

Mildura South Strategic Framework Plan

A Development Plan for the South West of Mildura

October 2007
Final Report



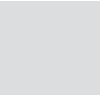
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ii Executive Summary

The Mildura Irymple Residential Land Strategy (2003) projected that their population of Mildura would increase by 34,750 between 2003 and 2031, an annual average population growth rate of almost 2%. This study also identified the Mildura South area as one of the three areas this development should occur within.

This document has been prepared to articulate a vision for the sustainable development of this area. It proposes a Strategic Framework Plan that will enable the town to respond to the challenges posed by of a rapidly changing society and the imperatives of achieving greater sustainability. The vision is underpinned by a belief that the only reason a significant coordinating plan, such as this one, is justified is if it can be demonstrated to achieve these goals and so enable the town to continue to support the wellbeing of the people who live there. This view accords with the intent of the State Planning Provisions Framework, which requires planning to “encompass and integrate relevant environmental, social and economic factors. It is directed towards the interests of sustainable development for the benefit of present and future generations, on the basis of relevant policy and legislation”. This view is supported by recent VCAT decisions such as *Jocelyn Meadows Pty Ltd versus Casey CC* which states that;

“The purpose of strategic or structure planning is to counter short term outcomes by substituting a longer term view where this is in the broad interests of the community and in the interests of sustainable development for the benefit of present and future generations”.

Realising this potential requires the highest standard of design. The concept outlined in this document demonstrates how that potential can be realised and several competing objectives can be reconciled in the design to ensure the resulting environment represents the highest level of sustainable design.

The study is based on a methodology that firstly seeks to understand the challenge from many different perspectives. These perspectives included the hopes and concerns of the community, the strategic agendas of council and other stakeholders as well as insights from a number of professional perspectives, namely economics, planning, transport and urban design. These perspectives were used to generate a series of “good design benchmarks” that define the key objectives of the study. This in turn was used to define a vision for development that demonstrably reconciled the issues and met the benchmarks. This was tested through consultation and in workshop sessions with the community, council and other stakeholders. After consideration of the consequent submissions the vision was amended and refined into this document.

Key aspects of the study are;

The concept identifies design standards for streets and open spaces that ensure they are safe, attractive, comfortable places that facilitate walking, cycling and social interaction whilst ensuring adequate standards of vehicular access. The open spaces hierarchy proposed reflects the requirements of Clause 56 and seeks to ensure that the residents of the new community will have access to a wide range of high quality settings to play, exercise, rest, experience nature and generally support their health. These open spaces will be edged by the fronts of dwellings, making the open space safer and enhancing the amenity of the dwellings.

The concept recognizes a north-south road alignment (the best for solar access) will not be possible because of existing lots and roads. The concept seeks to encourage north-south streets where possible, proposes a facilitation service to encourage coordinated development and lot consolidation and introduces guidelines that ensure lots are of an adequate size to facilitate houses that have their long side facing north.

Design guidelines are also proposed to ensure that the development of the lots occurs in a way that facilitates sustainable patterns of consumption, achieves a high standard of amenity and ensures the adjoining streets and open spaces are safe and pleasant places to occupy.

The plan proposes two centres adjacent to Sixteenth Street to meet the needs of the local community, which will consist of the incoming residents of the study area and the area immediately to the north. The centres will reconcile a wide range of complementary functions, providing not just shops but also community, health and civic uses, recreational and entertainment functions. These centres will also accommodate housing and will have at their heart an area of open space that will be designed to create a high amenity and attractive space that can be shared by all the community. These village greens will provide a setting within which a wide range of local needs can be met, for play, socialisation, community gatherings and will contribute significantly to the identity of the neighbourhood. Reconciling these diverse uses will require an integrated approach to planning and design. To this end, the study proposes the introduction of a suitable zone to facilitate the mixed use requirements of these two centres and the incorporation of a Development Plan Overlay into the planning scheme to ensure each component of the centre contributes to the effective functioning of the whole centre.

Public transport, walking and cycling are promoted by clustering development around these high amenity neighbourhood focal points or village greens. These are located along attractively landscaped linear “greenway” that connect these neighbourhood centres with a school, housing clusters, health facilities, the proposed regional

open space and sports facilities. These will place concentrations of people along potential bus routes and ensure that cycle paths and footpaths conveniently and attractively link key destinations.

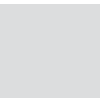
The concept applies principals of Water Sensitive Urban Design and will seek to ensure that storm water leaving the site is not harmful to Lake Hawthorn, the receiving water body. The study also seeks to ensure that the proposed high standard of landscaping has the best possible chance of thriving without mechanical irrigation. This is achieved by using predominantly indigenous planting and effective use of natural drainage.

The plan identifies three options (of which one is preferable) for Deakin Avenue, both of which seek to express the civic function of the road and recognise its role as a gateway to the city and the area. One option extends the dual carriageway through the area. This will offer consistency, emphasise its role as a highway and facilitate the provision of a grand landscape but will make it less likely that buildings will be able to front onto the highway. It is also less convenient and raises safety concerns. Option two emphasises the amenity of the Avenue environment, retaining an unseparated highway and installing a slip road to ensure buildings can front towards the highway and safe, convenient local movement is facilitated. However this differs from established expectations and may be seen by some as compromising the fundamental design vision for the city. Option three

combines elements of both options 1 and 2 and is the consultant's preferred option. All options have their advantages and disadvantages and it is the consultations' recommendation that Council assess what their priorities are; prioritising streetscape, traffic or a balance of both.

The plan also describes the other elements of additional work that need to occur to realise the potential embodied in this plan.

Finally, the plan identifies the elements of the design components that are "non negotiable" and are essential if the development is to achieve its objectives.



1 Introduction

This report documents the findings of the Mildura South Strategic Framework plan study (refer Figure 1). The report has been prepared by the consultant team consisting of David Lock Associates, Applied Development Research, PBAI Australia and GHD with and on behalf of Mildura Rural City Council (MRCC).

1.1 Background to the study

The project has undertaken in order to implement the findings of the Mildura Irymple Residential Land Strategy prepared by Maunsell in 2003 and subsequent Planning Scheme Amendment C28.

The strategy provides a framework for residential development in Mildura to the year 2030.

The key findings from this strategic relating to Mildura are as follows:

- Total estimated population for MRCC at 2031 is approximately 86,000
- Net population increase (2003-2031) is approximately 34,750
- Annual average population growth rate is approximately 1.9%

The strategy suggests that residential development should be focused in three areas, one of which is the subject area.

This study was commissioned in order to ensure that the growth envisaged in the 2003 study will be accommodated in a way that reflects Councils commitment to achieve the highest standards of design, planning and sustainability.



2 Philosophy

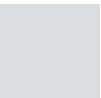
This study reflects the belief that the role of urban design is to create, as far as possible, developments that support the wellbeing of the people that experience them. This is achieved by creating environments that provide people with the qualities, experiences and circumstances that offer them a wide range of opportunity and so offer the best chance of enjoying a good quality of life and fulfilling their potential. We believe in order to do this that we have a responsibility to recognise how people use the space around them and give due consideration to their interpretations of their surroundings. Furthermore we have a responsibility to direct our professional insight into addressing this agenda in a way that is ecological, socially and economically responsible, not just to the people of the study area but the wider Mildura community.

This study is being undertaken from the philosophical perspective of subsidiarity, an approach that suggests that needs should always be met at the most local level realistically possible. This enables people to meet their needs with minimal opportunity cost and maximises the potential of being able to get to where they want on foot or by bicycle.

The study will seek to support the wellbeing of all those that will live in the area, visit it or pass through it by;

- Considering the social, ecological and environmental implications of our design
- Considering how the plan can contribute to the liveability of the area for more than just the incoming residents

- Introducing land uses into the area that ensure people can meet as many of their needs locally, based on an understanding of what is economically realistic
- Distributing land-uses in such a way as they minimise conflicts between land uses and ensure people can make the journeys they need to in a way that is sustainable, healthy, social and in an attractive interesting and legible environment.
- Providing the opportunities and qualities in the area to inspire and enthrall and ensure the incoming community can occupy surroundings within which they feel safe and that they are proud of.
- Making provision for measures to help ensure no one land-owner can disadvantage his or her neighbours by inappropriate development or diminish the potential of the city to meet its strategic planning objectives. In this way the plan aims to reconcile strategic considerations with individual's rights. In other words the plan seeks to optimise development, rather maximise it or minimise it
- Ensuring the plan is based on understanding the social landscape, the values, hopes and concerns of the existing community as they relate to the area as well as the physical landscape
- Facilitating the development of a sense of community by providing a neighbourhood(s) with an identifiable centre and edge.



3 Methodology



The project had three broad phases;

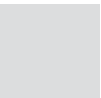
Firstly,

Achieving a shared understanding of the issues that influenced the design. This involved ;

- Documenting the objectives of the study so the project team had a benchmark against which to assess emerging designs and know what to aim for
- Identifying the challenges these objectives raised for the development from a number of perspectives
- Understanding the physical attributes of the study area
- Understanding its genus loci or identity
- Understanding the hopes and concerns of the community so they could be considered in setting the design agenda

Secondly, this design agenda was used to create a 'vision' for development that articulated how these challenges were to be met. This was then tested with stakeholders and the community.

Finally this allowed the changes to be made to the 'vision' to articulate a final Strategic Framework Plan documented in this report.



This section describes the project team's analysis of the study area and seeks to outline the issues that have informed the preparation of the strategic framework plan. It addresses;

- Physical environmental,
- Planning,
- Urban and landscape,
- Transport,
- Economic and
- Engineering issues.

Within each of these disciplines the report addresses the existing issues, opportunities, constraints and trends that may influence the area in the future.

4.1 Analysis

Site description

The study area or site is located south west of Mildura between the current residential areas and the Mildura Airport and is approximately 100 acres in size. The site is bisected by Deakin Avenue and is bounded by Riverside Avenue to the west, Sixteenth Street to the north, mid block between Etiwanda and Benetook Avenues to the east and I block depth north in Seventeenth Street to the south. The lot layout reflects the original land subdivision for the area consisting of 10 acre (Chaffey subdivision pattern) blocks with a grid road layout on a 45 degree angle to north. Many of the 10 acre blocks contain an existing dwelling which may already have been excised from the original lot.

There is a variety of existing dwellings on the site, ranging from original farms houses to more recent rural residential style homes.

The current residential development directly to the north of the site is characterised by the sub-division of individual 10 acre lots with variable regard to access through to neighbouring subdivisions. This form of development creates large cul-de-sacs and isolates residents from neighbouring developments. The provision of public open space only accords with the minimal standards and has resulted in the provision of small pocket parks and no larger active multi purpose regional park facilities.

The existing Mildura South primary school and nearby kindergarten are at capacity with the kindergarten having a two year waiting list.

Lower Murray Water (LMW) and First Mildura Irrigation Trust (FMIT) both have infrastructure servicing the site.

First Mildura Irrigation Trust (FMIT) owns a number of conjoined 10 acre lots within the site.

The landscape is highly modified, with much of the site presently covered in grapevines or other crops. The trees on the site are nearly exclusively along property boundaries or around the existing dwellings.

Based on a residential density of 3.5 lots per acre, an occupied private dwelling density of 2.6 persons and a residential dwelling vacancy factor of 7.4% the study area has an indicative population of 8,400 persons.

4.2 Planning Issues

Clause 21.01 of the Mildura planning scheme

Residential Land Supply

To accommodate the 2030 growth projections it is estimated that an additional 500 dwellings per annum will be built throughout the municipality. It is anticipated that approximately 85% of these new dwellings will be constructed in the existing and expanded urban areas of Mildura, Mildura South and Irymple. While the townships of Irymple,

Merbein, Red Cliffs and Ouyen appear to have the necessary pool of zoned land to accommodate their medium to long term future growth projections, an additional 395 ha of land in and around Mildura and Mildura South will be required to be rezoned and developed for residential purposes to accommodate these forecasts.

Residential Land Staging

To encourage the orderly and timely release of land Council believes it is necessary that at least one, if not two, additional development fronts be made available in the short term. This will require the provision of adequate stormwater infrastructure at Irymple, Mildura and Mildura South. Until such infrastructure works are completed, development opportunities within these key growth areas of the municipality will be constrained. This is to be contrasted with Council's previous policy of allowing drainage basins on a site-by-site basis. Due to the cost of such infrastructure provision (which is borne up-front by Council) it is critical that the future development and rezoning of residential land occurs in a staged and coordinated manner. It is also imperative that Council recoup its up-front capital outlay in a timely manner so that it can continue to fund the roll out of such infrastructure.

Clause 21.03 of the Mildura planning scheme

Key sections of the clause which relate to the site are shown as follows.

In the year 2030

Settlement and Housing

- Mildura Rural City will have a population of approximately 86,000 people.
- The major concentration of population in the region will be at Mildura, Mildura South and Irymple.
- The municipality's townships will be clearly defined.
- The townships will be maximising the use of infrastructure and services in a staged and orderly manner avoiding out of sequence development and avoiding development in environmentally sensitive or prime agricultural areas.
- Major road entrances to each of these townships will be well designed and landscaped and will reflect the character and charm of these communities.
- Residents will be living in a variety of housing styles and environments. They will range from attractive and consolidated medium density clusters in the major townships, to rural living in low density allotments in clearly defined rural settings that are in harmony with the environment and that are not inhibiting the productivity of agricultural and horticulture activities
- Deakin Avenue will be Mildura's main boulevard providing residents and visitors a grand entrance to and from the City. All development and use along its route will be sensitive and enhance its visual amenity.
- Residents throughout the entire municipality will have access to affordable essential services and facilities and be well served by a range of community infrastructure.

Environment

- The natural resources of the municipality and surrounding region will be protected and maintained to provide a diversity of species and development that is ecologically sustainable.
- Land and water systems will be managed, meeting the community's needs and expectations.
- Salinity and nutrients levels in the municipality's water system will be at their lowest concentration in 40 years.
- Remnant vegetation and habitat on both private and public land will be preserved and enhanced.
- Environmental pest plants, particularly boxthorn, boneseed, cactus, bridal creeper and horehound will be controlled
- Pest animals, particularly rabbits, foxes, feral pigs and feral goats will be controlled.
- Public land in the municipality and surrounding region will be recognised, protected, and promoted for its significant environmental, cultural and economic value.
- The history and culture of the municipality will be well preserved and clearly evident, contributing to the charm and attractiveness of the Rural City.

Economic Development

- Tourism visitations will be at their highest level and visitors will be enjoying a wide range of leisure activities, both passive and active, throughout the entire municipality.
- Agricultural and horticultural production will be the foundation of the municipality's strong and prosperous economy and will be uninhibited by urban encroachment.
- Retail activities throughout Mildura will be sufficient to serve the needs of its residents and visitors.
- Mildura CBD will be the primary activity centre in the region providing a wide range of retail, commercial, financial, community service, recreation and entertainment opportunities for residents in a wide catchment, for tourists and other visitors.
- The Mildura Centre Plaza Precinct will be developed as a fully integrated sub-regional centre which complements the function of the Mildura CBD.
- The Fifteenth Street Precinct will have consolidated and expanded along Benetook Avenue (between Fourteenth and Fifteenth Streets) and will be functioning as the major regional concentration of bulky goods and other forms of peripheral sales retailing in the region.
- Convenience centres, including town centres, neighbourhood centres and local shops, will serve an important function in providing limited retail facilities to residents.

Infrastructure

- Mildura Airport will be one of the country's main regional passenger and freight centres.
- Residents and visitors will be utilising a comprehensive mix of safe and efficient transport services to travel within and to the municipality.
- Benetook Avenue will have established its role as the major heavy vehicle bypass route around the township of Mildura.

Clause 56

Of critical importance to the planning and development of Mildura South is Clause 56 which was revamped in September of 2006 to incorporate sustainable development principles into the planning of new subdivisions. The purpose of Clause 56 as stated in the Planning Scheme is 'to create liveable and sustainable neighbourhoods and urban places with character and identity'. It introduces a series of new objectives and standards in a number of categories into the planning process to ensure different aspects of development support the long term wellbeing of the incoming community. Provisions in this clause relate to:

- Liveable and Sustainable Communities
- Lot Design
- Urban Landscape
- Access and Mobility Management
- Integrated Water Management
- Site Management
- Utilities

Figure 2 Zones

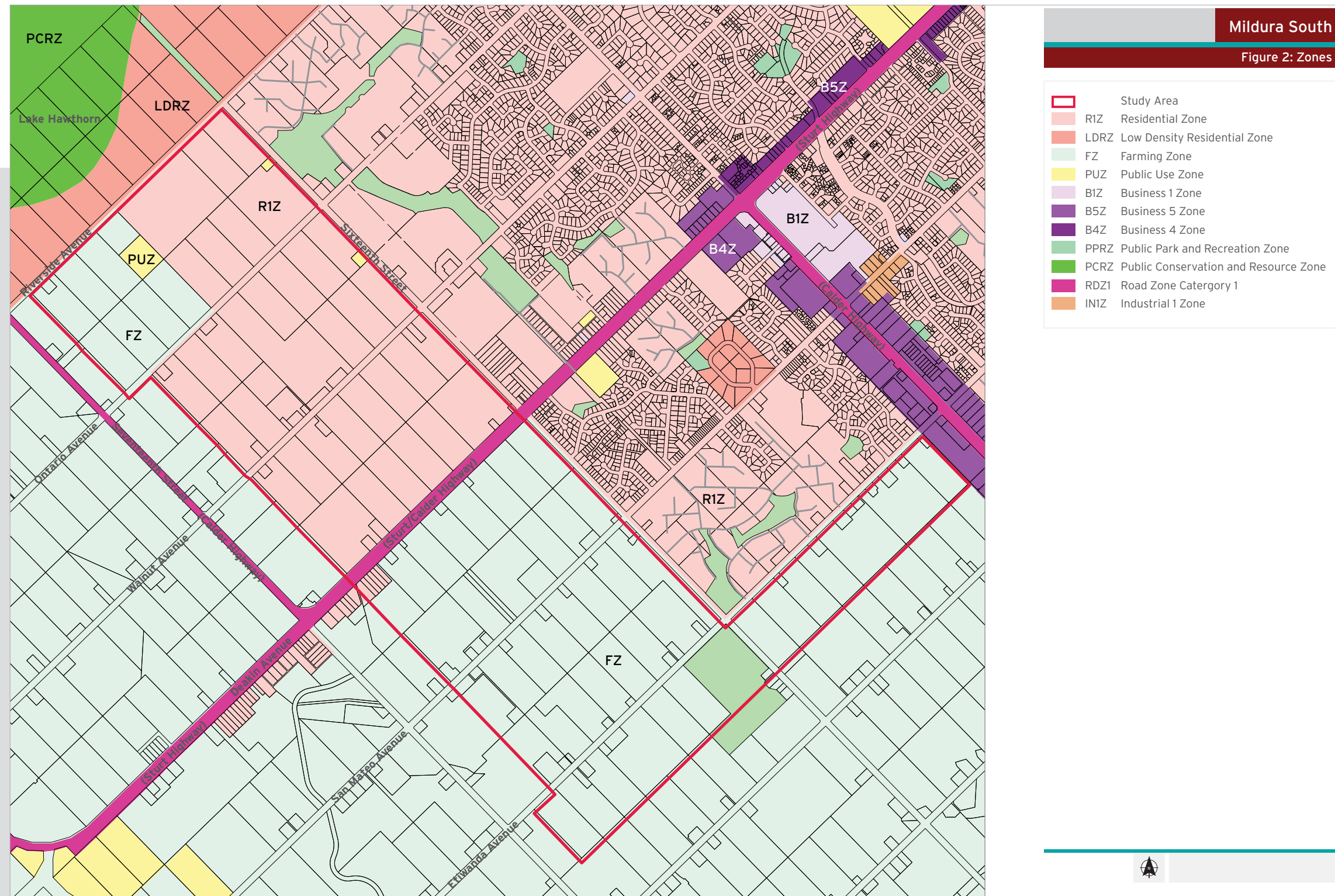


Figure 3 Salinity Management Overlay (SMO)

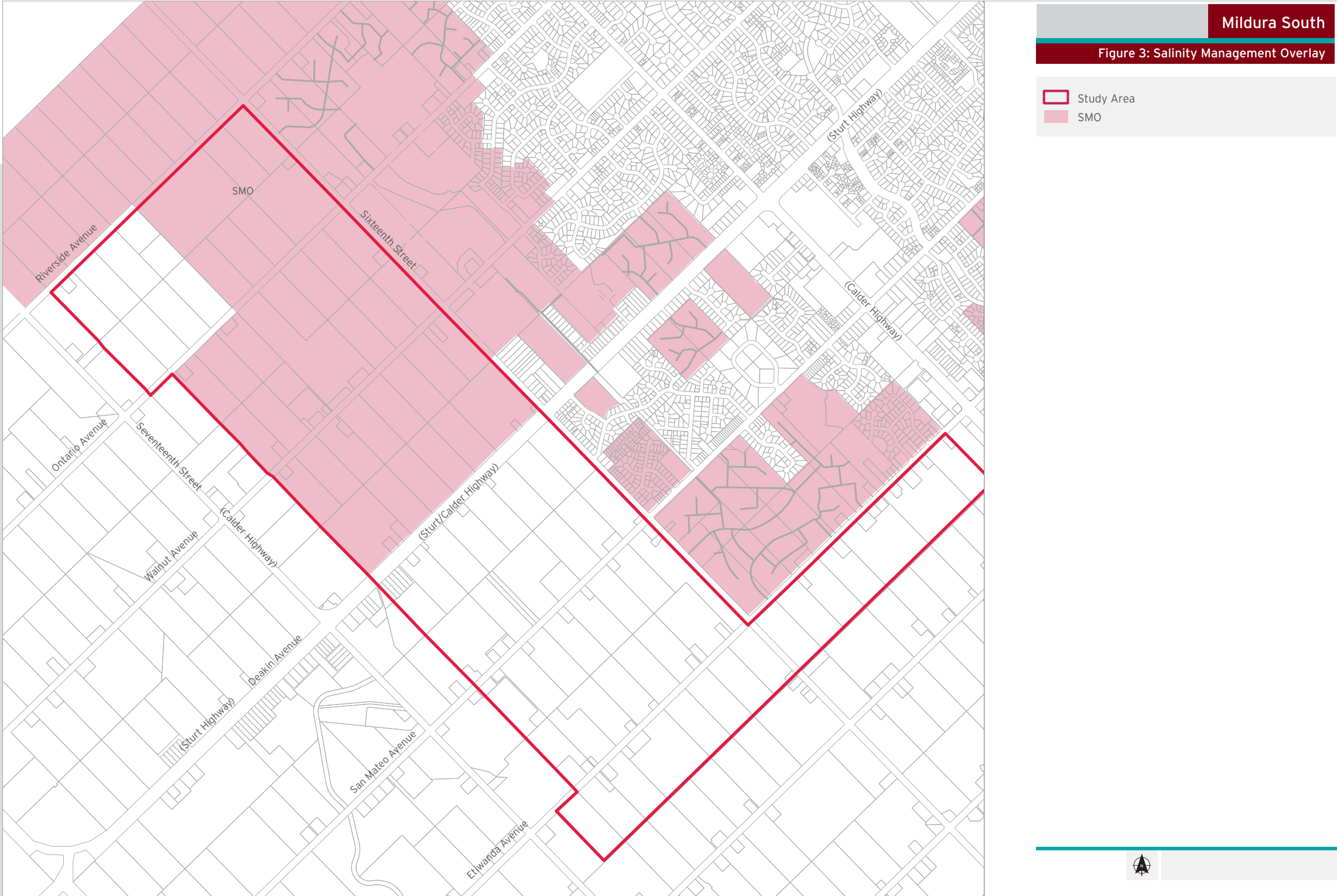


Figure 4 Development Plan Overlay 1 (DPO1)

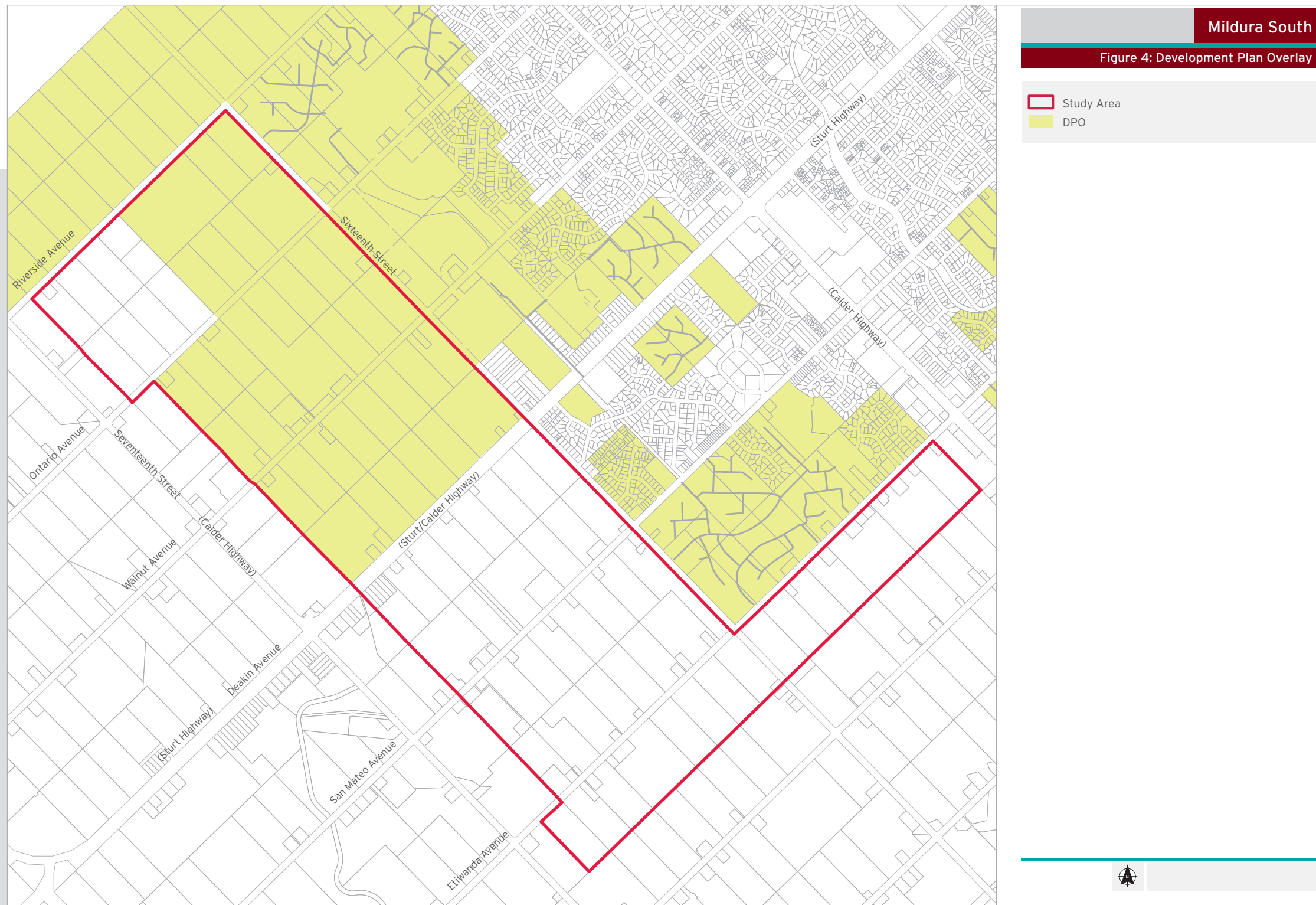


Figure 5 Development Contributions Plan Overlay (DCPO)

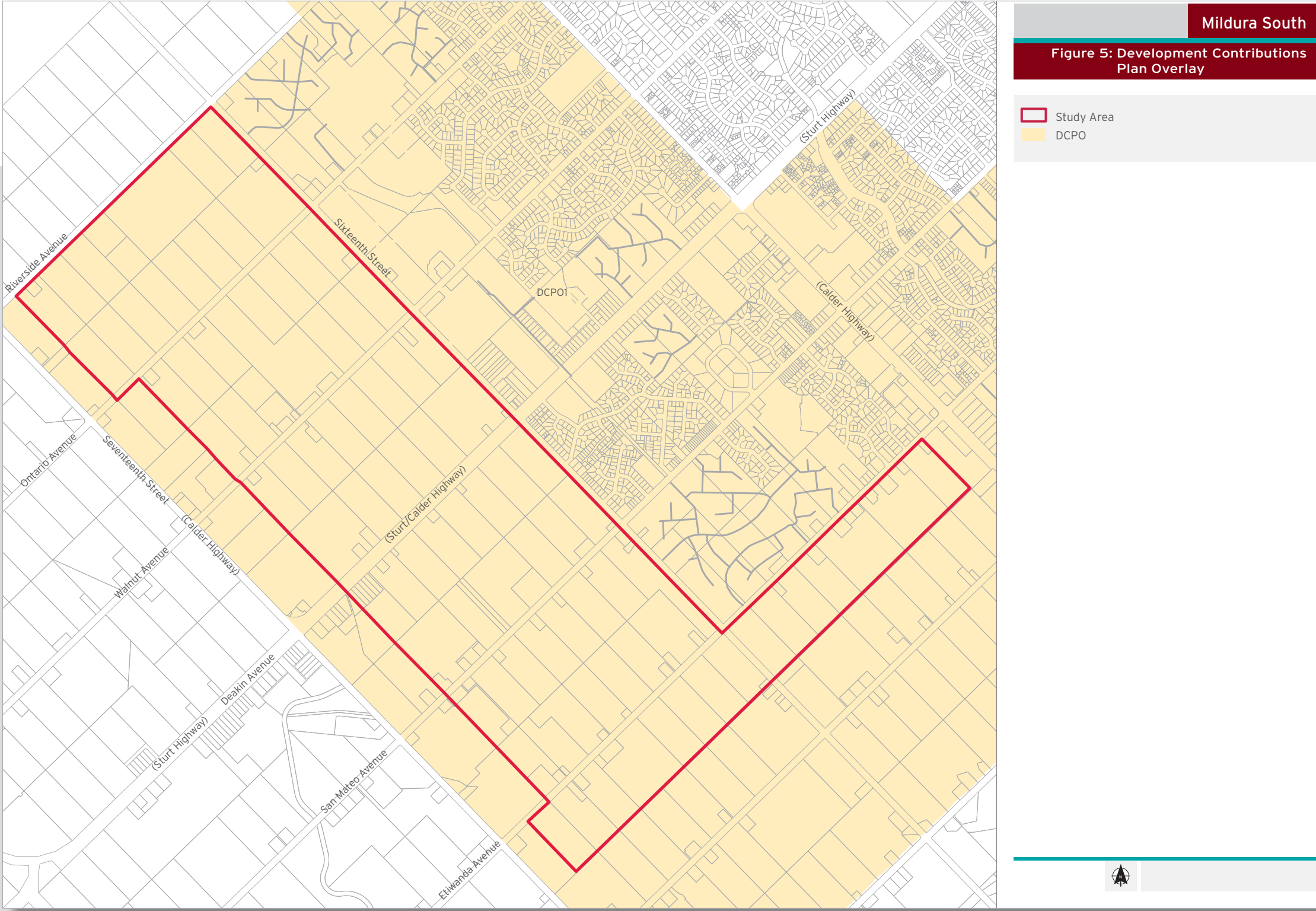
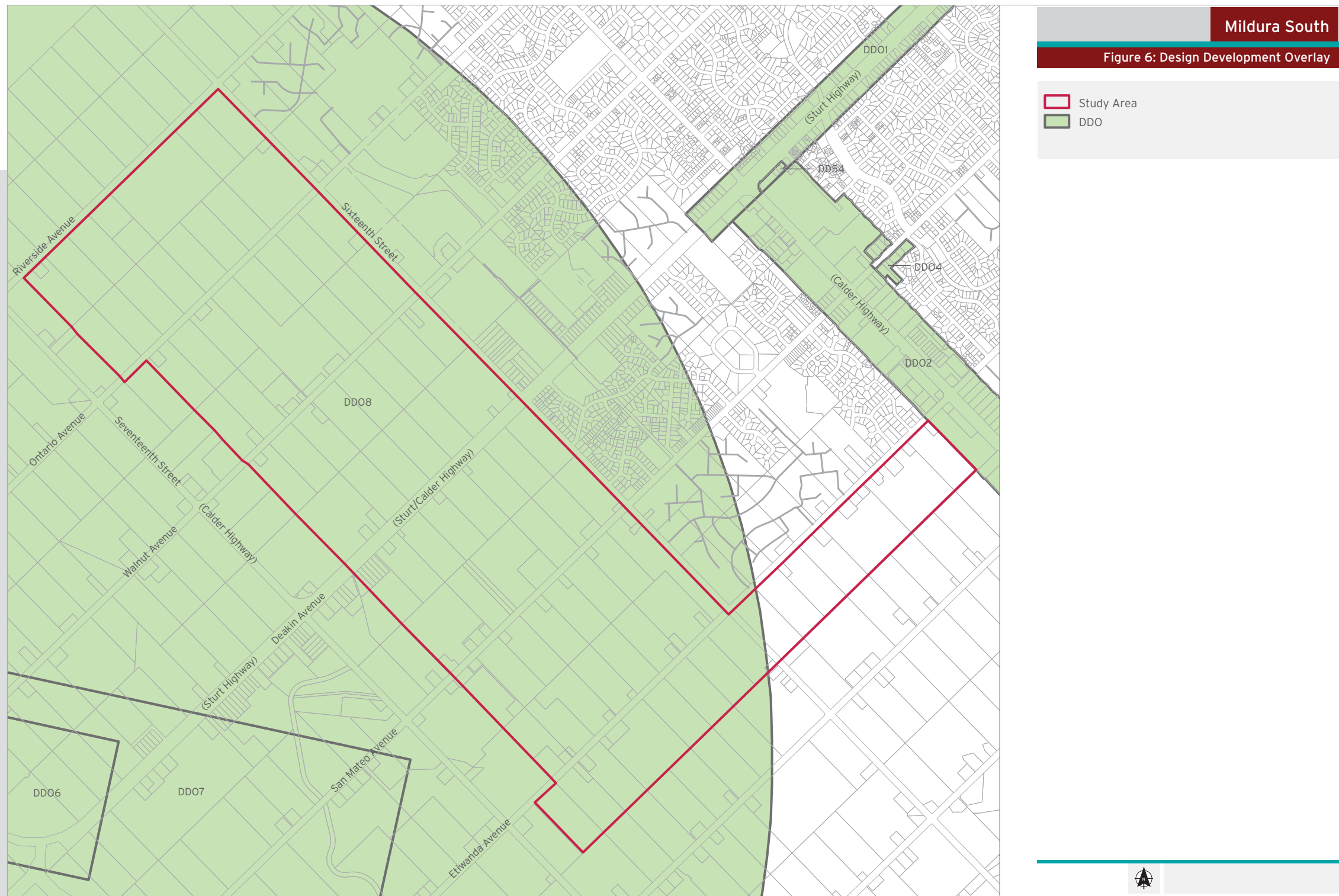


Figure 6 Design and Development Overlay (DDO)



Existing conditions

Within the study area there are four categories of land zone as listed below;

- There are approximately 424 acres of Residential 1 Zoned land within the study area, located predominantly to the west of Deakin Avenue. This land is currently still used for farming and non-urban uses.
- There are approximately 570 acres of Farming Zone land within the study area, with the exception of about 75 acres located on both Riverside and Ontario Avenues closest to Seventeenth Street, it is all located east of Deakin Avenue. This land is currently being used for farming, predominately for the production of wine and dried fruit.
- There are approximately 6 acres of Public Use Zone 1 land within the study area. This land is split into three different land parcels all of which are located west of Deakin Avenue. The two of these are located along Sixteenth Street and the third and largest parcel is located in the middle of the block bounded by Riverside Avenue, Sixteenth Street, Ontario Avenue and Seventeenth Street. The purpose of land zoned PUZ1 is to allow adequate space for services and utilities infrastructure.
- Deakin Avenue is zoned Road Zone Category 1 (RDZ1) as it is both the Calder Highway in the study area, and is therefore under the control of VicRoads. This will need to be considered in the design and development of the land either side of Deakin Avenue as VicRoads will need to approve new intersections on direct access ways onto the road proposed.

Existing plans and strategies that will impact on the development of the area

The following is a list of plans and strategies that have been considered as part of this project:

- Mildura South Development Contributions Plan prepared by SGS in March 2005
- Mildura Strategic Bicycle Plan prepared by Traffix Group in 2001
- Site Salinity Management Plan prepared by REM in October 2004
- Deakin Avenue, Mildura Landscape Masterplan prepared by Context in July 2006
- Mildura Rural City Council Public Open Space Strategy prepared by SGL Consulting Group in January 2004
- Mildura Rural City Council Revised Final Report: Review of the Mildura Retail Strategy 2000 prepared by Maunsell in June 2004
- Mildura Rural City Council Review of the Mildura and Irymple Residential Land Strategies prepared by Maunsell in November 2003
- Mildura Rural City Council Rural Residential Study Review 2003 prepared by O'Neil Pollock & Associates in October 2003
- Mildura Rural City Council Residential Development Plans for Eriwanda and Riverside Avenue prepared by David Lock Associates, adopted December 2006.

Salinity Management Overlay (SMO)

The purpose of the SMO is to identify areas subject to saline ground water discharge or high ground water recharge, and to facilitate the stabilisation of such affected areas. Salination issues are addressed by the revegetation of areas that contribute to the problem or by encouraging development to be undertaken in a manner which results in a reduction of salinity recharge.

Development Plan Overlay 1 (DPO1)

The purpose of the DPO1 is to identify future residential areas which require the form and conditions of future use and development to be shown on a development plan before a permit can be granted to use or develop the land.

For Shedule 1 to the Development Plan Overlay please see Appendix 7.

Development Contributions Plan Overlay (DCPO)

The purpose of the DCPO is to identify areas which require the preparation of a development contributions plan for the purpose of levying contributions for the provision of works, services and facilities before development can commence.

Design and Development Overlay (DDO8)

The purpose of a DDO is to identify areas which are affected by specific requirements relating to the design and built form of new development. The DDO8 in this case identifies the area affected by the Mildura Airport and its surrounds. It requires permits be sought for buildings above 40m from natural ground level.

Site constraints/ opportunities

The site is constrained by the Chaffery sub-division 10 acre lot layout within an orthogonal road grid offset 45 degrees from north. Many of these 10 acre lots are in individual ownership, making consolidation and development difficult.

To the south of the site is the Mildura airport. The airport is one of the busiest regional airports in Australia. The airport, which forms the non-urban break, will also effectively form the southern boundary to the city.

Deakin Avenue is part of the Calder and Sturt Highways and is a major traffic route through Mildura. This traffic results in Deakin Avenue acting as a barrier to movement across the study area. It is a category 1 road and under control of VicRoads. Any future works or development along Deakin Avenue will have to be referred to, and meet the approval of VicRoads.

Emerging Issues

The expected future population of the site is approximately 8400 new residents, based on site area, Mildura growth rates and vacancy rates (Mildura Irymple Residential Land Strategy 2003).

The impacts of climate change and an increasing awareness of the importance of creating more sustainable built environments, as well as recent changes to the Victorian Planning Provisions, such as clause 56 described above, have created an imperative to ensure development plans "raise the bar" of planning and design in Mildura as elsewhere.

Consequently responding adequately to future challenges will require plans that; facilitate water sensitive urban design, creates safer, more walkable streets, minimises car dependence and promotes the development of house that can be heated and cooled to comfortable levels with less dependence on mechanical heating and cooling. These objectives are reflected in recent residential development plans (RDPs) for Mildura such as the RDPs for Eriwanda and Riverside Avenue. These were considered as establishing the design standard for this plan.

4.3 Urban and Landscape Design

Existing conditions

The topography of the site is flat, allowing for long sight lines and distant horizons. The land is currently used for agriculture purposes, predominantly for wine, table grapes and dried fruit. As a result the site is largely covered with vines, and associated infrastructure such as drying racks, packing sheds and informal loading yards/ vehicle parking areas. The land which is not currently being used for agriculture is in a state of neglect and is sparsely vegetated with native grasses, weeds and salt bush.

Surrounding many of the existing dwellings on site are a variety of domestic gardens of differing size, style and quality, these vary from a tropical oasis of lush vegetation and palm trees to a more conventional Australian urban style garden, consisting of lawn, central big tree and edge plantings.

The existing landscape treatment along the section of Deakin Avenue within the site consists of a median planting containing native dry-land trees to the eastern side of the road between the main carriage way and service road. This informal avenue is considered to be in marginal condition according to the Deakin Avenue Landscape Masterplan 2006. Between the service road and proposed future open space (near the intersection of Deakin Avenue and Sixteenth Street) are four well established Date Plans which form a short avenue along Deakin Avenue.

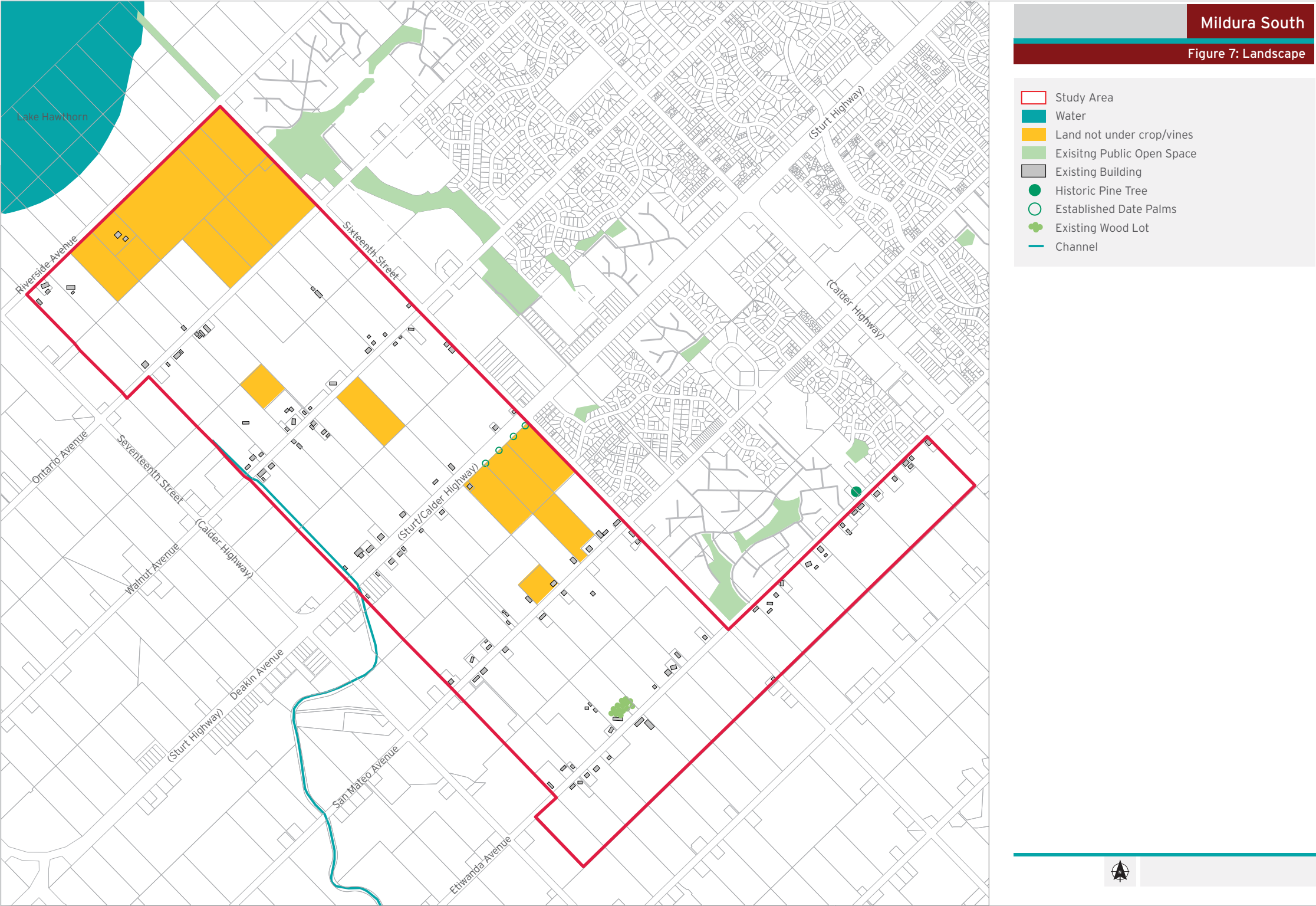
Just outside the site along Eriwanda Avenue is a Norfolk Pine tree, which has been identified by the local community as having local landmark significance because its height and visibility make it a reference point over a wide area.

Existing plans and strategies that will impact on the development of the area

Deakin Avenue, Mildura Landscape Masterplan 2006

The Deakin Avenue, Mildura Landscape Masterplan proposes to replace the existing native dryland trees in the centre median and verge along Deakin Avenue within the site with Salmon Gums (*Eucalyptus salmonophloia*) over the next 10 to 30 year period. The masterplan does not make any specific recommendations regarding the future road pavement configuration or alignments although there are some references to eventual duplication. Any changes to the existing road pavement would have to retain the existing median and its proposed Salmon Gums.

Figure 7 Landscape



Public Open Space Strategy

The Mildura Public Open Space Strategy aim to ensure that;

- Public open space will be managed in an environmentally sustainable manner.
- Open space networks will, where possible, link parks and activity areas along waterways and natural drainage corridors, connect places of natural and cultural interest, and maintain public access to public land immediately adjoining waterways.
- Open space will be accessible to everyone regardless of their age, gender or physical ability.
- Land developers will make a contribution to Council to provide public open space in new subdivisions.

The key recommendations which impact directly the Mildura South area are that additional active playing fields are required to meet the future demand within the area. Consideration should be given to the dual use/ purpose of future drainage reserves and infrastructure to double as public open space and linear networks, incorporating water sensitive urban design. New development proposals should be designed to ensure appropriate public open space is included within the development.

Site constraints/opportunities

The area is traversed by drainage lines and an open irrigation channel defines a section of the southern boundary. There is an opportunity to create a unique entrance gateway to the site and the City of Mildura (where this irrigation channel and Deakin Avenue intersect).

The site will be part of a much wider area, of development which should be considered as a whole in terms of ensuring connectivity to the surrounding areas. Interface issues between residential and non-residential land uses will need to be considered and addressed with appropriate buffers.

Given the site's proximity to the Mildura Airport, design, siting and heights of buildings will need to be considered.

The Mildura climate is hot and dry, this will heighten the benefits of a sub-division design that facilitate good solar access and water sensitive urban design. Dwelling which are designed and sited to minimise their energy consumption will reduce their impact on the environment.

Emerging Issues

Urban communities are increasingly subject to a wide range of problems that diminish people's quality of life, such as obesity, skin cancer, decreased property affordability and rises in oil prices that limit personal mobility. The layout and detailed design of a

development can address these issues to a degree and this should be considered if the development of this area is to ensure it does not disadvantage any of its future occupants.

Any new public open space within the site will need to consider the issue of climate change and the reducing availability of water and ensure that it makes the best use of the water available. Climate change will also affect the range and variety of weather conditions and extremes that will occur, in turn increasing the level of stress planting will be subject to.

The development of the area will lead to an increased traffic volume within the site and to neighbouring areas.

There is an aging population in Mildura and this will require more public open space targeting the needs of the middle and older aged people. This would tend to increase the emphasis placed on areas for passive recreation.

There is also an increasing awareness of the importance of providing lots that have their long side facing north to make best use of solar access and this is reflected in many recent subdivisions. However with unconsolidated lots this has often been achieved at the expense of creating circuitous and illegible layouts with many odd shaped lots, raising questions as to whether the resulting indirect routes and lack of clarity make such small areas appropriate for rigorous application of this principle.

Reaching 'peak oil' will impact on the form and function of cities. Increased oil prices are likely to result

in increased private transport costs. In the short term this will mean increased petrol prices and motorists choosing to drive less or buy more fuel efficient and smaller vehicles. In the long term it will change the design and layout of our communities. Currently all subdivisions are designed with the car as the primary form of transport. This will not always be the case and new developments need to be designed for a future without the car as the primary transport mode and facilitate sustainable transport modes such as walking, cycling and public transport. This will require a greater consideration of the street environment, ensuring it is safe, attractive, legible and leads relatively directly to where people will want to go.

By ensuring that the needs of the future residents are catered for locally, (within an easier walking distance or home) will reduce the need to travel great distances to work, shop and socialise. Given Mildura's warm climate and flat topography, is it an ideal location to facilitate such a sustainable and walkable community.

These issues are discussed in the next section.

Planning Conclusions

This project provides an opportunity to consider a wide range of needs for both the existing neighbouring residents and the future community of Mildura South and meet these needs in a coordinated and well planned manner.

Given the current land sub-division and ownership pattern and the difficulty in coordinating site consolidation and re-subdivision it is considered that

the existing 45 degree grid layout will largely remain. However, where possible land parcels should be consolidated to provide north/south orientated street network, with the long sides of the blocks facing north.

Urban Design Conclusions

Good design dictates we will have to meet needs locally, by creating viable and complete communities. Given the context and adjoining residential land to the north, this project could be considered as completing two communities, on either side of Deakin, consisting of the development area and adjoining residential areas.

Development should introduce new assets into the area to provide the social infrastructure to facilitate the development of a sense of community. Additional facilities, services and public open space that will be required can benefit not only the new residents but also the existing neighbouring residents.

The existing vines contribute to the character, and heritage of the site and consideration should be given to retaining at least some of these as features within the new development to retain links with the surrounding agricultural areas (and in doing so evoke the past).

Deakin Avenue is an important gateway for the city of Mildura for people arriving by air and road and is of significance to many people in the city as their collective front door, recognising its civic importance. This is where they will have their first sense of arrival into the city, and so provides an opportunity to form opinions and provide a memorable and distinctive environment that says good things about the city.

The challenges of global warming, the need to plan for drought, the imperative to ensure streets promote walking and cycling require us to ensure our streets and open spaces are designed accordingly. This means ensuring streets are designed to provide landscaping with the best chance of long term survival in the face of underground and surface disruption and unreliable water sources. Key responses that would facilitate the long term survival of trees in these challenging times include;

- Careful selection of species to ensure largely indigenous trees are used
- Maximising the permeable surface under the drip line of trees
- Maximising separation from underground and overground services
- Ensuring the street layout reflects water sensitive urban design principles such as aligning streets along drainage lines so the street planting can benefit from the stormwater drainage.

Planning for a walkable environment is of critical importance in order to diminish the incoming resident's dependence on fossil fuels which are likely to get more expensive in the future and in order to facilitate people to conduct healthy lifestyles.

4.4 Transport

Existing conditions

Study Area The western and eastern Mildura South development areas are located either side of Deakin Avenue, south of Sixteenth Street. The western area is partly bordered by Sixteenth Avenue, Riverside Avenue and Deakin Avenue, and bisected by Ontario Avenue and Walnut Avenue. The eastern area is partly bordered by Sixteenth Avenue, and bisected by San Mateo Avenue and Etiwanda Avenue.

Strategic Road Network The study area is located north of the intersection of the Sturt Highway and Calder Highway.

Sturt Highway is part of the AusLink National Network, linking Sydney to Adelaide and is a major east-west link. Calder Highway is also part of the AusLink National Network, linking Mildura to Melbourne.

Deakin Avenue is part of Calder and Sturt Highway in the study area, and is the major north-south link through Mildura, and the main link between the city centre, retail and commercial areas, and the airport. The road carries approximately 7,000 vehicles per day.

Fifteenth Street and Seventeenth Street are both part of Calder Highway, which forms a major east-west link through the city.

Benetook Avenue is Council's nominated freight by-pass route connecting to Seventeenth Street to the south and Seventh Street to the north, is an important north south

connection within Mildura, which services residential and commercial areas, and provides an alternative to Deakin Avenue.

There is also evidence that some drivers use other largely residential routes (e.g. San Mateo Avenue and Ontario Avenue) to travel between Central Mildura and the airport and rural areas to the south of Mildura.

Local Road Network The current urban road network within Mildura, including the development area, is based upon a grid system. The main through route is Deakin Avenue (Sturt Highway).

The other south west to north east links are Riverside Avenue, Ontario Avenue, Walnut Avenue (west of Deakin Avenue) and San Mateo Avenue and Etiwanda Avenue (east of Deakin Avenue). Council encourages Ontario as the main route to the airport and discourages the use of Walnut Avenue.

The intersections within the vicinity of the development area, including those with Deakin Avenue, are all priority controlled.

Road Function Within the existing urban area Deakin Avenue has a mixed traffic function as it is both part of Sturt Highway and the local road network. The result is local traffic, regional traffic (with a destination in or near central Mildura and through traffic (including freight traffic) all using the same road.

Duplication of Deakin Avenue – Deakin Avenue is duplicated between Seventh Street and Fifteenth Street. The section of Deakin Avenue that bisects the study area

is not duplicated, however a service road runs along the eastern side that could eventually be upgraded to become the southbound lane.

The original plan for Deakin Avenue was to continue the existing duplication further south. The impact on local traffic, bus and pedestrian movement will need to be considered if further duplication is planned.

Freight Traffic Freight traffic uses both Sturt Highway and Calder Highway. Average truck movements on Sturt Highway (Deakin Avenue, central Mildura) were 910 trucks per day in 2002, and are expected to increase to 1,050 by 2008 and 1,370 by 2022 .

Within the town freight traffic also uses Benetook Avenue as an alternative to Deakin Avenue to link to Sturt Highway at the river crossing. There is evidence that some truck rat running occurs on Sixteenth Street between Deakin Avenue and Benetook Avenue.

Pedestrian Network The existing formal pedestrian network within the study area is limited, although there are footpaths along some of the Etiwanda Avenue frontage. The majority of the other existing roads have un-made shoulders that can be utilised as informal footpaths.

Deakin Avenue is a major barrier for pedestrians between the west and east development areas.

A school crossing is situated on Deakin Avenue north of the Deakin Avenue / Sixteenth Street intersection, outside the Mildura South Primary School. Car parking is congested at school times and safety concerns have been raised.

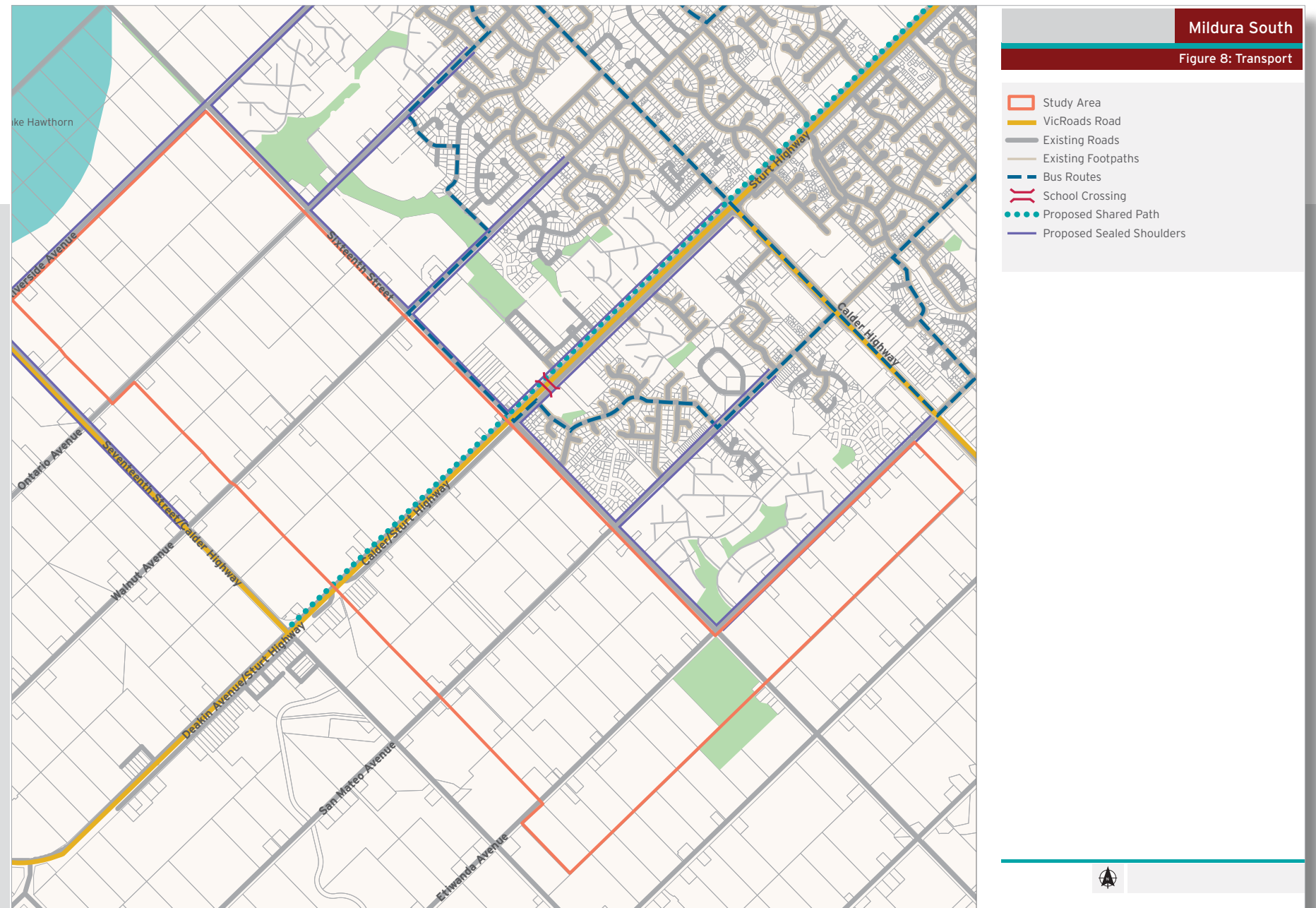
Figure 8 Transport

Topography The topography of Mildura is generally level. This favours walking and cycling.

Public Transport Bus services within Mildura are provided by Sunraysia Buses. Sunraysia Buses provides local and school buses for the entire Sunraysia Region. There are approximately 30 services serving Mildura, including weekday (6:30 – 19:30), late night Friday, weekend and school services.

Sunraysia Buses has experienced difficulty in getting services through some of the recently built residential areas in South Mildura, particularly where road widths and local area traffic management devices have reduced the ability of buses to use the local road network.

Rail Mildura is served by the existing rail line to Yelta. There is approximately one inbound and one outbound freight services operating on the Yelta line each day. Passenger services to Mildura were suspended in 1993 and replaced by coaches, to and from Melbourne via Swan Hill.



For Left Sunraysia Bus Line service on Deakin Avenue, central Mildura

Left Dualled section of Deakin Avenue

Table 1 Mode Split for Method of Travel to Work in Mildura Urban Centre

Mode	Persons	Percentage
One Method		
Train	3	0.0%
Bus	66	0.7%
Ferry *	3	0.0%
Tram *	0	0.0%
Taxi	31	0.3%
Car, as driver	7,548	80.5%
Car, as passenger	838	8.9%
Truck	142	1.5%
Motorbike/motor scooter	63	0.7%
Bicycle	143	1.5%
Other	51	0.5%
Walked only	494	5.3%
Total	9,382	100%
Two Methods	91	
Three Methods	12	
Worked At Home	440	
Did not go to work	1240	
Not stated	201	
Total	11,366	

Source: 2001 Census, Australian Bureau of Statistics
* Note: It is assumed these respondents had been to either Melbourne or Sydney on that day.

Transport Usage Method of travel to work is collected by the Australia Census and is a good means of assessing typical modal split within a community. Method of travel to work for Mildura Urban Centre is summarised in Table 1. Car is bar far the dominant mode of travel to work, 89.4 % of people drive to work (8.9% as passenger). The other significant mode of travel to work is walk only (5.3%).

Existing plans and strategies that will impact on the development of the area

Strategic / Long Term Transport Planning Mildura Transport Plan for Long Term Regional Development (MTPLTRD) (May 2005) provides a broad economic feasibility and cost benefit study of the recommendations made in the Mildura Transport Strategy Paper (MTSP) (August 2004).

- Both reports consider long term regional transport development, specifically:
- Creation of a major intermodal freight gate at Thurla;
 - Removal of the rail line from the central city;
 - Rerouting of the Sturt Highway around the city; and,
 - A northern rail connection from Yelta to the transcontinental line at Sayers Lake.

The later study strongly supports a number of key actions outlined in the MTSP, specifically to consider that Benetook Avenue should not be the optimum long-term solution as an alternative route for the Sturt Highway, rather the Sturt Highway should be realigned along the existing alignment of Wilga Road (from Monak) through

to Meridian Road and then north along Meridan Road to the current location of the Sturt Highway.

Freight Route VicRoads have identified a short term alternative truck route to bypass the centre of Mildura, utilising Seventeenth Street and Benetook Avenue, however part of this route (Benetook Avenue between Fifteenth and Seventeenth Streets) is being considered for RD1Z development under amendment C38.

The road sections would not be declared as an arterial route, but any new development along the route impacting upon the streets would be deferred to VicRoads.

Airport Growth Mildura Airport, located southwest of the town, is a passenger terminal with some minor freight movements. The airport is one of the busiest regional passenger terminals in Australia, carrying 150,000 passengers per year . Qantas, REX and O'Connor Airlines connect Mildura to Melbourne, Sydney and Adelaide and other regional destinations.

Council produced the Airport Business Technology Park Master Plan to facilitate development of the airport precinct. The Master Plan identified the potential to develop a business technology park at the airport to compliment the larger proposed freight gate at Thurla. Benetook Avenue is identified as the key link between the two.

Bicycle Planning Mildura Strategic Bicycle Plan (2001) provided a 10 year program of works to achieve an ideal level of cycle infrastructure with an emphasis on connecting facilities and increasing cycling participation.

The Plan identifies a proposed strategic bicycle network. The following cycle facilities are identified within the vicinity of the development site: Construct shared path on Deakin Avenue between Seventeenth Street and Mildura centre; Seal shoulders (for cycling) on Seventeenth Street, Riverside Avenue, Sixteen Street, and Eriwanda Avenue. These projects will be included in the Development Contributions No. 1 for Mildura South.

Site constraints/ opportunities

Road Network The road network grid within Mildura is well established. The grid system provides good accessibility; however the grid network in the development area is broad (approximately 1,060 metres between intersections on the south west to north east links, and approximately 640 metres between intersections on the south east to north west links).

A finer road network is therefore required to provide access to the development lots within the study area. This network will need to provide good local accessibility for all modes (including walking, cycling and buses). There are also opportunities to reduce the number of existing through routes (particularly the south east to north west links). This will have to be planned to allow through traffic along appropriate routes.

Deakin Avenue Deakin Avenue bisects the study area. It provides high accessibility to the study area, but also acts as a barrier between the east and west sides.

The traffic carrying function of Deakin Avenue south of Fifteenth Street currently dominates the road. High traffic

speeds and volumes, and a high proportion of heavy freight vehicles, leads to potential problems for pedestrian and cycling access and severance (e.g. difficulty crossing the road), and enhanced vehicles safety issues. Traffic noise and air quality issues also arise. These issues will need to be addressed with the development of the study area.

The intersections on Deakin Avenue close to the study area (Deakin Avenue / Seventeenth Street, Deakin Avenue / Sixteenth Street) are currently priority controlled and therefore do not offer good pedestrian crossing opportunities.

A school crossing is situated north of the Deakin Avenue / Sixteenth Street intersection opposite Mildura South Primary School for use during school times, and there are speed restrictions on Deakin Avenue when the crossing is operating (70 km/h restriction reduces to 40 km/h). As the study area is developed the level of pedestrians wishing to cross Deakin Avenue will increase, therefore new pedestrian crossings will be required, possible through signalling the existing intersections.

Any new activity on the Deakin Avenue frontage will attract pedestrians and increases potential conflict with vehicles. Dispersed pedestrian activity mixed with drive-in vehicle orientated business also increases conflicts.

Parking movements and vehicles searching for parking spaces can affect traffic flow, as does delivery/pick up from the kerb. Parking provision and restrictions can also affect retail viability.



Top Intersection of Deakin Avenue (foreground) and Sixteenth Street



Above Seventeenth Street north west bound



Top School crossing on Deakin Avenue

Above Shared path on Deakin Avenue

Accessibility to Services The services in large rural towns like Mildura, such as schools, healthcare facilities, food shopping, and leisure facilities, serve both the town's people and the wider area. Suitable means of accessing these services must be provided or catered for, by all modes.

The distance of the study area to central Mildura (approximately 3km) and Centro (approximately 1km) are not prohibitive to walking and cycling, however the summer heat and lack of shade are a disincentive, reflected in the existing levels of car usage that suggests these modes are under utilised.

However, the provision of local services (e.g. shops and schools) within the development areas to serve the local population can reduce the need to travel. Careful design of streets will enhance the micro-climate at street level and would be expected to diminish a disincentive for walking and cycling.

Emerging Issues

A number of issues have continued to develop and inform community attitudes towards transport, primarily the emphasis should continue to shift from planning for car-based mobility to encouraging greater urban concentration, protecting the amenity of urban places, more use of public transport, and more trips made by walking and cycling.

Climate Change and Drought The scientific consensus about climate change caused by the greenhouse effect has strengthened. The political (and public) profile of this issue has increased markedly over the last 10 years, especially over the last 12 months in Australia, primarily due to the prolonged drought.

Air Quality Air quality also remains a significant issue in towns and cities, but the gradual cleaning of the vehicle fleet, through cleaner fuels and fleet turnover, has contributed to generally cleaner air, particularly at a local level.

Health For many reasons, not the least economic/ financial, health issues have become paramount in the community. The link between inactivity and obesity is generally accepted. Programs that facilitate "active transport" (walking and cycling) are now common.

Population Population growth in Australian towns and cities has continued. Similarly, car ownership, and number and length of trips, have all continued to increase.

The population also continues to age, whilst average household sizes are reducing, therefore more homes are required. More people are also living with a disability, leading to mandatory programs for making transport accessible.

Petrol Prices Petrol prices are predicted to continue to increase. The social and economic impacts of these increased prices will be felt most by two groups of people: those with lower household budgets; and those less able to reduce their car use, generally a function

of how much sustainable transport – public transport, walking and cycling - is available. In outer areas of regional cities like Mildura, there is likely to be overlap between these two factors, with lower income groups living in areas with minimal public transport, making the effects of oil price rises more severe.

Transport Planning Transport planning today has more emphasis on issues and initiatives that tackle the major social, behavioral, economic and environmental issues. Consequently, the emphasis on transport systems has continued to switch from facilitating “mobility” (which relates to an individual’s ability to move around) to “accessibility” (which relates to places and their ability to be easily accessed by all potential users). Reducing the need to travel in the first place, by improving urban planning, is now a mainstream strategy.

Nevertheless, there is less emphasis on demand management in transport than in other sectors (water, energy, waste). Parking policy is now recognised as a very powerful planning tool, but policy development in this area lags. There are increasing examples of good practice at major new residential developments and trip generators, with developers contributing funding for sustainable transport, accepting reduced parking rates, working with staff and visitors to reduce car use etc.

Neighbourhood Principles The Neighbourhood Principles provide a clear vision for a more sustainable and liveable communities. This vision was first expressed in Melbourne 2030, however they are applicable to all residential subdivisions in cities, suburbs and towns throughout the State. In transport terms, the principles

support compact, walkable neighbourhoods where neighbourhood centres support local services and facilities. Reduced car use is encouraged through planning measures that support sustainable transport.

The Victoria Planning provisions ResCode initiative for Sustainable Neighbourhoods (Clause 56) applies the neighbourhood principles set out in Melbourne 2030 to deliver sustainable environments. The Sustainable Neighbourhoods provisions also implement other Victorian Government priorities outlined in Growing Victoria Together and Our Environment, Our Future.

The Access and Management section (Clause 56.06) therefore provides a list of minimum objectives for the provision of a walking and cycling network, public transport network and neighbourhood street network.

Conclusions

A Strategic Framework Plan for Mildura South needs to ensure that direct, safe and easy movement through and between neighbourhoods for pedestrians, cyclists, public transport and motor vehicles is provided.

The following issues and considerations have been identified, that will need to be taken into account in the design and layout of a plan for the area:

- Provide a walking and cycling network, public transport network and neighbourhood street network that promotes a Sustainable Neighbourhood (as per Clause 56);

- Consider the trips generated by new neighbourhoods and the improvements to the transport network (for all modes) that will be required to support the planned growth;
- Recognise the mixed traffic function nature of Deakin Avenue and mitigate the issues associated with this function;
- Plan to minimise the barrier effect of Deakin Avenue for pedestrians and strengthen linkages between Western and Eastern development areas;
- Plan effectively to reduce car use for local trips which can be made by walking or cycling;
- Support plans for a bypass that will take traffic / freight traffic out of the town and away from the development areas;
- Provide a well planned road network to ensure full bus access to any future neighbourhood hub and school;
- Design a road network that provides linkages with the existing grid network and adjacent residential areas;
- Consider minimising through routes through the development areas without precluding good access (including access for buses); and,
- Provide intersection treatments on the existing network to facilitate new traffic and pedestrian / cycle movements.

4.5 Economics/Services Provision

Existing conditions

The significant factors that should influence the eventual design not only relate to its physical attributes of the site but also the proximity of the existing Mildura urban area, with its network of current and proposed activity centres and community services located throughout the city.

The Study Area

The study area is a logical extension of the Mildura urban area and the growing urban fringe suburb of South Mildura. The majority of landholdings comprise 10 acre soldier settlement blocks with many producing (with irrigation) grapes for wine and dried fruit production. While there has been a degree of site amalgamation, and FMIT own a significant parcel at the corner of Riverside Avenue and Sixteenth Street, a significant number of property ownerships reflect the original subdivision. Presently the study area lacks any retail or community services provision

Based on the 10 acre subdivision pattern, a residential density of 3.5 lots per acre (GHD Mildura) and an occupied private dwelling density of 2.6 persons in 2001(DSE Towns in Time) gives the study area an indicative population capacity of 9,100 persons, or 8,400 based on the 2001(DSE) residential dwelling vacancy factor of 7.4%. The division of the study area by Deakin Avenue equally divides this population into 4,200 in the Western portion and 4,200 in the Eastern portion.

Activity Centre Network

The Mildura Retail Strategy Review (Final Report 2004, Maunsell Australia Pty Ltd and Doug Marsh and Associates) continues the Retail Hierarchy established in the 2000 review (Essential Economics) as follows,

- **Regional Centre:** Mildura City Heart or CBD
- **Sub-regional centre:** Mildura City Plaza/Centro Mildura
- **Peripheral Sales:** Fifteenth Street Precinct
- **Town centres:** Red Cliffs, Wentworth, Merbein, Dareton and Irymple
- **Neighbourhood centres:** small centres of up to 15 shops dispersed throughout urban Mildura, and
- **Local shops:** convenience outlet serving daily needs.'

With regard to the major Mildura centres (see above) the study area forms part of these centres primary trade area, defined in the Retail Strategy Review (pg 25), as encompassing Urban Mildura, Irymple, Merbein, Red Cliffs and Wentworth (NSW). Note the secondary trade area is defined as the balance of the Rural City of Mildura and extending to Broken Hill in NSW and the Riverland in South Australia.

An inspection of the CBD and Centro Mildura (previously known as Mildura City Plaza) was undertaken to confirm their present status. The traditional focus of the CBD is along Langtree Mall, a pedestrian mall between Eighth Street and Ninth Street, however it's major traders a Kmart discount department store and Coles supermarket

are at the northern end of its Western periphery (either side of Eighth Street west of Lime Avenue), and in City Heart South a Safeway supermarket (trading as Woolworths) on Lime Avenue and an IGA supermarket near the north western corner of the intersection of Deakin Avenue and Tenth Street. In addition the centre has a Warehouse and Dimmey's outlet and a proposal for a department store. The Mildura Retail Strategy Review (pg 22) identified the CBD as having 64,775 sqm of occupied retail floor space comprising food 16.9%, non food 70.6% and services 12.5%. The vacancy factor was 3.45.

Centro Mildura has recently been expanded from 14,279 sqm of retail area (Property Council 2006) to 21,000 sqm; however the major expansion was in its specialty shop component from 44 outlets to 69, plus 15 kiosks. The major traders continue to be a Target discount department store and a Coles supermarket, supported by three mini majors (Centro Mildura Pharmacy, Pumpkin Patch and The Reject Shop). Note the adjacent freestanding Newsagency and Tatts agency, complements the Centro specialty outlets facing the car park including Liquorland, travel, hairdresser, real estate, optometrist, café and three banks.

In addition the peripheral sales focus on Fifteenth Street includes a range of bulky goods operators and discount outlets. While smaller centres occur along Deakin Avenue ranging from a small one sided retail strip anchored by a Foodworks supermarket towards the CBD to the South Mildura Store group near the Mildura South primary school and the currently vacant café/roadhouse beyond the study area that was for sale at the time of writing.

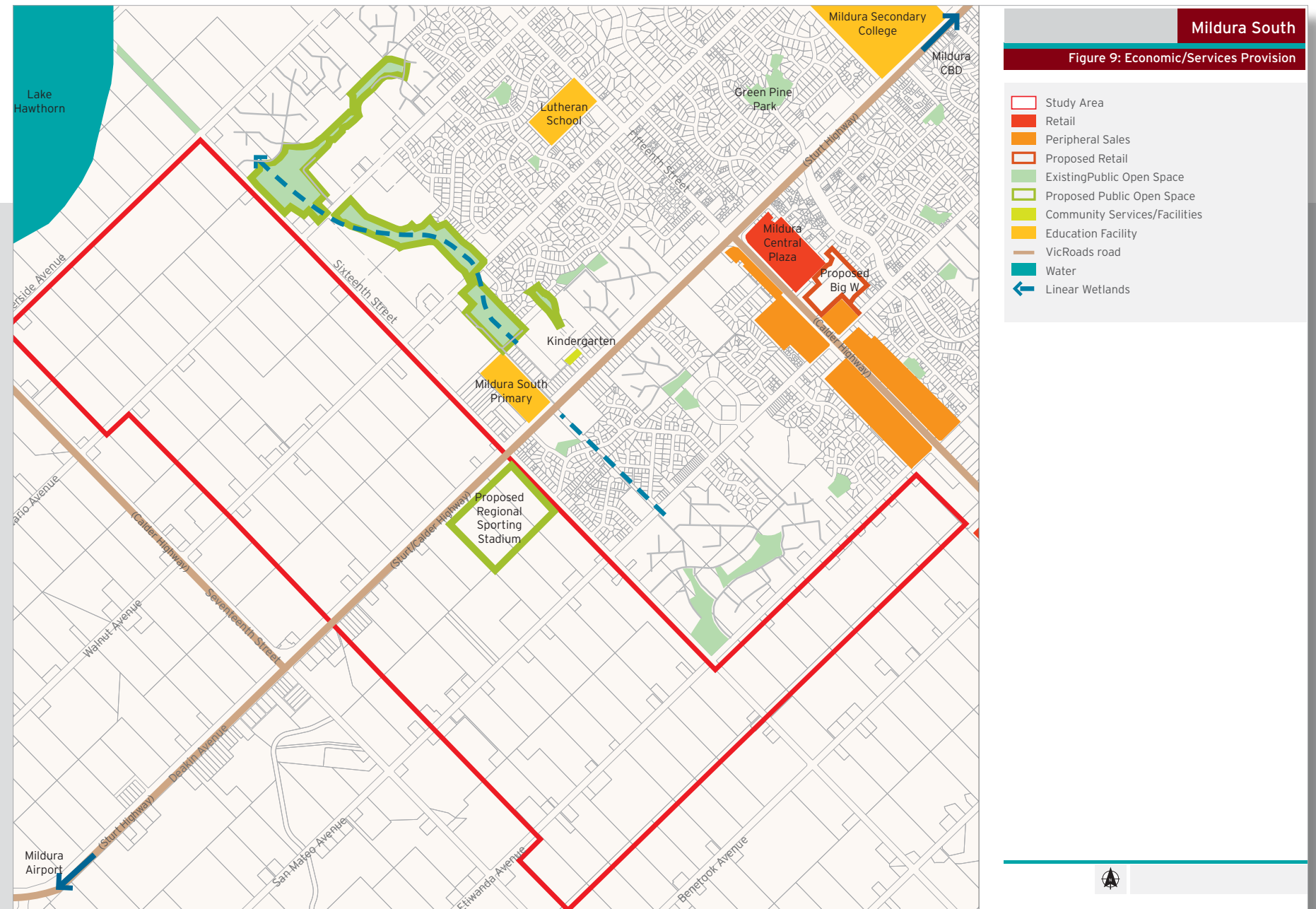
Community Facilities

The closest facilities to the study area are the Mildura South Primary School, Deakin Avenue just north of Sixteenth Street and the nearby Kindergarten both of which are understood to be under demand pressures. From the study consultations the following profile applies to the primary school; constructed to accommodate 475 students, it has a current enrolment of 630 students. This expected to grow and then stabilise at around 700 pupils. It was noted that as a 'rule of thumb' 200 houses would generate 30 children. Therefore the study area with 3,500 dwellings would generate 525 children. In urban areas the Victorian provision is one primary school per 3,000 dwellings.

The local kindergarten was identified as having a two year waiting list. Other community facilities, particularly recreation, tend to be clustered around or towards the CBD. Community Child Care advised that Integrated Service provisions were currently providing kindergarten, child care, maternal child health services and play groups. These were planned in response to 'council request' and based on identified demand.

In relation to recreation, there is an identified need for a four court basketball stadium – recreation study currently being prepared by Council.

In relation to community facilities; a community centre and kindergarten facility has been identified as part of the DCP1 on the corner of Sixteenth Street and Deakin Avenue.



Existing plans and strategies that will impact on the development of the area

The Retail Strategy Review 2003 (cited above) made the following recommendations that will impact on the study area (pgs 64 and 65).

Location and Distribution of Retail Activity

It is recommended that the location of future retail development focus on the three existing major retail locations, with any further residential development areas (to) be served at a local level by large corner stores rather than new centres.

Strategies for Main Activity Concentrations

City Heart It is recommended that the policy of maintaining the City Heart as the primary retail centre be amended so that it be sustained as the primary activity centre, encompassing strong retail, commercial, financial, community, service and recreation and entertainment components. Further it is recommended that the Working Man's Club Site is suitable for rezoning to business to allow for an integrated retail development.

Mildura Centre Plaza (Centro Mildura) Precinct It is recommended that the Mildura Centre Plaza continue to enhance its sub-regional role and that the adjoining Vidovich land be rezoned to Business 1 since it is supportable in terms of retail demand, (and) there are actions proposed to foster future performance of the City Heart and subject to an integrated design concept being prepared for the whole precinct.

Fifteenth Street Precinct It is recommended that the Fifteenth Street Precinct continue to be promoted as a bulky goods location and that the Business 4 zone be extended by 15 to 20 hectares along the western side of Benetook Avenue north of the intersection with Fifteenth Street.' However C38, currently under consideration proposes relocating this B4Z land from Benetook Avenue to Fifteenth Street.

It should be noted that the Retail Strategy Review (on Pg 19) states that 'the hierarchical status of town centres, neighbourhood centres and local shops remains unchanged and is likely to continue. It is doubtful that any new neighbourhood centres will be developed and be viable due mainly to improved transport accessibility to higher order centres. The consequent uncertain investment viability of neighbourhood centres suggests that it is more likely that new enlarged corner stores will be established, often in association with service stations.'

The proposed retail related actions arising from the Retail Strategy Review are addressed in the Mildura Planning Scheme Amendment C29 Pt 2 Panel Report July 2005. The path towards development of the Vidovich land (next to Mildura Centre Plaza) has progressed from recognition in the 2000 retail Strategy to a planning permit lodged in January 2007 for a discount department store of 7,737 sqm of retail space and 1,610 sqm of specialty shops. The plans show a covered pedestrian link to the Centro Mildura centre, and integrated parking with this proposal including 473 parking spaces.

The Working Man's Club Site located in the Mildura City Heart Eastern Precinct has not been included in Business 1 Zone (see pg 29) and is being further investigated in a current investigation addressing the preparation of a Structure Plan and Urban Design Framework for the Mildura Central Business District.

With regard to the expansion of the Peripheral Trading area Business 4 along Fifteenth Street and Benetook Avenue the Panel recommended that the Business 4 Zone be adopted as exhibited, with associated Design and Development Overlays (see pg 33).

These outcomes will generate further significant retail operations along Fifteenth Street including an anchor store with supporting specialty shops, and Peripheral Sales outlets. This expansion will reinforce the regional retail dominance of the Business 1 and 4 zones, particularly the Mildura Centre Plaza Precinct and its impact on the study area that forms part of its primary trade area.

Future expansion of the Mildura South Primary School presents several options at this time including adjacent land, a split campus or a new school located in the study area. Discussions with the Department of Education confirmed that the Mildura South Primary school was under demand pressure, identified in a Department study based on 2001 ABS data and DOI projections.

Additional facilities identified by council officers included maternal and child health, pre school, child care centre and play groups. It is noted that some or all of these facilities could be integrated as part of a community hub development associated with a primary school and /or local shopping facilities.

Community Child Care advised that as a general rule there were 4 to 5 kindergartens for every 2 primary schools.

Site constraints/ opportunities

In terms of the study area several factors will influence the inclusion and location of economic and community services facilities.

Deakin Avenue

This major arterial road bisects the study area and is the major axis of Mildura's urban form and the entry to the city from the airport. As such it forms a major east-west movement barrier and raises the issue of whether the study area being addressed as a single entity or two communities, and if the later with consequent implications for retail, education and community facilities.

Were the site considered as a single community then a 'major' activity centre located on Deakin Avenue would provide an opportunity to capture passing trade and clientele from beyond the study area.

Sixteenth Street

As the interface with the present residential edge of Mildura, Sixteenth Street provides a location that complements nearby facilities including the primary school, and integration with existing and proposed open space provisions. It also facilitates east-west accessibility and therefore the possibility of integrating the study area

without introducing another Deakin Avenue intersection. In combination with Deakin Avenue it provides a central location for retail and community facilities in conjunction with the proposed regional sports facility that could give a regional focus and provide an intercept location for both study area residents and the hinterland population accessing Mildura via Deakin Avenue.

Major Activity Centres

The study area is within the primary trade areas of both of Mildura's major activity centres the CBD and the Centro Mildura precinct with its complementary peripheral sales precinct along Fifteenth Street. These two activity centres provide a significant range of facilities with retail opportunities enhanced by the expansion of Centro Mildura and the proposed Big W development.

The proximity of these existing facilities and their accessibility via Deakin Avenue will place considerable competitive pressure on, and limit the scale and function of, activity centre facilities located in the study area.

Study Area Retail Facilities

Retail facilities could be included in the study area in the following combinations, a single neighbourhood centre with or without a complementary local shopping provision or two smaller local shopping groups based on two market areas on either side of Deakin Avenue. Note the question of viability and securing an anchor trader remain but at a strategic level this does not preclude a neighbourhood centre from being proposed.

A neighbourhood centre would probably be a staged development allowing for the early introduction of facilities to maximise capture from new residents, a minimum stage 1 development would be in the order of a small supermarket say 240 sqm supported by four specialty shops each of 120 sqm, total 720 sqm with provision for further expansion, forming one component of a community focus (Neighbourhood Activity Centre).

While the study area with a population of 8,400 persons could support a neighbourhood centre of say 5,000 to 7,000 sqm it is suggested that without support of a major supermarket operator, the proximity of the Centro Mildura precinct and the configuration of the site would seriously impact the viability of a proposal at this scale.

Medical facilities

A medical centre offering a range of services, probably part-time serviced by a full-time reception could be located at the retail activity centre (single focus or larger location). Note this format provides the opportunity to match services to changing market needs.

Education and Community Facilities

The scale of the study area suggests a demand at capacity for an additional primary school and at least two pre school/kindergartens supported by child minding and play groups. With regard to locating a primary school site within the study area the Department of Education have advised the need to reassess the situation when the 2006 ABS data is available. As part

of the current study the departments' involvement in determining the site for a new primary school in the study area would be imperative.

Community Child Care advised that the provision of an integrated services facility, on a not-for-profit basis, would include kindergarten, child care, maternal child health and play group operations. It was further noted that subject to local needs appropriate Department of Human Services involvement could be included. Co-location with other facilities was identified by both the Department of Education and Community Child Care.

Emerging Issues

Given the location and scale of the study area, issues of residential amenity and the increasing trend to fewer and larger activity centres (be they retail, recreational or service driven) will need to be addressed.

The consultation program has identified that the amenity provision for new residents locating in the study area as the targeted priority, therefore maximising accessibility to the provision of retail goods and services and community facilities, thereby maximising choice, becomes a significant assessment criteria. This suggests the provision of facilities at a scale that can be accessed without recourse to private vehicular transport, with a focus on 'walkable catchments' complemented by public transport.

In retail terms this represents stepping back from the current trend of focusing on larger activity centres and co-locating local shopping facilities with service

stations (automotive focus) on major arterial roads. For community services it suggests the grouping of a range of services in an integrated facility while retaining a local focus.

Conclusions

From the investigation of the existing provision of commercial goods and services (activity centres) and community services along with future proposals, the demand likely to be generated by future study area residents, and inputs from the consultation program have defined the following design parameters.

Provide a mix of activity centre facilities (number and composition) to meet the needs of study area residents while acknowledging that they will most likely also attract patronage from beyond the study area.

Provide 'walkable access' for residents, where ever possible, to a range of retail goods and services and community services including educational, medical, social and recreational facilities, and

Stage the development of commercial and community facilities in line with population growth to optimise local provision and financial viability.

Based on the investigations to date, and subject to later revision, specific components to be provided in the study area include the following,

- One small neighbourhood activity centre anchored by a supermarket,
- One convenience activity centre,

- One primary school
- Two integrated children's services facilities
- One or two medical centres

In addition these facilities would be associated with appropriate open space and residential provision, shop-top and/or medium density.

These findings suggest, given the geography of the study area and the location of Deakin Avenue, the development of multiple activity centres/community hubs to service the study area population. The final location and composition of these activity centres, while significant, are but one component of the design matrix for the future development of the study area.

4.6 Engineering

Existing conditions

Topography

West Side

This area has two distinct topographical directions:

Walnut – Riverside Avenues falls moderately in a northerly direction towards the intersection of Sixteenth Street and Riverside Avenue.

Walnut – Deakin Avenues falls gently in a westerly direction towards the intersection of Sixteenth Street and Deakin Avenue.

East Side

The topography in this area is more undulating with less distinct land fall directions.

There is a north – south ridge line across starting at San Mateo Avenue near Sixteenth Street. The ridge line, heading north – south starts at San Mateo Avenue near Sixteenth Street and finishes at Eriwanda Avenue near Seventeenth Street.

The area to the north west of the ridge falls into a shallow valley that falls towards the Sixteenth Street and Deakin Avenue intersection.

The area to the south east of the ridge falls generally towards Sixteenth Street and Benetook Avenue into a natural depression.

Stormwater Drainage

The stormwater drainage for the greater Mildura South area has been formulated by Mildura Rural City Council in recent years.

The existing drainage concept shows piped drainage, from the study area, being connected into a linear drainage reserve. This linear reserve falls generally from the south towards the north. The linear reserve discharges to Lake Hawthorn via a swale drain which starts at the intersection of Sixteenth Street and Riverside Avenue. The recently constructed linear reserve is located 150 m – 250 m north east of Sixteenth Street.

West Side

The majority of the land bounded by Sixteenth Street – Walnut to Riverside Avenues can drain directly towards the intersection of Sixteenth Street and Riverside Avenue.

The western portion of the Riverside – Ontario Avenue area may be required to have a new discharge point created into Lake Hawthorn.

There is an opportunity to create a linear drainage reserve falling from North to South to discharge to the existing swale drain at the intersection of Sixteenth Street and Riverside Avenue. The south east section of this area between Deakin Avenue to Walnut Avenue is proposed to be drained via underground pipes, connected to the existing linear reserve north of Sixteenth Street.

There is also a small area designated as a Stormwater Management Area in the western corner of Sixteenth Street and Deakin Avenue.

East Side

This area is divided into two distinct drainage catchments. The catchment to the north west of the San Mateo – Eriwanda ridge can be drained to a Stormwater Management Area on the southern corner of the Sixteenth Street – Deakin Avenue intersection. There is an opportunity for this catchment to incorporate a north-south linear reserve discharging to the Stormwater Management Area on the southern corner of Sixteenth Street – Deakin Avenue intersection.

The catchment to the south-east of the San Mateo – Eriwanda ridge can be piped drainage to the proposed Stormwater Management Area on the southern corner of Sixteenth Street – Eriwanda Avenue.

Summary

- Drainage in the study area has been generally assessed by Mildura Rural City Council in the greater Mildura South context.
- There are opportunities to create linear reserves for drainage to follow distinct topographic features of the land.
- Some of the areas will have to be drained with piped drainage to designated Stormwater Management Areas.
- Drainage connections would probably occur in order of proximity to the existing Mildura South drainage system.
- Downstream areas will have to consider/ accommodate drainage of the land above, in the catchment.

Sewerage/Water

Lower Murray Water is the urban sewer and water authority for the area.

Sewer and water services can be made available with reticulated mains and sewerage pump stations, as shown on attached plans.

Lower Murray Water have proposed water and sewer infrastructure that is required to service the Mildura area. This infrastructure is required to pass through the area in road reserves.

A new elevated storage (approximately 40 m high) is also required in the area. Lower Murray Water have allocated a site on the south side of Sixteenth Street, between Walnut and Ontario Avenues.

- Sewer and water services will be available to the area.
- Sequential development, starting from existing services around Sixteenth Street is preferred
- Main infrastructure should be provided with sufficient space in road reserves.
- The elevated storage could be relocated, in the general area, only if there are other benefits.

Raw water and Agricultural Drainage

These are provided by First Mildura Irrigation Trust (FMIT)

Raw water

The area is currently serviced by the FMIT for horticultural water supply and drainage. The FMIT is currently installing

Figure 10 Stormwater Drainage

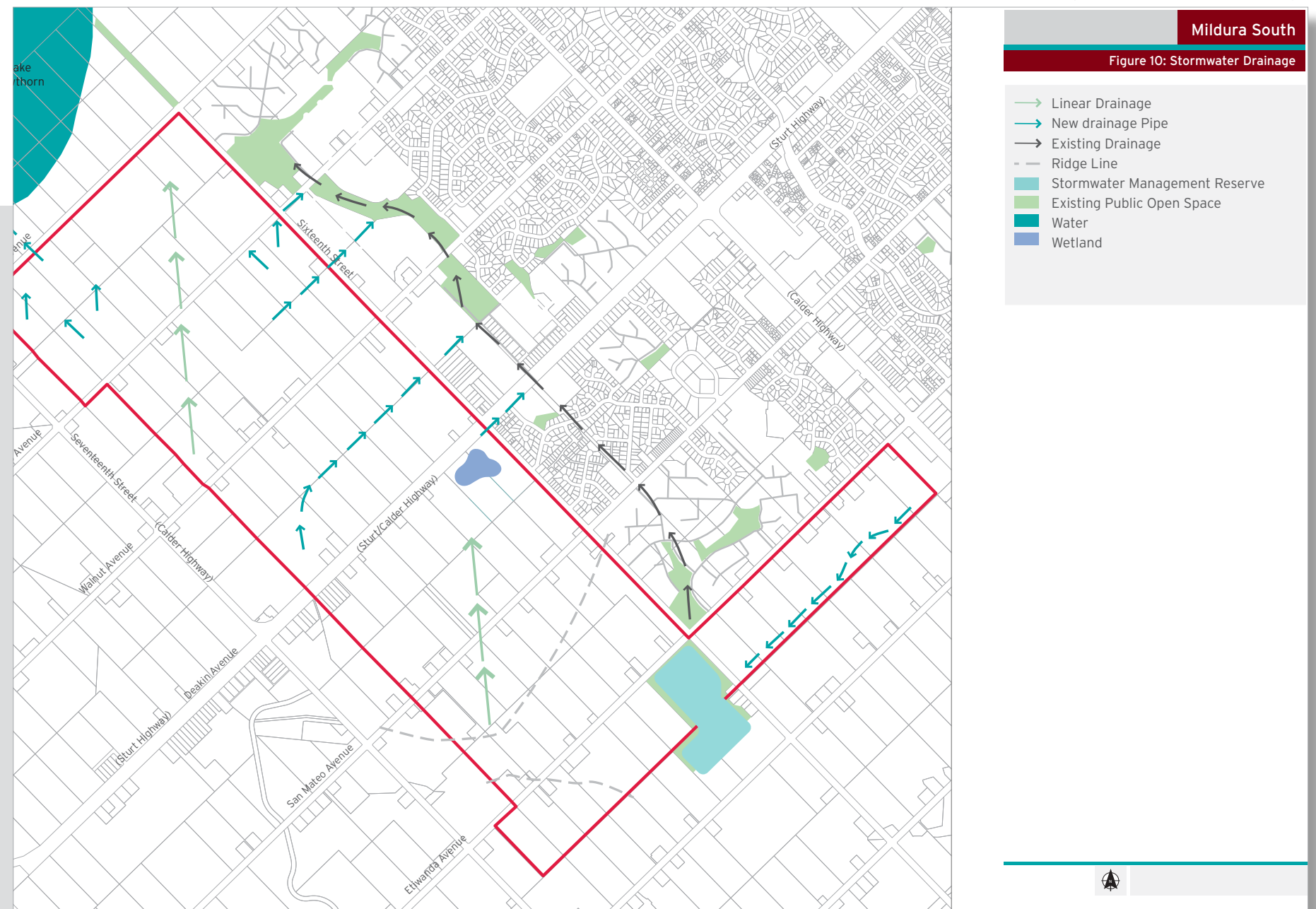
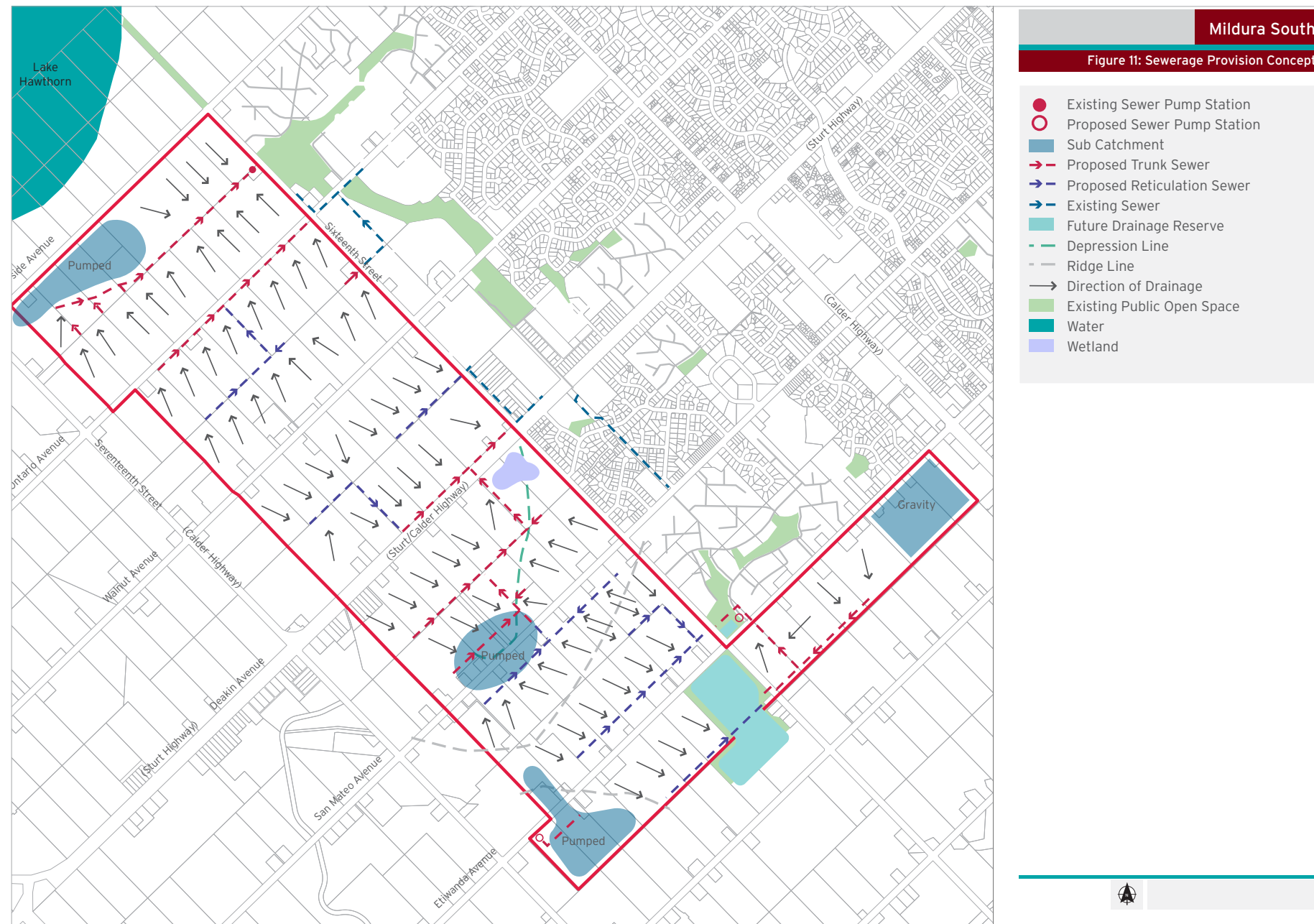


Figure 11 Sewerage Provision Concept



a new raw water supply main to parts of the area along Seventeenth Street. Whilst this main is being installed for horticultural raw water supply, the FMIT has indicated that there may be an opportunity to convert the horticultural use of the raw water to an Urban- raw water supply to residential allotments. This water would officer an alternative supply of water for non-potable uses.

Subsurface drainage

A subsurface drainage network, currently services the area, which discharges to Lake Hawthorn, via mains in Sixteenth Street.

The subsurface drainage infrastructure is aging and not likely to be replaced due to the land being redeveloped to residential allotments.

The FMIT has indicated that there may be an opportunity to connect the aging drains to new stormwater drainage infrastructure as land becomes redeveloped.

Summary

- The FMIT will have new raw water mains available to the area this year.
- There may be an opportunity to convert the new rain water mains to supply residential allotments.
- The FMIT have aging subsurface drains, there is an opportunity to connect these drains to the new stormwater drains as development occurs.
- The above opportunities should be investigated in detail prior to development approvals by the respective water authorities and MRCC. A holistic analysis will avoid the typical bias that occurs when developers assess these opportunities.

4.7 Assessing the Social Landscape

As stated in the introduction, the values, hopes and concerns attributed to the existing physical environment by the community “the social landscape” are important considerations in preparing a plan. They are not the only consideration and do not dictate the detail of the plan but need to be considered alongside other factors and where possible the plan should reflect the priorities and views of the community. There were two rounds of community consultation, the first seeking to identify what are the values, hopes and concerns of the community before any designing commenced. The second round of community consultation sought to understand people’s responses to the vision. The principal mechanism for feedback were response forms distributed at meetings (refer appendix 1). The responses to these consultation exercises are dealt with further in appendix 2. This study makes no claim to have identified all the factors that influence people’s connection with their surroundings, nor all the factors that people are concerned about with the development process. However the two rounds of consultation revealed that the following factors are important to the community and influence their relationship to their shared surroundings.

Not surprisingly the impact of development on the value of their land was a commonly raised concern by land owners. In particular there was often a resistance to open space on any given persons land because it meant there was less land to sell.

The impact of the plan in coordinating development was seen by some as a factor that would increase the

number of challenges that had to be met, diminish what they could do with their land (and hence perceived profitability) but by others as offering reassurance about the quality of development.

Many people recognised that any plan will benefit some landowners (e.g. by fronting on to open space) and not others (e.g. by having their land occupied by open space) and expressed concern that this was inequitable.

Other respondents expressed the view that they liked the areas rural character and would not like to see it developed to take on a suburban character, citing in particular busy roads, congestion and intrusion as specific concerns.

The view was also expressed that development was likely to increase flooding and polarise extremes of run-off in the area.

A further concern related to the timing of development and in particular posed the question “what would happen if my neighbour wanted to develop and I didn’t?” Given that the interface between residential and agricultural uses can often cause conflicts. This concern was also raised on the final boundary to the south, were residential uses would indefinitely adjoin agricultural uses.

Another related concern that was raised related to the volume of commercial traffic on Seventeenth Street.

Concerns were also related about the achievability of the goals identified in the presentations given the realities of development in Mildura. In particular the commitment to water sensitive urban design raised concerns that the

wetlands and swales would become mosquito breeding environments and the suggestion of a range of densities was considered unrealistic in the Mildura market by some.

Finally, in conversation with some members of the community the emotional attachment they have to their land was raised, as was the hope that this plan could help the landowners leave a legacy that their children can be proud of. These insights were used to draw a series of conclusions as to what the plan should address and focus. The responses to these issues are documented in appendix 2. There are, however additional contextual issues that will be expected to influence the social landscape within the lifetime of the study and that we should be aware of in preparing concepts. These are explored below.

Responding to social trends

As identified previously, household size in Mildura, as elsewhere, is diminishing and society is on the whole aging. Coupled with expectations for larger houses, a high level of personal mobility and comfort, this will feed a demand for easy car travel, air-conditioning and larger houses on smaller blocks. The problems that this will raise for achieving greater sustainability are self evident. If this project is to achieve a plan that is broadly supported and is to facilitate people to lead sustainable lifestyles whilst enjoying a high quality of life, then it is necessary to consider how the plan can facilitate the subdivision of lots that enjoy good solar orientation and are a variety of sizes. It is also necessary to ensure the buildings on

them can enjoy good, easily controlled solar access and ventilation to enhance comfort in the building without recourse to mechanical heating and cooling.

Facilitating adequate personal mobility must be done in a way that still allows vehicular access throughout but ensures that the movement corridors are capable of accommodating walking, cycling and public transport. By making these routes safe, attractive and convenient for these modes they can at least become realistic alternatives for more people as the awareness of the disadvantages of car travel grow.

A further issue to address is the changing nature of the urban landscape as it responds to drought conditions. There is an increasing awareness that the use of many exotic trees cannot be justified given their demands on increasingly scarce water. However for many people these exotic trees add to the landscape. Consequently, finding a balance that allows exotic trees to continue to make a contribution whilst ensuring that most of the landscape character is provided by appropriate native trees is an important objective to responding to the community values. This can be achieved because the private realm is allowed to plant exotic species but should be encouraged to use low water intensive species.

A further social issue relates specifically to the development community is the implementation of Clause 56 of the Victorian Planning Provisions will raise development standards, and it seems likely it will raise costs for developers. This project is the first major test of clause 56 in Mildura and it appears likely there will be some resistance from the development

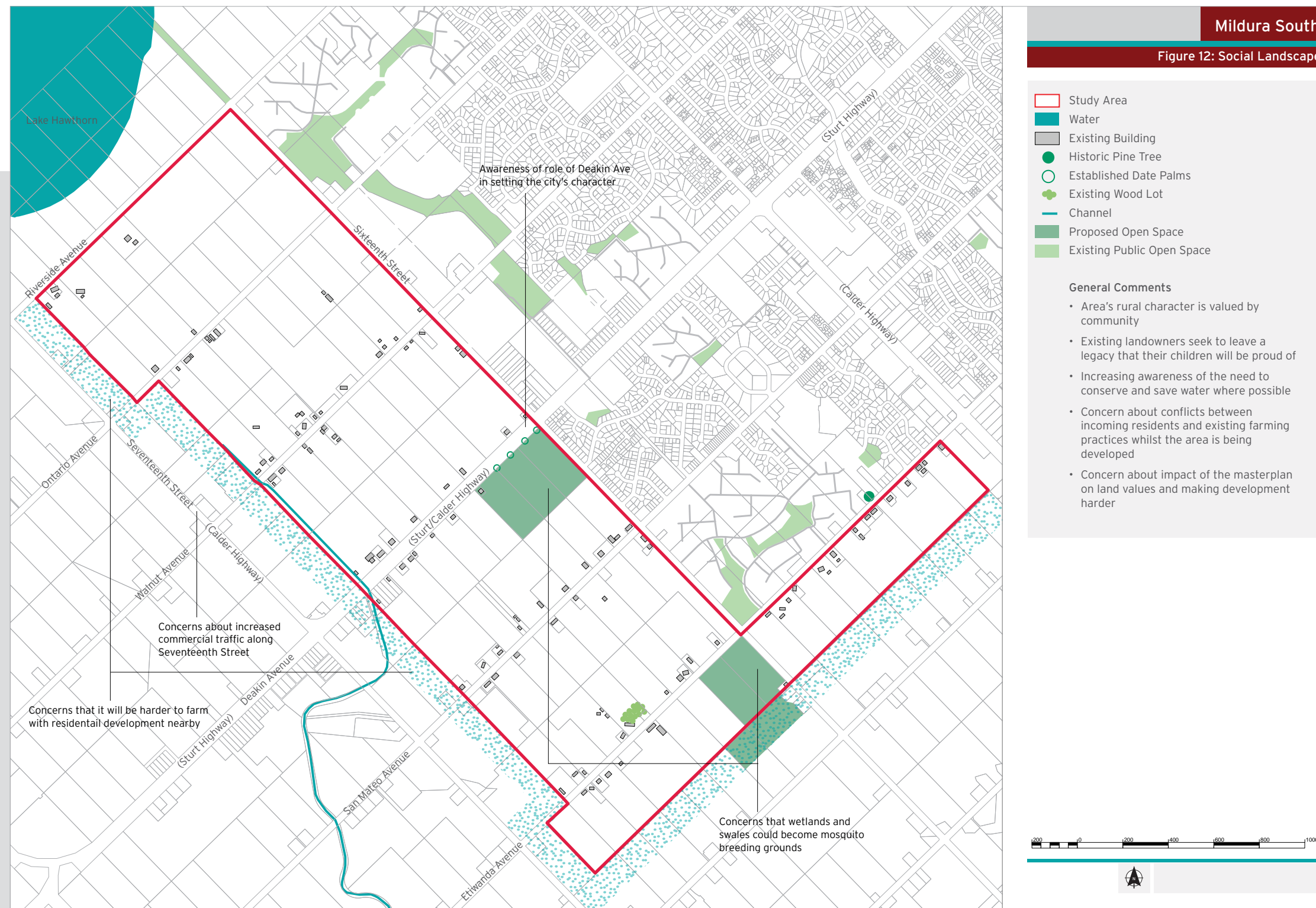
community and many landowners who will perceive it as an impediment. Interpreting and implementing the provisions of clause 56 will require a greater level of explanation to the development community that would otherwise be necessary.

Conclusions

The assessment of the social landscape suggested the final concept should ensure that consideration is given to:

- Preparing a suite of measures to address staging/ interface issues to minimise conflicts between adjoining uses.
- Explaining the benefits of a coordinated approach to the planning and design process to reassure landowners and encourage them to adopt the plan.
- Explaining that the development contributions plan exists to ensure that people who end up having to accommodate necessary infrastructure (such as open space) are compensated and those that have windfall benefits have to pay for this infrastructure.
- Ensuring that the area retains its own character, is distinguished from the nearby suburban and evokes a more rural character.
- Ensuring that the plans put no additional controls on peoples land other than what is absolutely necessary to achieve strategic planning and design goals, in order to minimise restrictions on what people can do with their land.
- Ensuring the plan makes explicit reference to the importance of open space management, mosquito control, drainage and stormwater management and articulates what is required to be done to address these issues.
- Ensuring the plan articulates what is “locked in” and why and what is flexible to developers and residents certainty.
- Ensuring the plan contains adequate measures to minimise traffic, protect amenity and enhance vegetation cover to retain some of the valued features of non-urban areas, and,
- Providing a structure that has maximum flexibility for development fronts (within other considerations) to ensure that, as far as possible, the development process can go on in the desired timescale of the landowners.
- Preparing a summary brochure to explain the benefits of the plan to the wider community.

Figure 12 Social Landscape



4.8 Other issues

We have been advised by the Aboriginal Affairs Victoria that they have no records of Aboriginal heritage sites or places within the Mildura South study area. This is reflected in the Mildura Cultural Resource Management Grid Map which indicates that there are no indigenous heritage sites within the study area. However, as far as can be established, this area has not previously been surveyed for archaeological sites.

Therefore, Aboriginal Affairs Victoria recommends that, as a minimum, the following conditions be placed on all planning permits:

Works must cease immediately upon the discovery of any Aboriginal cultural material, and Aboriginal Affairs Victoria must be notified immediately of any such discovery at GPO Box 2392V, Melbourne 3001 or on (telephone) 1300 551 380.

If any suspected human remains are found, work in the area must cease and the Victoria Police and the State Coroner's Office must be informed of the discovery without delay. The State Coroners Office can be contacted at any time on telephone (03) 9684 4444.

If there are reasonable grounds to suspect that the remains are Aboriginal, the discovery should also be reported to Aboriginal Affairs Victoria on (telephone) 1300 888 544 or (03) 9208 3287. AAV will ensure that the local Aboriginal community is informed about the circumstances of the discovery.

Officers of Aboriginal Affairs Victoria shall be permittee access to the site at any reasonable time, for the purpose of monitoring adherence to conditions above.

Aboriginal Affairs Victoria also suggests that Council include the following as an advisory note in all planning permits:

- All Aboriginal sites, places and objects in Victoria are protected under the Commonwealth Aboriginal and Torres Strait Islander Heritage Protection Act 1984 and the Victorian Archaeological and Aboriginal Relics Preservation Act 1972. It is an offence to do an act that causes damage to, the defacing of, interference with, or endangers an Aboriginal object or an Aboriginal place if the person doing the act knows or ought reasonably to know that the object or place concerned was an Aboriginal object or an Aboriginal place.
- Where it is suspected that works may impact on Aboriginal cultural heritage objects or places the applicant should make provision for a heritage impact assessment of the area by a suitably qualified heritage consultant in conjunction with representatives of the relevant Aboriginal stakeholders.

Changes to the Aboriginal Heritage Act 2006 were introduced on 28 May 2007 with the introduction of the Aboriginal Heritage Regulations 2007

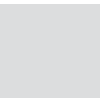
The purpose of the Act and regulations is to provide for the protection of Aboriginal Cultural Heritage in Victoria. It is the responsibility of the applicant to determine if a Cultural Heritage Management (CHMP) is required

and submit this with any planning application. Under Section 52 (1) of the Aboriginal Heritage Act 2006 the responsible authority must not grant a planning permit without an approved CHMP if one is required under the Act. Under Section 52 (4) of the Aboriginal Heritage Act 2006 until the responsible authority has received a copy of the approved CHMP the time required for the responsible authority to make a decision is deemed NOT to have commenced.

This new legislation will be required to be considered by applicants when applications are made for high impact activities in the study area.

This report has not been able to investigate or address issues of ecological value and European heritage.

There are no current heritage assets identified within the site. The minor landmark and socially significant Norfolk Island pine tree (*Araucaria heterophylla*) is located opposite the site on Eriwanda Avenue.



This section establishes a measuring stick with which we can test draft concepts and assess if it is likely to contribute to quality of life of incoming residents and the existing community and accord with our philosophy

Objectives

The underlying objective of the study is to create a sustainable and highly liveable urban expansion to the south of Mildura. The project seeks to ensure that, as far as possible, all members of the existing and future local community have access to all the facilities, services and qualities that will contribute to their quality of life and allow them to thrive and realise their potential as individuals and as a community.

Development Principles

- The detailed design of the new neighbourhoods is envisaged to reflect the neighbourhood principles outlined in Section 56 of the Planning Scheme, namely:
- Compact walkable neighbourhoods where neighbourhood Centres support local services and facilities. Reduced car use is encouraged because public transport is easy to use and walking and cycling are promoted.
- Environmentally friendly development where lot layout and design supports more energy efficient dwellings.
- Diverse lot sizes and a range of lot types will be provided to better meet future community housing needs.

- Integrated water management that conserves our drinking water and locally manages the quality of urban run-off.

Detailed Design Principles

- These neighbourhood principles will be implemented through application of detailed design principles;
- Provide an attractive sense of arrival at each entrance to the site and to each character precinct, through the use of water and landscape
- Articulate decision points in the movement network through the use of attractive and distinctive built form and landscape
- Provide a permeable movement network for pedestrians and cyclists
- Ensure that all streets and parks are overlooked by houses, to enhance their safety for pedestrians and cyclists
- Use rear lanes (where possible) to minimise vehicle impact around important community open spaces
- Promote traffic speeds and behavior appropriate to a residential environment through the design of local streets and appropriate traffic calming measures
- Use a distinctive combination of views, landscape and built form in each street to create a sense of place and aid legibility
- Ensure that the swales and overland flow paths are attractive spaces even when dry
- Align secondary streets and lots to maximise the potential for solar access where possible and bearing in mind the imperative to create regular lots and long site lines for visibility and respect site lines.

Key Features

The structure plans incorporated into this report apply these principles throughout the design. However there are some key features that are particularly important to achieving the vision. These are:

Facilitating sustainable transport:

- The structure plans are based on the answer to the question; where are people likely to want to go and how can we make walking and cycling a relatively more attractive way of getting around for shorter journeys? Routes are designed to reflect desire lines and link up key points of access with primary movement routes to provide for direct and logical movement through the site.
- Utilisation of the natural fall of the land to provide an ecologically sustainable stormwater management system.
- Retention of healthy trees and use them as a generator of local identity
- Creation of variations in density and promote distinctive building and landscape character to reinforce the sense of the area responding to its surroundings
- Variation in density to respond to existing development beyond the site
- Introduction of new qualities in parts of the site with little intrinsic quality
- Facilitation of good solar access within lots, generally by aligning roads north-south where large block size makes that possible and elsewhere by detailed design.

Open space and movement networks

In keeping with best practice water sensitive urban design (WSUD) public open space provision is focused on the stormwater management areas and a road layout that emphasises their importance (refer to Council's WSUD Guidelines prepared by Parsons Brinkerhoff June 2005). The resulting public open space network will contribute significantly to the area's character and provide parks within a comfortable walking distance of anywhere in the study area, and promote walking and cycling.

Secondary streets are aligned where possible to provide a direct visual link to these key features and ensure that swale drains can be used to filter stormwater run-off and mitigate peak flows. This alignment can also capitalise on their value as an attractive view termination. The design of secondary streets and adjoining built form and landscape will provide a clear expression of the street hierarchy, which will help make the neighbourhood more legible and less homogenous.

In residential 1 zoned land where the smaller lots make getting good solar access issues more of a challenge, most streets should, where possible be orientated north-south to ensure the long side of most lots face north to facilitate good solar access, or alternative techniques are used for other alignments, such as wider lots for greater flexibility.

Intersections will be designed to avoid conflict and ensure there is no ambiguity as to priority.

Neighbourhood focal points

The layout should ensure each neighbourhood contains a focal point incorporating a village green containing play and recreation assets and a distinctive and striking social infrastructure feature (such as an iconic BBQ shelter), within a high quality landscape. The village green would be fronted on by uses significant to the whole community (e.g. shops, health care) and housing of relatively high density. These will be located at the intersections of the primary movement networks and (where possible) the drainage line to:

- Create a common point of interest for everyone in the community
- Concentrate demand for public transport services and other amenities where they can best be met
- Reinforce the clarity of the overall urban structure by making the centres of the neighbourhoods explicit
- Create a more visually interesting experience as one moves through the new neighbourhood
- Generate local identity on a walkable neighbourhood scale—reflecting the characteristic density gradients of rural townships (people clustered around the centre)

Developing Character areas

Landscaping, road layout, lot layout and lot size are all used to create a range of different character areas. This will enhance the visual interest and distinctiveness of the area and provide an appropriate way of accommodating the transition from urban to rural common to all areas.

The detailed design of the new neighbourhood is envisaged to reflect the neighbourhood principles outlined under Clause 12.05.2 and in Section 56 of the Victorian Planning Scheme, which is summarised as:

- Compact walkable neighbourhoods where neighbourhood Centres support local services and facilities.
- Reduced car use is encouraged because public transport is easy to use and walking and cycling are promoted.
- Environmentally friendly development where lot layout and design supports more energy efficient dwellings.
- Diverse lot sizes and a range of lot types will be provided to better meet future community housing needs.
- Integrated water management that conserves our drinking water and locally manages the quality of urban run-off.
- Socially responsible development that is connected, overlooked and contribute to safety and perceptions of safety.

6 Elements of the Masterplan

Based on our understanding of the issues described in this report, we have established that if the area is to fulfil the benchmarks of good design then the following elements need to be incorporated in the plan.

The following list outlines the facilities and services that are required within the site to meet the future broader community's needs:

- A range of housing types for 8400 people.
- Open space (to Clause 56 Standard C13 requirements) offering a variety of experiences and providing for a range of uses including walking, cycling, dog walking, active (soccer, oval) recreation and passive (picnic park, BBQ, bird watching) recreation, potential for BMX track and Skate Park.
- Area for habitat protection/enhancement area and stormwater management.
- Basketball and indoor sports stadium
- A small neighbourhood activity centre incorporating a supermarket integrated into a neighbourhood focal point
- A convenience activity centre integrated into a neighbourhood focal point
- Aged care housing
- A Primary school
- wo integrated children's services facilities
- One or two medical centres
- Buffers or appropriate interface treatments to surrounding land uses and required infrastructure, such as new water tower, substations, pump stations, and surrounding land uses.

- Supporting infrastructure
- Mildura City Gateway feature

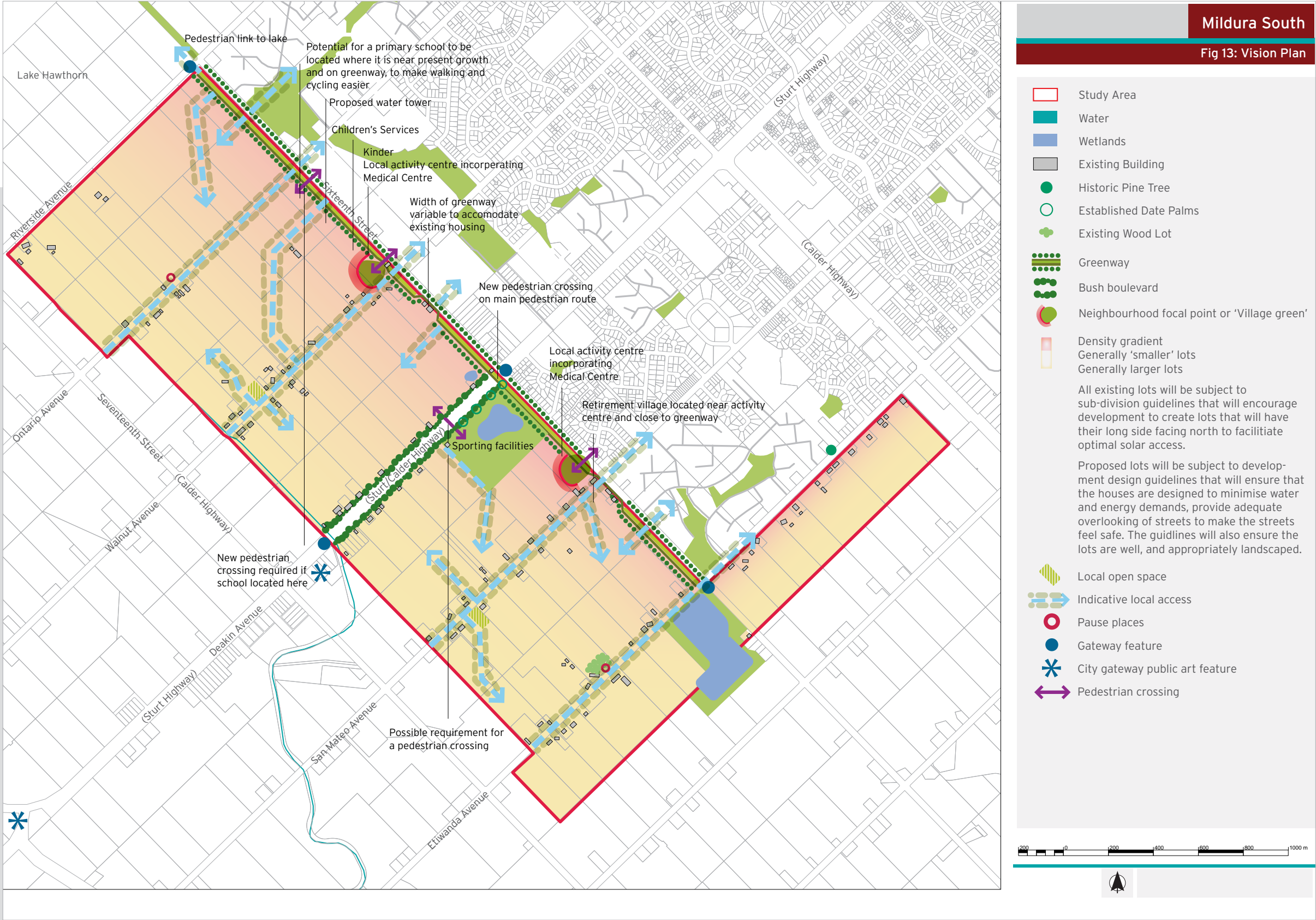
The design team undertook a series of workshops to establish a draft vision for the area that accommodated these uses in a way that best addressed the issues raised by the team, stakeholders and the community. This vision is illustrated in figure 13 and was presented to the community and Council on 20 March 2007.



7 Draft Vision Plan

The draft vision outlined the suggested overall structure of the plan and explored the design of the components of that plan if it was to meet the objectives of the study. A copy of the full presentation given to the community outlining the vision is contained in appendix 3. Two key plans are reproduced below, the vision plan outlining the structure of the optimal plan and an indicative masterplan that illustrates how the area may be developed, assuming a degree of coordination between some land owners but not all and also assuming that larger lots fulfilled their potential to accommodate north-south streets to facilitate optimal solar access.

Figure 13 Vision Plan



Rationale

The vision plan seeks to provide a structure for the development that locates the main community significant uses along a civic boulevard that is designed to facilitate walking, cycling and motorised transport along an attractive and memorable route. The concept further recognises Deakin Avenue as an important gateway and potential barrier and presents a concept that creates an attractive threshold of the city and minimises potential conflicts.

Rationale for Activity Centres

In purely commercial terms it could be argued that the study area could be well served by a larger single retail centre anchored by a full line supermarket focusing on Deakin Avenue in conjunction with the proposed regional sports complex, or by Service Station based convenience retail facilities. However both have limitations. The single centre would only offer a limited 'walkable catchment' and would reinforce the focus on Deakin Avenue both as a traffic corridor and a direct link between the new centre and the larger Centro Mildura Centre. In contrast local convenience shops linked to service stations cannot offer the depth or range of goods and services to offer a viable alternative to additional and increasingly longer car based trips to the Centro complex for weekly, and some daily, shopping requisites. Further neither of these options addresses the Victorian planning Provisions objectives as outlined in Clause 56.03 'Livable and Sustainable Communities'.

The vision embodies two communities, one on either side of Deakin Avenue, each with their own Neighbourhood Activity Centre adjacent to the Sixteenth Avenue (Green Way). This achieves the following benefits;

- Enhances the provision of 'walkable catchments'
- Serves residents on both sides of Sixteenth Avenue
- Complements the existing Mildura infrastructure, particularly the Fifteenth Street commercial focus and the current pressures on the Mildura South Primary School and kindergarten by providing potential new sites.
- Has a limited impact on existing convenience retail facilities north of Sixteenth Street
- Provides high level integration with public transport
- Reduces the traffic contribution to, and focus on Deakin Avenue by future residents
- Provides an accessible focus for community activities and uses
- Provides the opportunity for multi-purpose trips for residents by providing a range of commercial and community elements
- Enhances after-hours safety of the commercial and community spaces through the residential component, shop-top and medium density
- Provides a town square open space which will offer a range of recreation facilities. These will become integral components of the open space network, both in the study area and the adjacent urban area north of Sixteenth Street.

- Provide an integrated setting for a kindergarten, child care, maternal child health services and play groups. These were planned in response to 'council request' and based on identified demand.

Other aspects of Vision rationale

Sixteenth Street/Greenway

The main trip generators are located along a high amenity civic avenue that provides an opportunity to make walking, cycling and public transport relatively more attractive than car use, as well as creating a high profile landscape asset. The greenway is located so as to link Lake Hawthorn, the proposed sporting facilities and be close to the existing development front. For this reason it runs along the alignment of Sixteenth Street through the length of the development area.

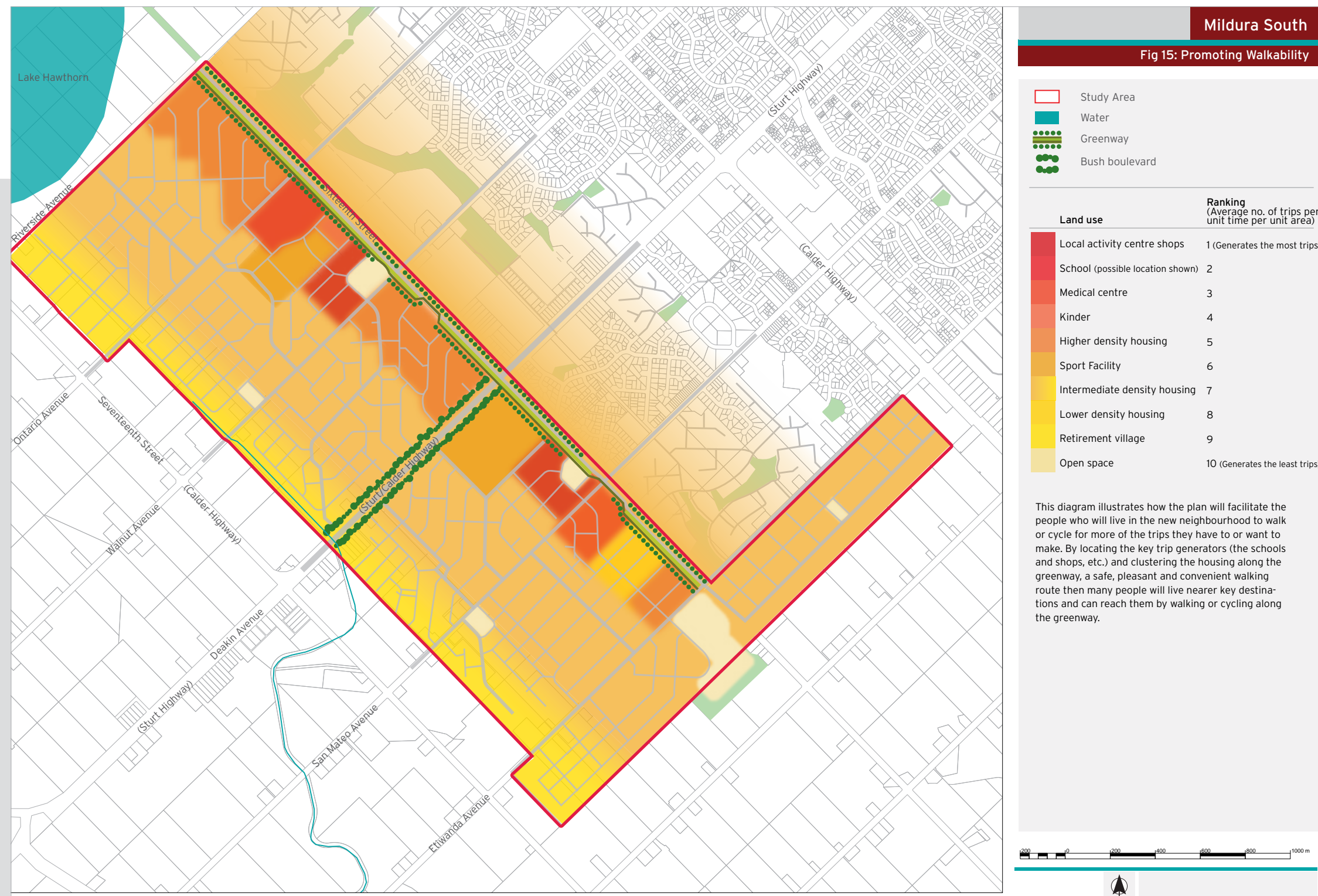
Deakin Avenue/Bush Boulevard

The concept recognises the civic importance of Deakin Avenue by making provision for attractive and significant landscaping in accordance with the adopted landscape Masterplan. The vision proposes replicating the slip road existing on the eastern side on the western side. This is to ensure incoming residents can safely front onto Deakin Avenue.

Streets tailored to more than just vehicles

The vision concept suggests that streets are tailored to meeting more than just the needs of moving vehicles along them. To this end the concept envisages

Figure 15 Promoting Walkability



proportions for roads that ensure that their hard surfaces do not dominate and in particular the road does not dominate.

Design Guidelines

The vision suggests a series of design guidelines are applied to all development to ensure that buildings relate well to the surrounding public realm and that these buildings offer a cohesive character and promote sustainable patterns of consumption.

Density Gradient

The vision generally suggests that density decreases with distance from the city centre and the greenway. There are two main reasons for this; firstly, it concentrates development near the shops, community services, transport and amenity assets of the greenway and, secondly it minimises the number of people near the potentially intrusive agricultural spraying. These will be implemented through design guidelines that specify significant setbacks on this edge to create a buffer.

Developing the Vision Plan

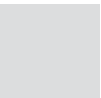
Members of the community and stakeholders were invited to comment on this vision to allow the design team to establish if the vision was supported and the issues were adequately addressed. The response forms were designed to facilitate comparable comments about all the key aspects of the vision (refer appendix 2). The responses to this round of consultation are documented below.

Following the receipt of the six response forms and three letters the design team conducted a workshop to consider the responses and identify what action should be taken. The responses and our comments are outlined in appendix 2.

Changes made to the Vision Plan as a result of submissions

As a result of these responses and workshop sessions with stakeholders the following key changes were made to the draft vision;

- The scope of the guidelines was extended to require the provision of water tanks.
- The importance of the protection of Lake Hawthorn was explicitly stated and Water Sensitive Urban Design measures enhanced to achieve this goal.
- The guidelines for landscape were amended to suggest permeable surfaces where possible.
- The suggestion was made to “skill up” local volunteers to help manage open space. This was added to the report as a supporting initiative.
- The briefs for future work were amended to emphasise local sensitivities, such as maintenance or mosquito’s.
- The proposals for Deakin Avenue were amended to suggest three options; the second one being to facilitate the provision of a dual carriageway throughout the area in keeping with the character of the highway nearer town. This reflects the view, expressed by some stakeholders of the perceived desirability of ensuring the road maintained its civic character throughout the town.



8 Structure Plan

Planning and Urban Design Rationale

Sixteenth Street/Greenway is to form a high quality landscape corridor which will facilitate and encourage walking and cycling to occur along this key spine of the Mildura South area, linking the major trip generators that are to be located along this route.

Where possible, land consolidation and coordinated development is encouraged to allow for a north south street network and lot layout which will facilitate better solar aspect and improve sustainability.

The density gradient, which locates the higher density development along the Greenway and along Etiwanda is intended to allow the maximum number of people to live as near as possible to this high amenity corridor and be within easier walking and cycling distance of the facilities and services they require on a day to day occurrence. This will also ensure that a higher percentage of the future residents will be as close and possible to the rest of Mildura and its existing facilities and services. As a result this will allow the low density development to occur on the outside edges of the study area; providing an appropriate interface between residential and rural land uses.

The Bush Boulevard/Deakin Avenue treatment (whichever option is adopted), will act as the city gateway feature and define the threshold point between the rural area and City of Mildura. Currently the formal Deakin Avenue landscape treatment and road alignment end abruptly at Fifteenth Street. This Bush Boulevard landscape, road alignment treatment

will define the transition between the Fifteenth Street to Seventh Street character and the Seventeenth Street and beyond character.

Public open space size, location and type are designed to meet the requirements of Clause 56.05 'Urban Landscape', Standard C13. This is to ensure that a variety of public open spaces are provided, and that they are of appropriate quality and quantity and provided in convenient locations to all residents.

The provision of a coordinated service by Council is suggested to facilitate more efficient development with less social conflict. The dis-benefits of an uncoordinated approach to development to landowners are explored overleaf.

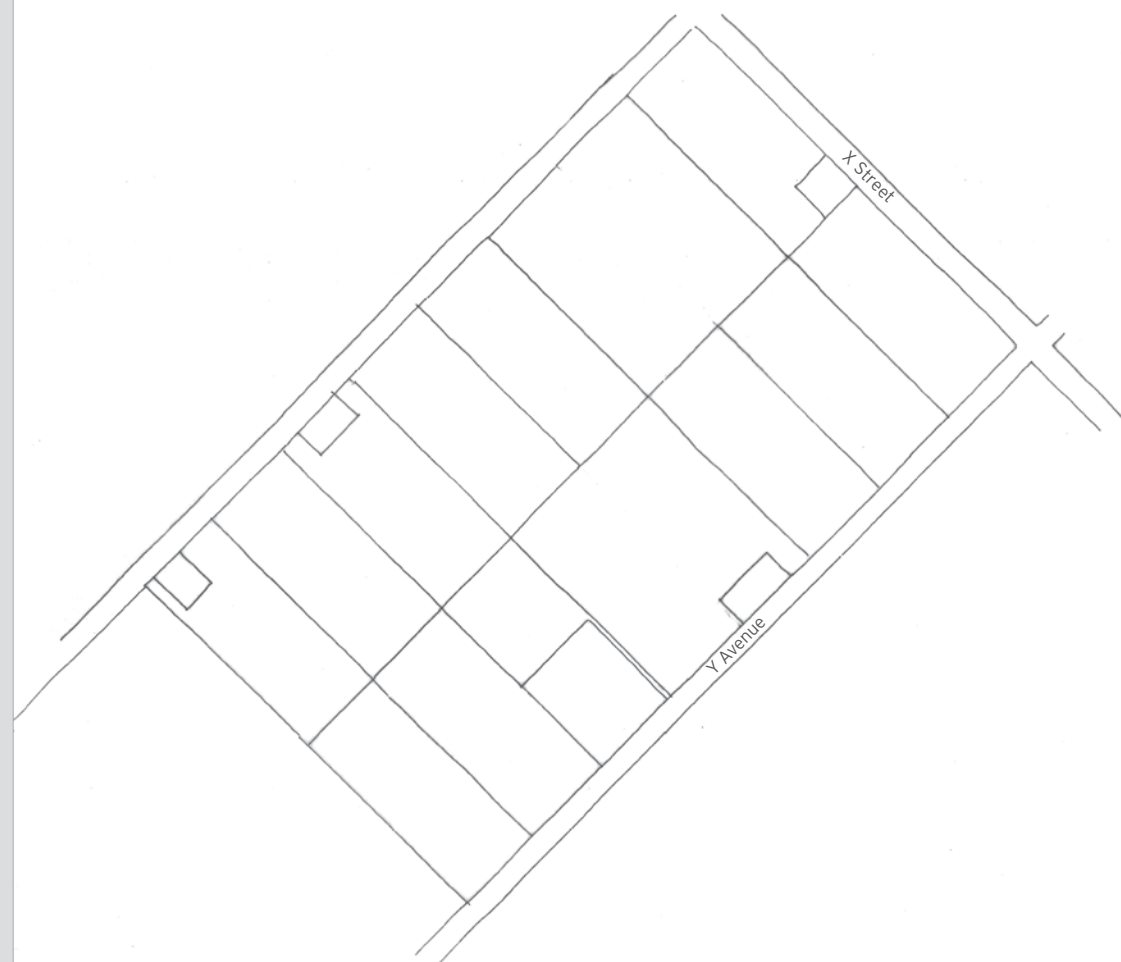


Figure 16 Uncoordinated Development

Mildura South

Figure 16: Disadvantages of an unco-ordinated block approach

Generic Block - Existing Subdivision



Generic Block - Unco-ordinated Development



Transport Rationale

In order to achieve the objectives set out for the Strategic Framework Plan, the following elements are fundamental to the success of the development:

Greenway

The greenway is indicated to run along Sixteenth Street providing a high-amenity walking and cycling route. The green link is expected to be a desirable, safe and direct route connecting many of the services proposed along Sixteenth Street. This linkage will help promote the use of walking and cycling to access services which will help to reduce to overall reliance on the motor car that is typical across Mildura.

Pedestrian Crossing on Deakin Avenue

Deakin Avenue has been identified as a potential barrier to walking and cycling as it dissects the development site and carries significant through and local traffic. The green link proposed will run continuously along Sixteenth Street and will also be bisected by Deakin Avenue. It is vital to the integrity of the Green Link that a high quality, prompt and direct signalised crossing facility is provided at the intersection of Sixteenth Street and Deakin Avenue.

Recommendation that discussions should be held with VicRoads, and that Mildura South Primary school should be consulted on the matter.

Public Transport – “Meeting our Transport Challenges” standards

Public transport forms the final part of the sustainable transport network for the proposed development. Public transport provision should be mandatory across any new residential development. ‘Meeting Our Transport Challenges’ and ‘Public Transport Guidelines for Land Use Developments’ both produced by the Department of Infrastructure (DOI), state that in new developments, at least 95% of new residential properties should be within 400m of public transport services. To this end, the provision of a road network that can support the provision of public transport to this level is vital.

The Strategic Framework Plan for Mildura South needs to ensure that direct, safe and easy movement through and between neighbourhoods for pedestrians, cyclists, public transport and motor vehicles is provided. To this end, the strategy looks to ensure barriers are reduced and the existing and proposed areas integrate well.

The strengths of the strategy are its sustainable focus and the promotion of good connectivity with existing residential areas. The scheme is designed to enable good public transport provision through the area and promote local services to reduce the need to travel. Also it develops a heart for the existing residential development that is otherwise in danger of becoming suburban sprawl.

The weaknesses of the strategy include the barrier effects that will exist such as the highway that dissects the site creating potential for severance. A barrier to walking and cycling can lead to an increased reliance on the car if not mitigated against. However the alignment of major trip generators along or near to the greenway will ensure most desire lines cross Deakin Avenue at the one point (Sixteenth Street/Greenway) justifying the concentration of efforts to create a safe crossing.

Table 2 Standard C3

Subdivision should be supported by activity centres that are:	How is this achieved?
Accessible by neighbourhood and regional walking and cycling networks	The activity centres will be accessible via the local walking and cycling network. The shared path proposed along Sixteenth Street will form part of the regional walking and cycling network.
Served by public transport that is connected to the regional public transport network	Bus routes will utilise Sixteenth Street, and connect Mildura South activity centres to Centro and the Central Mildura.
Located at public transport interchange points for the convenience of passengers and easy connections between public transport services	Public transport interchange (bus to bus) will be minimal within Mildura South – however it is envisaged that several bus services could serve each activity centre.
Located on arterial roads or connector streets	Sixteenth Street is a connector road.
Of appropriate size to accommodate a mix of uses that meet local community needs	This has been achieved by provision of expert advise relating to the size and location of the centre to ensure it is a logical place to locate these services and is large enough. These issues will be integrated through the incorporation of a DPO for this area.
Oriented to support active street frontages, support street-based community interaction and pedestrian safety	Activity centres will front Sixteenth Street (with upgraded pedestrian and cycle facilities included as part of the greenway design).

Key Design Elements

If the concept is to achieve its potential, the detailed design must;

- Provide a walking and cycling network, public transport network and neighbourhood street network that promotes a Sustainable Neighbourhood (as per Clause 56);
- Consider the trips generated by new neighbourhoods and the improvements to the transport network (for all modes) that will be required to support the planned growth;
- Recognise the mixed traffic function nature of Deakin Avenue and mitigate the issues associated with this function;
- Plan to minimise the barrier effect of Deakin Avenue for pedestrians and strengthen linkages between to Western and Eastern development areas;

- Plan effectively to reduce car use for local trips which can be made by walking or cycling;
- Support plans for a bypass that will take traffic / freight traffic out of the town and away from the development areas;
- Provide a well planned road network to ensure full bus access to any future neighbourhood hub and school;
- Design a road network that provides linkages with the existing grid network and adjacent residential areas;
- Consider minimising through routes through the development areas without precluding good access (including access for buses); and,
- Provide intersection treatments on the existing network to facilitate new traffic and pedestrian / cycle movements.

Conformance with Clause 56 objectives

Activity Centre

The Clause 56 Principals for Activity Centres (56.03-2) state that subdivisions should be supported by activity centres that meet a number of activities. These are outlined in table 2.

Planning for community facilities objective

The Clause 56 Principals for Planning for community facilities (56.03-2) state that appropriately located sites for community facilities (schools, libraries, preschools and childcare, health services, police and fire stations, recreation and sports facilities) be provided. These are outlined in table 3.

Table 3 Standard C4

A subdivision should:	How is this achieved?
Implement any relevant regional and local community facility strategy, plan or policy for the area set out in this scheme	Plan is based on consultation with Council re required services. Refer appendix 1 for documents considered.
Locate community facilities on sites that are in or near activity centres and public transport	<p>Kinder and Medical facilities will be located in activity centres.</p> <p>Retirement village and children's services will be located adjacent to activity centres.</p> <p>School will be located on Sixteenth Street close to activity centre.</p>
School sites should:	
Be integrated with the neighbourhood and located near activity centres	School will be located on Sixteenth Street close to activity centre.
Be located on walking and cycling networks	A shared path is proposed along Sixteenth Street.
Have a bus stop located along the school site boundary	Bus facilities can be located on Sixteenth Street or other boundary roads.
Have student drop-off zones, bus parking and on-street parking in addition to other street functions in abutting streets	Abutting road network can be designed to ensure streets perform these functions.
Adjoin the public open space network and community sporting and other recreation facilities	The open spaces, sporting facilities and school are all linked by a safe, attractive, comfortable walking and cycling route. It is envisaged the greenway might incorporate incidental recreational uses such as tennis courts, bowls greens and petanque areas.
Be located on land that is not affected by physical, environmental or other constraints	The plan seeks to minimise these issues on and off site.
Schools should be accessible by the regional public transport network	Sixteenth Street will be suitable for bus services, with regular services using the road to access the local activity centres.
Primary schools should be located on connector streets and not arterial roads	Sixteenth Street is a connector road.
New State Government school sites must meet the requirements of the Department of Education and Training and abut at least two streets with sufficient widths to provide student drop-off zones, bus parking and on-street parking in addition to other street functions	Abutting road network can be designed to ensure streets perform these functions.

Table 4 Standard C15

The walking and cycling network should be designed to:	How is this achieved?
Implement any relevant regional and local walking and cycling strategy, plan or policy for the area set out in this scheme	Accords with expressed Council objectives. Refer appendix 1 for documents considered.
Link to any existing pedestrian and cycling networks	Link to the existing Mildura South network but providing pedestrian crossings on Sixteenth Street and Eriwanda Avenue.
Provide safe walkable distances to activity centres, community facilities, public transport stops and public open spaces	By providing two local activity centres, either side of Deakin Avenue, with community facilities located close by, walkable distances are minimised, and the need to cross Deakin Avenue is reduced.
Provide an interconnected and continuous network of safe, efficient and convenient footpaths, shared paths, cycle paths and cycle lanes based primarily on the network of arterial roads, neighbourhood streets and regional public open spaces	Footpaths will be provided either side of all local neighbourhood streets. A shared path will be provided parallel to Sixteenth Street, providing a link between various the trip generators, facilitating walking and cycling.
Provide direct cycling routes for regional journeys to major activity centres, community facilities, public transport and other regional activities and for regional recreational cycling.	The shared path along Sixteenth Street links to Deakin Avenue – Shared Paths (or footpaths and cycle lanes) along. Deakin form a part of the principle walks and cycle network link Mildura South to Mildura Centre.
Ensure safe street and road crossings including the provision of traffic controls where required	A proposed (subject to VicRoads approval) signalised intersection at Deakin Avenue / Sixteenth Street will provide safe pedestrian and cycle crossing opportunities on the principal desire line. A new pedestrian crossing facilities on Sixteenth Street by each local activity centre will provide link to new residential areas north of Sixteenth Street. A new crossing on Sixteenth Street opposite the proposed school will link to new residential areas north of Sixteenth Street. Consideration should be given to provision of a pedestrian crossing on Deakin Avenue between Sixteenth Street and Seventeenth Street
Provide an appropriate level of priority for pedestrians and cyclists	Refer proposed road sections that seek to achieve this goal
Have natural surveillance along streets and from abutting dwellings and be designed for personal safety and security particularly at night	Refer proposed design guidelines that seek to achieve this goal
Be accessible to people with disabilities	Care has been taken to maximise accessibility

Walking and cycling network objectives

Deakin Avenue Options

Deakin Avenue creates a series of issues for the development of the Mildura South site and the conflicts that arise from the differing roles of the corridor make identifying a suitable strategy for the corridor particularly challenging. The Avenue forms part of the strategic road network and has a role to play as an arterial road. The road is declared and therefore is managed and operated by VicRoads. The road also plays a local function. The residential abutting land uses have direct access onto this road which will be increased as the area is developed.

The mixed function of the road makes it difficult to provide a clear direction for its function. If the land uses are acknowledged then there needs to be local access and amenity provided for walking and cycling. Should the road be promoted as just a traffic corridor then its function will be focussed on traffic movement.

These opposing views initially led to the development of two possible options which have been highlighted below. To better understand these options, the advantages and disadvantages for each option have been listed.

Analysis of these options led to the development of a third composite option, also described here.

Option 1 – Urban Design Priority

Central, wide, single lane carriageway for through movements with local-access lanes either side of the road.

On-street parking provision within the local access lanes to be provided on the right hand side of the road to help reinforce the one-way operation. Additionally, parked cars will help provide an additional buffer to the main carriageway for the properties. Due to the likelihood of pedestrians in the carriageway, vehicle speeds will be restricted to 20km/h reinforcing the 'access' role of the lane.

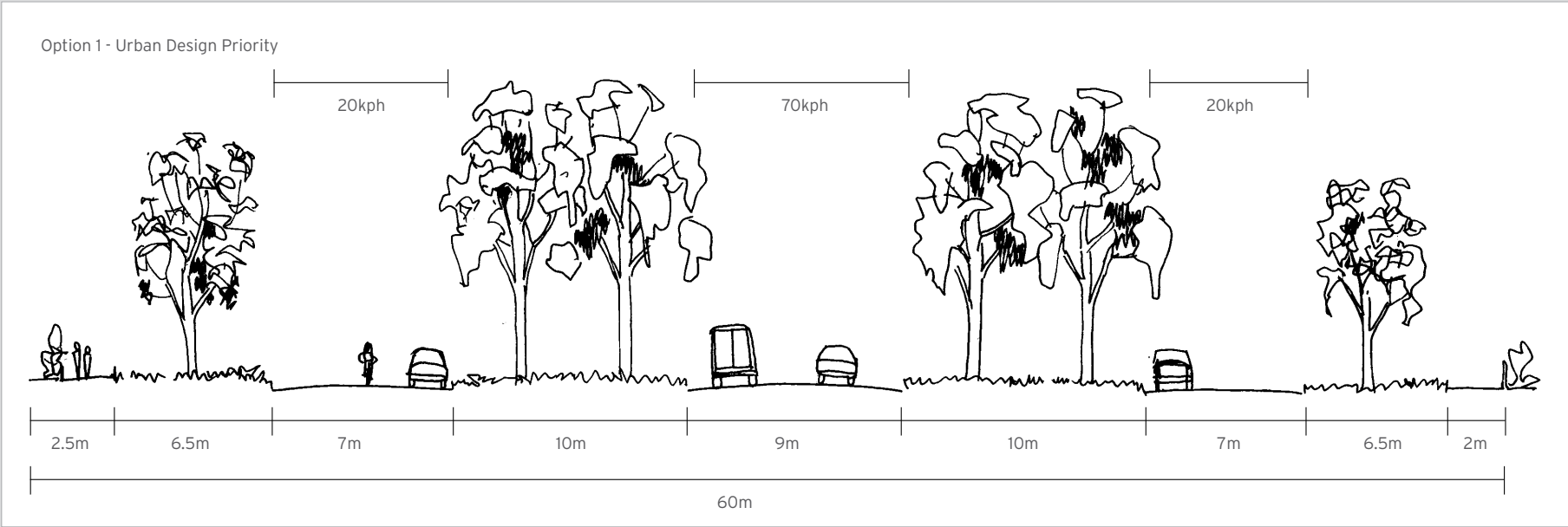


Table 5 Option 1

Advantages	Disadvantage
<ul style="list-style-type: none">• Vehicle speeds, frequency, noise and vibrations are kept to a minimum near to the existing properties through provision of 'access only' lanes.• Access lanes provide a safer environment for drivers to access and egress from the properties.• The through movements are concentrated on the central lanes reducing the conflicts between local and through traffic.• The through movements are separated from the cycles and pedestrians except at clearly marked crossing points.• Median/nature strips are provided between across the road reserve reducing the impact of traffic on other road users and existing properties.	<ul style="list-style-type: none">• One 'through traffic' lane in each direction will provide less vehicular lane capacity than option 2.• Different cross-section to the road as it exists further along Deakin Avenue.

Option 2 – Road Capacity Design Priority

Two lane duplicated carriageway for all movements (local and through movements).

On-street parking provision on either side of the main carriageway. Parked cars will help provide an additional buffer to the main carriageway for the properties. Due to the arterial-nature of the carriageway, vehicle speeds are likely to be between 60-80km/h reinforcing the movement of vehicles as the primary role of the corridor.

Assessing the options for Deakin Avenue is of critical importance to the image and function of Mildura and the good design of the Mildura South area. Unfortunately the implications of meeting the requirements of any one of these priorities may conflict with the other. As we have identified here, option 2 in the consultant team’s view, offers significant advantages over option 1. However, there are disadvantages and it is our recommendation that further work is required for Council to establish the emphasis to be placed on these advantages and disadvantages. This is a citywide issue and due consideration needs to be given to the strategic direction for the city.

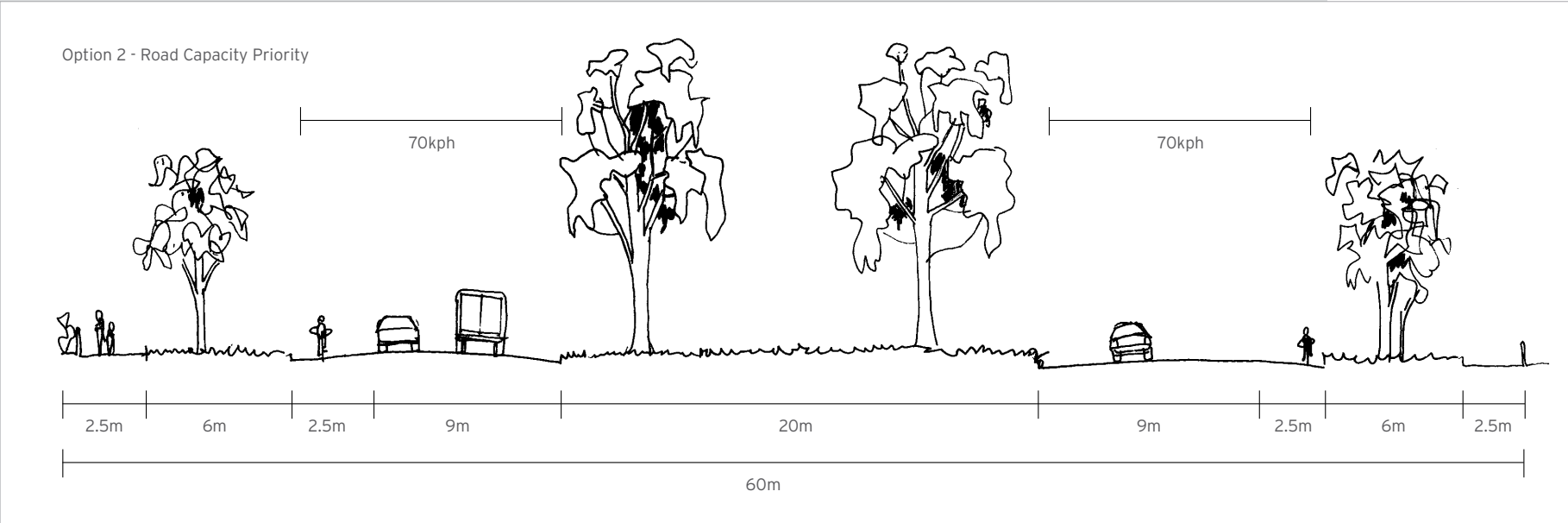


Table 6 Option 2

Advantages	Disadvantage
<ul style="list-style-type: none">• Pedestrians and cyclists will be kept separate from the traffic through the use of a shared pedestrian and cycle lane away from the carriageway.• Greater vehicular lane capacity will be provided by the two higher speed lanes than in the previous option.• Continuation of the road cross section will be maintained.	<ul style="list-style-type: none">• Vehicular access to the properties will be directly onto the main carriageway.• Due to the central median, all vehicles accessing the road from the properties wishing to turn right will be forced to turn left, travel to the next intersection and make a U-turn.• There will be very limited buffering between the traffic lanes and existing properties.• Increased conflicts between local and through traffic movements.• Some trees will have to be removed.

Option 3 – Composite Section

This option combines elements of both earlier options. In particular it incorporates a seperated carriageway (to fulfill Vic Roads requirements) and slip roads for amenity and in order to ensure houses can front the avenue.

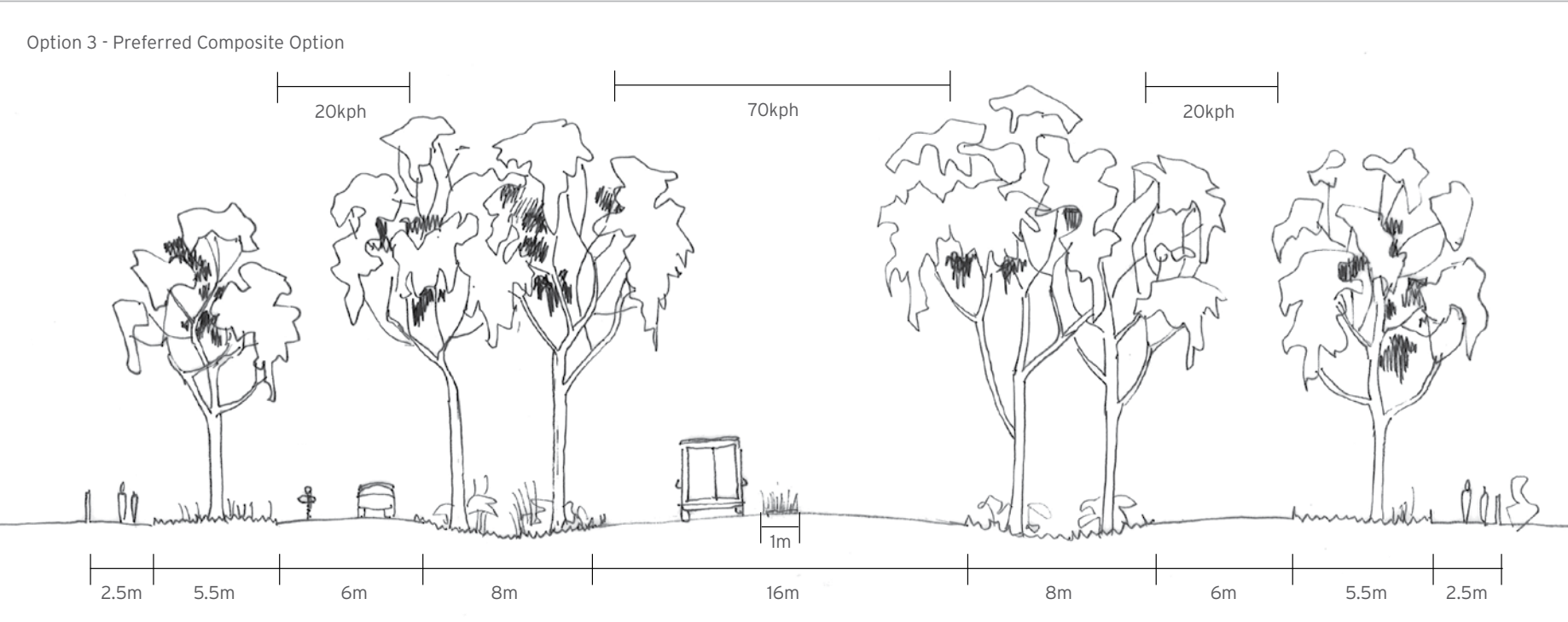


Table 7 Option 3

Advantages	Disadvantages
<ul style="list-style-type: none">• Vehicle speeds, frequency, noise and vibrations are kept to a minimum near to the existing properties through provision of 'access only' lanes.• Access lanes provide a safer environment for drivers to access and aggress from the properties.• The through movements are concentrated on the central lanes reducing the conflicts between local and through traffic.• The through movements are separated from the cycles and pedestrians except at clearly marked crossing points.• Median/nature strips are provided between across the road reserve reducing the impact of traffic on other road users and existing properties.• Pedestrians and cyclists will be kept separate from the traffic through the use of a shared pedestrian and cycle lane away from the carriageway.	<ul style="list-style-type: none">• Will probably require removal of most existing trees.• Different cross-section to further along Deakin Avenue.

Services Rationale

The Strategic Framework Plan (SFP) identifies the opportunities and constraints of the existing and proposed services for the study area. The SFP builds upon the objectives of Clauses 56.07, 56.08 and 56.09 of the Victorian Planning Provisions. The plan provides directions on the issues of water, site and utilities management specific to the entire study area. Existing and proposed services in the area, that are controlled by gravity and topography, have been identified and areas are defined for the provision of these services in the broad sense of the entire area.

A key element of the plan includes the opportunities to provide “Water Sensitive Urban Design” methods/ processes for the control of pollution and the effective use/reuse of the low average annual rainfall in the Mildura area. Maximising the collection and reuse of stormwater in public areas is considered very important in this area, to provide for sustainable public recreation spaces.

A strength of the plan is that the physical constraints on proposed services have been identified for the entire study area generally and it provides a guide on the directions/locations that services will require. This will mitigate some of the traditional shortcomings of each development by only designing for services within its boundaries. The plan also forms a clear guide on the provision of services from the source/location of main authority infrastructure.

The weakness in the plan is that development may not occur in an integrated fashion due to the many smaller parcels of land in the study area.

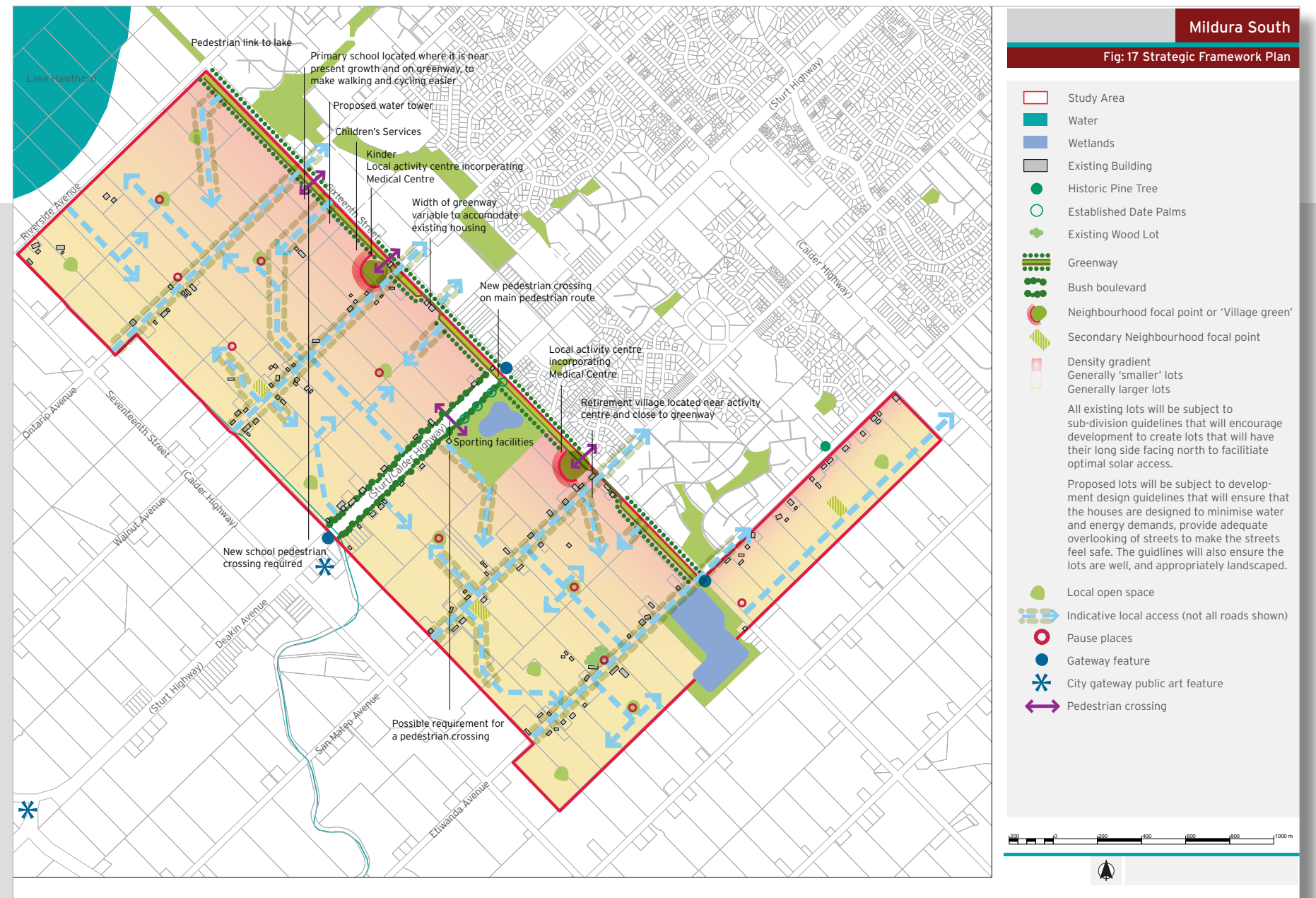
Key design elements

- Early liaison with service authorities is essential in the provision of services to developments;
- Use of water sensitive urban design in the collection and treatment of stormwater;
- Recognise that the provision of some services is controlled by broader topographic features of the area and is not to be limited to the boundaries of each individual development;
- Investigate the opportunity to use existing raw water mains in the area for non potable water uses;
- Sequential development from existing services is preferred;
- Road reserves shall be of sufficient size to accommodate all required services;
- Linear drainage reserves across the area, along topographic valleys, to mitigate flood risks in large storm events, should be incorporated where possible;
- Existing services are to be identified and incorporated into development design.

Economic Rationale

The Vision seeks to interpret and apply the Victorian Planning Provisions as outlined in Clause 56.03 ‘Liveable and Sustainable Communities’. In doing this it recognizes the role and function of infrastructure both existing and proposed and seeks to seamlessly complement this in the future development of the study area, while allowing for changing market conditions and community expectations. The activity centre proposals located in conjunction with the Green Way adjacent to Sixteenth Avenue with their commercial, community, education and residential components reflect an intentional integration with the existing Mildura urban area, serving residents from both sides of Sixteenth Street.

Figure 17 Strategic Framework Plan

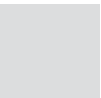


In addition, as an extension to the Green Way they can make a significant contribution in reflecting, and giving a lead to, environmentally sensitive and sustainable development. This focus will also assist in constraining the proliferation of mixed use development along Deakin Avenue. Currently the non-residential 'ribbon development' along Deakin Avenue between the CBD and Centro Mildura serves to blur the distinctly different roles of these two commercial foci.

A major challenge is the achievement of the vision in integrating commercial, community, education and residential land uses as viable and functional community focal points, one of a number of key issues in the vision contributing to residential amenity.

Key Design Elements

- 2 Neighbourhood centres to serve incoming and existing community.
- Greenway corridor.





High quality streets and open spaces

The streets and open spaces of the study area will need to reconcile a wide range of functional and aesthetic requirements whilst also responding to the issues raised by the community and important stakeholders. The streets and open spaces in this section of the report identify how these challenges can be met on the ground. In particular the streets and open spaces are also designed to support “water sensitive urban design”. This allows the drainage infrastructure to be used as an aesthetic asset that naturally supports and irrigates a high standard of landscaping.

This ensures the streets and open spaces are not just good for moving through but also look good as well as providing attractive safe places to walk, cycle, chat to friends and play. In short they are designed to be places to stay rather than just spaces to pass through.

This section describes some of the key streets and open spaces that will help achieve this goal.

Please note that whilst the sections illustrate how a high standard of design can be achieved here to meet these objectives, it is recognised that the dimensions may be able to be varied where it can be demonstrated that the standard of design can be achieved by an alternative design.

Meeting this standard will require ensuring that:

- The long term survival of the landscaping required will not be disadvantaged by an alternative design
- Adequate room is given to footpaths and cycle paths with a minimum width of 1.5m for footpath and 2.5 for walking and cycle path.
- The road pavement does not dominate (generally accepted to be achieved where the road is less than 1/3 of the total width of the corridor in a suburban context without existing significant vegetation)

Pause places

Characteristic:

- Seating at different levels around the base of a shade tree.
- Seats with and without backs.
- Seating arrangement to facilitate people sitting either individually or in small groups.
- Informational signage to show milestones and interpretive information about the area and its history.

Gateway feature

Gateway features will provide a memorable and distinctive threshold to the area that tell people they are entering somewhere special and tells vehicle drivers that they are entering into a residential area.

Indicative illustration showing one way of providing such a gateway feature.

Characteristics:

- 3 metre high sign which has artistic merit and says something of the area/neighbourhood it provides the gateway to
- Features set in landscaped area to provide attractive composition of structure and landscape
- Materials and colours chosen to reflect local "genius loci" or sense of place

Indicative pause place



Indicative gateway feature



City gateway public art feature

Entry points and Gateways can form the lasting impressions of a town and provide points of interest in a journey. Interesting attractive and legible entrances are likely to result in positive perceptions of a place whilst unattractive, cluttered, confusing entries are likely to discourage interest and visits.

It is important that the gateway is clearly legible, attractive and celebrates the arrival into the City of Mildura. They can raise the profile of the town and increase awareness of Mildura as potential places to stop and significant milestone on the journey along the highway.

Potential functions for Mildura's gateway public art feature:

- To create a positive first impression of the Mildura and its community, its values and aspirations.
- To provide an icon for Mildura.
- To reflect the pride of the local community in Mildura.
- To mark the entry point to Mildura and signify a change in environment.
- To promote the city to visitors and encourage them to stop in Mildura.
- To promote the economic, cultural and community values of Mildura.
- To guide visitors into the city and enable easy navigation of Mildura.
- To raise awareness of the attributes, features and facilities in Mildura.
- To capture the essential character of Mildura.
- To facilitate safe access to Mildura.
- To provide an attractive arrival point in Mildura.

Stormwater management and open space areas

Stormwater management areas will provide an aesthetic and ecologically responsible way of dealing with drainage.

This indicative illustration shows one way of providing such a drainage area.

Characteristics:

- Shallow banks of varied slope
- Curved rather than straight edges where appropriate
- Shallower and larger rather than deep and small
- Planted with trees and indigenous understorey planting

Local open space

Local open space is to be provided throughout the area, within 150m to 300m safe walking distance of all dwellings, where appropriate.

Key features

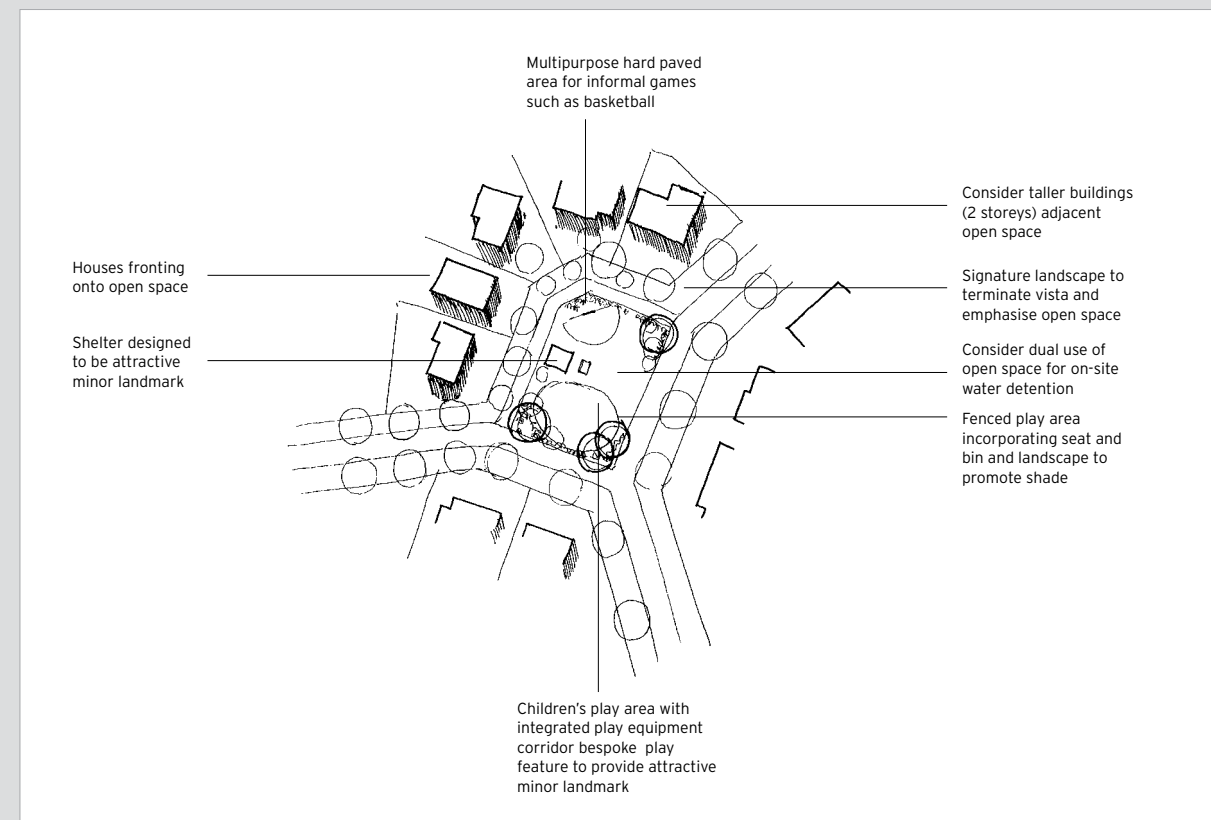
Local open space contain at least:

- 1000m² of landscaped grassed area for casual/informal recreation
- 500m² of hard paved multi-purpose sports area (incorporating core area 20m by 16m) for (informal soccer, volleyball and basketball)
- 500m² primarily dedicated to planting
- 400m² equipped play area with seating
- 300m² shelter/BBQ area.

Indicative stormwater management basin/wetland



Local open space



Neighbourhood focal point



Neighbourhood focal point or 'Village Green'

The neighbourhood focal point provides a social focus for a neighbourhood and supports the wide range of interactions necessary for the suburb to become a community. They integrate high quality open space with appropriate built form to evoke a 'village green' character.

Key features are:

- Local activity centre, comprising local convenience shops, kinder, childcare and health care services.
- Offers passive recreational amenity for all cross-sections of the community, old and young: Incorporates social infrastructure such as barbeque area, play equipment, shelter, seating, tables and a community notice board.
- Clustered (slightly) higher density housing fronting the 'village green'.
- Sustainable transport infrastructure incorporating walking/cycle path along the greenway and bus stop.

- High quality landscaped public open space
- To be located within 500 metres safe walking distance from all dwellings
- To be at least:
 - 1 hectare in size
 - 1500m² of landscaped grassed area for casual/informal recreation
 - 700m² hard paved multi-purpose sports area (incorporating core area 35m by 20m) for (tennis, netball, 5 a side soccer, volleyball and basketball)
 - 550m² primarily dedicated to planting
 - 500m² equipped play area with seating
 - 500m² shelter/BBQ area
 - Plus circulation space

Note: Neighbourhood focal points do require surrounding buildings (shops, community facilities or dwellings) to front towards and overlook the 'village green' on all sides.

Secondary neighbourhood focal point

The secondary neighbourhood focal point provides the same 'village green' open space qualities as the neighbourhood focal point. Instead of being edged by a local activity centre it is surrounded by housing.

Key features are:

- Offers passive recreational amenity for all cross-sections of the community, old and young: Incorporates social infrastructure such as play equipment, shelter, and seating.
- Clustered higher density housing fronting the 'village green'.
- Houses fronting the 'village green' are to be built with a zero setback to the side boundary on at least one side and have a small front setback.
- Vehicular access of lots fronting 'village green' generally from rear laneway to ensure open space is not dominated by garages.
- To be located within 500 metres safe walking distance from all dwellings
- To be at least:
 - 1 hectare in size
 - 1500m² of landscaped grassed area for casual/informal recreation
 - 700m² hard paved multi-purpose sports area (incorporating core area 35m by 20m) for (tennis, netball, 5 a side soccer, volleyball and basketball)
 - 550m² primarily dedicated to planting
 - 500m² equipped play area with seating

- 500m² shelter/BBQ area
- Plus circulation space

Note: Secondary neighbourhood focal points do require surrounding buildings (dwellings) to front towards and overlook the 'village green' on all sides.

Bush Boulevard (Deakin Avenue)

The configuration of the Bush Boulevard is yet to be finalised. The rationale behind this is detailed in the previous section of this report.

Below are the characteristics common to all proposed options.

Characteristics:

- 60 metre road reserve.
- 70 kph speed zone.
- 2.5 metre wide shared pedestrian and cycle path on both sides.
- Capable of accommodating a bus route.
- Accommodates 'structural landscaping' in the 5.5 metre wide verges.
- Capable of accommodation car parking bays.
- The significant landscaping will provide shade and shelter for the adjacent shared path to facilitate a safe and comfortable walking and cycling route.
- Indigenous planting or to MRCC specification.
- Engineering components, roads, footpaths, and kerbs to the satisfaction of MRCC local policies.

Indicative secondary neighbourhood focal point



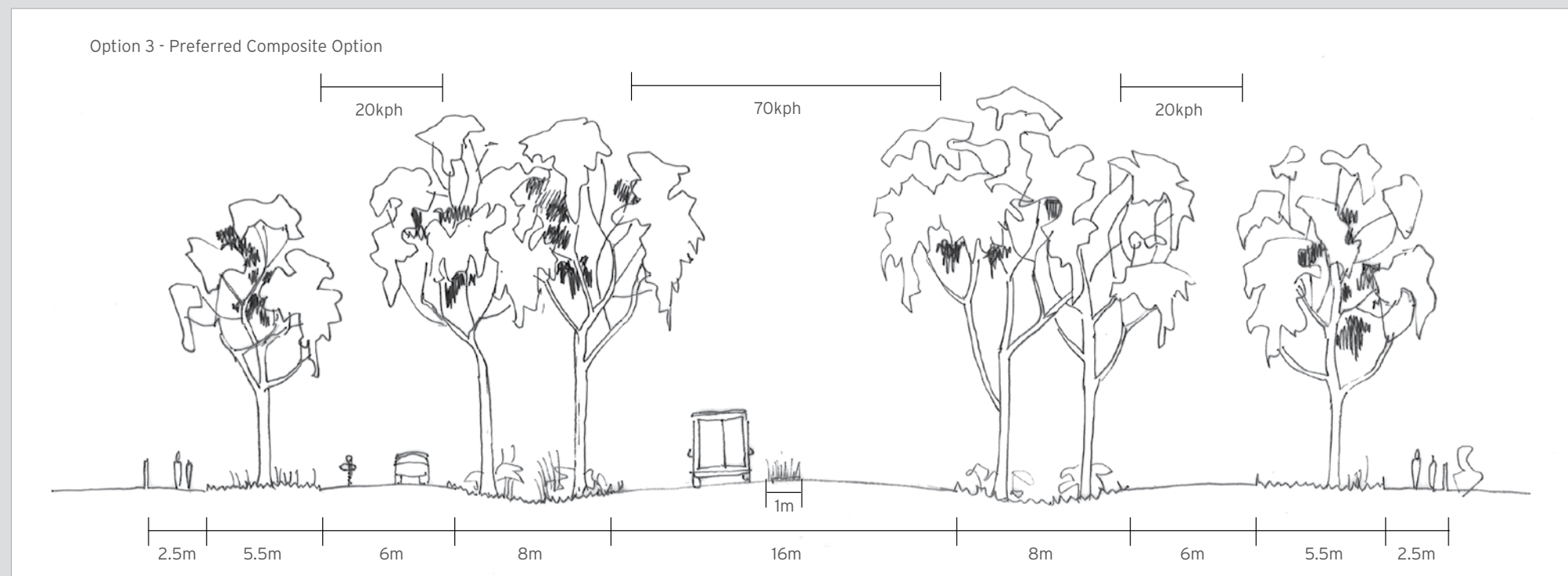


Table 8 Option 3

Advantages

- Vehicle speeds, frequency, noise and vibrations are kept to a minimum near to the existing properties through provision of 'access only' lanes.
- Access lanes provide a safer environment for drivers to access and egress from the properties.
- The through movements are concentrated on the central lanes reducing the conflicts between local and through traffic.
- The through movements are separated from the cycles and pedestrians except at clearly marked crossing points.
- Median/nature strips are provided between across the road reserve reducing the impact of traffic on other road users and existing properties.

Disadvantage

- One 'through traffic' lane in each direction will provide less vehicular lane capacity than option 2.
- Different cross-section to the road as it exists further along Deakin Avenue.

Greenway

The greenway will run along Sixteenth Street providing a high-amenity walking and cycling route. The green link is expected to be a desirable, safe and direct route connecting many of the services proposed along Sixteenth Street. This linkage will help promote the use of walking and cycling to access services which will help to reduce to overall reliance on the motor car that is typical across Mildura.

Characteristics:

- 30 metre road reserve.
- 60 kph speed zone.
- 2.5 metre wide shared pedestrian and cycle path on one side.
- Capable of accommodating a bus route.
- Accommodates 'structural landscaping' in two 5 metre wide verges.
- Capable of accommodation car parking bays.
- The significant landscaping will provide shade and shelter for the adjacent shared path to facilitate a safe and comfortable walking and cycling route.
- Indigenous planting or to MRCC specification.
- Engineering components, roads, footpaths, and kerbs to the satisfaction of MRCC local policies.

Avenue

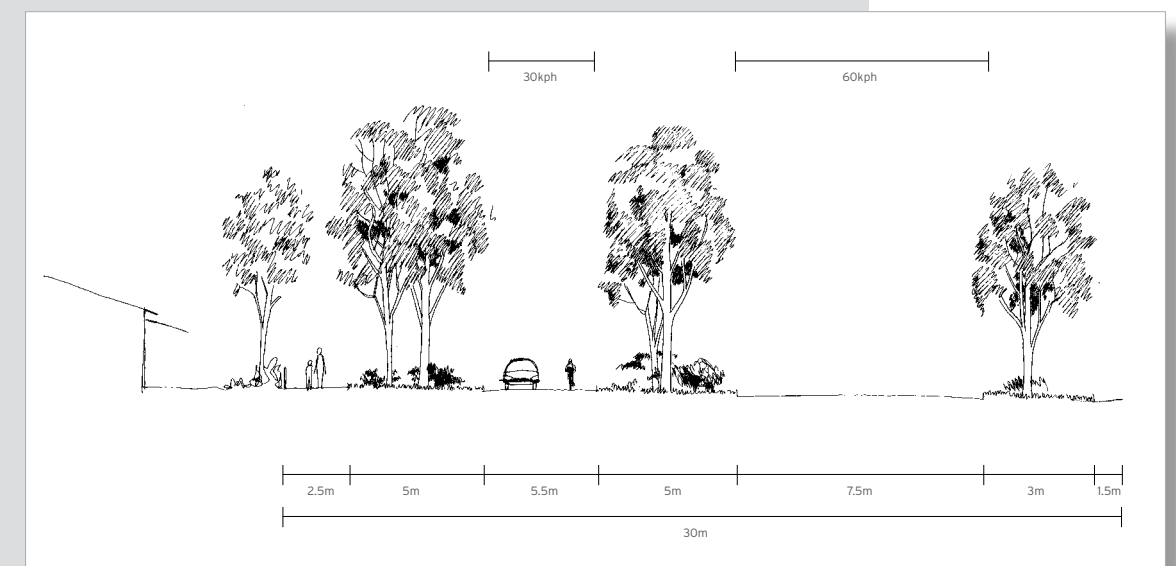
Avenue treatments will be applied to the existing (30m road reserves) Avenues of Riverside, Ontario, Walnut, San Mateo and Eriwanda, also as the proposed key local access roads, which will have a road reserve of 24.5m.

Avenues will provide the main existing access spines through the area as well as the key local access roads across the area. They will be designed to ensure that the landscape make a strong contribution to the areas character because of the highly landscaped 6 metre verges containing significant vegetation.

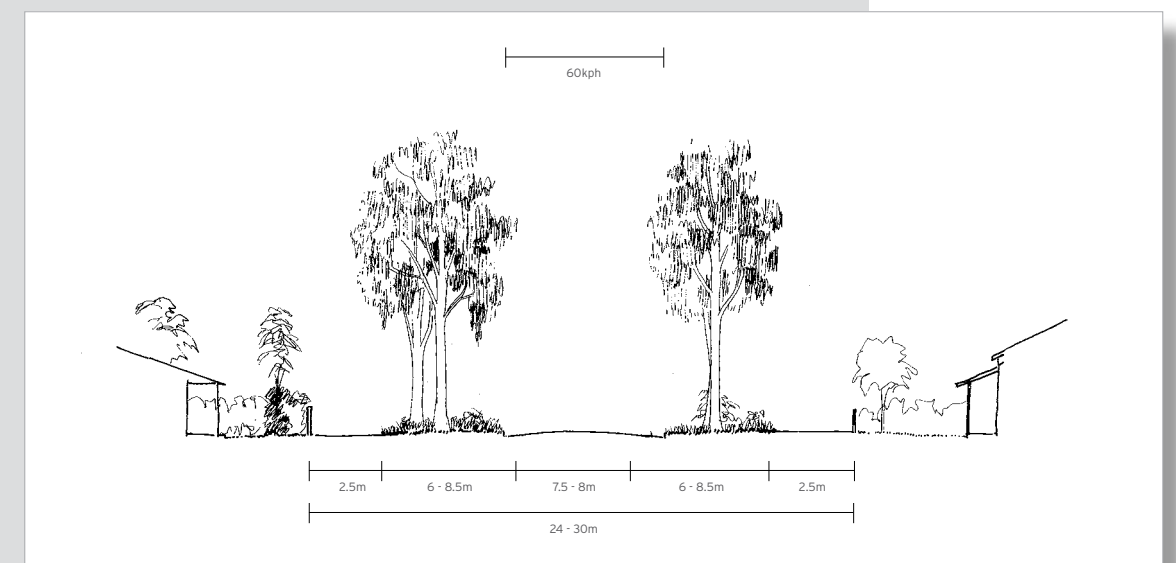
Characteristics:

- 24.5 or 30 metre road reserve.
- 60 kph speed zone.
- 2.5 metre wide shared pedestrian and cycle path on both sides.
- Capable of accommodating a bus route.
- Accommodates 'structural landscaping' in the 6 metre wide verges.
- Capable of accommodation indented car parking bays.
- The significant landscaping will provide shade and shelter for the adjacent shared path to facilitate a safe and comfortable walking and cycling route.
- Indigenous planting or to MRCC specification.
- Engineering components, roads, footpaths, and kerbs to the satisfaction of MRCC local policies.

Indicative greenway section



Indicative avenue/key local road section



Avenue Perspective

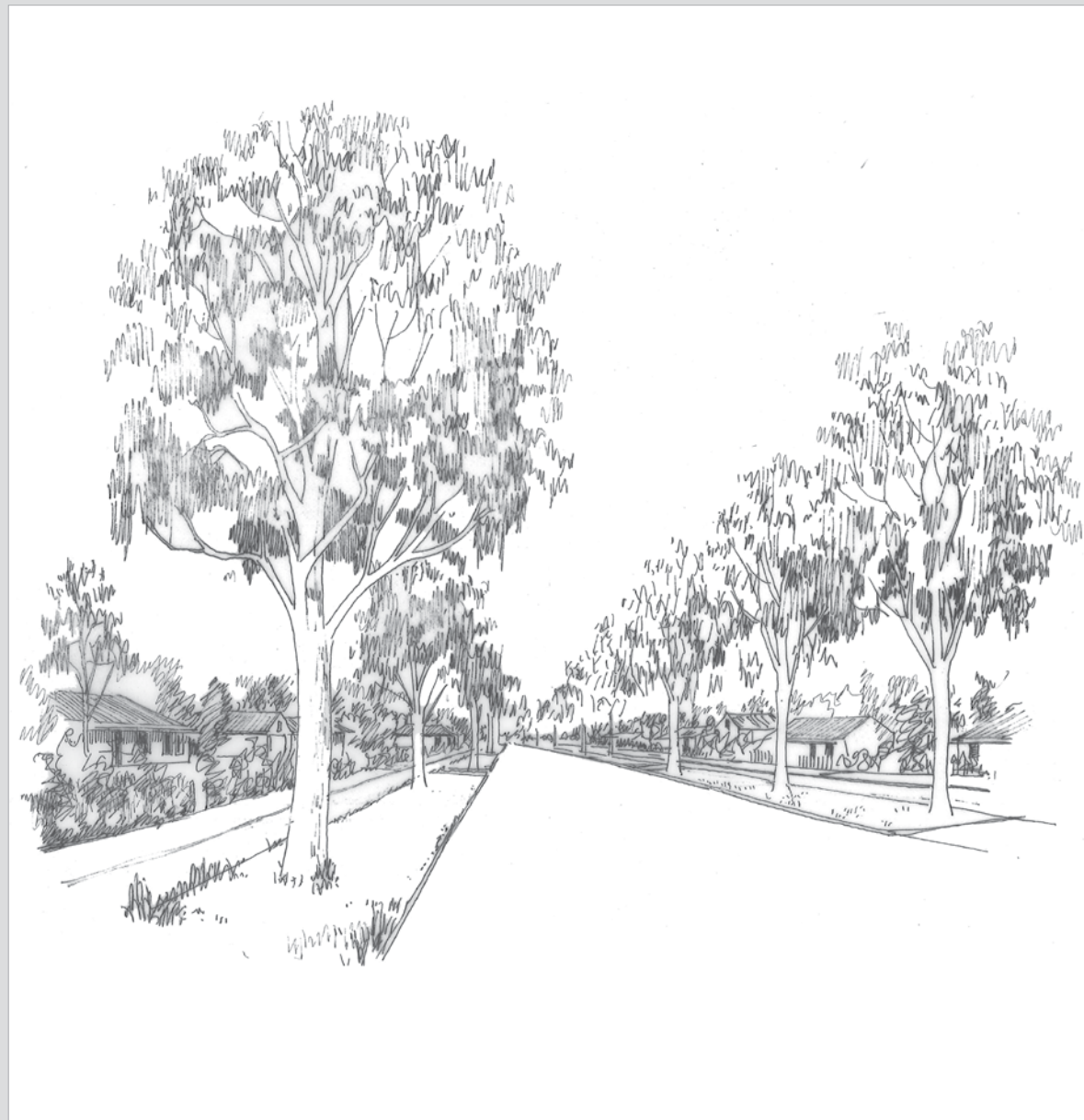
This illustrates how the avenue treatment will enhance the area's character and emphasise the importance of the key routes through the Mildura South area.

The significant landscaping will have a better chance to thrive because of the 6 metre wide verges (nature strips) and in doing so ensure the area has a green skyline that is not dominated by a roofscape.

This will help develop character of a more rural environment.

The trees are shown at approximately 15 years maturity.

Indicative avenue perspective



Shared Pathway/Laneway

Shared pathways are local access ways for no more than six lots which are shared by vehicles, cyclists and pedestrians. They provide a high quality landscaped amenity to the lots which access from and front them.

Characteristics:

- 12 metre road reserve.
- 15 kph speed zone.
- Accommodate walking, cycling and local vehicular access within a highly landscaped corridor.
- Road course narrows and meanders to ensure slow vehicle speed.
- Capable of accommodating indented car parking.

- Indigenous planting or to MRCC specification.
- Single aspect crossfall, swale and no kerb to evoke rural land character.
- Maximum of six lots to be accessed.
- Engineering components, roads, footpaths, and kerbs to the satisfaction of MRCC local policies.

Shared Pathway/Laneway Perspective

Perspective illustrating shared pathway/laneway character. Shared pathways/laneways reconcile limited vehicle access with the imperative to create safe, attractive, overlooked, highly landscaped corridors to make walking and cycling relatively more attractive than alternative modes of transport.

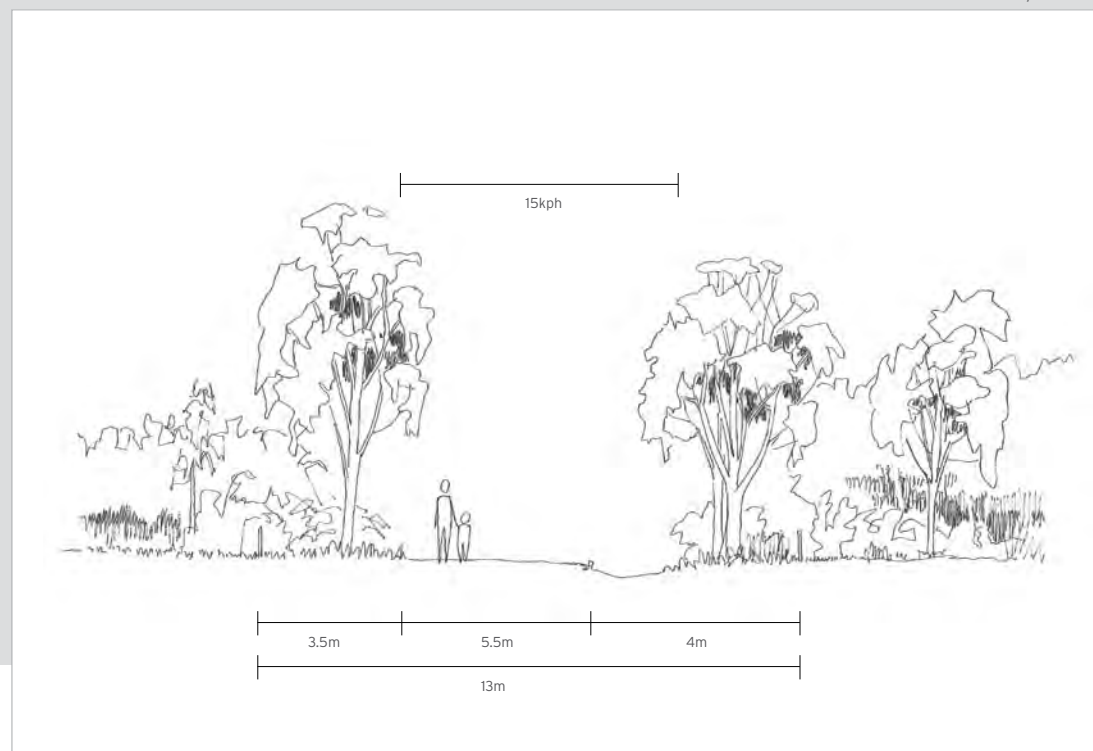
Edge Road

Edge roads provide the edges to open space. They will ensure the open spaces are safe, overlooked and will facilitate walking, cycling and local vehicular access.

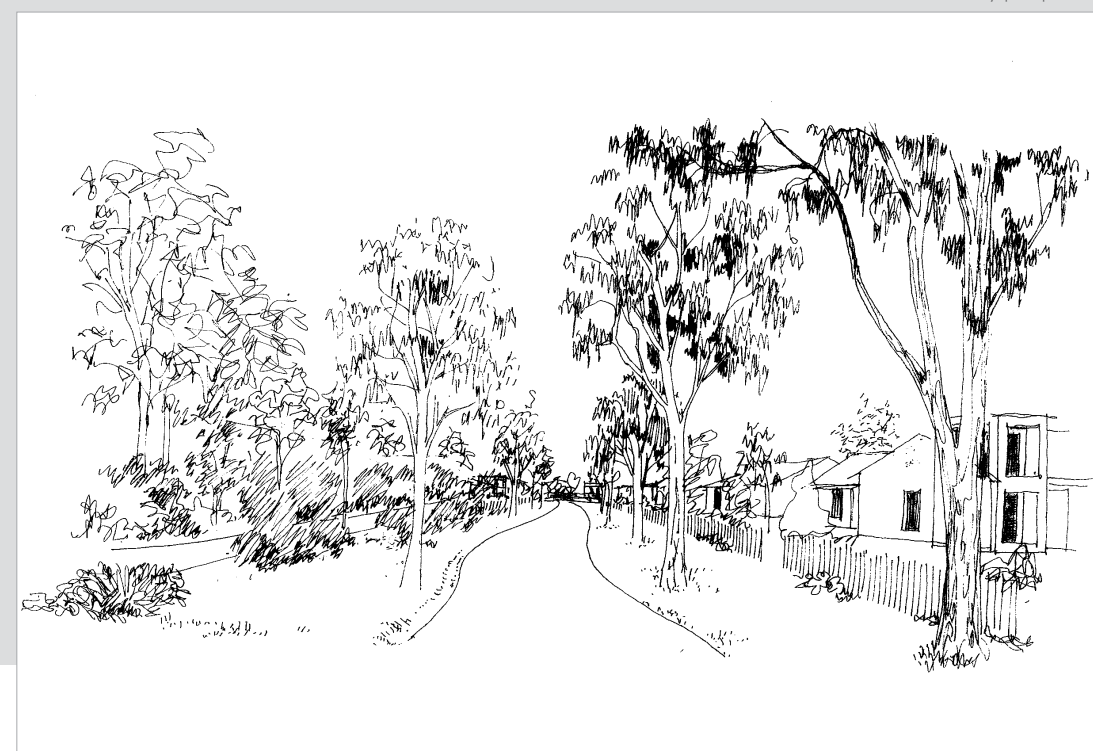
Characteristics:

- 13 metre road reserve.
- 15 kph speed zone.
- Well landscaped edge between open space and residential development.
- Edge road allows for views from adjacent residences into open space.
- Indigenous planting or to MRCC specification.
- Engineering components, roads footpaths, and kerbs to the satisfaction of the MRCC local policies.

Indicative shareway section



Indicative shareway perspective



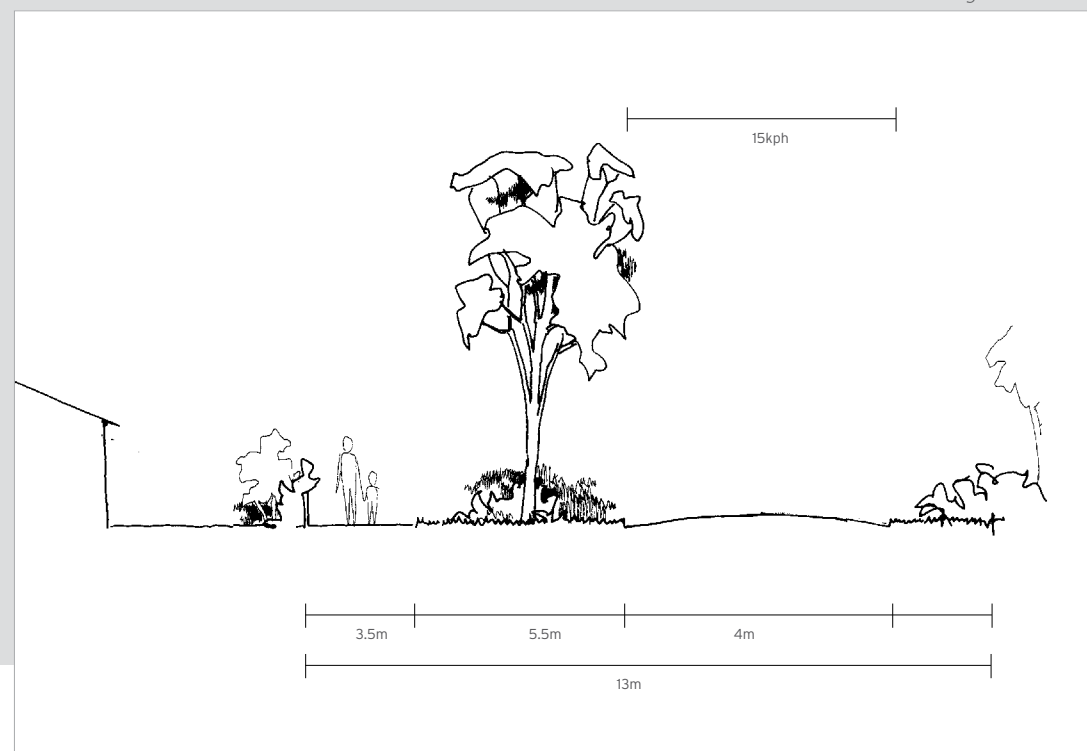
Standard Road

Most of the roads in the area will be standard roads. The roads will be designed to provide a green skyline and foreground, helping to evoke a rural character. This character is further strengthened because the actual road pavement is approximately a third of the road reserve which will ensure the road does not dominate.

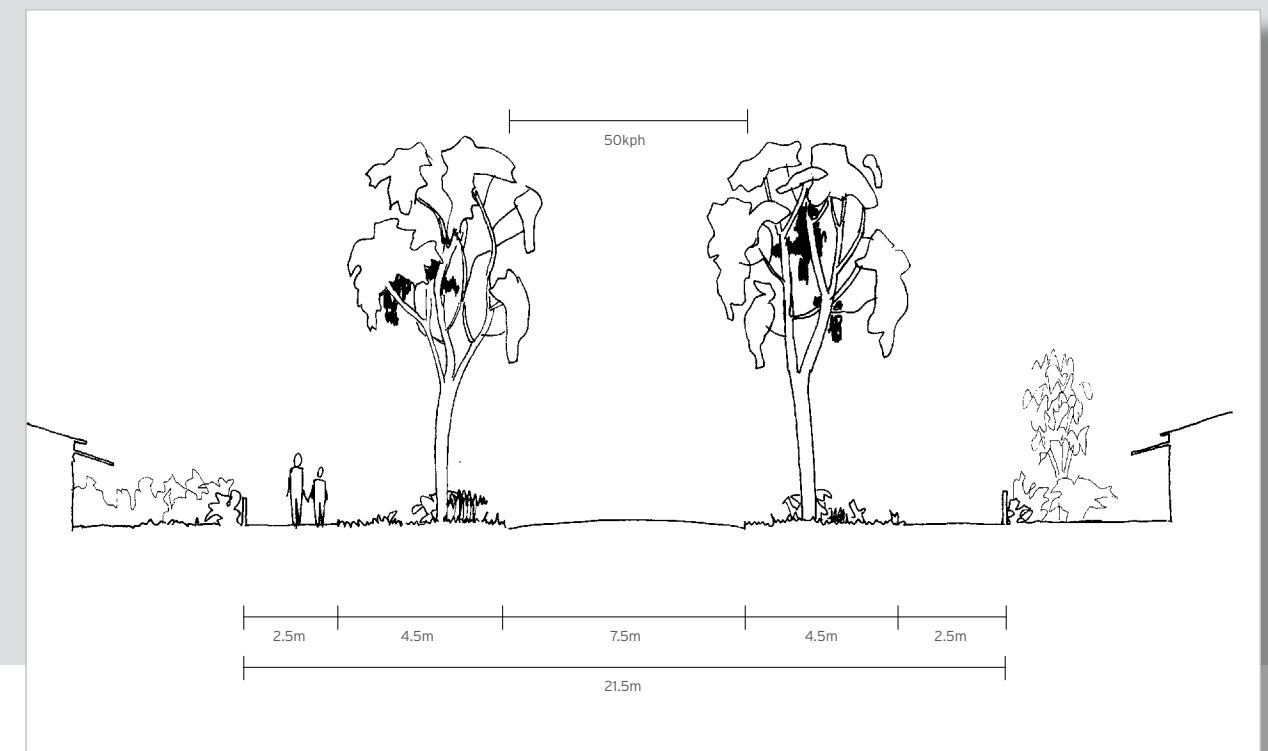
Characteristics:

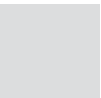
- 21.5 metre road reserve.
- 50 kph speed zone.
- Allows for significant vegetation.
- Possible indented car parking bays on both side between trees.
- Engineering components, roads footpaths, and kerbs to the satisfaction of the MRCC local policies.

Indicative edge road section



Standard road section





10 Design Guidelines

We envisage that the sensitivity of the environment and the imperative to achieve a high standard of development requires that design guidelines cover the following aspects of development:

Understanding a site analysis

House type;

- Building setbacks;
- Building height;
- The front of the house;
- Garage and car port design;
- Fences;
- Landscape; and
- Driveways/crossovers.

The guidelines should be promotional in character and seek to explain not just what needs to be achieved but why. The guidelines should include examples of appropriate development and include both requirements and suggestions. The scope of the guidelines has been drawn up to ensure nothing is controlled unless it is essential and everything that is essential is controlled. The guideline requirements express what would be acceptable for that design element but to enable the applicant to make a case for non-conforming proposals as long as they could explain how their solution better meets the objective of the guideline(s).

The suggested content of the guidelines, objectives and key points for all four areas considered in this Strategic Framework Plan are illustrated in Table 8.

The table envisages four types of lots that each have guidelines prepared for their particular circumstances. Type A are only present to R1Z zoned sites adjacent to a neighbourhood focal point/village green. They have controls to ensure that these houses provide an appropriate edge to these important green spaces. Type B lots are other R1Z lots. Type C lots are the residential lots in the LDRZ area. Type D lots are the lots abutting the farming zone.



Table 8 Urban Design Guidelines

Elements	Objectives	Requirements	Suggestions	Notes
The aspect of design covered by the guidelines	What the aspect should achieve	The specific development requirement that would be deemed to fulfil the objective of the guideline	Other issues that would be beneficial to be considered at the time of design but can not be required	
Site analysis	<ul style="list-style-type: none"> Ensure the building design responds to the particular circumstances. 	<p>Applications to incorporate description of the following aspects of the site;</p> <ul style="list-style-type: none"> Site orientation Vegetation Drainage lines Views and view-sheds (where appropriate) 	<ul style="list-style-type: none"> Application to incorporate a statement saying how it responds to the aspects listed in requirements. 	
House type	<ul style="list-style-type: none"> Ensure the house type is appropriate for the location. 	<ul style="list-style-type: none"> Lots adjacent to neighbourhood focal points to fulfil specific guidelines identified for type A lots. Lots zoned LDRZ to fulfil specific guidelines identified for type C lots. Most house lots do not require the controls relevant in these locations and so are subject to a reduced set of specific guidelines identified for type B lots. 		
Building setbacks	<ul style="list-style-type: none"> Ensure buildings facilitate good surveillance of the public realm and can facilitate significant planting adjacent to the public realm. 	<ul style="list-style-type: none"> Type A lots: Front setback minimum 1-3m side 0m Type B lots: Front setback minimum 5-7m side minimum 2m. Type C lots: Front setback minimum 10m side minimum 5m. Type D lots: Minimum setback of 40m to boundary with farming zone 		<ul style="list-style-type: none"> In case of conflict with above guideline the guideline higher up will take precedence. Setbacks defined
Building heights	<ul style="list-style-type: none"> Minimise intrusion on the landscape. Minimise intrusion on surrounding properties. Ensure equitable view sharing. 		<ul style="list-style-type: none"> Encourage useable space within the roof-form. 	<ul style="list-style-type: none"> Maximum height defined to avoid over development or loss of solar access.
Building Alignment	<ul style="list-style-type: none"> Ensure good solar aspect 	<ul style="list-style-type: none"> Long side of building to be orientated within 10 degrees of north 	<ul style="list-style-type: none"> Ensuring streets are orientated north-south will make this easier to achieve. Other street alignments can achieve this guideline through wider lots (at least 25m) 	

Table 8 Urban Design Guidelines

Elements	Objectives	Requirements	Suggestions	Notes
The aspect of design covered by the guidelines	What the aspect should achieve	The specific development requirement that would be deemed to fulfil the objective of the guideline	Other issues that would be beneficial to be considered at the time of design but can not be required	
The front of the house	<ul style="list-style-type: none"> Provide adequate passive surveillance of the public realm. Facilitate social interaction. 	<ul style="list-style-type: none"> Ensure front door faces street. Ensure at least one habitable room window faces the street. Ensure all house fronts facing north have a verandah at least 1.5m in depth over at least a third of the width of the house-front. 	<ul style="list-style-type: none"> Encourage outdoor sitting space in front of lots with other orientations. 	
Garage and car port design	<ul style="list-style-type: none"> Minimum dominance of garages. Provide adequate passive surveillance of the public realm. 	<ul style="list-style-type: none"> Type A lots Ensure garages are not visible from the primary street frontage. Other lots Ensure garages are not forward of the house front. 	<ul style="list-style-type: none"> Incorporate garage into the building form. Garage doors are to be a maximum of 6m wide. 	
Fences	<ul style="list-style-type: none"> Contribute to the character of the public realm. Minimise spread of wild fire. 	<ul style="list-style-type: none"> Ensure front fences are no more than 1.2m high. Ensure vegetated fences in front of the dwelling are broken by gaps of at least 5 metres every 20 metres linear length of frontage. 		
Landscape	<ul style="list-style-type: none"> Contribute to the character of the public realm. Maximise habitat value. Maximise the amenity enjoyed within houses on the land. 	<ul style="list-style-type: none"> Type B and C lots Require at least one canopy tree that will grow to a height greater than the house on all lots. Ensure all planting is indigenous apart from those immediately to the north of a dwelling which should be deciduous to facilitate good solar access during winter. 	<ul style="list-style-type: none"> Council to provide list of preferred plant species. 	
Driveway/crossovers	<ul style="list-style-type: none"> Minimise intrusion into the landscape. Minimise impact of development on the areas hydrology. 	<ul style="list-style-type: none"> Type B and C lots Driveways to be a maximum of 3 metres wide at entry to block. Crossovers radii to accommodate vehicles with trailers. 	<ul style="list-style-type: none"> Minimise area of impermeable surfaces. Construct driveways from permeable material such as granitic sand or Lilydale topping where possible. 	
Water Tanks	<ul style="list-style-type: none"> Houses should be designed and built to facilitate the on site capture and detention of rain water. 	<ul style="list-style-type: none"> Provision of x litre minimum water tank to capture water from roofs and other hard surfaces. 		



Core Elements

It is acknowledged that the development will largely be in the hands of individual landowners and that timing of development in the study area and the potential for future changes in market conditions and community attitudes will influence the final design. However the core elements of achieving this vision for the study area a framework plan have been identified below. These should be considered as non flexible and essential to realising the potential of the plan and contribute to the welfare of the people who will live there.

Neighbourhood Focal Points

Neighbourhood Focal Points are required to reconcile a wide range of functions including:

- Retail goods and services anchored by a supermarket of selling area up to 2000sqm
- Community facilities including an integrated children's services facility (kindergarten, child care, maternal child health services and play groups)
- Medical centre
- Primary school facility
- Aged care accommodation
- Open space and recreation/sporting facilities
- A variety of residential opportunities
- Shared car parking provisions
- Access to public transport
- Integration with the Sixteenth Street "Green Way" and study areas road and pathway network.

Essential Criteria

- That Sixteenth Street is the focus for commercial activity, community facilities and higher density residential accommodation.
- Specific elements of each Neighbourhood Activity Centre community focus meet the needs of local residents and the surrounding community, noting that some elements such as a primary school may serve study area residents beyond the 'local community'
- Each Neighbourhood Activity Centre complements the surrounding infrastructure while achieving and maintaining economic viability
- The elements of each Neighbourhood Activity Centre are such as to provide an overall integrated design
- Urban design of each Neighbourhood Activity Centre includes environmental (including water wise design) and sustainability elements and the option of multiple use of internal spaces
- Each Neighbourhood Activity Centre design incorporates a staged development program to ensure that early residents are not disadvantaged
- Full integration with the Green Way, public transport and study area road and pathway networks

Deakin Avenue/Bush Boulevard

- Fronted onto by development
- No garage doors

Sixteenth Street/Greenway

- Fronted onto by development
- No garage doors

Secondary Open Spaces

- Fronted onto by development

Street sections and design

- Generally in keeping with the design components described in section 9

Suggestions for future work

In order to realise the potential embodied in this plan, it is recommended the following project are commissioned:

- Management/Maintenance Strategy for Public Open Space, incorporating community volunteer training programs
- Develop Neighbourhood Focal Point Structure Plans (Mixed Use Zone, or suitable zone to facilitate the mixed use requirements) in conjunction with landowners and other stakeholders
- Structure plan should be based on detailed economic feasibility of the commercial component (retail, services, aged care and residential) including, competition analysis, scale of development, offering mix, and development staging if required
- Council to Investigate 3rd Pipe system with Lower Murray Water
- Conduct further assessment of a bypass for the city
- Raise community traffic concerns with VicRoads

- Introduce Facilitation Services to assist coordinated development
- Develop brief for retirement living/aged care/nursing home
- Preparation of information booklet for incoming residents about impacts/issues of living next to a farming zone
- Conduct further assessment of by pass for the city
- Undertake detailed study to identify the desired final character of Deakin Avenue, from 15th Street to the airport taking into account community concerns and the range of possible future roles for the Avenue, based on Deakin Avenue options in this report. The outputs should comprise urban design guidelines and advise about local policy and amendments to the planning scheme.
- Seminars for the development community to inform them of the benefits and responsibilities of implementing the plan.
- Establish a working party to liaise and coordinate with Department of Education and children's services components
- Develop guidelines into promotional document
- Amend the DCP to reflect new Clause 56 requirements
- Introduce new DCPO to implement amended DCP.
- Urban design to ensure a functional, viable and sustainable site plan and built form
- Provide awareness and education of WSUD and ESO principles

- Preparation of briefs for open space, for Neighbourhood Focal Points, swales and wetlands, integrating schools with their surroundings. These are explored in more detail below.
- Council could undertake native vegetation study to identify which sites contain native vegetation and which sites don't.

Key Elements of briefs for detailed design

Meeting the objectives of the study requires careful consideration of the detailed design of many of the component parts of the new neighbourhood. This will ensure they are well tailored to meeting the community's needs, addressing their expressed and likely concerns and meet planning standards. The components of the plan that are of particular significance in achieving the objectives of the plan are;

Key elements of briefs for future work

- Open space
- Swales and wetlands
- Neighbourhood Focal Points
- Integration of schools with surroundings
- Integration of aged care facilities with the surrounding

The detailed design of these elements is beyond the scope of this plan. However when a brief is prepared for these components it should give consideration to the following issues, and potential designers/developers required to identify how they have addressed the following issues;

Open Space

Table 9 identifies some of the issues raised through the process and suggested responses that should be considered for inclusion in design briefs for future open space;

Swales and Wetlands

Table 10 identifies some of the issues raised through the process and suggested responses that should be considered for inclusion in design briefs for future swales and wetlands in addition to the requirements of Councils Water Sensitive Urban Design Strategy;

Table 9 Open Space Issues

Issue	Objective	Indicative Design Responses
Management	open space should not be high maintenance	<ul style="list-style-type: none">• Use of materials that age well and are vandal resistant
Demands on resources such as water	Water required to ensure the long term survival of landscaping should be minimised	<ul style="list-style-type: none">• General assumption towards using indigenous vegetation unless there is good reason not to. This is not only less demanding for water consumption but activates the area through enhanced habitat value
Contribution to the public realm	Open spaces should be places where people want to spend their time and that contribute to their surroundings	<ul style="list-style-type: none">• Consider earth forming to create visual interest ant topographic relief• Indigenous planting will enhance the contribution of birdsong, etc to the character of the public realm• Provide trees that mature to greater than 15m to ensure they can contribute to the provision of a green skyline
Safety	Open spaces should not deter people from using them because they feel unsafe	<ul style="list-style-type: none">• Use trees that mature to be clear stemmed to at least two metres to aid visibility across open space and so enhance passive open space• Ensure areas intensively used by children are separated from areas of significant understorey or high grass which are likely to be snake habitat
Comfort	Open spaces should not expose the visitor to uncomfortable surroundings	<ul style="list-style-type: none">• Provide areas of shade throughout the day• Ensure there are a range of sitting options (formal and informal) throughout each area of open space

Table 10 Swales and Wetland Issues

Issue	Objective	Indicative Design Responses
Contribution to the public realm	Swales and wetlands should make a positive contribution to the public realm and reflect their role as water courses	<ul style="list-style-type: none">• Where profile allows, consider meandering course of swale to evoke dry creek character• Cluster planting along swale to utilize natural irrigation• Select Indigenous planting that will enhance the contribution of birdsong, etc to the character of the public realm. Consideration should be given to the selection of riparian zoned trees.• Where possible install trees that mature to greater than 15m to ensure they can contribute to the provision of a green skyline• Ensure wetlands are edged by slopes of varying angle and alignment to evoke a more naturalistic character• Ensure wetlands are partially edged by clumps of trees to evoke a more naturalistic character
Maintenance	Minimise maintenance requirements	<ul style="list-style-type: none">• Ensure detailed design considers the need to minimize maintenance requirements whilst ensuring pollutants are trapped at source, rather than passing through the swale to the receiving water body.• Ensure wetlands and swales are designed and managed to minimize mosquito habitat.

Neighbourhood Focal Points

Table 11 identifies some of the issues raised through the process and suggested responses that should be considered for inclusion in design briefs for the Neighbourhood Focal Points;

Schools

Table 12 identifies some of the issues relating to the provision of a school on site. The critical challenges in encouraging walking to school are:

The perception that roads are too dangerous to let children walk, and

The perception of increased "stranger danger".

Figure 18 illustrates the typical downward spiral of vehicle trips to school that are governed by both socio/cultural factors and physical environmental factors .

Walkability issues for schools include:

- School children can comfortably walk greater distances to their destinations (schools), than older, less mobile groups can,
- There are often high levels of traffic congestion around primary schools especially in the morning and afternoon peaks, as parents choose to drop off and pick up their children from school,
- 40km/hr speed zones have recently been introduced to ensure drivers are aware that they are entering an area with lots of children,
- Children frequently walk in groups, along the footpaths, and

- School properties are usually large blocks of land and new Department of Education and Training (DET) regulations specify that new schools must be accessible on three-sides by road and be a minimum of 3.5 hectares in area.

The following table identifies some of the issues raised through the process and suggested responses that should be considered for inclusion in design briefs for the schools;

Figure 18 Minimising vehicle trips to School diagram (from Engwicht 1999)

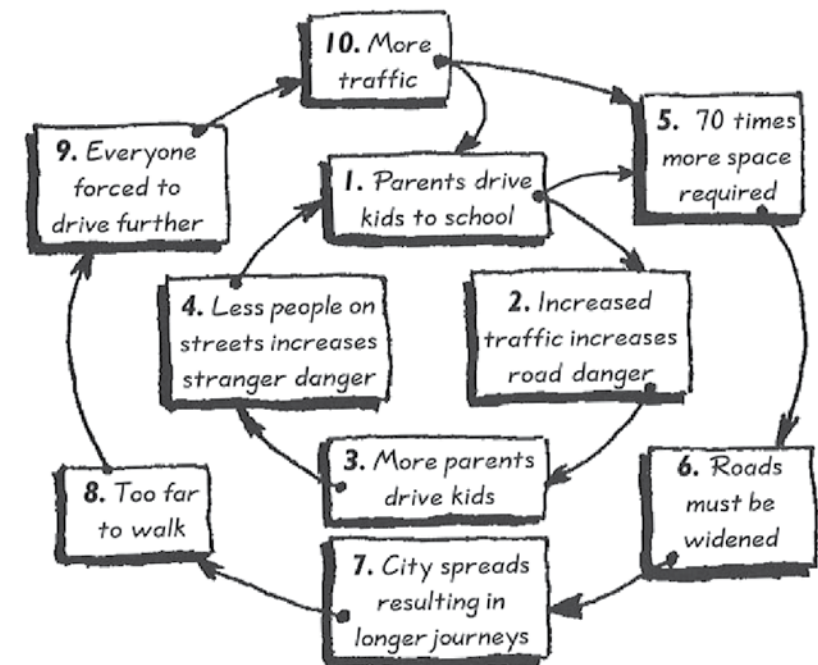


Table 11 Neighbourhood Focal Point Issues

Issue	Objective	Indicative Design Responses
Management/ Functional efficiency	Open space and buildings should not be high maintenance Ensure commercial uses can function efficiently	<ul style="list-style-type: none"> • Use of materials that age well and are vandal resistant • Ensure seperate servicing areas and public access • Facilitate sharing of car parking areas between uses with different peaks
Interface issues between uses	Ensure conflicts between different uses are reconciled	<ul style="list-style-type: none"> • Coordinated design to ensure sensitive uses are separated from intrusive uses
Contribution to the public realm	The built form should emphasise its civic and community importance in its design	<ul style="list-style-type: none"> • Minimise impact of car park • Consider the use of landmark element at key points such as corners, expressed through variations in height and/or distinctive design features • Ensure the active frontages of buildings are orientated towards the street or neighbourhood focal point open space • Ensure the public realm is strongly defined by no or minimal setbacks • Ensure signage does not domintate
Safety	Neighbourhood Focal Points should not deter people from using them because they feel unsafe	<ul style="list-style-type: none"> • Ensure public spaces are well lit, visible from windows of intensively used rooms/spaces and have long sight lines • Use trees that mature to be clear stemmed to at least two metres to aid visibility across open space and so enhance passive open space • Ensure areas intensively used by children are separated from areas of significant understorey or high grass which are likely to be snake habitat
Comfort	Neighbourhood Focal Points should not expose the visitor to uncomfortable surroundings	<ul style="list-style-type: none"> • Buildings should incorporate verandahs to address the street and public open space • Provide areas of shade throughout the day • Ensure there are a range of sitting options (formal and informal) throughout each area of open space

Table 12 School Issues

Issue	Objective	Indicative design response
Child health	Facilitating walking by making the journey to and from school fun and interesting with seating areas and landscape installations to act as milestones that 'break up the journey' such as sculptures (preferably an additional one each year by the school children).	<ul style="list-style-type: none"> • Ensure footpaths are 2m wide and level to ensure long sight lines at junctions. • Ensure long sight lines at junctions. • All road crossings to include pram crossings. • Provide extended green time at traffic lights during peak hours.
	Facilitate convenient routes to school	<ul style="list-style-type: none"> • Design safe and connected networks that prioritise routes along traffic-calmed streets of low vehicle use.
	Facilitate adequate passive surveillance	<ul style="list-style-type: none"> • Ensure adjacent development presents habitable room windows towards footpath • Keep surrounding fences low or transparent for clear sightlines and avoid lots backing onto any footpath.
School drop off zones	Minimise congestion and conflict with other uses	<ul style="list-style-type: none"> • Designate strategic 'drop-off' zones at strategic locations away from the school and linked to it by route that does not require children to cross roads other than at a controlled point.
Public transport	Support children's independence and use of public transport	<ul style="list-style-type: none"> • Provide appropriately shaded & sheltered bus stops in active locations to encourage dual-mode journeys. Additionally apply bus stop guidelines described in this chapter

Aged Care Facilities

Walkability issues for aged care facilities include:

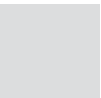
- Walking is often the last mode of independent travel available to older people and so has a particular importance in retaining a sense of dignity and independence,
- Direct frontage onto roads should be minimised for aged care facilities, and a moderate to large landscape buffer provided to reduce noise of nearby roads. Slow moving vehicles should be encouraged in the internal residential area – generally 10km/hr,
- Many residents like to go for daily walks around the local area. They will usually choose a time early in the day when there is less traffic and the walking environment is safer. Fitter residents may often walk to shopping/community facilities some 2-3 kilometres away to reach a wider variety of products or services.

The following table identifies some of the issues raised through the process and suggested responses that should be considered for inclusion in design briefs for the Aged Care Facilities;

Table 13. Aged Care Facilities Issues

Issue	Objective	Indicative Design Response
Social inclusion/exclusion	Facilitate continued personal mobility	<ul style="list-style-type: none"> • Facilitate walking through Pause places, incorporating seating areas to provide shelter and shade in the form of either a canopy of trees, or a built form awning.
		<ul style="list-style-type: none"> • Ensure footpaths between aged care facilities and nearby open space, shops and public spaces are continuous, level and where possible, be at least 2m wide to accommodate informal socialisation and convenient passing-by for younger (and frequently faster moving) people. • Install ramps at crossing points to people with limited mobility and their carers.
Safety	Create environments vulnerable people can feel safer in	<ul style="list-style-type: none"> • Ensure approach speeds and road conditions around aged care facilities are consistent with levels of safety and visibility of older people. • Keep surrounding fences to below 1.2m in height or transparent for adequate passive surveillance between the public realm and adjoining properties.
	Seating	<ul style="list-style-type: none"> • Ensure frequent and accessible shaded seating for older walkers, to break up longer journeys and opportunities for social interaction. • Locate seating areas where possible close to corners to maximise the potential of these places to watch the world go by.
Public transport	Facilitate Public transport	<ul style="list-style-type: none"> • See Bus Stop Guidelines
Active frontages	Community buses	<ul style="list-style-type: none"> • Ensure community buses have a designated drop-off zone at the front of the shopping centre/train station.





Appendix 1

List of documents/strategies considered:

- Mildura Rural City Council Salinity Management Plan October 2004
- Mildura Rural City Council Mildura Strategic Bicycle Plan
- Mildura-Irymple Interface Study October 2005
- Mildura Rural City Council Public Open Space Strategy January 2004
- Mildura Rural City Council Review of the Mildura and Irymple Residential Land Strategies November 2003
- Mildura Rural City Council Revised Final Report: Review of the Mildura Retail Strategy 2000
- Sunraysia Drainage Strategy June 2002
- Mildura Rural City Council Water Sensitive Urban Design Guidelines June 2005
- Mildura Rural City Council Rural Residential Study Review October 2003
- Mildura Rural City Council Mildura Industrial Land Use Strategy October 2003
- Mildura South Development Contributions Plan March 2005
- Deakin Avenue, Mildura Landscape Masterplan July 2006

List of authorities consulted in this project:

- VicRoads
- Department of Sustainability and Environment (DSE)
- Department of Education
- Aboriginal Affairs Victoria (AAV)
- First Mildura Irrigation Trust (FMIT)
- Lower Murray Water (LMW)

Mildura Strategic Framework
Stage 1 Issue Identification Workshop
February 2007



Extracts from similar projects undertaken by the consultant team. Note that they do not represent proposals for any of the areas here.

Thank you for taking part!

The areas shown on the plan overleaf have been identified as a focus of Residential Development in the city of Mildura in near future. Mildura Rural City Council are committed to ensuring that development of these areas is of a high standard in order to provide incoming and existing residents with an attractive and liveable neighbourhood. In order to fulfill this commitment we need to understand what you think, what your hopes and concerns are about this development.

The Issue Identification Workshops and the responses to this form will play a critical role in ensuring that the perspectives and insights of the people who own the land affected and live nearby can be considered in the design and development of these areas.

At this stage we are not looking for suggestions as to how it should be designed rather we are trying to identify the issues that might inform the design process. Given the likely diversity of opinions and range of issues that we have to consider when undertaking such an important design we cannot promise that we will be able to incorporate everyone's suggestions but we will address all the issues identified.

Please use the following pages to note the issues that you think we should be aware of when preparing our designs. There is no right or wrong answers, please feel free to write as little or as much as you feel appropriate and continue on a separate sheet of paper if necessary.



Mildura Strategic Framework Questionnaire

When you have completed this questionnaire, please return to:
Sarah Nickas - Strategic Planner at Mildura Regional City Council
at 108-116 Madden Avenue, Mildura VIC 3502 Phone 5018 8410 **OR** post to PO BOX 105, Mildura VIC 3502

1 Which area or areas do your comments relate to?

Please feel free to mark on the map overleaf.

2 What is your interest in the area, for example are you a landowner, tenant, service provider or other interested party?

3 When are the characteristics of the area that should be protected from, or are unsuitable for development and why?

Are they very important or not so important?

1 = VERY important, 2 = Important, 3 = NOT Important

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

4 Do you have any other comments or suggestions about the study?

Please continue on another sheet if necessary.

5 What is your address? (Optional)

Mildura South Strategic Framework Plan

STAGE 2 Creating a Vision for the Development of the Area

Thank you for your time.

Mildura Rural City Council is committed to a process of working with the local community to prepare a Strategic Framework Plan (SFP) for the land in the South of Mildura (see plan).

As you may know a Strategic Framework Plan will guide design and development of the land to ensure that it is sustainable and can contribute to the amenity enjoyed by the incoming community and existing residents of the surrounding area. An SFP does this by bringing together planning, urban design, landscape design, and engineering specialists to work with you and the local council, to identify how local problems can be addressed and local potential realised.

The first stage in preparing this plan is to find out the issues that should inform our planning process and then prepare a vision for the area that shows how we can achieve the best possible yet realistic concept design for the study area.

This booklet outlines our initial vision for the area based on issues we have identified from feedback received after the first community meeting in February and input from Council officers, service providers and other stakeholders. It outlines a concept that we believe responds to the submissions from those meetings, achieves the objectives of good planning and design and is economically sound. Nothing is set in stone and we need to check that we have understood the issues and make sure that the vision is one that is broadly supported. This is your opportunity to participate in establishing, developing and confirming that vision.

Please return the attached Response Form to:

Sarah Nickas, Strategic Planner
by **Friday 30th March**
to the Council Offices at 108-116 Madden Ave
or by mail to PO Box 105, Mildura, VIC 3502

Mildura South Strategic Framework Plan

Response Form

Please return to:

Sarah Nickas, Strategic Planner
by **Friday 30th March**
to the Council Offices at 108-116 Madden Ave
or by mail to PO Box 105, Mildura, VIC 3502

Issue	Our Suggested Response	What Do You Think?
This table summarises our understanding of the key issues that we think the plan for the area should respond to, and suggests how those issues might be addressed. This is your opportunity to tell us if we have got it right and if there is anything else we should consider. We invite your comments about the overall direction of the draft vision rather than any details of the design. There will be other opportunities to consider these matters before development will occur. Please continue on another sheet if necessary.		
The development of this area and adjacent developments will require lots of uses to support the well being of the people who will live in the area.	We will ensure the plan allows for recreational, social, community and commercial facilities to be provided locally to serve not only the future community but also considers the needs of people who already live nearby. We have identified a need for a primary school, two local activity centres offering neighbourhood shopping and community and recreational facilities and various areas of open space, amongst other things.	
A plan will "lock in" some land as open space and/or drainage reserves, this will diminish the value of the land for some people and not for others.	Development has earmarked open space and/or drainage reserves. Our reports will show the importance of ensuring the Development Contribution Plan which will follow this project should consider those issues and ensure disadvantaged landowners are promptly compensated (e.g. those whose land is predominantly occupied with open space) and those who will benefit from the amenity and premium from the design quality created by others will pay their fair share of the costs.	
45° street alignment is poor for solar access in adjacent lots.	The strategic street alignment is considered "locked in" and would be very difficult to change. Equally the 10 acre lot size is difficult to subdivide and incorporate N-S streets without resulting in many odd shaped lots. Consequently we envisage that where possible, in larger lots, the area is subdivided to accommodate N-S streets. We also envisage suggesting that council appoint a facilitator to negotiate combined developments of two or more 10 acre lots to achieve a more efficient and more sustainable lot layouts. However, in some instance we recognise that some 10 acre lots will have to be developed independently to their neighbour. In these cases we envisage 45° lots, but the development of houses on them would be subject to additional guidelines to ensure good solar access can be achieved.	
"We value the rural character of the area."	As far as possible we will design the open spaces, road layout and landscaping to reinforce the country lane feel of the roads in the area. We will also design the layout to minimize traffic problems and create guidelines that ensure the area does not feel too "urban".	
"How will this development promote greater sustainability?"	Amongst other things, the greenway network linking up key destinations will ensure that walking and cycling are not only safe and convenient but also the most attractive way of moving from A to B. We envisage street will (where possible) be oriented North-South for best solar access. The plan will be based on water sensitive urban design principles and suggest indigenous planting is used to enhance the areas habitat value. The plan will suggest design guidelines to ensure development achieves a greater level of sustainability, minimises energy embodied in the construction and use of the building and in the patterns of consumption they promote.	
Heavy rainfall can inundate land and flood surrounding areas	The plan will be based on water sensitive urban design principles that will ensure flooding is reduced. We envisage wetlands that will provide attractive areas of open space that look good and enhance the areas habitat area. Note if these are managed well problems with mosquitoes can be minimised.	

Study Area

Water

Wetlands

Existing Building

Historic Pine Tree

Established Date Palms

Existing Native Vegetation

Greenway incorporating walking, cycling and bus infrastructure in a very high amenity route. The greenway will link key origins and destinations and will provide an attractive 'spine' for moving through the area.

Bush boulevard to minimise the impact of the highway on development and provide an attractive sense of arrival to Mildura.

Neighbourhood focal point or 'village green' incorporating play areas, public art, bowls, tennis courts or petanque area, BBQ area. These will be surrounded by housing and shops, cafes, and village hall to create a full functioning and attractive neighbourhood centre to allow a sense of community to develop.

Density gradient

Generally 'smaller' lots

Generally larger lots

All existing lots will be subject to subdivision guidelines that will encourage development to create lots that will have their long side facing north to facilitate optimal solar access.

Proposed lots will be subject to development design guidelines that will ensure that the houses are designed to minimise water and energy demands, provide adequate overlooking of streets to make the streets feel safe. The guidelines will also ensure the lots are well, and appropriately landscaped.

Local open space, (indicative locations) incorporating the same uses as the village green but without the commercial uses around them.

Indicative local access

Place pieces incorporating attractive compositions of seating, landscaping, signage and public art to provide minor landmarks.

Gateway feature to provide an attractive sense of arrival into the area.

City gateway public art feature

We envisage the two Village Hubs will provide a place where the new community can gather and meet their day-to-day needs. It will provide an icon for the new community and will offer shops, a cafe, open space, play equipment, BBQ facilities, club house, kinder, medical facilities, shelter and incorporate a community hall that potential could provide a local outlet for social services and setting for meetings and activities.

We envisage the main road through the area "the greenway", will be designed to offer the area an attractive and memorable landscape character. It will be wide enough for a bus and incorporate significant landscaping and footpaths, cyclepaths and potentially even horse-riding track. The greenway will link up the key destinations in the precinct to provide a safe, attractive and sustainable environment that locals can be proud of and that will promote walking and cycling and reinforce a rural character for the area.

We envisage the bush boulevard can create an attractive sense of arrival into Mildura, providing a strong and memorable experience of arriving in the city to minimise congestion and ensure a high standard of residential amenity can be achieved on either side of the road for the incoming community. The bush boulevard would comprise of Salmon Gums in keeping with the Deakin Avenue strategy.

Issue	Our Suggested Response	What Do You Think?
There is a lack of passive open space in area.	The plan will provide a range of different types of open space to ensure people who live in the area or nearby can enjoy a wide range of social and recreational opportunities. This will include safe and interesting places to meet friends, sit, BBQ, walk, relax, watch nature as well as opportunities for active recreation such as walk, run, play sport or cycle.	
The barrier effect of Deakin Ave.	By locating key uses and concentrations of people along the greenway the greenway provides the most direct and attractive way between the areas many proposed assets. By locating traffic lights at the junction of 16th St/Deakin Ave it is possible to introduce a pedestrian crossing along the alignment of the greenway that will facilitate safe, convenient crossing between the two halves of the area. We also envisage significant landscaping along the highway that will create an attractive buffer and screen for adjoining residential lots.	
"What happens when a neighbour wants to develop now but I don't want to yet?"	We cant force people to develop nor stop them if they meet planning requirements, however a better design outcome and more efficient development (and hence a more profitable one) is usually possible when neighbours coordinate development. To this end would like to suggest that Council provide a facilitation service to coordinate development.	
How will the plan minimise the impact of water shortages?	Our plan will suggest largely indigenous plants and incorporate water sensitive design measures to ensure the landscaping can use available rainfall as effectively as possible, minimizing the need for irrigation. We will suggest guidelines are prepared to encourage use of water tanks.	
There is concern about existing heavy traffic along Seventeenth Street.	We note that VicRoads plans this to become the future bypass route. We will raise your concerns with VicRoads.	
There is concern about expense of maintaining public spaces.	Our plan will suggest largely indigenous plants and require the detailed design to consider the maintenance implications.	
How will the commercial areas compete against 15th Street?	We envisage the proposed two neighbourhood activity centres will primarily serve people who live locally and can be designed to meet a much broader range of needs than just shopping. They will also offer recreational uses (open space, play areas, cafes), community uses (village halls and medical centres etc.) all within an attractive environment that will make it the sort of place where people will want to go.	
How will the area provide an appropriate gateway to the city from the airport and the highway?	We envisage the bush boulevard character described above can create a visually interesting gateway to the city that will complement the more formal character of the area nearer the city centre as suggested by the adopted Deakin Ave strategy. We also envisage a pair of iconic public art features to provide a memorable sculptural feature at the threshold to the city.	
Do you have any comments or are there any other issues you would like to raise?		

Summary of Consultation Feedback

1. Issues identified by the community and stakeholders –January 2007	2. Our response to those issues, presented at community and stakeholder workshop, March 2007	3. Community feedback from community and stakeholders workshop March 2007	4. DLA comments (April 2007)
The development of this area and adjacent developments will require lots of uses to support the well being of the people who will live in the area.	We will ensure the plan allows for recreational, social, community and commercial facilities to be provided locally to serve not only the future community but also considers the needs of people who already live nearby. We have identified a need for a primary school, two activity centres offering neighbourhood shopping and community and recreational facilities and various areas of open space, amongst other things.	2. The development can assist with the take up of land over use of fixing recreational facilities. e.g. Move south Mildura football/netball club to this area as a magnet.	This is being considered as part of Council’s current recreation study.
		4. In agreement with your suggested response	Noted
		5. Very good idea. There is a need for Chemists etc. in such an area	Noted
		6. This is essential in terms of community infrastructure. The school location should be located to the south of Deakin Avenue as the area between Deakin Ave and Eriwanda will also be developed. There should be a timeframe for development of the proposed services.	Noted. Services will be developed on a needs basis.
		8. Through roads such as San Mateo, Eriwanda, Walnut and Ontario need to be kept open to provide good flow of traffic to the future areas. Extra lanes for bikes and turning	Noted, we have sought to retain the function of these roads to distribute traffic, provide for direct travel where possible and avoid potential bottlenecks

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A plan will “lock in” some land as open space and/or drainage reserves, this will diminish the value of the land for some people and not for others	Development has earmarked open space and/or drainage reserves. Our reports will show the importance of ensuring the Development Contribution Plan which will follow this project should consider those issues and ensure disadvantaged landowners are promptly compensated (e.g. those who’s land is predominantly occupied with open space) and those who will benefit from the amenity and premium from the design quality created by others will pay their fair share of the costs.	2. Drainage, can this area be required to have water storages as part of development. Every 20,000 litre storage = 20m ³ of water catchment to be utilized.	Accepted, water storage is very important and we envisage a requirement for a water tank will form part of the guidelines for development
		3. Prior to plan being made available we had an offer from investors, but now has been withdrawn after viewing development plan. Will we be compensated. Why has a particular block been earmarked so early in the development causing market value to drop immediately? Wouldn’t it be better to have an area to be incorporated in the overall plan but not earmark the site when it could be changed in the future?	We can empathise with your predicament. If its any consolation the approach taken by the council to create a masterplan for the area will increase value throughout the area, including your land and makes the cost effective provision of services easier. We needed to draw a vision plan in order to demonstrate how the principles of good design can be achieved, or else it would all be a little too difficult to grasp. It was only by creating the vision plan that we were sure we can create the qualities we need to provide to meet state government requirement, maximize quality and market appeal.
		4. In agreement with your suggested response	Noted
		5. As well as land owners compensated	To reiterate, the Development Contributions Plan will be prepared by Council subsequent to this study and will seek to ensure land owners are compensated if part of their land is needed to meet community-wide objectives, such as for open space.
		6. No issue with this, however it’s not the developer who will be paying for this development contribution? Once a landholder sells out, they will have no control on what the developer develops.	Whoever develops the land will be paying the development contribution. This structure plan will be used in the planning process to ensure the development meets the requirements of the plan.
		8. Needs to be addressed to be fair	Agreed
45 degree street alignment is poor for solar access in adjacent lots	The strategic street alignment is considered “locked in” and would be very difficult to change. Equally the 10 acre lot size is difficult to subdivide and incorporate N-S streets without resulting in many odd shaped lots. Consequently we envisage that where possible in larger lots, the area is subdivided to accommodate N-S streets. We also envisage suggesting that council appoint a facilitator to negotiate combined developments of two or more 10 acre lots to achieve a more efficient and more sustainable lot layouts. However, in some instances we recognize that some 10 acre lots will have to be developed independently to their neighbour. In these cases we envisage 45 degree lots, but the development of houses on them would be subject to additional guidelines to ensure good solar access can be achieved.	2. The 45 degree alignment is critical to address green policy for water electricity heat gain and thermal retention and reduction	Agreed, Plan and guidelines have tried to consider this important aspect of design.
		4. In agreement with your suggested response	Agreed
		5. This would have to be looked at in smaller sub division packages.	Agreed
		6. This is a good philosophy. Larger allotments should try and accommodate N-S streets.	Noted
		8. Yes	Noted

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"We value the rural character of the area"	As far as possible we will design the road layout and landscaping to reinforce the country lane feel of the roads in the area. We will also design the layout to minimise traffic problems and create guidelines that ensure the area does not feel too "urban"	2. Has anybody thought about Werribee South lane ways for cars? – roads = open space and recreational	Yes, we encourage the use of rear access ways to properties directly fronting public open space.
		4. In agreement with your suggested response	Noted
		5. This is a great idea to give a more natural/open living effect as well as maintaining a 'country feel'	Noted
		6. Restrictions should also be in place and barriers on straight stretches of roads to limit speeding vehicles. Again what is proposed is great.	Noted, we will try and use street design to minimise vehicle speeds, safety is a very important consideration.
"How will this development promote greater sustainability?"	Amongst other things, the greenway network linking up key destinations will ensure that walking and cycling are not only safe and convenient but also the most attractive way of moving from A to B. We envisage streets will (where possible) be oriented North-South for best solar access. The plan will be based on water sensitive urban design principles and suggest indigenous planting is used to enhance the area's habitat value. The plan will suggest design guidelines to ensure development achieves a greater level of sustainability, minimises energy embodied in the construction and use of the building and in the patterns of consumption they promote.	1. Can the development have self contained sewerage treatment where treated water is returned to residential, commercial via a 3 rd pipe infrastructure. This would decrease the use of potable water and be more sustainable.	Dependant on LMW policy. No strategic directions from LMW yet regarding 3 rd pipe systems. Nature strips have been designed to be wide enough to facilitate 3 rd pipe.
		2. Watch the choice of hard surfaces impervious materials create other problems. Who maintains – how do we keep this tidy from petty vandalism Please explain this a use or words – a smoke screen	Noted, the brief for the detailed design will recognize the importance of minimising impervious surfaces and the importance of minimising maintenance requirements
		4. In agreement with your suggested response	Noted
		5. Great concept if achievable.	Noted, we hope we can define the core elements that will need to be achieved to implement the plan.
		6. Greater emphasis on sustainability should be applied - drought resistant plants - use of active solar systems/ solar hot water - grey water from development to be treated and utilised for irrigating gardens, trees etc.	Agreed, the emphasise placed on these elements will be enhanced
Heavy rainfall can inundate land and flood surrounding areas	The plan will be based on water sensitive urban design principles that will ensure flooding is reduced. We envisage wetlands that will provide attractive areas of open space that look good and enhance the areas habitat area. Note if these are managed well problems with mosquitoes can be minimized.	1. Water to be utilised for irrigation purposes. SEE SHARLAND PARK ATTACHED	Agreed, the plan attached to the submission embodied many of the principles of Water sensitive urban design, including using runoff for irrigation. We have certainly allowed for this in our concept and will ensure the design guidelines will help achieve this goal.
		2. How do we handle drought conditions, long periods of minimal rain fall? Mosquitoes are an a minority situations if we use underground water storage facilities	Careful design and management of wetlands can equip them to handle drought conditions and minimise
		4. SEE attached vision plan marking the lowest point of San Mateo are between 16 th and 17 th streets *1	Noted
		5. Great/ok if areas are maintained and managed	Noted. We recognize that management is critical to the success of the plan.
		6. Surface water to be captured and stored into underground storage tanks – rather than into lakes. Housing development encourages installing rainwater tanks.	Noted, design guidelines will certainly cover water tanks. Design principles can allow many alternative solutions.
		8. Need good storm drainage Parts of planned area are prone to storm flooding	Noted, our plan seeks to apply WSUD principles to minimise the adverse effects of flooding

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There is a lack of passive open space in area	The plan will provide a range of different types of open space to ensure people who live in the area or nearby can enjoy a wide range of social and recreational opportunities. This will include safe and interesting places to sit, BBQ, walk, relax, watch nature as well as opportunities for active recreation such as walk, run, play sport or cycle.	1. Combing open space with drainage detention would be good SEE SHARLAND PARK ATTACHED	Agreed, this is certainly a good idea and is incorporated into our final plan
		2. Open space requires a training program to educate people to provide a leadership group we cannot encourage volunteers to keep up	Noted, whilst this level of detail is, unfortunately, outside the scope of the study it is a good idea and has been noted in our report
		4. In agreement with your suggested response	Noted
		5. Great as long as parking is addressed.	Noted. This is certainly the case for the larger, more strategic open spaces. However for the smaller, local spaces that serve just the people who live nearby, we envisage they will not need much parking because they are accessible from their surroundings by attractive safe and direct walking and cycling routes
		6. Great! This open space should be linked up with development as it progresses with pedestrian/bicycle paths	Noted
The barrier effect of Deakin Avenue.	By locating key uses and concentrations of people along the greenway provides the most direct and attractive way between the areas many proposed assets. By locating traffic lights at the junction of 16 th St/Deakin Ave it is possible to introduce a pedestrian crossing along the alignment of the greenway that will facilitate safe, convenient crossing between the two halves of the area. We also envisage significant landscaping along the highway that will create an attractive buffer and screen for adjoining residential lots.	1. Are we assuming that there will be a transport bypass in place before this develops?	We are not assuming the long term bypass will be done before Mildura South develops, however, the VicRoads alternative truck route might come online during the development period.
		2. Deakin Ave will be a traffic way. Transports and other people not interested need to be diverted elsewhere	This plan is intended to ensure that Deakin Avenue retains its traffic function
		4. In agreement with your suggested response	Noted
		5. Good idea – problems Mildura South School needs an overpass across Deakin Ave (this can be decorative) – this eliminates any traffic interruptions and allows for even flow of traffic along this area.	Noted
		6. Heavy vehicle traffic to be directed away from Deakin Avenue. Traffic lights would be encouraged for this intersection. Good opportunity to create and enhance current entry into Mildura from the west.	Heavy traffic will not be directed away from Deakin Avenue as part of our plan. Noted. The study area is an important gateway to the city and we hope our plan recognizes and acknowledges its significance.
		8. Needs trees to make attractive but not barrier of shrubs which can block views, collect rubbish and reduce security	Noted, the brief for the detailed landscape design, which will be completed subsequent to this study, will stress the importance of these issues

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<p>“What happens when a neighbour wants to develop now but I don’t want to yet?”</p>	<p>We can’t force people to develop, however a better design outcome and more efficient development (and hence a more profitable one) is usually possible when neighbours coordinate development. To this end would like to suggest that Council provide a facilitation service to coordinate development.</p> <p>A staging plan will be prepared as part of the ODP which will assist landowners and Council in determining the general staging and sequence of land release.</p> <p>We envisage suggesting that design guidelines are introduced to minimise conflicts between residential and agricultural uses.</p>	2. Buying up land facilitates a staged program of development. The feral land owners need to be absorbed.	It is very difficult, and expensive to force people to sell, however Council can highlight the advantages of coordinating development and minimise conflict, thus making it more attractive and easier for adjacent land owners to coordinate.
		4. In agreement with your suggested response	Noted
		5. Great	Noted
		6. Design guidelines are imperative and should offer incentives to developers to comply. Submittals for all subdivision/development should be rigorously tested and coordinated with planned development on adjoining properties It all needs to tie into fulfill the SFP	Noted, guidelines should be promotional in nature, stressing the benefits of meeting their requirements. Noted coordination is very important. MRCC have retained the services of a professional urban design practice to coordinate development proposals for other developments and we will suggest this practice continues
How will the plan minimise the impact of water shortages?	<p>Our plan will suggest largely indigenous plants and incorporate water sensitive design measures to ensure the landscaping can use available rainfall as effectively as possible, minimizing the need for irrigation.</p> <p>We will suggest guidelines are prepared to encourage use of water tanks</p>	8. Garden areas need to receive rain run off to soak. Trees and shrubs and not straight to drains.	Noted
		1. Recycle sewerage water to a 3 rd pipe for gardens, toilet flushing	Noted, can be investigated with LMW. No strategic directions yet from LMW regarding 3 rd pipe systems.
		2. Look at our Mallee it can survive, with a little water it grows. Yes I agree water storage is an option.	Noted, the importance of using indigenous vegetation cannot be under-estimated
		4. In agreement with your suggested response	Noted
		5. Great – water tanks, grey water tanks	Noted, can be investigated with LMW. No strategic directions yet from LMW regarding 3 rd pipe systems. Water tanks are in the Victorian building regulations.
		6. Installation of drip irrigation watering systems to minimize water use. Suggest developers be required to plant saplings rather than tubes, minimise plant height at planting 2000mm Underground tanks preferable or collective underground reservoirs.	<p>Can be added as a recommendation in line with landscape principles.</p> <p>Developers pay the cost of new streets trees, but Council plants these trees to ensure their survival and longevity. The height of trees planted by Council will vary depending on species.</p> <p>Tanks are controlled at the building permit stage, not planning permit.</p> <p>Underground tanks are less obtrusive but require pumps and are more expensive, for that reason we suggest leaving the location to personal choice (long term costs of underground tanks could be a problem/rates burden to Council/landowners).</p> <p>Collective tanks require a body corporate arrangement which is not always considered desirable. For this reason we will suggest that they are not a requirement but leave it open to individual developers if they wish to pursue this option.</p>

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There is concern about existing heavy traffic along Seventeenth Street.	We note that VicRoads plans this to become the future bypass route. We will raise your concerns with VicRoads.	1. Definitely a priority to have the bypass head to Seventeenth St and Benerook Ave	Noted
		2. VIC roads need to address traffic – air port NSW	Noted
		4. In agreement with your suggested response	Noted
		5. Better 17 th than any other road.	Noted
		6. Should be moved further out. Road is too narrow for trucks There are a number of houses along 17 th St which are very close to road.	VicRoads have identified parts of Seventeenth Street as a future truck route in the short term. The road sections would not be declared as an arterial route, but appropriate road improvements would be made. The long term plan is for the Sturt Highway to eventually be rerouted around the city.
		8. This will need to be widened. Why not use 18 th street?	Noted, we will raise your concern with VicRoads.
There is concern about expense of maintaining public spaces.	Our plan will suggest largely indigenous plants and require the detailed design to consider the maintenance implications.	1. Lack of water for some indigenous trees could be dangerous as they might fall down	This is quite correct, however careful design of the surrounding environment, such as minimising impervious surfaces, can minimise the stress the tree is under. That having been said we recognize that species selection will have to consider this issue
		2. Yes. Look at Golden Grove – Adelaide	Noted
		4. In agreement with your suggested response.	Noted
		5. Ok if not woody/reedy plants that can look horrible – landscaping and 'ditches' can still collect water with choice of 'better' plants (needs to be 'green')	The detailed design and species selection will be undertaken with a brief that will emphasise the importance of creating an attractive streetscape. We will definitely consider how drainage can be used for irrigation
		6. A well planned open space will engender ownership to the local community and they will look after it.	Agreed
		8. Simple open plans will need less tedious maintenance and water.	Agreed,

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How will the commercial area compete against 15 th Street?	We envisage the proposed two neighbourhood activity centres will primarily serve people who live locally and can be designed to meet a much broader range of needs than just shopping. They will also offer recreational uses (open space, play areas, cafes), community uses (village halls and medical centres etc.) all within an attractive environment that will make it the sort of place where people will want to go.	2. This will be hard to convince the skeptics. Neighbourhood strips are subject to convenience only.	Noted, our economics expert has note that they are smaller activity centres intended to meet the weekly and daily needs of the surrounding population and will be economically viable when anchored by a small supermarket (approx 2000m ² sale area) and co-located with community facilities.
		4. In agreement with your suggested response.	Noted
		5. Great concept – badly needed as there is nothing at this time for this 'end' of town	Noted. It is important to ensure people don't have to go out of their way to meet their basic needs
		6. This may be a little difficult to implement in Mildura. Unfortunately the 'plaza' has everything under one roof.	Noted, our economics expert has noted they will be economically viable as proposed, complementing rather than competing with the 'plaza' (Centro Mildura) and so to a large extent it will be market forces that drive their development but this plan will ensure they achieve the required design standards.
How will the area provide an appropriate gateway to the city from the airport and the highway?	We envisage the bush boulevard character described above can create a visually interesting gateway to the city that will complement the more formal character of the area nearer the city centre as suggested by the adopted Deakin Ave strategy. We also envisage a pair of iconic public art features to provide a memorable sculptural feature at the threshold to the city.	8. Major shops will still be centered on 15 th with small local and services in new area.	This is correct
		2. Who will notice open space maintenance of these area, including rubbish can be costly	Given the high profile of Deakin Avenue, landscape investments here will be enjoyed by all the people entering the city along this route. In relation to the cost, this will be factored in to the development process and the detailed design will aim to minimise maintenance
		4. In agreement with your suggested response	Noted
		5. Good – as long as it does not become an 'eye sore' and 'neglected'	This is very true. For this reason the costs will be factored in to the development process and the detailed design will aim to minimise maintenance
		6. Agree	Noted
		8. Keep wide divided road. 2 lanes each way with trees and grass centre and sides. Don't waste a lot of money on sculptures.	Noted, Deakin Avenue has a very strong character that contributes greatly to the character of the city and we need to ensure our proposals complement that character. Our design varies from that slightly in response to local conditions here, in order to make the road as safe as possible and protect the amenity of existing roadside dwellings. Agreed, if public art is to be pursued it will need to be of a high standard and broadly supported to justify the cost. If these criteria cannot be met it should not be supported. However, public art is more than just sculptures and installations of any type, sculpture, signage, land art, etc should be considered.

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Do you have any comments or are there any other issues you would like to raise?		2. Congratulations, the issues can be raised, debated and solutions arrived at and the guidelines put in place. The MRCC and developers will be aware of the rules	Thank you, that was certainly the intention of the plan.
		6. The commitment by council to prepare and implement the strategic framework plan should be applauded. Once the plan is adapted, council must carry through to ensure the vision is achieved. All developers should be encouraged to implement and include the key elements of the strategic framework plan.	Thank you, noted.
		8. Heavy vehicle bypass – Benerook and 17 th (18 th) need to be completed. Use of Riverside Ave to Ontario Ave would be best as recreation and sports areas.	The site of the recreation and sport area was already established when this project was undertaken.
		*1: To the Planners of Vision Development We Rosie and Peter Blazinic have lived at our address in San Mateo Ave between 16 th and 17 th Street since 1975 = 32 years and have experienced on a number of occasions, the flooding of San Mateo Ave with water over the road, front lawns and under homes which Council had to pump into FMIT drains so the road could be reopened to traffic. So this point that I have indicated on the planning vision by an X for the planners interest, all the water drains down from Deakin Ave also from the blocks halfway between Eriwanda Ave, San Mateo Ave also from 16 th and 17 th streets. We also have great concern that with the greater number of seniors present in this area, there is a lack in our local area of nursing homes both of low-high care because we only have 1 at Redcliffs, 1 at Merbein, 1 low care at Irymple and 3 at Mildura; and there is a need for more nursing facilities in this area Mildura South. So we suggest that possibly because our property is going to be divided by local access road and also a green way area, that some consideration be made for a low/high aged care facility be built on our property with parklands and rural outlook so that the older citizens of our community. Don't just get locked in buildings with 4 walls because our seniors have lived and worked in open spaces all their lives, so their last days should be enjoyed and they should still feel part of our community.	Development will create drainage infrastructure where there is currently only subsurface drainage this will resolve flooding issues. In relation to seniors we have recognized a need for aged care/nursing facilities and wholeheartedly agree older persons should feel part of the community. To this end we have incorporated them into our plan in a location near proposed shops, open space, with an attractive walking route and near public transport. We certainly would not discourage the provision of retirement housing in locations such as yours, overlooking open space and at the hub of their immediate neighbourhood.

<p>The Mallee Catchment Management Authority (CMA) welcomes the opportunity to provide comments on the Mildura South Strategic Framework Plan (SFP). The Mallee CMA would like to commend the Mildura Rural City Council (MRCC) on promoting sustainable development, which includes the greenway network linking key destinations, water sensitive urban design and the planting of indigenous species.</p>	<p>Noted, thank you.</p>
<p>Please find below a number of specific comments the Mallee CMA provides in regard to the Mildura South SFP.</p> <p>As previously mentioned by Darren Wilson, River and Wetland Health Coordinator, at the Focus Group Workshop held on Wednesday, 21 March 2007, the Mildura South (West) component of the plan is located in close proximity to Lake Hawthorn which contains a population of Murray Hardyhead. Murray Hardyhead is a small native fish endemic to the lowland floodplains of the Murray and Murrumbidgee river systems. It is a nationally threatened fish species, listed as Vulnerable under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act). The species is also listed as a threatened species on Schedule 2 of the Victorian Flora and fauna Guarantee Act 1988 and is considered to be Critically Endangered in Victoria (DSE 2003). Murray Hardyhead occur in two wetlands near Mildura, Lake Hawthorn and the Cardross Lakes, and populations are thought to be limited to only four statewide. As such, all existing populations are considered important to the conservation of the species. Therefore, under the EPBC Act, if the developer is proposing to take an actions that may have significant impact on any of these populations, this action must be referred to the Federal Environment Minister for approval. It is the responsibility of the person or organization undertaking the action to refer it and failure to refer an action may have legal implications. Further details regarding this legislation, and how to determine whether the action may have a significant impact, can be obtained by contacting the Department of Environment and Heritage, Canberra, or on the Department's website (www.deh.gov.au)</p> <p>In line with the above, the Authority seeks the Council will ensure the development adopts measures to prevent pollution as a result of nutrients, sediments, chemicals or other pollutants (ie via storm water runoff) from entering lake Hawthorn and that both construction and operational phases of the development comply with the Best Practice Environmental Management Guidelines for Urban Stormwater (CSIRO 1999). As such, consideration should be given to minimising the density of new residential development, particularly for the Riverside Avenue sections of the Mildura South (West) component of the SFP, that is, the section closest to Lake Hawthorn, as well as, connection to Lower Murray Water's waste water treatment system.</p>	<p>All developments must meet the "Best Practice Guidelines for Urban Stormwater" (CSIRO 1999) and any other contemporary pollution control methods prior to discharging to the Council drainage system. The use of the greenways and Water Sensitive urban design is a requirement of Clause 56</p> <p>Noted, new Clause 56 requirements will apply.</p>
<p>Should you have any queries, please do not hesitate to contact Trent Wallis, Manager River and Wetland Health, on (03) 5051 4373. To assist the CMA in handling any enquiries please quote F-2007-0020 in your correspondence with us.</p>	<p>Council will need to create very specific controls/guidelines for discharge to Lake Hawthorn from all of Mildura South. MCMA are currently carrying out "baseline" studies and detailed management plans and monitoring should be carried out jointly by MCMA and MRCC for the whole area.</p>

Jenny Collins
Chief Executive Officer
Mallee Catchment Management Authority

Re: Mildura South Strategic Framework Plan

Peter Blazinic

San Mateo Avenue, Mildura South

Positive	Negative	Subject	Summary	DLA comments (April 2007)
Comment			Politically non offensive, not construction specific/guiding -	At this stage intended to be strategic in nature
Comment		Frame work objectives	What are the minimum bench marks for the street furniture, light poles – significant implication on residential aesthetics	Whilst we recognize their importance they are not within the scope of the study unless they have a particular significance in which case the key criteria are identified for that element
comment		Good example of developed street	'Dunning Drive' is best looking street near area	Understand this street has an established landscape look and is lined with nice dwellings, our plan will encourage with standard of development.
3		Grey water recycling	Large residential developments provide with planning flexibility where recycled water invested	Agreed, Council policy / developers preference will guide the use of sustainable techniques on a local level
4		Grey water recycling	MRCC parks to use recycled grey water	Agreed, Council policy / developers preference will guide the use of sustainable techniques on a local level
5		Grey water recycling	MRCC to locally promote correct detergent for washing – lanfax website	Agreed
	5	Grey water recycling	Environment/ health issues – regulations may be costly to adhere to.	Council policy, monitoring and controls could be possible
5		Local parks	Must have some 'shady' and 'leafy' trees that contribute to convection eg European trees	Agreed, shade trees will greatly help mitigate environmental extremes but because European trees tend to be thirstier and have less habitat value, we suggest they are used sparingly
5		Local parks	Landscaping to encourage native birds/flowers	Agreed, this is why the plan encourages indigenous planting
3		Low minority street lights	To use solar power	Agreed, Council policy / Powercor will guide the use of sustainable techniques on a local level.
4		North South street alignment	Provide for cheaper solar efficiency	Agreed, very important
	5	North South street alignment	Straight long roads do not encourage low traffic speeds	Noted, however detailed design of the road pavement can help reduce speeds and facilitate safety
	5	North South street alignment	Does not encourage variation in dwelling design whilst have to maintain solar efficient	We hope that just as much variation is possible. Note not all roads will, or should be n-s given there will always be a need for e-w movement too.
	4	North South street alignment	Subsequently, speed humps are noisy and restrict car parking	Agreed, however there are other techniques that we will employ.
	3	North South street alignment	Too much regularity boring	Potentially, we have to be careful this doesn't happen. To this end we will identify how detailed design can address this. The advantage of straight streets is that they can help create regular blocks which are much easier to develop.
3		Nursing Home	Near community parks/gardens	Agreed, this is an important part of the concept
5		Park Lighting	To use solar power	Agreed, Council policy / developers preference will guide the use of sustainable techniques on a local level
5		Park Watering	To use solar power	Agreed, Council policy / developers preference will guide the use of sustainable techniques on a local level
4		Recycled water services	To MRCC parks/gardens	Agreed, Council policy / developers preference will guide the use of sustainable techniques on a local level
5		Recycled water services	To private Gardens	Agreed, Council policy / developers preference will guide the use of sustainable techniques on a local level

Positive	Negative	Subject	Summary	DLA comments (April 2007)
3		Residential Density – High Density	Encourage with parks forming part of development promoting recreation in local area	Agreed that higher density should adjoin parks to ensure overlooking and ensure as many lots as possible gain the benefit of open space.
4		Residential Density – Low Density	Encourage pockets with parks and adjacent	Noted, new Clause 56 requirements will apply with regard to provision of public open space.
4		Residential Developments	Planning flexibility permitted to encourage the use of solar power	Agreed, active and passive solar design is very important and hence we have striven to ensure good solar access is possible. We agree that a better uptake of active solar technology , both photo-voltaic and hot water are desirable outcomes and to this end our guidelines will encourage their uptake.
5		Residential Tree Boulevards	Street must have leafy green feel / shade, low maintenance undergrowth	Agreed, the character of the street is very important and creating a shaded leafy character is a core aim of the study. Maintenance issues are emphasized in the final plan
5		Retirement Village – Independent Living	Provide multiple self contained/ community independent living developments	Agreed, ensuring all sections of the community can live here and enjoy a good quality of life is an important objective. To this end we have included a component of retirement living. We have also consequently identified some of the key characteristics of retirement living to ensure the residents can live life in a dignified and healthy manner and participate in the wider community
	3	Road constructions	Sixteenth and San Mateo present wet weather traffic hazard – intersection is poorly designed with water ponding on road after even minor rain	This intersection will likely to be designed and constructed as a works item in the DCP for this area
	2	Road construction	Concrete roads could be visually blinding with hot sunny days in Mildura	Bitumen road pavement is generally required along with landscaping which would overshadow the road pavement to reduce glare.
	1	Road construction	Concrete roads are noisy in residential streets	Generally not encouraged or used in Mildura.
3		Services for Retired People	Library outlet/café/ internet	Agreed these are important assets for elderly people as well as other members of the community. To this end we have identified the key characteristics of the local centres to help council prepare a brief for them. This brief will identify these assets as desirable.
4		Services for Retired People	Local bank outlet	Agreed these are important assets for elderly people as well as other members of the community. To this end we have identified the key characteristics of the local centres to help council prepare a brief for them. This brief will identify these assets as desirable.
4		Services for Retired People	Recreational outlets – community centre	Agreed. The local centre is envisaged to function as a community, retail, health and recreational hub
5		Services for Retired People	Transport	Agreed, and our plan will ensure a logical network of bus capable roads traverse the area to ensure that nowhere is far from a potential bus route.
5		Services for Retired People	Mildura South Medical Services	Agreed. The local centres are envisaged to function as a community, retail, health and recreational hub and we intend to plan for additional health services near the retirement housing.
5		Services for Retired People	Walking distance to recreational oval/park	We agree it is very important for elderly people to be able to engage with their surroundings and participate in community life. To this end we propose a suite of measures to ensure walkability. Firstly a commitment to a high quality walking environment, secondly a commitment to ensuring "pause places" are provided that enable people to take breaks in a comfortable, safe, pleasant and interesting environment. We also have located the retirement living near the lake and the "village green" to allow easy access to recreational opportunities
5		Services for Retired People	Some trees to provide shade, don't have all native trees	Agreed.
2		Stormwater Catchments	Litter trap at major out fall to have moving screens run by solar power	Noted, new Clause 56 requirements will apply.

Positive	Negative	Subject	Summary	DLA comments (April 2007)
3		Stormwater Catchments	Stormwater should be used in catchment parks and development gardens with excess to discharge to stormwater system	Agreed. This is the thinking behind our approach
3		Stormwater Catchments	Residential development to incorporate oil traps to minimise effect of environmental spills	Noted, new Clause 56 requirements will apply.
4		Stormwater Catchments	'Prevention better than cure' Developments must include stormwater little collectors / water filters	Agreed, this is the better solution. Please note though, whilst this saves water bodies and minimizes maintenance downstream it increases maintenance at source and this will have to be addressed
4		Stormwater Catchments	MRCC/Developer/ house designer to incorporate incentive to look afters/water discharge quality	Noted, new Clause 56 requirements will apply.
5		Stormwater Catchments	Encourage frogs – healthy environment	Agreed, one of the core objectives of our approach is to enhance habitat value.
5		Stormwater Catchments	Ponding with controlled pest measures	Agreed, maintenance is important
3		Travel Services	Bus stops must have some tree providing convection shade	Agreed, shade is important at bus stops, as are seats and useful information, etc. To this end we will suggest some key criteria that bus stops will have to fulfill.
4		Tree Boulevard	All streets must have solar irrigation with raw water	Danny?
5		Tree Boulevard	Watering trees using recycled water	Danny?
comment		Tree Boulevard	Do 'Salmon Gums' promote/complement longevity of road construction	In keeping with Councils adopted strategy for Deakin Avenue
	4	Vineyard Farming	Air blast sprayers allow significant overspray/spray drift – limit misters beyond buffer distances from residential areas	Agreed, these conflicts are a serious issues. We appreciate the right to farm and we also recognize the importance of protecting residential amenity. To this end we suggest larger lots on the eventual periphery, to minimize the numbers of people affected and will suggest that Council prepare a booklet about living in these peripheral areas so incoming residents are aware of the implications (good and bad) of living next to a rural area.

Consultation Material

The appendix contains a copy of the full presentation slides as presented to the community and stakeholders in April 2007 at the Hotel Mildura.



MILDURA SOUTH Strategic Framework Plan

Tuesday 20 MARCH, 2007

PROJECT TEAM

David Lock Associates
Jenny Donovan, Project Director
Alastair Campbell, Urban Designer

Peter Brett Associates International
Alex Nicholson, Transport Planner

Applied Development Research
Peter Baker, Economist

GHD
Danny Grzan, Engineer

Council
Sarah Nickas, Strategic Planner
Peter Douglas, Strategic Planner



TONIGHT'S MEETING

The purpose of tonight's meeting is to;

- Remind ourselves about the scope of the project
- Report progress to date;
- Consider how well the draft vision addresses your issues
- Stress the importance of your contribution.



BACKGROUND

This project is being undertaken in order to implement the findings of the Residential Land Strategy for Mildura.

The strategy provides a framework for residential development in Mildura to the year 2030.

The strategy suggested residential development is focused in three areas, one of which is this area (Mildura South).



STUDY AREA

The boundaries recommended by the Residential Land Strategy were used as a basis for determining the study area for the project.

The study area is approximately 1000 acres in area.



PURPOSE

The study is needed to;

- achieve a high standard of planning and design for the area
- assist Council to plan infrastructure for the area
- ensure the potential of the land is not compromised by inappropriate development
- implement the Victorian Planning Provisions which seek to “to create liveable and sustainable neighbourhoods with character and identity”
Clause 56 VPP



OUR PRINCIPLES

- Providing attractive, safe, pleasant places to live
- Providing places that facilitate people to live healthy lives
- Ensuring development can be adequately serviced
- Offering the highest standards of sustainable design
- Considering amenity of surrounding residents
- Providing adequate social infrastructure
- Ensuring development is within the limitations of land capacity
- Enabling development to respond to the prevalent market conditions
- Facilitating efficient lot layout and timely development



OUR GOALS

Finding a way of **balancing** and **reconciling** competing objectives

Finding a way of **OPTIMISING** development, not maximising or minimising it



UNDERSTANDING THE SITE



EXISTING CONDITIONS



INGREDIENTS (existing)



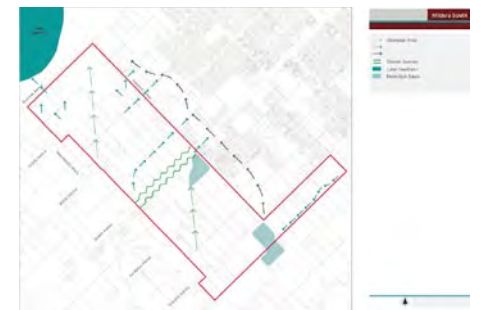
INGREDIENTS (existing)



INGREDIENTS (existing)



INGREDIENTS (existing)



INGREDIENTS (existing)

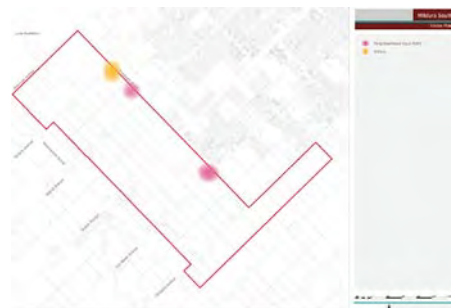


REALISING THE POTENTIAL OF THE SITE

INGREDIENTS (proposed)



INGREDIENTS (proposed)



INGREDIENTS (proposed)



INGREDIENTS (proposed)



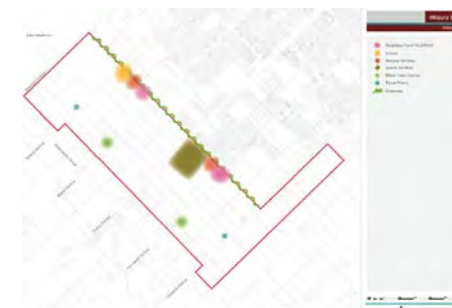
INGREDIENTS (proposed)



INGREDIENTS (proposed)



INGREDIENTS (proposed)



INGREDIENTS (proposed)



ADDRESSING KEY ISSUES

Through our investigations and consultation with the community and key stakeholders, a number of key issues have been identified. Based on our principles, we have suggested a number of responses to these issues.

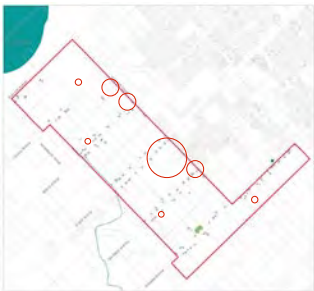
It is important to note that the issues presented may not be complete and we are seeking input into redefining these issues.



KEY ISSUES

Issue 1:
The development of this area and adjacent developments will require a number of uses to support the well being of the people who will live in the area.

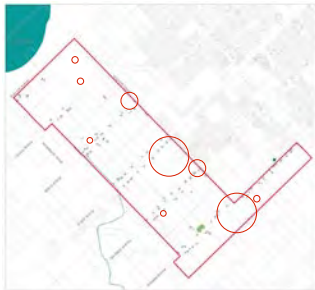
Our Response
We will ensure the plan allows for recreational, social, community and commercial facilities to be provided locally to serve not only the future community but also considers the needs of people who already live nearby. We have identified a need for a primary school, two local activity centres offering neighbourhood shopping and community and recreational facilities and various areas of open space, amongst other things.



KEY ISSUES

Issue 2:
A plan will "lock in" some land as open space and/or drainage reserves, this will diminish the value of the land for some people and not for others.

Our Response
Development has earmarked open space and/or drainage reserves. Our reports will show the importance of ensuring the Development Contribution Plan which will follow this project should consider those issues and ensure disadvantaged landowners are promptly compensated (e.g. those whose land is predominantly occupied with open space) and those who will benefit from the amenity and premium from the design quality created by others will pay their fair share of the costs.



KEY ISSUES

Issue 3:
45° street alignment is poor for solar access in adjacent lots.

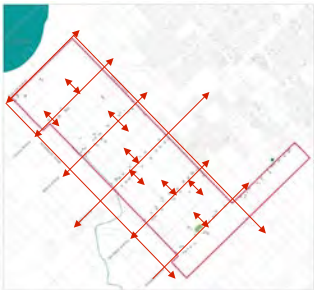
Our Response
The strategic street alignment is considered "locked in" and would be very difficult to change. Equally the 10 acre lot size is difficult to subdivide and incorporate N-S streets without resulting in many odd shaped lots. Consequently we envisage that where possible, in larger lots, the area is subdivided to accommodate N-S streets. We also envisage suggesting that council appoint a facilitator to negotiate combined developments of two or more 10 acre lots to achieve a more efficient and more sustainable lot layouts. However, in some instance we recognise that some 10 acre lots will have to be developed independently to their neighbour. In these cases we envisage 45° lots, but the development of houses on them would be subject to additional guidelines to ensure good solar access was provided.



KEY ISSUES

Issue 4:
"We value the rural character of the area."

Our Response
As far as possible we will design the road layout and landscaping to reinforce the country lane feel of the roads in the area. We will also design the layout to minimise traffic problems and create guidelines that ensure the area does not feel too "urban".



KEY ISSUES

Issue 5:
"How will this development promote greater sustainability?"

Our Response

The greenway network linking up key destinations will ensure that walking and cycling are not only safe and convenient but also the most attractive way of moving from A-B. We envisage street will (where possible) be oriented North-South for best solar access.

The plan will be based on water sensitive urban design principles and suggest indigenous planting is used to enhance the areas habitat value.

The plan will suggest design guidelines to ensure development achieves a greater level of sustainability, minimises energy embodied in the construction of the building and in the patterns of consumption they promote.

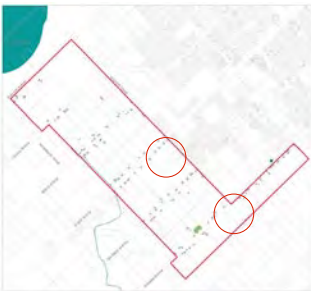


KEY ISSUES

Issue 6:
Heavy rainfall can inundate land and flood surrounding areas

Our Response

The plan will be based on water sensitive urban design principles that will ensure flooding is reduced. We envisage wetlands that will provide attractive areas of open space that look good and enhance the areas habitat area. Note if these are managed well problems with mosquitoes can be minimised.



KEY ISSUES

Issue 7:
There is a lack of passive open space in area.

Our Response

The plan will provide a range of different types of open space to ensure people who live in the area or nearby can enjoy a wide range of social and recreational opportunities. This will include safe and interesting places to meet friends, sit, BBQ, walk, relax, watch nature as well as opportunities for active recreation such as walk, run, play sport or cycle.

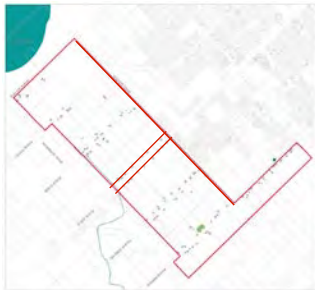


KEY ISSUES

Issue 8:
The barrier effect of Deakin Ave.

Our Response

By locating key uses and concentration of people along the greenway the greenway provides the most direct and attractive way between the areas many proposed assets. By locating traffic lights at the junction of 16th/Deakin it is possible to introduce a pedestrian crossing along the alignment of the greenway that will facilitate safe, convenient crossing between the two halves of the area. We also envisage significant landscaping along the highway that will create an attractive buffer and screen for adjoining residential lots.



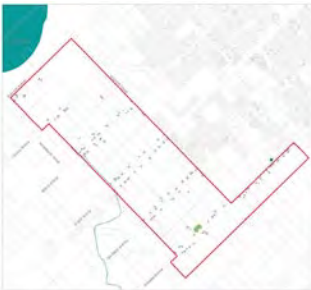
KEY ISSUES

Issue 9:
"What happens when a neighbour wants to develop now but I don't want to yet?"

Our Response

We cant force people to develop, however a better design outcome and more efficient development (and hence a more profitable one) is usually possible when neighbours coordinate development. To this end would like to suggest that Council provide a facilitation service to coordinate development.

We envisage suggesting that design guidelines are introduced to minimise conflicts between residential and agricultural uses.



KEY ISSUES

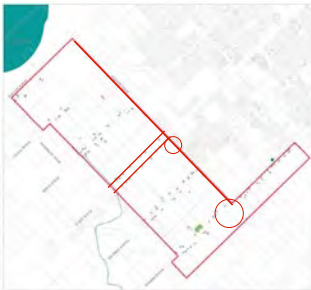
Issue 10:
How will the plan minimise the impact of water shortages?

Our Response

Our plan will suggest largely indigenous plants and incorporate water sensitive design measures to ensure the landscaping can use available rainfall as effectively as possible, minimising the need for irrigation.

We will suggest guidelines are prepared to encourage use of water tanks.

"Third pipe" solutions should be explored subsequently to this study.



KEY ISSUES

Issue 11:
There is concern about existing heavy traffic along Seventeenth Street.

Our Response

We note that VicRoads plans this to become the future bypass route. We will raise your concerns with VicRoads.

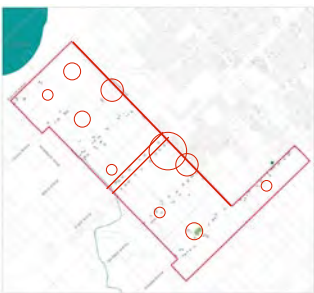


KEY ISSUES

Issue 12:
There is concern about expense of maintaining public spaces.

Our Response

Our plan will suggest largely indigenous plants and require the detailed design to consider the maintenance implications.

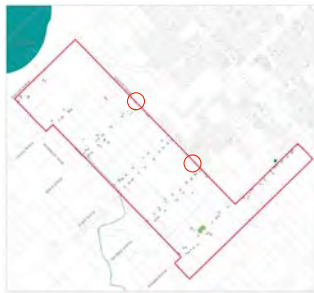


KEY ISSUES

Issue 13:
How will the commercial areas compete against 15th Street?

Our Response

We envisage the proposed two neighbourhood activity centres will primarily serve people who live locally and can be designed to meet a much broader range of needs than just shopping. They will also offer recreational uses (open space, play areas, cafes), community uses (village halls and medical centres etc.) all within an attractive environment that will make it the sort of place where people will want to go.



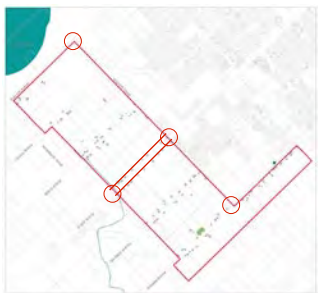
KEY ISSUES

Issue 14:
Providing an appropriate gateway to the city from the airport and the highway.

Our Response

We envisage a bush boulevard character described above can create a visually interesting gateway to the city that will complement the more formal character, suggested by the adopted Deakin Ave strategy.

We also envisage a pair of iconic public art features to provide a memorable sculptural feature at the threshold to the city.



KEY ISSUES

Issue 15:
Deakin Avenue is a busy road carrying freight traffic through Mildura South.

Our Response

Our plan will recognise the mixed traffic function nature of Deakin Avenue and mitigate the issues associated with this function. We plan to minimise the barrier effect of Deakin Avenue for pedestrians and strengthen linkages between either side.



KEY ISSUES

Issue 16:
How will the area be served by public transport and for walking and cycling?

Our Response

Our plan will suggest a walking and cycling network, public transport network and neighbourhood street network that caters for everyone. A well planned road network will ensure full bus access to any future neighbourhood centre of school.



CREATING A VISION

OUR VISION

INDICATIVE MASTER PLAN

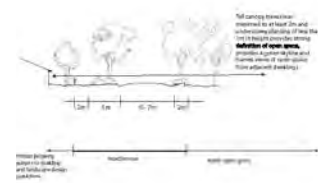
OUR VISION

OUR VISION

OUR VISION

OUR VISION

Edge Road



Edge roads provide a wide open space. They are used for parking, walking, cycling and for a wide range of other activities.

Characteristics:
• Wide open space
• Wide open space
• Wide open space



OUR VISION



OUR VISION

Shared Pathway/bicway



Shared pathways provide a wide open space. They are used for walking, cycling and for a wide range of other activities.

Characteristics:
• Wide open space
• Wide open space
• Wide open space

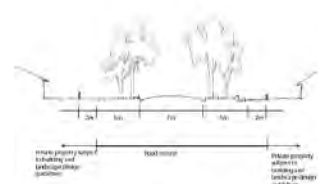


OUR VISION



OUR VISION

Standard Road



Standard roads provide a wide open space. They are used for walking, cycling and for a wide range of other activities.

Characteristics:
• Wide open space
• Wide open space
• Wide open space



OUR VISION



OUR VISION



IMPLEMENTING THE STRATEGIC FRAMEWORK PLAN

To implement the Strategic Framework Plan a Development Contribution Plan, and a planning scheme amendment to the Mildura Planning Scheme will be required.

The Development Contribution will ensure the costs and benefits of this co-ordinated approach are borne fairly

The amendment will propose zoning and overlay changes as well as any modifications to local policies.

The draft amendment will be exhibited to the public prior to its adoption.

HOW YOU CAN CONTRIBUTE

Confirm our understanding of your issues and tell us if we are heading in the right direction through input into the draft Strategic Framework Plan – May 2007

Please fill out response forms and return to us by **Friday 30th March**

PROJECT TIME LINES

Jan 2007	Project Commencement
Feb 2007	Issue Identification Workshops
Feb 2007	Prepare Issues Paper
Mar 2007	Vision Workshop
Apr 2007	Draft Final Report
May 2007	Final Report

ANY QUESTIONS?

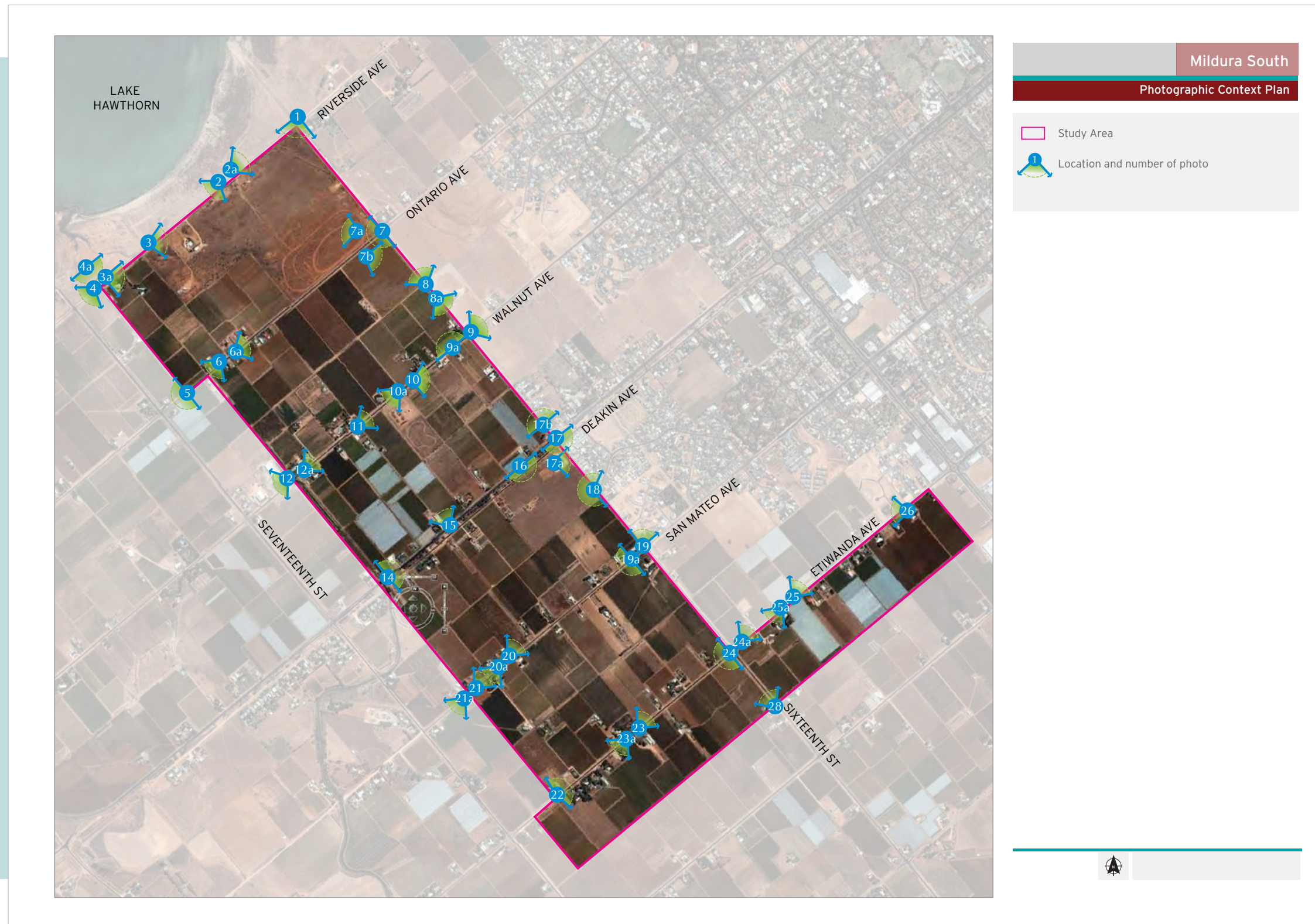


Revisions Table

Date	Revision	Document/Report Title and Date
March 2007		Mildura South Strategic Framework Plan Issues Report
May 2007	1	Mildura South Strategic Framework Plan Draft Final Report
October 20007		Mildura South Strategic Framework Plan Final Report



Appendix 6







3

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3a



4



4a













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17a



17b



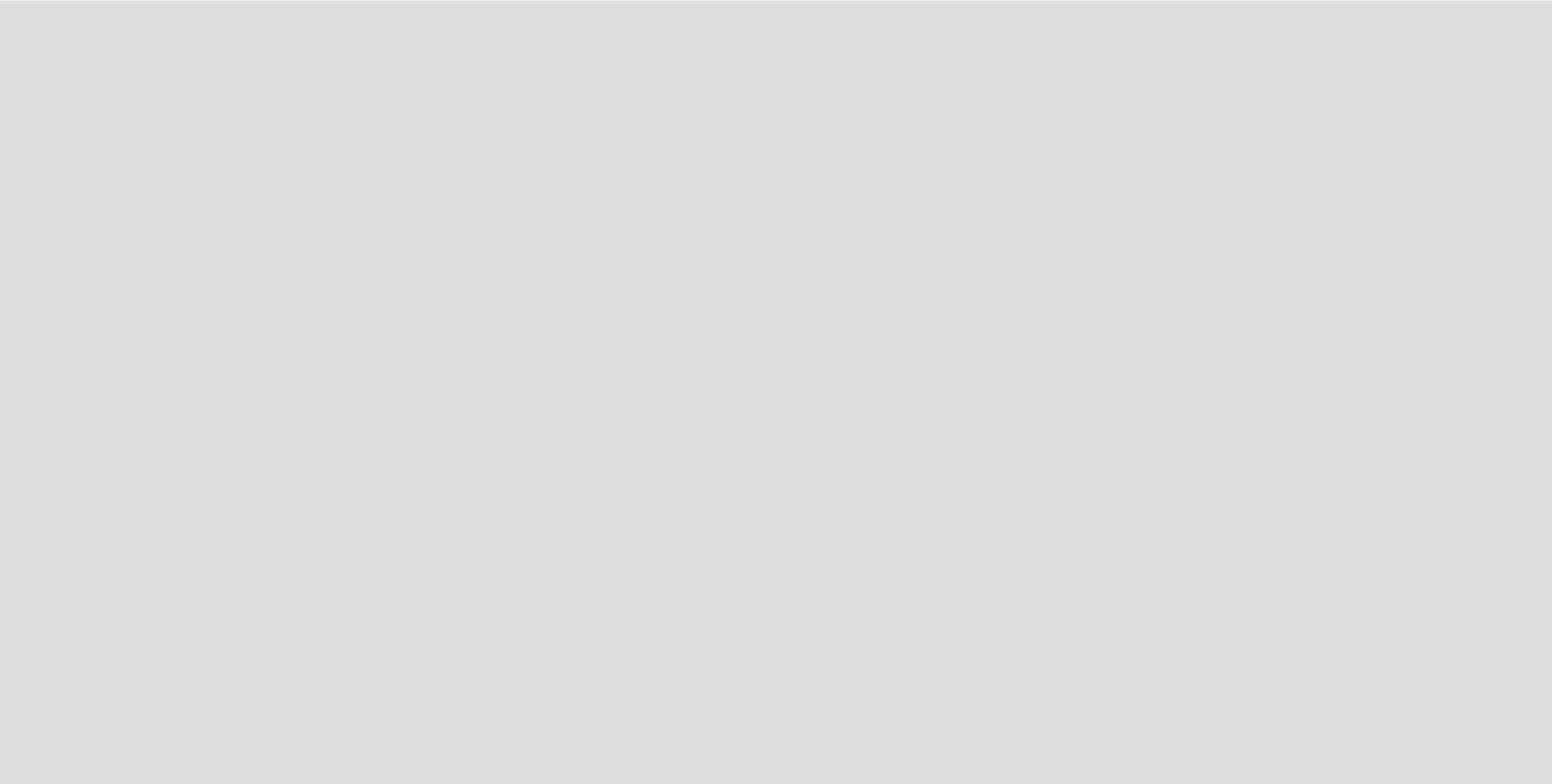
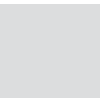
18











MILDURA PLANNING SCHEME

19/01/2006
VC37

SCHEDULE 1 TO THE DEVELOPMENT PLAN OVERLAY

Shown on the planning scheme map as **DPO1**

FUTURE RESIDENTIAL AREAS

1.0
19/01/2006
VC37

Requirement before a permit is granted areas for those areas with approved Development Plans.

A permit may be granted to use, develop or subdivide land which is generally in accordance with the following approved Development Plans to the satisfaction of the Responsible Authority:

- Mildura South Outline Development Plan
- Red Cliffs Outline Development Plan
- Irymple North South Outline Development Plan
- Irymple (Karadoc and Sandilong) Outline Development Plan

2.0
19/01/2006
VC37

Requirement before a permit is granted for those areas without approved Development Plans.

Dwelling

A permit may be granted before a Development Plan has been prepared to the satisfaction of the Responsible Authority for the purposes of a single dwelling on an existing allotment.

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Requirements for Development Plan

The development plan must provide the following:

- A clearly distinguishable road hierarchy with the differences in road function reflected in the road width, design layout and road reserve treatments;
- A range of residential lot sizes.
- The design and make up of residential lot density.
- Innovative design of all proposed public open spaces incorporating pedestrian and cycle paths and linking open space networks with community facilities and local neighbourhood activity centres with the surrounding residential precinct;
- The details and implications of any salinity analysis done on the land.
- The means of servicing to lots including the provision of reticulated water and sewer to all residential lots.
- The need for open space and any other community infrastructure as considered necessary by the responsible authority.
- The impact of the development on any sites of flora or fauna significance, archaeological significance or significant views that may affect the land.
- Retention of any existing trees of value and an appropriate landscaping theme for nature strips and public open space including the use of salt tolerant plants.
- Identification of common trenching of compatible services.
- The application of water sensitive urban design principles.
- The comments of the owners of the land.
- The comments of Lower Murray Water and First Mildura Irrigation Trust.

