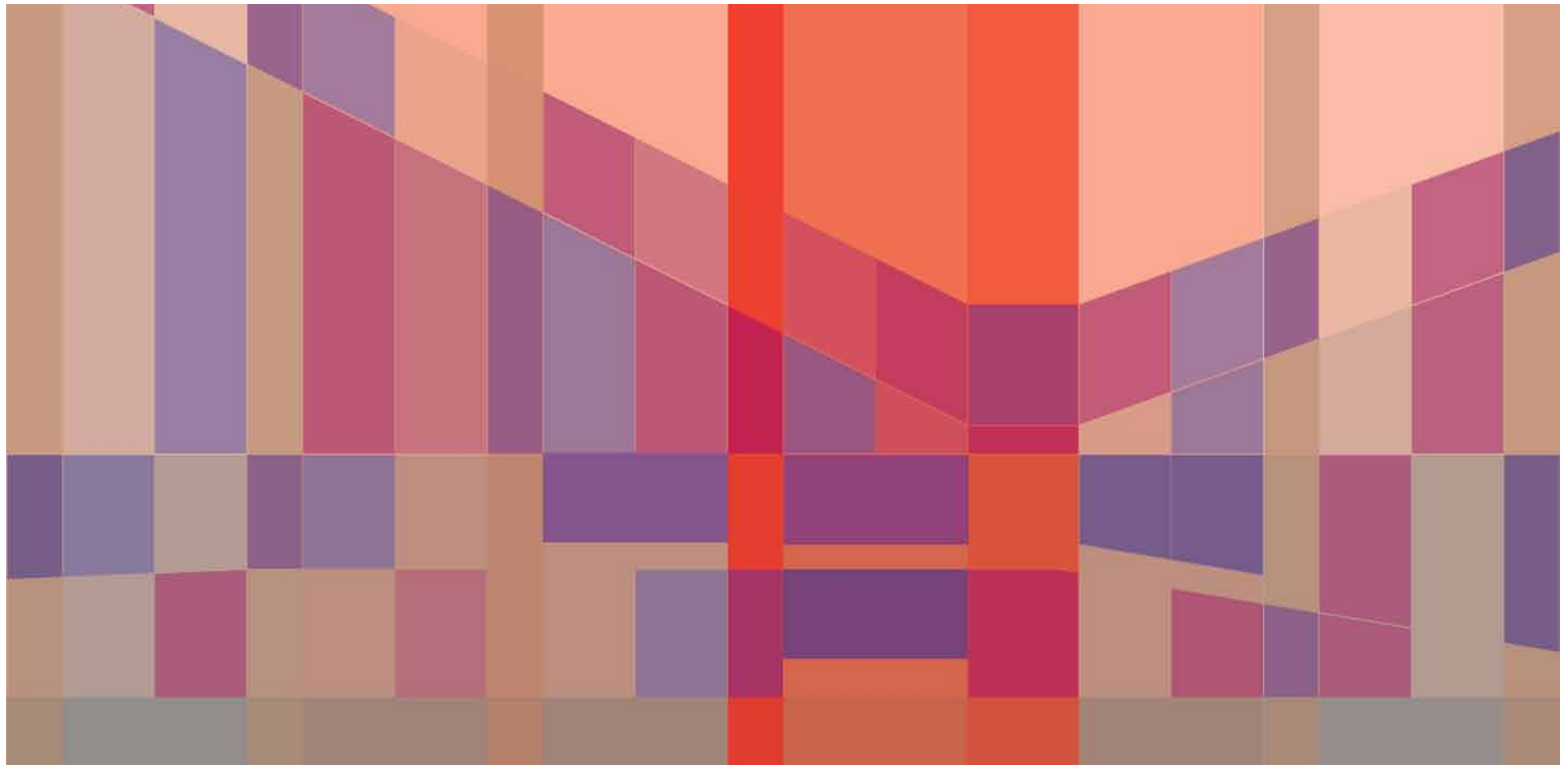


MILDURA MURRAY

Riverfront Central Precincts Feasibility



Mildura Rural City Council



Prepared by:

suters



ARUP



On behalf of:



Contacts:

For further information or clarification of information contained within this document please contact the following:

Michael McPherson
Suters Architects
Registered Architect NSW ARBN 8133, RAIA
Email: m.mcpherson@sutersarchitects.com.au

Suters Architects Pty Ltd
16 Telford Street
PO Box 1109
Newcastle NSW 2300

T 02 4926 5222
F 02 4926 5251

www.sutersarchitects.com.au

Control:

File: R:\N20000\N20100\N20123_MILDURA\0 Docs\E
Specification-Reports\02 reports\Final Reports\
Indesign\REPORT 4_IMPLEMENTATION

B	Final Report	22.02.10	KD	MM
Iss	Description	Date	Chk	Auth

01 BACKGROUND

02 CONCEPT

03 FEASIBILITY

04 IMPLEMENTATION

05 EOI

THIS REPORT

FEBRUARY 2010

05

EOI REPORT

Contents

1.0	Location and Site Photos	02	3.3	Zoning and Built Form Conceptual Framework	16	5.5.5	Key Recommendations	41
2.0	Trends and Issues	06	3.4	The Tapestry	17	6.0	Developed Feasibility Design	42
2.1	Emerging MRMP and Regional Feasibility Issues	07	4.0	User Briefs	18	6.1	Tabular Analysis of all Zones	43
2.1.1	Regional Scale and Connection	07	4.1	Cultural Centre	19	6.2	Residential Zones	44
2.1.2	Reinterpretation of Built Form	07	4.2	Hotel and Convention Centre	19	6.3	Commercial Zones	45
2.1.3	Building Positioning and Zoning	07	4.3	Transport and Commercial	20	6.4	Cultural Zones	46
2.1.4	Rail Crossings and Pedestrian Connections	07	4.4	Residential	20	6.5	Open Space and Public Domain Zones	47
2.1.5	Enhanced Public Environment	08	4.5	Adaptive Reuse	21	7.0	Project Implementation	48
2.1.6	Local tourism initiatives	08	4.6	Parks/Plazas/Boardwalks	21	8.0	Reference Documents	50
2.1.7	Water sensitive Urban Design	08	5.0	Masterplan	22	8.1	Mildura Riverfront Masterplan (2005)	51
2.2	National and International issues and trends	09	5.1	Central Precincts Masterplan	23	8.2	Mildura CBD Plan	51
2.2.1	Sustainable development	09	5.2	Land Use	24		References	52
2.2.2	Funding Opportunities	10	5.3	Built Form Representation	26		Acknowledgements	53
2.2.3	Global Financial Situation	11	5.4	Landscaping and Open Space	30			
2.2.4	Design Excellence	11	5.4.1	Connection and Access	30			
2.2.5	Transportation Strategies	11	5.4.2	The River	30			
3.0	Conceptual Framework	12	5.4.3	Art and Culture	30			
3.1	Historical concepts	13	5.4.4	Commercial and Heritage	30			
3.1.1	Murray River History	13	5.4.5	Natural Environments	30			
3.1.2	Indigenous History	13	5.4.6	Landscape Masterplan	31			
3.1.3	Irrigation Age	14	5.5	Sustainability Design	38			
3.2	Environmental Reconciliation	15	5.5.1	Environment	38			
			5.5.2	Natural Resources	38			
			5.5.3	Societal	39			
			5.5.4	Economic	40			

Introduction

The Mildura Riverfront Central Precincts Feasibility assesses and develops the Mildura Riverfront 2005 Masterplan. The purpose of this further investigation is to provide a strategic basis to secure the proposed outcomes for both the Central Precincts and the entire Mildura riverfront. New opportunities have arisen since the 2005 Masterplan's adoption with the removal of rail freight infrastructure now underway and government funding available to support the preservation of the Murray River.

The feasibility develops the Central Precincts identified in the 2005 Masterplan. Further investigation into the detailed design, feasibility and costing of the necessary public infrastructure to facilitate the identified private sector investment in the Precincts has been undertaken. This includes a detailed scoping analysis and costing of the key development opportunities proposed.

The feasibility process is outlined in five consecutive reports. The 2005 Masterplan is assessed against detailed site investigations, document research completed before and after the Masterplan's adoption, and an analysis of current trends and issues.

A conceptual framework is then developed utilising the findings of the background assessment. It establishes the design principles to guide and govern the refinement of the Central Precincts Masterplan.

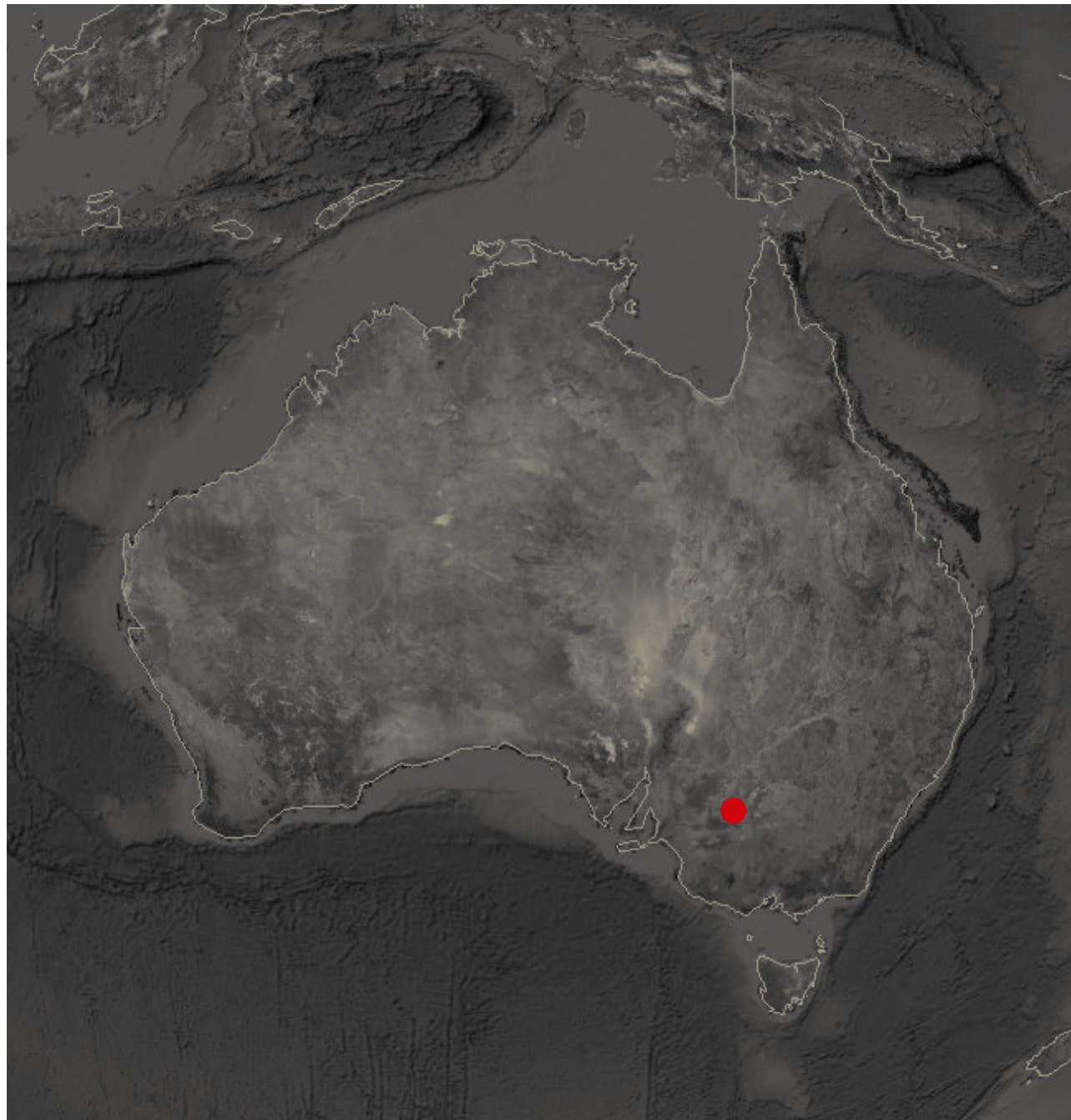
The Masterplan is refined through the design development phase outlining the recommendations for development of the Central Precincts. It presents the ideas behind the overarching vision for the project and a detailed breakdown of its components.

The Central Precincts feasibility recognises the project as unique opportunity within Mildura establishing a high quality mixed-use development of regional benefit. It proposes to maintain the existing qualities of the area, including both the natural elements and built structures, endeavouring to create a vibrant and diverse riverfront that is rich with the social, economic and environmental experiences. It will promote a community that celebrates past, current and future contexts and one that contributes robustly and positively to the development of Mildura and its riverfront.



Image
Mildura and Murray River, 2005 Masterplan.

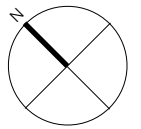
Images
Google Earth.



1.0 Location and Site Photos



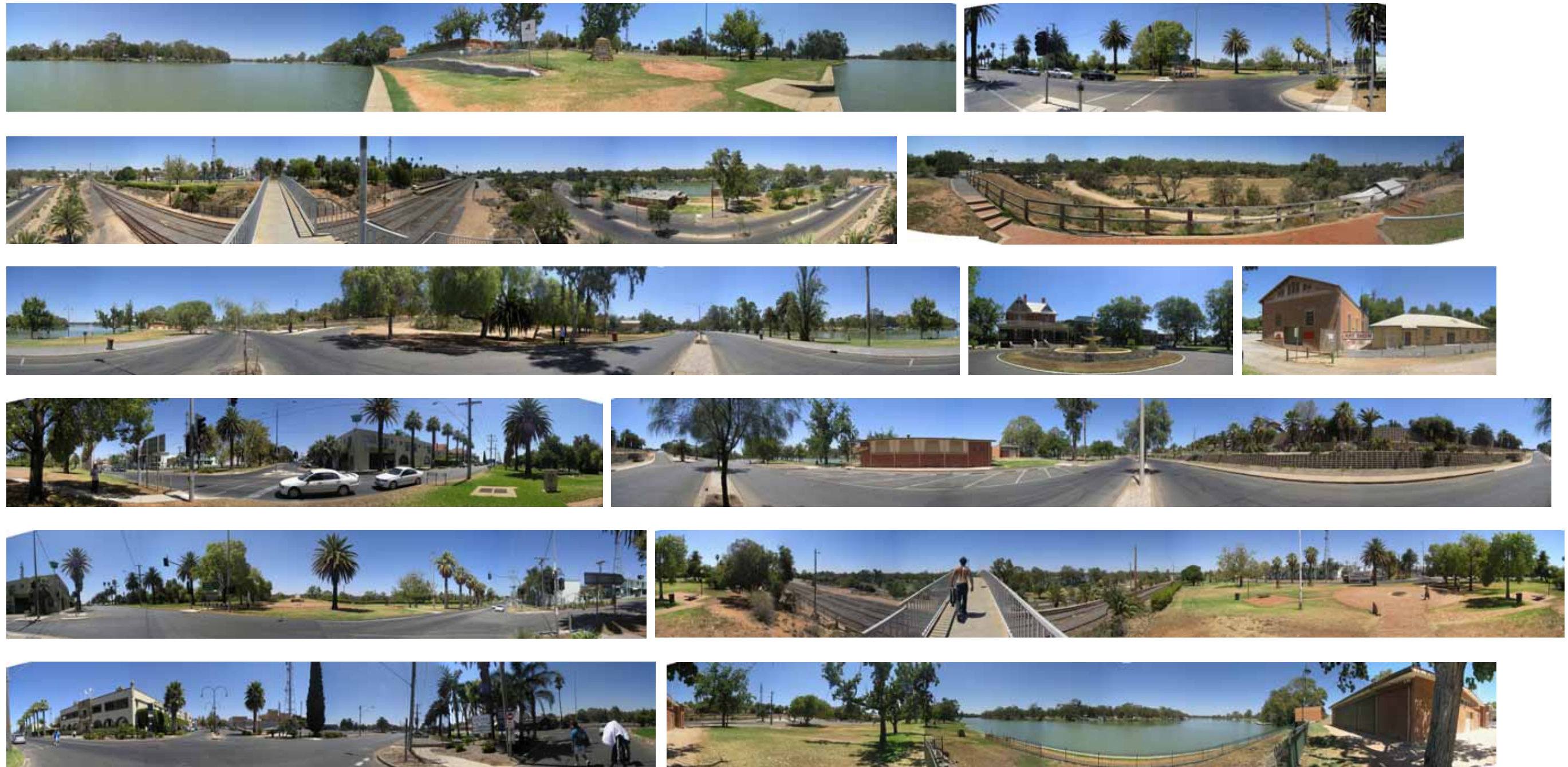
Image
Mildura riverfront photographic analysis.



Images
Mildura riverfront photographic analysis.



Images
Mildura riverfront photographic analysis.



2.0 Trends and Issues

Trends and issues that have emerged and which are specifically relevant to the Mildura region include:

- Regional scale and connection;
- Reinterpretation of built forms;
- Building positioning and zoning;
- Rail crossings and pedestrian connections;
- Enhanced public environment;
- Local tourism initiatives;
- Water sensitive Urban Design.

There is also a series of National and International trends and issues which are of relevance to the Central Precincts area. These include:

- Sustainable development;
- Funding opportunities;
- Global financial situation;
- Design excellence;
- Transportation strategies.



Image
Mildura riverfront.

2.1 Emerging MRMP and Regional Feasibility Issues

2.1.1 Regional Scale and Connection

Mildura is a regional city consisting of low density development with buildings of modest heights and scales. Larger buildings are typically found in the CBD but are otherwise dispersed across the city and found on larger sites or adjoining infrastructure corridors.

Mildura has had a long associated history with the Murray River. Very little development has occurred along the riverfront, and it primarily remains as public open recreational areas.

The Murray River is a focal point of the Mildura community and it is essential that connections between the CBD and the river's edge are accentuated. Linkages from the CBD's access corridors should continue across the Central Precincts to connect the city and the riverfront.

New development within the Central Precincts area should complement and be appropriate to the regional scale of Mildura. It should allow height and scale consistent with the CBD, while introducing a variety of bulk and scale across the site to both the streetscape, parkland and riverfront.



2.1.2 Reinterpretation of Built Form

The audit of the MRMP highlighted the need to re-assess the built form outcomes.

The proposed placement and density of some aspects of the built form outcomes are inappropriate to Mildura's regional scale and must be reinterpreted to respond more appropriately to this context.

The Cultural Centre is to be scaled down and re-positioned to align with regional objectives, economic viability, sustainability and contextual relationships. The size and density of the complex shall respond to user-needs and the relationship to the physical context.

Additionally, some aspects of the built form can be amalgamated to provide more economically viable solutions. Similar functions including the Visitor Accommodation and Function Centre shall be combined to deliver an appropriate regional response and scale.

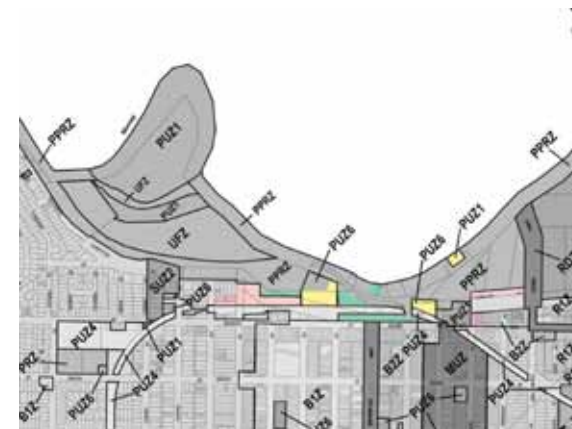


2.1.3 Building Positioning and Zoning

The MRMP suggested built form placement and zoning which is not appropriate for the Central Precincts area, nor is it appropriate for present economic situations.

Zoning and placement of the built form shall respond to connecting vistas from the CBD and Seventh Street. Cultural, social and commercial zones within the existing CBD shall correlate to built form and zoning within the Central Precincts area.

Additionally, residential zones shall be reinterpreted to align with existing residential areas. Appropriate densities shall be determined to suit the contextual relationships and economic parameters.



2.1.4 Rail Crossings and Pedestrian Connections

The use of the rail corridor has been a contentious issue amongst relevant government authorities and the Mildura community for many years. Community consultation has resulted in strong recommendations to cease all rail use on the existing rail line in the Central Precincts area.

The MRMP suggested the removal of freight rail activity, however it also proposes the use of an at-grade crossing at the Langtree and Deakin Ave pedestrian extensions.

The use of rail crossings and pedestrian connections must be addressed against current authority suggestions. Rail use may either decrease or increase, and the design proposal needs to respond to all possible scenarios.

Additionally, public safety shall be a high priority and will be carefully considered for the design of all rail crossing and pedestrian connections.

Physical and visual connections between the CBD and the river are essential connections which much be considered in relation to the rail corridor and crossings.



2.1.5 Enhanced Public Environment

Correctly articulated built form with integrated landscape design for the public environment is essential for the Central Precinct area. Improving the public domain areas within the riverfront area is essential increase use of public space as access ways and for community activities.

The MRMP has primarily limited public spaces to the Langtree and Deakin Avenue. Public spaces are mainly linked to the Commercial and Cultural Precinct areas, and at certain areas are interrupted by the Citrus Gardens and Chaffey Waterways.

Public domain areas and connections shall be carefully considered in the social, cultural and commercial linkages that extend from the CBD. These spaces shall be coordinated across the Central Precincts to provide balance and necessary cross linkages between areas.

The contribution of both built form and landscaped areas will encourage public activity improving the safety amenity of the Central Precincts area

2.1.6 Local tourism initiatives

The Mildura riverfront is recognised as a major regional tourism driver and is a significant contributor to the economic well-being of the local community and businesses.

The MRMP creates a regional tourist attraction having significant potential to contribute to local tourism development. Through the invigoration of the riverfront area a number of tourism benefits could be achieved.

There is further potential for a stronger tourism driver for the Central Precincts area, which was not previously explored in the MRMP. In establishing an 'original' regional riverfront development utilising the unique qualities of the surrounding environment to create a distinctive destination, opportunities for tourism activity would be greatly enhanced.

Through design excellence, innovation and sustainable solutions, the Central Precincts area will encourage tourism initiatives and attract funding opportunities.

2.1.7 Water sensitive Urban Design

Heavy irrigation demands and an extended drought periods have placed the Murray Darling Basin's environment under considerable pressure. Today, the threat to the health of the Murray River and the recognition of water as a valuable resource is widely understood.

When extensive agricultural irrigation demands and urban development occur, natural water cycles are altered. The implementation of best practice integrated WSUD initiatives seeks to replicate predevelopment water cycles and restore balance through the use of design initiatives that replicate an equivalent natural hydrological landscape.

With this in mind, the Central Precincts will seek to adopt and incorporate industry best practice WSUD initiatives as part of an overall integrated water strategy for the site. By implementing WSUD initiatives, the area shall minimise irrigation needs and potable water demands; ensure that the Central Precincts area is both flood and drought proof and improve the water quality of the Murray River by reducing contaminated stormwater outflows from the site and catchment area.



2.2 National and International issues and trends

2.2.1 Sustainable development

A range of global and national sustainable trends have emerged and achieved prominence since the adoption of the MRMP. A number of these key trends with implications for the development of the Central Precincts are discussed below.

CHANGING CLIMATE

The CSIRO anticipates the following impacts of climate change on the Mallee, including Mildura:

- Increased average annual temperatures;
- Increased number of hot days (over 30°C);
- Reductions in the total average annual rainfall, with the greatest reductions occurring in spring;
- Increased intensity of summer rainfall events;
- Increases in potential evaporation and reductions in relative humidity contributing to drier conditions;
- Small increases in solar radiation.

KEY IMPLICATIONS

- Design for climate to maintain comfortable indoor and outdoor environments during hotter weather;
- Water efficiency and water recycling;
- Landscape design to minimise risk of erosion due to increasingly arid climate and extreme summer rainfall events;
- Fireproofing to address increased bushfire risk;
- Drought resistant landscaping;
- Improved water treatment to avoid algal blooms associated with lower river flows and impacts of water contamination from eroded sediments and ash from bushfires;
- Understanding of the implications of more extreme weather events for flooding, taking into account generally lower river flows but more intense rainfall in the summer months.

GREENHOUSE GAS EMISSIONS

The Garnaut Climate Change Review found that the weight of scientific evidence tells us that Australians are facing risks of damaging climate change. However, the risk can be substantially reduced by strong, effective and early global action to reduce greenhouse gas emissions.

Australia will need to play its full proportionate part. Introduction of the Carbon Pollution Reduction Scheme, introduction of a National Energy Efficiency Strategy and adoption of a new Renewable Energy Target are all important elements of the government's strategy to avert dangerous climate change. The implications of these schemes will be felt locally in communities and provide incentives to increase energy efficiency and source clean renewable energy.

HEALTH

Emerging trends in heart disease, obesity and diabetes are closely correlated with the way we live in our cities and how we structure our daily lives. There is now a considerable body of research which points to active lifestyles (including walking and cycling to access employment and services and facilities) as impacting on health and wellbeing. Australia's aging population also requires more programmes aimed at retaining mobility, health and independence.

FOOD SECURITY

In Australia most people are not aware that food insecurity is an issue. However, food insecurity has been reported by 5 per cent of people aged 16 years and over. Low fruit and vegetable intake has a greater impact on health than the use of illicit drugs and alcohol and the number of years of life lost due to diet-related disease is 70 percent of that for smoking. As part of Australia's primary agricultural area, Mildura plays an important part in contributing to the nations food security.



SOCIAL INCLUSION AND COMMUNITY COHESION

A challenge for all governments is delivering a share of the benefits derived from economic prosperity to communities that have traditionally not been prime recipients of economic success, particularly in times of economic crisis. Factors influencing social inclusion include poverty, income inequality, low educational qualifications, joblessness, poor health and poor housing. Addressing issues such as access to services and facilities can make a significant difference to levels of social inclusion and community cohesion.



PEAK OIL

Australia’s economy and way of life is underpinned by securing access to affordable and sustainable fuel, and as a nation with relatively high vehicle use, we are vulnerable to the economic, environmental and social impacts of rising oil prices and rising temperatures. The future price of oil is uncertain. The Future Fuel Forum predicts that if oil production peaks, prices could climb as high as A\$8 per litre by 2018 in the most extreme case, resulting in significant social impacts that are likely to adversely affect low income Australians. Australia’s fuel mix will shift in the near term in response to Peak Oil, to include the expanded use of diesel, gaseous fuels such as LPG and hybrid electric vehicles, with even greater diversity beyond 2020 that might include hydrogen, synthetic fuels from coal or gas and advanced biofuels that will not impact food production. These changes are likely to have a significant impact on the way Australians think about travel and transport.



THE MURRAY RIVER

The introduction of irrigation agriculture, including storage reservoirs, locks and weirs have lead to radical changes to the Murray River’s natural flows and have seriously disrupted the life cycles of many of its ecosystems. It has also led to dry land salinity which now threatens the very industry it generated. In 2009 the Federal Government allocated \$900 million to save the Murray River and Darling River System through buy-back of irrigated properties, local community water planning, stormwater harvesting projects and bioremediation of the lower Murray. For communities along the Murray like Mildura, this represents a significant opportunity to contribute to improving the health and welfare of the river ecosystems as well as the communities that rely so directly on the welfare of the river for their own survival.

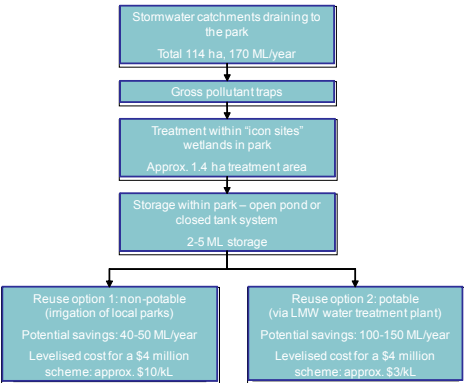


2.2.2 Funding Opportunities

In light of recent government economic stimulus packages and funding opportunities for sustainable developments, it is recommended that the Central Precincts could greatly benefit from existing and potential funding initiatives.

Of particular importance is the Commonwealth Government’s ‘Water for the Future programme’ which includes \$12.9 billion over 10 years, allocated to four priority areas: 1. Action on climate change; 2. Using water wisely; 3. Securing water supplies; and 4. Supporting healthy rivers. Within the area of securing water supplies, the National Urban Water and Desalination Plan includes \$1 billion over 6 years for desalination, water recycling and stormwater harvesting projects. Most of this funding will be allocated to major projects (>\$30 million), but \$200 million has been set aside in the “special call for stormwater harvesting and reuse projects” to fund smaller stormwater harvesting projects (minimum \$4 million in eligible investment).

The Victorian Government has also made funding available for a variety of sustainable and water initiative projects. These funding schemes, in association with other stimulus packages and funding, will greatly enhance the outcome for the Central Precincts area. It is essential that action is undertaken to ensure all effort is made to apply for appropriate funding grants.



2.2.3 Global Financial Situation

The Global Financial crisis is a recent world economic issue which will have a variety of implications upon the Central Precincts development. The crisis sweeping world financial markets is affecting every aspect of business across the globe.

This international issue, is generally beyond the control of the potential public and private investors of the Masterplan. Care must be taken to investigate the effects of this financial crisis upon the realisation of the Masterplan.



2.2.4 Design Excellence

Urban Design Excellence is a principle used to create enduring communities. Good Urban Design approaches incorporate a variety of sustainable and socially appropriate strategies to build healthy and vibrant communities.

Urban Design Excellence is best achieved when design thinking concentrates on creating a sense of place within an urban landscape. The Central Precincts area will incorporate Urban Design Excellence strategies, particularly relating to:

- Interpreting place and context;
- The public realm;
- Visual character and identity;
- Permeability and connectivity;
- Safety and security;
- Varying densities;
- Mixed uses.



2.2.5 Transportation Strategies

In line with creating sustainable solutions for the Mildura Central Precincts, appropriate alternative transportation strategies must be considered as part of the overall Urban Design approach.

The Masterplan must focus on suitable transit oriented development strategies which is a new fast growing trend to create vibrant, liveable communities. The focus must be on creating pedestrian and bicycle friendly environments, to reduce the need for private car use.

Focus must also be given to public transportation strategies, as well as additionally considering the impact of personal car use within the regional context.



3.0 Conceptual Framework

A conceptual framework establishes the key design principles to guide and govern the development of the project. Recognising the importance of the site's history and unique environment 'The Tapestry' concept encapsulates the vision for the Masterplan. It responds to the context both at a micro and macro level referencing the surrounding farm land and taking cues from the layout of the CBD.

The Masterplan identifies the potential for cultural, commercial and residential activities within the Central Precincts and outlines the possibilities for improving access to the riverfront from the CBD. It develops a series of Urban Design principles to inform the direction of the project including: regional scale and context; vistas and connections; economical outcomes; pedestrian flows; water sensitive urban design; vehicular movement. In addition to this strong emphasis is placed on establishing an all encompassing sustainable design approach for the Central Precincts area.

The conceptual framework reiterates the importance of the Central Precincts as a catalyst to strengthen Mildura's relationship to the riverfront and improve the quality of the Murray River.

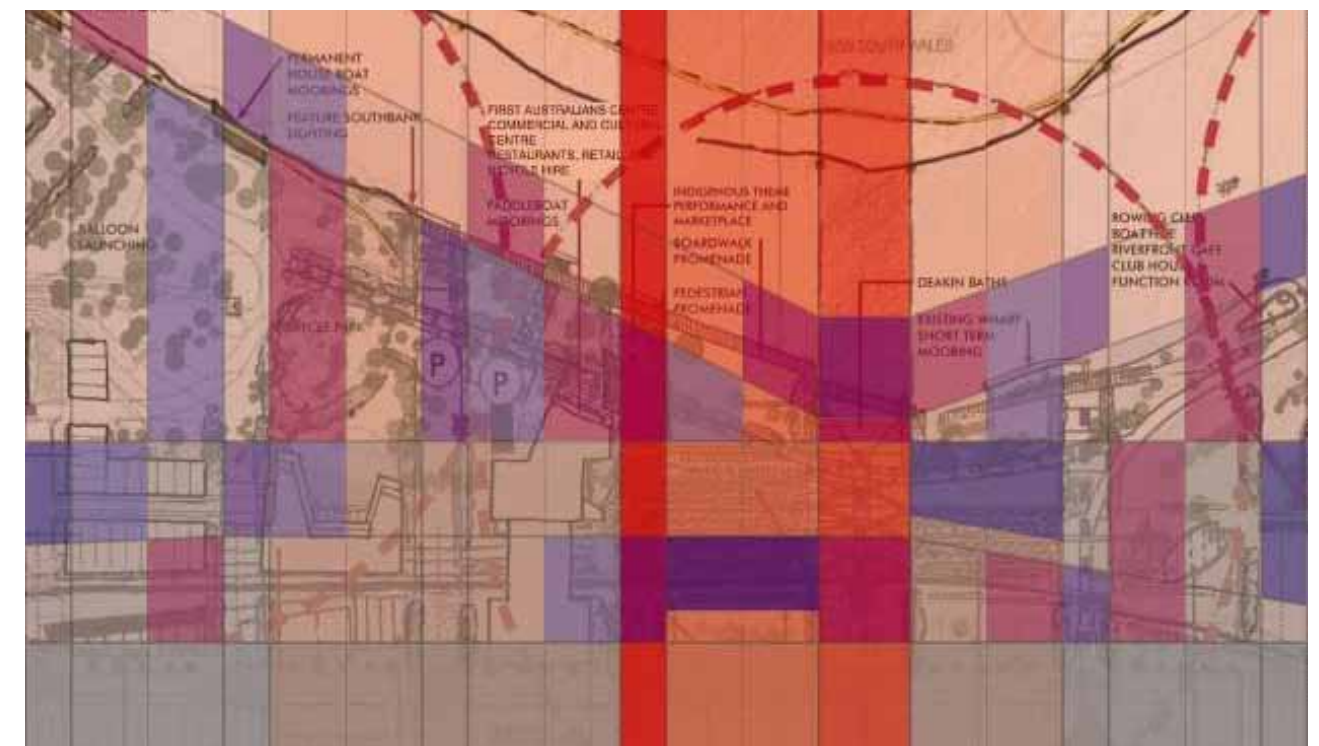


Image
Central Precincts conceptual development

3.1 Historical concepts

3.1.1 Murray River History

Approximately 200 million years ago Australia was formed as a result of Gondwanaland slowly dividing and drifting apart over a long period of time. Between 2.5 and 0.5 million years ago, the Murray River was created through major geological movement. At this time, the Murray River terminated at what was known as Lake Bungunia. Subsequent further earth movement drained Lake Bungunia and linked the river to the Indian Ocean. This ended the Murray Basins 'wet period' and produced conditions comparable to those we experience today.

Millewah, the aboriginal name for the Murray River, was first recorded in 1836. Today, the Murray River, Australia's largest river, approximately 2,500km in length, stretches from the Australian Alps across Australia's inland plains and terminates at Lake Alexandria, SA. It forms part of the 3,700km long combined Murray-Darling River System, which drains most of inland Victoria, NSW and parts of southern Queensland and is dependent for its water flow on rainfall in its catchment area, which constitutes around 14% of Australia's total landmass.



3.1.2 Indigenous History

As one of the major rivers in the dry continent that is Australia, the Murray River has traditionally been of great importance to many Indigenous Australian People. Historically, a number of indigenous language groups inhabited the enormous area spanned by the Murray River system. For over 60000 years the Murray River has given life to the Aboriginal People who lived within the Mildura region. For these people the Murray River system was a place of abundance and was home to a wide range of wildlife including Murray Cod, Trout Cod, Golden Perch, Australian Smelt, Murray Short Necked Turtle, Murray River Crayfish and many others. The people also benefitted from the River Red Gum fringing corridors and forests that occurred throughout the river system. Sadly today most of the native flora and fauna is in a state of decline.



3.1.3 Irrigation Age

The Murray River sits at the heart of the Murray-Darling Basin an area that receives 6% of Australia's annual rainfall. Today the basin is Australia's primary agricultural area, containing 42% of the nations farmland and producing 25% of its food.

Water from the Murray River is used extensively along its length, primarily for irrigation. Small scale pumping began drawing water from the Murray River in the 1850's with the first large scale plant being constructed at Mildura Station in 1887 by brothers George and William Chaffey. The introduction of such pumping stations promoted an expansion of agricultural farming and the development of irrigation areas.

The three Murray River states, SA, VIC and NSW formed an agreement that saw the further construction of a series of storage reservoirs, locks and weirs. These historical man made interventions established a number of major settlements and saw the growth of Australia's most productive agricultural region. These same interventions have also resulted in the radical change to the Murray River's natural flows, have seriously disrupted the life cycles of many it's ecosystems and has led to dry land salinity which now threatens the very industry it generated.

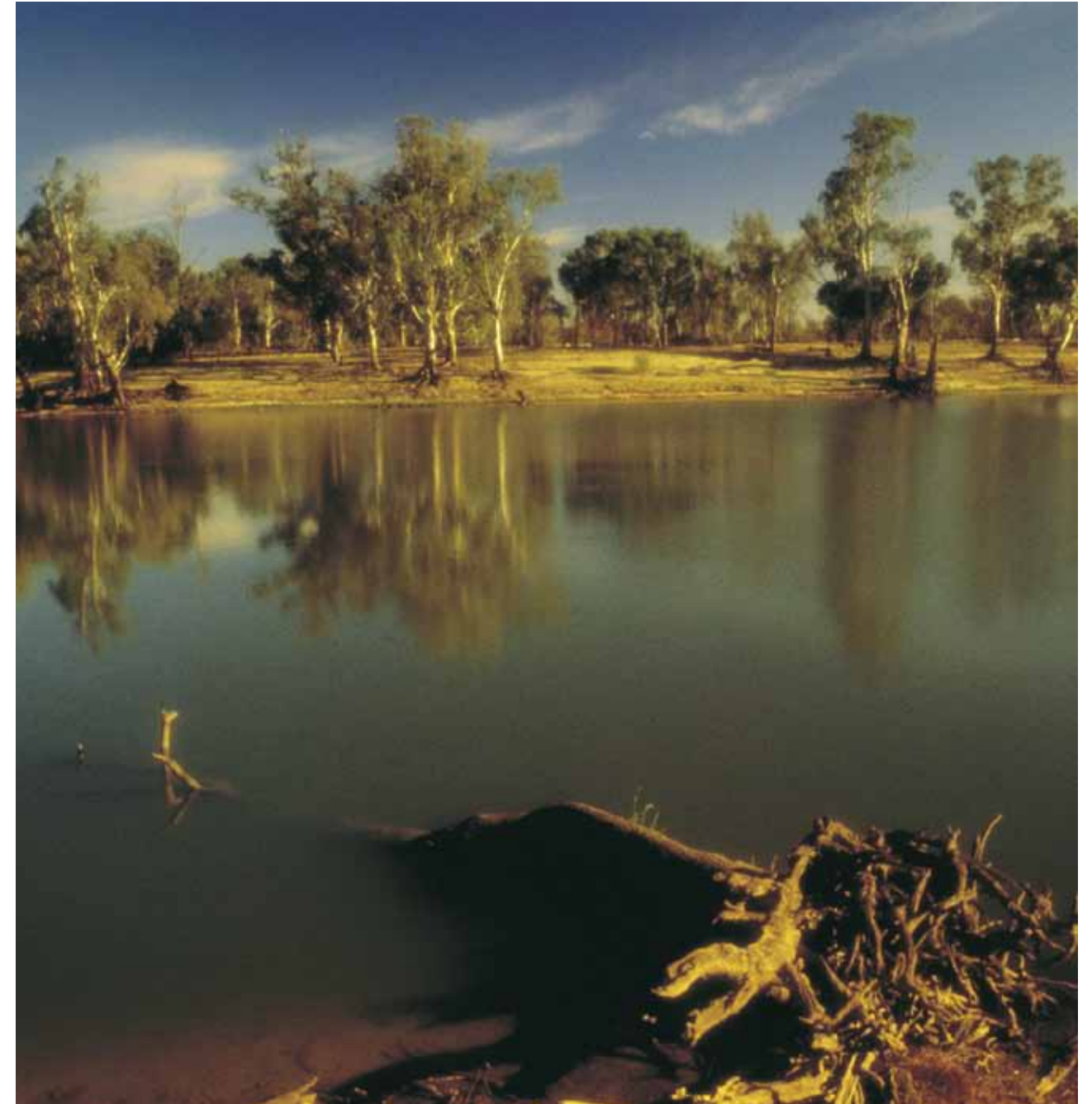


3.2 Environmental Reconciliation

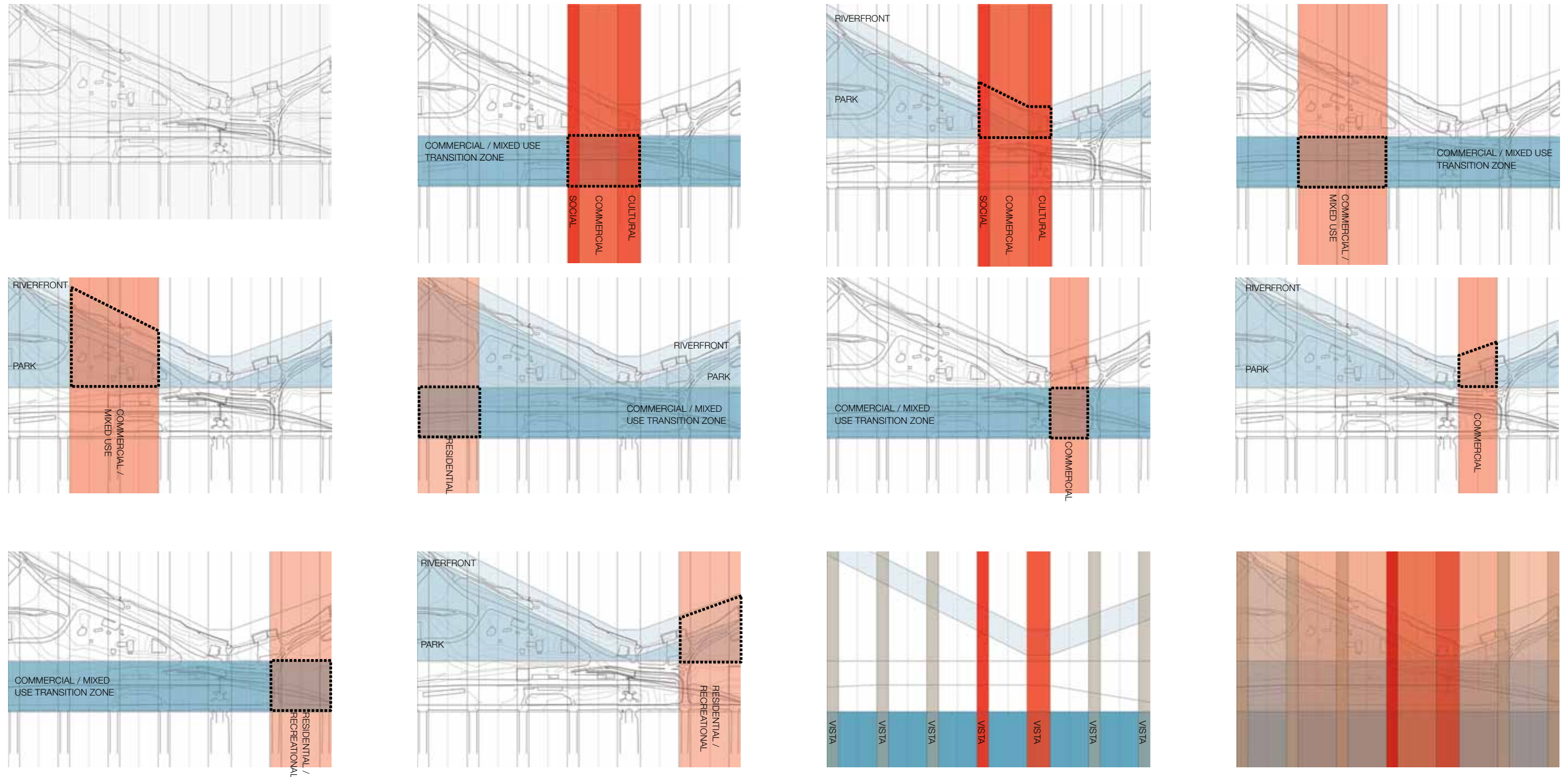
In February 2009, the Federal Government allocated an additional \$900 million to save the Murray River and Darling River system through:

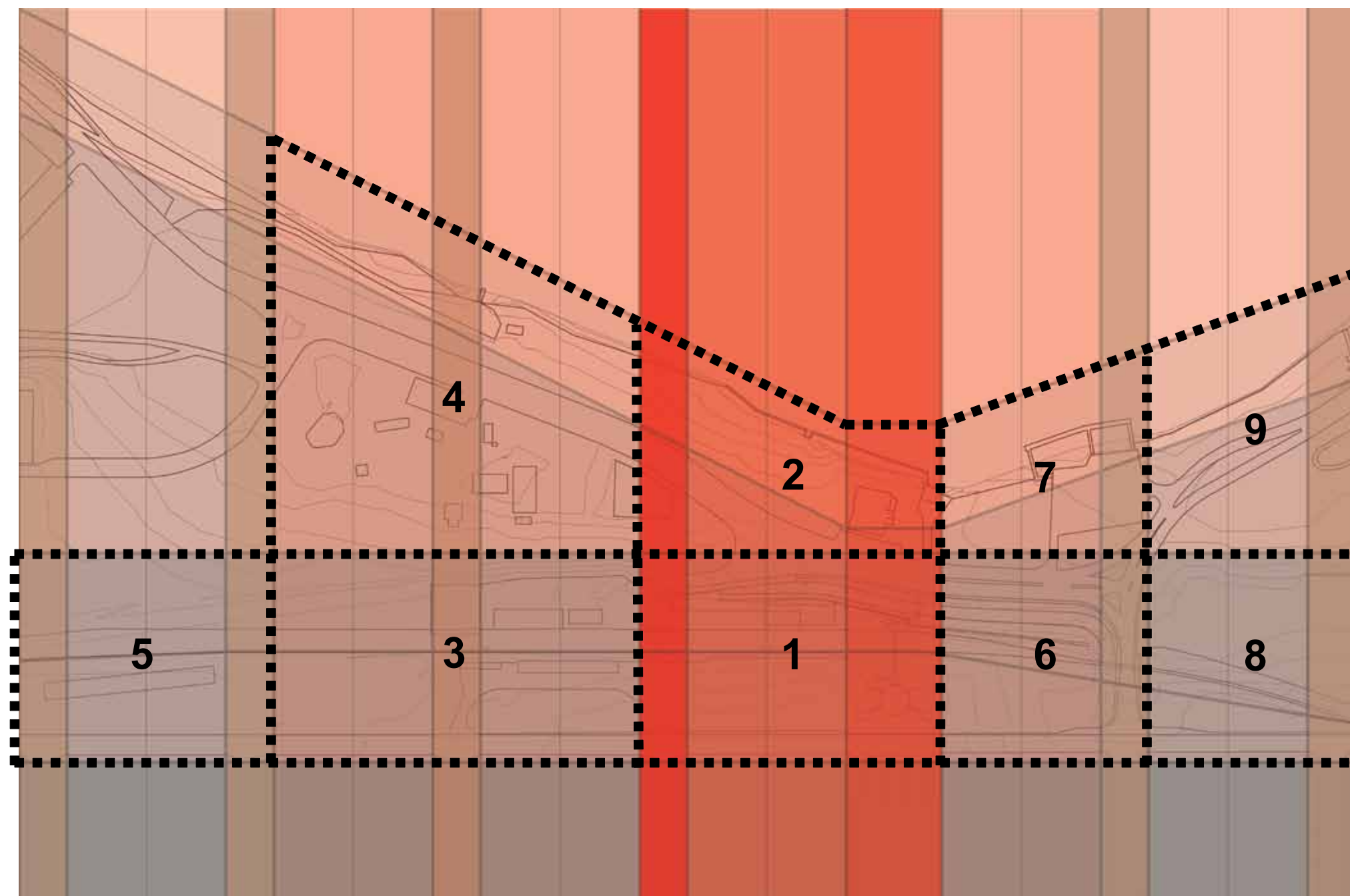
- Proposed buy-back of irrigated properties;
- Assistance for local councils and communities to implement long-term water planning;
- The creation of stormwater harvesting projects;
- Bioremediation of the Lower Murray.

These initiatives recognise the dramatic decline of the Murray River system and the urgent need to implement measures to secure its future.



3.3 Zoning and Built Form Conceptual Framework





3.4 The Tapestry

Through an investigation of the existing contextual relationship between the CBD and riverfront parklands, a tapestry emerges between the junctions of various zones: commercial, cultural, mixed use, residential and recreation. These zones prescribe specific areas for both built form and landscape development.

Detailed diagrams are explained further on the following pages.

All Zones

1. Commercial/Cultural Zone - Building
2. Commercial/Cultural Zone - Landscape
3. Commercial/Mixed Use Zone - Building
4. Commercial/Mixed Use Zone - Landscape
5. Residential Zone - Building/Landscape
6. Commercial Zone - Building
7. Commercial Zone - Landscape
8. Recreation/Residential Zone - Building
9. Recreation/Residential Zone - Landscape

4.0 User Briefs

Development of user briefs for the project are fundamental to development of appropriate outcomes. These briefs have been prepared in conjunction with feedback from community consultations and user interest groups

There are two key components when considering the development of user briefs for the Central Precincts:

1. User Briefs - Built Form
2. User Briefs - Public Open Spaces

The following section outlines a summary of the user briefs as developed in conjunction with the Masterplan. These briefs are an evolving component of the project. They are subject to further consultation with key stakeholders and user groups and will be developed in association with the individual and/or collective developments as they are realised.

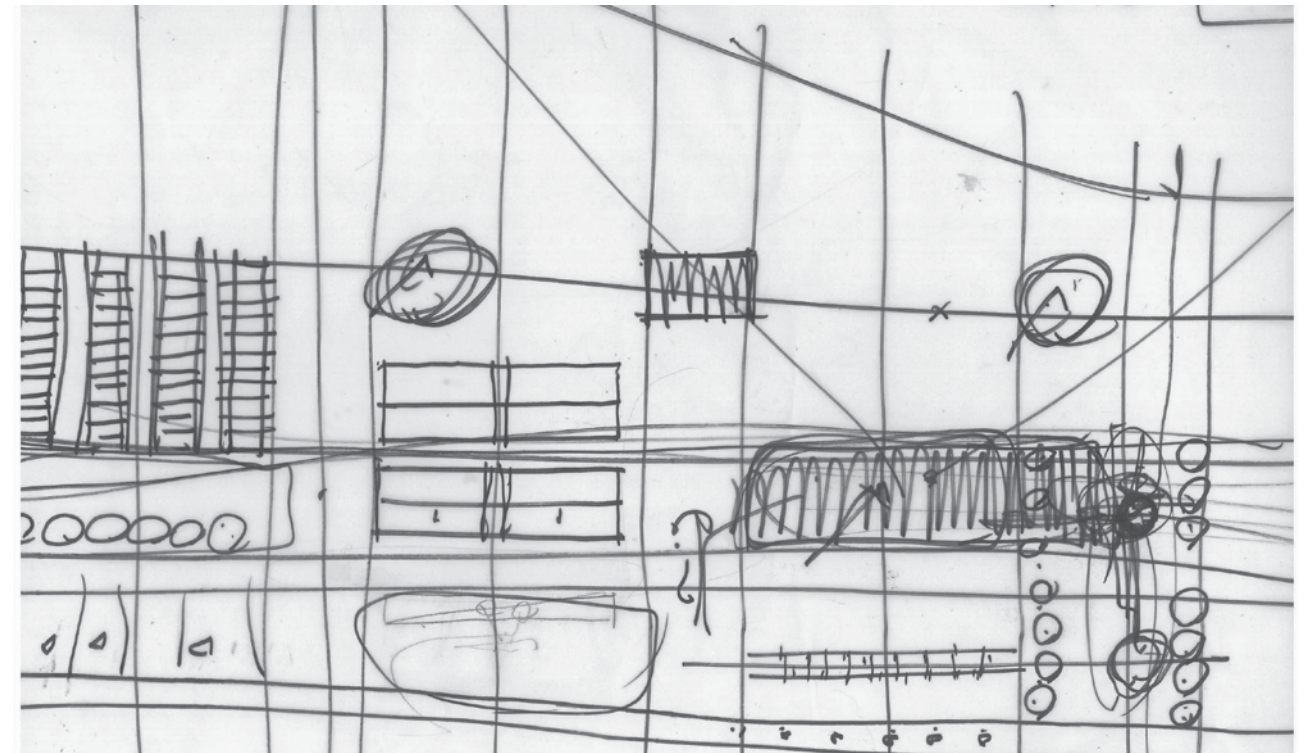


Image
Central Precincts conceptual development
sketch drawing.

4.1 Cultural Centre

Well designed, functional, responsive and value managed civic buildings and precincts are the cornerstone of our built environment and the public 'face' of our society.

Locating the Cultural Centre at the heart of the riverfront development will provide a highly appropriate central attraction for the precinct and complement commercial activity.

By using innovative interactive technologies the Centre will locate visitors in relation to the wider Australian inland landscape, the unique histories of this place and the ideas and issues which have shaped Mildura. The centre will be primarily about Mildura's identity. This concentration of history and meaning will be a powerful agent for education as well as a major tourist attraction.

The potential of the site to combine the Cultural Centre with another of Mildura's major cultural assets, its regional art gallery, would add even greater resonance to the precinct. Museums and galleries are service-intensive, energy-intensive buildings. Opportunities exist for creating innovative energy-efficient solutions to this dilemma. This aspect, in itself, has the potential to attract attention to environmental innovation and generate resulting visitation.

Key inclusions for the Cultural Centre:

- Entry Lobby / Reception
- Flexible Interpretive Spaces
- Breakout Spaces
- Auditorium (200+ seats)
- Back of house storage areas
- Administration Offices
- Amenities
- Café/Restaurant
- Car parking



4.2 Hotel and Convention Centre

Positioning the hotel directly adjacent to the Transport Interchange and off the Langtree Promenade is a prime location for a hotel to operate. Coupled with retail facilities to the street and plaza frontages the development will be a vibrant Interchange within the context of the Mildura riverfront.

It has been recognised that Mildura has an increasing capacity to hold significant events that warrant the need for the development of an appropriately sized Convention Centre. Co-locating the Convention Centre with the hotel will provide much efficiency with many of the services components being shared.

The design of large Auditorium spaces needs to integrate complex engineering services such as acoustics, lighting, communications, air conditioning and mechanical services and fire services.

Key inclusions for the Hotel/Convention Centre:

- Lobby/Reception;
- Port Corche;
- Administration/Offices;
- Restaurant(s);
- Bar(s);
- Retail strip (ground level);
- Car parking;
- 140+ Hotel Suites (varying types);
- Convention Centre and associated ancillary spaces).



4.3 Transport and Commercial

The Transport Interchange and commercial development site requires distinctive, functional and financially viable design outcomes. Commercial facilities often have unique internal functions but are somewhat utilitarian in their external expression as end users are not always known at the design stage. When combined with the transport Interchange, the commercial component can provide support spaces and any surplus can be identified for new leasing opportunities within the CBD.

Locating these items at the existing railway/bus station is considered to be the most logical and feasible. The main issues to be considered are when to develop the site and staging.

The concept process identified that the Transport Interchange and commercial space can exist simultaneously on the site, however the removal of the existing railway station building would be a prerequisite to achieve the ultimate built form outcome.

Also for consideration as part of this Interchange is a small tourist information centre.

Indicative user/function brief considerations for the Transport Interchange and commercial space are outlined below:

- Bus parking (street and on site undercover);
- Short and long term car parking;
- Ticketing office;
- Waiting lounge;
- Administration offices;
- Multiple amenities (public and private);
- Open plan office space;
- Lift lobby and stairs to commercial floors;
- Train platform and guards room;
- Tourist information centre.

4.4 Residential

Residential architecture must be designed to suit the many environments, lifestyles, budgets and the individual needs of Mildura. Residential designs need to be cost conscious, responsible and eco-sensitive, providing comfortable, exciting spaces for living.

Opportunities exist for multiple residential typologies to be developed simultaneously and/or independently in the Mildura Central Precincts. Multi-unit residential apartments of medium to high density, townhouses, attached and detached outcomes, are all possibilities for investigation. Numbers of bedrooms can vary to suit market demand with concept plans using a mixture of 2-3 bedrooms per dwelling/unit to depict a potential average outcome.

Consideration will be given to the allocation of residential dwellings to seniors or aged care with opportunity for affordable residential dwellings to be made available for designated sites.

The opportunity for single detached residences is not seen as a priority in these prime sites with close proximity to the CBD and waterfront demanding more appropriate yields.

The location of the proposed residential development on the western fringe of the precinct adjoins existing low scale residences.

Indicative user/function Brief considerations for the residential are outlined below:

- Solar passive design;
- Water sensitive design;
- Car parking/garaging;
- Courtyards and balconies;
- Lifts and/or stairs;
- Views where possible and visual privacy;
- Acoustic treatments.



4.5 Adaptive Reuse

Preservation of the many magnificent though often dilapidated old buildings that grace our cities can only be achieved by providing them with a practical and viable new use. The challenge is to combine modern technologies and services that meet user requirements with traditional construction and restoration techniques that preserve the historic significance of the building.

Recycling old buildings has become an important part of our built environment for various reasons. There is community recognition of the importance of our heritage and the desire to maintain the historic character of our cities. There is increasing environmental awareness, where the adage “reduce, reuse, recycle” may be applied equally to buildings as to our household waste. And importantly there is recognition that adaptation of existing buildings can be done at a cost comparable with a new building, while producing spaces of great character and market appeal, so providing the basis for a sound financial investment.

A number of buildings of heritage and social significance are identified within the Central Precincts. Project briefs and end uses for these buildings need to be carefully developed in their own right.

Indicative user/function Brief considerations for the adaptive reuse are outlined below:

- Focus on key elements for rejuvenation;
- Maintain the original character of the building(s);
- Ensure projects are linked to Heritage Management;
- End uses should be sympathetic and appropriate;
- Interpretive display of buildings history considered;
- Appropriate materials selections for new items;
- Accessibility provided.

4.6 Parks/Plazas/Boardwalks

The user briefs for parks and plaza spaces are quite different from that of the built form requirements.

The Riverpark will provide a dynamic and interactive recreational and environmental precinct. It will be home to living environmental systems and will have the capacity to filtrate stormwater harvested from the urban catchment. It will also form a place which visitors can gain an insight into the rich history of the Murray River and the human habitation that has evolved along it's length. The Riverpark has the potential to influence attitudes towards the Murray River and raise public awareness in relation to it's enormous value and significance, both locally, regionally and nationally.

The Riverpark will establish a significant tourist destination that will gain Mildura and the Murray greater regional and national identity. Increased tourist numbers to Mildura have the potential to generate new economic stimulus and for local businesses.

The Riverpark will be home to the proposed Mildura Cultural Centre and central Langtree Promenade. Together they will help establish a cultural and educational Interchange for the region. Langtree Promenade will interface with the Cultural Centre and Deakin Plaza, connecting visitors to the Riverpark, the CBD and the Murray River. Langtree Promenade

will also facilitate Indigenous art exhibitions and performances.

The jetty's and boardwalks will activate the river edge by providing increased house boat mooring and paddle steamer access and capacity. This will improve tourist visitation to the Mildura Murray Park and assist in stimulating local businesses.

These facilities will provide visitors with a greater connection and awareness of the Riverpark water front and it's cultural, environmental, educational and economic significance.

These jetty's and boardwalks will also establish greater connectivity, access and amenity to the Rowing Club and will form an important part of the Riverpark internal pedestrian and cycling networks as well as connection to complementary external networks. Accessibility to the various craft that use the boardwalks and the undulating landscape is crucial.

All of the parks/plazas/boardwalks proposed uses are outlined in detail in the Feasibility Report 03.



5.0 Masterplan

This section provides more detail on the proposed developed Masterplan design.

The images within this section of the report are purely representations depicting particular elements of the Masterplan and are not to be considered final design solutions. They illustrate intended building heights; extent of public open space; views; vistas and the various components of the Masterplan.

The Central Precincts Masterplan is depicted on the facing page with reference list of items outlined below.

- 1

Existing Tennis Centre
- 2

Car parking
- 3

Riverpark Rain Gardens
- 4

Residential - Low/Medium Density Townhouses
- 5

Residential Development Site
- 6

Adaptive reuse of Heritage Rail Carriage Shed
- 7

Plaza
- 8

Pine Avenue Rail Bridge
- 9

Existing Jaycee Park to be retained
- 10

Residential-Medium/High Density Apartments
- 11

Mixed Use-Residential and Commercial Med/High Density
- 12

Mooring/Boardwalk
- 13

Existing Heritage Pump House
- 14

Existing Powerhouse Performance Space and Art Gallery
- 15

Visitor Accommodation and Convention Centre
- 16

Transport Interchange and commercial
- 17

Tourist Information and Retail and Vertical Circulation
- 18

Langtree Promenade
- 19

Langtree Ave Rail Bridge
- 20

Cultural Centre Stage 1
- 21

Railway Gardens with car park under
- 22

Row Boat Launching Area
- 23

Murray River
- 24

Deakin Plaza Lookout
- 25

Deakin Pedestrian Plaza
- 26

Existing Rowing Club
- 27

Existing Pump House
- 28

Deakin Ave Pedestrian Bridge
- 29

Moorings/Boardwalk
- 30

Existing Paddle Boat Steamer Wharf
- 31

Riverpark
- 32

Cultural Centre Stage 2
- 33

Existing War Memorial
- 34

Existing Skate Park
- 35

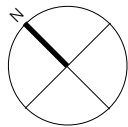
Railway Gardens
- 36

Black Water Treatment Works and Water Storage
- 37

Existing Water Treatment Plant
- 38

Existing Sound Shell

5.1 Central Precincts Masterplan



5.2 Land Use

The following diagram highlights the built form placement and the associated building uses. The Masterplan offers a range of land uses including: residential; mixed use; accommodation; retail; commercial; cultural and adaptive reuse.

■ Residential - Low/Medium Density	■ Accommodation/Conference/Retail	■ Cultural Centre
■ Residential - Medium/High Density	■ Heritage Adaptive Reuse	■ Transport Interchange/Commercial
■ Mixed Use - Residential/Commercial	■ Adaptive Reuse	■ Retail



Residential - Low/Medium Density
 Residential - Medium/High Density
 Mixed Use - Residential/Commercial

Accommodation/Conference/Retail
 Heritage Adaptive Reuse
 Adaptive Reuse

Cultural Centre
 Transport Interchange/Commercial
 Retail



5.3 Built Form Representation

CULTURAL CENTRE

The Cultural Centre is located between the social (Langtree) and cultural (Deakin) zones devised in the project's conceptual framework. Locating the Cultural Centre at the heart of the riverfront development provides a central public attraction for the development that complements the surrounding commercial activity.

The green roof of the Cultural Centre links the green roof space of the Railway Gardens to the landscaped riverfront. The building acts as a transitional zone to provide a physical connection the city and the riverfront.



MEDIUM-HIGH DENSITY RESIDENTIAL

The medium-high density residential areas are positioned within the residential and mixed use transitional zones of the conceptual framework. These developments have been included to promote a mixed use arrangement. Retail and commercial spaces at ground level with residential over generate activity and public interaction.

The built form outcomes are intended to respect the existing densities of Mildura, and respond to the connections between the CBD, parkland and riverfront. Generally three storey buildings are proposed for these mixed used residential areas.



LOW-MEDIUM DENSITY RESIDENTIAL

The low-medium density residential areas are positioned on the periphery of the Central Precincts area within the residential and recreational zones of the conceptual framework.

These residential areas have a relationship with Jaycee Park taking advantage of the existing amenity and provide passive surveillance. Densities of one to two stories have been established to remain in keeping with the existing residential context.



TRANSPORT INTERCHANGE AND COMMERCIAL

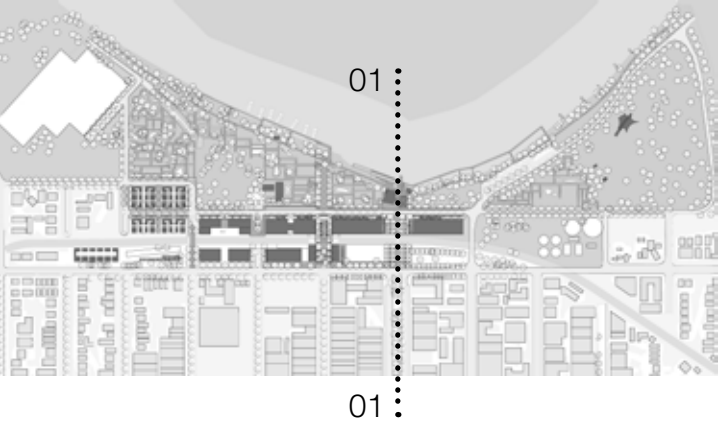
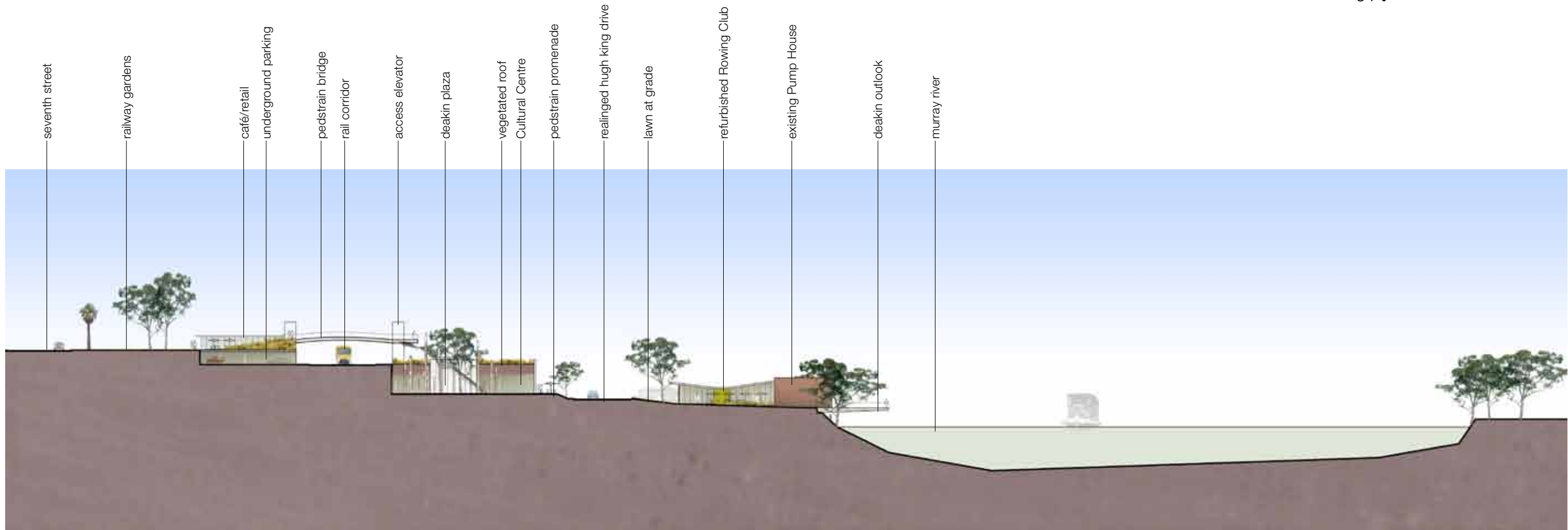
The Transport Interchange and commercial buildings are associated with the commercial and mixed zones of the conceptual framework. The buildings address the activity from the CBD positioned adjacent to the Langtree Promenade connection. A strong relationship between the built form and Seventh Street has been established to ensure for the prosperity of the commercial activity and amenity of the streetscape.

Again densities of three-four stories have been established to fit in with the existing Mildura CBD.



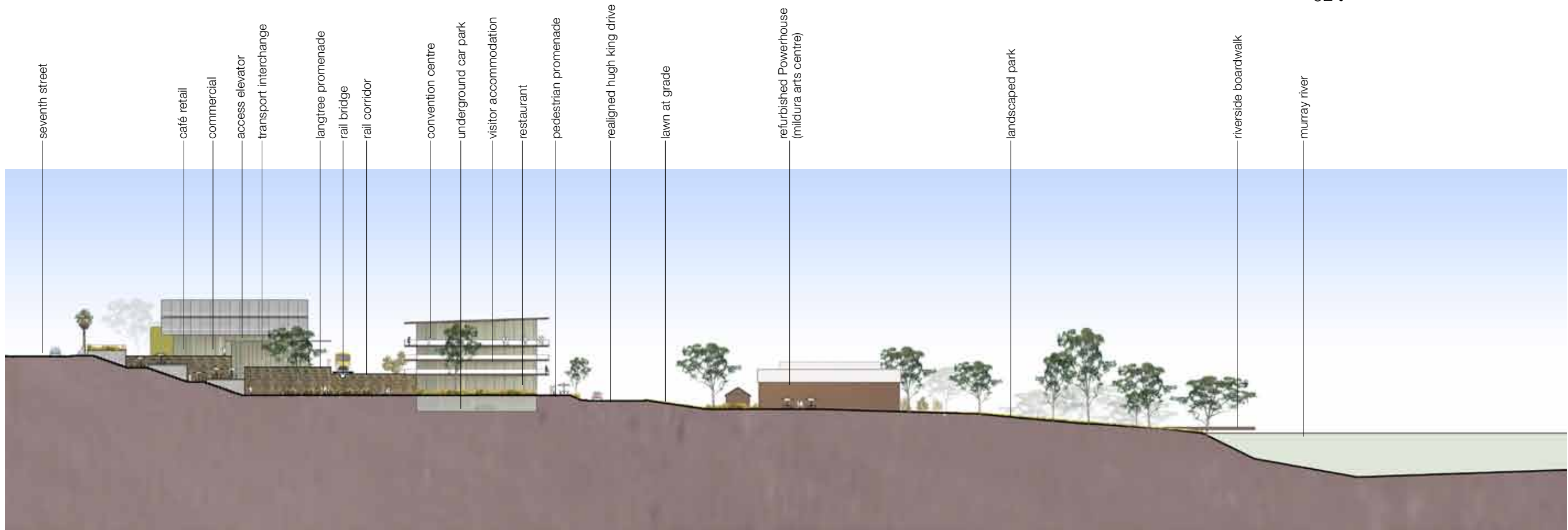
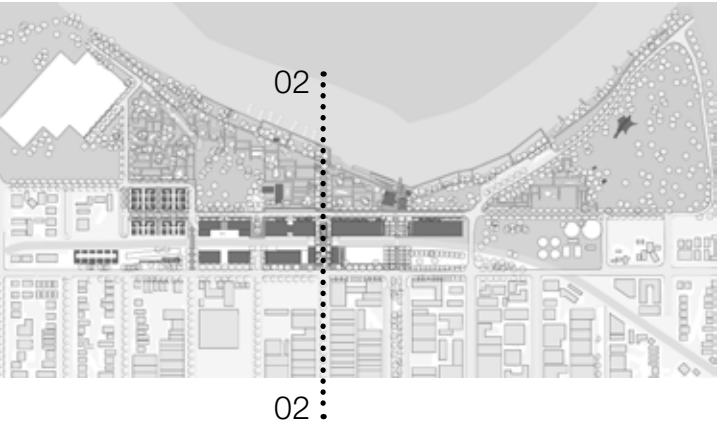
SITE SECTION 01

The section is cut on the axis of Deakin Avenue from the intersection at Seventh Street down to the Murray River. Key elements depicted are the pedestrian foot bridge over the rail corridor, the descent by both stairs and access lift into 'Deakin Plaza'. The Cultural Centre (Flanking Deakin Plaza) built into the escarpment with a green roof allowing for visual continuity from Seventh Street down to the park and Murray River. Also depicted is an artist impression of the refurbishment of the Mildura Rowing Club and Pump House with the provision for café facilities. The final built form shown is 'Deakin Lookout', the finale of the Deakin axis where the pedestrian can walk out over the Murray River.



SITE SECTION 02

This section has been cut on the axis of Langtree Avenue identified in the conceptual framework as a key social node of the CBD and establishes the main connection point between the CBD and the riverfront. A staircase declines from Seventh Street via small retail tenancies and cafés. Depicted in elevation beyond is the Transport Interchange (incorporating access lift) and commercial space. The Promenade then proceeds under a rail bridge opening to the Cultural Centre, Convention Centre and visitor accommodation complex overlooking the parkland, Powerhouse heritage building and the Murray River.



5.4 Landscaping and Open Space

5.4.1 Connection and Access

- The park development will be a generator for local employment opportunities and local business revitalisation and provide a greater interface between the CBD main street retail precinct and the paddle boat wharfs.
- The park will be integrated with the proposed Transport Interchange providing easy accessibility between the CBD and the riverfront. This will include the implementation of a new bus and rail station. The Transport Interchange will connect the park to the greater region.
- The Transport Interchange will 'future proof' the rail service to ensure continued potential for growth in years to come.
- The park development will serve as a key tourism destination that will attract and capture local, regional and national visitation.
- The proposed Langtree Promenade will provide direct access to the Transport Interchange and the entirety of the park. Tourist information will be integrated into the Langtree Promenade.
- Two new pedestrian links will also connect directly to the Transport Interchange and provide greater connection between the CBD and the park. This will further promote and encourage walkable access.
- Way finding interactive elements and signage will form part of the parks education, information and orientation system.
- The integration of a new pedestrian network and cycle network will provide ease of movement and accessibility within the park as well as links to existing external pedestrian and cycling systems.
- Proposed car/bus parking is designed to provide maximum accessibility to all parts of the park. It includes the following: Upgrade and relocation of the wharf car/bus parking to facilitate better capacity and connection to both paddle steamers and the Sound Shell; underground car parking to be located in close proximity to the new Cultural Centre; new car parking to be provided adjacent Jaycee Park and river house boat mooring areas; increased street parking will be provided in close proximity to the Langtree Promenade; and the existing tennis court car park is to be upgraded.

5.4.2 The River

- The river edge natural plant communities will be restored and reinstated to improve the health of the river, improve stabilisation and encourage the return of native fauna.
- The proposed green amphitheatre will provide river access and recreational activities.
- A new boardwalk along the river's edge will form part of the pedestrian linkage for the site and allow short term houseboat mooring.
- The existing boardwalk will be extended and connected to a proposed Deakin Plaza Lookout.
- Boating activities are to be segregated to reduce congestion.

5.4.3 Art and Culture

- A new Cultural Centre will establish important links to schools and universities as well as the park itself. It will also serve as an important tourist destination for the region, providing a range of activity, amenity and facilities.
- Public art works will form an important cultural and educational layer to the park. In addition, a dedicated plaza, between the proposed Cultural Centre buildings, will provide a platform for the display and exhibition of indigenous art and performances.
- The existing Art Gallery is to be retained with the potential for it to curate and promote art installations and events within the park.
- The incorporation of a new Children's Playroom and BBQ Arbour will provide further amenity and space for recreation. The children's playroom will be located adjacent the Rowing Club and the BBQ arbour will sit in close proximity to Jaycee Park.
- Community gardens will be located within the park and will interface with the proposed residential apartments and townhouses, providing amenity and privacy.

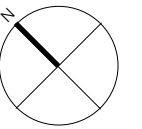
5.4.4 Commercial and Heritage

- The relocation of the Bill Hyder Gardens will allow current recreation space to be retained while also serving as an improved educational resource. The Bill Hyder Gardens could be expanded to provide an interpretive display of the history of irrigation and productive farming practices of the region.
- The existing Rowing Club House has the potential for extension and upgrade with the possible implementation of a restaurant facility.
- The existing Powerhouse building of architectural and heritage significance potentially could be adapted for restaurants; cafés or other similar facilities to further enhance the vibrancy and appeal of the park.
- The existing Skate Park, Jaycee Park and Sound Shell are to be integrated into the new park design, establishing a broader recreational precinct.
- The existing War Memorial is proposed to be relocated and upgraded, allowing this important element to be better viewed, celebrated and appreciated. It's proposed relocation would facilitate larger gatherings by utilising the proposed lawn slope as a green amphitheatre.
- The existing Carriage Sheds are also to be retained for their architectural and heritage value. Future upgrade of these buildings could create a market and events venue.

5.4.5 Natural Environments

- The Rain Gardens proposed for the park will form a key part of the sites natural environment. They will be part of an overall integrated water strategy and will act as the towns stormwater catchment filtration system. The Rain Gardens will be made up of five separate plant community typologies, each representing a plant community found in one of the five major 'Icon Sites' found along the Murray River.
- Existing endangered River Red Gum's are to be retained within the site and along the rivers edge. Additional River Red Gum trees are to be added to help re-establish this community's presence within the parkland. In addition, new lawn areas will be minimised and a range of endemic plant species utilised to assist in promoting the return of native fauna and increasing biodiversity.

5.4.6 Landscape Masterplan



DEAKIN PLAZA

Nestled between the two wings of the Cultural Centre this generous plaza space heralds the cultural significance of Deakin Ave and the importance of the riverfront arrival node. A bridge crosses the railway line to meet a new stair/lift that provides access to both the Cultural Centre and Deakin Plaza.

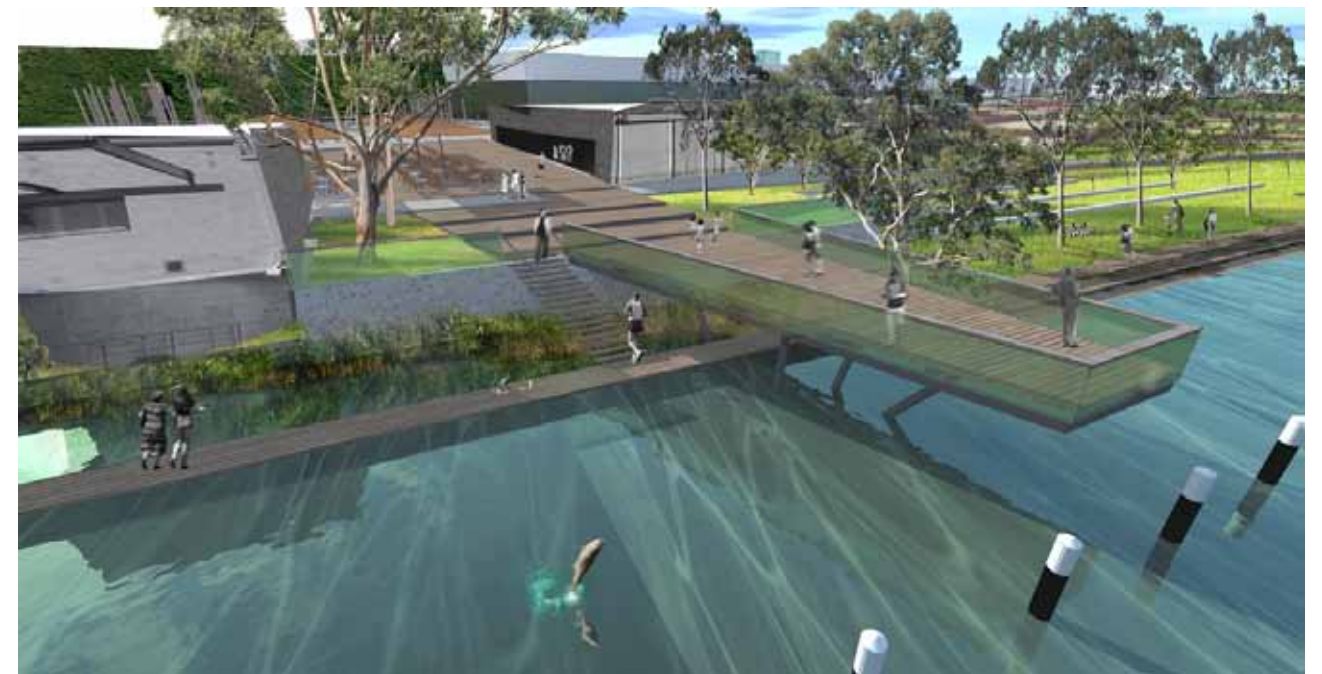
A landscaped wall provides a backdrop to the open plaza space which has interpretive opportunities within a combination of soft and hard landscaping treatments. To the north the plaza opens up to the park spaces with an easy transition to the riverfront.



DEAKIN PLAZA LOOKOUT

This modern feature concludes the Deakin Avenue cultural spine. The lookout will become a feature of the site with its sculptural form. Locals and visitors utilise it to view the river activity and surrounding landscape.

The forecourt to the lookout is the a public seating area linked to a café. The Rowing Club and Pump House buildings flank Deakin Plaza which are proposed to be upgraded and maintained as functional, adaptivity reused buildings.



RIVERPARK AND PUBLIC OPEN SPACE

At the junction of Langtree Promenade and the realigned Hugh King Drive public walkways and adjacent park space offer clear views to the riverfront.

These main pedestrian thoroughfares are fully accessible to the public and will be well lit at night to ensure for safety of use. Areas remain accessible to vehicular traffic as needed to service the park.



BOARDWALKS, PATHS AND GRASSED AMPHITHEATRE

Langtree Promenade culminates in a boardwalk with the existing Rowing Club, Deakin Lookout and the proposed grassed amphitheatre located at the riverfront beyond.

Boating traffic including houseboats and paddle steamers have improved mooring facilities and direct access to the park and CBD beyond.



LANGTREE PROMENADE

From the top of Langtree Promenade at the junction of Seventh Street the landscape passes under a new railway bridge to the parkland and riverfront.



LANGTREE PROMENADE TERRACED STEPS

Langtree Promenade terraces up toward the CBD and is flanked by commercial, retail and car park spaces. Soft landscaping is introduced to provide a balance to the hardstand areas and to shade the public spaces.

Public seating has been incorporated to take advantage of the riverfront view and is supported by small retail zones within the terraced Promenade.



LANGTREE PLAZA

Langtree Plaza is situated between the realigned Hugh King Drive and the base of the stairs descending under the rail bridge from the CBD and is flanked by commercial retail space on both sides to activate the area.

Given its size a range of community activities could be supported offering views and a direct connection to the riverfront.



PINE AVENUE RAIL UNDERPASS

The Pine Avenue rail underpass provides a fourth connection point between Seventh Street and the riverfront within the Central Precincts area. This connection would provide the residential areas (existing and proposed) with a direct and safe pedestrian access underneath the railway line.



RIVERPARK AERIAL



CENTRAL PRECINCTS AERIAL



5.5 Sustainability Design

The achievement of sustainable development requires substantial change from the conventional approach to both development and occupation. It will require commitment from Mildura Rural City Council and other authorities and stakeholders to be successful.

Underpinning the sustainable development approach is the establishment of an entity responsible for oversight of the development and ultimately management of the Mildura Riverfront Precincts; a multidisciplinary team of sustainability-focussed design and development professionals drawn from the Mildura community, and further abroad if necessary skills are not available locally.

The role of this entity will be to:

- Provide leadership and innovation and seek funding grants to assist in the implementation of sustainability initiatives;
- Work with proponents and end users of specific developments from the earliest possible stage to encourage sustainability objectives and considerations to be incorporated;
- Maintain on-going involvement in the development and management of the site to facilitate long term achievement of sustainability outcomes, including management of the parklands;
- Perform an advisory role to Council; and
- Provide a forum for inter-disciplinary knowledge transfer.

The following sections provide a sustainability action plan for the future development proposed for the Central Precincts, building on proposals developed in the preparation of the original Masterplan and responding to emerging issues such as climate change and the urgent need to protect and enhance the Murray River.

The sustainability Action Plan identifies a range of sustainability measures for the future development of the site across four key performance measures:

- Environment;
- Natural Resources;
- Societal;
- Economic.

5.5.1 Environment

ECOLOGY

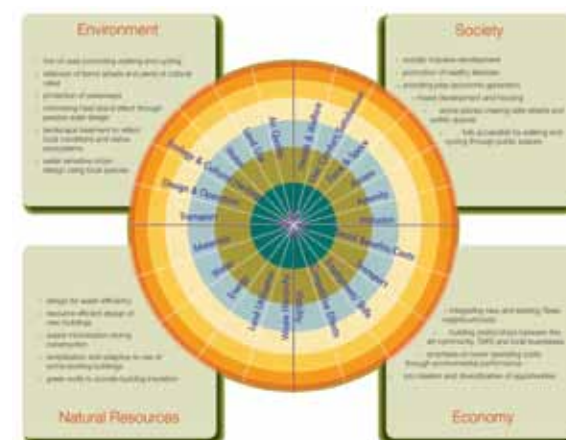
- Remediation of the riverbank and parkland with 100% native and endemic species;
- Construction of wharfs/boardwalks to protect riverbank from erosion;
- Increase in parkland area and vegetation cover against existing condition and reduction in irrigated lawn areas;
- Retention of River Redgums;
- Stormwater detention and treatment system to improve water quality and thereby enhance the aquatic environment of the river.

WATER QUALITY

- Stormwater detention and treatment system to improve water quality;
- Reduced hard surfaced areas.

MANAGEMENT

- Regulatory compliance to be exceeded. Best practice sustainability outcomes to be the goal.



5.5.2 Natural Resources

LAND USE

- Fill is only to leave the site where beneficial reuse is guaranteed;
- Minimal additional development within the floodplain.

WATER USE AND TREATMENT

- Water efficient fixtures and fittings to be used and drought resilient native landscaping species;
- Black water treatment and reuse for non-potable purposes in buildings;
- Rainwater harvesting and reuse for non-potable purposes in buildings;
- Stormwater harvesting of the urban catchment with on-site treatment via gross pollutant traps, constructed wetlands, bioswales and filtration areas along with detention and reuse;
- Water sensitive urban design including reduced hard surfaces;
- Flood and drought tolerant landscape species;
- Investigation into potential expansion of recycled water network in Mildura proposed;

- Overall water strategy to be developed, incorporating best practice water management education initiatives.

ENERGY AND GREENHOUSE GAS EMISSIONS

- Building envelopes orientated to promote energy efficiency;
- Opportunities for use of ground source heat pumps and thermal mass of ground to stabilise temperatures in buildings and reduce energy demand;
- Solar photovoltaic cells, solar hot water and solar powered street lighting to contribute renewable energy;
- Other opportunities to be investigated such as small scale hydroelectric power off the weir, small scale wind power and cogeneration;
- Energy efficiency standards to be applied (e.g. greenstar™, LEED etc);
- Reduced law areas to cut down on requirement for mowing;
- Increased landscaping contributing to carbon sequestration;



- Museum to be earth covered, providing thermal mass;
- Energy and Carbon Strategy to be developed for the site.

RESOURCE RECOVERY

- Reuse of existing buildings and materials;
- Green and organic waste to be collected as feedstock for composting for use in landscaping and community garden;
- Recycling bins to be provided in public areas;
- On-site separation of recyclables to be maximised within buildings;
- Construction waste recycling target of 60% by mass;
- Waste Strategy to be developed for the site.

MATERIALS

- Increased adaptability and robustness of buildings due to smaller blocks and building sizes. Design for longevity;
- Use of local and natural materials;
- Building designs to be materials efficient including use of recycled materials, reduced use of materials

through modular design and prefabrication, reduced services requirements and minimal interior finishes;

- Buildings to be designed for disassembly and recyclability at end of life;
- Performance standards for materials to be established;
- Transport materials by rail where possible.

5.5.3 Societal

COMMUNITY

- Cultural Centre to be established incorporating Aboriginal Cultural Centre, non-indigenous cultural exhibitions and a Murray River research centre to host displays, community art and community activities as well as linking with education programs, schools and universities.
- Maintenance of important existing community facilities including Jaycee Park and the Rowing Club as well as provision for enhanced open spaces reflecting local history and meeting community needs for passive recreation, entertainment and meeting places.
- Opportunities for public art to be incorporated.
- Foster ongoing community involvement in development, management and use of the site.

ACCESS AND TRANSPORT

- Connections with the surrounding community enhanced with pedestrian and cycling links, particularly links with the CBD and surrounding residential areas.

- Encourage walkable access to park with shaded streets
- Integration of links with the Chaffey trail as a historically significant route along the riverfront.
- Enhanced transport Interchange incorporating uses which will activate the space and improve safety. Provision for tourist bus parking.
- Construction of additional wharfs to enhance houseboat moorings and access.
- Improved wharfs for paddleboats incorporating tourist bus parking.
- Bicycle hire within the precinct.
- Retention of railway line for future tourism, freight and interstate travel.

HEALTH AND WELFARE

- Parkland to promote active lifestyles through walking and cycling links as well as swimming and passive recreation. Also linking with existing recreation and leisure opportunities for tennis, rowing, bowling, riverboat cruises and other sporting activities. Increased security and safety through environmental design including passive surveillance of parkland areas by mixed use zones.



- Reduce road areas and strong pedestrian treatments to reduce the impact of traffic.
- Provision of adequate accessible parking to provide easy access for the mobility impaired.
- Landscaping to provide shading and enhance the microclimate in response to climate change.
- Buildings to be designed for internal environmental quality, optimising natural daylighting and ventilation and responding to future increases in temperature associated with climate change.
- Reduced hard surfaces to minimise urban heat island effect.

FOOD

- Landscape to incorporate native bush foods
- Community gardens provided in close proximity to residential uses
- Education in permaculture principles.
- Farmers market and cellar door to supply fresh local produce.

HERITAGE

- Cultural Centre to celebrate Aboriginal culture and non-indigenous culture, including heritage features of the site and the surrounding region and its peoples.
- Aboriginal memorial wall to acknowledge the relationship between the Aboriginal people and ancestors and the River Murray.
- Landscape pattern reflects the agricultural character of the region as well as incorporating native foods and bush tucker.
- Naming of the site and site features to reflect outcomes of consultation with Aboriginal and non-indigenous community and drawing on community heritage.

AMENITY

- Optimise views up and down stream and the overall amenity of green spaces and public places throughout the site.

Housing:

- Housing to accommodate a mixed, diverse community. Housing Strategy to be developed.

5.5.4 Economic

TENURE

- Mixed tenure site, including Native Title, giving recognition to historical, community and future aspirations for land.

EMPLOYMENT

- Increased employment and economic development, particularly through enhanced tourism opportunities associated with the river (e.g. paddleboats and houseboats), the cultural and research centre, accommodation and convention centre and mixed commercial and retail development.

VIABILITY

- Funding security and staging being determined, including attracting Federal Government funding for Murray River projects.

INNOVATION

- Numerous opportunities for innovation including through the cultural and research centre, green building design, best practice water management and renewable energy. Further opportunities to be explored.

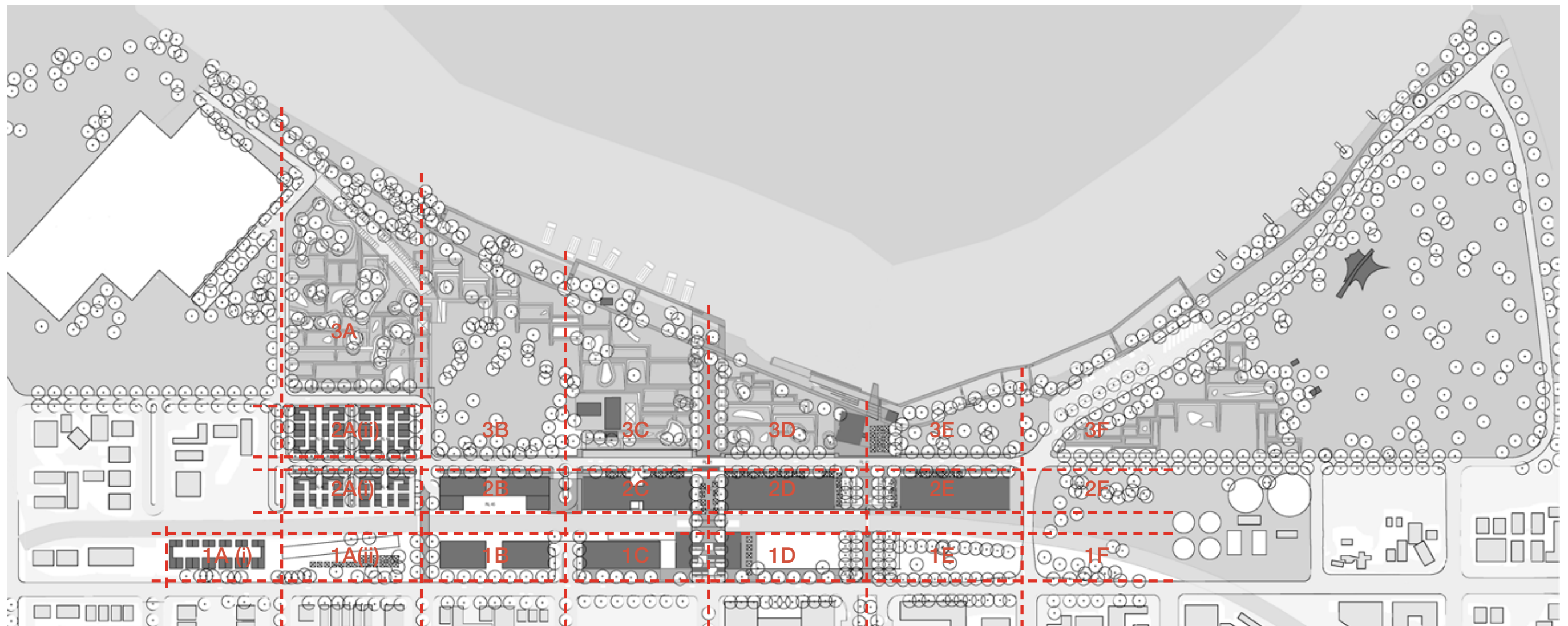
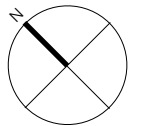


5.5.5 Key Recommendations



6.0 Developed Feasibility Design

The following diagram highlights the site referencing and should be read in conjunction with the table on the facing page.



6.1 Tabular Analysis of all Zones

	Residential - Low/Medium Density
	Residential - Medium/High Density
	Mixed Use - Residential/Commercial
	Accommodation/Conference/Retail
	Heritage Adaptive Reuse
	Adaptive Reuse
	Cultural Centre
	Transport Interchange/Commercial
	Retail
	Public Domain

Site	Description		Site Area (m²)	General Inclusions	Building Areas (m²)	Building Envelope	FSR	Zoning Option 1	Zoning Option 2	Zoning Option 3
1A (i)	Residential		4000	Option Medium Density (12, 2 Story Townhouses)	1400	2 Story Townhouses	0.35:1	R1Z	CDZ1	CDZ1
1A (ii)	Carriage Shed / Market Square		6700	Shelter Refurbishment Landscaping Amenities	1200 5400 100	Existing Single Story	0.2:1	PPRZ	CDZ1	CDZ1
1B	Staged Commercial / Residential		5100	Basement Car park Commercial / Residential Residential Option Low (24, 2-3 Bed Units) Residential Option High (32, 2-3 Bed Units)	2000 2000 4000 6000	Basement Car parking Ground Commercial / Residential Levels 2-3 Residential Levels 2-4 Residential	Low = 1.2:1 High = 1.6:1	MUZ	CDZ1	CDZ1
1C	Transport Interchange / Commercial		4800	Basement Parking Transport Interchange (station) Commercial Option Low Commercial Option High	3600 1000 3600 5400	Basement Car parking Ground Station Levels 2-3 Commercial Levels 2-4 Commercial	Low = 1.0:1 High = 1.3:1	MUZ	CDZ1	CDZ1
1D	Public Park / Langtree Underpass		6800	Underground Car park Café Langtree Underpass Landscaping	3200 500 1800 5000	Basement Car parking Single story	0.1:1	PPRZ	CDZ1	CDZ1
1E	Public Park / Deakin Bridge		7100	Landscaping Access Lane / Retaining Wall Ex. Memorial	6100 1000	n/a	n/a	PPRZ	CDZ1	CDZ1
1F	Public Park / future development Site			Landscaping	3000	n/a	n/a	MUZ	CDZ1	CDZ1
2A (i)	Residential		4500	Option Medium Density (16, 2 Story Townhouses) Option High Density (30, 2-3 Bed Units) Option High Density underground Car park	2500 5400 1600	2 Story Townhouses Level G-3 apartments Basement Parking	Med = 0.55:1 High = 1.2:1	R1Z	CDZ1	CDZ1
2A (ii)	Residential		5300	Option Medium Density (24, 2 Story Townhouses) Option High Density (48, 2-3 Bed Units) High Density underground car park	4000 6300 1500	2 Story Townhouses Level G-3 apartments Basement Parking	Med = 0.75:1 High = 1.2:1	R1Z	CDZ1	CDZ1
2B	Residential		3500	Option Medium Density (14, 2 Story Townhouses) Option High Density (32, 2-3 Bed Units) Option High Density underground car park	2200 6000 1700	2 Story Townhouses Level G-3 apartments Basement Parking	Med = 0.6:1 High = 1.7:1	MUZ	CDZ1	CDZ1
2C	Visitor Accommodation		3900	Basement Car park Retail Accommodation / Associated Functions Convention Centre	3400 400 8000 2800	Basement Parking Ground Levels G- 3 Level 3	2.8:1	MUZ	CDZ1	CDZ1
2D	Cultural Centre		5000	Display Spaces / Research / back of house Langtree Plaza Pedestrian Promenade	3000 1600 400	1 Level (grassed Roof)	0.6:1	PUZ	CDZ1	CDZ1
2E	Cultural Centre / Deakin Plaza		6900	Display Spaces / Research / back of house Deakin Plaza Basement Car parking Pedestrian Promenade	3000 3000 3000 400	1 Level (Grassed Roof) Basement Parking	0.4:1	PUZ	CDZ1	CDZ1
2F	Public Park / Skate Park			Landscaping	n/a	n/a	n/a	PPRZ	CDZ1	CDZ1
3A	Public Park			Landscaping	n/a	n/a	n/a	PPRZ	CDZ1	PPRZ
3B	Jaycee Park / Public Park			Landscaping Jaycee Park Boardwalk	n/a	n/a	n/a	PPRZ	CDZ1	PPRZ
3C	Public Park			Landscaping Boardwalk Existing Powerhouse	780	Existing single story	n/a	PPRZ	CDZ1	PPRZ
3D	Public Park			Landscaping	n/a	n/a	n/a	PPRZ	CDZ1	PPRZ
3E	Public Park			Landscaping Existing Rowing Club Existing Pumphouse	600	Ex. Single story	n/a	PPRZ	CDZ1	PPRZ
3F	Public Park			Landscaping	n/a	n/a	n/a	PPRZ	CDZ1	PPRZ

6.2 Residential Zones

The residential areas as highlighted on the adjoining drawings cover five 'development sites'. As outlined in the table on page 39 there are a number of development options for each residential site.

Site 1A (i): Adjoining Seventh Street and flanking existing residential development, medium density townhouse development consisting of 12 townhouses, associated yard and garaging is proposed.

Site 1A (ii): The adaptive reuse of the Carriage Shed into a publically accessible 'pocket park' with structure to become a shelter to paved BBQ and seating areas.

Alternative: Ability for space to be leased for public uses such as Sunday markets.

Alternative: Ability for space to be adaptively reused as a functional building for dedicated uses only such as 'special' office space, educational facility etc. Cultural facilities and residential are not considered suitable.

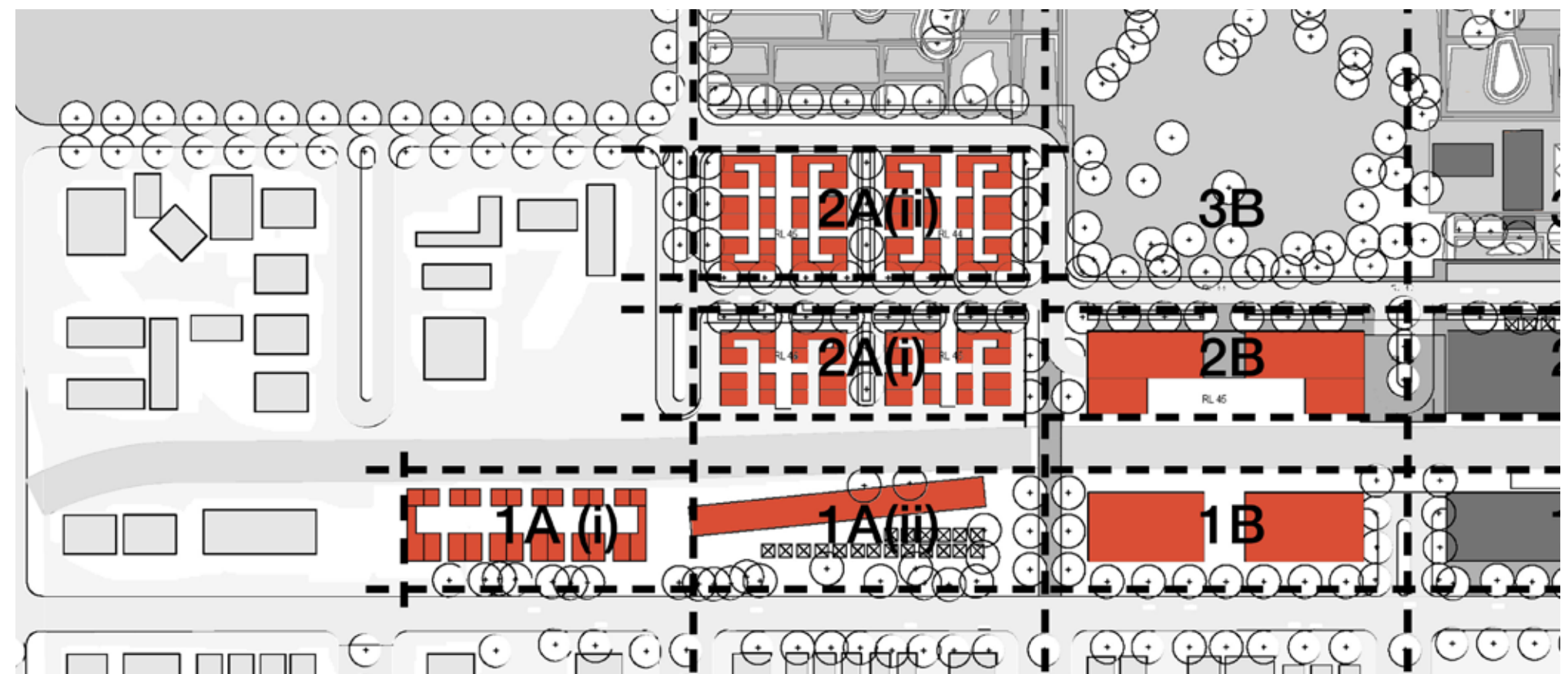
Site 1B: Currently occupied with a number of privately owned single lot housing, the outcome depicted on this site is a medium to long term outcome. A staged approach could be considered to provide a mixed use residential/commercial outcome with market demand likely to determine the mix. 24-32+ units/apartments can be considered for this site with balconies and basement car parking.

Site 2A (i + ii): Currently shown as 16 and 24 townhouses respectively, these residential development sites will sit comfortably adjacent existing residential development with park amenity. These sites can be developed independently of the rest of the Central Precincts given their proximity to existing road and services infrastructure.

Alternative: Larger scale unit development or mixture.

Site 2B: Medium-high density residential development with potential for up to 32 units/apartments at its highest density.

Alternative: Lower scale townhouses or mixture.



6.3 Commercial Zones

The residential areas as highlighted on the adjoining drawings cover five 'development sites'. As outlined in the table on page 39 there are a number of development options for each residential sites.

Site 1C: Transport Interchange provides ground floor functional spaces for transport and visitor information spaces. Allocations for on site bus drop-off areas and basement car parking. Commercial space above is shown at 2 levels of approx 1,800m² per level which is available for either dedicated or speculative end users. There is public lift accessibility between levels.

Alternative: Additional commercial floor.

Site 1D: Small commercial/retail facility linked to public car park, Langtree Promenade and park. Public lift for accessibility between levels.

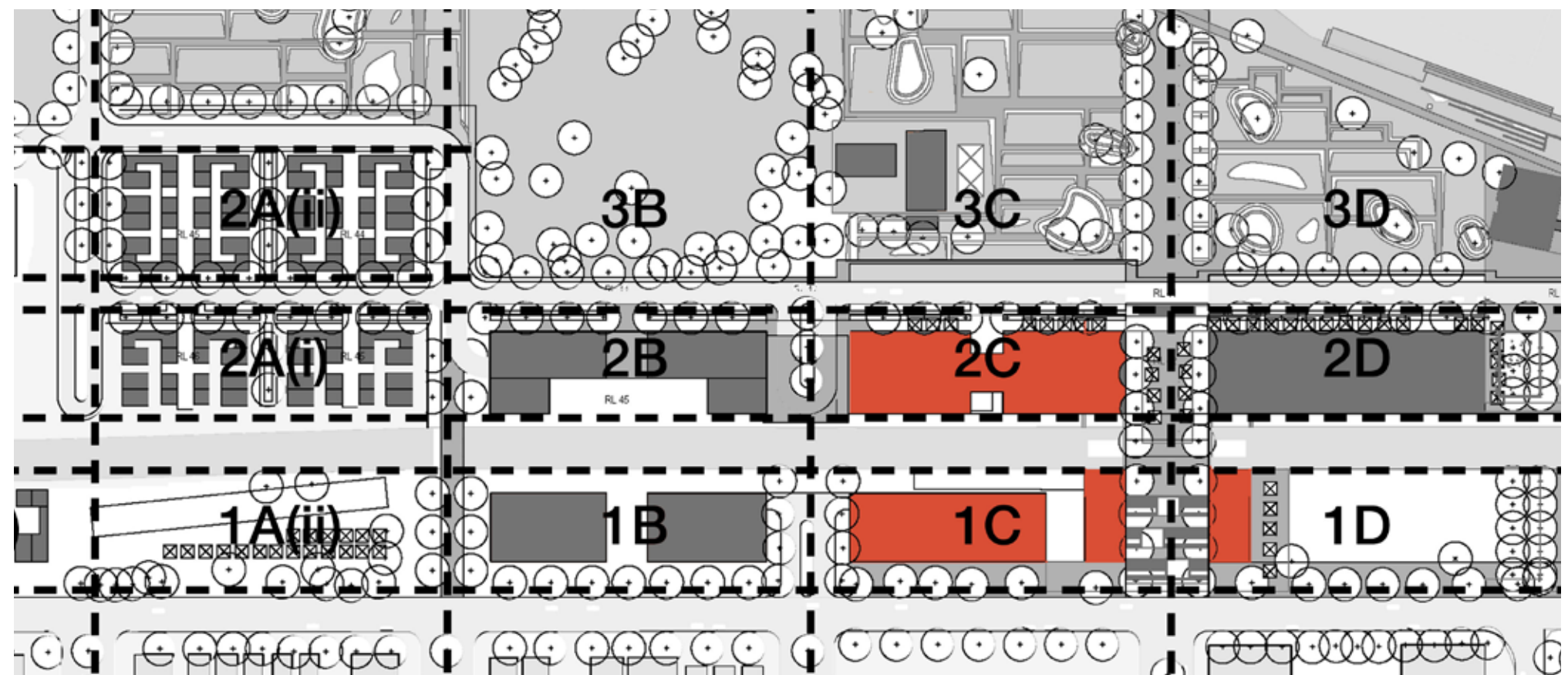
Site 2C: Hotel and Convention Centre is shown as a four storey structure with ground level (lower ground floor) dedicated to retail and hotel support services. Some car parking can exist on ground floor as well as basement parking underneath.

Given a cross fall in the site the hotel lobby can exist on the first floor (upper ground floor) with covered entry, restaurant(s) and some hotel suites available at the same level.

The next floor is dedicated to hotel suites with an opportunity for a dual key arrangement and/or serviced option for longer stay.

The upper level provides additional hotel suites which can be pitched as executive style. Also on the top floor is the convention centre with almost 3,000m² available to be developed all at once or in stages. The convention space can be custom design with no real limit on height/volume of the space and will have prime views of the park and river.

140-160 hotel suites are considered viable.

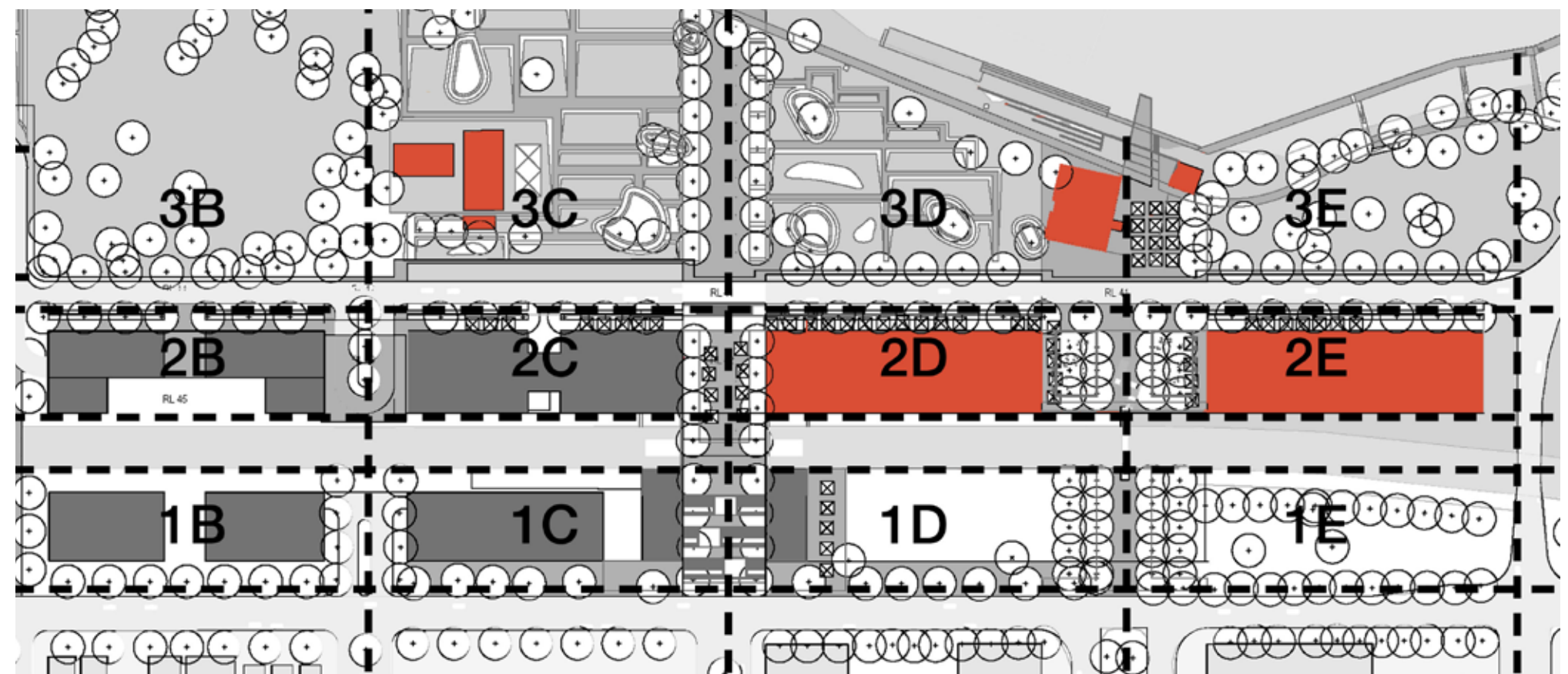


6.4 Cultural Zones

The cultural areas as highlighted on the adjoining drawings cover two 'development sites'. As outlined in the table on page 39 there is an opportunity to develop up to 6,000m² for cultural facilities in multiple stages.

The Cultural Centre built form is depicted at a single large storey/volume to provide ultimate flexibility within the space. The proposal for a green roof and the southern retaining wall against the rail line, the ultimate building design opportunity and ESD initiatives provide the framework for an exciting outcome.

Also highlighted are existing buildings within the park that have an existing cultural function. It is proposed to retain and enhance these existing facilities with the buildings rejuvenated as part of the overall Central Precincts development.



6.5 Open Space and Public Domain Zones

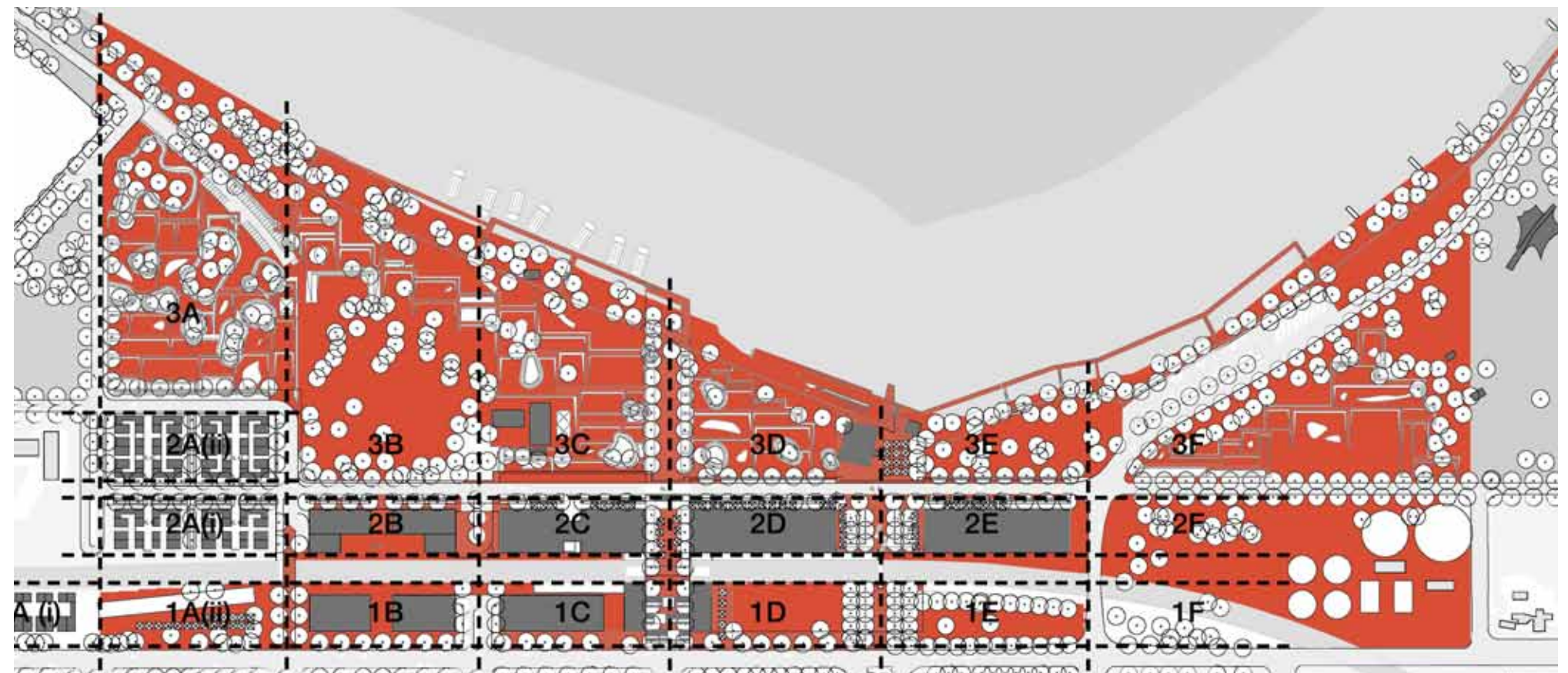
The open space and public domain areas as highlighted on the adjoining drawings sit adjacent and within all 'development sites'. As outlined in the table on page 39 there is an opportunity to develop various park spaces.

The park spaces are have many developed to provide a range of uses and attributes including:

- Cleaning 50% of CBD stormwater catchment with potential for future growth;
- Part of a wider sustainable initiative/message;
- Is a modern interpretation and extrusion of 2005 MRMP irrigation gardens/waterways;
- Is linked to the Indigenous and European cultural interpretive aspects of the Cultural Centre;
- Unique nationally significant tourist destination in its own right;
- Low maintenance (as opposed to traditional waterfront parks);
- Educational Benefits (Snowy Mountain Scheme / Australian Gardens etc);
- Strengthens visual character of red gums on foreshore.

To ensure the park is fully serviced for the community the following is a concise list of items for inclusion:

- Shelters, BBQ's, street furniture;
- Interactive play equipment;
- Lighting, signage;
- Public art and interpretive display;
- Boardwalks and jetties;
- Bridges and viewing platforms;
- Grassed amphitheatre;
- Various themed gardens;
- Pedestrian plazas;
- Amenities/toilets.



7.0 Project Implementation

The Central Precincts Masterplan can be delivered within the short, medium, and long term. The Masterplan provides a flexible framework for the ongoing evolution of the Central Precincts area, establishing it as a catalyst project for the Mildura region. Because of this inherent flexibility and the unknown nature of market forces and demand, the Masterplan is able to be delivered in a number of ways and should be seen as a 'living document' which is robust enough to respond to changing conditions. Ultimately, the vision is for a exemplar project for Victoria and Australia, and therefore it is essential that its process of delivery will require some flexibility.

It is expected that the implementation of the Central Precincts Masterplan will be developed incrementally over the next 10-15 years. The priority is to achieve the majority of the public benefit areas within 5 years.

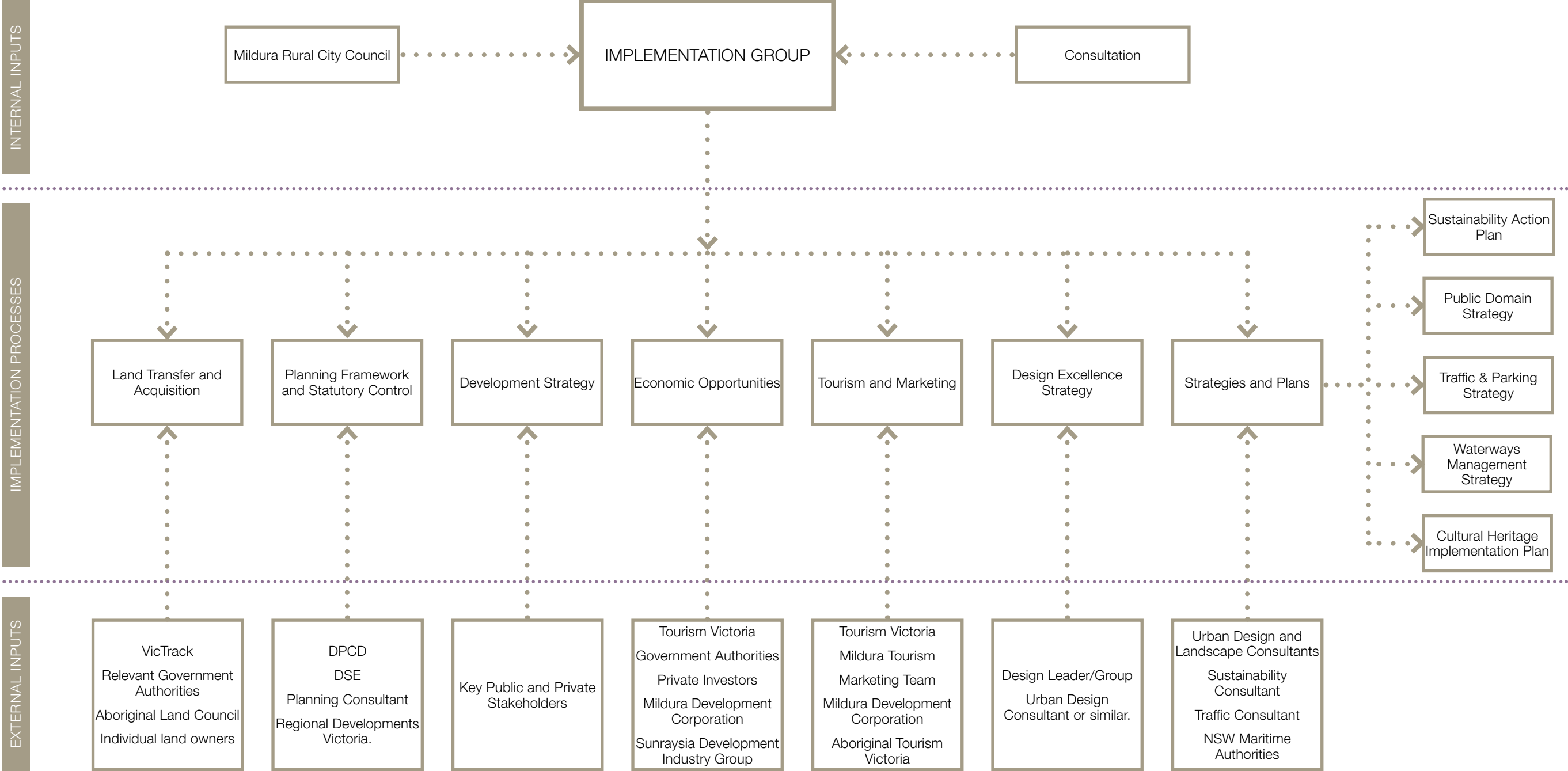
The diagram on the facing page illustrates the strategies to be undertaken and items to be resolved for the implementation of the Central Precincts Masterplan. The most urgent priority is the establishment of an 'Implementation Group' which will be responsible for ensuring all aspects of the Masterplan are executed correctly. The group will primarily consist of those organisations currently involved in the project steering and reference groups with other authorities, consultants, and community members included as required.

Issues and items to be resolved and organised by the Implementation Group include:

- Land Transfer and Acquisition
- Planning and Statutory Control
- Development Strategy
- Economic Opportunities
- Tourism and Marketing Actions
- Design Excellence Strategy
- Various Strategies and Plans

These key areas coupled with the design principles established by the Masterplan will form the basis for the implementation strategy for the Central Precincts development.

Project Implementation Strategy Diagram



8.0 Reference Documents

A series of relevant documents have been reviewed as part of the Central Precincts feasibility study. These documents include the following:

- Mildura Riverfront Masterplan (Mar 2005)
- Mildura CBD Plan (Nov 2007)
- Final Recreational Strategy 2008-2012 (nd)
- Sunraysia Drainage Strategy (nd)
- MRCC Public Open Space Strategy (Jan 2004)
- Final Greenhouse Action Plan (Jul 2007)
- Murray River Frontage Action Plan (Feb 2003)

These reports are considered appropriate background material and could be considered in conjunction with this EOI, in particular the two documents summarised on the facing page are of particular importance to the central precincts feasibility..



Image
Mildura riverfront.

8.1 Mildura Riverfront Masterplan (2005)

OVERVIEW

This document was prepared in 2005 by Darryl Jackson Pty Ltd and KLM Gerner Consulting Group for MRCC. The document produces a set of Masterplanning guidelines for the development of the riverfront area of Mildura.

The document discusses the history and context of Mildura and undertakes an assessment of the existing riverfront and its relationship to the city.

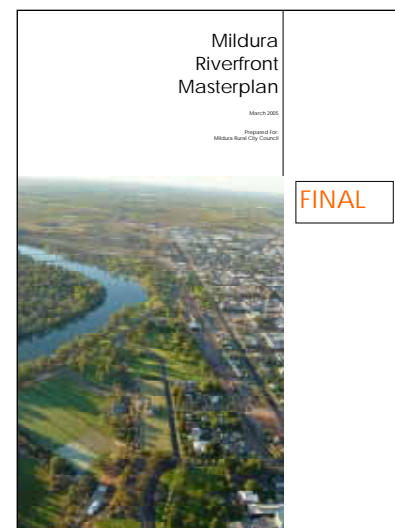
A series of aims, objectives, and visions are put forward for the Mildura riverfront which ultimately sets out the structure of five main precincts for redevelopment. Each precinct has been devised to establish its own unique character and focus urban design recommendations.

Identified key objectives include:

- A state significant precinct that is a destination in its own right;
- Mildura's potential as a city by the river;
- Express the richness of the heritage, environment, culture, leisure, entertainment;
- Mildura Wharf Waterfront – major focus (historic paddle steamers and public craft);
- Murray River key symbolic environmental, economic and social asset to township;
- 'Gateway' to outback;
- First Australians Centre unique to Australia and world;
- Vision for parkland - Adelaide's Torrens River Parkland and Melbourne's Botanical Gardens;
- Identifies sustainable development guidelines for the development of the riverfront precincts.

RELEVANCE

This document is the focus of the Mildura Murray Central Precincts Feasibility. A full audit of the Masterplan was undertaken to determine the potential opportunities and constraints.



8.2 Mildura CBD Plan

OVERVIEW

This document was prepared in 2007 for Mildura Rural City Council (MRCC). The report states that Mildura is experiencing rapid population growth and to manage this the CBD Plan has been established.

The plan aims to guide and change future land use, built form, access and public spaces in the Mildura CBD over a ten to fifteen year timeframe.

It identifies short term and long term actions that can be undertaken by Council, other organisations and stakeholders, so that the Mildura CBD achieve this vision.

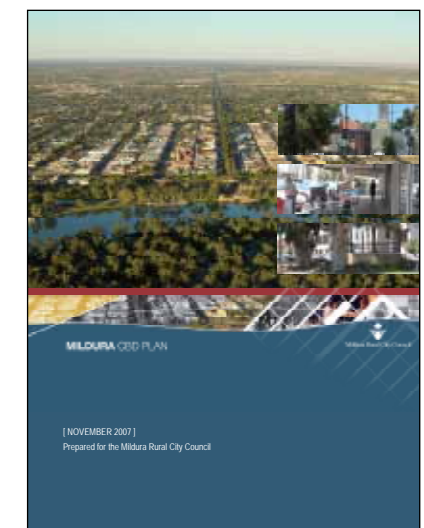
The history and context of the Mildura CBD are discussed, highlighting possible opportunities, constraints and visions for a range of different items within the city.

RELEVANCE

This document is of high importance to the Central Precincts Feasibility. It specifically states the importance of linking the CBD to the river, and it supports the implementation of the original 2005 Masterplan.

There is specific reference to *Precinct C - Seventh Street Riverfront Interface* and *Precinct D - Riverfront Masterplan Area*. The document states the potential for significant redevelopment along Seventh Street, which will compliment the Riverfront Masterplan and create a stronger link between the CBD and the Murray River.

For these precincts, the plan identifies a need for a streetscape Masterplan for Seventh Street and a CBD "edge park" prior to the implementation of the Riverfront Masterplan (2005).



References

- Agreements, Treaties and Negotiated Settlements (ATNS) (2005), "Mildura Marina Indigenous Land Use Agreement (ILUA)", accessed <http://www.atns.net.au/agreement.asp?EntityID=3118>
- Aboriginal Tourism Victoria (nd), accessed <http://www.aboriginaltourismvictoria.com.au/>.
- Commonwealth of Australia (2009), "Special call for stormwater harvesting and reuse projects".
- Context CM (2006), "Deakin Avenue, Mildura: Landscape Masterplan Final". Prepared for MRCC.
- Daryl Jackson & KLM Gerner Consulting Group (2005), "Mildura Riverfront Masterplan". Prepared for MRCC.
- David Lock Associates (1999), "Mildura Urban Design Framework".
- Department of Sustainability and Environment (2009), accessed <http://www.dse.vic.gov.au/dse/index.htm>.
- Department of Infrastructure et al (2002), "North West Freight Transport Strategy".
- GHD (2005), "Mildura Transport Plan for Long Term Regional Development". Commissioned by Mildura Airport Management Advisory Committee with the support of The Sunraysia Mallee Economic Development Board.
- Google Earth (2009), accessed <http://earth.google.com/>
- Landskape (2008), "Mildura Riverfront Performance Venue, 80-100 Cureton Avenue, Mildura: Cultural Heritage Management Plan".
- Mallee Catchment Management Authority (2003), "Murray River Frontage Action Plan".
- Maunsell Australia et al (2003), "Mildura Industrial Land Use Strategy". Prepared for MRCC.
- Maunsell Australia (2007), "Final Greenhouse Action Plan 2007-2012". Prepared for MRCC.
- Mildura Chamber of Commerce (2009), accessed <http://www.mildurachamber.com.au/>.
- Mildura Rural City Council (nd), "Strategic Financial Plan 2008-2013".
- Mildura Rural City Council (2009), accessed <http://www.mildura.vic.gov.au/>.
- Planisphere (2007), "Mildura CBD Plan". Prepared for MRCC.
- SGL Consulting Group (2004), "Mildura Rural City Council Public Open Space Strategy". Prepared for MRCC.
- Sinclair Knight Merz (2002), "Sunraysia Drainage Strategy". Prepared for MRCC
- Sykes Humphreys Consulting (nd), "Recreation Strategy 2008-2018". Prepared for MRCC.
- Tourism Victoria (2008), "Regional Tourism Action Plan 2009-2012".
- Tourism Victoria (nd), "Visions of Victoria", accessed <http://visionsofvictoria.com/>.
- VicTrack (nd), accessed <http://www.victrack.com.au/>.
- VicUrban (2009), accessed <http://www.vicurban.com>.
- Victorian State Government (2009), accessed <http://www.land.vic.gov.au>.

Acknowledgements

The Suters Team would like to thank and acknowledge the contribution of the Mildura community and the following groups and individuals:

Suters Design Team:

David Rose	Suters Architects
Michael McPherson	Suters Architects
Rob Polglase	Suters Architects
Dean Cotter	Suters Architects
Maarten Hollebrandse	Suters Architects
Katherine Daunt	Suters Architects

Adrian McGregor	mcgregor + partners
Georg Petzold	mcgregor + partners

Sarah Tasic	Arup
Georgia Vitale	Arup

Stephen Ngai	Page Kirkland
Zorica Sandwith	Page Kirkland

Ian Harris	Robert Bird Group
------------	-------------------

Craig Marler	ADW Johnson
--------------	-------------

Steffen Lehmann	s_Lab
-----------------	-------

Council Project Control Group (PCG):

Peter Douglas	MRCC
Rachael Attwood	MRCC
Allan Morffew	MRCC
Mark Jenkins	MRCC
Ray Lyons	MRCC
Julian Bowron	MRCC

Steering Group/Key Stakeholders:

Councillor Glenn Milne	MRCC
Councillor Nick Cavallo	MRCC
Gary Healy	MRCC
Peter Douglas	MRCC
Sarah Nickas	Department of Planning and Community Development
Les Trollope	DSE Public Lands
Nick Byrne	Tourism Victoria
Brendan Geary	V/Line
Craig Barras	Regional Development Victoria
Mike Blackburn	VicTrack

Project Reference Group:

Tim Aldridge	Collie and Tierney
Alan Cameron	Individual Member
Rob Ellis	Mildura Rowing Club
Brian Grogan	Sunraysia Development Industry Group
Adam Hobbs	Individual Member
Lyn McKenzie	Paddleboat Operator
Reg Arney	Mildura Lawn Tennis Club
Max Robinson	Irymple Rotary
Robert Mansell	Rivers and Riverboat Historical Society
Don Carazza	Sunraysia Area Consultative Committee
Susan Watts	Mildura Lawn Tennis Club
Anne Mansell	Mildura Development Corporation
Richard Morfaw	Mildura City Traders
Jeremy Seward	Mildura Chambers of Commerce
Rod Trowbridge	Mildura Tourism

Lord Mayor and Councillors:

Cr Glenn Milne Mayor	MRCC
Cr Eckel	MRCC
Cr Nicholls	MRCC
Cr Arnold	MRCC
Martin Hawson	GMCC
Garry Healy	GMAD
Phil Pearce (CEO)	MRCC
Mieka Symes (Comms Officer)	MRCC
Cheryl Wood	GMCS
Cr Cavallo	MRCC
Cr Harris	MRCC
Cr Hilton-Wood	MRCC
Cr Thorburn	MRCC
Cr Knight	MRCC