. There is a continuing need for in-house design experts to be sympathetic with and have a strong understanding of the concept plan. Similarly, all consultants engaged in projects in the parklands should be provided with a copy of the Millennium Parklands Concept Plan to ensure that future work is consistent with its objectives. It would also be desirable to have a member of the original design team on an advisory board or similar to provide expert advice to decision makers to maintain the continuity of design thought.
- The site wide drainage/water system originally planned for the parklands and the urban core was not implemented as originally intended and this has compromised successful setting establishment in some areas and was a missed opportunity to capture all stormwater for recycling. This failure to fully implement the entire plan has resulted in the need to redesign and replant some areas, and unnecessary additional expense. However, the concept plan preceded the full planning and implementation of the Water Recycling and Management Scheme (WRAMS). There may be some opportunities to explore this in further enhancements of the WRAMS. Such opportunities should be pursued.
- The requirement to provide parking has been a contentious issue since beginning of the parklands and remains problematic. The presence of the P5 parking lot in the centre of the site is viewed by many as an impediment to the successful realisation of the connectivity and integration aspirations of the concept plan. Limited public transport both to and within the park, exacerbates the problem. In future reviews of P5 (which will undoubtedly be necessary as petrol prices rise and reduce demand for it), the site's role in relation to the parklands will require careful consideration. While the site presents major development opportunities (assuming any legacy contamination issues are addressed), it should be subservient to the parklands character and not try to compete with the urban core of Homebush Bay. This is essential to retaining the original landscape vision and symbiotic and complementary functions of the parklands and the urban core implicit in the concept.
- Some of the roads through the parklands have maintained their industrial side and have become thoroughfares for the trucks and cars servicing the new residential developments and are no longer subservient to the landscape, as was envisaged in the concept plan. This is particularly apparent on the north end of Hill Road, which has less parkland character now than it did 10 years ago due to the removal of verge plantings along the eastern side of the road. Transportation strategies within and across the parklands and urban core need to be addressed in future projects to ensure that the impact of

### 03 FINDINGS AND RECOMMENDATIONS

vehicles and roads does not override and compromise the integrity of the concept plan in relation to the roads throughout the site being subservant to the landscape.

- The adoption of the Site-wide Planting Strategy, and adherence to it over the past 10 years, was viewed by many as being important to the successful realisation of key elements of the concept plan. The continued application of the planting strategy is fundamental to the development of the site's landscape character. A review of plant species performance and habitat complexity development would be appropriate at the end of the first decade to objectively confirm the subjective comments about the success of the strategy and if necessary, it should be adjusted to achieve the concept plan vision.
- In addition, concern was expressed by many respondents about the prospect of using the roads of the urban core as a V8 Motor Racing circuit. In addition to the obvious philosophical and marketing confusion this would convey to the international community about the site of the "Green Games" and the NSW Government's environmental aspirations, it would destroy the desired park character of the roads of the urban core. This is because planted medians and tree breaks are not consistent with safety and sight line requirements of high speed motor vehicle racing. The permanent destruction of landscape settings for a few days of racing is not justifiable given the value the Western Sydney community places on the "aesthetics of the park and design" as reported in the user surveys undertaken at Sydney Olympic Park.

#### **Priorities for the Future**

International research has demonstrated that urban parks such as Millennium Parklands are huge generators of economic as well as social value in a community. For example a recent valuation report of New York's Central Park demonstrates that \$4.5 million invested in urban parklands will generate more than a \$17 billion "lift" in the value of the local community. This research confirms that future planning for activities in the area must not jeopardise the long term economic value to the community created by the establishment of Millennium Parklands over the past 10 years.

#### *Planning*

Because of the high edge-to-area ratio, the edges of the parklands connect with many diverse places creating a complexity much greater than in other similar sized parks. Over time, the uses of these adjacent areas will change because of increasing commercial and residential density as proposed in the Master Plan 2030. It is important that the principles of the concept plan inform the response to these changes along the park edges so that changes in use enhance rather than compromise the evolution of the parklands.

Additionally, the parklands must anticipate changes in adjacent areas, as yet unplanned, which might provide opportunities and challenges. For example, given the rising value of land in the area which, can be attributed at least in part to the contribution the parklands makes to the quality of life of local residents and workers, it is conceivable that the Silverwater Goal complex will eventually be relocated and the land reused for residential and commercial development. This would provide an opportunity for the new uses to respond positively to the parklands in a way that achieves aspirations of the concept plan.

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The inclusion of industrial and radio station land at the northern end of the Hill Road on the peninsula into Millennium Parklands was envisaged in the concept plan and should be pursued as it has the potential to provide an extensive waterside area for more active recreation pursuits, which are not possible on other more sensitive waterside sites.

The concept plan envisaged that parkland visitation would rely on alternative forms of transport to the motor vehicle once within the parklands. This foresight has proved accurate with the high level of cycle use and the popularity of the torpedo railway at the Armory. However, other forms of transport envisaged in the plan have yet to be fully explored. This obviously presents an opportunity due to the increasing visitation and rising cost of fuel, which will have a considerable financial impact on the parks major visitor group: the people living in the western suburbs. Further investigations of a shuttle bus/people mover and the extension of the torpedo train to provide access from the Olympic Park Station and bus interchanges to the "outlying" and "high activity" areas of Wentworth and Blaxland Commons, the Amory and Bicentennial Park would be desirable.

The above investigations must be directed towards achieving the objectives of the concept plan and ensure the parklands be accessible to all people irrespective of their ability to pay increasing petrol costs.

#### *Program Development*

*The Hill Road car park was identified at the time as a major physical dysfunctional element and remains so. There was no opportunity to do anything about it at the time.*

*- Simon Leake*

Care must be taken to ensure that future programs and events are consistent with the aspirations of the concept plan so as not to risk what has been achieved in the last 10 years or jeopardise the future of the unique, valuable and internationally important landscapes and habitats that have been established at the Millennium Parklands. Visitor amenity, experiences and increased use must be provided for without compromising the natural environment, species and habitat conservation and biodiversity. Continued reference to the guiding principles of the concept plan is necessary to ensure that we don't "kill the goose that laid the golden egg." Proposals for V8 Car Races and similar events are inconsistent with the parklands values and the environmental principles embodied in the Olympic bid, and should be resisted.

Of particular importance is the continuous development and implementation of interpretive and environmental education programs to build on the special assets of the site. The site has the unique potential to tell a multiplicity of stories about urban Australia's natural and cultural history. Much good progress has been made in this area but there is more to be done as the site attracts a greater diversity of interest groups from surrounding areas. The themes documented in the concept plan should be reviewed with the objective of expanding the number of "stories" to be told about Homebush Bay



*The "torpedo" railway is a novel feature of the Armory. The original concept plan envisaged this being extended and augmented by a variety of public transport forms through the parklands site and linking to the urban core.*

### 03 FINDINGS AND RECOMMENDATIONS

#### *Landscape Development*

*The idea of a V8 Super Cat street race around the Millennium Parklands is something that ignores the values of the site, especially if native mature trees in Australia Avenue and elsewhere are removed. If this racing car program proceeds, the parklands will be seriously diminished in value.*

*- Christine O'Brien*

*In the armory precinct I hope that adaptive reuse ideas will win out and we can soften the use... still respect the heritage, but meet modern needs for more trees, which would be honouring the concept plan.*

*- Penelope Figgis AO*

It is necessary to ensure that future development in the parklands fulfils the aspirations of the concept plan by evolving to meet the changing needs of park users. Some respondents felt that to achieve this, the conservation principles of the *landscape* elements in the Newington Armory precinct need to be continually informed by adaptive re-use principles articulated in the concept plan and now widely regarded as an important component of any sustainable development. While some additional trees could provide shade and a softening of the landscape, to meet the needs of the current generation of park users, this must be done carefully to retain the open character of the Armory landscape and the grassland habitats. These are fundamental to conveying the story of the site as one of Australia's foremost Naval munitions stores and for bird habitat.

The planting success at Homebush Bay has been outstanding. Due to the foresight of the concept plan and the availability of non-potable water for establishment during one of the regions longest droughts, the landscape settings and habitats are establishing well. The success of the planting strategy has helped to reestablish the natural processes and they will continue to evolve the landscape character. This is most desirable, however regular review of the plant performance in the context of habitat complexity and landscape character development needs to be undertaken. For example, the success of tree planting along the Hill Road Corridor has completely changed the open waterway character of Haslams Creek and the adjacent freshwater wetlands. The effect of this change on views to the waterways from the roads and the use of the water bodies by migratory birds and larger waterfowl would appear to warrant investigation.

Another element requiring review is the view from the Brick Pit to the surrounding landscape. The concept plan promoted the perimeter of the pit to be densely planted with trees to heighten the experience of scale and context when viewed from within the Brick Pit. It envisaged a view to the pit walls ringed by dense tree plantings against the skyline. This has yet to be achieved along the southern rim where the buildings of the adjacent office park and showground structures dominate the skyline.



*The proposal to hold an annual V8 car race is inconsistent with parklands values. Trees like these which extend the park character to the urban core would be killed, diminishing the visual quality of the area year round.*

## 03 FINDINGS AND RECOMMENDATIONS

### *Facilities Development*

The beautifully complex and resilient assemblage of landscape settings now present on the site is in stark contrast to the simple, contaminated and barren landscape of 10 years ago. SOPA has done well to progressively develop the facilities at Millennium Parklands in concert with the landscape's ability to support increasing levels of use.

This approach should be continued with the progressive furnishing (development) of the "rooms" consistent with the surrounding setting's ability to sustain increasing levels of use. Public access to all parts of the parklands is central to the park's community and recreational role but needs to be considered in the context of the maintenance and improvement of the landscape and habitat quality.

### *Financial Development*

There is a perception by some that the independent financial infrastructure required for the continued maintenance and evolution of the parklands was slow to be developed and that this has held the parklands back. Others believe that for its age, the parklands is on track, that funding support has been fair and that the parklands have enjoyed bipartisan support and overall good governance since the Olympic Games. All agreed, however, that there is an urgent need to secure the financial resources that will be required for the future maintenance and development of the parklands in accordance with the vision of the concept plan. Given the role the parklands play in the lives of Sydney residents and the value they place on it, the continued financial support of the NSW Government is recommended.

### *Promotion*

The cultural, historical and interpretive potential of parklands is only beginning to be realised and the parklands would benefit from a world class Wetlands Visitor Centre and a Global Promotions Strategy, including enhancement of the website, to help continue to build the profile of the Millennium Parklands.

In order to achieve the financial support required for the continued evolution of the parklands through the Parklands Foundation, and in order to retain the integrity of the concept plan that has been shown in this review to be crucial to the successful development of the parklands over the past 10 years, it is vital that the parklands attain a greater profile at all levels – Metropolitan, National and International. As well as the commercial promotion of the various activities that occur in the parklands, the achievements of the Millennium Parklands must be promoted globally. Millennium Parklands should be recognised alongside other iconic metropolitan parks of the world.

*The original concept plan addressed the need to position the park internationally and this hasn't been done. The strategic positioning wasn't done, it missed the boat when the park was new to capitalize on the post Olympic interest and awareness about the site. This needs to be addressed.*

*- Catherin Bull AM*



*The relationship between existing and future residential development needs to be considered wisely both physically and programmatically. Millennium Parklands is a metropolitan scale facility and the pressures from adjacent residents should not reduce or limit its enjoyment by people from the wider city region for the widest range of activities.*

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## **Appendices**

### **Appendix A** Review Participants

## Appendices

The authors of this report gratefully acknowledge the people who contributed to this review process through interviews and questionnaires.

### **Millennium Parklands Concept Plan Team**

Tony McCormick, Principal, HASSELL. Concept Plan Team Leader

Peter Walker, Principal, Peter Walker and Partners Landscape Architecture. Conceptual and Concept Plan design leader.

Bruce Mackenzie AM, Bruce Mackenzie Design. Advisor in the development and implementation of the 1997 Concept Plan and author of the 1998 Site Wide Planting Strategy.

Lorraine Cairnes, Fathom Consulting. Conservation and Environmental Management consultant to Concept Plan Team.

Dr Simon Leake, Principal: Sydney Environmental and Soil Laboratory Pty Ltd, Soil Scientist. Developed facsimile soils for the reconstructed/rehabilitated landscapes of the Parklands

David Abbey, Engineer. Provided engineering designs and advice for water management, earthworks, some structural work and civil engineering works.

Dr Ken Marriott, Managing Director, HM Leisure Planning, P/L. Recreation consultant

Graeme Dodds, Principal WET Consulting P/L (formerly Fluid Flow P/L). Irrigation and water management consultant.

Christine O'Brien, Environmental Communication Consultant, former Principal of Natural & Cultural Heritage Pty Ltd. Environmental Education and Interpretation consultant

Peter Hitchcock AM, Principal, Old Cassowary Consulting (Forest Conservation and General Consulting). Environmental benchmarking consultant.

### **OCA/SOPA Officials and Advisors**

David Richmond AO, Coordinator General NSW, Department of Premier and Cabinet formerly CEO of Olympic Coordination Authority and Chairman of SOPA Board until 2006.

Peter Duncan, Deputy Director General, Office of the Coordinator General, Department of Premier and Cabinet.

Penelope Figgis AO, SOPA Board Member since 2001, Chair of the Parklands Advisory Committee, Statutory Committee and Director of the Parklands Foundation. Lifetime involvement with environmental movement, 17 years as president of the Australian Conservation Foundation.

Andrew Ferris, Director Parklands, SOPA.

Dr Catherin Bull AM, Landscape Architect, Elisabeth Murdoch Professor of Landscape Architecture, University of Melbourne. Appointed to Design Review Panel from 1998, involved with the entire project and the urban core, member of both the Design Review Panel and the Parklands Advisory Panel since 2000.

Oriana Senese, Senior Projects Planning Office, National Parks U& Wildlife Services (not part of Department of Environment and Climate Change). Employed by both OCA and SOPA from April 1998-2002. Project design coordinator on the commissioning, coordination and project management of landscape/architectural designs for Millennium Parklands.

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Steve Corbett, Director and Chief Executive, Centennial and Moore Park Trust, Department of the Arts, Sport and Recreation, NSW. First estate manager of OCA from 1996-2001.

Brett Cheatley, Deputy General Manger and Director Community, Tourism and Communications, Parks Victoria. Former Chair of the Landscape, Open Space and Environment Advisory Panel, SOPA.

Dr Hal Cogger, Herpetologist, John Evans Memorial Fellow, Australian Museum.

Phil Straw, Avifauna Consultant.

Judy Harrington, Environmental Ranger. Local resident, involved with the Parklands since 1980's as volunteer, and later as Volunteer Coordinator and Interpretive Ranger/Guide Place Management for SOPA.

Michael McGown, SOPA Park Ranger, 1988 – present. Involved in the day to day care and maintenance of the parklands, on-site research projects, and assisting visitors to the parklands.

Kerry Darcovich, Park Ecosystems Manager, Place Management, SOPA.

A multi-disciplinary project team collaborated on the preparation of the 1997 concept plan:

Olympic Coordination Authority	Project Direction
HASSELL	Principal Consultant and Designers
Peter Walker and Partners	Design
Bruce Mackenzie Design	Design
Jeff Floyd	Benchmark - Park Management
Old Cassowary Consulting	Benchmark - Conservation
Kinhill Engineers Pty Ltd	Engineering
Fathom Consulting	EMP and Environment
HM Leisure Planning Pty Ltd	Recreation
Northcroft QS Partnership	Cost Planning
Barry Webb and Associates	Lighting, Solar and Communications
Natural & Cultural Heritage Pty Ltd	Environmental Education and Interpretation
RH Amaral and Associates	Landfill
Fluid Flow Pty Ltd	Irrigation
Sydney Environmental and Soil Laboratory	Soils
Barry Mitchell	Illustrations
Christopher Grubbs	Illustrations

## **Appendices**

### **Appendix B** Questionnaire

## MILLENNIUM PARKLANDS 10 YEARS ON RESEARCH QUESTIONNAIRE

*Thank you for agreeing to participate in this research project.*

*To complete the questionnaire simply type your responses into the relevant sections of the attached MS Word file. Alternatively, print out the file and hand write your answers.*

*If you do not know of or have no opinion of the items probed in individual questions, leave them blank. If you require any assistance, please call Mary Beatty or Tony McCormick at HASSELL on (02) 9101 2000 or Lorraine Cairnes at Fathom Group Pty Limited on (02) 9958 8188.*

*Please return the completed questionnaire by 30 June 2008 to:*

Email: mbeatty@hassell.com.au

**or**

Ms Mary Beatty  
HASSELL  
GPO Box 5487  
SYDNEY NSW 2001

Name: .....

Current Occupation/Contact Details: .....

What was the nature of your involvement in the original concept/design/development/management process?

What were the aspirations/objectives embodied in the concept plan/plan of management for your area of interest?

To what extent have the objectives been achieved (and what comments do you have to make about them)?

What objectives were not achieved, or were achieved poorly, and what comments do you have about them?

Considering the parklands at the **present**, not immediately after they were established, what do you believe are the most successful aspects of the parklands project? Why?

Again, considering the parklands at the **present**, can you, with hindsight, identify any missed opportunities?

**In 2008**, what would you consider to be least successful aspects of the parklands project, and why?

In your field of expertise, what were the most innovative features or other aspects of the design, eg WRAMS, using facsimile soils, stormwater collection and reuse?

In any other field of expertise, what were the most innovative features or other aspects of the design?

Have these features/strategies/technologies become main stream now? Did the Millennium Parklands project influence this? Have these features/strategies/technologies been superseded by better technologies, etc.?

The parklands were always conceived of as an evolutionary project. Has the park evolved in the ways you anticipated and planned for? Do you believe it can/will continue to evolve?

What unexpected influences do you believe have affected the evolution of the parklands (eg political influences, management policies, residential development, etc)?

How do you feel the parklands have been affected by these unexpected influences or pressures?

On a broader, perhaps global scale, what sort of legacy/contribution has the parklands project made to your particular area of expertise?

If you were approaching a similar Concept Plan today, what strategies/practices would you repeat? What would you do differently?

"...Leaving a legacy to our children that tells them of *this generations values*", what - to your mind, and in your field of expertise - were those values and how to you believe they were expressed in the Millennium Parklands?

Could you give me a brief overview or comment about each of the 5 precinct areas of Millennium Parklands?

Are there any other comments you would like to contribute to this review process?

## **Appendices**

### **Appendix C**

Representative Comments from Interviewees and Questionnaire Respondents

## Appendices

Experts who have been involved with the Millennium Parklands concept plan, the management and the day to day operations of the parklands were interviewed, or responded to a questionnaire, as part of this review process. The following is a selection of representative comments related to the issues raised in the interviews and questionnaires. Some of the responses are conflicting, which is unsurprising given the complex relationships between the environmental, natural and cultural heritage and recreational aspects of the parklands.

### **What were the aspirations and objectives embodied in the concept plan/plan of management for your area of interest?**

*Open space was valued as a key outcome of an integrated venue and park experience... That current world best practice elements were utilised... That the place and space was a legacy in terms of the mental and physical health of the people of the surrounding suburbs of Sydney and its entire population.*

*To analyse the natural soil landscape of the area and the physical and biological processes that lead to that soil type then re-start a soil landscape virtually from scratch using waste recycled materials that would develop through time in equilibrium, with its vegetation and climate into a facsimile of the indigenous soil natural to the area. The concept was not necessarily based on a "nature knows best" approach with regard to what soil types develop in a given geology and time.*

*The key objectives were re-vegetation of the remediated lands for the parklands to surround and provide a "green" backdrop to the sporting venues and urban core of the 2000 Sydney Olympic Games. Commence and establish the three key central themes of the Millennium Parklands Concept plan – lowlands, walls & rooms, landform elements (geometric markers & remediated landfill mounds)*

*To maintain, and if possible increase (in both numbers and range across the parklands), the pre-existing population of Green & Golden Bell Frogs on in Millennium Parklands.*

*Conservation of any natural remnants and enhancement and rehabilitation of degraded areas.*

*That the parklands be ongoing, ever evolving and adapting to the needs of the communities, not "embalmed nature"... To be of our time and our place.*

*The realisation of what might originally have been there.*

*By recognising Millennium Parklands as a changing and dynamic landscape, visitors could have an enriching experience of the multiple layers of the site through appropriate interpretive and environmental educational activities and media. Through these experienced, visitors would understand the remarkable resources and opportunities offered by Millennium Parklands, and in turn value the park. By offering a diverse interpretive/educational program to a range of different audiences and interest groups, Millennium Parklands would encourage repeat visits and valuing.*

*Aspired to improve the provision of parks for the people of the city, places people could go to have "meaningful human exchanges", places for informal and unstructured recreation, which is one of the best things about Australia...to provide an extension of the Australian back yard for families/households and communities. We aspired to make a major contribution to the spaces available for Sydney families and community groups to enjoy.*

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### **To what extent have the objectives of the concept plan been achieved, and what comments do you have to make about them?**

*Aside from the obvious constraints associated with time/maturity especially regarding large trees and therefore aesthetics and shade, I am confident that and the plan objectives were achieved.*

*Good outcome, previously there was only one core breeding area for the Green and Golden Bell Frog, in the Brick Pit, now there are three core breeding areas... The original population in the Brick Pit has been conserved and two new self-sustaining sub-populations have been established.*

*A key objective was to develop the options and strategies to secure a sustainable water supply for irrigation. This objective was largely achieved in the Hill Road Precinct with the ponds constructed in the wetlands area along Hill Road and the diversion of the majority of the runoff from the Newington Village area. This has provided water security and ensured the survival and establishment of the landscaping in the Hill Road Precinct through the extended dry periods over the past 5 years, particularly during the critical periods of establishment.*

*The key central themes have been successfully achieved with the revegetation/landscape plantings and the treed "walls" clearly strong within the landscape. The lowlands of Haslams Creek & the wetlands corridor are beautifully juxtaposed against the surrounding tree plantings. The achievement of the above themes in the early years of the parklands has provided a strong backbone on which to further develop the various sub-precincts/parklands settings.*

*Vegetation (guided by Site Wide Planning Strategy) is spectacular by any standards, fantastic. Also, conservation objectives - wetlands, forests are very impressive.*

*Parklands delivered a strong rejuvenation in an integrated way that balanced existing, developing and future uses.*

*The concept plan and the ultimate development of the overall design plan and the critical Site Wide Planting Strategy became important, and the actual detail of how to do it and how to finish it as a piece of Australian landscape... I was very, very pleased with it. I was delighted, and that's still the case... it's doing a lot of things that were anticipated... I think the theme of a continuing and cohesive response to an original grand plan has been achieved very, very well and certainly sufficiently well to please me.*

*Probably about 90% of the objectives have been achieved. Overall, I have been very happy with how the OCA continued to follow up on the concept plan, eg I was asked to develop further a "environmental education and interpretive strategy" and an "interpretive signing strategy" for OCA. These detailed strategies were based on the overall guidelines of the Millennium Parklands Concept plan. The interpretive messages are professionally presented in a variety of media, inducing public art and recreation programs.*

*The result is excellent, the design has held up well, although maintenance of some areas is a bit disappointing. Program has grown well, especially in the Newington area... programming is fantastic... recently big events have moved from Cockatoo Island to the Newington area.*

*Generally the outcome is in line with the original intent, this is most satisfying, also the diversity of uses that have been achieved, couldn't have been achieved without a program.*

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*Approximately 50% of the ultimate potential of the Parklands have been achieved in only 10 years, which is an amazing achievement.*

*It was always a challenge to achieve objectives in the environment. It has turned out as envisaged and in some ways has been successful beyond expectations. There was a concern post games that there might be a flattening of effort, but funding was maintained which enabled parklands to continue to develop.*

### **What objectives were not achieved, or were achieved poorly, and what comments do you have to make about them?**

*Wetlands water management, tidal flows, flood control systems in the Wangrall Wetlands were not well designed in the beginning and did not have the necessary tidal flow. Later, it was very difficult to get funding to allow them to function as successfully as they should have. (But has this now been done satisfactorily?)*

*The objective of “kick-starting” an ecosystem such that vegetation becomes self-sustaining with no further need for nutrient input has not quite been met in places. Some further assistance with strategically used fertilisers will easily overcome this.*

*The incompleteness of the five Millennium Markers – all with the spiral gabion walls and colourful seasonal plantings providing an ever-changing highlighting and marking the outer points of the parklands.*

*Expression of the waterway was not achieved because of the requirement to build mounds on the opposite side of Haslams Creek to obstruct views from the residences across the Parklands. The waterways are over-forested along Haslam’s creek . . . no one expected that things would grow as well as they did given the challenge of remediating the soil. Now this has resulted in overgrowth and obstruction of visual connections, which goes against the concept plan. . . As a waterway, it is highly dynamic, yet the density of the planting and treatment of the plantings and trees as “sacrosanct” interferes with this natural dynamism and is in conflict with the concept plan. . . Fencing off of certain areas, “sterilising” sections of the parkland and prohibiting public access is against the concept plan. Fences affect the permeability and linkages. . .*

*The site was treated as a blank canvas in ecological terms, perhaps the ecological heritage of the site was not considered as fully as the architectural heritage.*

*There has not been enough emphasis on developing environmental education programs in the Millennium Parklands. Most of the school programs are focused around Bicentennial Park. . . Most importantly, the Millennium Parklands lack an Interactive Visitor Education Centre of international standards. There is nowhere for visitors to get environmental information. There should be a Wetlands Centre on a par with those in London, Hong Kong and even Newcastle, NSW. There needs to be more interpretive elements throughout the parklands to provide education and engagement and appreciation of the environmental achievements of Millennium Parklands. Need accessible, appropriately located information near the wetlands. . .*

*The idea of a “virtual constituency”, the exploiting of the opportunity to share the experience through virtual tours and virtual learning experiences, has not been achieved.*

*Constructed landscapes tried to be too much. . . too many pathways and walkways, should have been more visual integration than physical integration with people and the built environment. . . recreation and habitat*

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*could both be managed better, in future some potential gains are possible, there is opportunity for a lot of habitat enhancement.*

*A lot of objectives have been achieved, I honestly feel that there are some bits not finished off to a consistent level, the challenge is to get the program happening. The Foundation was not established early enough, needed to get that happening, it is difficult now as it is vying for financial support with other similar organisations.*

### **Considering the Parklands at the present, not immediately after they were established, what do you believe were the most successful aspects of the parklands project, and why?**

*... The wide open spaces and views created by the unique grassland treatments of the markers and Woo-la-ra are one particular success both from a maintenance point of view and a landscape aesthetic. They present a powerful aesthetic statement both from looking at them from a distance and from being within them walking or whatever.... The Fluvial corridor vegetation was highly successful from a landscape technology and an aesthetic point of view.*

*The ziggurats are unique, topical and observable and create interest.*

*From my perspective the most successful aspects of the parklands project has been the successful rehabilitation of the various wetlands and their utilisation by frogs, together with the maintenance of the Green & Golden Bell Frog population through the successful management of the ponds (including the design and construction of additional ponds) in the Brick Pit and across the other parts of the Parklands.*

*Recent works at the Armory, Haslams Creek and the geometric landforms, the ziggurats, ... the management of the remediated wastes, the review process –it maintained rigour, had courage to take external advice...the success of a multi-disciplinary team.*

*Success of the containment and remediation of contaminated soils - leachate drains work, there have been no incidences of toxins leaking into the environment.*

*Bruce Mackenzie was able to capture the essence of the Australian landscape with his Site Wide Planting Strategy and this has been enormously successful. Peter Walker had the ability to reconceptualise the land and make it a thing of delight and mystery.*

*Despite increased park usage and activity, there are still places you can go and find yourself alone in a natural environment; there are still surprises and special places to discover.*

*The Millennium Markers are really successful, people use them as intended, children run up and down them and they are used as lookouts.*

*Probably Haslam's Creek - a spectacular achievement by any standards - the conservation of wetlands and forests, the cycle networks, the activation of the new areas of Blaxland Riverside Park...Looking at the original concept drawings, it's now pretty much as anticipated, they represent what you actually see when you go there...Cycling has become the great animator of the Millennium Parklands.*

*The concept of transforming wasteland and especially in this location in the centre of the city...big, grand spaces of naturally inspired parklands inside the big city...the vastness of the parklands, the complexity and variety of opportunities to continually discover is an important ingredient. Not simply big for big sake, but big to become a challenge to get to know... it offers the invitations to explore and to discover and to make*

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*new discoveries and to need plenty of time to do it and to come back a bit more and to learn a bit more. That's a value in itself. As distinct, from say, arriving at a park and there's everything to be seen in a glance or two, and it's not all that bad, but you've seen it. This one you can get into and get to know it. And that then, for all people, but especially children, that's an exciting concept.*

*Visitor use, enjoyment and involvement throughout the year; the diverse range of audiences using the parklands; exciting different environments within Millennium Parklands, offering a large range of opportunities...Why?...Because the Concept plan Team worked together, discussed, listened, reviewed ideas and solutions as a multi-disciplinary team.*

*The vision of the concept plan has stitched together all the disparate areas...you can travel between the precincts pretty easily. The Millennium Parklands have enabled Bicentennial Park to be more than it otherwise might have been. Bicentennial Park Function Centre is an example of this - would not have been possible without the concept plan. The Brick Pit Ring is accessible, creates an experience close to the original aspirations*

*The way the design respects and brings together remnants of the natural landscape and the man made environment which enhances the appreciation of both yet "curtails" undesirable activities. You are encouraged to enjoy it but not take an axe to it. The strong emphasis on community and family is very successful.*

*It sits in a central geographical area. It was a great achievement of Brian Newman to force access to the water, to put the road through to Newington Wharf. In the quest for "environmental purity" there was a risk of losing the site relationship with the water.*

*The integration of the Urban Core and the Parklands is also most successful.*

### **Considering the Parklands at present, can you, with hindsight, identify any missed opportunities?**

*Perhaps the absolute "selling" globally of the benefits of the Parklands and open spaces during its creation, when the world spotlight was on the venues and immediately post its creation. Parks and open space are so often taken for granted and here we have an excellent example of planning for the future.*

*There should have been monitoring systems in place for the eagles and other birds. It's a nature reserve... this monitoring should be done...management of the non-recreational parts of the wetlands have not had the input from specialists that it should. Research into the management of the environmental wetlands has suffered from lack of resources; this has led to having to redesign some of the structures of the wetlands.*

### **Implementation of the "Millennium Institute" concept.**

*The principle missed opportunity, in my view, has been the failure to integrate planning sufficiently to optimise the holistic value of the site. Each of the separate precincts, while meeting its primary function, sometimes fails to contribute its full potential to key secondary functions. This is reflected in inappropriate plantings in some areas and a failure to create ecotonal zones that would enhance the ecological, educational and recreational values of the site. That is, in environmental/conservation terms, there are too many sharp edges.*

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*Balance – the threatened species resulted in lost open green space for active and passive recreation. Also, it's important to engage the Auburn community, not just the Newington community. Also, out of 450ha only ½ ha is set aside under and around a bridge, fenced off, for people to exercise their dogs off a leash – this is an imbalance. Connectivity with urban core and commerciality...I think the concept plan could have been more commercial to ensure survival, maybe commercial needs of the ongoing parklands were not considered enough in the concept plan.*

*Didn't introduce a residential population in the urban core...densities that were possible in the urban core could have provided the income required to push the park along during the development boom of the last decade...second recreational area should have been developed earlier to spread activity across the parkland and unify the different areas.*

*Park roads, major park roads, Hill Road and Cross Road were never "park roads", they are great big roads... unfortunately they were not owned by SOPA so little could be done about them...P5 (car park) was a disaster from the first Design Review Panel, but for the sake of expediency it had to be done to provide the required parking. It was too hard a decision to get rid of or relocate or improve it. Maybe needs a management plan of its own (a precinct plan) to think it through and get it right...*

*Maintenance of some areas is a bit disappointing...*

### **In 2008, what would you consider to be the least successful aspects of the Parklands?**

*The very success of the revegetation has led to crowding and monotony of some of the vegetation elements and a dominance of ecological concerns over amenity. The RANAD area does not have enough vegetation cover to be a pleasing area for visitation and despite great potential remains largely under utilised.*

*The reconstructed soil landscapes created out of waste fill resources have been remarkably successful, for the most part, and function well as the rapid growth of trees and mass planting attests. However, insufficient nutrient input has occurred to bring the soils up to a fertility level consistent even with native soils. In places vegetation is declining or stagnating as a result. A re-examination of this and correction is required or vegetation in places will continue to decline.*

*The "rooms with walls" is and should be a continuing major governing principle, but due to excessively dense vegetation in places the "walls" may be unnecessarily separating the "rooms". I do not recall the walls concept indicating that they should be impenetrable and perhaps see-through wall and walls with windows" may reunify some of the elements. A strategic plan of thinning and opening up walls may improve certain areas both ecologically and aesthetically. This is particularly true of some of the dense grown in the fluvial corridors.*

*There is no sense of "centre" or focus to the park itself. The urban core and the RAS (Wentworth Common?) do not feel or function like the centre of the park itself. The Hill Road car park and Kronos Hill remain major dysfunctional elements and their re-incorporation into the park would possibly give a sense of "centre" to the park that it currently lacks.*

*Connectivity between urban core and parklands, "green fingers" running out of parklands – could be better managed, maybe there is a need to revisit the edges and soften those edges, see whether the fringes and*

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*the urban core are well adjusted...could soften western edge, less glare, less heat...problem is that the good recreational areas are a bit far away from the urban core.*

*Telling the story of the history of the site has not been done as well as it could have been. There is a need to tell the story in a way that creates a stronger connection with the rest of Sydney and our history, a need to establish a relationship between the history of this site with the broader history of Sydney, eg role that the site played in our military history (munitions management), the Blaxland family, salt pans, etc. This is related to a need for improvement in the "interpretive" elements of the Parklands that show links physically and culturally with other themes in the city's history.*

*My future hope is that of getting the integration that would facilitate movement across the precincts. I don't think that's quite happening yet, but it continues to be a worthy aspiration...this will be important for the future...will need places within the park where you can do different things without having to get into your car and go somewhere else. "Internal flows" (socially and economically) will become more important in the future, there should grow to be a level of self containment which may be good.*

### **What were the most innovative features or other aspects of Parklands?**

*I am sure that the treatment of the waterway and the treatment of decades of waste will be seen as the key innovative features, plus the creation of "rooms" within the landscape.*

*Water creates the life of the parklands and the provision of the water ponds harvesting the runoff from Newington Village has saved the park during the very dry periods over the last 5 years. Many areas particularly open spaced grassed areas would have struggled without this facility being included during the critical establishment years.*

*Water management, the sustainable and robust process for the recycling of stormwater of the urban core through the beautiful wetlands of Haslam's Creek and the lowlands...The renewal, retention and improvements to the wonderful ecological habitats that exist in the parklands, including saltwater and freshwater wetlands, Newington Woodlands and Salt Marshes.*

*Collection, harvesting and treatment of stormwater was not a new invention, but was done very, very well and that same collection system was integrated with the aesthetics layer.*

*The most innovative features in my field were the design and successful implementation of multifunctional policies that integrated (through design and vegetation) frog conservation into otherwise strictly functional projects such as WRAMS, the Eastern Water Quality Control Pond and the Northern Water Feature.*

*Process of engaging experts from various disciplines...the vision to be "of our time"...identifying ways in which to control and nurture land.*

*Millennium Markers as an expression of place and underlying form... the innovation and ability to responded effectively to unexpected challenges, such as the mounds of contaminated soil - we thought there would be .5 million cubic metres and there ended up being 2 million cubic metres - the technical triumphs associated with management of soil and water evidenced in spectacular growth in the landscape and lack of any environmental incidences associated with treatment of contaminated soil.*

*Bruce McKenzie transformed a flat landscape through planting strategies that had different forms of vegetation growing up from ground levels at different heights to give texture to the landscape.*

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*Invented soil - marvellous achievement (crushed up excavated rock), overall consistency of plantings, harvesting and containment of contaminants was critical and essential.*

*Solar powered tower lighting structure on the main boulevard. Can often be good, but look ugly, but on the boulevard it is integrated handsomely into the design strategy, actually integrated into the process. The collection and harvesting of stormwater integrated with the aesthetics - water harvested, recycled, grey water captured, treated, recycled...management of leachate run-off and treatment....*

*Heritage interpretation/environmental education, application of interpretation and environmental education to art, installations, WRAMS, contaminated/rehabilitation of site, recreational activities, playgrounds, etc.*

*The permeable soil base pavements...that's been done before, but never quite to my knowledge on the scale or with the sense of sophistication that it was done as required on the Olympic site, I think that's an important aspect that needs to be promoted because that applies to urban places everywhere...urban places everywhere focus largely on the traffic, the load, the stability of the pavement, where very minimal focus is on what trees need to develop and very often the pit in this barren environment, this other example, is prepared to grow trees and yet you can pave it and put the load on it. I keep coming back to this sense of "an integration of needs" and an integration of priorities, rather than it's the trees OR it's the pavement, it seems that everything I've learned about this, that there's been this incredible sense of integration that everybody was working together to meet a variety of needs.*

*At the same time the park was planned one was thinking about a program as well as a physical concept. This is main stream these days and has influenced town planning in Australia, Asia and even the United States. Clear articulation of design principles (3 key themes) made it possible for others to understand and tell the story of the concept plan.*

*The creative and challenging team focused the minds of many. It helped to resolve the conflicts between the developer of Newington and the desire of OCA to have natural settings. The team's solution is now considered mainstream but it was resisted in 1998. This has led to high degree of "ownership" of the parklands by new residents.*

### **Have these features/strategies/technologies become main stream now? Did the Millennium Parklands influence this?**

*The use of recycled soils has certainly become main stream now whereas little of this happened before 2001. Millennium Parklands certainly spearheaded this and this recycling has now replaced large amounts of virgin resource mining.*

*Yes, many of the environmental and ecological initiatives established here at the Parklands are commonly seen as the basis of any landscape planning project today.*

*The integration of multifunctional policies, such as the WRAMS, the Eastern Water Quality Control Ponds and the Northern Water Feature, combined with the use of frog fences and road underpasses optimised the chances for successful frog conservation and are now used as models for other sites in Australia and overseas.*

*I have no doubt that many aspects of the Millennium Parklands became an important benchmark which has resulted in mainstreaming of many innovations.*

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*The above mentioned technical triumphs are accepted practice now....Programmatic aspect - forecasting what might happen in the place, considering the park as an experience, not just a place - this is a credit to OCA's vision and has been a precedent for subsequent park designers, such as the Sydney Harbour Foreshore Trust, and have influenced the development of Centennial Park... "Being of our time and our place", this has become a universal guideline for parks.*

*Globally the parklands are well known within the industry...The work at the Millennium Parklands informed the Olympic Green being designed for the Beijing Olympics...set new standards, opened people's minds about the complexities of regional parklands...*

*The use of recycled soils has certainly become main stream now whereas little of this happened before 2001. Millennium Parklands certainly spearheaded this and this recycling has now replaced large amounts of virgin resource mining.*

*Parklands set a standard for future designs all over Sydney, eg Mirvac has applied principles of residential developments integrated with natural landscapes (as opposed to "golf course" landscapes) in subsequent developments.*

### **Has the parklands evolved in the ways you anticipated and planned for. Do you believe it can/will continue to evolve?**

*The soil/vegetation landscape has evolved as well as we ever anticipated and will continue to do so. Some of the plantings, especially the over-planted fluvial corridor, are not as biologically diverse as they could be. This is a function of the excessive monoculture of either trees or grass/sedge treatment and resultant lack of vertical complexity in the vegetation, ie no understorey. This can be corrected with an on-going planting regime and thinning of excessively dense tree planting.*

*Yes! As a person who has been involved with the side development since 1994, I believe the parklands will continue to evolve and mature and I would like to be able to see it when it is 50 years old.*

*Yes, it has achieved a tremendous step in the right direction in only 8 years since the 2000 games...it needs to continually evolve, to develop further the layers of the parklands as yet not complete for eg recreational pedestrian and cycle paths, park facilities and the ecological environment. It is important for the Millennium Parklands to be at the forefront of the park planning/park management and remain relevant to each generation/future generations of Sydneysiders.*

*I believe that the parklands have evolved successfully to fulfil most of the objectives for which they were established. There is no doubt that they will continue to evolve...*

*On the closest possible inspection I might find fault with it, and not find everything absolutely as I intended, nothing is ever ideal, but on the whole, I think it's been done very, very well and results are being seen.*

*Yes, but evolution still requires expert interpretation of the basic concept and material. Periodically, bureaucratic structures have had non-experts in charge of parklands - that gets risky, they lack the capacity to interpret the fundamentals of the concept plan.*

*The Parklands continue to evolve because of the sound framework/concept. Many parks depart from the initial Concept plans because they are not soundly based.*

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*Recreation is starting to spread across the site with the activation of Blaxland Common and Wentworth Common.*

*The parklands are evolving as hoped because of the very secure framework put in place in the concept plan...It is easy for things to wander off concept, but recent developments in the Parklands, such as Blaxland Common, are very much in line with the original intent.*

*It has evolved very well. It is difficult to get "gains" in the richness of the spaces beyond the obvious sporting uses. The challenge is to get the next "layer" of activation, the cultural, artistic aspects. It is not a problem that this is only now beginning to develop, you don't want to rush such things, or it will be artificial, it must be allowed to mature. The park must continue to allow the next generations to know what it is about and to provide for their needs.*

### **What unexpected influences do you believe have affected the evolution of the parklands (eg political influences, management policies, residential development, etc)?**

*Somewhat unexpected has been the sheer density and growth of the plantings which may be causing some ecological and aesthetic problems. This comes down to a need for clear conceptual maintenance regimes for the different areas.*

*We expected the unexpected. The concept plan was designed to be resilient to the unexpected influences, were designed to have the ability to adapt and to change, whether the change is the result of evolution or interventions.*

*Residential growth has been much greater and more dramatic than anticipated...Homebush West, Concord, a lot of residential growth that we didn't realise was going to happen - it's a good thing, the scale of growth.*

*Potentially, politically - the idea of a V8 Super Car Street Race around the Millennium Parklands is something that ignores the values of the site - especially if the native, mature trees in Australia Avenue and elsewhere are removed.*

*Connectivity is the main issue and competing use. An ongoing issue is that West Homebush Bay was not included in the original plan and the parklands roads are becoming their commuter roads. 8000 residents are using the parkland roads.*

*The development of the waterfront edge, (Hills Road North) - it was out of our control and we were worried that the development would be out of character with the parklands, but it has integrated much better than expected. It could be argued that the success of the Newington residential community, with its links to the parklands, has had a positive influence on subsequent developments in this area.*

*Didn't anticipate how much the parkland would be "taken up" by the cycling fraternity, bit of a surprise...*

*Discovery of the waterways by the people of the west.*

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### **How do you feel the parklands have been affected by these unexpected influences or pressures?**

*The failure of the Olympic Centre to plan for its economic future has slowed the momentum and lowered the design quality of the park, making it more of a regional, rather than an international example.*

*It has been held back and a sinking fund related to residential development was always necessary... a more integrated urban housing strategy and transport is essential.*

*Linkage issues, addressing the flow, so there is a safe and easy flow through the site... a pedestrian/cycle bridge crossing at Haslam's Creek is needed.*

*If this racing car program proceeds, the parklands will be seriously diminished in value.*

*It has attracted greater numbers of people to enjoy the settings.*

### **On a global scale, what sort of legacy/contribution has the parklands made to your particular area of expertise?**

*It is a great example of land reclamation at multiple levels.*

*Good model of how, through these processes, that a concept plan can be interpreted through time. The Millennium Parklands management have brought real expertise... Many examples around the world fail because of the failure of the institution managing it.*

*The use of waste materials to make soil is a very important contribution, but not widely known or publicised.*

*Healed landscape on such a large scale... the reuse of water and materials... it has a soft and engaging feel that is still usable... the water recycling scheme... "telling the story" hasn't been done so well.*

*Global exemplar, but not realised sufficiently yet. It is an example of landscape urbanism in practice. "Landscape Urbanism" (the inter-relationship between landscape and urban areas) is the way of future cities.*

*It made experiential and experimental ecology possible in a controlled urban setting, and provided a unique and unprecedented opportunity to study and manipulate habitats on such a scale.*

*It is a living laboratory where ecologists can study and experiment with habitat protection and improvement on a grand scale but in a controlled way only possible in a contained, constructed urban environment.*

*Involvement in this project has had a lasting impact on me in terms of process and outcome. The legacy speaks for itself.*

*It provided an accelerated program of getting things done, there was lots of scrutiny and this helped bring regional parks agencies together... Strong relationships were developed with Victorian and New Zealand Parks agencies and Sydney agencies.*

*The Millennium Parklands have become a living research project for many parklands both in Australia and internationally. It has been studied by, and has influenced parklands in London and Singapore, the Peter Scott Wetlands Foundation and the Wetlands Centre in Hong Kong... It has put Australia on the map in terms of park design... has also been very influential in terms of how to manage parklands.*

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*Sydney will continue to need parklands and urban core combinations such as that provided in the Millennium Parklands in order to stage future “events and celebrations”, such as the Olympics or World Youth Day.*

### **If you were approaching a similar concept plan today, what strategies/practices would you repeat? What would you do differently?**

*Utilisation of external voices on panels of experts, I would repeat that.*

*I would use the marvellous team of experts that Tony put together. They were the backbone of the design.*

*Ensure that a serious, long term commercial framework existed in perpetuity.*

*I’d put far more emphasis on post-development operations and event programming and management.*

*I feel if we were preparing the Concept plan today, the site wide water harvesting network strategy would not only have been accepted, it probably would have been considered an essential element of the development and long term sustainability of the Parklands.*

*Same: the strong design basis of the unifying themes of the Concept plan – lowlands, walls & rooms and elevated landforms... strength of working with the landscape and creating a lasting park full of richness and with many layers. Differently: park boundary relationships because of the ever increasing residential areas that impact on the parklands.*

*Faced with planning the same program today, I would try to ensure that a well-designed and fully funded applied research/experimental program became an integral part of the planning and implementation processes. Without such integration, shifting priorities can subvert not only the conservation/rehabilitation program, but can actually reverse much of the valuable work already undertaken and results achieved.*

*... would try to be even more innovative, but especially to pay greater attention to energy and emission issues, particularly during maintenance phase.*

*Keep use of multiple consultants. Ensure there was “in house” landscaping design expertise to manage parklands. Parklands Advisory Committee and Design Review Process, including the Chair of Advisory Committee being on the board, should be kept.*

*Do differently? Improve process of managing heritage landscapes – it lacks innovative rigour, needs more conscious exploration of the transformative process of design....*

*Would make sure there wasn't the “gap” around the time of the 2020 report. There was a skills gap around this post Olympic time, I didn't feel Parklands 2020 report was quite at the skill level it should have been, there was not enough expert input... Plan of Management was fine, except for the heritage landscape aspect.*

*I am very satisfied in hindsight with the design response and with what was achieved. The government has provided financial support, we've learned a lot about timing, and the right time for the parklands project to happen and gained a better understanding of why it is so hard to do these major projects well. This was a leadership project in the parks industry. It had great design depth and layers – showed the benefit of a large team with diverse expertise.*

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### **“Leaving a legacy to our children that tells them of this generation’s values” (an extract from the Concept plan Vision Statement). What, in your opinion, were those values and how do you believe they were expressed in the Millennium Parklands?**

*The grandeur...the heroic nature, the usefulness, the so desirable positioning of it in an urban setting.*

*The stormwater and wetlands reflects our growing environmental consciousness in the late 20th century.*

*I think it demonstrates we cared about people and people spaces and the environment, ecology and sustainability.*

*Legacy – the restoring and healing of a landscape that had been impacted by many years of abuse – they were expressed through the restoration of “The Corridor” (previously a concrete canal) and the retention of the unique Newington Woodlands, the Mangrove & Saltwater Wetlands of Homebush Bay and along the Parramatta River.*

*I believe that the parklands continue to be perceived primarily as a legacy of the 2000 Olympics, with the Olympic values relating to the importance of sport in society, and its corollary virtue of exercise expressed through outdoor active and passive recreation. The environmental and conservation values of the parklands and are generally understated, which is probably a reflection of priorities in Australian urban communities.*

*It is a place where birds are protected and their habitat is enhanced, a place where you can still come and see wild things, a place where you can be alone, and a special place in the middle of Sydney.*

*The legacy is of hope. It is a “landscape of hope”, of possibly naïve optimism and “can do” attitude.*

*The reproduction, recreation of an original landscape site...compared to Barcelona Olympic site which is boring and totally devoid of people...draws attention to the reappraisal and acceptance of indigenous landscape environment. It is not nationalistic, it is the true development of the character and sense of place that comes out of totally sincere intention behalf of all people to experience true character of place they are in at the time. The Olympic site is the ultimate example of this philosophy.*

*Experiential and experimental ecology only possible in a controlled urban setting...a unique and unprecedented opportunity to study and manipulate habitats on such a scale.*

*An amazing, sensitive, cultural and ecological area was rescued, rehabilitated for the use of present, as well as future visitors, for them to experience, enjoy and appreciate.*

*The renewal of a degraded site, the retention of this huge, valuable and important space close to the geographical centre of Sydney for people, for parklands... resisting the temptation to just concrete over the top and put more buildings up.*

*It was an important leadership project in the parks business.*

*We created a place where landscapes could be experienced with both “freedom and constraints”...Freedom to interact, to engage in human activities in the natural environment of the parklands but with constraints designed to protect that natural environment, to prevent it from being damaged or altered (eg chopping down trees, clearing land, pollution waterways)...A design which enhances but also constrains the experience of the natural environment.*

### **Additional Comments:**

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*... it's a never ending process, takes about 30 years of intensive effort based on international experience... Parks can drift off track, however, this is about as good as you get as far as managing a big, complex project towards a goal.*

*The parklands seem to be a generally under-used and under-appreciated resource except by people living in the region, especially in relation to their role in conservation and passive recreation.*

*The concept plan was a very strong framework, it created a coordinated and cohesive approach...there remain challenges in activating open areas, it needs promotion and support to encourage activation and spread the load of visitation across the parklands...Challenge to create a sense of theatre, of place, ...there is an opportunity to reposition the park to make people feel important – not over planting, over growing, over designing. Is it making enough of a contribution to the community? Needs a push to evolve more, to not be “embalmed”, needs to try and be more commercial and a little less precious.*

*Execution of the detail, the tactile interest, the “furniture in the rooms”, the facilities, are of a very high quality. SOPA's commitment to high quality design is obvious and is to be commended...*

*I don't often agree with Alexander Downer, but I do agree that “Australia is a very well governed country by international scale.” You need a good institution, good governance...good governance has contributed to the successful execution of the concept plan. The parklands have enjoyed good governance, despite the changes of government in NSW.*

*The Millennium Parklands reflect the aboriginal view of the land, that we are custodians of it, that we must respect it.*

*The parkland is not just the soul of the city it is the soul of the people.*

*The SOPA Board has the highest standards by comparison with other boards - good planning, good management, a holistic approach, and extremely high design standards.*

*It's been a wonderful opportunity to be involved in a massive sustainability project...Enormously impressed by the calibre of the people involved, the calibre of information from good design professionals, outstanding analysis of problems, approach, solutions.*

*It is very important to hold to the vision - there will be pressures, but hopefully the concept plan will be able to resist those pressures...strength of the concept plan is that it set out a very clear vision...it is evolving in the direction envisaged...layers have been added, social capital values...it is a good guiding document...it's clever - it provided enough visuals in the concept plan report which have continued throughout subsequent publications and carry forward the ideals and vision (except for the brick pit) into later iterations.*

*It takes a lot of management to make a place like this because it is an artificially created thing, that it is a wonderful learning opportunity because it's like having an “experimental lab” where you learn things about ecology and in a controlled way that you wouldn't ordinarily be able to learn otherwise because it is so encapsulated in that way.*

*..., the challenge, especially for those precincts with natural or rehabilitated wildlife habitat, is to ensure that natural successional processes are managed to maintain the primary ecological values of the parklands for wildlife...This will mean continuous, pro-active management in thinning or removing trees and shrubs, in*

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*weed and feral animal control, in water management and in quality control, and in monitoring of ecological processes.*

*The difficulty of reconciling the practical needs of urban parklands with the environmental/ecological interest groups is a continual challenge, lack of balance between these two interests erodes original concept plan through over planting of trees. Over planting was known, now needs to be thinned, need the courage to thin the trees. There needs to be a visual assessment on a macro scale...the parklands are only semi-mature now, need to consider 20 years from now. If trees are not thinned, and allowed to continue to overgrow, will it fulfil the Concept plan? Parks Advisory Panels are a good thing and need to continue.*

*It meets the needs of all the ethnic groups in the areas - the Asian community who tend to live in the high rises, the Arabic community of Auburn... reflects multiculturalism of the area in the different ways the people use the parks.*

*I take Post Graduate Environmental science students from Thailand to MP each year, so I have enjoyed watching the positive evolution of the site. I also occasionally take bushwalking groups there, approaching by public transport - train or ferry. It's great to see it working.*

*The concept plan is a good model for how to conceptualise regional/metropolitan parks. Notwithstanding receiving less funding than would have liked, the NSW government has supported the parklands well through the transition from being part of the Olympics to the present, despite changes in government.*

*The fears of the environmentalists that increased human activities in the parklands, eg the events staged at Newington in recent times, would have a negative impact on the wildlife of the parklands have not been realised. Frog and bird communities have continued to grow and thrive.*

*It was a very exciting thing to be involved in and I am still excited about the Parklands...am excited that it will be there in 100 years.*

*Don't think we've "cut off" any opportunities. There are many strengths in the Concept to explore...maybe we haven't yet realised all the opportunities that the site presents, there is still potential for future great things to happen there, but don't think we've done things that will prevent the future realisation of these opportunities.*

*It's important for the future to keep open the flexibility of access between the urban core and the Parklands, to keep options open for increased public transport both to and within the parklands. Circulation in future will not be car based.*

*The Millennium Parklands enabled the people of the Inner West to rediscover the water. The working classes of the Inner West (previous generations) had turned their back on the water, had not recognised or valued it. A great achievement was the development of the waterways and the contribution that has come to make to the residential developments in the area...Millennium Parklands has established a new and alternative relationship with the water which has added value to the housing in the area...it has forced a cultural shift in how people relate to the landscape.*