

MARCH 2009

FITZROY FUTURES Town Plan

AMENDED AND UPDATED

Note: Layout Plans referenced in Fitzroy Futures Town Plan should be viewed at www.dplh.wa.gov.au for current LP versions.



SHIRE OF
DERBY/WEST KIMBERLEY



Bunuba Inc.

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List of Acronyms

ALT	Aboriginal Lands Trust
ARI	Average Recurrence Interval
DCD	Department for Community Development
DET	Department of Education and Training
DHW	Department of Housing and Works
DIA	Department of Indigenous Affairs
DoW	Department of Water
DPI	Department for Planning and Infrastructure
KDC	Kimberley Development Commission
ML	Megalitre (1 million litres)
SDWK	Shire of Derby/West Kimberley
SPP	State Planning Policy
WAPC	Western Australian Planning Commission

March 2009 Version

During the period July 2003 to November 2004 the Fitzroy Futures Town Plan was prepared by the Department for Planning and Infrastructure on behalf of the Western Australian Planning Commission in partnership with the Shire of Derby – West Kimberley and Bunuba Inc.

In December 2004 the WAPC released the Fitzroy Futures Town Plan for public comment. In November 2005, following completion of the advertising period an amended version of Fitzroy Futures Town Plan was prepared.

On 24 November 2005 the Shire of Derby/West Kimberley conditionally endorsed the Fitzroy Futures Town Plan.

Since publication of the November 2005 version of the Fitzroy Futures Town Plan there have been a range of developments and infrastructure improvements commenced and completed at Fitzroy Crossing.

It is considered timely to update the Fitzroy Futures Town Plan to incorporate those changes. Additional amendments that reflect changed thinking regards development and infrastructure need have also been included in the March 2009 iteration of the Fitzroy Futures Town Plan. These include: deletion of the Forrest Road realignment, deletion of the proposed community resource centre, expansion of the Yurabi Road rural living area, addition of a Bunuba Heights Outline Development Plan and addition of an Old Fitzroy Outline Development Plan.

Other than these amendments, the March 2009 and November 2005 versions of the Fitzroy Futures Town Plan remain the same.

On 28 April 2009 the WAPC endorsed the Fitzroy Futures Town Plan.

1 INTRODUCTION TO FITZROY CROSSING

The town of Fitzroy Crossing is located in the Shire of Derby/West Kimberley approximately 2500 km from Perth, along the Fitzroy River and adjacent to the Great Northern Highway (figure 1). By road, Fitzroy Crossing is 258 km south-east of Derby and 288 km west of Halls Creek.

1.1 History of the Fitzroy area

Aboriginal people have lived in the Kimberley region for more than 30 000 years. Distinct tribal groups cover most of the region and have a close understanding of, and relationship with, the environment, which is linked intrinsically to Aboriginal culture and spirituality.

The Fitzroy Crossing area is home to Bunuba, Wangkatjungka, Gooniyandi, Nyikina, Mangala and Walmajarri people. Aboriginal occupation of the land has established many important mythological sites which include natural features such as rivers, hills and rock formations where people, animals and characters left traces of their journey across the landscape. Other sites have been used for thousands of years for ceremonies to mark important events or for 'increase' sites to 'keep the land alive'.

1.2 European settlement

In the late 19th century, the Swan River Colony established an outpost at Derby with the aim of developing a pastoral industry. Various leases were granted to European settlers, who developed cattle and sheep stations. The post office at Fitzroy Crossing was opened as a telegraph station in 1892. A police camp was established in 1894 followed by a wayside inn (Crossing Inn) in 1897.

Fitzroy Crossing rapidly urbanised as a result of two key events: the closure of Moola Bulla Aboriginal cattle station north of Halls Creek in 1955, when people were transported to the United Aborigines Mission in Fitzroy Crossing (now Burawa), and; the equal wages decision of the 1960's, which resulted in the movement of Aboriginal people into towns from traditional lands where they were engaged in the pastoral industry. Kurnangki, Mindi Rardi and Junjuwa were established as a consequence of this population displacement.

The introduction of the pastoral award in 1968 led to large numbers of Aboriginal people having to leave pastoral stations, which were often also traditional lands. Before the introduction of the award, many Aboriginal people were able to live on their traditional lands and retain strong cultural links, often through unpaid work on the pastoral stations. The award established minimum wages for people working on pastoral stations, and most pastoralists were not prepared to support Aboriginal families on the stations. Government agencies established camps for displaced people on the fringes of major townsites. This separation has had a significant negative effect on cultural customs and lifestyle. Aboriginal people in Fitzroy Crossing have managed to retain a close association with the Fitzroy River and surrounding country.

1.3 Recent history of Fitzroy Crossing

Development of the Fitzroy Crossing township, until the mid-1970s had been concentrated largely around the post office settlement near the old level crossing.

During this period, the development of the new hospital proved to be the catalyst for the eventual focus away from the post office precinct, exacerbated by the lack of land suitable for development. The existing townsite was surveyed and released for purchase to accommodate the expanding number of service personnel and provide for future population growth. All facilities previously located near the hotel or post office ultimately have relocated to the new townsite, largely located outside the 100 year floodplain of the Fitzroy River.

Since that time, the townsite has continued to develop a mix of residential, recreational and commercial land uses. The community services sector has become the major source of employment, reflecting the town's role as a social / service centre for the surrounding communities and pastoral stations and mining interests. Tourism has become an increasingly important industry that has resulted in the development of tourist accommodation facilities.

1.4 Lifestyle

Why is Fitzroy Crossing a town? While part 1 of this report can explain how Fitzroy came to exist, it is the lifestyle of the settlement that keeps people here and makes it a place with a future.

The most obvious element of the Fitzroy lifestyle is the river – an ever-present part of the town, it dictates where people can build and when in flood, it takes over the town and its people. Flooding can mean many things – good fishing, no school, getting around by boat, planes dropping in, and visitors being stuck. The rain also brings relief from the summer heat, and refreshes the landscape.

On any given day, residents of Fitzroy can enjoy the landscapes that tourists travel thousands of kilometres to see. People also tend to live a life influenced by the weather – the oppressive conditions of the wet, or the excellent dry season.

For most of the town's residents, the Fitzroy area has always been home – and it can be family, country and culture that will keep people around.

A range of facilities is located within Fitzroy that provide for the community's recreational, education and health needs. So too, people from outlying communities also see it as a regional centre for these same services.

A number of community development elements build on Fitzroy's social, lifestyle, employment and education opportunities. These types of activities help to bring the community together – different backgrounds, cultures and generations, and include:

- Touring art exhibitions – “art on the move”
- Youth strategy – primarily for sports and after-school care;

- Regional art gallery – engaging people in cultural practice; and
- Garnduwa sports festival.

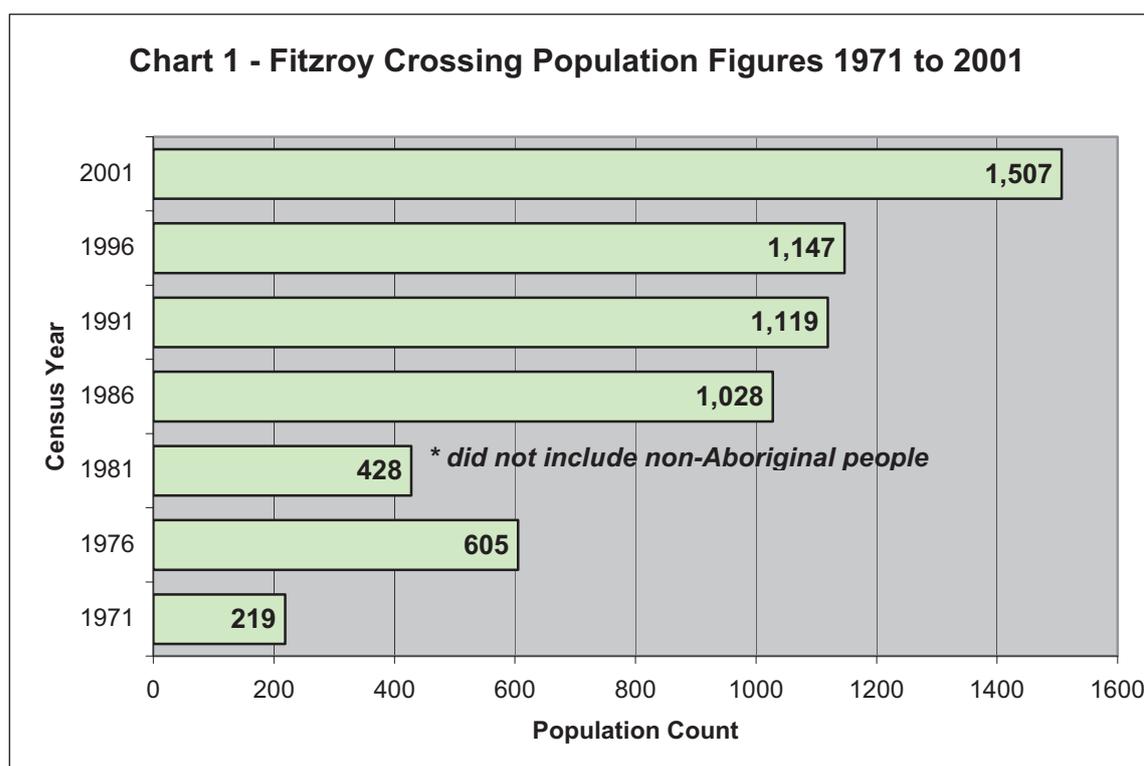
Many towns in WA have similar services and facilities to Fitzroy Crossing, but it is often the lifestyle and vitality of that place that will keep it strong and viable into the future.

1.5 Population characteristics

The 2006 census is broadly understood to have not been successful in establishing accurate contemporary demographic profile data for the Kimberley, including Fitzroy Crossing. In light of this the Fitzroy Futures Forum Governing Committee has contracted researchers to develop an accurate demographic database for the Fitzroy Valley. Given the inadequacies of the 2006 census data and the current (March 2009) lack of alternative data is considered reasonable to use the 2001 census as the closest to reliable demographic information.

The resident population of Fitzroy Crossing at the 2001 census was 1507, although approximately 3000 people from surrounding communities in the Fitzroy Valley, with close links to the town, visit regularly.

Census counts indicate that there has been a regular and steady increase in population in the town centre since 1986. The increase between 1996 and 2001 can be explained by a slight variation in census collector district boundaries and increased accuracy in determining the population of the main settlements around town.



Source: Australian Bureau of Statistics

General population characteristics – Shire of Derby/West Kimberley

General population characteristics are not available for local areas, but information on the Shire of Derby/West Kimberley from the 2001 Census is considered to provide a reasonable indication for the Fitzroy Crossing area:

- 46 per cent of the population in the shire was identified as being of indigenous origin – in the 1996 Census, this figure was 55 per cent. The State percentage of indigenous people was 3.2 per cent;
- The median age of the population was 29. This was a slight increase from previous census counts and is lower than the State median of 34;
- 20 per cent of the population speaks Australian indigenous languages at home, compared with the State percentage, which is less than 0.5 per cent;
- 42 per cent of the population was married, which is a decrease from 1991 (50 per cent). On a State level, 51 per cent of the population was married;
- The median weekly income for individuals was \$200-\$299, while the State median was \$300-\$399;
- The median weekly household income was \$700-\$799 for both Derby-West Kimberley and the State;
- The median weekly rent was \$50-\$99, while the State median was \$100-\$149;
- 40 per cent of the population was identified as being part of the labour force, and of these people, 96 per cent were employed. There was nearly a 50-50 split between full-time and part-time employment.
- The mean household size was 3.5, compared with the State mean of 2.6 people.

The demographic profile of Aboriginal people generally is characterised by:

- Annual growth rates are higher than the State's annual growth rate.
- Birth rates generally are twice that of the State's average birth rate.
- Birth rates among Aboriginal women aged under 25 are higher than the State average, but generally in keeping for women aged over 30.
- Mortality rates among Aboriginal people are nearly twice as high as the State average.
- Aboriginal people have significantly lower life expectancy than the total State population.

Applying this information to Fitzroy Crossing, it means that compared with the State average, there is a much higher proportion of people aged 0-14, and a lower proportion of people aged over 65.

1.6 Population projections

Given that census counts in the past 30 years have been somewhat erratic, it is difficult to project how the population of Fitzroy Crossing might grow in the next 10-15 years. However, population projections for the Shire of Derby/West Kimberley indicate a 5-6 per cent growth rate to 2016, and a 5 per cent annual

growth rate has been estimated for Fitzroy Crossing. This would mean an annual growth of approximately 80 people. However, these figures are a guide only, in that there is a lack of reliable historical information on which to base trends.

1.7 Settlement pattern

The main part of the Fitzroy Crossing township is situated on a thin rocky ridge which runs in a north-south direction, to the east of the Fitzroy River. This river and its tributaries experience regular and considerable flood events that affect parts of the settlement. To the west of Fitzroy Crossing is an area known as Plum Plain – a wider floodplain that acts as an overflow catchment from the Fitzroy River.

There are several main settlement areas within the townsite – Mindi Rardi and Kurnangki communities to the south of the Great Northern Highway, the Fitzroy town area to the immediate north of the highway, the light industrial area to the east, and Junjuwa and Burawa communities to the north. East to the Fitzroy River is the original Fitzroy settlement, which is near Darlgunaya community, and further east is Bungardi community. On the east of the river, is the Fitzroy River Lodge, which provides a range of accommodation options for travellers. There also is a small rural-residential settlement on Yurabi Road, north of the Lodge (figure 2).

1.8 Housing supply and density

Approximately 70 houses make up the town housing stock, excluding the town-based Aboriginal communities. The majority are single dwellings or duplexes. A small number of rural lots are located along Yurabi Road, where houses have been constructed above the 112 m contour, as a previously accepted flood level. A considerable amount of housing is also provided within the discrete Aboriginal communities in the townsite.

There is very little private home ownership in Fitzroy Crossing. In the Shire of Derby/West Kimberley, only 26 per cent of homes are privately owned or being purchased, compared with the State figure of 68 per cent. The level of home ownership is increasing, but it still is very low compared to the State average. There is significant demand from government and non-government organisations for access to additional staff housing, and it is understood this may be impeding the capacity of these organisations to increase services to the community in some cases.

The main consumer of town housing and land is government, either through the Government Employees' Housing Authority or the public housing part of the Department of Housing and Works, which also develops the majority of housing on Aboriginal communities throughout the State. However, there is also regular, low demand for housing and commercial land from business owners in town, who may wish to employ new staff, or explore new business opportunities.

Housing development in Fitzroy Crossing has tended to achieve a density in the order of 10 to 12.5 dwellings per hectare. This results in lots in the order of 900m² to 1100m². Lot sizes north of Poole Court tend to be in the larger range, while lots south of it have been developed at a slightly higher density.

In order to meet the demand for housing, the Shire of Derby/West Kimberley has supported development in the order of 20 to 25 dwellings per hectare, particularly in the area north of Poole Court, which is considered suitable for increased housing density, given the lot configuration and supporting road network.

1.9 Land Supply

The State Government owns the majority of residential land, and most land in private ownership is located in the light industrial area, representing local business people who have combined commercial and residential uses. The provision of additional residential lots is constrained by limited land availability and high servicing costs.

Redevelopment of existing land within the Fitzroy Crossing township may be able to meet housing demand before development of the land known as Bunuba Heights, particularly in the area north of Poole Court.

The ultimate capacity of this land is estimated to be:

- 26 dwellings – assuming a development standard of R20 (20 dwellings per hectare), which could be achieved only on lots greater than 1000m². This would in some cases require demolition of the original house.
- 39 dwellings – assuming a development standard of R30 (30 dwellings per hectare), which could only be achieved if 2 or more lots are amalgamated. This would require demolition of the original housing stock.

Lots south of Poole Court are of a size that would support development at a density of 20 dwellings per hectare; however the configuration of lots and connecting roads may not be conducive to a blanket zoning. Nevertheless, some lots, such as corner lots, may be suitable for grouped dwellings.

Once infill opportunities are exhausted, and LandCorp lots are taken up, all future residential land will be in Bunuba ownership. It is Bunuba's intention that development of this land provides economic, training and employment opportunities for Bunuba people. The land may be developed solely by Bunuba, in joint ventures with other developers, or Bunuba may sell or lease the land to other developers.

1.10 Land tenure

Settlement distribution in Fitzroy Crossing is dispersed due to historical, physical and social factors. The town incorporates six main Crown reserves vested with either the occupying Aboriginal corporation or the Aboriginal Lands Trust for the 'use and benefit of Aboriginal inhabitants'. In addition, Reserve 9656 is proclaimed under part III of the *Aboriginal Affairs Planning Authority Act 1972*, which means that there are entry permit requirements, and any change to the tenure requires the consent of both houses of Parliament. These are described briefly as:

- Junjuwa/Burawa (Old Mission) - Crown Reserve 9656, vested in the Aboriginal Lands Trust;
- Dalgunya - Crown Reserve 45046, vested in Dalgunya Aboriginal Corporation;
- Bungardi - Crown Reserve 45608, vested in Munmarul Aboriginal Corporation;
- Marra Worra Worra (and Parukupan) - Crown Reserve 38602, vested in Marra Worra Worra Aboriginal Corporation;
- Kurnangki - Crown Reserve 39294, vested in Kurnangki Aboriginal Corporation; and
- Mindi Rardi - Crown Reserve 35167, vested in the Aboriginal Lands Trust.

Each of these communities is subject to individual town planning processes through the *State Planning Policy 3.2 – Planning for Aboriginal Communities*.

In addition to the number of Crown reserves supporting Aboriginal communities, there also is a range of anomalous land tenure arrangements that affect future development options for Fitzroy Crossing. For example, roads have been constructed outside reserve boundaries (figure 3).

1.10.1 Native title considerations

The *Native Title Act 1993* provides for the recognition and protection of Aboriginal and Torres Strait Islander people's native title rights and interests. The Act provides a process to determine whether native title exists and protects the existing rights of governments, industry and the general public. The Act also provides ways to negotiate and enter into agreements regarding future public works and business activity on land or waters where native title rights and interests are affected.

Certain government actions, such as grants of freehold or other exclusive tenures to other parties, have been found to extinguish native title. Claims for native title cannot be made over areas where native title has been extinguished, eg land held in freehold or exclusive tenure in developed areas in Fitzroy Crossing. There has been a considerable degree of uncertainty regarding land supply in relation to the Act and this has affected many communities in regional Western Australia. As an increasing number of determinations on native title are made and

indigenous land use agreements entered into, it is likely that certainty in land supply will be restored.

To date, Fitzroy Crossing has not been the subject of a registered native title claim.

1.11 Community services

Fitzroy Crossing's key community services infrastructure is shown on figure 4.

1.11.1 Education

The Fitzroy Crossing District School is operated by the Department of Education and Training. The school was previously located in the Old Mission district, to the north of the town. A replacement school has been developed adjacent to the oval, at the southern extent of Reserve 9656.

1.11.2 Health

Fitzroy Valley Health Services is located on a Crown reserve (8.7ha) on Fallon Road, immediately north of Great Northern Highway. It is an integrated health service, providing a range of health services to Fitzroy Crossing and surrounding communities. The Fitzroy Valley District Hospital was opened in 1976, and is an eight-bed facility providing full accident and emergency services. The service also includes child health, school health, immunisations and communicable diseases services and various health education and promotion activities.

Medical officers also provide services to the Guwardi Ngadu Frail Aged Hostel on Forrest Road, which is a 12-bed facility. A visiting nursing service also is provided to community clinics based at Nookanbah (Yungngora) and Wangkatjungka. A number of staff houses are located on hospital land.

1.11.3 Recreation

Fitzroy Crossing's leisure centre is combined with the oval and netball and basketball courts. There is a rodeo ground off Sandford Road. The Fitzroy River, its bed and foreshore areas also serve as important recreation areas.

1.11.4 Community facilities

The Fitzroy Crossing community and Shire of Derby/West Kimberley have been working toward the establishment of a community resource centre for a number of years.

The initial proposal involves establishment of a family day-care centre, with further stages to include government offices; telecentre; café; Jandamarra Interpretive Centre; Bunuba Inc. offices; and a performance area/amphitheatre. The facility will be a valuable resource for the Fitzroy Crossing community.

It is expected that this will be collocated with existing Shire facilities.

2 THE NEED FOR THIS STUDY

2.1 Fitzroy Futures 2000

The Fitzroy Valley Beyond 2000 Conference was held over three days in September 2000. It was a joint venture between the local community and the Shire of Derby/West Kimberley. A number of organisations provided sponsorship to allow the event to occur.

An outcome of the conference was the establishment of the Fitzroy Valley Working Group to address three priority items for the community:

- town planning for the Fitzroy Crossing townsite and surrounds;
- a process for community consultation in relocating the power station; and
- developing a strategic plan for Fitzroy Crossing, incorporating a range of issues, including training, education and health.

As a result of the town planning agenda, Bunuba Inc. approached the Minister for Planning and Infrastructure requesting assistance to prepare a town plan for Fitzroy Crossing. In consultation with the Shire of Derby/West Kimberley, the Department for Planning and Infrastructure (DPI) prepared a draft town plan to identify opportunities for future growth and to achieve integration between the town and its Aboriginal communities.

2.2 Planning issues facing the study area

There are a number of land use planning issues facing Fitzroy Crossing that will benefit from a strategic land use framework, including:

- supply of land for residential, commercial and industrial uses;
- provision of a new school site and buildings;
- establishment of a community resource centre;
- protection of public drinking water sources;
- management of growth in the context of flood risk;
- integration of the township with town-based Aboriginal communities; and
- establishment of a new power station.

Much of the land in and around Fitzroy Crossing is low-lying and prone to flooding. Of the land above the floodplain that may be able to accommodate townsite expansion, the majority falls within Crown Reserve 9656. This reserve is vested to the Aboriginal Lands Trust and occupied by the Junjuwa Aboriginal Community. Bunuba Inc. has agreed in principle for future townsite development to encroach into this lease area, but detailed investigation into the tenure arrangements and procedures must be negotiated with the Aboriginal Lands Trust, the DPI/(Land Asset Management Services), LandCorp and Bunuba Inc. The preparation of a town plan provides the basis for necessary land tenure changes to support townsite expansion.

2.3 Planning context

2.3.1 State context

There are a number of State strategies that provide a context for land use planning in Fitzroy Crossing. The State Sustainability Strategy establishes a sustainability framework containing principles, visions and goals. It seeks to ensure that sustainability is considered and incorporated into decisions and actions for the future of Western Australia at all levels, and should underpin future planning for Fitzroy Crossing.

The State Planning Strategy is a land use planning strategy for Western Australia to 2029. It provides a vision to assist strategic decision-making and a set of principles to guide the way future decisions are made about the environment, community, economy, infrastructure and regional development. It sets out the following regional vision for the Kimberley region:

'In the next three decades, the Kimberley region will become a major resource development area for minerals extraction and downstream processing and agriculture. The region will also have a significant tourism industry associated with its strong indigenous cultural heritage and the wilderness experience unique to the north-west of Australia. The centres within the region will expand and offer a wide range of services to the growing population.'

Additionally, the WAPC prepares state of planning policies (SPPs) under the *Planning and Development Act 2005*. Once an SPP has been gazetted, it must be given 'due regard' in future planning decisions and actions. SPPs relevant to Fitzroy Crossing are:

- SPP 2 Environment and Natural Resources
- SPP 2.7 Public Drinking Water Sources
- SPP 3.2 Planning for Aboriginal Communities
- SPP 4.1 State Industrial Buffer Policy

2.3.1.1 Community layout plans

Community layout plans are developed under State Planning Policy 3.2 - Planning for Aboriginal Communities. The policy allows for these plans to be part of the State's town planning framework. The relevant Community Council, local government and the WAPC must endorse plans before they are considered final. The Town Planning for Aboriginal Communities Project is managed by DPI.

During 2003, community Layout Plans for Kurnangki, Junjuwa, Darlgunaya and Bungardi were prepared. The, then, Department of Housing and Works contracted the preparation of those CLPs under the Town Reserves Regularisation Program whose main aim is to normalise essential service provision and maintenance to town-based Aboriginal communities. This contract included expansion of the original study areas to encompass other Bunuba settlement areas, including Bungardi and Burawa.

It is important to realise that this normalisation can have a significant financial impact on Aboriginal communities and can be seen as a threat or erosion to the collective self-determination of residents. The end result can be better services and infrastructure, but there are serious implications involved in, for example, gazetting roads and adding individual water and power meters.

It is understood that Bunuba Inc.'s intention is to decrease residential density at Junjuwa in order to reduce the number of family groups living in close proximity from six to three, and expand living areas at Darlgunaya, the Old Mission (Burawa) and Bungardi. Bunuba Inc.'s intention is for the community layout plans to assist with land tenure transfer from the Aboriginal Lands Trust to Bunuba Inc., and for Bunuba Inc. to derive economic benefit from utilising its landholdings.

It is important to note that the land uses described in the community layout plans have been derived in consultation with the communities, and that any changes to the land uses proposed in these communities may occur only through the amendment process set out in the plans (figures 5a – 5g).

Not all these plans have been through the formal endorsement phase, which includes the community council, local government and WAPC endorsement.

2.3.2 Local government planning control

There is no operative town planning scheme or local interim development order applicable to the Fitzroy Crossing townsite.

2.4 Community consultation

In developing the Fitzroy Futures Town Plan, consultation has occurred with a number of stakeholders and the wider community. A workshop was held in Fitzroy Crossing in November 2002, attended by landowners, local government, local business people, community leaders and government representatives.

Following the workshop, the Department of Housing and Works contracted preparation of community layout plans for the town-based communities of Kurnangki, Junjuwa, Parukupan, Darlgunaya and Bungardi. The community layout plans provided communities time to determine how they wanted their respective areas to develop.

In preparing the Fitzroy Futures Town Plan, the study team has been mindful to respect the community layout plan process for the individual communities in and around Fitzroy townsite, and allow suitable time to develop a future vision that supports the aspirations and culture of the communities. This has also allowed the various stakeholders time to appreciate the issues surrounding the wider planning process, and the need for plans to develop that respond to localised decision-making through Community Councils.

2.4.1 Public Comment Period

The draft Fitzroy Futures Town Plan was released for public comment on 24 March 2005 until 24 June 2005.

The release of the plan was publicised in local newspapers via press release. A copy of the plan and a covering letter offering further information and briefing was sent to 90 people.

Reports and posters and information on how to make comment were at available at the following places:

- Fitzroy Crossing - Bunuba Office, Marra Worra Worra, Fitzroy Crossing school, Shire of Derby/West Kimberley and tourist bureau.
- Derby – Shire of Derby/West Kimberley, Kimberley Development Commission
- Perth – Department for Planning and Infrastructure.

People could make submissions in writing, by e-mail, verbally or by fax. The public comment sheet provided for project team members to record verbal comments on the plan.

During August 2005, members of the project team went to visit various people and businesses in Fitzroy Crossing to see if people had anything to say about the plan. Indications were that most people in town were aware of the plan and provided positive comments and suggestions.

Fourteen organisations or individuals made comment on the draft Fitzroy Futures Town Plan. In addition to the comments received, some other matters arose following the public comment period:

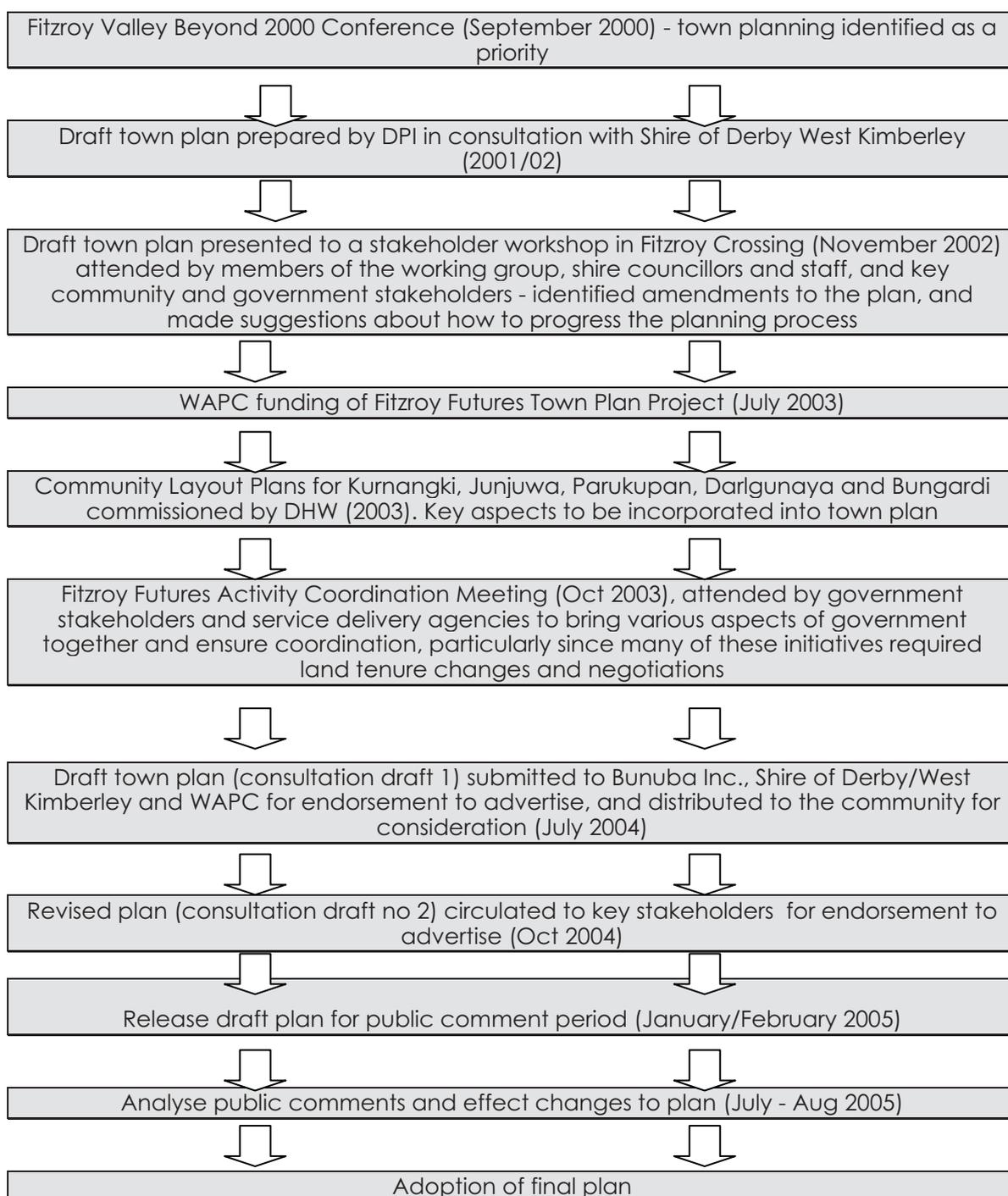
- Change of timing for new Fitzroy Crossing School (DET)
- Update on proposal to pipe water from the Fitzroy River aquifer (DPC)
- Discussions regarding road funding (SDWK / MRWA)
- Investigations into further floodplain mapping and development setbacks from the river (DOW)
- Investigations into infill potential in the existing residential area (SDWK / DPI)
- Department of Water created to manage the State's drinking water supplies.

A meeting of study stakeholders was held in Fitzroy Crossing on 24 August 2005. Representatives of the various organisations considered the submissions and agreed on how the plan would deal with them. Those present represented Bunuba Inc., Shire of Derby/West Kimberley, Department for Planning and Infrastructure, Marra Worra Worra and Main Roads WA.

2.5 Planning process

The following figure provides an overview of the activities contributing to the draft Fitzroy Futures Town Plan, and the steps required for finalisation of the process. At the November 2002 workshop, it was agreed that the plan would require formal agreement from Bunuba Inc. and the Shire of Derby/West Kimberley before it was released for a formal public comment period.

Chart 2 – Fitzroy Futures Town Plan – planning process



3 THE FITZROY ENVIRONMENT

3.1 Climate

Climatic characteristics affect personal comfort levels and influence the nature of activities and visitation patterns in Fitzroy Crossing. They also affect suitability of housing and building design and provision of landscaping, shade and vegetation.

The climate of Fitzroy Crossing is semi-arid to arid monsoonal, with two distinct seasons – ‘the wet’ from December to March and ‘the dry’ from April to November. Maximum temperatures exceed 30 degrees Celsius for 316 days of the year and exceed 40 degrees for 74 days.

TABLE 1 - CLIMATE CHARACTERISTICS OF FITZROY CROSSING AND PERTH					
	Mean daily maximum temp (C)	Mean daily minimum temp (C)	Days with temp over 30° (C)	Mean No of days with temp over 40° (C)	Mean annual rainfall (mm)
Perth Region	23.3	13.3	58	2.2	569.4
Fitzroy Crossing	35.6	19.1	316.2	73.9	541.2 *
* most of this rainfall can occur in 1-2 months					

Source: Bureau of Meteorology, Perth.

Average annual rainfall is 538 mm, with almost all falling in the wet season. Evaporation rates are high and exceed annual rainfall. The highest temperatures are experienced just before the onset of the wet season when humidity also rises markedly.

3.2 Physical Features

Figure 6 illustrates the key physical features of the Fitzroy Crossing area, which is described in greater detail below.

3.2.1 Vegetation

For most of the year, there is little rain around Fitzroy Crossing and the natural vegetation has had to adapt to a semi-desert environment. Eucalyptus species are found in the area around the Fitzroy River and fringing main creeks, and can grow to a height of 12-15 m, supporting a variety of other species and smaller trees. These areas are characterised by perennial grasses.

This is characterised by grassland with scattered trees and scrubs. North of Fitzroy, the floodplain vegetation gives way to sparse spinifex communities.

In recent years Rubber vine (*Cryptostegia grandiflora* and *Cryptostegia madagascariensis*) has invaded the banks of the Fitzroy River. This is affecting the local flora and choking native vegetation. Rubber vine is a declared plant in the

State, which means that the movement of plants and their seeds is prohibited, and there are aims to eradicate it through pesticides and management of movement through infested areas.

3.2.2 Topography

Fitzroy Crossing is located in the low-lying Fitzroy Plains where floodplains are up to 22 km wide. Rivers are seasonal with strong flows during the wet. Soils primarily are grey and cracking brown clay. The main area of town is developed on a large rocky ridge elevated above the Fitzroy River floodplain. Plum Plain, west of the township provides a natural barrier to development due to its low-lying nature and reactive soils. This reactive, 'black soil' is not suitable for building.

Fitzroy Crossing is located on the Grant Formation comprising interbedded sandstone and minor siltstone. It is an extensive but low-yielding aquifer, which is unconfined and fractured and groundwater flows through fractures and joints. Those areas free of fractures and joints mostly are impermeable. Recharge is via river flows and direct rainfall infiltration from Brooking Creek and the Fitzroy River.

3.3 River Flooding

The Fitzroy catchment is extensive, covering 91,900km² of which 46,100km² is located upstream of Fitzroy Crossing. The Hann and Adcock rivers and numerous other tributaries feed it. The Margaret River joins the Fitzroy from the east 15 km upstream of the town. With heavy rainfall, high volumes of water over a short period result in inundation of excessive tracts of land in and around town and other parts of the catchment. Flood impacts are magnified when the Margaret and Fitzroy rivers rise concurrently.

Fitzroy Crossing is likely to experience flood events every one to three years where water is just below the 1 in 100 year level. The flood event in 2002 recorded the highest ever flood levels – more than 300 mm greater than previous events.

In response to the 2002 floods, the Department of Environment and Conservation (DOE) developed the Fitzroy River 100 year ARI Floodplain Management Strategy (2003) to ensure adequate consideration of risk in developments on land prone to flooding. The strategy requires finished floor levels of residential buildings to be 50 cm above the 100year ARI flood level. Residential development proposed within the floodplain requires referral of the development application to the DOE for advice.

Development in flood-prone areas raises issues with the ability to ensure a safe environment for residents and creates increased property maintenance and infrastructure repair issues. Aboriginal people have been living with the floodplains and flood issues for thousands of years; however, where significant permanent residential development is proposed near areas known for flooding, there is a need to ensure that people and property are protected as much as possible.

The Department of Water (DOW), in conjunction with the Bureau of Meteorology, installed a flood warning network for the Fitzroy River in 1997. This provides early warning for flood prone towns and communities along the mainstream river including Fitzroy Crossing.

3.3.1 Other Uses for Fitzroy's Water Resource

The Government has established an expert panel to independently review the feasibility of transporting water from the Kimberley region to Perth. This process provides an opportunity for all concepts on taking water from the Kimberley to Perth to be evaluated through a single mechanism at the same time. The review is expected to include a public process involving a series of community presentations to outline the findings of the evaluation process. The expert panel is expected to report on its findings to the Western Australian Government by 31 March 2006.

3.4 Heritage Considerations

The Fitzroy Crossing area is rich with Aboriginal and European heritage. Two State acts of Parliament provide protection for heritage areas, both naturally occurring and constructed.

3.4.1 Aboriginal Heritage

The *Aboriginal Heritage Act 1972* provides for the identification and protection of Aboriginal sites throughout Western Australia. There are thousands of registered sites in the Kimberley region, particularly in areas that have been disturbed through urban or mining development. It is estimated that there is a similar number of sites in more remote or less travelled areas.

The Act requires that management or research on Aboriginal sites be subject to permission under section 18 from the Aboriginal Cultural Materials Committee, an advisory body to the Minister for Indigenous Affairs. Permission usually is conditional on the approval and involvement of the Aboriginal custodians of the site and on the input of a professional heritage conservator.

Sometimes Aboriginal sites also are popular recreation or tourism sites. For example, gorges or other waterholes may contain cultural material or burial sites, and art sites are tourist attractions in their own right. This may lead to site damage by traffic and pedestrian impact, loss of vegetation, pollution, graffiti or litter. In such cases, management may be required.

The involvement of Aboriginal people in the management of their heritage is very important. There is a need for sensitivity in the treatment of cultural material, which often can be ensured only by the involvement of a heritage consultant. Development of vacant land generally requires clearance under the Act.

Several sites within the Fitzroy township are registered under the Act (figure 6). However it is important to note that there may be several other sites in Fitzroy capable of registration under the Act, which may not have formal registration.

Regardless of their status in terms of registration, these sites have the same level of protection under the Act.

The community layout plans also identify areas of cultural significance, and prohibit development in these areas. These sites may go on to be registered formally, but in being identified through the planning process, have achieved an added degree of protection.

3.4.2 Built Heritage

In accordance with provisions of the *Heritage of Western Australia Act 1990*, the Shire of Derby/West Kimberley has prepared a draft municipal inventory, which details sites and buildings with heritage value, although not necessarily registered by the Heritage Council of Western Australia.

The inventory lists the following places in Fitzroy as having heritage value and some kind of protection through local planning processes:

- Old Fitzroy Crossing Police Station Precinct;
- Fitzroy Crossing Backpackers' Hostel (former post office);
- site of previous Australian Inland Mission Hospital;
- Crossing Inn;
- Low-level river crossing;
- Fitzroy Crossing Bridge;
- Second School, Burawa (former Mission site); and
- Fitzroy Crossing Pioneer Cemetery.

4 ECONOMIC ACTIVITY AND EMPLOYMENT

Regional trends and indicators for each local government in the State are prepared by responsible state agencies from time to time. Figures quoted in this section refer to the whole shire, but provide an indication of activity in and around Fitzroy Crossing.

4.1 Tourism

Tourism is a significant and growing industry throughout the Kimberley region. Fitzroy Crossing's location along the Great Northern Highway, and in close proximity to iconic natural areas such as Geikie Gorge, Windjana Gorge National Park and Tunnel Creek, indicates that tourism will continue to grow.

Attractions within the town include the Fitzroy River, the Old Fitzroy townsite, including the former police station, lock-up, police officers house, and the old post office. Visitors also seek the opportunity to view and buy local art and craft through a number of established outlets. A range of accommodation options is provided through the Fitzroy River Lodge, the Crossing Inn and the Tarunda Caravan Park.

A number of successful tourism enterprises, including Darnukgu Boat Tours, are operated out of Fitzroy Crossing. Strong demand for indigenous cultural tourism in the Kimberley creates further opportunities for the Fitzroy community to participate in this industry.

The vast majority of tourists to the Fitzroy area are self-drive tourists, particularly with caravans, and there is a need to tailor the tourism market to their needs. At present there is no formal rest area / tourist information bay at the entrance of Fitzroy Crossing, and there would be some benefit in identifying an area that could be developed for this purpose.

4.2 Art and Craft

A number of Fitzroy residents receive income from art and craft activities and Fitzroy artists increasingly are achieving and being recognised for their talents on a world stage. The economic benefit of these activities has not been measured.

4.3 Community Services

A significant number of people are employed in community servicing positions in the Fitzroy Crossing area. This includes education and health-related professions, Shire of Derby/West Kimberley staff and a range of Aboriginal-specific employment either for residents within the townsite or serving outlying communities.

4.4 Retail and Light Industry

Existing commercial activity is concentrated on either side of the southern section of Forrest Road and to a lesser extent, from the roadhouses on either side of the

Great Northern Highway. Fitzroy Crossing has a supermarket and shopping area on Forrest Road, and the light industrial area provides a mix of goods and services.

4.5 Pastoral Industry

Pastoral activity around Fitzroy is focused on Brooking Springs, Gogo, Jubilee, Leopold Downs and Fossil Downs stations. Some of these stations are managed by Aboriginal corporations, which raise export quality cattle. These are exported from Broome via ship. Agricultural production in the shire in 2001/02 was valued at \$35.9 million, which is a significant increase from previous years. The industry has been experiencing regular growth since 1995/96, although it represents only 0.8 per cent of the State's agricultural production by value.

4.6 Mineral Development

Three key minerals are mined in the Fitzroy area - zinc, lead and diamonds.

Zinc and lead have been mined at Cadjebut, 80 km south-east of Fitzroy Crossing, since 1988. Western Metals previously operated zinc mines on the Lennard Shelf, but the operation is now owned by Canadian-based company Teck Cominco, which purchased the mines after Western Metals went into receivership in October 2003.

In May 2004, Teck Cominco reached an agreement with Noranda to invest \$26 million in mine exploration. This deal, combined with rising world zinc prices, means that the mines could be reopened in the future. The mines previously had provided 400 jobs for Kimberley residents, as well as training opportunities for young people.

The Pillara Mine and Processing Plant reached capacity in 1999, having producing more than 270 000 tonnes of zinc and more than 88 000 tonnes of lead. The company has since closed its Cadjebut plant, and has centralised operations at Pillara. Metals are trucked from Kapok and Goongewa mines. Expansion of the Pillara plant has increased its capacity to 2.4 million tonnes of ore annually, trucked to the Derby and exported to smelters in Thailand, Korea and Japan. In 2001/02, this activity was valued at \$173.4 million, which represents 96 per cent of the State's total lead production by value.

In July 2004, Blina Diamonds was launched as a subsidiary of the Kimberley Diamond Co NL. The purpose of this operation is to explore the Ellendale diamond field, which is 140 km east of Derby. More than 100 000 carats of diamonds have been produced from the Ellendale deposit since operations commenced in 2002. Current production has been increased to 120 000 carats per annum, and development of additional areas can increase this to 400 000 carats per annum within the next two to three years. Part of this development includes an economic agreement with the traditional owners of the area.

5 TRANSPORT AND INFRASTRUCTURE

Key transport items and infrastructure are shown at figure 7, and are described in greater detail below.

In examining infrastructure provision in Fitzroy Crossing, it is difficult to get a complete picture of essential service provision, demand and projections. This is because some key services are managed or operated by either the State government, private sector or a combination of the two. One organisation may operate the source, another the mains and another the distribution network. For example, water source identification and protection is a critical issue for Fitzroy and there is a need to identify the source, drawdown, demand and future of drinking water for all residents.

5.1 Roads

Fitzroy Crossing is located on either side of Great Northern Highway, with the majority of the town and its services located to the north. Many roads within the town, including the main access road to Geikie Gorge, do not correlate with existing road reserves and a considerable number are subject to flooding and areas cut off from the town.

Under the Town Reserves Regularisation Program, It is possible in time that a number of roads within the Aboriginal communities may be identified formally and gazetted as local government roads.

5.2 Air Travel

Fitzroy Crossing airport accommodates services from Broome, Derby, Halls Creek and various charter activity. The airport is located on Crown Reserve 20668.

The airstrip is 1300 m long and 19 m wide and is sealed to provide 24-hour access, including lighting for Royal Flying Doctor Service needs. This includes automatic pilot activated lighting.

During the wet season, Fitzroy Crossing can become isolated due to floodwaters closing sections of the Great Northern Highway. As such, the airport is a very important component of the town's infrastructure. Within Fitzroy Crossing, there is no all-weather legal access to the airport, and this is an important emergency response matter that requires resolution.

5.3 Energy and Power Supply

5.3.1 New Power Station

The new power station has been built on a site 200m south of Great Northern Highway and to the west of Fitzroy Crossing, adjacent to Mindi Rardi. The new facility commenced operation in 2007.

5.3.2 Services to Aboriginal communities

In addition to Fitzroy townsite, the Western Power facility provides power to the following Aboriginal communities:

- Joy Springs
- Karnparmi
- Gillarong
- Bayulu
- Go-Go
- Marra Worra Worra
- Kurnangki
- Windmill Reserve
- Junjuwa
- Darlgunaya

Western Power supplies only high-voltage power to these communities. Communities are bulk metered and the distribution network (low voltage) and infrastructure are managed through the Remote Area Essential Services Program.

5.3.3 Fitzroy Crossing Electricity Licence Area

The Fitzroy Crossing Electricity Licence Area issued by the Economic Regulation Authority is shown on maps 7a and 7b.

The electricity licence area includes all of the town inclusive of the land between Yurabi Road and the Fitzroy River and a corridor along Great Northern Highway encompassing Bayulu, Gogo homestead, Gillarong, Karnparmi and Joy Springs. Burawa, Bungardi and parts of Darlgunaya are not within the Fitzroy Crossing Electricity Licence Area.

5.4 Public Drinking Water Supply

5.4.1 Water Source

The Fitzroy Crossing Water Reserve drinking water source protection plan is shown on maps 7a and 7b.

A Priority 1 water source protection area has been identified north of Fallon Road within Crown reserves 9656 (Aboriginal Lands Trust) and 35090 (Minister for Water Resources). Priority 1 areas are defined to ensure that drinking water is protected and there is no degradation of the water source. Land development generally is not permitted within Priority 1 areas. The Priority 1 area contains bores to supply the town's drinking water with four production bores, one of which is a stand-by bore. The Water Corporation is licensed to draw 250 ML annually from this source. Production bores range from about 30-60 m deep and the depth to the water table is 20-23 m.

5.4.1.1 Water Quality

The Water Corporation conducts water testing on Fitzroy's drinking water bores. This has revealed that:

- There has been no noticeable change in groundwater salinity in recent years, indicating that the current level of abstraction has had no impact on groundwater quality.

- Fitzroy's groundwater quality before treatment is generally within the guideline limits for iron, aluminium and turbidity, but has exceeded these limits on isolated occasions.
- Fitzroy's water supply contains traces of the pesticide dieldrin, but at concentrations below the Australian Drinking Water Guidelines. Although the use of dieldrin has ceased, and is no longer registered for use, it is likely to be present due to construction works in the area, and its historic use to control termite infestations. Dieldrin is a persistent chemical and may continue to be leached from soils for some time.

Possible threats to water quality include the use of septic tanks in areas to the north of the borefields, fuel storage facilities at the airport and use of fertilisers/pesticide on the nearby oval. The existing power station also presents a possible threat to water supply, and there is evidence of fuel spillage in the power compound.

The Department of Environment and Conservation has prepared a Drinking Water Source Protection Assessment to reflect readily available information on the water catchment in Fitzroy. A detailed planning document that proposes priority protection areas, significant amendments to the existing Priority 1 area extending into Crown Reserve 9656 to a line north of the 2/89 Bore, can be progressed once matters associated with surrounding land use are further defined through the town planning process. The draft assessment recommends that Wellhead Protection Zones of 500 m radius from production bores in Priority 1 areas, and 300 m in Priority 2 or 3 areas should be established.

Large-scale development proposals within the water reserve that could affect water quality should be referred to the Department of Environment and Conservation. A water reserve is not necessarily a land title and may not involve ownership in the sense that a Crown Reserve does.

5.4.1.2 Water Availability

Annual production has ranged from 150 ML and 213 ML between 1996/97 and 2001/02. The groundwater production for 2001/02 was 85 per cent of the licensed allocation. Depending on the future growth of the town, the current allocation may need to be reviewed in the future.

Additional to the public bores, some town-based communities, the school and the hospital are serviced by private bores located outside the water reserve. Further investigations are required to determine future water supply options, particularly if the other water users are to be considered as part of the water supply equation in the future.

5.4.2 Water Supply

The Fitzroy Crossing Operating Area for Potable Water Supply Services Licence issued by the Economic Regulation Authority is shown on maps 7a and 7b.

The water supply licence area is a relatively small extent, limited to the central town, Kurnangki and Mindi Rardi. The following parts of Fitzroy Crossing are not within the water supply service area; Junjuwa, Burawa, Bungardi, Darlgunaya, Old Fitzroy, Old Mission, the Airport, the Lodge, Lowanbung and the Yurabi Road rural lifestyle area.

The Water Corporation manages the current water supply scheme for Fitzroy Crossing. The existing water scheme consists of four production bores and two tanks, one of which is an elevated tank with a 200 m³ capacity.

The Corporation is licensed to extract 250 000 kL a year and current extraction is approximately 200 000 kL a year.

A one-kilometre buffer from production bores for chemical storage is recommended for downwind evacuation, and the Corporation recommends a special control area of 100 m within which building development cannot occur. The Corporation has planning in place to extend the existing borefield, which would increase the capacity of the scheme. The present borefield has sufficient capacity for the foreseeable future; however, some preliminary investigation work has been done on sourcing from Plum Plain as an alternative source, if required.

A Fitzroy Crossing Alternative Sources Investigation was conducted, which revealed three options for alternative sources of water:

- 1) extending the existing borefield to the north;
- 2) abstraction from bores on Jubilee Downs Station; or
- 3) abstraction from bores near the Fitzroy River.

Option 1 was preferred, as it is believed that the existing source will be able to cater for future demands, and options 2 and 3 would involve intensive site investigation to validate the sources. It also is believed that bores with reasonable yields are difficult to find in the area.

While option 1 may be preferred, any extension to the north of the existing bores would encroach into Reserve 9656, which would require negotiation and agreement with the landowner and landholder.

The Corporation has noted that water consumption rates for Fitzroy Crossing are almost twice that of average usage, which may point either to issues with water distribution networks or behavioural issues in terms of leaving taps on. It is possible that these matters will be alleviated through normalisation of services through the Town Reserves Regularisation Program or through an education program should the high usage be a result of behavioural patterns.

5.5 Wastewater

The Fitzroy Crossing Operating Area for Sewerage Services Licence issued by the Economic Regulation Authority is shown on maps 7a and 7b.

The sewerage services licence area includes much of the extent of the township, but does not include the following; Burawa, Bungardi, Darlgunaya, Old Fitzroy and the Yurabi Road rural lifestyle area.

A deep sewerage system operated by Water Corporation covers the majority of the town, with the exception of Junjuwa community. Sewerage ponds are located approximately 500 m from the Great Northern Highway to the south-east of Fitzroy, on the eastern side of the river. Treated wastewater discharges into the Fitzroy River. The wastewater treatment plant is licensed for a maximum inflow of 700 kL a day. This is equivalent to approximately 3000 people (at 220 litres/person/per day/).

The wastewater treatment plant consists of three treatment ponds (primary, secondary and tertiary/polishing) then overflow into a 0.3 ha evaporation/effluent holding pond. Currently the corporation is upgrading the evaporation/effluent holding pond to 1.0 ha.

Besides the recurrent minor sewer pumps replacement, there is no other major project planned for the next few years. However, proposals to develop in areas that may be flood-prone need to be evaluated carefully and this kind of development should be dependent on the provision of deep sewerage.

5.6 Waste management

The town solid waste disposal site is located west of Plum Plain on Mangkurla Road, approximately three kilometres from Fitzroy Crossing. This facility is managed by the Shire of Derby/West Kimberley and can provide a facility for commercial and industrial waste on a user-pays basis. The facility is licensed by the Department of Environment and Conservation.

6 FITZROY FUTURES TOWN PLAN

The Fitzroy Futures Town Plan focuses on providing for the needs of the Fitzroy community into the future, recognising the significant physical constraints for development in Fitzroy Crossing, and the tenure and ownership of land in and around the town.

The plan has drawn on the community layout plan process, and the needs outlined in this report.

6.1 Objectives and outlook of the plan

The objective is to prepare a strategic town plan for Fitzroy Crossing to provide a framework and context for future growth, and support progression of a number of key community service initiatives. As such, the key objectives of the Fitzroy Futures Town Plan are to:

- develop a planning framework to bring together the different settlements in and around the town; and
- provide a basis for future land ownership arrangements and land tenure rationalisation.

The plan has an outlook of 10-15 years, but should be reviewed every five years to monitor progress of implementation. Such review also would provide for updates in terms of governance, land ownership and general context.

6.2 Planning Principles

In achieving the objectives of the plan, it has been important to address the issues facing Fitzroy Crossing, while being sensitive to local needs. As such, the following principles have guided the development of the plan:

- support lifestyle, cultural and social needs of the community;
- focus future growth on land not subject to flood impacts;
- promote environmental protection and sustainable settlements;
- provide opportunities for economic growth within the community; and
- acknowledge infrastructure limitations and deficiencies.

6.3 Future Land Uses

At this stage, it is not proposed that the Fitzroy Futures Town Plan be converted to a statutory town planning scheme, although this could be an option in the future. However, the land uses may be suitable for conversion to a scheme if the Shire of Derby/West Kimberley and the Fitzroy community consider this an appropriate way of managing land use (figure 8).

Beyond Fitzroy Crossing, this scheme could provide land use planning control for the entire shire. Preparation of a local planning strategy for Derby and the rest of the shire also would be required.

6.3.1 Living Areas

Living areas refer to areas where people live, and may include land designated as residential, rural living or other special use sites for temporary or hostel accommodation. Figure 9 shows the location of future living areas, with a short description of the development potential of this land.

6.3.1.1 Residential Land

New residential areas are shown within the existing townsite near the intersection of Fallon Road and Flynn Drive and on the southern part of Flynn Drive near the hospital. In the longer term, some residential land has been identified to the west of the hospital, which would depend on the extension of Fallon Road to meet the Great Northern Highway. This road already is reserved, but has not yet been constructed.

As outlined in section 1.8, an overall density of 20-30 dwellings per hectare is considered appropriate. However, the majority of the town is developed at a density of approximately 12.5 dwellings per hectare. The proposed residential density would result in residential lots that are 250-300 m² smaller than currently exist. This is an important issue for local residents and should be understood fully before implementation.

It may be that prevailing lot sizes remain at 12.5 (700 m² minimum) dwellings per hectare with various land parcels identified for grouped dwellings, such as duplexes or villas at a density of 20-30 dwellings per hectare.

6.3.1.2 Community Land

Several new residential areas are shown within the Junjuwa, Burawa, Darlungaya, Bungardi and Kurnangki communities. No new housing sites are shown at Mindi Rardi, as there is limited scope for expansion, and it is possible that housing demand could be met through redevelopment of existing housing stock.

Expansion of residential areas at Bungardi, Burawa and Darlungaya is proposed in order to provide housing options for three family groups that have expressed a desire to move away from Junjuwa. Increased residential populations at Bungardi and Darlungaya need to be managed in order to ensure development meets floodplain management requirements, and that residents have emergency management plans in place when flood events occur.

Future housing areas have been designed to achieve R10 standard or lower. This results in lot sizes of about 1000 m², which is on the high side, but will provide suitable distance between houses.

6.3.1.3 *Rural Living Areas*

The plan shows an extension of the rural living lots on Yurabi and Russ roads. As these this land is not within the sewerage services licence area any lots created would require on-site wastewater disposal. The Country Sewerage Policy requires a minimum lot size of 2000 m² in the case of land with on-site wastewater disposal. In addition, development on this land will need to comply with the minimum finished floor level requirements outlined in the Fitzroy River 100 year ARI Floodplain Management Strategy.

There is a proposal to provide for rural living opportunities in the draft Darlungaya and Bungardi community layout plans.

6.3.1.4 *Temporary Accommodation*

The plan makes provision for temporary accommodation, including a site for schoolchildren and carers, which is immediately south of the proposed school site. This could cater for a range of accommodation associated with the school and/or the adjacent recreation complex.

6.3.2 Human Services

6.3.2.1 *School Site*

A new school site has been identified to the south of Crown Reserve 9656. The approximate size of the new facility is 10 ha, in keeping with Department of Education and Training's requirements.

6.3.2.2 *Community resource centre*

The establishment of a community resource centre is broadly supported as it is expected that it would provide a number of opportunities for economic development, including tourism enterprises and art and craft sales. It is considered most appropriate for such a centre to co-locate with existing similar facilities in Fitzroy Crossing.

6.3.2.3 *Recreation*

The relocation of the school adjacent to the recreation centre provides a number of opportunities for consolidating and strengthening this area as a community hub. As such, it is proposed that should funding become available for a swimming pool, this be located to the east of the school site and immediately north of the oval.

6.3.2.4 *Art Centre*

A site adjacent to the Karrayilli Adult Education centre has been designated "community purposes" for the potential use as an art centre. Though there is sufficient space to accommodate this use, land acquisition and relocation of a water pipeline will be required prior to development taking place.

6.3.3 Commercial and Business

Fitzroy's commercial and business areas are centred mainly on Forrest Road, with the main shopping area and caravan park to the west and a number of service commercial uses in the light industrial area to the east.

There is growing demand for additional commercial land and current and future supply is very limited. In its present form, the plan makes no provision for additional commercial land; however, it may be possible in the future to reallocate land in the light industrial for commercial or business purposes. It also may be the case that Bunuba Inc. can supply such land depending on future land demand, and some commercial lots have been shown along Forrest Road. The average size of these lots is approximately 2700 m².

6.3.3.1 Tourism

The plan provides for two key tourism lots with frontage to Great Northern Highway. One of these lots has previously had an approval in place to develop as a motel and this lot has been retained with this designation. Development of the other tourism area, to the west of the hospital depends on the construction of Fallon Road to the highway.

There also is a need to identify a suitable place to establish a tourist information bay / rest area for self-drive tourists who travel to the Fitzroy area during winter months. A possible site may be adjacent to Lot 281 Emmanuel Way. Land is currently vested with the Shire of Derby/West Kimberley for "rest-stop" purposes.

6.3.3.2 Horticulture / Plantation and Rural Enterprise

Large areas of land have been shown as horticulture / plantation and rural enterprise, in land north of Russ Road, between Junjuwa and Bungardi. While it may be possible to explore additional land uses in this area, these will need to be examined closely due to potential flood risk (including fast-flowing floodwaters), servicing costs, water supply and environmental impacts. Development of these areas would be subject to a range of additional approvals from environmental agencies.

6.3.4 Industrial

Fitzroy's existing light industrial area is located to the east of Forrest Road. Although designated as light industry, the area supports a residential population through caretakers' dwellings, as well as providing a number of service commercial / business uses. If this plan were to be converted to a statutory town planning scheme, there would need to be careful examination of the existing land uses in this area to ensure that the end zoning was compatible with retail and residential uses. The uses are considered valid in Fitzroy due not only to lifestyle considerations, but also because of the limited availability of commercial land in the townsite. There also may be infill opportunities in this part of town.

Another option for future industrial land may be released by Bunuba Inc. further north on Forrest Road, which is shown on the Junjuwa community layout plan with average lot sizes of 4000 m². Future commercial/business activities and light industries could be established, thus utilising a significant segment of the existing road, should a suitable all-weather road be constructed.

The creation of a new light industrial area south of Junjuwa also will allow for the relocation of the Junjuwa workshop compound, which will free up more land for community uses, including a green walkway to the new school.

Further investigation is required to determine the demand for land that could be used for general industry uses, that are not compatible for caretakers' or retail activities.

6.3.5 Transport and Access

When the plan was advertised a realignment of Forrest Road was proposed. The Forrest Road realignment is a long-term project. It is unlikely to attract funding beyond the Shire of Derby/West Kimberley; and is not provided for in the shire's Principal Activity Plan (earliest funding opportunity would be 2014).

During the public comment period Main Roads WA provided preliminary costings to construct the various elements of the road. The estimated prices ranged from \$3.4 to \$5.8 million, which included an upgrade to Scrivener Road.

The Forrest Road realignment proposal has been deleted from the March 2009 version of the Fitzroy Futures Town Plan as key stakeholders no longer consider that the proposal is viable or essential.

6.3.6 Essential Services

The new power station site has a 200 m buffer, which is a nominal distance suggested by Western Power. I

The existing sewage ponds are located more than 500 m from the nearest residences at Parukupan, which is in keeping with the State's nominal 500m buffer zone for these facilities.

6.3.7 Public Drinking Water Source Protection

The Fitzroy Crossing Water Reserve drinking water source protection plan is respected in the plan.

Land use implications are involved in protecting Fitzroy's drinking water, but generally, a range of urban land use is compatible with such areas,

provided that the uses are managed appropriately. This includes residential and light industrial land if deep sewerage is provided. In addition, the assessment recommends a 500 m buffer from production bores in the Priority 1 area.

6.3.8 Flood-Prone Land

Much of the land in and around Fitzroy Crossing is flood-prone and subject to regular inundation from the nearby Fitzroy River. Generally, the plan has concentrated development in areas identified safe for a 1 in 100 year ARI flood. Any development proposed in areas subject to flooding will be subject to the requirements set out in the Fitzroy River 100 year ARI Floodplain Management Strategy.

6.3.8.1 Emergency Management Responses

It is important to note that a flood risk exists beyond the 100 year ARI. Emergency Management Planning complements building requirements to mitigate against the residual flood risk. Local emergency management arrangements (Emergency Management Plans) form an important part of a comprehensive approach to natural hazard mitigation. It is also important to note that emergency management arrangements must be regularly reviewed as the population increases and changes and the level of risk therefore changes.

Existing emergency management arrangements in the Fitzroy Crossing area are currently set up to respond to an event.

The Fire and Emergency Services Authority's aim is to commence a process to develop appropriate emergency management arrangements through the Shire of Derby/West Kimberley, Local Emergency Management Committee, and the community (including Aboriginal Communities) to develop community capacity to prevent, prepare for, respond to and recover from emergencies.

This would result in emergency management arrangements that have been established through a collaborative process, including a community development and education process.

6.3.9 Heritage Sites

The plan shows several heritage sites. These are sites of Aboriginal cultural significance and mostly are registered under the *Aboriginal Heritage Act 1972* and no development should be permitted on, or adjacent to, these sites.

7 IMPLEMENTATION AND RECOMMENDATIONS

7.1 Cadastral amendments

A number of cadastral amendments will be required to implement the Fitzroy Futures Town Plan, each with varying degrees of complexity and sensitivity. It is intended that this plan, once finalised, will form the basis for numerous land tenure changes. However, a number of distinct and separate processes need to occur to bring about such change. Influences on these processes include:

- existing ownership, eg Crown reserve, Crown reserve proclaimed under part III of the *Aboriginal Affairs Planning Authority Act 1972*; freehold land; unallocated Crown land;
- proposed ownership and management of the land;
- obtaining clearances required under the *Native Title Act 1993*;
- processes involved eg. consent of both houses of Parliament for land proclaimed under part III of the *Aboriginal Affairs Planning Authority Act 1972*;
- sequencing of actions – some events dependent on others; and
- collaboration –the broad land use principles set out in this plan require high-level negotiation and collaboration to determine the detail of land ownership.

Further negotiation is required to effect the proposed land tenure changes to the satisfaction of all parties. The key players in terms of achieving land tenure change are Bunuba Inc., Darlgunaya, Shire of Derby/West Kimberley, Aboriginal Lands Trust and the State Land Services. These parties will need to work closely and collaboratively to implement the Fitzroy Futures Town Plan. The Department of Indigenous Affairs has committed to providing resources to undertake the land tenure changes needed to implement the Fitzroy Futures Town Plan.

These changes will need high-level support, probably at Cabinet level. This will ensure that the various government agencies with an interest in these changes have the necessary direction and approval to proceed with the works required.

It is recommended that a budget be allocated over two years to progress the changes endorsed by this plan. This would involve dedicated staff within the implementation bodies. The (2005) estimated cost of implementation is \$400,000 over 2 years, after which time the remainder of items to be implemented will be proceeding through the system as per normal. This recommendation will form the basis of the Cabinet submission.

A summary and map of the proposed land tenure adjustments are provided in Appendix A.

7.2 Summary of Land Ownership Changes

The following land ownership changes have been grouped in four parcels according to geographic areas. These relate to a primary Aboriginal landholding or interest and provide for land to be added to and subtracted from the main portion to rationalise and create tenures for existing and proposed land use (Appendix A).

Table 2: Land ownership changes

Primary landholding	Purpose of changes	Land to be added	Land to be subtracted
Junjuwa (Reserve 9656)	<ul style="list-style-type: none"> provide legal road access (Forrest, existing and proposed, airport) identify sites for community resource centre and new school swap land surrendered for water protection for unallocated Crown land 	<ul style="list-style-type: none"> current school site unallocated Crown land at GNH / Fallon Rd Crown Reserve 53090 (current water reserve, not required for future reserve) 	<ul style="list-style-type: none"> proposed Priority 1 drinking water protection area land for proposed Burawa landholding
Burawa (Reserve 9656)	<ul style="list-style-type: none"> create landholding and identifiable community area for Burawa (Old Mission area) 	<ul style="list-style-type: none"> northern portion of Reserve 9656 eastern portion of Darlgunaya Reserve part of pastoral lease to north of Old Mission, but south of Brooking Channel 	None
Darlgunaya (Reserve 45046)	<ul style="list-style-type: none"> rationalise road alignments acquire unallocated Crown land and reserved land for business and community purposes 	<ul style="list-style-type: none"> unallocated Crown land around Old Fitzroy Monument site 	<ul style="list-style-type: none"> proposed roads
Bungardi (Reserve 45608)	<ul style="list-style-type: none"> give land to Darlgunaya create a legal road 	none	<ul style="list-style-type: none"> proposed roads

The legal and technical description of these land changes will be subject to detailed description and investigations, particularly in terms of end ownership and/or management responsibility.

For the purposes of this plan, it is considered adequate to seek endorsement of the primary land matters, with a detailed and legal description of the existing and proposed land parcels to be subject to further endorsement and development by the appropriate organisations.

7.3 Recommendations

A number of actions are required to achieve the objectives of the plan. Each of these recommendations requires one or more lead agency or organisation to action the item, along with other agencies. Following are the key recommendations from the Fitzroy Futures Town Plan (lead agencies for each action have been marked in bold):

7.3.1 Social Environment

The Fitzroy Futures Town Plan recognises and supports the following actions that are under way:

- progress land requirements for new school and determine end use for existing school site (**DET, landowners**);
- progress adoption of community layout plans for Junjuwa, Burawa, Bungardi, Darlungunaya, Kurnangki and Parukupan (**Community Councils, SDWK, WAPC**).

New Actions Required	Priority
<ul style="list-style-type: none"> • seek Cabinet endorsement of, and funding for the land tenure changes proposed in the Fitzroy Futures Town Plan (DPI/ALT, landowners); and • establish a project team to progress the land tenure changes necessary to implement the Fitzroy Futures Town Plan (DPI/ALT, landowners). 	High
<ul style="list-style-type: none"> • progress future land supply through the Townsite Development Program to meet projected demand (LandCorp/SDWK, WAPC, DPI); and • undertake a local housing study to ascertain the future demand, type and styles of housing required by people in Fitzroy Crossing (DHW/KDC, SDWK). 	Medium to Low

7.3.2 Natural Environment

The Fitzroy Futures Town Plan recognises and supports the following actions that are under way:

- progress protection of Fitzroy Crossing's drinking water source (**DoW**).

New Actions Required	Priority
<ul style="list-style-type: none"> • seek formal registration of Aboriginal heritage sites in the Fitzroy area (DIA); and • finalise draft Municipal Heritage Inventory (SDWK). 	Medium to Low

7.3.3 Economic Environment

The Fitzroy Futures Town Plan recognises and supports the following actions that are under way:

- investigate opportunities for economic development as part of the new community resource centre (**KDC**, landowners).

New Actions Required	Priority
<ul style="list-style-type: none"> • allocate and release land for future commercial and industrial activities (landowners). 	High
<ul style="list-style-type: none"> • undertake an analysis of the economic benefit of the art and craft Industry in the Kimberley, including Fitzroy Crossing's contribution. (KDC, SDWK, art centres). 	Medium to Low

7.3.4 Sustainable Development

The Fitzroy Futures Town Plan recognises and supports the following actions that are under way:

- progress normalisation of essential service provision to town-based Aboriginal communities (**DHW**, Water Corporation, Western Power);
- establish a new power station for Fitzroy Crossing (**Western Power**); and
- progress implementation of the proposed Water Source Protection Plan for Fitzroy Crossing (**DoE**).

New Actions Required	Priority
<ul style="list-style-type: none"> • investigate an appropriate implementation body for the Fitzroy Futures Town Plan (WAPC/SDWK); and • review the Fitzroy Futures Town Plan every five years (WAPC, SDWK). 	High
<ul style="list-style-type: none"> • investigate means of reducing water consumption through education programs (Water Corporation, DoW). 	Medium to Low

7.4 Status of this Document

The Shire of Derby/West Kimberley is the main implementation authority for this plan. Possible means of achieving the plan are:

- policy-based document, - used as a basis for decision-making, with powers available under the existing Interim Development Order; or
- statutory planning document – conversion of this plan to a town planning scheme under the *Town Planning and Development Act 1928* (as amended).

In order to finalise the plan, it will be necessary to gain the endorsement of Bunuba Inc., the Shire of Derby/West Kimberley and the WAPC, which could provide a strategic basis for decision-making in the absence of statutory controls.

7.5 Fitzroy Futures Working Group

The Fitzroy Futures Working Group was formed following the Fitzroy Futures Forum in 2000. The key purpose of the working group was to implement the recommendations from the forum, although it is understood the group has met

infrequently since the original forum. It is recommended that the working group be invigorated, to act as the overarching group responsible for overseeing the plan. This group also could provide strategic direction and prioritise the recommendations in this plan and pursue funding for particular projects.

It also may be possible to review membership of the working group to ensure adequate representation of key stakeholders and capacity to manage the key recommendations.

The working group also should receive support from the key implementation organisations to assist in achieving the recommendations.

7.6 Staging and Funding

This plan has an outlook of 10-15 years and it is not possible for all the land use recommendations to occur in a short time. However, it is clear that some actions rely on others before implementation.

The first priority in implementation is to effect land tenure changes. This will provide a sound basis for achieving other key recommendations. Other mechanisms for achieving recommendations are:

- working with State government agencies to secure funding through State budgetary cycle;
- prioritising funding within the Shire of Derby/West Kimberley's budgetary cycle;
- participating in annual Regional Housing and Infrastructure Plans, funded by the Commonwealth and DHW, and delivered by DHW's Aboriginal Housing and Infrastructure Unit; and
- apply for project specific funding that may be available from time to time under various programs, including:
 - Commonwealth Natural Disaster Mitigation Program;
 - Commonwealth Regional Flood Mitigation Program;
 - Aboriginal Lands Trust Land Management Grants;
 - Roads to Recovery;
 - Department of Local Government and Regional Development; and
 - Kimberley Development Commission

Funding of individual projects is the keystone of achieving the community's vision for Fitzroy Crossing. However, in an increasingly competitive funding environment, it is likely that the Fitzroy Futures Working Group and other implementation organisations will need to band together to gain priority to guide the future of Fitzroy Crossing.

8 REFERENCES

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APPENDIX A

Fitzroy Futures Town Plan Land Tenure Adjustments

FITZROY FUTURES TOWN PLAN - LAND TENURE ADJUSTMENTS - SUMMARY TABLE

Parcel No.	Title Definition	Title Purpose	Current Use	Current Management Order	Area (ha)	Proposed Purpose	Proposed Tenure	Initiating Party	Negotiating Parties
1	CR 35090 [Lot 103]	Water Supply	Vacant Land	Minister (WR)	0.87	Residential	Freehold (Bunuba)	Bunuba	Bunuba / DoE / Crown (DPI)
2	UCL	Nil	Vacant Land	Crown	5.31	Residential/Commercial	Freehold (Bunuba)	Bunuba	Bunuba / Crown (DPI)
3	UCL	Nil	Vacant Land	Crown	2.33	Residential/Commercial	Freehold (Bunuba)	Bunuba	Bunuba / Crown (DPI)
4	UCL	Nil	Vacant land	Crown	0.03	Business / Commercial - add to Lot 22	Freehold (DAC)	DAC	DAC / Crown (DPI)
5	UCL and part CR35090	Nil	Vacant land	Crown	1.68	School	Crown Reserve (DET)	DET	DET / Crown (DPI)
6	Road	Road	Vacant land	SDWK	0.32	School	Crown Reserve (DET)	DET	DET / Crown (DPI)
7	CR 9656	UBAI	Water Supply (bore)	ALT	15.33	Priority 1 Water Protection ¹	Crown Reserve (Water Resources) ¹	DOE	Bunuba / DoE / ALT / Crown (DPI)
8	CR 33542	UBAI	Fitzroy Crossing School	ALT	5.44	UBAI (Community Use)	Crown Reserve (9656)	Bunuba	Bunuba / ALT / DET / Crown (DPI)
9	Freehold (Lot 67)	JCI	Housing	JCI	0.09	UBAI (Housing)	Crown Reserve (9656)	JCI	JCI / Bunuba / ALT / Crown (DPI)
10	Freehold (Lot 76)	GROH	Housing	GROH	0.09	UBAI (Housing)	Crown Reserve (9656)	Bunuba	Bunuba / ALT / GEHA / Crown (DPI)
11	UCL	Nil	Vacant land (part road)	Crown	11.5	UBAI	Crown Reserve (9656)	Bunuba	Bunuba / ALT / Crown (DPI)
12	CR 9656	UBAI	Vacant land	ALT	3.23	School	Crown Reserve (9656) ²	Bunuba	Bunuba / ALT / DET / Crown (DPI)
14	CR 45609	Foreshore Purposes	Vacant land	SDWK	0.21	UBAI (residential)	Crown Reserve (45046)	DAC	DAC / SDWK / Crown (DPI)
15	CR 45609	Foreshore Purposes	Vacant land	SDWK	0.62	UBAI (residential)	Crown Reserve (45046)	DAC	DAC / SDWK / Crown (DPI)
16	CR 26771	Foreshore Purposes	Monument	SDWK	1.19	UBAI (business com)	Crown Reserve (45046)	DAC	DAC / SDWK / Crown (DPI)
17	UCL	Nil	Vacant land	Crown	0.03	UBAI (community)	Crown Reserve (45046)	DAC	DAC / Crown (DPI)
18	UCL and portion Russ Road	Nil	Vacant land	Crown	1.53	UBAI (horticulture)	Crown Reserve (45046)	DAC	DAC / Crown (DPI)
19	UCL	Nil	Vacant land	Crown	0.35	UBAI (business com)	Crown Reserve (45046)	DAC	DAC / Crown (DPI)
20	CR 26771	Nil	Vacant land	Crown	1.24	UBAI (business com)	Crown Reserve (45046)	DAC	DAC / Crown (DPI)
21	CR 26771	Nil	Vacant land	Crown	1.02	UBAI (rural living)	Crown Reserve (45046)	DAC	DAC / Crown (DPI)
22	UCL and leases 1142800 and H176256	Nil	Vacant land	Crown	2.72	UBAI (rural living)	Crown Reserve (45046)	DAC	DAC / Crown (DPI)
23	portion of Russ Road	Nil	Vacant land	Crown	1.08	UBAI (open space)	Crown Reserve (45046)	DAC	DAC / Crown (DPI)
24	portion of Russ Road	Nil	Vacant land	Crown	0.74	UBAI (open space)	Crown Reserve (45046)	DAC	DAC / Crown (DPI)
25	CR 45608	UBAI	Vacant land	MAC	5.34	UBAI (residential)	Crown Reserve (45046)	DAC	DAC / MAC / DOLA
26	CR 45046	UBAI	Vacant land	DAC	23.94	UBAI	Crown Reserve (Burawa)	Burawa	Burawa / DAC / Crown (DPI)
27	Pastoral Lease 3114/573	Pastoral Enterprise	Vacant land	BSS	8.01	UBAI	Crown Reserve (Burawa)	Burawa	Burawa / BSS / Crown (DPI)
28	CR 12475	Stock Route	Vacant land	Crown	6.91	UBAI	Crown Reserve (Burawa)	Burawa	Burawa / Crown / Crown (DPI)
29	CR 9656	UBAI	Vacant land	ALT	115.42	UBAI	Crown Reserve (Burawa)	Burawa	Burawa / Bunuba / ALT / Crown (DPI)
30	UCL	Nil	Road (Russ)	Crown	17.96	Road	SDWK	DAC	DAC / SDWK / Crown (DPI)
32	Pastoral Lease	Pastoral	Road	None	1.69	Road	SDWK	SDWK	SDWK / BSS / Crown (DPI)

Parcel No.	Title Definition	Title Purpose	Current Use	Current Management Order	Area (ha)	Proposed Purpose	Proposed Tenure	Initiating Party	Negotiating Parties
		Enterprise							
33	UCL	Nil	Vacant land	Crown	0.79	Road	SDWK	Bunuba	SDWK / Crown (DPI)
34	CR 45608	UBAI	Vacant land	MAC	2.81	Road	SDWK	MAC	MAC / SDWK / Crown (DPI)
35	CR 45046	UBAI	Road	DAC	1.09	Road	SDWK	DAC	DAC / SDWK / Crown (DPI)
36	CR 45046	UBAI	Vacant land	DAC	0.17	Road	SDWK	DAC	DAC / SDWK / Crown (DPI)
37	CR 45046	UBAI	Vacant land	DAC	0.32	Road	SDWK	DAC	DAC / SDWK / Crown (DPI)
38	CR 45046	UBAI	Vacant land	DAC	1.76	Road	SDWK	DAC	DAC / SDWK / Crown (DPI)
39	CR 45046	UBAI	Public Utility (Powerline)	DAC	2.29	Road	SDWK	DAC	DAC / SDWK / Crown (DPI)
40	CR 9656	UBAI	Road (Scrivener)	ALT	1.41	Road	SDWK	Bunuba	Bunuba / ALT / SDWK / Crown (DPI)

ALT - Aboriginal Lands Trust
 BSS - Brooking Springs Station
 CR - Crown Reserve
 DAC - Darlgunaya Aboriginal Corporation
 DET - Department of Education and Training
 DoE - Department of Environment
 DPI - Department for Planning and Infrastructure (Land Asset Management Services)

GROH - Government Regional Office Housing
 JCI - Junjuwa Community Inc.
 MAC - Munmarl Aboriginal Corporation
 SDWK - Shire of Derby/West Kimberley
 UBAI - Use and Benefit of Aboriginal Inhabitants
 UCL - Unallocated Crown land
 WR - Water Resources

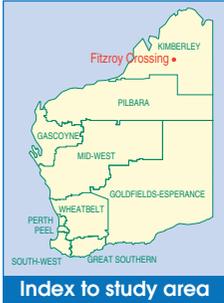
Notes:

1. To revert to CR9656 if the site is not required for water source uses in the future
2. Existing school site to be leased to the DET by Bunuba Inc.
3. Road name to be changed - Bunuba to provide name to shire to initiate renaming process.



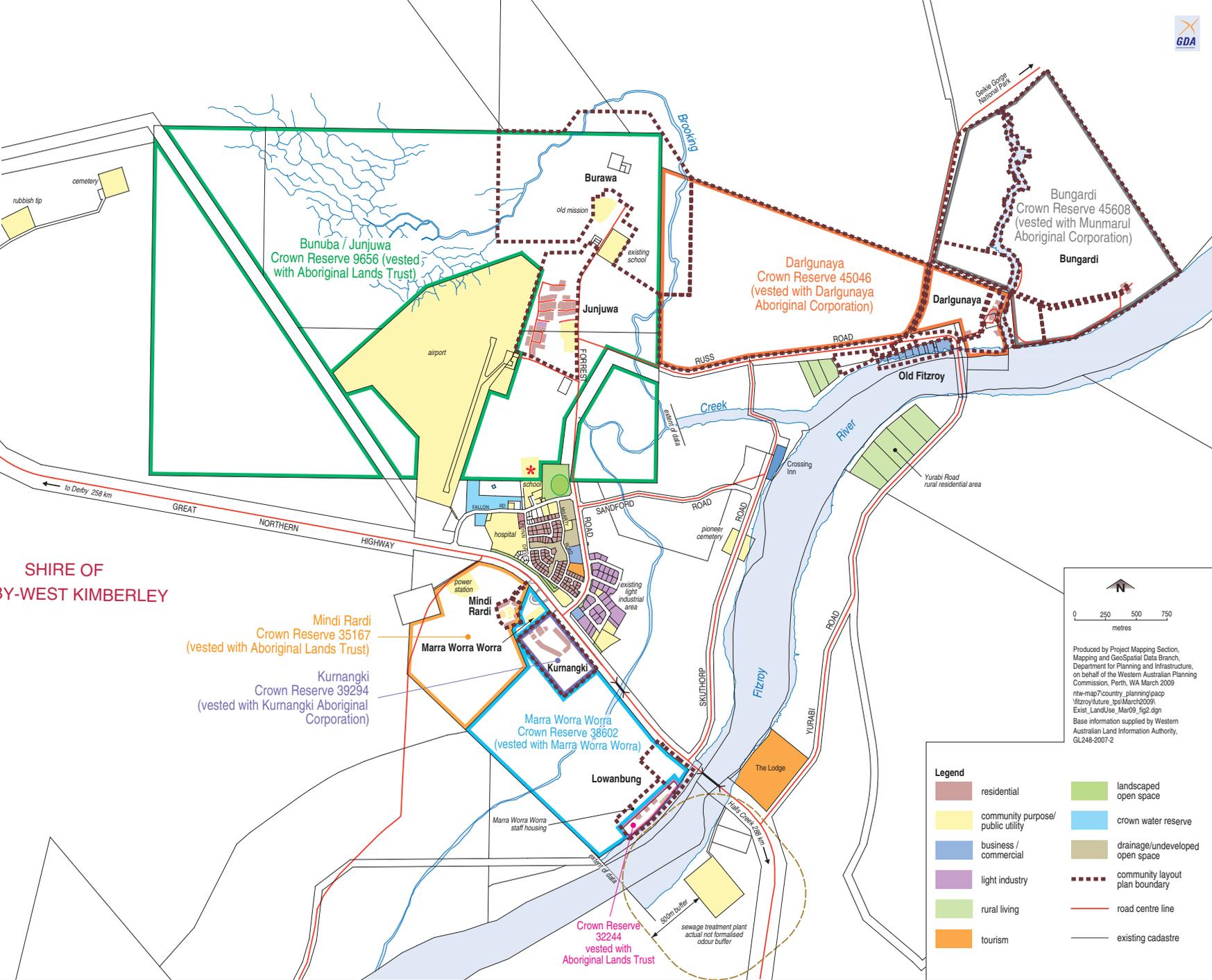
Figure 1

Fitzroy futures town plan (March 2009)
Locality plan



SHIRE OF
DERBY-WEST KIMBERLEY

* School constructed but no spatial or tenure data available at time of map production.



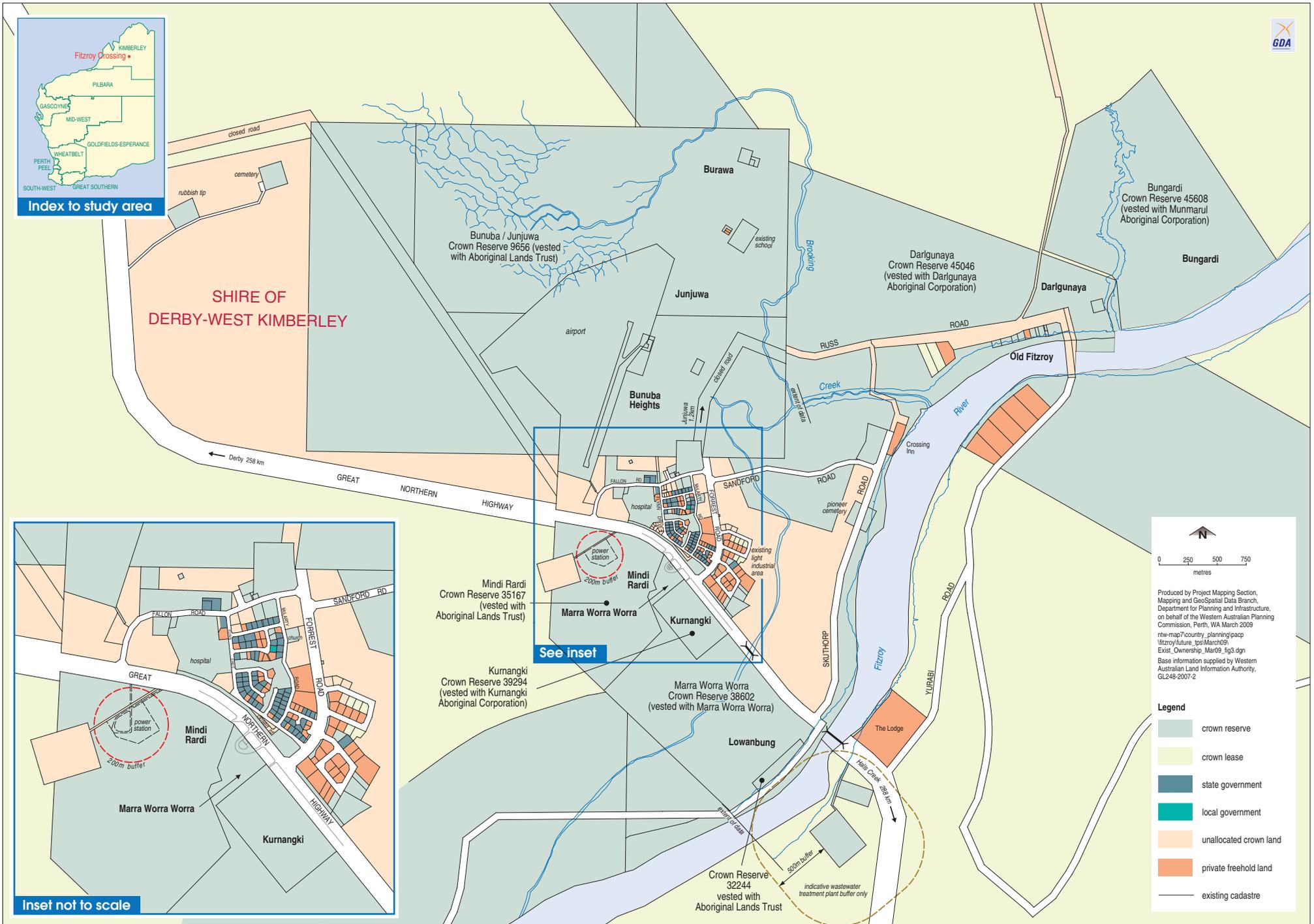
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Produced by Project Mapping Section, Mapping and GeoSpatial Data Branch, Department for Planning and Infrastructure, on behalf of the Western Australian Planning Commission, Perth, WA March 2009
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 Base information supplied by Western Australian Land Information Authority, GL248-2007-2

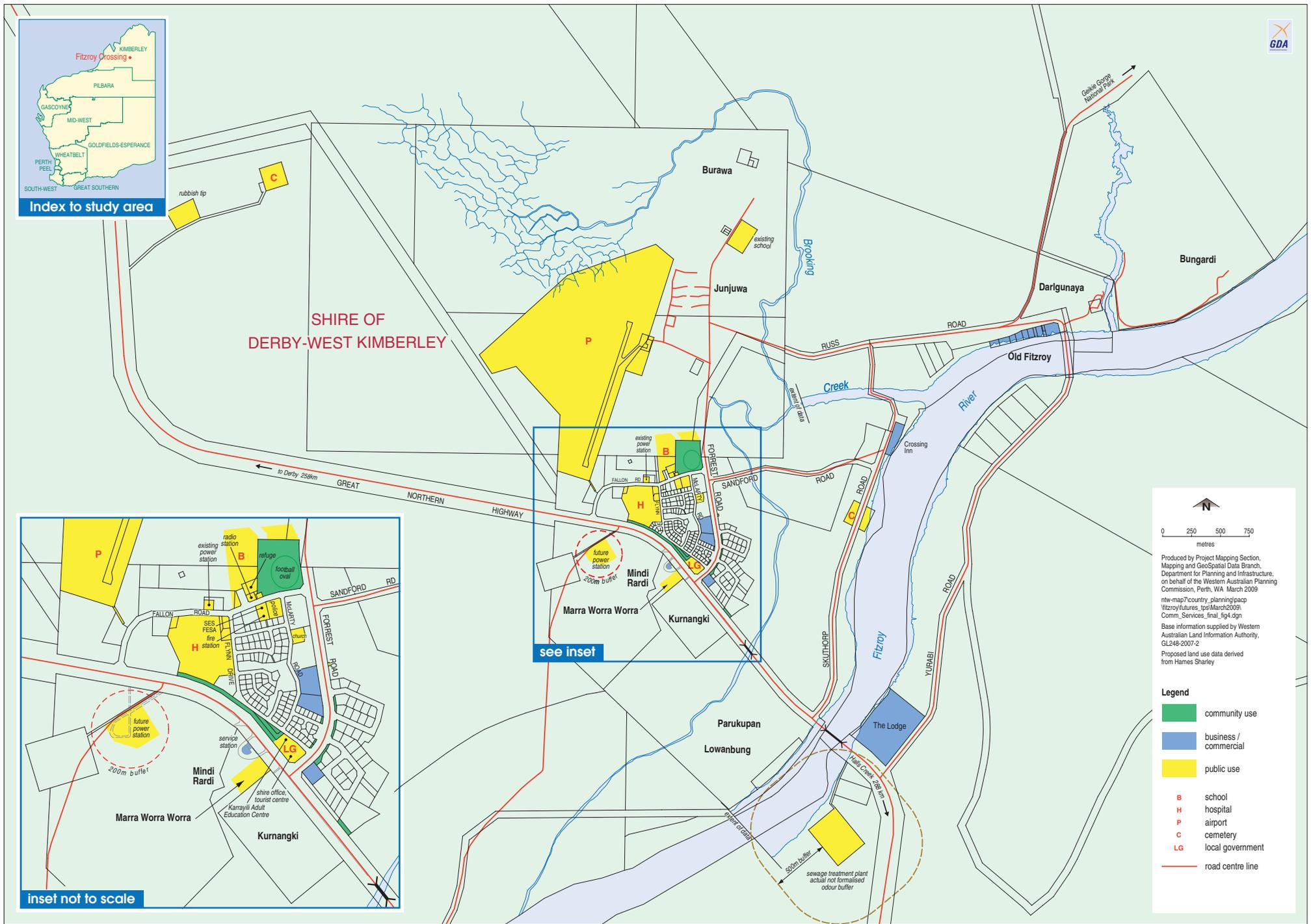
Legend

	residential		landscaped open space
	community purpose/public utility		crown water reserve
	business / commercial		drainage/undeveloped open space
	light industry		community layout plan boundary
	rural living		road centre line
	tourism		existing cadastre

Fitzroy futures town plan (March 2009)
Existing land use and settlement pattern



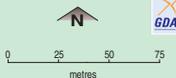
Fitzroy futures town plan (March 2009)
Existing land ownership



Fitzroy futures town plan (March 2009)

Existing and proposed community services

NOTE: This plan does not constitute development approval
 It is the responsibility of the developer to ensure that all relevant consents, approvals, licences and clearances are in place prior to commencing physical works on site. Organisations responsible for such matters may include landowner, local government, incorporated community council, native title representative body, Department of Environment & Conservation, Aboriginal Cultural Materials Committee, Environmental Protection Authority, Department of Consumer & Employment Protection and Department of Water



Produced by Project Mapping Section, Mapping and GeoSpatial Data Branch, Department for Planning and Infrastructure, on behalf of the Western Australian Planning Commission, Perth, WA, March 2009
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 Base information supplied by the Western Australian Land Information Authority, GL248-2007-2
 As-constructed detail supplied by Sinclair Knight Merz, Survey 14 Sept 2004
 Plan information supplied by the Department of Housing

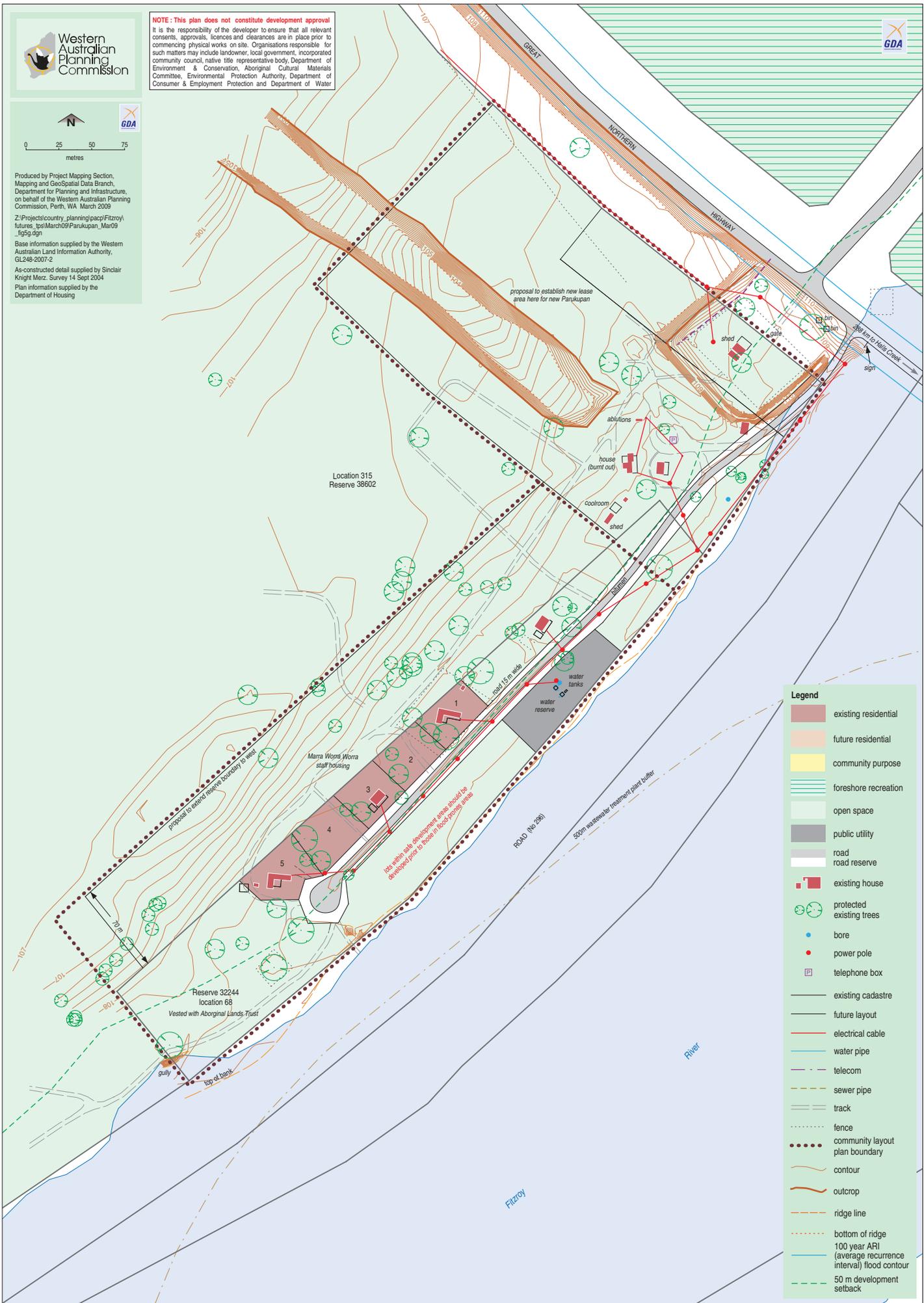
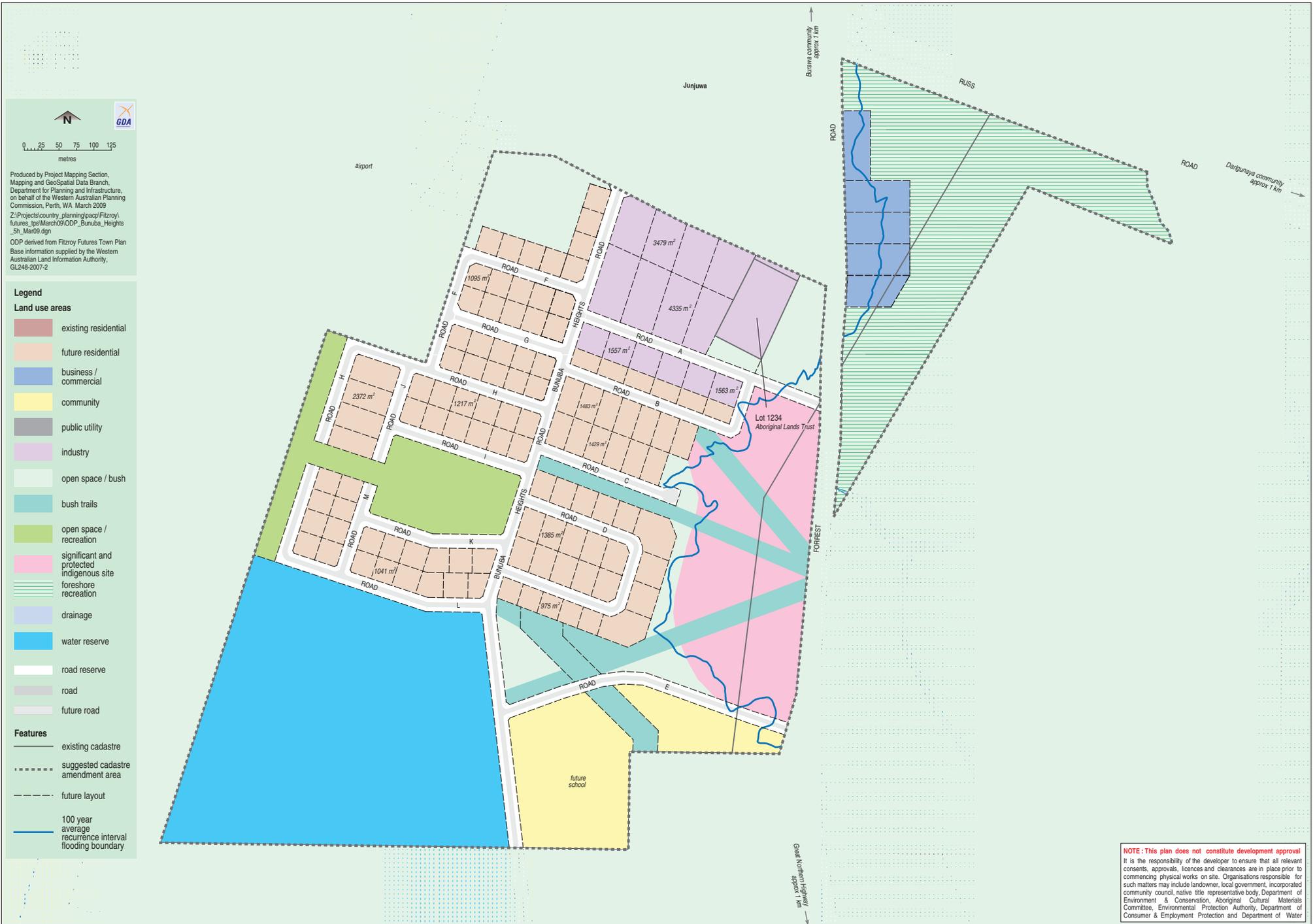


Figure 5g

Fitzroy futures town plan (March 2009)
Parukupan outline development plan



Fitzroy future town plan (March 2009)
Bunuba Heights outline development plan

Produced by Project Mapping Section, Mapping and GeoSpatial Data Branch, Department for Planning and Infrastructure, on behalf of the Western Australian Planning Commission, Perth, WA March 2009
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 Draft outline development plan prepared by DPI for the Fitzroy futures town plan. Base information supplied by the Western Australian Land Information Authority, GL249-2007-2
 As-constructed detail supplied by Sinclair Knight Merz. Survey date November 2002

NOTE: This plan does not constitute development approval
 It is the responsibility of the developer to ensure that all relevant consents, approvals, licences and clearances are in place prior to commencing physical works on site. Organisations responsible for such matters may include landowner, local government, Incorporated community council, native title representative body, Department of Environment & Conservation, Aboriginal Cultural Materials Committee, Environmental Protection Authority, Department of Consumer & Employment Protection and Department of Water



- Legend**
- Land use areas**
- existing residential
 - future residential
 - community
 - horticulture / plantation
 - open space / bush
 - open space / recreation
 - foreshore recreation
 - drainage
 - road reserve
 - road
 - future road
- Features**
- track
 - existing building
 - existing cadastre
 - suggested cadastre amendment area
 - future layout and Lot no.
 - power pole electrical cable
 - future electrical cable
 - water pipe
 - future water pipe
 - bore
 - 100 year average recurrence interval flooding boundary
 - 100 year average recurrence interval flood contour
 - contour
 - ridge line or levee
 - bottom of ridge
 - landmark area boundary
 - fence
 - gate
 - survey marker
 - tree

lots with safe development areas should be developed prior to those in flood-prone areas

BURAWA

JUNJUWA

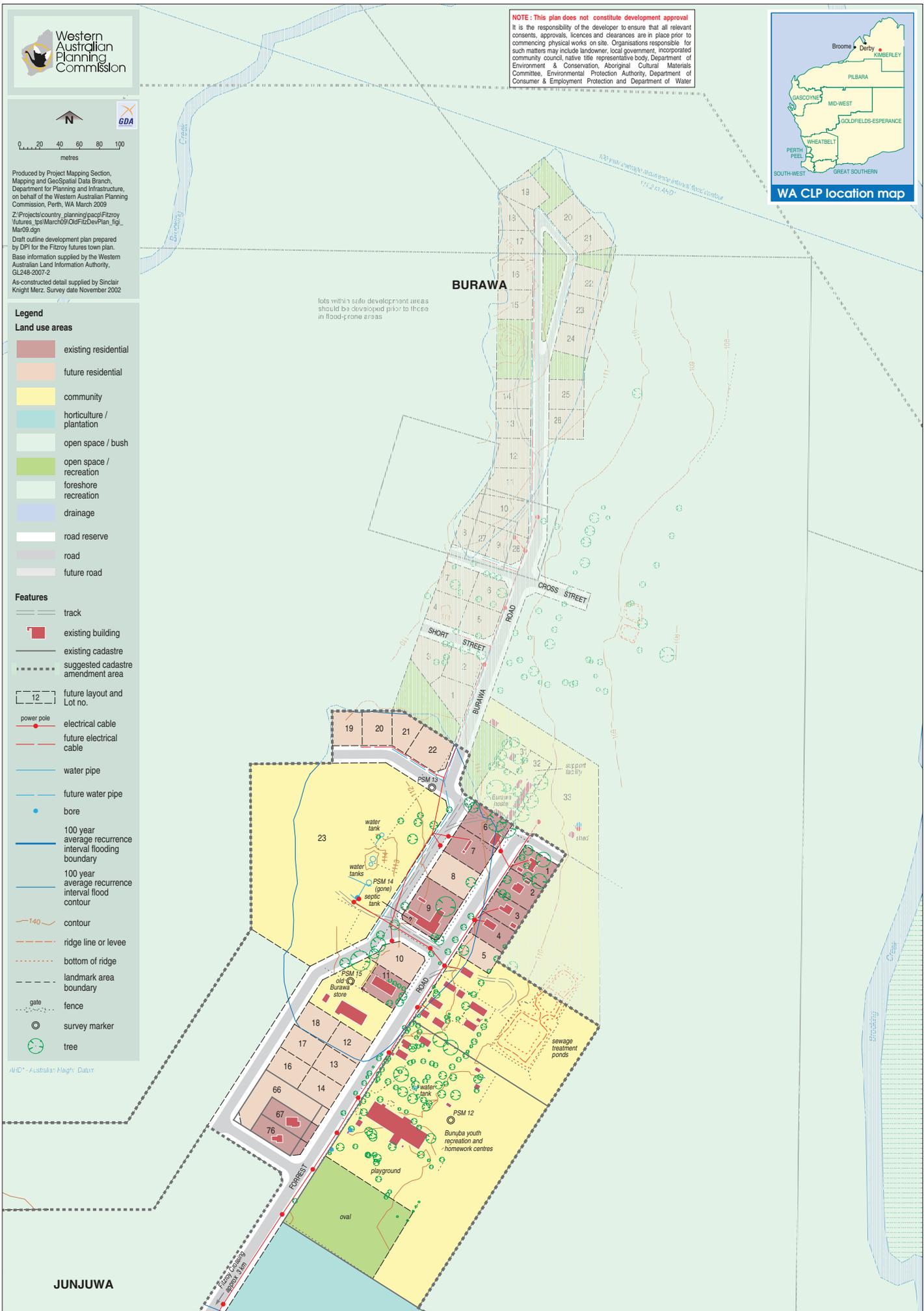
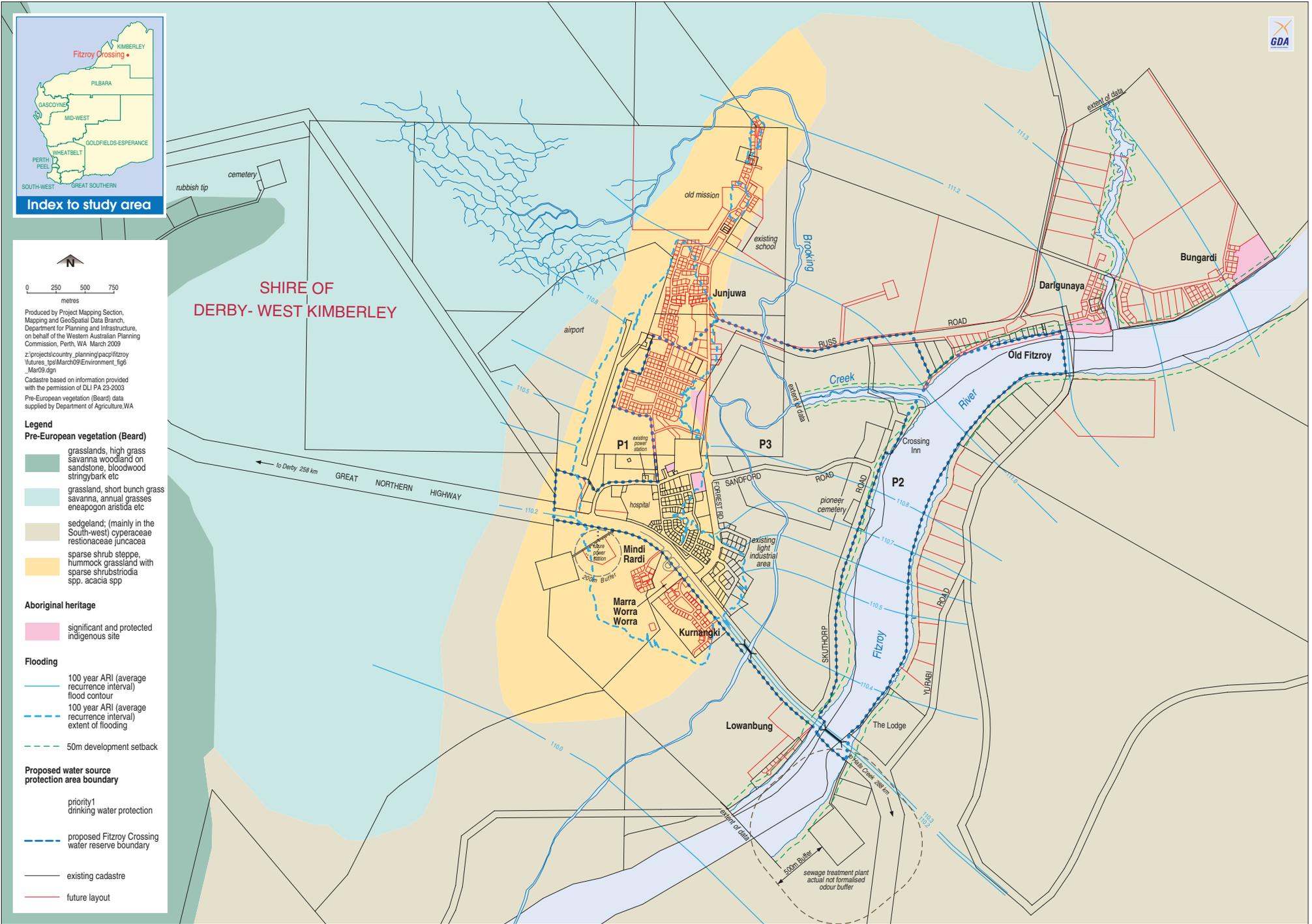


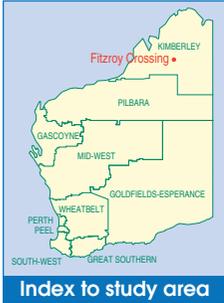
Figure 51

Fitzroy futures town plan (March 2009)
Old Mission outline development plan



Fitzroy futures town plan (March 2009)

Environment



SHIRE OF DERBY-WEST KIMBERLEY

Index to study area

- Rest of Fitzroy Crossing**
- town power-Western Power
 - town water-Water Corporation
 - town sewer-Water Corporation

- Burawa**
- town power (internal reticulation being normalised)
 - private water supply, bore north of existing school site (private reticulation system)
 - town sewer (via private pump station)

- Junjuwa**
- town power (internal reticulation being normalised)
 - private water supply, bore north of Scrivener Road (private reticulation system)
 - town sewer (via private pump station)

- Darigunaya**
- town power (internal reticulation to be normalised)
 - private water supply, at Old Fitzroy (private reticulation system)
 - septic systems in place

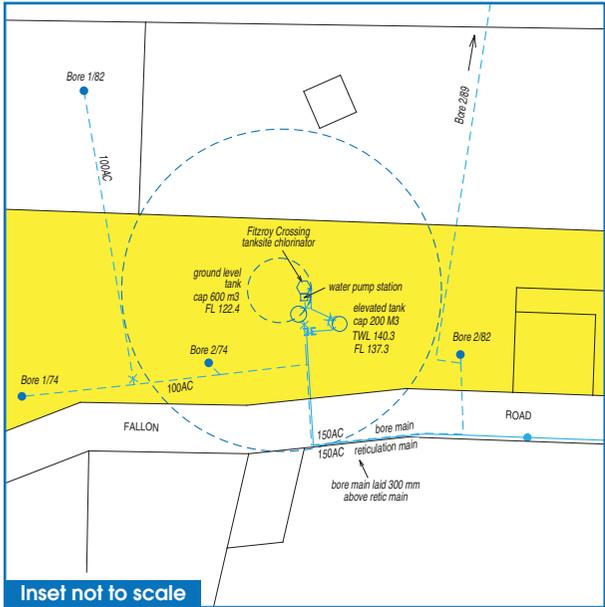
- Bungardi**
- town power (internal reticulation to be normalised)
 - private water supply, bores at bungardi (private reticulation system)
 - septic systems in place

- Yurabi Road**
- private power (generators)
 - private water supply (own bores)
 - septic system in place

- Mindi Rardi**
- town power (internal reticulation being normalised)
 - town water (private reticulation system)
 - town sewer (via private pump station)

- Kurnanki**
- town power (internal reticulation being normalised)
 - town water (private reticulation system)
 - private wastewater disposal, own ponds

See map 7b for electricity licence area and sewerage services licence area.



Inset not to scale

0 250 500 750 metres

Produced by Project Mapping Section, Mapping and GeoSpatial Data Branch, Department for Planning and Infrastructure, on behalf of the Western Australian Planning Commission, Perth, WA, March 2009

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Topographic data supplied by Department of Land Information, Western Australia

Base information supplied by the Western Australian Land Information Authority, GL248-2007-2

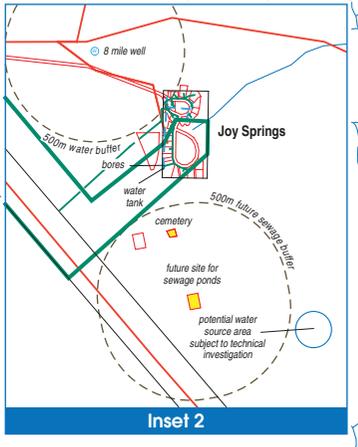
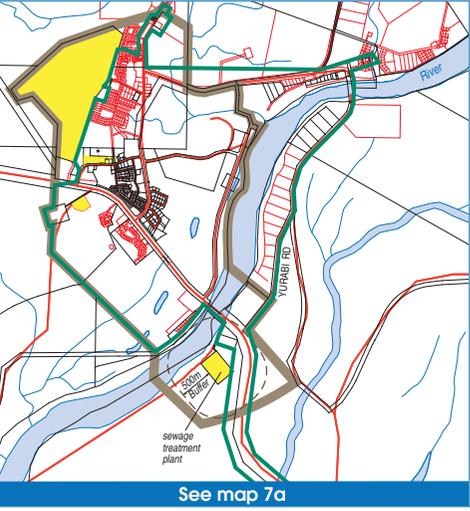
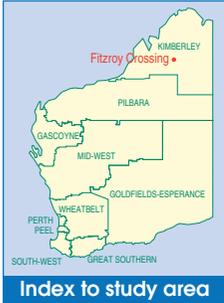
Future layout data derived from respective community layout plans

Legend

- public use
- drinking water source protection area
- water supply licence area
- community layout plan boundary
- sewer line
- private sewer line
- water main
- water pipe
- electrical cables
- road centre line
- existing cadastre
- future layout

Fitzroy futures town plan (March 2009)
Infrastructure

Figure 7a



0 0.5 1.0 1.5
kilometres

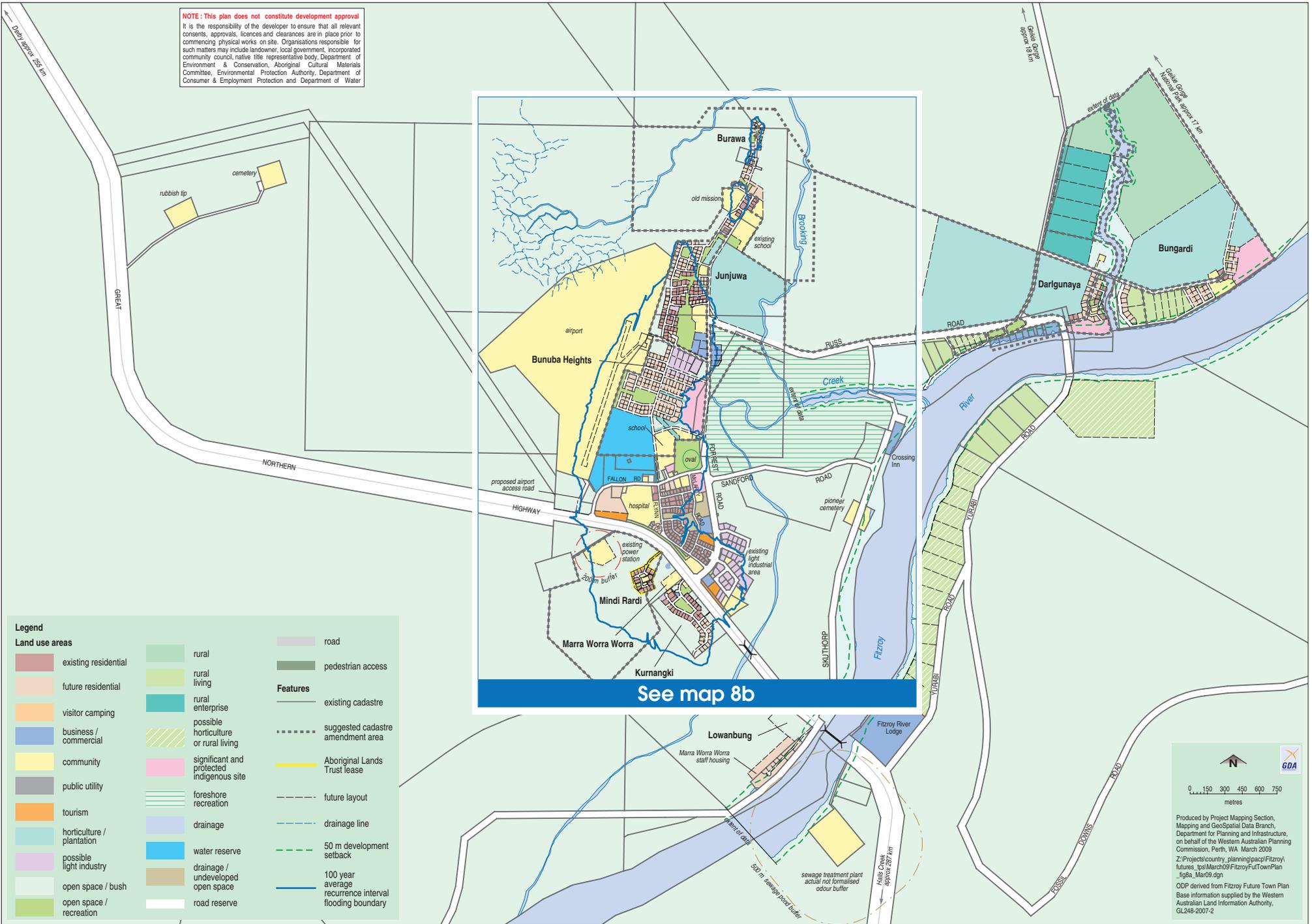
Produced by Project Mapping Section,
Mapping and GeoSpatial Data Branch,
Department for Planning and Infrastructure,
on behalf of the Western Australian Planning
Commission, Perth, WA May 2009
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Future_tps\March2009\Infrast_fig7b_Mar09.dgn
Base information supplied by the Western
Australian Land Information Authority,
GL248-2007-2

- Legend**
- public use
 - sewerage services licence area
 - electricity licence area
 - water pipe
 - electrical cables
 - road centre line
 - existing cadastre
 - future layout
 - watercourse

Fitzroy futures town plan (March 2009)
Infrastructure

Figure 7b

NOTE: This plan does not constitute development approval
 It is the responsibility of the developer to ensure that all relevant consents, approvals, licences and clearances are in place prior to commencing physical works on site. Organisations responsible for such matters may include landowner, local government, incorporated community council, native title representative body, Department of Environment & Conservation, Aboriginal Cultural Materials Committee, Environmental Protection Authority, Department of Consumer & Employment Protection and Department of Water



Fitzroy futures town plan (March 2009)
Fitzroy futures town plan

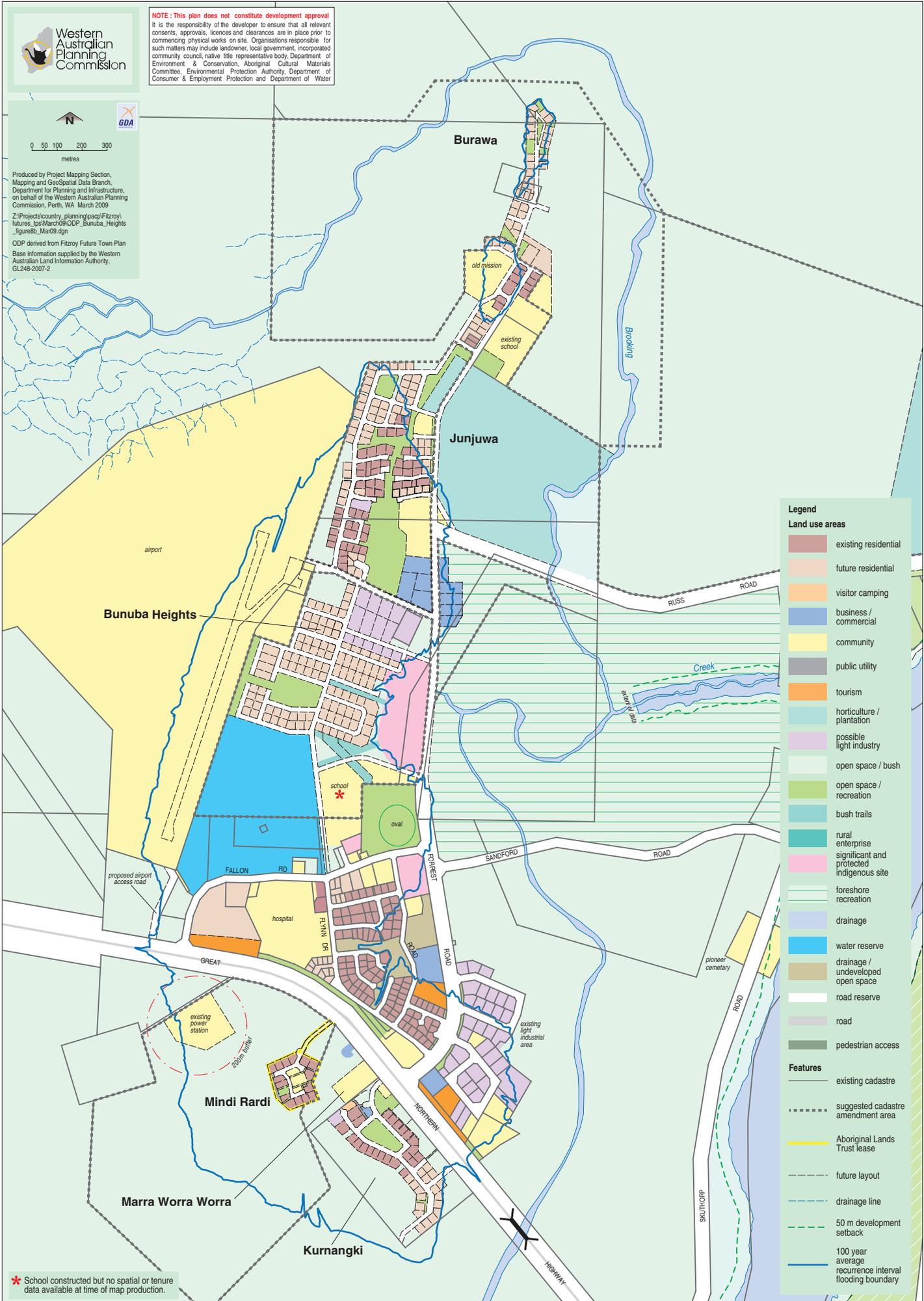
Figure 8a

NOTE: This plan does not constitute development approval
 It is the responsibility of the developer to ensure that all relevant consents, approvals, licences and clearances are in place prior to commencing physical works on site. Organisations responsible for such matters may include landowner, local government, incorporated community council, native title representative body, Department of Environment & Conservation, Aboriginal Cultural Materials Committee, Environmental Protection Authority, Department of Consumer & Employment Protection and Department of Water



0 50 100 200 300 metres

Produced by Project Mapping Section, Mapping and GeoSpatial Data Branch, Department for Planning and Infrastructure, on behalf of the Western Australian Planning Commission, Perth, WA, March 2009
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 ODP derived from Fitzroy Future Town Plan Base information supplied by the Western Australian Land Information Authority, GL248-2007-2



- Legend**
- Land use areas**
- existing residential
 - future residential
 - visitor camping
 - business / commercial
 - community
 - public utility
 - tourism
 - horticulture / plantation
 - possible light industry
 - open space / bush
 - open space / recreation
 - bush trails
 - rural enterprise
 - significant and protected indigenous site
 - foreshore recreation
 - drainage
 - water reserve
 - drainage / undeveloped open space
 - road reserve
 - road
 - pedestrian access
- Features**
- existing cadastre
 - suggested cadastre amendment area
 - Aboriginal Lands Trust lease
 - future layout
 - drainage line
 - 50 m development setback
 - 100 year average recurrence interval flooding boundary

* School constructed but no spatial or tenure data available at time of map production.

Figure 8b