

LAKESIDE PARK STRUCTURE PLAN

Landcorp Kūnūnūrā Projects

LANDCORP

September 2010



ENDORSEMENT PAGE

This structure plan is prepared under the provisions of the Shire of Wyndham East Kimberley
Town Planning Scheme No. 7

IT IS CERTIFIED THAT THIS STRUCTURE PLAN WAS APPROVED BY RESOLUTION OF THE
WESTERN AUSTRALIAN PLANNING COMMISSION ON:

13 February 2014

In accordance with Schedule 2, Part 4, Clause 28 (2) and refer to Part 1, 2. (b) of the
Planning and Development (Local Planning Schemes) Regulations 2015.

Date of Expiry:

19 October 2030

DISCLAIMER

This report is prepared on the instructions of the party to whom or which it is addressed and is thus not suitable for use other than by that party. As the report involves future forecasts, it can be affected by a number of unforeseen variables. It represents for the party to whom or which it is addressed the best estimates of Urbis Pty Ltd, but no assurance is able to be given by Urbis Pty Ltd that the forecasts will be achieved.

URBIS STAFF RESPONSIBLE FOR THIS REPORT WERE:

Director	Ray Haeren
Associate Director	Sally Birkhead
Senior Consultant	Chris Donnelly
Consultant	Megan Gammon
Job Code	PA0676
Report Number	KUNUR_2010-22-9_ Structure Plan Report

Copyright © Urbis Pty Ltd
ABN 50 105 256 228

All Rights Reserved. No material may be reproduced without prior permission. While we have tried to ensure the accuracy of the information in this publication, the Publisher accepts no responsibility or liability for any errors, omissions or resultant consequences including any loss or damage arising from reliance in information in this publication.

URBIS
Australia Asia Middle East
www.urbis.com.au

TABLE OF CONTENTS

1	Statutory Provisions	6
1.1	Introduction	6
1.2	Title and Area	7
1.3	Statutory Status	7
1.4	Contents of the Structure Plan	7
1.5	Objectives of the Structure Plan	7
1.6	Land Use Classifications	8
1.7	Design Guidelines	8
1.8	Detailed Area Plans (DAP's)	8
1.9	Structure Plan	8
2	Justification Report.....	11
2.1	Background and Purpose	11
2.2	Site Description	12
2.2.1	Location and Existing Uses	12
2.2.2	Surrounding Uses	13
2.2.3	Land Tenure and Site Details	14
2.3	Environmental Summary	14
2.3.1	Topography and Landform	14
2.3.2	Geotechnical Matters and Soils	14
2.3.3	Hydrology	14
2.3.4	Acid Sulphate Soils	15
2.3.5	Vegetation	15
2.3.6	Climate	15
2.3.7	Native Title	16
2.4	Heritage Sites	16
2.4.1	Aboriginal Heritage	16
2.5	Movement Network	17
2.5.1	Roads	17
2.5.2	Pedestrian	19
2.6	Services	19
2.6.1	Power	19
2.6.2	Water	19
2.6.3	Wastewater	20
2.6.4	Drainage	20
2.6.5	Telecommunication	20
2.6.6	Gas	20
2.7	Planning Context and Rationale	21
2.7.1	State and Regional Planning Context	21
2.7.2	Local Planning Context	24
2.8	Issues, Opportunities and Constraints	27
2.9	Structure Plan and Issues for Consideration	29
2.9.1	Overall Design Principles and Intent	29
2.9.2	Land Use and Development	29
2.9.3	Interface Treatments	32
2.9.4	Movement Network	32
2.9.5	Pedestrian and Cycle Network	33

2.9.6	Landscape	34
2.9.7	Noise.....	35
2.9.8	Catering for Residential Development and Workforce Needs	36
2.9.9	Water Management.....	36
2.9.10	Utilities and Infrastructure.....	37
2.9.11	Engineering Requirements.....	38
2.9.12	Design Guidelines	39
2.9.13	Detailed Area Plans (DAP's)	39
2.10	Implementation	40
2.10.1	Design Guidelines	40
2.10.2	Detailed Area Plans.....	40
2.10.3	Implementation Plan.....	40
Appendix A	Planning Context and Rationale – Detailed Review	42
Appendix B	Lakeside Park (Stage 5-7) Structure Plan.....	50
Appendix C	Opportunities and Constraints Mapping	51
Appendix D	Transcore Traffic Study – Deletion of the Southern Link and Intersection with Victoria Highway.....	52
FIGURES:		
	Figure 1 – Location Map (Source: Google Earth).....	6
	Figure 2 – Lakeside Park (Stage 5-7) Structure Plan Map.....	10
	Figure 3 – Structure Plan Area (Source: Landgate 2010).....	14
	Figure 4 – Kununurra Heavy Vehicle Route – Stage 1 and Stage 2 (Source: MRWA)	20
	Figure 5 – Lakeside Park (Stage 5-7) – Current Zoning (Source: WAPC)	28
	Figure 6 – Opportunities and Constraints Plan	31
TABLES:		
	Table 1 – Surrounding Land Uses.....	14
	Table 2 – Land Areas, Estimated Lot Yields and Population Estimates	35
	Table 3 – Planting Types (Source: Ecoscape)	38
	Table 4 – Implementation Plan	43

Part 1: Statutory Provisions

1 Statutory Provisions

1.1 Introduction

This document shall be read in conjunction with the Lakeside Park Structure Plan Map. Pursuant to the provisions of the Shire of Wyndham East Kimberley Town Planning Scheme No. 7, this document forms part of the Structure Plan.

This Structure Plan has been prepared for a parcel of land located in Kununurra, recognised as a Lot 9002 Hibiscus Drive, Victoria Highway and a portion of undefined vacant Crown Land (Lot 976). Pursuant to clause 6.6.2 of the Shire of Wyndham-East Kimberley Town Planning Scheme No.7 (the Scheme), a Structure Plan is required to be prepared over the site prior to considering a Subdivision or Development Application to guide development form.

Part 1 of the Structure Plan report contains the statutory planning provisions applicable to the Structure Plan area.

Part 2 of the Structure Plan report provides a descriptive analysis of the Structure Plan, including site description, project background, opportunities and constraints, the existing statutory planning framework, a description of the Structure Plan and the proposed implementation mechanisms.

This Structure Plan represents the finalisation of a 2007 Structure Plan which was advertised for public comment and adopted by Council, but for reasons unclear, wasn't received or subsequently endorsed by the WAPC. This proposal intends to finalise this process.

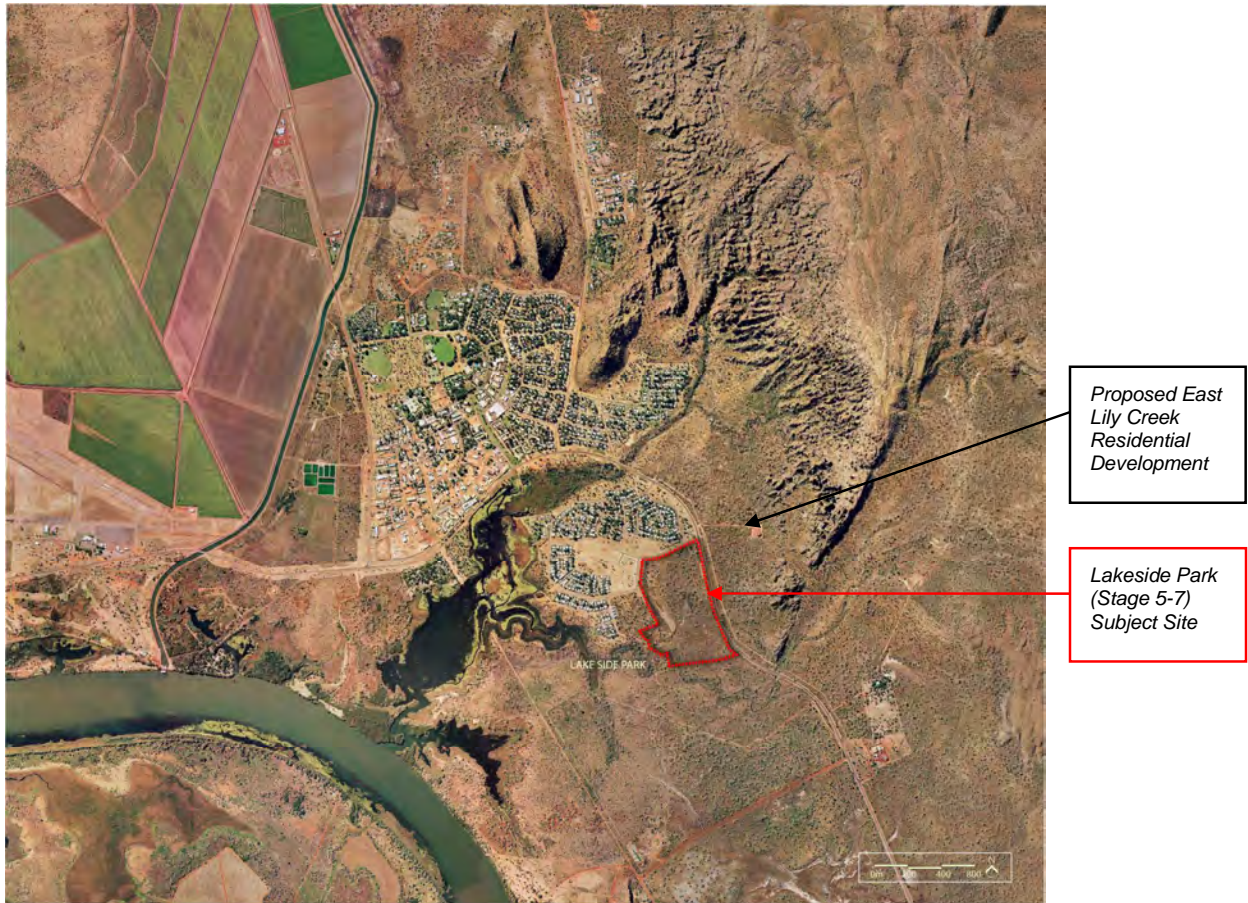


Figure 1 – Location Map (Source: Google Earth)

1.2 Title and Area

This Structure Plan shall have the formal title of Lakeside Park Structure Plan.

The area to which this Structure Plan applies is shown on the Lakeside Park Structure Plan Map, Figure 2.

1.3 Statutory Status

The Structure Plan Statutory Provisions and Map are to have the same force and effect as if they were a provision, standard or requirement of the Scheme. Where there is any inconsistency between the provisions of TPS 7 and the provisions of the Structure Plan, the provisions of TPS 7 prevail to the extent of that inconsistency.

1.4 Contents of the Structure Plan

The Structure Plan is comprised of the following:

- The Structure Plan Map
- The Structure Plan Statutory Provisions (Operative)

Supporting documentation shall inform the planning and development for the Lakeside Park Structure Plan but shall not form part of the Structure Plan nor any future amendments. This will be referred to as the Justification Report.

Any additional studies and/or investigations that are required to inform the planning and development of the Structure Plan area are to assume the status of supporting documentation therefore informing the planning outcomes.

Due regard shall be paid to the justification report and any supporting documentation.

1.5 Objectives of the Structure Plan

The objectives of the Structure Plan are to:

- Guide residential growth through the provision of additional serviced residential land parcels for release to the Kununurra market;
- Provide a site for convenience shopping and/or community amenities for residents of Lakeside;
- Facilitate and coordinate the progressive subdivision and development of land within the Structure Plan area;
- Provide a range of dwelling types and densities accommodating a diverse residential community; and to
- Provide land for public purposes including opportunities for recreation and tourism.

The intent of the Lakeside Park (Stage 5-7) Structure Plan is to establish principles for development of the site, however it must be noted that during the planning process the designs may be modified to improve such considerations as climate responsiveness, housing choice and environmental and engineering conditions of the site or similar.

1.6 Land Use Classifications

Where the Structure Plan imposes a classification on the land which is the same as a zone or reserve of the Town Planning Scheme and/or a Residential Density Code contained within the Residential Design Codes of Western Australia (R-Codes), subdivision, development and other planning and building applications will be assessed pursuant to the requirements of the Scheme and the Structure Plan.

Where there is any inconsistency between the provisions of the Town Planning Scheme and the provisions of the Structure Plan, the provisions of the Scheme prevail to the extent of that inconsistency.

The Structure Plan contains three land use classifications; Residential, Local Centre and Parks and Recreation.

1.7 Design Guidelines

A set of Design Guidelines will be prepared to guide the preparation of Detailed Area Plans, subdivision and development applications, and other forms of planning or building applications.

1.8 Detailed Area Plans (DAP's)

DAP's will be prepared to guide and facilitate subdivision and development.

1.9 Structure Plan

Figure 2, overleaf, represents the Structure Plan for Lakeside Park.



LEGEND:

- - - STRUCTURE PLAN AREA
- RESIDENTIAL R17.5
- RESIDENTIAL R20
- RESIDENTIAL R25
- RESIDENTIAL R40
- LOCAL CENTRE
- PARK & RECREATION RESERVE

NOTES:

ALL ROAD RESERVE WIDTHS ARE INDICATIVE ONLY

DRAFT LAKESIDE PARK STRUCTURE PLAN
KUNUR

Figure 2 – Lakeside Park (Stage 5-7) Structure Plan Map

	Date 30/08/10	DWG NO 003	REV D	SCALE 1:2000@A1
Level 1, 55 St Georges Terrace Perth WA 6000 Australia	Tel +618 9346 0500 Fax +618 9221 1778	info@urbis.com.au www.urbis.com.au	Urbis Pty Ltd ABN 50 105 258 228 Australia, Asia, Middle East	

Part 2: Justification Report

2 Justification Report

This section of the Structure Plan presents a summary of the key issues and matters for consideration in preparation of the Structure Plan. This report should be read in conjunction with the more detailed text and supporting documentation contained in the Appendices section of this report.

2.1 Background and Purpose

- Economic expansion and population growth in Kununurra has resulted in the need to progress planning for the release of additional residential land within Kununurra in Lakeside Park. Given the proximity of the Structure Plan precinct to the Kununurra Town Centre, LandCorp has identified Lakeside Park as an area of strategic residential land supply.
- The Lakeside Park Structure Plan is intended to establish the broad structure, layout, appropriate land uses and key infrastructure networks required for future development of the subject site into a residential community.
- This Structure Plan represents the finalisation of a 2007 Structure Plan which was advertised for public comment and adopted by Council, but for reasons unclear, wasn't received or subsequently endorsed by the WAPC.
- Stages 5 and 6 of the Lakeside precinct have subdivision approval, however the road and lot layouts proposed differ from the previous structure plans prepared for the Estate. This proposal intends to rationalise and formalise the Structure Plan for the Estate.
- This Structure Plan is largely reflective of the structure plans previously considered by Council and represents the finalisation of these processes through appropriate endorsement by the WAPC. The following minor modifications are proposed to the 2007 Plan advertised and adopted by Council:
 - Limited higher residential densities to maximise views to adjacent public open space and on street corners.
 - Grouped housing density increased to R40 to increase the commercial catchment population adjacent to the local centre, as well as to encourage pedestrian and other forms of non-motorised transport to access local facilities.
 - Removal of south-eastern traffic connection from Victoria Highway into the residential estate. Detailed traffic modelling has indicated that the Hibiscus Drive entrance from Victoria Highway is sufficient to accommodate the proposed residents.
 - Identification of the former mixed use site as a Local Centre. Although the existing TPS 7 zoning does not accommodate for this use, the Shire is currently progressing a Scheme Amendment to rezone this portion from 'Residential Development' to 'Local Centre'.
- The Structure Plan section of this report rectifies these inconsistencies and reflects the subdivision layout approved by the WAPC.
- These modifications are considered minor in nature and do not materially alter the intent of the previous Structure Plans considered and adopted by Council for Lakeside Park. The current application is essentially an exercise in formalising the already adopted Structure Plan and forwarding it to the WAPC for endorsement.
- Given that the previous Structure Plans for Lakeside were advertised and received no submissions; that the previous Structure Plans were adopted by the Council; that subdivisions have already been approved over part of the site; and as advertising is not required in accordance with the Scheme (given the site is not within an Overall Planning Area), Shire staff and Department of Planning Officers are in agreement that the revised Structure Plan does not require advertising.

2.2 Site Description

2.2.1 Location and Existing Uses

- The subject site is located approximately 1.5 kilometres from the Kununurra town site in the Shire of Wyndham East Kimberley.
- The site is bounded by Victoria Highway to the east, the existing Lakeside Residential Development (Stages 1-4) to the north, Lake Kununurra to the west and Drovers Rest future residential development to the south.

2.2.2 Surrounding Uses

Table 1 – Surrounding Land Uses

Direction	Immediately Adjacent	Further
North	Existing Lakeside Residential Development (Stages 1-4)	-
East	Victoria Highway	Proposed East Lily Creek Residential Development
South	Proposed Future Drivers Rest Residential Development	-
West	Lake Kununurra and Lily Creek Lagoon	Lake Kununurra and Lily Creek Lagoon

- The Structure Plan has been prepared having special consideration for interface treatments with the Victoria Highway. Further discussion on this matter is contained in section 2.9.3 of this report.

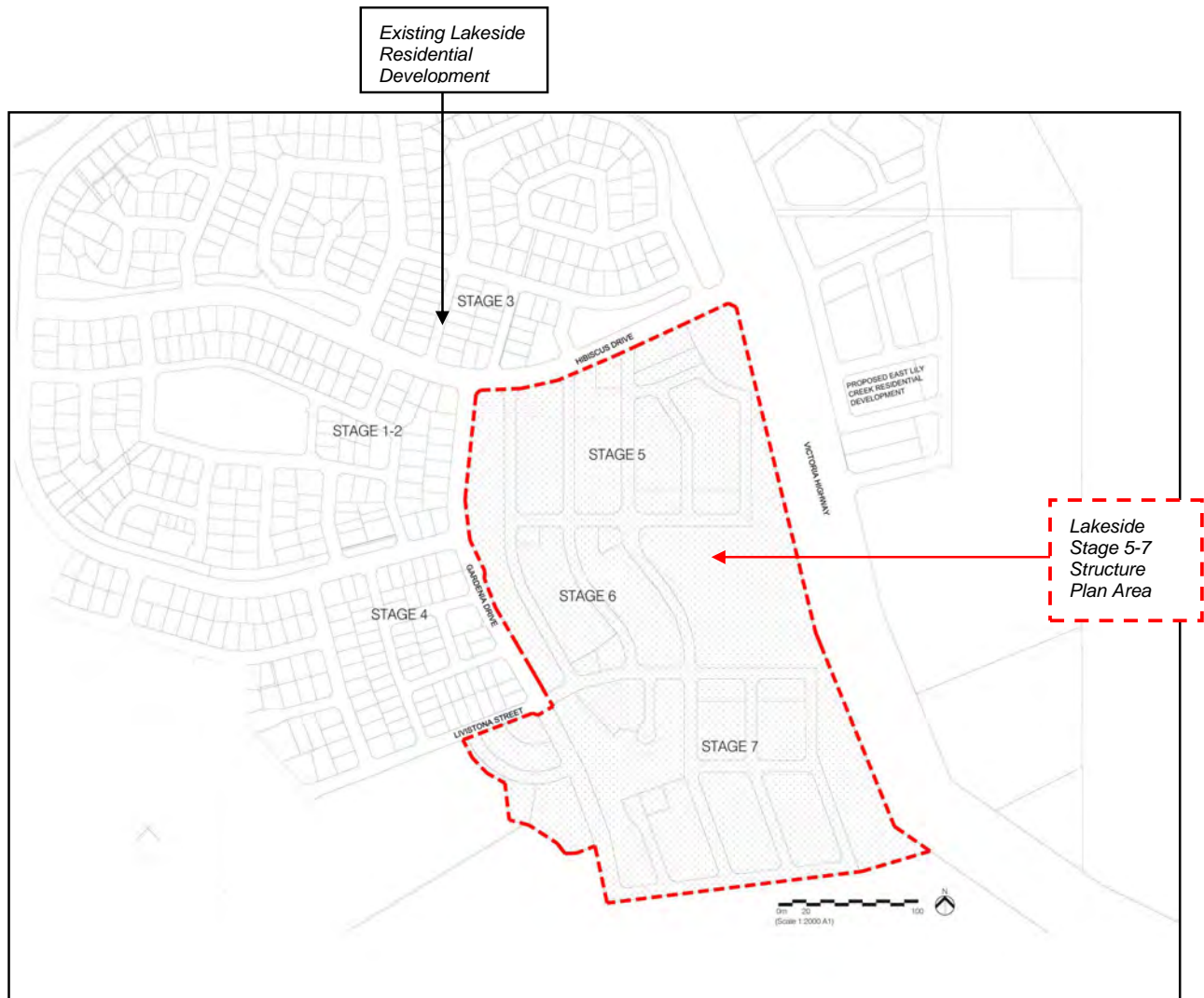


Figure 3 – Structure Plan Area (Source: Landgate 2010)

2.2.3 Land Tenure and Site Details

- The site consists of Lot 9002 Hibiscus Drive, Victoria Highway and a portion of undefined vacant Crown Land (Lot 976) to the south of the subject site, in the primary interest of the Western Australian Agriculture Authority. The area is approximately 35.1 hectares in size.
- The Department of Agriculture and Food will exercise 10.8 hectares from their managed reserve at Drovers Rest. This land will then be returned to the Department of Regional Development and Lands and State Land Services and sold and amalgamated into Lot 9002, owned in freehold by LandCorp.

2.3 Environmental Summary

The following section provides a summary of the environmental features and constraints of the subject site.

2.3.1 Topography and Landform

- The site gradually slopes towards the south. There are no significant environmental features on the site, although Lily Creek is located to the west of the Estate.
- The study area is located within the Cambridge Gulf Lowlands Zone, consisting of alluvial plains, coastal mudflats and sandplains (with hills, ranges and plateaux) on alluvial, marine shoreline and aeolian deposits and sedimentary rocks of the Bonaparte Basin.
- The Kununurra landscape is of sedimentary origin and consists of a broad sandy plateau interrupted by abrupt sandstone ridges.

2.3.2 Geotechnical Matters and Soils

- The study area is predominately Alluvium and Sand, with a soil cover of alluvium and travertine. Soils within the study area comprise of sandy to pale brown colour¹

2.3.3 Hydrology

Surface Water

- Monsoonal rainfall is typical in the region and causes extensive flooding over the flat landscape and often creates ephemeral dendritic drainage lines and rivers with extensive floodplain area. The often sandy nature of these drainage lines makes them susceptible to erosion from channelised runoff.

Groundwater

- The subject site is not within any Gazetted Public Drinking Water Source Areas (PDSWA). The Priority 1 Kununurra Water Reserve is located approximately 2 kilometres to the west of the site. The site also lies within the Canning-Kimberley Groundwater Area, which covers the entire Kimberley sub-region.
- Kununurra's drinking water is sourced from bores in an unconfined aquifer on the northern bank of Lake Kununurra. The Shire's Local Planning Strategy identifies that this water source is able to meet the current and short-term demands for the town. There are a number of registered bores in the vicinity of the site. The closest bore is located approximately 1 kilometre south-west of the site.
- It is evident that the hydrogeological regime for Lakeside is essentially west to east flowing from Mirima Ranges to Lily Creek and the Lagoon. Recent earthworks have established that high ground water tables exist in the area, presumably because of this hydrogeological flow¹.

¹ Lakeside Structure Plan (Urban Plan)

Water Management

- The Structure Plan will be supported by a Local Water Management Strategy (LWMS) prepared in accordance with Department of Water requirements.
- The LWMS will be prepared in accordance with Better Urban Water Management (WAPC, 2008). The purpose of the LWMS is to confirm that the site has the capacity to support the development in terms of water cycle management, and in accordance with local water and environmental requirements.
- Urban Water Management Plans (UWMP's) will be prepared either in support of applications for subdivision and development or as conditions of approval.

2.3.4 Acid Sulphate Soils

- Detailed field and laboratory acid sulphate soil assessments may be required prior to subdivision and/or development. If required, it is anticipated that an assessment would form a condition of subdivision approval.
- It is anticipated that an initial desktop study of Department of Environment and Conservation (DEC) mapping would be undertaken initially.
- A review of the Australian Soils Resource Information System indicates that the site is located in an area of Extremely Low Probability of Occurrence of Acid Sulphate Soils.

2.3.5 Vegetation

- The broad scale vegetation for the study area is summarised as:
 - Grasslands, high grass savanna woodland, bloodwood, stringybark and woollybutt over upland tall grass and curly spinifex on sandplain; and
 - Grasslands, high grass savanna woodland, stringybark and woollybutt over (upland) tall grass and curly spinifex.
- The dominant vegetation types in Kununurra along the Sandy Plains are acacia, eucalypts and scattered boab trees, and are of a sparse to dense nature. Pandanas, river-redgum and cajuput are commonly located within the wet areas and waterways. Much of the natural vegetation has, however, been affected by grazing, agriculture and urban development. Lakeside Park is in close proximity to the waterfront, and various tourism nodes and conservation areas have been identified on the creek waterfront.
- Other iconic features of the town include boab trees and the Shire has a policy to maintain and incorporate boabs within the streetscape.
- The Structure Plan has been prepared to respond to the natural environment, and significant consideration has been given to the retention of natural vegetation where practical.

2.3.6 Climate

- The climate and environmental conditions in Kununurra require a consideration of materials and construction methods that are appropriate to local climate and lifestyle.

Seasons

- The study area is located within the Kimberley region of Western Australia. The Kimberley region has a tropical monsoon climate with two dominant seasons, separated by short transitional periods, broadly described as dry hot tropical and semi-arid with summer rainfall.

- Over the months of November to April, hot humid conditions prevail, characterising the 'wet' season. The region receives approximately 90% of its rainfall during these months, as unstable low pressure systems dominate the weather patterns.
- From May to October, high pressure systems and a predominately south easterly airflow from the continent's interior being sunny days with cooler day time and night time temperatures. Rainfall during these months is markedly absent characterising this period as the 'dry' season.
- The mean daily maximum temperature ranges from 30.3 °C (June) to 39 °C (November). The mean daily minimum temperature is 15.1 °C (July) to 25.5 °C (December). The mean annual rainfall is 843.8mm and the mean annual rain days is 69.

Wind Patterns

- The predominant wind direction is a south easterly approximately 25% of the time, with other directions comprising generally an equal share, with calm conditions experienced approximately 23% of the time.
- Wind speeds up to 10km/h are the overwhelming norm, with speeds between 10km/h and 20km/h present roughly 10% of the time and other speeds 20km/h less than 5% of the time.

2.3.7 Native Title

- Land surrounding the Kununurra town site is held under the Miriuwung Gajerrong No.4 claim.
- Lakeside Park (Stage 5 and 6) are subject to future act incentive payments under the Area 95P agreement.
- The majority of Lakeside Park (Stage 7) falls outside of the Area 95P agreement and is not subject to current native title claim.

2.4 Heritage Sites

2.4.1 Aboriginal Heritage

- Significant agreements with Native Title claimants have cleared the way for the development of Lakeside. Two separate agreements have been undertaken with the Miriuwung Gajerrong people; the Ord River Stage One Aboriginal Heritage Agreement (95P) and the Ord River Stage Two Aboriginal Heritage Agreement².
- LandCorp engaged with the MG Corporation as part of the structure planning process to determine any possible concerns and receive feedback on the project. Consultation included a briefing to the MG Board and executive on the process, projects and Native Title issues.
- The Structure Plan will be referred to the Department of Indigenous Affairs for comment during the formal advertising period.

² Lakeside Structure Plan (Urban Plan)

2.5 Movement Network

This section addresses the existing movement network in relation to the subject site:

2.5.1 Roads

- The Lakeside Park subdivision is located to the south east of Kununurra Town site and west of Victoria Highway. Stages 5, 6 and 7 of the subdivision are bordered by Hibiscus Drive to the north, Gardenia Drive to the west and bushland to the south.
- The main entry points to the Lakeside Park subdivision are provided by Casuarina Way (northern access – Giveaway controlled channelised T-intersection) and Hibiscus Drive (southern access – uncontrolled T-intersection). Casuarina Way loops around the subdivision but Hibiscus Drive traverses the subdivision in an east-west direction.
- Stages 1 to 5 of the development have been constructed and Stage 6 approved. Subdivision of Stage 7 is subject to the revised Structure Plan. Stage 5 of the subdivision is immediately south of Hibiscus Drive and stages 6 and 7 are to the immediate south of stage 5.

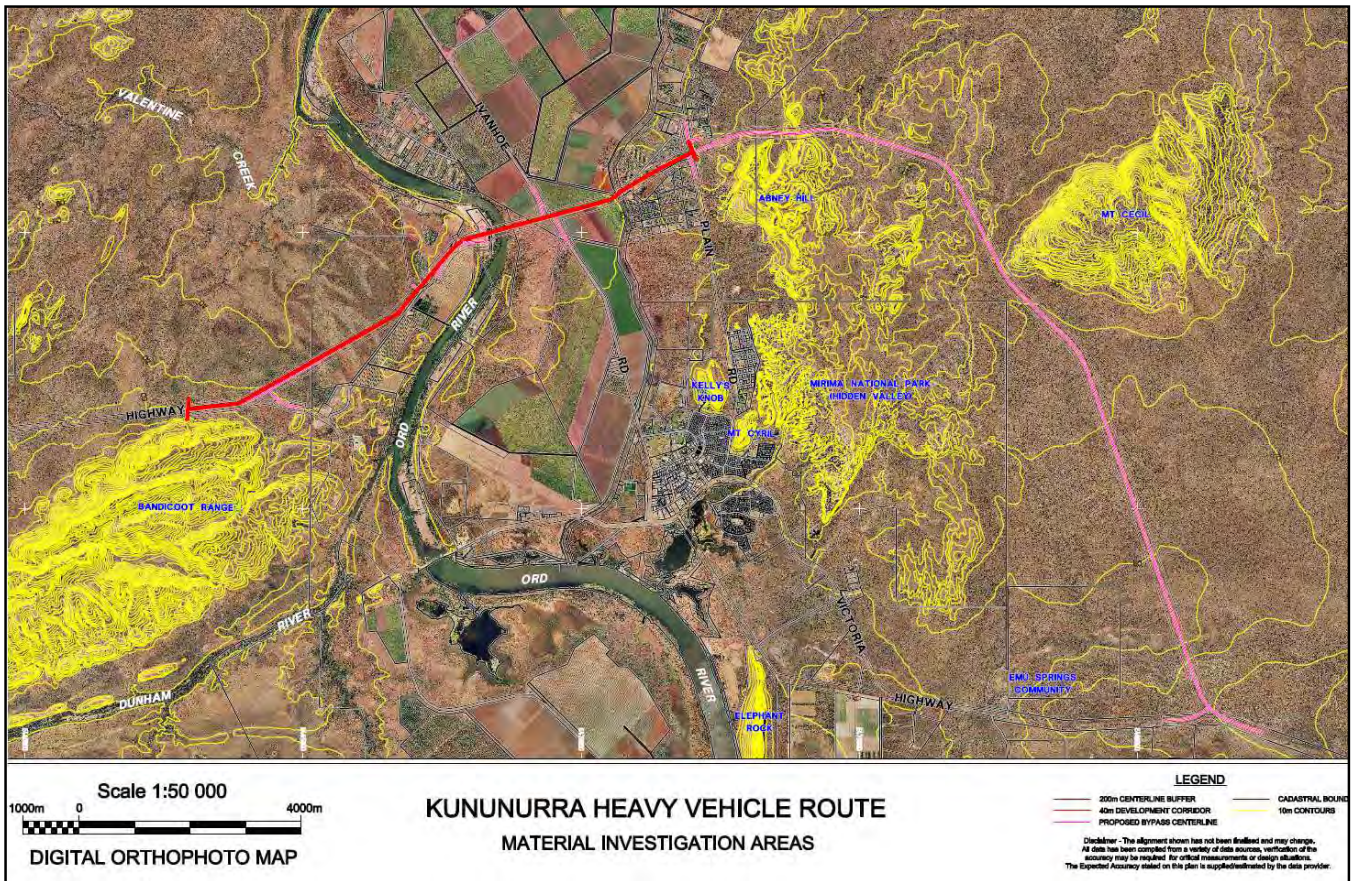
Victoria Highway

- Victoria Highway is under care and control of MRWA and is constructed to two lanes undivided standard. It entails unsealed shoulders, however in the vicinity of Casuarina Way and Hibiscus Drive intersections there is localised kerbing.
- The subject site is bounded by Victoria Highway to the east, which is classified as a National Highway and is also classified as a Highway 1 network. The Highway access affords good connections to the region and represents a major gateway to Kununurra.
- Victoria Highway is reserved under TPS 7 as a Major Road. The Structure Plan will be referred to MRWA for comment during the formal advertising period.
- Victoria Highway is the current major traffic and transport route for Kununurra. The proposed Heavy Haulage Route presents an opportunity to reduce heavy traffic impacts on the town site but may also be a constraint in terms of reducing the amount of passing trade.
- The section of the Highway to the south of Hibiscus Drive has a speed limit of 90 km/h however on its approach to Hibiscus Drive and to the north of it the speed limit reduces to 60 km/h.
- According to the traffic counts sourced from MRWA it carried approximately 2,650vpd in October 2008, with a 9% heavy vehicle traffic component (east of Messmate Way) and 220vpd in November 2009, with a 33% heavy vehicle traffic component (east of Fish Farm Road).

Kununurra Heavy Haulage Route Stage 2

- This project is a long term project by MRWA and involves the construction of a heavy haulage route to the east of Kununurra Town site and Victoria Highway. The heavy haulage route is intended to remove the majority of heavy vehicle and regional through traffic from Victoria Highway in the vicinity of Kununurra Town site.
- The construction of the heavy haulage route is likely to reduce traffic volumes on Victoria Highway and through its intersections with Casuarina Way and Hibiscus Drive. However, preliminary analysis indicates that the upgrading of the intersection of Victoria Highway and Hibiscus Drive will be required as part of the development of Lakeside Park (stages 6 and 7) and prior to the heavy haulage route construction.

- MRWA is yet to finalise the alignment for Stage 2 of the Heavy Haulage Route. Environmental approvals are still pending and there are Aboriginal heritage issues which need to be considered. MRWA has confirmed there is an environmentally sensitive area near the Stage 2 tie-in with the Victoria Highway (partly within the Emu Springs Community land), which may have a bearing on the final alignment location.
- Figure 4, below shows the proposed alignment of Stage 1 and Stage 2 of the Kununurra Heavy Haulage Route.



Key

- Stage 1
- Stage 2

Figure 4 – Kununurra Heavy Vehicle Route – Stage 1 and Stage 2 (Source: MRWA)

Hibiscus Drive

- The usual entry point for traffic entering and leaving Lakeside Park Stages 5, 6 and 7 will be Hibiscus Drive (uncontrolled T-intersection).
- Hibiscus Drive connects Victoria Highway with Gardenia Drive and is constructed to two lanes undivided kerbed neighbourhood connector standard. There are currently no traffic counts available on this road.

- Although the intersection of Hibiscus Drive and Victoria Highway is an uncontrolled T-intersection, there is a proposal by the proponent to upgrade this intersection to Giveway controlled channelised T-intersection with right and left turn pockets on Victoria Highway. The proposal entails painted medians on Victoria Highway but a solid median (existing) on Hibiscus Drive. Design details of this intersection will need to be finalised in consultation with MRWA and the Shire.

Gardenia Drive

- Casuarina Way connects to Victoria Highway to the north and Gardenia Drive to the south of the subdivision by looping around the northern, western and southern sections of the development. It is constructed to two lanes undivided kerbed neighbourhood connector standard. At present no traffic counts are available for this road.
- Gardenia Drive is a two lane undivided kerbed local road that borders the eastern section of stages 5, 6 and 7 of the Lakeside Subdivision.

Future Road Network Projects

- At present there are no plans to upgrade or construct any new roads in the vicinity of the Lakeside development.

2.5.2 Pedestrian

- The early stages of the Lakeside Park subdivision contain an established pedestrian network of public open space and roadside footpaths. A Plan showing the extension of this pathway network will be submitted with the subdivision application.

2.6 Services

This section addresses the existing form and function of services in relation to the subject site:

2.6.1 Power

- Horizon Power has indicated that the likely power demand for Lakeside Park Stages 5, 6 and 7 has been included in their current forecast and Network Planning. Horizon Power has also indicated no major power infrastructure upgrades will be required.
- The privately owned Pacific Power Station Ord Hyrdo Plant at Lake Argyle supplies electricity for Kununurra. Horizon Power purchases electricity from the Hyrdo Plant as demand necessitates.
- Power is supplied from the Hydro Plant by a single 132kv transmission line which connects to a substation on Messmate Way, near Victoria Highway, in Kununurra. This single power line can be subject to disruption due to wildlife, lightning strikes and maintenance works. A secondary backup diesel power station is also sited in this location.

2.6.2 Water

- The provision of the water supply for Lakeside Park Stages 5, 6 and 7 has been reflected in Water Corporation's strategic planning. As such future lots can be readily serviced with water through extension of existing mains without the need for major infrastructure upgrades.
- Kununurra's drinking water is sourced from bores in an unconfined aquifer on the northern bank of Lake Kununurra. The Shire's Local Planning Strategy identifies that this water source is able to meet the current and short-term demands for the town.
- The long-term relocation of the current water supply is being considered. A potential new site has been earmarked opposite the existing water supply on the southern side of Lake Kununurra. Urban development in the form of residential, commercial and tourism facilities has been proposed for the existing borefield site.

- The existing water supply site is also subject to several issues, including being vulnerable to contamination from the nearby WWTP, agricultural uses and urban uses. The Department of Water is currently preparing a Kimberley Regional Water Plan. This plan will consolidate available water information, identify water management issues and report on actions to be implemented in the region.

2.6.3 Wastewater

- The Water Corporation manages the Kununurra WWTP.
- The bulk of Lakeside is within the gravity sewerage catchment of Water Corporation Pump Station 3, which is a temporary pump station.³
- The provision of wastewater reticulation to Lakeside Park Stages 5, 6 and 7 is reflected in Water Corporation's strategic planning.
- Stages 6 and 7 require the construction of a Type 90 wastewater pumping state (WWPS) which is earmarked for construction near the intersection of Gardenia Drive and Livistona Street.

2.6.4 Drainage

- The high volume of rainfall in the wet season, combined with poor draining soils creates issues regarding stormwater management and treatment.
- Stormwater largely drains via Little Lily Creek to Lily Creek Lagoon.
- Appropriate stormwater treatments will be required to address water quality and quantity.

2.6.5 Telecommunication

- Telecommunications infrastructure has been provided to Lakeside Park Stage 5 and can be readily extended to Lakeside Park Stages 6 and 7.

2.6.6 Gas

- There is no gas reticulation in Kununurra.

³ Lakeside Structure Plan (Urban Plan)

2.7 Planning Context and Rationale

This section provides a summary of the planning context and framework which has guided the preparation of the Structure Plan. Key aspects of the State, Regional and Local planning frameworks are identified and discussed in the context of the Lakeside Park Structure Plan area. A detailed background review and context report is provided at **Appendix A**.

2.7.1 State and Regional Planning Context

Liveable Neighbourhoods

- Liveable Neighbourhoods is reflective of contemporary planning principles and practices and it will be vital to consider these matters in the preparation of the Structure Plans for Lakeside Park. It is acknowledged that the Plan will need to respond to the contextual and site specific circumstances of Kununurra.
- Liveable Neighbourhoods will be a key guiding document in the preparation of the Structure Plans, and to inform the subdivision application process.

State Planning Policies

- State Planning Strategy (SPS)
 - The SPS provides the basis for long-term State and regional land use planning and coordinates a whole-of-government approach to planning.
 - In summary, the key objectives for the Kimberley region include expanding regional centres to offer a wide range of services, developing mineral, agriculture, fishing and tourism industries, protecting and managing cultural heritage and wilderness areas and developing strong regional, national and international transport links.
 - The SPS seeks to provide a greater level of residential and lifestyle amenity particularly in regional areas. The Lakeside Structure Plan maintains these overriding principles.⁴
- State Planning Policy No.1 – State Planning Framework
 - Where the State Planning Strategy provides the overall vision for planning in Western Australia, SPP 1 sets out the overarching framework for all policies, strategies and guidelines that relate to growth and development.
- State Planning Policy No. 2 – Environmental and Natural Resources Policy
 - SPP2 is a broad Policy which defines the principles and considerations that represent good and responsible planning in terms of environment and natural resources issues. The objectives of SPP2 are to integrate environment and natural resource management with broader land use planning and decision making as well as protect and promote the natural environment and resources.
 - As will be discussed, the Structure Plan capitalises and protects the various environmental assets and wetland systems in the locality.

⁴ Lakeside Structure Plan (Urban Plan)

- State Planning Policy No. 2.9 – Water Resources
 - SPP 2.9 sets out general and specific measures for the protection and management of surface and groundwater catchments, waterways management, wetlands, estuaries and their buffers. It also sets out Total Water Cycle Management principles in the land use planning system to best accommodate the many competing interests for water (consumptive, recreational, industrial and commercial purposes).
 - Specific advice is provided as to how to implement this policy through local planning strategies, Structure Plans, planning schemes and subdivision and development applications.
- State Planning Policy No. 3 – Urban Growth and Settlement
 - SPP3 sets out the principles and considerations which apply to planning for urban growth and settlements in Western Australia. The overall aim of the policy is to facilitate sustainable patterns of urban growth and settlement by setting out the requirements of sustainable settlements and communities and the broad policy in accommodating urban growth and change.
 - The high-level provisions of this Policy reflect contemporary planning principles and practices and will be implemented through the planning process and subsequent detailed planning.
- State Planning Policy No. 3.1 – Residential Design Codes (SPP 3.1)
 - The purpose of the R-Codes is to provide a comprehensive basis for the control, through local government, of residential development throughout Western Australia.
 - Due consideration has been given to the overarching principles and provisions of SPP 3.1 in the preparation of the Structure Plan.
- State Planning Policy No. 3.4 – Natural Hazards and Disasters
 - The Policy deals with various natural disaster planning as a fundamental elements in the preparation of all statutory and non-statutory planning documents to minimise the adverse impacts of natural disaster on communities, the economy and the environment
 - Key considerations for the Structure Plan are cyclones, flooding, land movements (usually water related) and fires.
- State Planning Policy No. 5.4 – Road and Rail Transport Noise and Freight Considerations in Land Use Planning
 - SPP 5.4 is primarily concerned with how the planning system can be used to minimise the adverse impact of transport noise without placing unreasonable restrictions on development or adding unduly to the cost of road and rail infrastructure.
 - Given the location of Lakeside Park adjacent to Victoria Highway, it will be necessary to consider the implications of road noise on residential development.

Development Control Policies

- Development Control Policy 1.1 – Subdivision of Land
 - DCP 1.1 sets out the general principles, which will be used by the WAPC in determining applications for the subdivision of land.
- Development Control Policy No. 1.5 – Bicycle Planning (DC 1.5)
 - DCP 1.5 describes the planning considerations which should be taken into account in order to improve the safety and convenience of cycling. In summary, the key objectives of DCP 1.5 are to make cycling safer and more convenient through the provision of end-of-trip facilities and provide better cycle route networks, ensure the road construction needs of cyclists are recognised, encourage more work, school and shopping trips to be made by bicycle, increase the general awareness as to the benefits and to ensure adequate consideration is given to the provision of cycling facilities in planning studies.
 - The provisions of DC 1.5 have been given due regard in the preparation of the Structure Plan for Lakeside Park.
- Development Control Policy No. 2.2 - Residential Subdivision
 - DCP 2.2 provides guidance on elements such as lot size, connection to sewerage, single residential lots, small residential lots, battleaxe subdivision, access to residential lots, provision of screen fencing and underground power. In summary, the key objectives of DCP 2.2 are to establish a consistent and coordinated approach to the creation of residential lots, adopt criteria for residential lots, and facilitate the supply of residential lots of a wide range of shapes and sizes which reflect the statutory provisions of town planning schemes, the availability of reticulated sewerage and the need for frontage to public roads.
 - The provisions of DCP 2.2 have been given due regard in the preparation of the Structure Plan from Lakeside Park.
- Development Control Policy No. 2.3 - Public Open Space in Residential Areas
 - The basic component of this policy is the requirement that 10 per cent of the gross subdivisible area of a conditional subdivision shall be given up free of cost by the subdivider for public open space, which has been the basis of public open space policy in the state for many years.
 - In summary, the key objectives are to ensure that all residential development is complemented by adequate, well-located areas of public open space, to facilitate the provision of land for community facilities, and to protect and conserve the margins of wetlands, water-courses and the foreshores adjacent to residential development.
- Development Control Policy No. 2.6 – Residential Road Planning
 - DCP2.6 sets out the WAPC's requirements for the planning and design of roads in residential areas and provides guidelines for the design and layout of residential roads. In summary, the key objectives are to incorporate road planning as an integral part of neighbourhood design, encourage innovative approaches to the design of roads, services and dwellings, provide road networks within a clear road hierarchy, create a domestic environment that is visually attractive and at a human scale; provide for bus routes and provide for a high quality pedestrian/cycle network.
 - The provisions of DCP 2.6 have been given due regard in the preparation of the Structure Plan for Lakeside Park.

- Development Control Policy No. 4.2 – Planning for Hazards and Safety
 - In summary, the objectives of DCP 4.2 are to ensure that developments are reviewed with a view to maintaining appropriate public safety, to maintain acceptably low risk exposure through appropriate planning procedures, to provide guidelines for the consideration of the influence of existing risk levels in the planning process and to provide for the development of industries and activities which are hazardous but which are desirable for the benefit of the wider community.

Kununurra Wyndham Area Development Strategy

- The Kununurra Structure Plan, contained within the Kununurra Wyndham Area Development Strategy (KWADS), identifies the subject site for Future Urban Development.
- The KWADS study facilitates the release of residential land in Lakeside and acknowledges that Structure Planning is needed to determine the location of local shopping within the Lakeside precinct.
- The Strategy was finalised in 2000 and has since been superseded by the Shire's Local Planning Strategy and the recent Kununurra Strategic Directions outcomes.

2.7.2 Local Planning Context

Town Planning Scheme No.7 – Kununurra and Environs, Scheme Amendment No.26 and Scheme Amendment No.36

- The Lakeside Park Residential Development precinct is currently zoned 'Residential;' and 'Public Purpose – Drain', as shown in Figure 5, overleaf.
- The objectives for the Residential zone are set out in TPS 7:

'To identify opportunities for the future subdivision and development of land for the purposes of single and group residential purposes together with, if determined necessary by Council, associated community and recreational facilities; and

To ensure that subdivision and development within the zone is consistent with a Structure Plan adopted by Council and endorsed by the WAPC and prepared in accordance with the scheme'.
- Amendment No.26 seeks to rezone Lot 500 Hibiscus Drive, Gardenia Drive Victoria Highway and part undefined vacant crown land from Residential Zone (R15, R15/R50), General Rural Zone and Parks and Recreation Reserve, Public Purpose (Drain) Reserve, Local Road Reserve to Residential Development Zone. Amendment 26 proposes to facilitate the release of land identified in the Shire's Local Planning Strategy for majority of future residential growth.
- The Amendment is being progressed through the statutory planning system and is currently being considered by the Western Australian Planning Commission (WAPC).
- Amendment No.36 seeks to rezone a portion of the Lakeside Park residential expansion area from "Residential Development" to "Local Centre" to facilitate the development of a local centre, potentially incorporating mixed-use development.
- The amendment is currently being considered by the Shire.

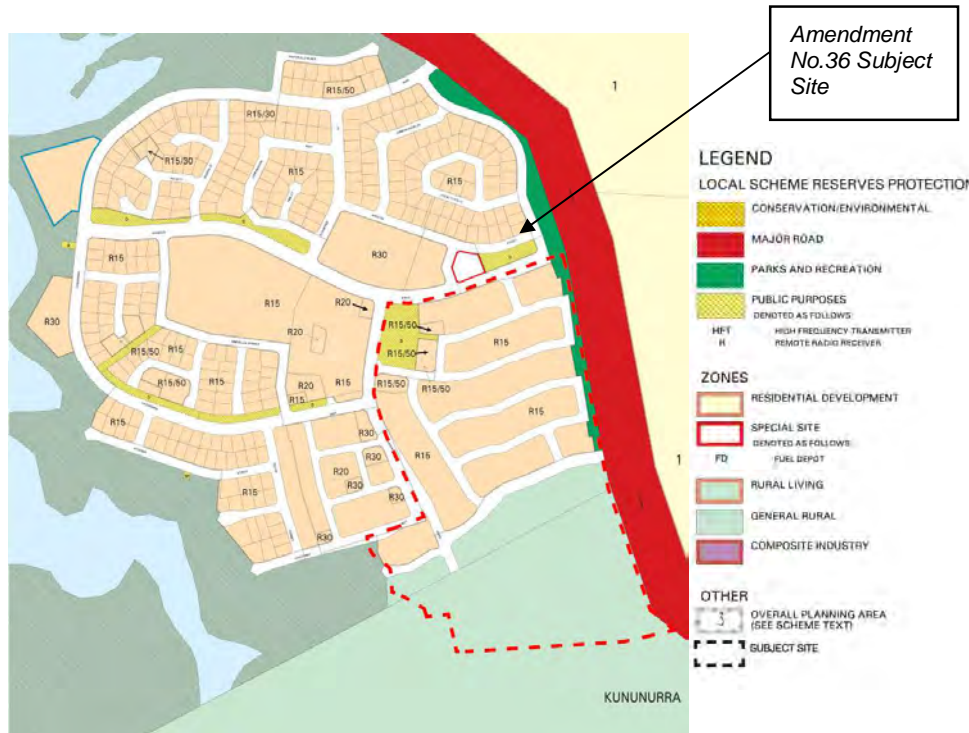


Figure 5 – Lakeside Park (Stage 5-7) – Current Zoning (Source: WAPC)

Draft Town Planning Scheme No. 8 – Shire of Wyndham East Kimberley

- The Shire is currently in the process of preparing a new Local Planning Scheme. The aim of the project is primarily to consolidate the Shire’s two existing Schemes (Town Planning Scheme No. 6 – Wyndham Town site and Town Planning Scheme No.7 – Kununurra and Environs) and prepare a comprehensive Scheme covering the entire Shire which is consistent with the Model Scheme Text and includes a number of other modifications.
- This Structure Plan is not envisaged to have any adverse implications for the subdivision and development of the site or for the drafting and finalisation of the Shire’s new Local Planning Scheme.

Shire of Wyndham East Kimberley Local Planning Strategy (LPS)

- With regard to the proposed Lakeside Residential Development the LPS identifies the following:
 - o The land was identified suitable for development in the Kununurra Land Development Plan as Potential Land Release Areas;
 - o Opportunities for expansion of predominately residential urban development were identified to the south east of the existing Lakeside precinct;
 - o Structure Planning will determine densities, the location of future schools, potential tourism uses, recreational areas and local shopping precincts; and
 - o Opportunities for suitable grouped dwellings and high density developments, with the proposed base coding for residential development at R20.

Local Planning Policy No. 1 – Lakeside Park Design Guidelines (LPP 1)

- LPP1 forms the basis of additional development control to achieve a sustainable, high amenity residential area for the benefit of local residents. In summary, LPP1 provides guidance on visually attractive and appropriate development, integrated design, the promotion of safety, variety and a sense of place, providing for exemplary streetscapes and high quality design and aesthetics and promoting sustainability through efficient construction, energy and water conservation.
- The preparation of Detailed Area Plans will need to have due regard to the provisions of LPP 1.

Kununurra Strategic Directions: Town Centre Development Concept Plan and Strategic Land Use Plan

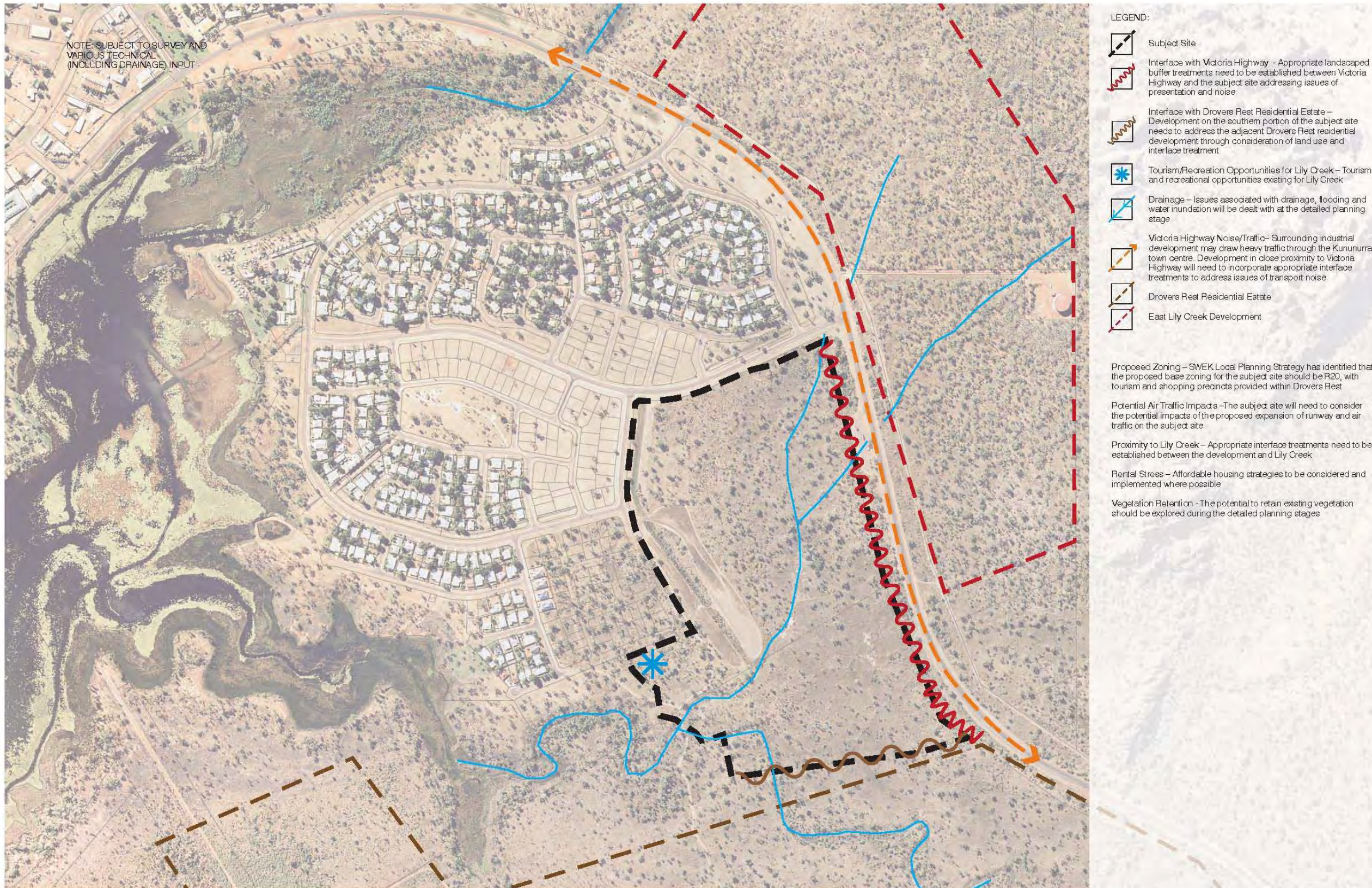
- An Enquiry-By-Design exercise was undertaken for Kununurra in July 2009, resulting in the preparation of the Kununurra Strategic Directions document entailing a Town Centre Development Concept Plan and Strategic Land Use Plan.
- The Strategic Directions document focuses on consolidating the existing urban footprint of the town, through redevelopment of the existing town centre, as well as progressing planned development at Lakeside Park.
- The Strategic Directions document identifies the Lakeside Park precinct as priority new residential development for addressing current housing demands.
- It was acknowledged that the precinct needs to strengthen and improve pedestrian linkages between Lakeside and the Town Centre to ensure high levels of connectivity between the two areas.

Kununurra Regional Hotspots Land Supply Update

- The Kununurra Regional Hotspots Land Supply Update provides a brief snapshot of land supply in regional centres experiencing land and housing supply pressures as a result of growth in the resource and/or other industry sectors.
- It is identified that most urban development is focused on the Lakeside area, but infill development opportunities are available closer to and within the Town Centre.
- The Hotspots report highlights the long-term expansion of residential populations in Kununurra and the future location of residential development to cater for this. The development of Kununurra will need to be off-set through infill development in established residential areas and additional residential development mixed within the Town Centre.

2.8 Issues, Opportunities and Constraints

Based on the research undertaken to guide preparation of the Structure Plan for the Lakeside Park Precinct, an opportunities and constraints plan has been prepared (see Figure 6, overleaf). This Plan has formed the basis for the preparation of the Structure Plan.



KUNUR OPPORTUNITIES AND CONSTRAINTS (LAKESIDE PARK)

PA0676 Kununurra - East Lily Creek, Bull Run Road, Weaber Plain Stage 2 and Lakeside Park

Figure 6 - Opportunities and Constraints Plan

DATE 19.07.2010

DWG NO 003

REV A

SCALE NTS

Level 1, 55 St Georges Tce,
Perth, WA 6000 Australia

Tel +618 9346 0500
Fax +618 9221 1779

info@urbis.com.au
www.urbis.com.au

Urbis Pty Ltd ABN 50 105 256 288
Australia . Asia . Middle East

2.9 Structure Plan and Issues for Consideration

This section describes the Structure Plan prepared in response to the site context and land use and development intentions for the Lakeside Park precinct. Key issues for consideration are also identified and discussed.

2.9.1 Overall Design Principles and Intent

The Lakeside Park site has a number of site attributes and constraints that impact on the Structure Plan. The following sets out the main design principles providing the basis to the design of the Structure Plan:

- The site generally slopes towards the south with major drainage corridors provided from Victoria Highway to the south-western corner and parallel to Gardenia Drive. The drainage corridors provide an opportunity for the establishment of vegetation corridors to provide shade and a cooling effect, as well as providing a natural outlook for residential lots.
- Victoria Highway is a considerable constraint, particularly from a visual and acoustic point of view. Consideration of an interface to the highway is integral to the plan.
- Opportunities exist for the provision of a pedestrian dual use path system with concurrent linkages provided by the open space system.
- Lots aligned along their north-south axis are generally narrow long lots to ensure that adjoining properties are close enough to provide shading to the adjacent western wall.
- A grid like street pattern with a limited number of cul-de-sacs has been proposed for connectivity and permeability reasons. The connectivity with the existing Lakeside development has been enhanced with the east-west extension of Livistona Street.
- A small mixed use (Local Centre) site has been proposed in close proximity of the intersection of Victoria Highway and Hibiscus Drive. The site is centrally located within the wider Lakeside catchment and enables maximum exposure to passing trade.
- In principle, due to the lack of cooling breezes and the extreme heat in Kununurra, solar orientation within lots is considered more important than the capture of prevailing breezes. Accordingly, the street layout is primarily from north to south to minimise the exposure to the hot western sun.
- The originally proposed eastern extension of the southern east-west road has been determined as not being required and has therefore been deleted.

The intent of the Lakeside Park (Stage 5-7) Structure Plan is to establish principles for development of the site, however it must be noted that during the planning process the designs may be modified to improve such considerations as climate responsiveness, housing choice and environmental and engineering conditions of the site or similar.

2.9.2 Land Use and Development

Residential Development

- The Structure Plan has been developed to support a base R-code of R20; however the plan facilitates a variety of lot sizes and housing typologies across the site to respond to site conditions. Higher densities have generally been located adjacent the main site entry, the Public Open Space Corridors and corner sites.
- The Structure Plan has provided for a range of residential densities (R17.5 – R40) and dwelling types to suit various demographic categories and lifestyles.

- Medium density R40 development is located in proximity to the Local Centre to increase the commercial catchment population as well as encourage pedestrian and other forms of non-motorised transport to access local facilities.

Local Parks and Recreation

- Liveable Neighbourhoods requires that at least 10 percent of the gross subdivisible residential area is provided as public open space (POS). This may comprise a minimum of 8 per cent for active and passive recreational purposes where the remaining 2 per cent comprises restricted use public open space uses (drainage lands, natural and cultural features etc.). The Structure Plan proposes 34.6 per cent public open space.
- Several areas are identified within the Structure Plan for local parks and recreation.
- These areas have been selected in response to:
 - The need for appropriate interface treatments and buffers with Victoria Highway.
 - Their dual usage for drainage and local recreation purposes.
 - To cater for various active recreational pursuits.
 - To retain remnant vegetation and ecological corridors.
- Public open space in the Structure Plan area will:
 - Be of a sufficient cumulative area to adequately cater for the recreation needs of the Lakeside Park community.
 - Be of sufficient area and dimensions to cater for broad range of passive and active recreation activities.
 - Be distributed to be within a comfortable walking distance of the majority of dwellings.
 - Be located to protect and optimise valuable landscape features and view corridors to Lily Creek Lagoon and Lake Kununurra.
 - Provide amenity and retain elements of the Kununurra cultural landscape.
 - Be located to protect and optimise valuable pedestrian movement corridors.
 - Be located to provide a focus for commercial and medium–high density residential uses.
 - Accommodate the retention and potential relocation of remnant vegetation.
 - Preserve the micro habitat of any existing flora and fauna.

Local Centre

- A Local Centre is provided at the north-eastern portion of the Structure Plan site, fronting Hibiscus Drive. The Local Centre has been strategically located to maximise access from Victoria Highway and to provide for the existing Lakeside Park community to the north.
- Amendment No. 36 proposes to rezone this portion of the Lakeside Park residential expansion area from “Residential Development” to “Local Centre” to facilitate the development of the local centre, potentially incorporating mixed-use development.
- The Local Centre will serve the convenience shopping needs of the precinct and the wider residential area, including residents from East Lily Creek, Drivers Rest and the Bull Run Composite Industry precinct.

- Objectives for the Local Centre zone are set out in TPS 7:
 - ‘(a) To provide for commercial and retail development in residential areas remote from the existing town centre in order to cater for local service and shopping needs in the Lakeside and associated residential areas;*
 - (b) to ensure that land uses proposed within the Local Centre zone are consistent with the local residential needs and do not detract from the commercial viability of the existing town centre retail area.*
- Development and land use will be assessed pursuant to TPS 7.
- A range of Local Commercial uses will be provided and mixed-use development incorporating both residential and commercial components is encouraged.
- A detailed area plan(s) will be required to guide development of the site and address interfaces with adjoining residential development and public open space.

Climate Responsive Design

- In principle, due to the lack of cooling breezes and the extreme heat in Kununurra, solar orientation within lots is considered more important than the capture of prevailing breezes. Accordingly the street layout is primary from north to south to minimise the exposure to the hot western sun.
- Lots oriented aligned along their north-south axis are generally narrow long lots to ensure that adjoining properties are close enough to provide shading to the adjacent western wall.

Crime Prevention through Environmental Design (CPTED) Principles

- A safe and secure public realm is essential to the development. The principles of designing out crime will be addressed in detail design, but in general this will include:
 - visibility across the public realm
 - down lighting of use areas at night
 - public surveillance
 - robust furnishings
 - access control
 - spatial definition
 - provision of appropriate activities
 - clear distinctions between public and private areas.

Land Areas, Estimated Lot Yields and Population Estimates

The proposed indicative lot layout for the Lakeside Park (Stage 5-7) Structure Plan area yields a total of 226 dwellings.

Table 2 – Land Areas, Estimated Lot Yields and Population Estimates

Lot type	Area	Dwellings	Population*
R17.5	0.43 hectares	7	15
R20	11.5 hectares	188	395
R25	1.08 hectares	20	42
R40	1.51 hectares	10	48
Local Centre	0.31 hectares	1	13
TOTAL	17.83 hectares	226	513

* assumes average household size of 2.1 persons per dwelling.

2.9.3 Interface Treatments

Drovers Rest Residential Development

- Through the preparation of detailed Design Guidelines, the interface between the southern portion of the Lakeside Park Structure Plan and the proposed future Drovers Rest Residential Development will need to be addressed through consideration of land use and interface treatments.
- The road interface at the southern boundary provides for frontage of residential lots and road connections to the south.

Victoria Highway

- The inclusion of an interface with Victoria Highway is integral to the Structure Plan. This has been achieved through adequate separation between the Highway and residential development by providing sufficient road reserve widths as well as the location of POS and a service easement.

2.9.4 Movement Network

Roads

- A traffic study (refer **Appendix D**) prepared by Transcore has confirmed the intersection of Victoria Highway and Hibiscus Drive will be capable of accommodating the likely traffic to be generated by the Lakeside Project, subject to it being upgraded to a Give Way controlled channelised T-intersection with right and left hand turn pockets on Victoria Highway.
- The traffic study identified that it is expected that the proposed 130 dwellings in Stage 7 would generate about 1060 vehicles per day, which translates to 85 and 106 vehicles per morning and afternoon peak hours respectively (using a daily rate of 8.15 vehicles per day per dwelling).
- An Intersection analysis of the Hibiscus Drive intersection with Victoria Highway indicated that the intersection will work satisfactory and well within capacity with the overall level of service.

- Additional traffic generated by the development of Stage 7 would not have any adverse impact on the performance of the intersection. The result of the analysis indicates that the intersection of Hibiscus Drive and Victoria Highway would have enough spare capacity and there is no requirement for the construction of the southern link to Victoria Highway.⁵
- Transcore's report therefore concludes that a further access to Victoria Highway from the south-east of Lakeside Stage 7, as previously proposed, is not warranted. It has therefore been removed from the Structure Plan.
- Based on available traffic counts, Victoria Highway has adequate capacity to accommodate the subdivision traffic, however the percentage of heavy vehicles on this road is relatively high at about 9-33%

2.9.5 Pedestrian and Cycle Network

- Pedestrian access across Victoria Highway between Lakeside and East Lily Creek, and the possible future Drivers Rest development will need to be provided. In this regard, there will need to be provision for the safe and convenient cross flow of residents between the Council Oval and recreation facilities at East Lily Creek, and residential and low scale commercial facilities at Lakeside.
- It is proposed that appropriate access points be identified by LandCorp consultants, in association with SWEK and MRWA, based on safe locations and desire lines, concurrently with the Structure Plan process.
- All roads will be kerbed and drained and built to a similar standard as those built in Lakeside Park Stage 5. A network of footpaths and cycleways will also be built to provide for safe pedestrian movement.
- The path network will be co-ordinated with the path network proposed for East Lily Creek to provide strategic crossing points along Victoria Highway in consultation with SWEK and MRWA.

⁵ Deletion of the Southern Link and Intersection with Victoria Highway (Transcore)

2.9.6 Landscape

- Providing opportunities for the public to engage with the natural landscape is important to human health and well being. Opportunities exist to protect and enhance wetland and bushland areas while providing permanent walking and cycling paths through them.

Vegetation Retention

- The Structure Plan has been prepared to respond to the natural environment, and significant consideration has been given to the retention of natural vegetation where practical.
- The identification of good stands of remnant vegetation provide opportunity for the strategic selection of such areas for inclusion in open space. The protection of some areas of remnant vegetation has obvious environmental value, but may also bring aesthetic values to the area such as providing quality shade and connection to the history of the site.
- The integration of green infrastructure in the design and implementation of the subdivision can be achieved through vegetation retention, relocation, seed collection and propagation, and restoration of degraded landscapes.
- Vegetation retention will focus on vegetation communities that are identified with a condition rating of 'good' to 'excellent'. The selection criteria will involve a balance of the following considerations:
 - the size and quantity of vegetation
 - location and orientation
 - capacity of the vegetation to tolerate disturbance or change
 - proximity to geomorphic features such as rock outcrops
 - the ability to be successfully relocated
 - the connectivity with surrounding vegetation
 - the intended use or purpose of the retained vegetation (buffer, parkland, fauna corridor)
- Relocation of vegetation is considered an alternate solution where vegetation cannot be retained in its existing location. Species such as the Boab and Pandanus have been successfully relocated within Kununurra, and are typical candidates of this option. Other species may also be considered for relocation.
- Seed collection and propagation is important in maintaining the genetic integrity of a plant species within a location. This process also provides the opportunity for involvement of local community members and businesses. This contributes to a sense of ownership of the green infrastructure and instils respect and protection of public assets.

Planting Types

- The following plants have been preliminarily identified as local species that would be resilient and aesthetic for use in the public realm:

Table 3 – Planting Types (Source: Ecoscape)

Tall Grass Savannah Woodland	
Low Woodland	Corymbia grandiflora
	Corymbia bella
Scattered Trees	Andansonia gregorii
High Shrubland	Acacia tumida var tumida
	Acacia platycarpa
	Grevillea agrifolia subsp. Agrifolia
Shrubland	Spermacoce gibba
	Gomphrena flaccida
	Waltheria indica
Tall Savannah Grassland	Sorgham stipoideum
	Triodia bitextura
	Eriachne spp.
Very Open Herbs	Bonamia pannosa
	Gomphrena eichleri
	Spermacoce breviflora

Cultural Landscape

- LandCorp is in the process of consulting with the MG Corporation in order to imbed cultural landscape values in the Structure Plan. Options for design could include references to the larger landscape through borrowed views, creation of cultural corridors, protecting cultural features or interpretation of cultural values in art or naming.

2.9.7 Noise

Road

- Victoria Highway is classified as a current or future source of noise under *State Planning Policy No.5.4 – Road and Rail Transport Noise and Freight Considerations in Land Use Planning*.
- Adequate separation between Victoria Highway and residential development is considered to be provided by the separation distance between the road and development.

2.9.8 Catering for Residential Development and Workforce Needs

The Lakeside Park population will require access to a high level of facilities and services.

Local Centre

- A Local Centre is provided within the Structure Plan area to cater for the immediate Lakeside Park residents. Further local commercial facilities are likely within the possible future Drivers Rest development.

Schools

- All primary and secondary schools within Kununurra are currently located in a consolidated education precinct to the north of the Kununurra Town Centre.
- A future Primary School site within Drivers Rest or the town centre may be required.

2.9.9 Water Management

- To address the principles of integrated water management as outlined in State Planning Policy 2.9 Water Resources (Government of WA, 2006), a Local Water Management Strategy has been prepared.
- Urban Water Management Plans (UWMPs) will be prepared either in support of applications for subdivision and development or as conditions of approval.

Local Water Management Strategy (LWMS)

- GHD has prepared a LWMS for the proposed residential development at Lakeside Park in accordance with Better Urban Water Management (WAPC, 2008). The purpose of the LWMS is to demonstrate how the proposed urban structure will address water use and management in the context of local water and environmental requirements.
- The LWMS presents a strategy for the management of surface and groundwater to meet the water quality and quantity objectives for the site.
- Weather conditions within the East Kimberley result in dramatic rainfall events, which in turn create challenges with stormwater management.
- The specific challenges of effectively controlling storm water within Kununurra include efficient dispersal of peak events, erosion and sediment control, and the integration of storm water management systems within the urban fabric.
- The water management strategy for the proposed development is for drainage to be representative of the surrounding landscape character. This representation will accommodate and celebrate the seasonal nature of rainfall in the East Kimberley. Examples of such natural systems include living streams and ephemeral dry creek beds. This design intent is to be executed at subdivision level by further investigation into innovation through best practice water sensitive urban design. Key objectives include:
 - recreating natural drainage systems within the urban environment
 - maximising retention and infiltration on site
 - reduction of velocities and dispersal of peak flow velocity
 - water quality treatment before disposal off site
 - successfully combining drainage systems with public open space.

Urban Water Management Plan

- The strategies presented in the LWMS will be used to guide the UWMP.
- The UWMP will show how the final urban form will use and manage water, addressing the following:
 - Additional information about irrigation, landscaping and POS, including water requirements and water sources
 - Additional information about geotechnical and groundwater aspects of the site
 - Flow rates and water levels at critical locations for the 5-year and 100-year ARI events
 - Location, level and dimensions of drainage structures such as open channels, culverts, baffles, and basins
 - Management of subdivision works
 - Implementation plan, including roles and responsibilities

2.9.10 Utilities and Infrastructure

Power

- All new lots will be provided with underground power as part of the development of Lakeside Park Stages 5, 6 and 7.

Water

- A network of 100mm diameter and 150mm diameter will be provided within the proposed network of roads to facilitate the supply of potable water to new lots. The network will also include fire hydrants placed at strategic locations.
- Ground water levels in this area require further detailed investigation during the design phase to ensure the protection of dwellings, roads and other infrastructure in the wet season.⁶

Sewer

- Deep sewerage will be provided to all new lots.
- The development of Lakeside Park Stages 7 requires the construction of a Type 90 wastewater pumping station (WWPS) near the intersection of Livistone Street and Gardenia Drive. A new wastewater pressure main is also required. The route is yet to be determined but the pressure main will likely discharge into the Kununurra No 1 Main Sewer near the intersection of Messmate Way and Victoria Highway.
- The Type 90 WWPS and pressure main are important pieces of infrastructure. Together they will also facilitate the future expansion to the south of Kununurra town site including East Lily Creek and Drover's Rest.

Communications

- Telecommunications infrastructure has been provided to Lakeside Park Stage 5 and can be readily extended to Lakeside Park Stages 6 and 7.

⁶ Lakeside Structure Plan (Urban Plan)

2.9.11 Engineering Requirements

Fill

- Earthworks for Stage 5 have been completed and earthworks for Stage 6 are underway.
- Stage 7 is slightly more low lying than Stages 5 and 6 and consequently it will require more sand fill than previous stages to elevate it above the ground water table and flood events associated with the water courses that traverse the site including Little Lily Creek. Unfortunately, a consequence of providing fill into Stage 7 will be that much of the site, outside of POS, will need to be cleared.
- During the wet season the area of the site earmarked for development as Lakeside Stage 7 is often inundated with water. This is due, in part, to stormwater runoff from east of Victoria Highway which finds its way through a culvert beneath Victoria Highway near the access road into the Aboriginal Student Hostel and into Stage 7. As part of the development of Stage 7, it is proposed to divert floodwaters associated with this watercourse to the south of Stage 7 and into Little Lily Creek. The roads and lot levels in Stage 7 will be filled to a level to safely protect future housing.

Drainage

- To maintain pre-development hydrology, it is proposed to drain the site via a network of open channels located in road corridors or behind proposed lots. Hydrologic and hydraulic simulations have been undertaken to locate and size these drains.
- To manage water quality and quantity, it is proposed to baffle the drains with low level stone weirs that allow temporary detention storage and settlement of sediments. Vegetation of outlet structures to further treat stormwater before discharging to the downstream environment is also proposed.
- Groundwater levels will be controlled through the use of open drains and subsoil drainage pipes, spaced appropriately for the soil conditions. Where subsoil spacing or soil conditions warrant, clean fill will be imported to raise surface levels.

2.9.12 Design Guidelines

- Design Guidelines will be prepared and adopted for the site and will provide detailed guidance on land use and development within the Structure Plan area.
- The applicable Design Guidelines will complement rather than change Scheme requirements, however should any discrepancy occur the requirements of the Scheme will prevail
- The Design Guidelines will be used to ensure that developments present an appropriate 'face' to the public domain and incorporate the latest ESD and CPTED principles. The Design Guidelines may address, but will not be limited to the following matters:
 - Building Setbacks;
 - Building Heights;
 - Building Orientation;
 - Fencing;
 - Architectural Language;
 - Building Materials and Colours;
 - Landscaping;
 - Provision of Shade;
 - Energy Management; and
 - Water Conservation.

2.9.13 Detailed Area Plans (DAP's)

- DAP's may be required for medium density sites, corner sites, sites abutting land for public purposes, sites with interfaces to non-residential development and where detailed interface treatment planning is required, along with other sites deemed appropriate.

2.10 Implementation

2.10.1 Design Guidelines

- A set of Design Guidelines will be prepared to guide the preparation of Detailed Area Plans, subdivision and development applications, and other forms of planning or building applications.

2.10.2 Detailed Area Plans

- DAP's will be prepared to guide and facilitate subdivision and development.

2.10.3 Implementation Plan

Table 4 – Implementation Plan

Task	Description	Timeframe	Approval Body
Traffic Comment	Structure Plan to be referred to MRWA for comment during the formal advertising period.	During formal advertising period	MRWA
Preparation of Urban Water Management Plans	Prepared either in support of applications for subdivision and development or as conditions of approval.	Development application stage.	Department of Water (DoW)
Acid Sulphate Soils	Detailed field and laboratory acid sulphate soil assessments prior to subdivision and/or development.	It is anticipated that an assessment would form a condition of subdivision approval	Department of Environment and Conservation (DEC)
Drainage Issues	Drainage issues related to Weaber Plain LIA Stage 2	Concurrently with Structure Planning process	Department of Environment and Conservation (DEC)
Extent of Water Infrastructure Upgrades	Formal advice in relation to the capability of the existing infrastructure in Kununurra to service proposed development.	Concurrently with Structure Planning process	Water Corporation
Telecommunication Infrastructure	Formal service advice is being sought from Telstra.	Concurrently with Structure Planning process	Telstra
Retention or Relocation of specific Vegetation	Identification of boabs and pendas for retention or relocation.	Detailed area planning stage	SWEK/MRWA
Pedestrian Network Plan	Plan showing the extension of pedestrian pathway network	Submitted with subdivision application	MRWA/SWEK
Appropriate Traffic Management	Detailed design of Hibiscus Drive/ Victoria Highway intersection.	Concurrently with Structure Planning process	MRWA/SWEK
Pedestrian and Cycle Network	Coordination with East Lily Creek, future proposed Drivers Rest and existing Kununurra Town Centre network	Concurrently with Structure Planning process	MRWA/SWEK

Pedestrian Access Points	Access point identified, based on safe locations and desire lines	Concurrently with Structure Planning process	LandCorp, in association with SWEK and MRWA
--------------------------	---	--	---

Appendix A Planning Context and Rationale – Detailed Review

Planning Context and Rationale

State and Regional Planning Context

Liveable Neighbourhoods

Liveable Neighbourhoods is an operational development control policy which guides the design and assessment of regional, district and local Structure Plans, Detailed Area Plans and subdivision applications for new development areas in metropolitan and country areas. The policy generally applies to all Greenfield and large urban infill sites.

Liveable Neighbourhoods is intended to replace the specific issues-based Development Control (DC) Policies with a more integrated approach, taking account of various matters relevant to broad-acre planning including:

- Overall community design;
- Movement networks;
- Lot layout;
- Public parkland;
- Urban water management;
- Utilities;
- Activity centres and employment; and
- Schools.

Under the WAPC's Development Control Policies, these matters are dealt with on an individual basis.

Liveable Neighbourhoods is reflective of contemporary planning principles and practices and it will be vital to consider these matters in the preparation of the Structure Plans for Lakeside Park. It is acknowledged that the Plan will need to respond to the contextual and site specific circumstances of Kununurra.

Liveable Neighbourhoods will be a key guiding document in the preparation of the Structure Plans, and to inform the subdivision application process.

Shire of Wyndham East Kimberley Strategic Plan 2008-2013

The Shire of Wyndham East Kimberley's key vision for 2008-2013 is *'for the Shire to be a thriving and vibrant Community with unlimited opportunities'*. A summary of Strategic Plan's key result areas is provided below:

- **Infrastructure** – *'to develop and maintain the Shire's infrastructure and assets to a high standard'*.
- **Community** – *'to develop the strengths and potential of our community now and into the future'*
- **Economic Development** – *'work in partnership with Government, community and industry leaders to promote and provide opportunities for economic and social growth across the Shire'*.
- **Environment** – *'ensure that the Shire contributes to the unique environment in a sustainability and realistic manner'*
- **Governance** – *'that Council works in a co-operative way in delivering its obligations and to communicate well with the community'*.

These specific objectives will have to be considered in the preparation of the Structure Plan for Lakeside Park. The various other actions detailed within the Plan are considered to be generally in accordance with contemporary planning principles and practices and hence, will be addressed through the projects.

Kununurra Regional Hotspots Land Supply Update

The Kununurra Regional Hotspots Land Supply Update provides a brief snapshot of land supply in regional centres experiencing land and housing supply pressures as a result of growth in the resource and/or other industry sectors.

The report states that the economy of Kununurra and its immediate surrounds is dominated by agricultural, pastoral, resource and tourism industries. The expansion of the Ord River irrigation area (Ord River Stage 2) and the Argyle diamond mine is expected to generate significant impacts on land and housing demand and supply in Kununurra.

The report states that of the 6,618 persons within the centre on census night, 2,187 were visitors. In addition to this, the workforce counted on the night was 2,312, however the residential workforce was only 1,795. Based upon these figures, the report suggests that approximately one quarter of the population residing in Kununurra is there on a temporary basis for employment purposes.

In respect of the issue of whether the demand for residential land can be met, the report concludes that:

“Planning is well advanced to meet the town’s residential land supply needs in the medium to long term.”

It is identified that most urban development is focussed on the Lakeside area, but infill development opportunities are available closer to and within the Town Centre. Demand for industrial land is high, and this is being responded to with the release of additional industrial land.

The Hotspots report highlights the long-term expansion of residential populations in Kununurra and the future location of residential development to cater for this. The imbalanced development of Kununurra will need to be off-set through infill development in established residential areas and additional residential development mixed within the Town Centre.

State Planning Policies

State Planning Policy No.1 – State Planning Framework

Where the State Planning Strategy provides the overall vision for planning in Western Australia, State Planning Policy No. 1 (SPP 1) sets out the overarching framework for all policies, strategies and guidelines that relate to growth and development.

SPP 1 is presented in two parts. Part A (General Principles for Land Use and Development) is derived from the State Planning Strategy, elaborating on the broad principles for best planning practice in the areas of environment, community, economy infrastructure and regional development. These provisions represent the underlying principles for Part B (State and Regional Provisions) which specifically lists the plans, policies and strategies that are prepared by the WAPC.

State Planning Policy No. 2 – Environmental and Natural Resources Policy

The Environment and Natural Resources State Planning Policy No. 2 (SPP 2) is a broad Policy which defines the principles and considerations that represent good and responsible planning in terms of environment and natural resources issues.

The objectives of SPP2 are to:

- Integrate environment and natural resource management with broader land use planning and decision making;
- To protect, conserve and enhance the natural environment; and
- To promote and assist in the wise and sustainable use and management of natural resources.

The objectives provide the context for the general policy measures which are based upon the key themes of protecting and managing water resources, improving regional and local air quality, soil and land quality protection and management, biodiversity conservation, the appropriate management and protection and agricultural and rangelands, the identification and protection of basic raw materials, the sustainable use and protection of marine resources and aquaculture, protect and manage significant landscapes, reduce greenhouse gas emissions and improve energy efficiency.

State Planning Policy No. 2.9 – Water Resources

State Planning Policy No. 2.9 (SPP 2.9) sets out general and specific measures for the protection and management of surface and groundwater catchments, waterways management, wetlands, estuaries and their buffers. It also sets out Total Water Cycle Management principles in the land use planning system to best accommodate the many competing interests for water (consumptive, recreational, industrial and commercial purposes).

Specific advice is provided as to how to implement this policy through local planning strategies, Structure Plans, planning schemes and subdivision and development applications.

The Kununurra town site and its surrounds is heavily influenced by and reliant on water. Heavy rainfall, urban development and associated drainage requirements, environmentally sensitive areas and irrigation for agriculture all result in the need for careful water management. The Structure Plans will need to address water management.

State Planning Policy No. 3 – Urban Growth and Settlement

State Planning Policy No. 3 (SPP 3) sets out the principles and considerations which apply to planning for urban growth and settlements in Western Australia. The overall aim of the policy is to facilitate sustainable patterns of urban growth and settlement by setting out the requirements of sustainable settlements and communities and the broad policy in accommodating urban growth and change. Policy measures include creating sustainable communities, managing urban growth and settlement across Western Australia, planning for liveable neighbourhoods, coordination of services and infrastructure, managing rural residential growth and planning for Aboriginal communities are outlined.

The high-level provisions of this Policy reflect contemporary planning principles and practices and will be implemented through the planning process and subsequent detailed planning.

State Planning Policy No. 3.1 – Residential Design Codes (SPP 3.1)

The purpose of the R-Codes is to provide a comprehensive basis for the control, through local government, of residential development throughout Western Australia.

Due consideration has been given to the overarching principles and provisions of SPP 3.1 in the preparation of the Structure Plan.

State Planning Policy No. 3.4 – Natural Hazards and Disasters

Natural hazards and disasters are dealt with by State Planning Policy No. 3.4 (SPP 3.4). The objectives of SPP 3.4 are to:

- Include planning for natural disasters as a fundamental element in the preparation of all statutory and non-statutory planning documents, specifically town planning schemes and amendments, and local planning strategies; and
- Through the use of these planning instruments, to minimise the adverse impacts of natural disasters on communities, the economy and the environment.

The Policy deals with various natural hazards, with cyclones, floods, land movements, fires and biological hazards likely to be the most applicable.

State Planning Policy No. 5.4 – Road and Rail Transport Noise and Freight Considerations in Land Use Planning

State Planning Policy No 5.4 – Road and Rail Transport Noise and Freight Considerations in Land use Planning (SPP 5.4) is primarily concerned with how the planning system can be used to minimise the adverse impact of transport noise without placing unreasonable restrictions on development or adding unduly to the cost of road and rail infrastructure.

Specifically, the policy:

- Establishes criteria to be used in the assessment of proposals involving noise sensitive development in the vicinity of major transport corridors;
- Identifies measures that can be adopted to reduce road and rail traffic noise; and
- Describes the circumstances when such measures are required.

Numerous heavy haulage routes traverse Kununurra and its surrounds. As part of any future development proposals, it will be necessary to consider the implications of road noise on sensitive land uses.

Development Control Policies

Development Control Policy 1.1 – Subdivision of Land

DCP 1.1 sets out the general principles, which will be used by the WAPC in determining applications for the subdivision of land. The Policy indicates the Commission's basic requirements for the creation of new lots as well as the procedures it will follow in processing subdivision applications.

Development Control Policy No. 1.5 – Bicycle Planning (DC 1.5)

DCP 1.5 describes the planning considerations which should be taken into account in order to improve the safety and convenience of cycling. The key objectives of DCP 1.5 are to:

- make cycling safer and more convenient through the provision of end-of-trip facilities and provide better cycle route networks;
- ensure the road construction needs of cyclists are recognised;
- encourage more work, school and shopping trips to be made by bicycle; and to
- increase the general awareness as to the benefits and to ensure adequate consideration is given to the provision of cycling facilities in planning studies.

The provisions of DC 1.5 have been given due regard in the preparation of the Structure Plan for Lakeside Park.

Development Control Policy No. 2.2 - Residential Subdivision

DCP 2.2 sets out the WAPC's policy requirements for the subdivision of land into residential lots. The key objectives of this Policy are to:

- establish a consistent and coordinated approach to the creation of residential lots throughout the State;
- adopt criteria for residential lots which will ensure that each lot provides with a suitable level amenity, services and access; and
- facilitate the supply of residential lots of a wide range of shapes and sizes which reflect the statutory provisions of town planning schemes, the availability of reticulated sewerage and the need for frontage to public roads.

DCP 2.2 provides specific guidance on elements such as lot size, connection to sewerage, single residential lots, small residential lots, battleaxe subdivision, access to residential lots, provision of screen fencing and underground power. The policy has been developed and refined over many years taking into account the adoption and subsequent amendments to the Residential Design Codes and the government's policies on sewerage and underground power.

Development Control Policy No. 2.3 - Public Open Space in Residential Areas

The basic component of this policy is the requirement that 10 per cent of the gross subdivisible area of a conditional subdivision shall be given up free of cost by the subdivider for public open space, which has been the basis of public open space policy in the state for many years. The key policy objectives are as follows:

- To ensure that all residential development in the State is complemented by adequate, well-located areas of public open space that will enhance the amenity of the development and provide for the recreational needs of local residents;
- In appropriate cases, to facilitate the provision of land for community facilities – such as community centres, branch libraries and day-care centres – in conjunction with land ceded for public open space; and
- To protect and conserve the margins of wetlands, water-courses and the foreshores adjacent to residential development.

The Policy provides specific guidance on public open space, including foreshore reserves, regional open space, public utility uses and community facilities, and provides specific procedural requirements, which will feed into the Lakeside Park Structure Plan.

Development Control Policy No. 2.6 – Residential Road Planning

DCP2.6 sets out the WAPC's requirements for the planning and design of roads in residential areas and provides guidelines for the design and layout of residential roads. The Policy sets out the WAPC's requirements for the planning and design of roads in residential areas and provides guidelines for the design and layout of residential roads. The key objectives of this Policy are to:

- Incorporate road planning as an integral part of neighbourhood design with the location of land uses appropriate to the road function;
- Encourage innovative approaches to the design of roads, services and dwellings which are consistent with the most efficient and sustainable use of residential land and other resources, at densities appropriate to meet State housing objectives;
- Provide road networks within a clear road hierarchy, which are permeable and which offer all road user safe, convenient and legible access to all residential dwellings and destinations inside and outside the neighbourhood;
- Create a domestic environment that is visually attractive and at a human scale;
- Provide for bus routes (and bus stops) which are both accessible from all dwellings and activity centres and appropriate to the road function; and
- Provide for a high quality pedestrian/cycle network to facilitate the safe, convenient and legible direct movement of pedestrians and cycles both inside and outside the neighbourhood.

Development Control Policy No. 4.2 – Planning for Hazards and Safety

The objectives of this policy are:

- To ensure that developments are reviewed with a view to maintaining appropriate public safety.
- To maintain acceptably low risk exposure through appropriate planning procedures.
- To provide guidelines for the consideration of the influence of existing risk levels in the planning process.
- To provide for the development of industries and activities which are hazardous but which are desirable for the benefit of the wider community.

Kununurra Wyndham Area Development Strategy

The Kununurra Structure Plan, contained within the Kununurra Wyndham Area Development Strategy (KWADS), identifies the subject site for Future Urban Development. The KWADS study facilitates the release of residential land in Lakeside and acknowledges that Structure Planning is needed to determine the location of local shopping within the Lakeside precinct.

The Structure Plan was finalised in 2000 and has since been superseded by the Shire’s Local Planning Strategy and the recent Kununurra Strategic Directions outcomes.

Local Planning Context

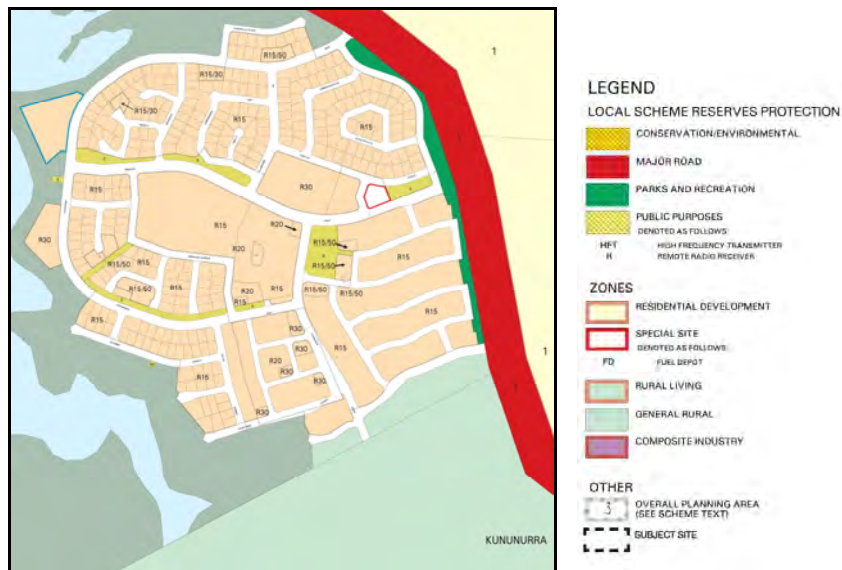
Town Planning Scheme No.7 – Kununurra and Environs

The Shire of Wyndham East Kimberley (SWEK) Town Planning Scheme No.7 (TPS7) – Kununurra and Environs, provides the statutory basis for the planning of Kununurra and its surrounds.

TPS7 zones and reserves land within the Scheme Area for various purposes including recreation, public infrastructure and services, residential development, commercial development, industrial development and rural uses. TPS7 sets out the permissibility of land uses, specific development control requirements as well as administrative and operational requirements and procedures.

The Lakeside Park Residential Development precinct is currently zoned ‘Residential;’ and ‘Public Purpose – Drain’, as highlighted below. The objectives of the Residential zone are as follows:

- o To allocate a density coding for the Residential zone throughout the Scheme area designed to:
 - i) provide sufficient land in appropriate locations for residential development to meet the needs of the Scheme Area’s anticipated growth and population without unduly restricting the choice of sites;
 - ii) promote and safeguard health, safety, convenience, the general public welfare and the amenity of the residential areas; and
 - iii) allow redevelopment opportunities for areas of older housing stock.



Lakeside Zoning (Source: WAPC)

Draft Town Planning Scheme No. 8 – Shire of Wyndham East Kimberley

The Shire is currently in the process of preparing a new Local Planning Scheme. The aim of the project is primarily to consolidate the Shire's two existing Schemes (Town Planning Scheme No. 6 – Wyndham Town site and Town Planning Scheme No.7 – Kununurra and Environs) and prepare a comprehensive Scheme covering the entire Shire which is consistent with the Model Scheme Text and includes a number of other modifications.

The Structure Plan is not envisaged to have any adverse implications for the subdivision and development of the site or for the drafting and finalisation of the Shire's new Local Planning Scheme.

Kununurra Local Planning Strategy

With regard to the Lakeside Park Structure Plan precinct, the Local Planning Strategy (LPS) identifies the following:

- Opportunities for expansion of predominately residential urban development to the south east of the existing Lakeside precinct;
- Structure Planning will determine densities, the location of future schools, potential tourism uses, recreational areas and local shopping precincts; and
- Opportunities for suitable grouped dwellings and high density developments, with the proposed base coding for residential development at R20.

Kununurra Strategic Directions Development Concept Plan and Strategic Land Use Plan

The underlying objective of the Kununurra Strategic Directions document, prepared by Urbis in 2009, were to 'maintain and foster a walkable and accessible Town which embraces Kununurra's unique landscape setting and cultural diversity, while providing for housing choice and diversity and economic development opportunities'. The document recognises Lakeside Park as a priority for residential development.

Appendix B Lakeside Park (Stage 5-7) Structure Plan

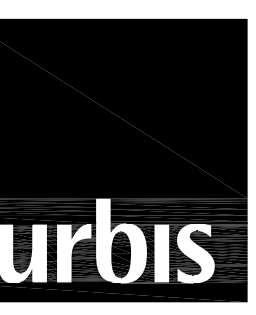
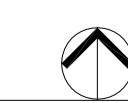


LEGEND:

- STRUCTURE PLAN AREA
- RESIDENTIAL R17.5
- RESIDENTIAL R20
- RESIDENTIAL R25
- RESIDENTIAL R40
- LOCAL CENTRE
- PARK & RECREATION RESERVE

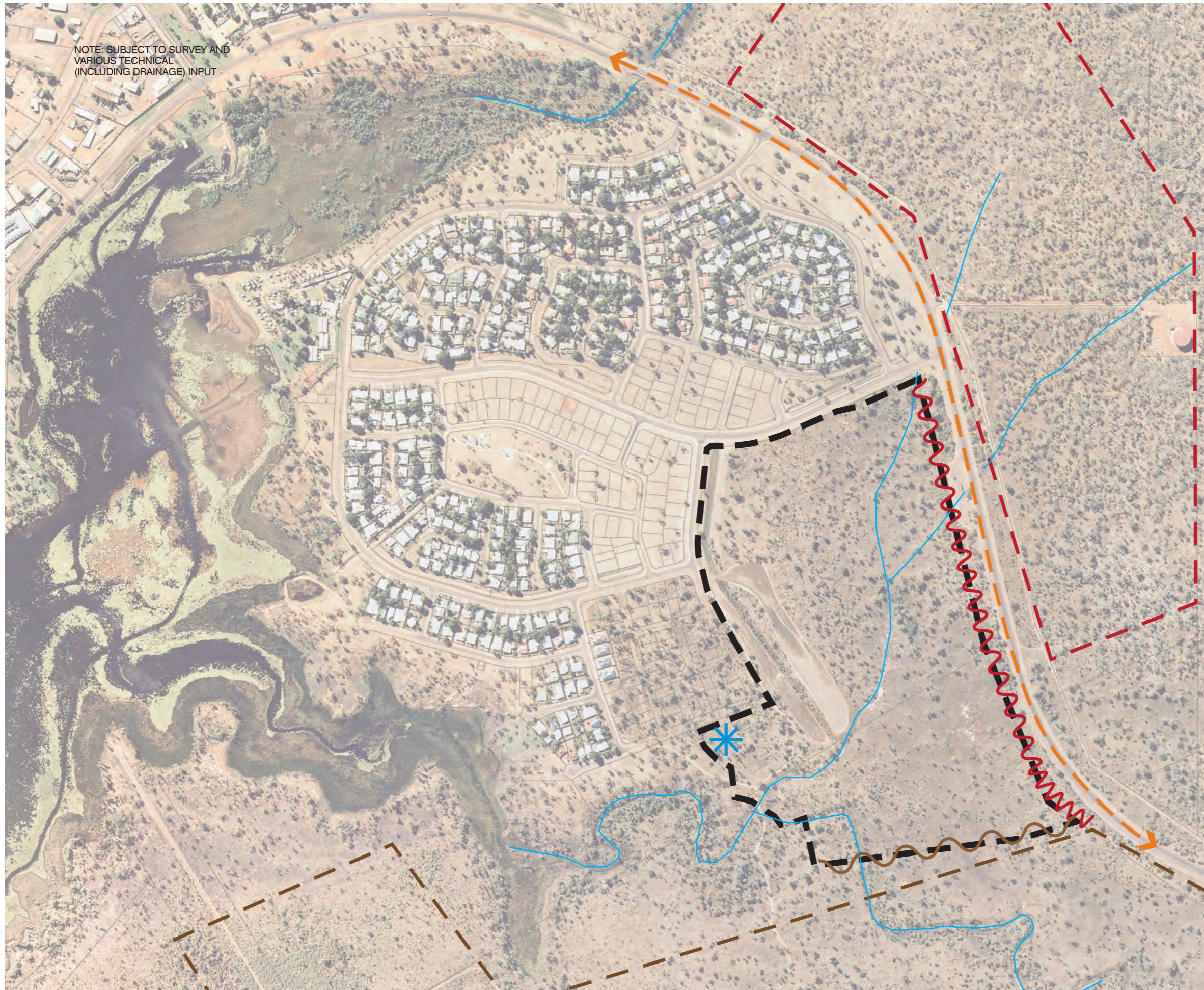
NOTES:

ALL ROAD RESERVE WIDTHS ARE INDICATIVE ONLY








Appendix C Opportunities and Constraints Mapping

NOTE: SUBJECT TO SURVEY AND VARIOUS TECHNICAL (INCLUDING DRAINAGE) INPUT



LEGEND:

-  Subject Site
-  Interface with Victoria Highway - Appropriate landscaped buffer treatments need to be established between Victoria Highway and the subject site addressing issues of presentation and noise
-  Interface with Drovers Rest Residential Estate - Development on the southern portion of the subject site needs to address the adjacent Drovers Rest residential development through consideration of land use and interface treatment
-  Tourism/Recreation Opportunities for Lily Creek - Tourism and recreational opportunities existing for Lily Creek
-  Drainage - Issues associated with drainage, flooding and water inundation will be dealt with at the detailed planning stage
-  Victoria Highway Noise/Traffic- Surrounding industrial development may draw heavy traffic through the Kununurra town centre. Development in close proximity to Victoria Highway will need to incorporate appropriate interface treatments to address issues of transport noise
-  Drovers Rest Residential Estate
-  East Lily Creek Development

Proposed Zoning - SWEK Local Planning Strategy has identified that the proposed base zoning for the subject site should be R20, with tourism and shopping precincts provided within Drovers Rest

Potential Air Traffic Impacts -The subject site will need to consider the potential impacts of the proposed expansion of runway and air traffic on the subject site

Proximity to Lily Creek - Appropriate interface treatments need to be established between the development and Lily Creek

Rental Stress - Affordable housing strategies to be considered and implemented where possible

Vegetation Retention - The potential to retain existing vegetation should be explored during the detailed planning stages

KUNUR OPPORTUNITIES AND CONSTRAINTS (LAKESIDE PARK)

PA0676 Kununurra - East Lily Creek, Bull Run Road, Weaber Plain Stage 2 and Lakeside Park

DATE 19.07.2010

DWG NO 003

REV A

SCALE NTS

Level 1, 55 St Georges Tce,
Perth, WA 6000 Australia

Tel +618 9346 0500
Fax +618 9221 1779

info@urbis.com.au
www.urbis.com.au

Urbis Pty Ltd ABN 50 105 256 288
Australia . Asia . Middle East



Appendix D Transcore Traffic Study –
Deletion of the Southern
Link and Intersection with
Victoria Highway



Technical Note: No 1

Date: 20/08/210

Project No: t10.133

Project: Lakeside Park – Stages 6 and 7 - Kununarra

Subject: Deletion of the Southern Link and Intersection with Victoria Highway

Introduction

In December 2009 Sinclair Knight Merz (SKM) prepared a “Transport and Access Report” for stages 5 and 6 of the Lakeside Park residential development in Kununurra. As part of that project SIDRA analysis was undertaken to assess the impact of the development of the stages 5 and 6 on the intersection of Hibiscus Drive and Victoria Highway. The intersection analysis was undertaken for AM and PM peak hours and the analysis indicated that the intersection would work satisfactorily and with significant spare capacity as a priority controlled intersection. The proposed layout of the intersection includes left and right turn pockets on Victoria Highway and this layout was assessed in the SIDRA analysis.

Transcore has been commissioned by cossill & Webley to provide traffic-engineering services for the development of the stages 6 and 7 of the Lakeside Park development.

Purpose of Technical Note

The purpose of this technical note is to investigate the impact of the additional traffic generated by the development on the intersection of Hibiscus Drive and Victoria Highway with the deletion of the southern access link and intersection with Victoria Highway.

Intersection Analysis

Trip generation and distribution of the stage 7, was based on the assumptions reported in the SKM report. Accordingly a daily trip rate of 8.15 vehicles per day per dwelling was adopted for the residential lots. On this basis it is expected that the proposed 130 dwellings in stage 7 would generate about 1060 vehicles per day, which translates to 85 and 106 vehicles per morning and afternoon peak hours respectively.

Intersection analysis of Hibiscus Drive intersection with Victoria Highway was undertaken using SIDRA software, for the AM and PM peak hours. Degree of Saturation (v/c) and Level of Service (LoS) have been used to present the performance of the intersection and the queue distance has been checked for the critical movements.

Table 1, summarises the results of the intersection analysis for the AM and PM peak hours.



Table 2: Intersection Analysis

Approach	Movement Type	Degree of Saturation	Level of Service	Average Delay (sec)	95 % Queue (m)
Hibiscus DR\ Victoria Hwy, AM Peak Hour					
Victoria Hwy S	L	0.002	A	8.2	0
	T	0.095	A	0	0
Victoria Hwy N	T	0.095	A	0	0
	R	0.028	A	9.2	1
Hibiscus DR	L	0.348	A	9.7	14
	R	0.347	A	9.8	14
All Vehicles		0.348	NA	5	14
Hibiscus DR\ Victoria Hwy, PM Peak Hour					
Victoria Hwy S	L	0.021	A	8.3	0
	T	0.095	A	0	0
Victoria Hwy N	T	0.095	A	0	0
	R	0.289	A	9.7	12
Hibiscus DR	L	0.1	A	9.7	3.4
	R	0.1	A	9.8	3.4
All Vehicles		0.289	NA	5.5	12

Table 1 indicates that the intersection of Hibiscus Drive and Victoria Highway will work satisfactory and well within capacity with overall level of service A during the AM and PM peak hours. Therefore, the additional traffic generated by the development of the stage 7 would not have any adverse impact on the performance of the intersection. The result of the analysis indicates that the intersection of Hibiscus Drive and Victoria Highway would have enough spare capacity and there is no requirement for the construction of the southern link to Victoria Highway.

Sydney
Level 21, 321 Kent Street
Sydney, NSW 2000
Tel: +612 8233 9900
Fax: +612 8233 9966

Brisbane
Level 12, 120 Edward Street
Brisbane, QLD 4000
Tel: +617 3007 3800
Fax: +617 3007 3811

Dubai
Level 4, Attareen Building,
Saaha Offices, Old Town Island
Downtown Burj Dubai, UAE
Tel: +971 4 4200212
Fax: +971 4 4200209

Melbourne
Level 12, 120 Collins Street
Melbourne, VIC 3000
Tel: +613 8663 4888
Fax: +613 8663 4999

Perth
Level 1, 55 St Georges Terrace
Perth, WA 6000
Tel: +618 9346 0500
Fax: +618 9221 1779

Australia • Asia • Middle East
www.urbis.com.au
info@urbis.com.au