

Coomalie

An aerial photograph of the Coomalie region. The foreground shows a residential area with a grid of streets, houses, and a school building. A road runs vertically through the center. The background features rolling hills and a river winding through the landscape. The sky is clear and blue.

Planning Concepts and Land Use Objectives

Foreword

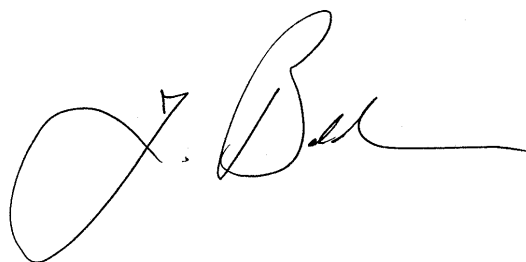
Part 1 - Planning Concepts of Coomalie Planning Concepts and Land Use Objectives 2000 supports the Northern Territory Government's vision for Coomalie for the next 20 to 25 years. The *Planning Concepts* provide the direction and stimulus for public and private developers and the consent authority. This should facilitate the development of Coomalie in a manner which preserves its rural nature while recognising opportunities for continued development at a sustainable level.

Part 1 - Planning Concepts provides the background information to *Part 2 - Land Use Objectives*. The Batchelor Division of the Northern Territory Planning Authority has been directed, and it is intended that any future Coomalie consent authority will be directed, to take the *Planning Concepts* into account along with those matters listed under the *Planning Act 1993*, when considering a development application.

Part 2 - Land Use Objectives of Coomalie Planning Concepts and Land Use Objectives 2000 contains the land use objectives which have formal status by virtue of declaration under section 8(1) of the Act. *Part 2 - Land Use Objectives* establishes the framework for planning control within the Coomalie Sub-Region. To achieve this, land use objectives are provided under *Key Objectives* for the entire Sub-Region and under *Land Use Objectives* for specific land uses. The general discussion of issues assists in interpreting and implementing the objectives.

The *Coomalie Planning Concepts and Land Use Objectives 2000* aim to provide a co-ordinated and strategic approach to land use planning in Coomalie. In due course, the NT Planning Scheme Coomalie will apply to the entire Coomalie Sub-Region and parts of this Scheme will translate the land use objectives into planning practice.

As with any planning document, the *Coomalie Planning Concepts and Land Use Objectives 2000* will be subject to ongoing monitoring and review.

A handwritten signature in black ink, appearing to read 'Tim Baldwin', with a long horizontal line extending to the right.

TIM BALDWIN
Minister for Lands, Planning and Environment

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BACKGROUND

Introduction

The *Darwin Regional Land Use Structure Plan 1990*, published as planning and development objectives for the Territory, established the policy framework for development of the Darwin Region for a population of one million people. In that document, Coomalie was recognised as a Sub-Region of considerable importance to the Darwin Region, particularly with respect to its valuable mineral and water resources. The Coomalie Sub-Region includes all land within the Coomalie Community Government Council boundary which covers an area of approximately 1,500 km² and includes the towns of Batchelor and Adelaide River. The boundary extends from Manton Dam in the north, to the town of Adelaide River in the south and east from the Adelaide River itself, to Litchfield National Park in the west. The location of Coomalie within the regional context is shown in Figure 1.

In the last decade or so Coomalie has also become a significant contributor to the growth and development of the Top End in such areas as tourism, education and horticultural/agricultural activities. The increased intensity of development within the area is already showing signs of potential for land use conflict. In view of this, the Northern Territory Government has recognised the need for an established planning framework for Coomalie from which greater control can be exercised to ensure effective land use planning. However, it should be noted that the objective of the planning framework will be to plan and control new development within the Sub-Region, but not to make any proposals to alter or remove any established land uses within Coomalie.

Purpose and Status

It is intended that the planning framework of the NT Planning Scheme Coomalie will include the *Coomalie Planning Concepts and Land Use Objectives 2000*, development guidelines and a control plan. The development guidelines may be generic to cover standard development control issues across the Darwin Region, such as guidelines for rural residential subdivision/development or may focus on particular issues within Coomalie. Until now, land use control within Coomalie has been restricted to the area covered by the *Batchelor Town Plan 1981* and the *Highways Control Plan 1984* and subdivision of freehold land (which requires Ministerial consent). In March 1999, a control plan was made for Lake Bennett and a control plan was exhibited in November 1999 for an extension of the Lake Bennett area.

These *Coomalie Planning Concepts and Land Use Objectives* establish the legislative framework for planning control within Coomalie. The second part of the document, *Part 2 - Land Use Objectives (LUOs)*, has been declared by the Minister for Lands, Planning and Environment as a land use objective, pursuant to section 8(1) of the *Planning Act 1993*. The LUOs provide the framework for developing Coomalie in a manner which preserves its rural nature whilst recognising opportunities for continued development at a sustainable level. The LUOs also focus on the important role that Coomalie will play in the future development of the Darwin Region, due to natural resources, including mineral deposits and water supply, and as a prime location for tourism, horticulture/agriculture, education and rural living. A control plan will be prepared to provide more specific controls in the use and development of land in Coomalie.

The first part of the document, *Part 1 - Planning Concepts*, provides the background information to the land use objectives by identifying the major land use and development issues within Coomalie. Although *Part 1* of the document will not have formal status under section 8 of the *Planning Act*, it is intended that the Minister will direct the current and future consent authority to take the Planning Concepts into account in the determination of a development application. Until a control plan is introduced for Coomalie, the Northern Territory Planning Authority for Batchelor has been directed, pursuant to section 67(3) of the *Planning Act*, to take the Planning Concepts into account, along with those listed under section 51 of the Act, when considering a development application.

It is important to note that the planning issues and land use considerations for any area are subject to change with the availability of new information and also due to the pressures associated with new development proposals. Therefore, it is envisaged that this document will be subject to periodic review, as needs arise and resources permit.

Public Consultation

A Steering Committee was formed to assist in the preparation of the *Coomalie Planning Concepts and Land Use Objectives 2000*. The Steering Committee included a representative of the Coomalie Community Government Council and representatives of relevant Government agencies.

The *Proposed Coomalie Planning Concepts and Land Use Objectives 1998* were exhibited pursuant to section 8(2)(b) of the *Planning Act* and all public submissions received in response to the exhibition process were taken into account in finalising the land use objectives, for declaration by the Minister.

An Interim Development Control Order for the Coomalie Community Government Council area came into effect on the date the *Proposed Coomalie Planning Concepts and Land Use Objectives 1998* were publicly exhibited and lapsed on 9 September 1999. The Interim Development Control Order listed specific development and land uses that required the consent of the Minister.

PART 1 - PLANNING CONCEPTS

PART 1 - PLANNING CONCEPTS

1.1 Context

1.1.1 Historical Background

The following historical background of Coomalie has been documented by the National Trust (1998) for the Department of Lands, Planning & Environment (see reference list).

Aboriginal History

The original inhabitants of Coomalie were the Aboriginal tribal groups of the Kungarrakan and Awarai (Warai) people. The boundary of the traditional land of these groups passed through the existing town of Adelaide River and included the area of the present Wagait Aboriginal Reserve and north to the Finnis River. The Kungarrakan people were generally associated with the area from Mt Finnis east to the existing Stuart Highway. The Awarai people were associated with the area from Stapleton to Adelaide River. A third group, the Maranunggu, were originally from the Daly River region but gravitated north over a number of years towards the Batchelor area. Many other Aboriginal groups have resided and in some cases still reside in the area, such as the Muluk-Muluk, Wadgigan, Brinkin and Djerait groups.

There is little information on the history of Aboriginal occupation of Coomalie and it was not until an application was made under the *Aboriginal Land Rights (Northern Territory) Act* that the stories, origins of place names and associations were brought forward with regard to areas which included Batchelor, Rum Jungle, Adelaide River and, more specifically, Meneling, Castlemaine Hill, Crater Lake and Snake Creek.

European History

The first significant European activity in Coomalie is attributed to George Goyder whose party was responsible for surveying town and rural lands from Palmerston (later renamed Darwin) to Adelaide River.

In 1869 the Overland Telegraph Line commenced construction to link South Australia to Palmerston. Adelaide River became a depot for the telegraph line workers and it was during construction of that line in early 1872 that gold was discovered in the Pine Creek district. The resultant rush led to the establishment of the township of Southport on the Blackmore River, as this was the nearest navigable point for ships which supplied the Overland Telegraph Line and the goldfields.

Adelaide River grew as a convenient resting place and river crossing and became the stop for the Haines Royal Mail Coach which travelled from Southport to the goldfields in the early 1880s. The Adelaide River police station was erected at the river crossing in 1879.

In 1886 a contract was signed to construct a railway line from Palmerston to Pine Creek. The railway was completed in 1889 and Adelaide River became a major station. The successful operation of the railway saw the demise of the Southport coach service.

Coomalie saw the growth of a number of agricultural enterprises from as early as 1881. However, the only real success came with the orchard and gardens at Rum Jungle which operated almost continuously from 1910 to the 1950s. In 1911, the Commonwealth Government selected three sites for demonstration farms, one of which was located at Rum Jungle and named Batchelor after the Minister for External Affairs, E L Batchelor.

The mounting international crisis of the late 1930s increased the importance of the Coomalie area in a strategic sense. Adelaide River's role in the war began in December 1939 when the town and surrounding district was established as a farm and rest area for service personnel based in Darwin. In 1940, the RAAF resumed the area surrounding the aerodrome at Batchelor which had been established on part of the former demonstration farm. A gravel runway was constructed shortly afterwards and it was from here that the first offensive mission was launched from Australia following the Japanese raids on Pearl Harbour and American bases in the Pacific. Other airfields were also established in Coomalie; including Coomalie Airstrip, east of the Stuart Highway at its junction with Batchelor Road; Gould Airstrip, to the south of Batchelor; Pell Airstrip, north of Adelaide River; and Mount Bundy, to the north-east of Adelaide River.

At Adelaide River an airstrip was utilised approximately 2 km east of the railway station and an artillery and aerial firing range was established at what is now known as Tortilla Flats, south of Coomalie Creek. After the Japanese air raids on Darwin in February 1942, the township became a vital military centre, being the tactical forward supply base for a large number of Army, Navy and Air Force units located along the main north-south road from Darwin and it also became a major communications base. In August 1942 the Adelaide River War Cemetery was established on the west bank of the river.

In 1945, with the end of the war, the military withdrew and evacuated residents gradually returned to Coomalie.

Following the war, attention in Coomalie turned to mineral exploration. The mineral most in demand, strategically and for industrial purposes, was uranium which was discovered at Rum Jungle in 1949. Mining began and continued in seven major deposits until 1971.

In order to accommodate and service the 600 strong mining work force, a township was constructed on the north-western corner of the old Batchelor demonstration farm site which was close to the Rum Jungle mine. By 1959, the township included a range of community and recreational facilities.

By the early 1970s the relatively low grade of the ore, coupled with the discovery of richer sources elsewhere led to the closure of the mining operation. However, the infrastructure at Batchelor remained, pending a decision over what further projects might keep the town viable. In May 1971 the Atomic Energy Commission handed the township to the NT Administration which proposed that an education village be established and in 1974 a vocational training centre was set up by the Aboriginal Teacher Education Centre. This was later renamed Batchelor College when it relocated to a new facility on the east of the town.

In 1979 many of the Batchelor residents accepted the NT Government's offer to purchase their homes. This established a permanent population base for the township's growing commercial and industrial enterprises, including the Meneling Meatworks, Batchelor College, a general aviation business and the tourist industry.

The post-war period saw Adelaide River's role as a significant destination along the Stuart Highway reinforced as mining activity around the area intensified and the towns of Katherine and Darwin underwent periods of sustained growth. The town is now an important service centre for the surrounding rural population and agricultural/horticultural industries. It also serves as a tourist centre and as a 'rest stop' for Stuart Highway traffic.

1.1.2 Population Growth and Future Prospects

In the context of the Darwin Region, the population of Coomalie is small. Whilst anomalies to the Collection District Census boundaries prior to 1991 restrict any accurate analysis of growth patterns before that time, comparisons from the 1991 and 1996 Census information (which includes tourists and visitors to Coomalie) show an increase in population from 1233 to 1411, a rise of some 14%.

The major population base of Coomalie is largely confined to the towns of Batchelor and Adelaide River which combined, account for more than 65% of the population. However, the population of the rural areas has nearly doubled between 1991 and 1996, reflecting the trend towards rural living in the Sub-Region. Social characteristics of Coomalie, compared to the rest of the Darwin Region, are shown over the page in Table 1.

The population of the Coomalie Sub-Region is unlikely to grow significantly in the short term. The physical constraints imposed by the land resources, coupled with the need to protect and preserve valuable water resources, means that continued population growth outside of Batchelor and Adelaide River will continue to be rural in nature. This conclusion is supported by the *Darwin Regional Land Use Structure Plan* 1990, which also identified Coomalie as being most suited to rural, rather than urban, living.

Table 1 Key Socio-Economic Characteristics

	COOMALIE		DARWIN REGION*	
CHARACTERISTIC	1991	1996	1991	1996
Population	1233 <i>(includes 350 visitors)</i>	1411 <i>(includes 359 visitors)</i>	90026 <i>(includes 11402 visitors)</i>	101850 <i>(includes 14416 visitors)</i>
Batchelor	635	645		
Adelaide River	356	279		
Rural areas	242	487		
Private Dwellings**				
Batchelor	237	249	n/a	n/a
Adelaide River	142	111	n/a	n/a
Median Household Income	\$500-699pw	\$500-699pw	\$700-799pw	\$700-799pw
Median Individual Income	\$267-307pw	\$300-399pw	\$300-399pw	\$400-499pw
Unemployment Rate	5.68%	4.75%	6.68%	7.9%
Occupation				
White Collar	202 (43.0%)	219 (45.5%)	14488 (37.7%)	18948 (40.9%)
Blue Collar	181 (38.5%)	168 (34.9%)	11434 (29.8%)	13221 (28.5%)
Clerk/Service Industry	87 (18.5%)	94 (19.5%)	12507 (32.6%)	14181 (30.6%)
Age Structure				
0 - 14	313 (25%)	377 (27%)	22213 (25%)	23244 (23%)
15 - 24	140 (11%)	141 (10%)	15060 (17%)	15257 (15%)
25 - 39	359 (29%)	355 (26%)	25697 (29%)	28182 (28%)
40 - 54	261 (21%)	287 (20%)	17510 (19%)	21503 (21%)
55 - 69	136 (11%)	200 (14%)	7274 (8%)	8964 (9%)
70 +	38 (3%)	25 (2%)	2209 (2%)	2772 (3%)
Median Age	31 years	33 years	29 years	30 years
Average Household Size		2.7 persons		2.8 persons
Single Parent Families	27 (8.8%)	42 (11.4%)	2500 (13.5%)	3748 (16.5%)
Home Ownership***	156 (37%)	210 (39%)	12070 (47%)	15606 (52%)
Car Ownership/Household				
0	48 (12%)	52 (12%)	3082 (11%)	3135 (9%)
1	222 (57%)	240 (55%)	12325 (45%)	13040 (39%)
2 +	126 (31%)	142 (33%)	12044 (44%)	17047 (51%)
Aboriginal/TSI	250 (20.2%)	318 (22.5%)	7283 (8.1%)	8979 (8.8%)

* consists of Darwin Statistical Division and Darwin Rural Statistical Division

** count includes private caravans in caravan parks, which may account for the fall in numbers of private dwellings in Adelaide River between 1991 and 1996

*** includes caravans and dwellings which are either owned or being purchased

Source: Australian Bureau of Statistics - Basic Community Profiles

1.1.3 Existing Land Use Patterns

Residential

Residential development in Coomalie can be categorised as being either urban (within the towns of Batchelor or Adelaide River) or rural (representing the balance). At the 1996 Census, approximately one third of the total population lived as rural residents, scattered predominantly over the western half of the Sub-Region.

The detached house is the most common and popular style of housing within Coomalie. Medium density developments are located almost exclusively within Batchelor and Adelaide River and in close proximity to local services and facilities. Caravan living is also relatively common in the area.

The *Coomalie Regional Economic Development and Urban Strategy Project* (Network 99, 1996) identified a lack of accommodation to meet the current needs of the workforce. The research concluded that this is resulting in a large number of employees living outside of Coomalie and commuting into the Sub-Region on a daily basis.

Commercial

Commercial and retail activity is primarily focused within the towns of Batchelor and Adelaide River, with some additional services available along Litchfield Park Road (formerly Windmill Road). The Network 99 project (1996) concluded that Coomalie's population usually travel to Darwin to purchase major retail items and undertake business transactions. During these trips there is also a tendency to purchase other commodities such as food and household goods.

There are currently three areas zoned for business use within the *Batchelor Town Plan* 1981. These are located in the town centre (at the junction of Tarkarri Road and Nurndina Street) and at two locations on the western and southern periphery of the town along Litchfield Park Road and Batchelor Road respectively.

Batchelor's position as the geographic centre of Coomalie ensures it a wider catchment market than the town of Adelaide River. Batchelor also benefits in a commercial sense from the tourism trade generated by its proximity to Litchfield National Park.

Adelaide River serves as a local centre to both the residents of the town and surrounding rural areas. It also draws trade from passing traffic on the Stuart Highway and from tourists visiting the town.

Industrial

The main industrial precinct in Coomalie is located within Batchelor, immediately south of Batchelor Road and adjacent to the air strip. The nineteen lots (between 2500 m² and 5000 m² in size) were created to cater for industrial, light industrial and service commercial land uses. The Coomalie Community Government Council's municipal offices and depot are currently located within this industrial precinct.

Some service commercial/light industrial activity has also been established in the Silverton Road area of Adelaide River. In addition, there are one or two industrial style businesses operating within the town which are located immediately adjacent to residential properties.

The conclusions of the Network 99 project (1996) cited several instances of light, service and rural industrial activity, including maintenance, electrical, painting, plumbing, vehicle repair and refrigeration services, occurring on residential blocks in rural areas.

Tourism Uses

Tourism is recognised as a major contributor to the Australian economy. On a national level, tourism directly accounts for nearly 7% of total employment (McLennan, 1998). The NT is particularly reliant on the tourism industry and accommodates significant numbers of overseas and interstate tourists. A range of visitor services is provided within Coomalie, including accommodation, camping and caravan parks, fuel, general stores, mechanical workshops and health and information centres. A regional visitor information centre is located in Batchelor.

Coomalie receives a considerable share of the region's tourist market, particularly by virtue of its proximity to Litchfield National Park. Batchelor is commonly regarded as being the "gateway" to the Park and relies upon tourism as a significant part of its economic base. Adelaide River receives much of its tourist-related trade as a rest stop between destinations and the location of the Adelaide River War Cemetery within the town. Tourist accommodation in Adelaide River is confined essentially to caravans and the local hotel.

Lake Bennett is a holiday resort offering a restaurant, accommodation and recreational facilities, adjacent to a man-made lake.

The *Top End Regional Tourism Development Plan* (Northern Territory Tourist Commission, 1997) identified the following tourism development strategies for Coomalie:

- Develop and install signage to provide a 'sense of arrival' to Coomalie, promoting and linking the attractions, visitor facilities and accommodation with an interpretative map.
- Develop a regional museum to display WWII matters and the history of mining, farming and transportation in the area.
- Develop visitor facilities/tourist information centre in Batchelor and complete the sealing of the Darwin, Batchelor, Litchfield National Park loop road from Wangi Falls to the Cox Peninsula Road.

Health and Community Facilities

Territory Health Services provides health centres at both Batchelor and Adelaide River, including a 24 hour emergency service (with a registered nurse on call), an infant health clinic and palliative care. Coomalie has access to a doctor (part-time) and other services are available by appointment.

Coomalie does not have a regional cemetery. However, Lot 176 Town of Adelaide River adjoining the Adelaide River War Cemetery, has been identified as a possible site for a future regional cemetery.

Coomalie is serviced by multi-use arrangements of library facilities at Batchelor College and Adelaide River Primary School.

Coomalie Community Government Council has been granted funds by the NT Government to convert Adelaide River's land fill site into a waste transfer station. All wet waste will then be transported to Batchelor or Humpty Doo land fill sites. However, all inert waste such as concrete, stone and building rubble will be placed in the existing Adelaide River land fill site until alternative arrangements are made.

The relocation of Batchelor's land fill site may also be considered in the future as it is currently located above the town's domestic water supply aquifer.

Education

Coomalie has two primary schools, the Batchelor Area School and the Adelaide River Primary School. Secondary education in the Sub-Region is provided at Batchelor but only to Year 10 level. Students wishing to complete their secondary education must travel outside of Coomalie either to Humpty Doo or Darwin, board away from home or leave the district when the Year 11 school age is reached. The only alternative available for secondary education at Years 11 and 12 in the Coomalie Sub-Region is the Northern Territory Open Education Centre in Batchelor.

The Batchelor Area School meets current demands for preschool to Year 10 education in the town and any future expansion of the school would need to be based upon sustainable enrolment growth. The Batchelor Outdoor Education Unit, which is an annexe of the Batchelor Area School, is currently located within the central area of the town. The Outdoor Education Unit is widely used by both Batchelor and Darwin schools.

The existing Adelaide River Pre-School and Primary School is considered to be an adequate facility for the foreseeable future if the town's population remains stable and the adjacent oval remains available for their use. Any future expansion of the school would need to be supported by sustained enrolment growth. If this does occur, there is sufficient land available within the existing boundaries and on adjacent land to accommodate a reasonable level of expansion.

The Batchelor Institute of Indigenous Tertiary Education (formerly Batchelor College) is an autonomous tertiary learning institute that specialises in the provision of education and training programs for Aboriginal and Torres Strait Islander people who come mainly from remote and traditional communities in northern Australia. With a student body of more than 1300 (mostly of mature age) and staff of about 160, the input into the local economy is of great benefit to both the town and region.

Open Space and Recreation

The Coomalie Sub-Region, by virtue of its range of sports and leisure facilities and access to relatively untouched natural environment, provides good access to many recreational opportunities despite the constraints of its small population and catchment. Coomalie is well serviced by sporting and active leisure infrastructure, which is located generally within Batchelor and Adelaide River, and includes playgrounds, ovals, tennis courts, basketball courts, bowling greens and swimming pools. The Batchelor Air Field is the base for the Northern Australia Gliding Club, the Top End Aerial Sports Academy and the Darwin Parachute Club. A grassed race track, the only one in the Territory, is located at the Adelaide River Show Grounds and incorporates rodeo facilities.

Coomalie is very well serviced with regard to water-related sports and activities. Manton Dam is used for water skiing and power boating and permits less intensive uses such as swimming, fishing and sailing. Lake Bennett, a private resort, includes a recreational lake suited for non-motorised water activities. Rum Jungle Lake, to the west of Batchelor, is a less commonly utilised water body which is easily accessible, free of charge. There are also barbecue and picnic areas throughout the area.

Mining and Extractive Industry

Mining broadly relates to the extraction of minerals which occur naturally as solids, liquids or gases. The Coomalie Sub-Region is recognised as being highly prospective and mineral rich and the mining and extraction industry is likely to remain as one of Coomalie's strongest sources of employment and economic growth.

Coomalie has a strong historic record of mining and extraction, most notably through the development of Rum Jungle Uranium Mine, which is located approximately 8 km north of Batchelor, on the East Finnis River. Between 1953 and 1962, the mining and extraction of uranium from a number of open cut mines led to the establishment of the township of Batchelor (Crick, 1987). At the time, this was the largest industrial undertaking in the Northern Territory. In addition to uranium, gold, silver, copper and lead have also been produced in the Rum Jungle area. Following its closure, the Rum Jungle mine became one of Australia's most notorious pollution problems due to the oxidation of sulphides by bacteria and the consequent release of acid and metals into the East Finnis River. An extensive and costly rehabilitation program of the mine area, funded by the Commonwealth Government, was undertaken throughout the 1980s.

The Rum Jungle (South) ore body, approximately 3 km north-west of Batchelor, was discovered in 1960 and produced about 2000 tonnes of yellowcake by the time the mine closed in 1971. Sundance Mine, located approximately 3 km east of Batchelor, was mined for gold from two open cut mines between 1986 and 1987 producing about 114 kg and again in 1994 for a production of 79 kg. Investigations are currently under way for further gold mining prospects in the area. The Woodcutters Mine (Normandy Woodcutters Ltd), located adjacent to the Stuart Highway approximately 14 km by road north-east of Batchelor, was the last mine to operate in Coomalie prior its closure in March 1999. The mine produced lead, zinc and silver for an export market. Woodcutters Mine provided a significant source of employment within the local area and is now undergoing a rehabilitation program.

The proposed Browns Project (Compass Resources/Guardian Resources joint venture) is located 6 km north of Batchelor on Rum Jungle Road. The Browns ore body comprises a world class resource of cobalt with significant copper, lead, and nickel deposits. An initial feasibility study proposes to investigate a staged development establishing a 1 Mt (million tonnes) per year oxide leaching operation. This would be followed by a 1.25 Mt per year sulphide mining operation with the associated production of copper, cobalt, nickel and lead metal.

Horticulture and Agriculture

Horticulture/Agriculture is considered to be one of the major and more sustainable contributors to the local economy.

Horticulture

There is a strong and growing interest in horticulture within Coomalie with an increasing number of local land owners entering the industry. The main horticultural areas within Coomalie are located within the areas of high ground water potential around Batchelor and on the fertile levee soils along the Adelaide River to the north of the town. The range of horticultural produce known to be produced in the area includes bananas, rambutans, squash, mangoes, rockmelons, tomatoes, cucumbers, pumpkin, zucchini, watermelon, capsicum, chilli, Chinese cabbage, lemons, grapefruit, avocados and other tropical fruits.

Crop Growing

Cereal grains such as rice, maize and grain sorghum (used for stockfeed) are cultivated mostly in the eastern half of Coomalie, with the northern climate allowing for two rice growing seasons. The majority of farms in Coomalie are mixed cropping with very little value-adding processing occurring on site. The *Agriculture and Veterinary Chemicals Control Act 1995* will encourage appropriate practices with respect to handling, storage, use registration and disposal of farm chemicals. It is anticipated that such guidelines and legislation, coupled with a land use plan, will ensure such problems are minimised as Coomalie's population grows.

Animal Husbandry

Cattle raising occurs mainly in the south-eastern and south-western parts of Coomalie with the main purpose of this activity being the production of stock on largely unimproved pastures for slaughtering and live export. Cattle are also transported from the Kimberley region, Barkly Tablelands and Queensland and held for short term agistment within Coomalie prior to being transported to Darwin for live export. Given the expense of transporting hay into the area, pastoralists are developing on-site supplies of feed in order to improve the viability of agistment operations and there is a growing tendency in Coomalie for pastoral activity to be supported by mixed farming operations which combine agistment, live cattle depots, herd improvement, hay and crop production and horticulture.

The increase in cattle transportation within Coomalie has a severe impact on local roads with heavy vehicles damaging road infrastructure. Considerable damage can also be caused to horticultural produce as a direct result of poor road conditions.

Until recently, one of only two commercial abattoirs in north Australia operated within Coomalie. Meneling abattoir, west of Batchelor, was a substantial provider of seasonal employment in the area from July to September.

1.2 Evaluation of Planning Base

1.2.1 Water Resources

Surface Water

The Coomalie Sub-Region provides the main source of potable water for the Darwin Region (refer Figure 2). The closed catchment of the Darwin River Dam is located within the northern part of Coomalie and human activity and building/development is prohibited within this area.

Manton Dam, located to the north-east of the Sub-Region, has not been used for potable water use since 1971, although it continues to be the emergency back-up water supply for the Darwin Region. The dam is currently used for water related recreation activities such as water-skiing, sailing and swimming and permits adjacent land-based recreation activities such as picnicking. Options for the future use of the dam may include the expansion of the water body and segmentation of areas for potable water supply and increased recreational uses.

It is proposed that Coomalie will also play an important role in Darwin's future water supply, with catchments of two proposed dams located within its boundary and one adjacent to its boundary (refer Figure 2). While the timing of these dam sites is subject to periodic review of the Darwin Water Supply Strategy, the following information is currently available:

Warrai Dam, situated on the Adelaide River, upstream of the town, is intended as a closed catchment and proposes to be operational by the year 2020. Marrakai Dam, downstream of Adelaide River on the Marrakai Road crossing, is proposed for use by around the year 2050. This future dam will flood land adjoining the Adelaide River in the south-eastern portion of Coomalie. Mount Bennett Dam, proposed west of Coomalie on the Finnis River, has a catchment which extends into the western portion of the Sub-Region. There is no proposed date for the development and operation of this dam at this stage.

Clearly, it is likely that the existing and future water supply catchments will place significant constraints over much of Coomalie. Catchment management principles, designed to maintain water quality, and utilising the framework of the Northern Territory Water Quality Management Strategy, implemented through the *Water Act*, will therefore become implicit in the future planning and development of the Sub-Region.

Ground Water

Ground water is available within broad areas as illustrated in Figure 3. Good supplies of ground water (ie. more than 5.0 L/sec) are generally available in the central areas of Coomalie, within the town of Batchelor, then stretching south and parallel to Batchelor Road, north-east along the old railway alignment and immediately south of Batchelor to Perreau Road. There is also an arc of good ground water supplies in the northern part of Coomalie, generally bordering the large granite outcrop as shown in Figures 3 and 4. In general terms these well supplied areas indicate potential for large scale horticultural, agricultural and centralised urban water supplies.

Elsewhere in Coomalie moderate ground water prospects (ie. up to 5.0 L/sec) occur predominantly over the north-eastern half of Coomalie to include Koolpinyah Station, around Lake Bennett and in a south-western direction as far south as Ringwood Road and centrally around the higher supply areas of Batchelor. Further opportunities for this moderate supply are considered possible over the north-western quarter of Coomalie and in a radial pattern around the south-western quarter taking in the smaller lots at Miles Road and along the length of Milton Road. This level of ground water may be sufficient for domestic to small scale agricultural development.

1.2.2 Land Resources/Capability

Land units, areas of relatively uniform landform, soils or vegetation, are used to provide a guide as to the capability of land to support various land uses. Land units can be grouped and interpreted with other resource data to determine specific constraints and opportunities for development.

Formal land unit mapping information in the Coomalie Sub-Region has been undertaken for the Batchelor township area (1976), the Adelaide River township area (1977), the Upper Adelaide River Experiment Station area (1995) and scattered land holdings to the north of Litchfield Park Road (1976). Interpretation of this data has been used in the preparation of the Coomalie Land Use Structure Plan.

Geology

Coomalie is located in the north-western corner of the Palaeoproterozoic Pine Creek Geosyncline and contains several unique rock formations. The geosynclinal strata comprise an alternating sequence of sandstones, carbonates, shales, siltstones, greywackes, tuffs and minor volcanics. The basement to this sequence are the Archaean rocks which are exposed as two large domes immediately to the north (Rum Jungle) and south (Waterhouse) of Batchelor. Further geological details of the area are provided within Figure 4.

Geological sites within the Coomalie area have been documented by the Geological Society of Australia and a reference for this material is provided in Attachment 1.

Mineral Resources

The mineral potential of Coomalie (refer Figure 4) has been divided into three categories: low, medium and high. The factors which determine mineral potential include intensity of presently known mineral occurrences and the presence of suitable host rock. Further detailed evaluation for smaller selected areas would include other factors such as structure, age and lithology.

Overall the mineral potential of Coomalie is considered to be moderate to high. Uranium is the major commodity, with 29 recorded uranium occurrences, many of these associated with base metals such as copper. The Rum Jungle area contains most of these occurrences. There are 7 lead-zinc occurrences but only Browns and Area 55 (refer Figure 4) are considered to have economic significance. Other commodities which have been identified in the area include gold, iron, phosphate, cobalt and magnesite.

The Compass Resource deposit in the Browns area of Rum Jungle is expected to have significant mining potential for at least ten years.

The activities of Mt Grace Mining NL through its subsidiary Savanna Mineral Resources Pty Ltd east of Batchelor may result in the production of magnesium metal from magnesite of the Coomalie Dolomite sequence.

Soil Erosion

The potential for soil erosion is created from any form of land disturbance, which may result from land clearing or development. Any land with steep slopes, shallow, stony or gravelly soils combined with drainage lines is highly susceptible to erosion. Erosion of drains can cause sediment discharge into natural waterways thereby degrading water quality and impacting upon the stream hydrology.

In general, the topography and soils of the Coomalie area are regarded as being highly erodible. It is therefore important that erosion is avoided where possible through identification of these areas, adherence to land clearance guidelines, implementation of soil conservation measures if land clearing is permissible and through sensitive road design.

Flooding, Waterlogging and Inundation

Areas subject to inundation are characterised by vegetation and soils which are generally highly organic in composition and tend to be poorly drained. Much of the Coomalie Sub-Region is subject to one form or other of wet season constraints. The black soil plains of the Adelaide River are subject to seasonal inundation and, throughout the undulating areas of the rest of Coomalie, drainage lines are subject to waterlogging and/or flooding over the wet season. Waterlogged areas are generally unsuitable for most forms of agriculture other than low intensity uses such as seasonal grazing. Access over the western half of Coomalie can be restricted during periods of flood.

The terminology used for flood levels is the Annual Exceedance Probability (AEP) which refers to the probability of a specified flood flow in a stream or river being equalled or exceeded in any one year. In other words, there is a 1 in 100 chance of a flood reaching the 1.0% AEP flood level in any given year. Figures 5 and 6 show the 1.0% AEP flood level for the town of Adelaide River and for the Adelaide River catchment respectively. Development can occur within the 1.0% AEP line, although certain building constraints may apply subject to the location of development. The floodway illustrated on Figure 5 for Adelaide River represents the flood channel which would be subject to particularly high water levels or water velocities during a 1.0% AEP flood and development is therefore prohibited in this area.

1.2.3 Biting Insects

There is potential in Coomalie for large and uncontrollable mosquito and biting midge breeding, which could present a significant nuisance and health risk for the existing and future population. The primary mosquito breeding sites are slow-flowing creeks and reedy swamp areas in the upper reaches of the Manton and Darwin River Dams, as well as the flood plains of the Adelaide River.

The impact of mosquito breeding within Coomalie should be monitored and properly considered prior to future development to protect the health of residents. Extractive industry, in particular, and other forms of human disturbance that impound water near drainage lines and flood plains can create and add significantly to mosquito breeding habitats. Similarly the design, construction and maintenance of sewage, waste water and stormwater facilities can create mosquito breeding sites. Any future subdivision will need to be assessed to ensure that mosquito breeding sites are not being created or aggravated. Territory Health Services has specific guidelines (Attachment 2) for preventing and minimising biting insect problems which need to be taken into account as part of the development assessment process, to ensure compliance with the regulations of the *Public Health Act*.

1.2.4 Heritage

Within the terms of the *Heritage Conservation Act* two major types of heritage sites are recognised. Those entered onto the Northern Territory Heritage register (declared heritage places) and those prescribed as archaeological places and objects. There are no declared heritage places within Coomalie, although a number of historic sites and buildings do exist (Figure 7). Many of these sites relate to the wartime occupation of the area.

Prescribed archaeological places and objects include sites of Aboriginal or Macassan origin from the prehistoric or protohistoric period. The *Heritage Conservation Act* provides automatic protection for archaeological sites which can include stone artefact scatters, rock art sites, shell middens and prehistoric quarries. In addition, the *Sacred Sites Act*, which is administered by the Aboriginal Areas Protection Authority, protects registered and recorded sacred sites and natural features which are of traditional significance to Aboriginal people.

Research into the location of Aboriginal archaeological sites within the Coomalie Sub-Region has been undertaken by Daryl Guse (1998) (refer Attachment 1). The distribution of the known Aboriginal archaeological sites within Coomalie is presented in Figure 8. Sites of significance to the traditional owners of the land within Coomalie will continue to be identified and an assessment of potential sites will be required of developers, under the *Sacred Sites Act*, prior to any development.

1.2.5 Land Tenure

Land tenure in Coomalie is shown in Figure 9. A substantial proportion of the land is in freehold ownership, with the Northern Territory Land Corporation holding most of the remaining land to the west and north-west of the area as a Crown Lease Perpetual. In addition, a substantial and largely undeveloped parcel of land to the north-east, Section 1582, Hundred of Colton, forms part of the Koolpinyah Pastoral Lease, extending south from the adjoining Litchfield Shire.

There is limited vacant Crown land within Coomalie although some remains within the town boundaries of Batchelor and Adelaide River. Sections 2950 and 2968, Hundred of Goyder and Section 200, Hundred of Howard are also vacant Crown land.

The Finnis River Aboriginal Land Trust, with land holdings in excess of 200 km², holds more than 13% of the total land area within Coomalie.

1.2.6 Infrastructure and Services

Transportation

Transport can be defined in simple terms as the movement of goods or persons from an origin to a destination. The quality of a transport network will have direct implications on the social and economic well being of an area. Transportation to and within Coomalie is presently served by a road network dominated by the Stuart Highway, which traverses the length of the Sub-Region. Batchelor Road, a sub-arterial road, which provides an important connection to Batchelor and Litchfield National Park, is the only other arterial road within Coomalie.

Many of the connector roads which service rural living and pastoral land uses within the Coomalie Sub-Region are, for the most part, unsealed. The unsealed status of these roads can create difficulties for users in terms of restricted access during times of heavy rain, the damaging impact they can have on fragile horticultural produce, in addition to other costs such as vehicle deterioration, increased transit times and safety. There are also a number of unmade gazetted roads within Coomalie which have been identified by the original Goyder and later subdivision surveys.

Given that Coomalie is faced with the problem of requiring many kilometres of roads to adequately service a relatively small and widely spread population, a recognised road hierarchy will provide an element of priority and certainty as to the future location and intensity of particular land uses.

It is anticipated that the proposed AustralAsia Railway, otherwise known as the Darwin to Alice Springs Railway, will be in place by early next century. The proposed route of the railway is immediately west of the general alignment of the Stuart Highway for most of its passage through Coomalie.

Utility Infrastructure

Coomalie is relatively well serviced by electricity. The main service line (132 kV) runs parallel to the Stuart Highway from Channel Island Power Station and south to Katherine. In addition, 22 kV lines branch from the Stuart Highway to Batchelor along Batchelor Road and further west along Litchfield Park Road. In the vicinity of Adelaide River a 22 kV line services Strickland Road in the north and Haynes Road to the south.

The south-western portion of the region, specifically those rural areas serviced by Fowler Road, Cheeney Road and Milton Road, are not connected to the electricity grid.

A reticulated sewerage system is provided to the towns of Batchelor and Adelaide River, although parts of Adelaide River remain unsewered. The rural areas of Coomalie are serviced by septic tanks or other on-site waste disposal methods. Likewise, only Batchelor and Adelaide River have access to reticulated water with the rural areas of the region serviced by either bore water and/or rain water tanks.

The water supply of Batchelor is considered to be sufficient for the purposes of supplying future development for the next fifteen to twenty years. Within the town boundary a rising main is supplied by bores to the south-east of the town. A 3.7 ML ground level tank and a new booster pump station have been installed on the eastern boundary of the town.

Adelaide River's water is supplied by several bores which are dispersed throughout the town. Currently, there are three water tanks in the town including one elevated 45 kL tank and two ground level tanks of 450 kL and 390 kL capacity. The potable water supply for Adelaide River is adequate for the foreseeable future. However, ground water resources will constrain future economic developments requiring irrigated water. The Power and Water Authority will continue to optimise the supply system to meet potable water demand.

The Power and Water Authority is currently investigating options for the relocation of the sewage treatment ponds in Batchelor and Adelaide River as they overlie the ground water aquifer. The Planning Concepts for Adelaide River, however, assume the retention of the treatment ponds in their current location to the north-west of the town, as an alternative site may not be identified within the planning horizon of the Land Use Objectives.

1.3 Land Use Concepts

Localities within the Coomalie Sub-Region of particular significance in the preparation of this planning document are identified on the plan at Figure 10. The evaluation of the planning base was used in the preparation of the Coomalie Sub-Region Land Use Structure Plan at Figure 11.

Structure plans for Batchelor are at Figures 12a and 12b and the structure plan for Adelaide River is at Figure 13. These structure plans are enlargements of the land uses shown on the Coomalie Sub-Region Land Use Structure Plan. The following planning concepts provide interpretation regarding the type of development to be facilitated and encouraged. With the exception of the towns of Batchelor and Adelaide River, the locality boundaries have been based on water catchment boundaries associated with the Darwin River, the Finnis River and the Adelaide River. The locality names are to assist in the identification of localities for the purposes of this document only and have no status for any other purpose.

1.3.1 Batchelor

Batchelor will continue to be the commercial and civic centre of Coomalie.

Figure 12b identifies future residential, industrial and commercial land options and proposes that medium density residential development be confined to within proximity of the town centre. It is preferable for the Batchelor Institute to relocate its western campus facilities to land on the eastern side of the existing campus to form a single consolidated campus and to allow for the future development of the western campus site for residential and commercial purposes close to the town centre.

Any proposal to expand commercial activities in the centre of Batchelor may require the relocation of the Batchelor Outdoor Education Unit and land to accommodate this use has been identified to the north of the Batchelor Area School.

The Coomalie Community Government Council should relocate from the Cameron Road industrial precinct to a more accessible and visible location within the town centre. The Council should be located within a precinct type development which could offer complementary community facilities.

Heritage themes could be promoted through the establishment of a regional museum located in Batchelor. The old railway corridor could be used as a heritage trail for tourism and recreational purposes.

Figure 12a identifies land for rural residential and rural living. Smaller sized rural residential allotments at a minimum of 0.5 ha are proposed on the periphery of Batchelor and may be serviced by town power, water and sewer. Subdivision of land for rural residential purposes will require also land capability assessment. Rural living lots of 8 ha are shown further removed to the west of the town.

In recognition of the popularity of Litchfield Park and the sealing of the road north from the park to Berry Springs Road, options to divert 'through traffic' from the town's road network by creating a link to the north are shown in Figure 12a. A tourist route through the town could be provided and extended by linking Meneling Road to Litchfield Park Road.

With the town's reliance on groundwater, protection of the aquifer from contamination is paramount. Due to Batchelor's position overlying the groundwater aquifer, all new development within 2 km of the town's water supply bores shall be connected to a reticulated sewerage system or served by an appropriate waste disposal system. This also applies to future industrial development south of Batchelor Road. Industries which produce noxious or hazardous waste streams that may enter the groundwater systems should be located away from water collection areas.

1.3.2 Adelaide River

The Adelaide River Concept Plan (refer Figure 13) is based on the planning constraints imposed on the town by the current 1.0% AEP flood levels and the current location of the sewage treatment ponds.

In the short term, the expansion of Adelaide River's population can be accommodated by development of vacant allotments in the town and by an expansion of the existing street system to connect Hatt and Swannel Streets.

Rural residential opportunities within Adelaide River have been identified on the periphery of the town in the Silverton Road area. This area is currently used for a mix of conflicting residential, service commercial and light industrial uses. All future service commercial/light industrial uses should be located in a separate precinct to the west of the town, on the western side of the Stuart Highway.

The recent subdivision of land immediately south of Coomalie, adjacent to the Stuart Highway, known as Mount Bundey or Silkwood, represents a significant rural population which is likely to draw primarily upon Adelaide River for goods and services. To this end, consolidation and expansion of the existing commercial centre of Adelaide River is encouraged where practical and where the amenity of adjacent residential land is not compromised.

Tourist attractions such as the Railway Station Museum, the War Cemetery, and recreation opportunities such as walking and equestrian trails along Adelaide River, should be promoted and enhanced.

Adelaide River has the opportunity to develop a service commercial/light industrial precinct in a new location to the west of the town, on the western side of the Stuart Highway. Relevant waste management controls with regard to industrial development over the ground water aquifer should also apply.

1.3.3 Dam Catchments

Development within closed water catchments will be restricted to that which is directly related to the management or operation of the water resource. Approved development within the catchments will only be allowed to proceed with the concurrence of the water resource regulator and relevant management authority.

The land adjacent to Manton Dam, which is owned by the Power and Water Authority could be developed for tourism, recreation and residential uses. Future development at Manton Dam will be subject to the protection of closed catchment areas to safeguard future water supply options. It is also important to maintain public access to Manton Dam for recreational activities.

1.3.4 Finnis Catchment

Two categories of rural living have been identified within the Coomalie Sub-Region Land Use Structure Plan (refer Figure 11): Rural Living and Rural Living (Constrained). Rural Living is located on land which, due to constraints of slope or soil type, is unsuitable for horticulture or agricultural development, yet largely coincides with a good ground water supply. The minimum lot size for Rural Living is 8 ha.

Areas identified for Rural Living within the Finnis Catchment are (refer Figure 11):

- to the west of the Darwin River Dam catchment;
- to the north of Litchfield Park Road, adjacent to the Finnis River;
- to the south-west of Batchelor, adjacent to the Little Finnis River; and
- adjacent to Milton Road and Miles Road, south of Batchelor.

Rural Living (Constrained) applies to land significantly constrained by soil type and water supply. The potential of land within these areas for residential development will require detailed assessment once a development application has been made. The assessment will need to address issues such as land capability and availability of water resources to determine whether residential development can be sustained on the land. Lots within the Rural Living (Constrained) should generally be greater than 8 ha to allow for constraints on the land. The design of any subdivision in these areas must adequately identify and address potential erosion and land degradation issues.

Areas identified for Rural Living (Constrained) (refer Figure 11) are:

- to the north-west of Batchelor, west and south-west of the Darwin River Dam catchment; and
- west of Batchelor, adjacent to the Little Finnis River.

Rural living can be developed in the Litchfield Park Road area where a good water supply and on-site sewage disposal capacity can be demonstrated. In this area, the integrity of the transport corridor to Litchfield Park shall not be compromised in terms of visual appearance and intensity of development.

The road hierarchy for the Coomalie Sub-Region is shown in Figure 14. The road hierarchy is based on the following criteria:

- arterial roads being the principal routes for through traffic with no direct property access, but with access to recognised tourist and service centres;

- secondary road networks (ie. collector and distributor roads) distributing traffic from arterial roads and carrying some through traffic and providing direct property access; and
- local roads having the prime function of providing direct property access;

In addition, collector roads and local roads across Coomalie which access horticultural/agricultural and residential areas can also be extended to improve the road hierarchy.

Land with good potential for intensive horticulture development coincides largely with the highest yields of ground water supply in the area, that is, central Coomalie west of the Stuart Highway and extending southwards in a “V” beyond Perreau Road and to the north-west adjacent the Finnis River.

However, some land within the area identified for horticulture and agriculture may be unsuitable for such uses due to soil type, water supply, drainage and slope, and therefore alternative use of the land may be considered following detailed assessment of land capability and water availability at the development application stage. Road networks involved in the transportation of horticultural products should provide for all-weather, all-year access and be of a standard to minimise damage to the produce.

Some tourism related development could be located on Litchfield Park Road between Batchelor and Litchfield National Park, subject to access and signage restrictions. Commercial or ribbon development along the Stuart Highway, main roads and tourist routes, with the exception of the possible tourist facilities along Litchfield Park Road, is discouraged in the interests of safety and preserving the visual amenity and rural nature of the area.

Rum Jungle Lake could be utilised for more intensive public recreation such as non-motorised water-based activities providing picnic, BBQ and walking trails. The Little Finnis River could be identified as an open space reserve for the purposes of passive recreation. The land to the north of the Finnis River could be protected for the purposes of creating a green belt or wildlife corridor between Litchfield Park and the Darwin River Dam.

1.3.5 Adelaide River Catchment

Further tourism development and associated facilities at Lake Bennett should be at a scale commensurate with the locality’s physical and environmental capabilities and which maintain the areas rural character and amenity. Future development at the margins of Lake Bennett should not create or aggravate mosquito breeding sites.

Agriculture in the Tortilla Flats vicinity is encouraged, particularly practices which are suited to seasonal flooding to take advantage of potential flood irrigation. The subdivision of land consisting of levee soils adjacent to the Adelaide River will be restricted in the interests of preserving this land for horticulture purposes.

Walking and equestrian trails along the Coomalie and Glenluckie Creek, Smokey Creek and Stapleton Creek tributaries could be developed.

Future subdivision and development within the Marrakai locality will be restricted to protect a future source of potable water for the Darwin Region, in accordance with the recommendations of the Darwin Regional Water Supply Strategy.

Attachments

Attachment 1 Reference List

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Attachment 2 Development Guidelines for Biting Insects

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Figures

PART 2 - LAND USE OBJECTIVES

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2.1 The Vision

Land Use Objectives are the Government's land use policy statements, declared under the *Planning Act*. These *Coomalie Land Use Objectives* provide the framework for developing the Coomalie Sub-Region in a manner which preserves its rural nature and allows for continued development at a sustainable level. The Coomalie Sub-Region will continue to play a major role in the future development of the greater Darwin Region due to its natural resources, including mineral deposits and water supply, and as a prime location for tourism, horticulture/agriculture, industry, education and rural living.

2.2 Intended Outcomes

The Land Use Objectives are intended to achieve the following outcomes:

- A strategic, performance based approach to land use and development decisions.
- A strong economy based on sustainable tourism, agriculture, horticulture, mining and extractive industries.
- Expansion of the towns of Batchelor and Adelaide River to provide further residential and commercial developments and supporting community services as the population of the Sub-Region grows.
- A rural lifestyle compatible with the natural environment.
- Access to community and recreational facilities.
- An efficient and safe road network that provides for private and public transport and service vehicles.
- Valued heritage places and objects being appropriately used.

2.3 Key Objectives

Key objectives are land use objectives which relate to the entire Coomalie Sub-Region.

Key objectives for Coomalie are:

To protect land and water resources.

To promote and use the natural attributes of the region.

To provide an integrated transport network.

To protect human health.

To promote tourism development.

To promote development of mining and extractive industries.

To protect vegetation and prevent land degradation.

To protect sites with significant heritage status.

2.4 Land Use Objectives

The land use objectives are listed in boxes in the following sections and are related to specific land uses. They are accompanied by interpretation statements which provide guidance for the implementation of the land use objective.

2.4.1 Tourism

To promote the development of the tourism industry.

Tourism development in accordance with the Northern Territory Tourist Commission's *Regional Tourism Development Plan* 1996 is supported. Within Batchelor and Adelaide River there is potential for the development and expansion of short term tourist accommodation. Provision of 'Bed and Breakfast' style accommodation can be expanded to meet demand but will need to be strictly controlled and monitored.

To promote the provision of tourism infrastructure to increase tourist recreation activities.

Outdoor and water-based tourism opportunities such as bushwalking, boating and recreational fishing will be enhanced by the provision of infrastructure at strategic locations.

To develop a tourist resort development adjacent to Manton Dam.

There are opportunities for siting a significant resort development at Manton Dam on land owned by the Power and Water Authority. Development must protect possible future water supply options.

To promote heritage sites for tourism purposes.

The region is particularly rich in WWII heritage sites and these can achieve a greater profile for tourism purposes.

2.4.2 Horticulture and Agriculture

To identify, protect and retain land suitable for horticulture and agriculture for these purposes.

The region supports a diversity of horticultural and agricultural land uses such as agistment, live export and fodder production and less intensive pastoral activities. Horticultural and agricultural land uses must consider land capabilities and the potential impact on the natural environment and existing rural living areas.

2.4.3 Mining and Extractive Industry

To protect mineral and extractive resources.

To provide mine access routes.

To establish appropriate land uses on mine sites, as part of the rehabilitation program, prior to mining lease surrender.

To minimise the impact of mining and extractive industries on human health.

For mining and extractive industry to remain as one of the region's strongest sources of employment and economic growth, the industry must develop in an environmentally sensitive manner. Development on adjoining sites should not restrict mine access and extractive techniques. The Coomalie Sub-Region Land Use Structure Plan identifies appropriate land uses on mine sites, to continue after rehabilitation.

2.4.4 Commercial

To promote Batchelor and Adelaide River as the Sub-Region's commercial centres.

To identify land within Batchelor and Adelaide River which is suitable for commercial uses.

Commercial development should not create or exacerbate on street parking and access problems. Commercial zones can also incorporate community facilities.

2.4.5 Industrial

To promote general and light industry in Batchelor and Adelaide River.

Expansion of general and light industry in designated industrial or service/commercial areas in Batchelor and Adelaide River is supported. Industries producing noxious or hazardous waste streams must be located outside of ground water aquifer recharge areas.

All industry must comply with strict waste management procedures. All development within 2 km of town water supply bores in Batchelor and Adelaide River must be connected to a reticulated sewerage system or sewer by an appropriate waste disposal system.

2.4.6 Residential

To provide an adequate supply of land for urban and rural residential use.

To provide a range of urban and rural living options, avoiding land which is suitable for horticulture and agriculture.

As the region's population increases, a greater range of housing choice and affordability can be achieved. Development in urban and rural living areas must have regard to Territory Health Services' Guidelines for the prevention of biting insect problems and comply with the *Public Health Act* Regulations.

2.4.7 Health and Community Facilities

To provide a range of community services and recreational facilities.

To locate health and community facilities within Batchelor and Adelaide River and promote their co-location.

2.4.8 Transport and Infrastructure

To develop an efficient transport network.

To promote the use of low energy transport modes.

The Coomalie Sub-Region Road Hierarchy provides a structure for the development of a future transport network.

The AustralAsia Railway will ultimately impact on the development of the road network.

Use of low energy transport modes such as cycling, can be promoted through the provision of incentives such as dedicated pathways, resting points and drinking fountains. The former rail corridor presents a possibility for development as a cycleway.

2.4.9 Water Resources

To minimise the impact of development on water supply areas.

Development within closed water catchments must be restricted. Development must be consistent with resource management strategies and any beneficial uses, quality standards, criteria, or objectives which are declared under the *Water Act*.

2.4.10 Conservation

To protect vegetation which has significant ecological or amenity value.

The removal of vegetation from land with a slope greater than 10% is discouraged. The formulation of land clearing guidelines and land use controls will assist in the protection of vegetation of land vulnerable to degradation.

2.4.11 Open Space and Recreation

To identify, promote and maintain public access to open space, waterways and scenic attractions.

Use of open space must minimise the impact on the natural environment.

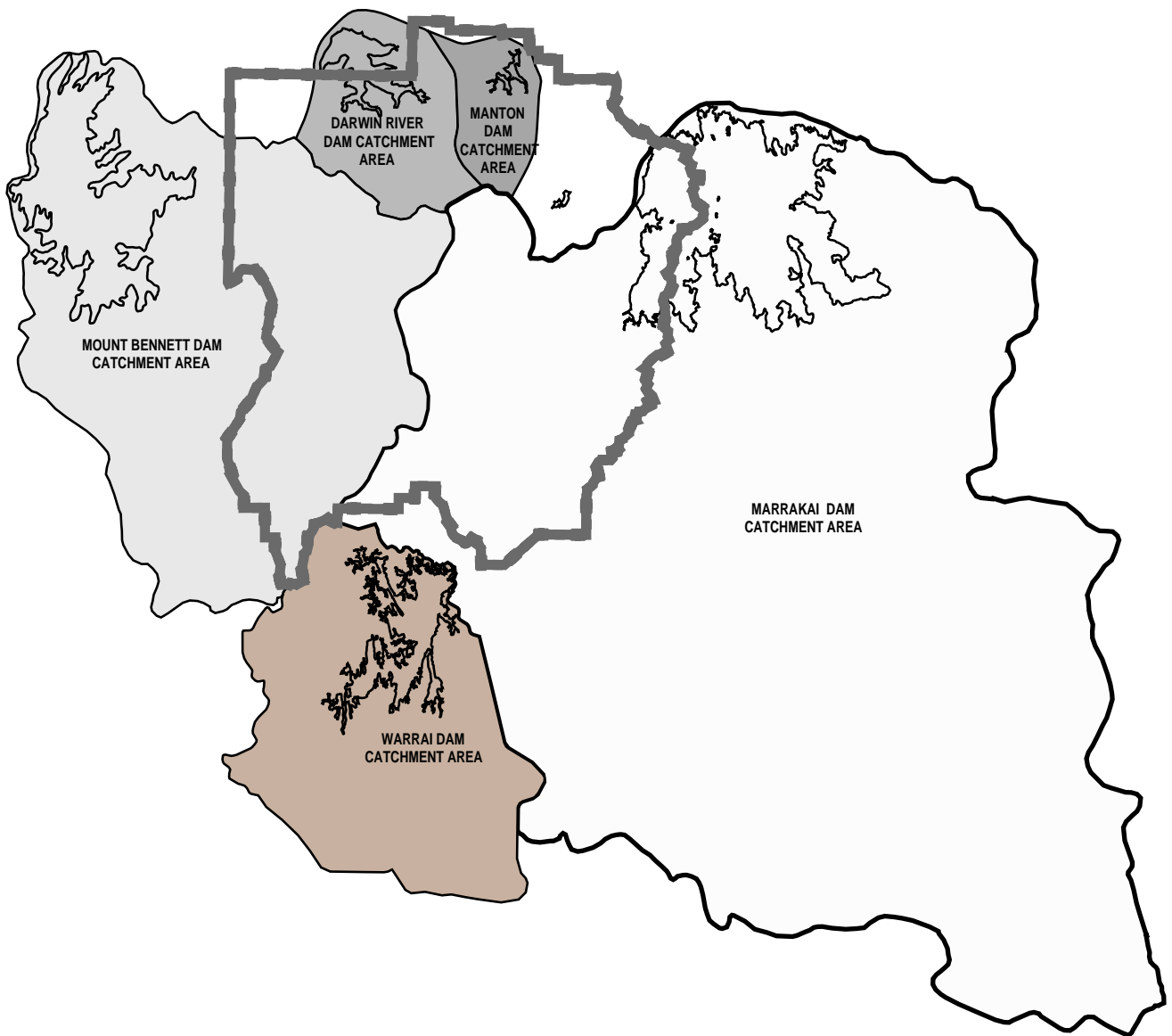
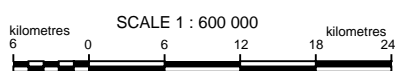
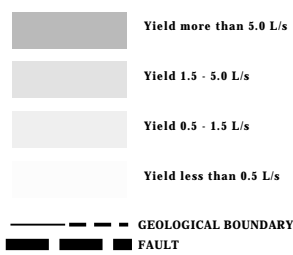
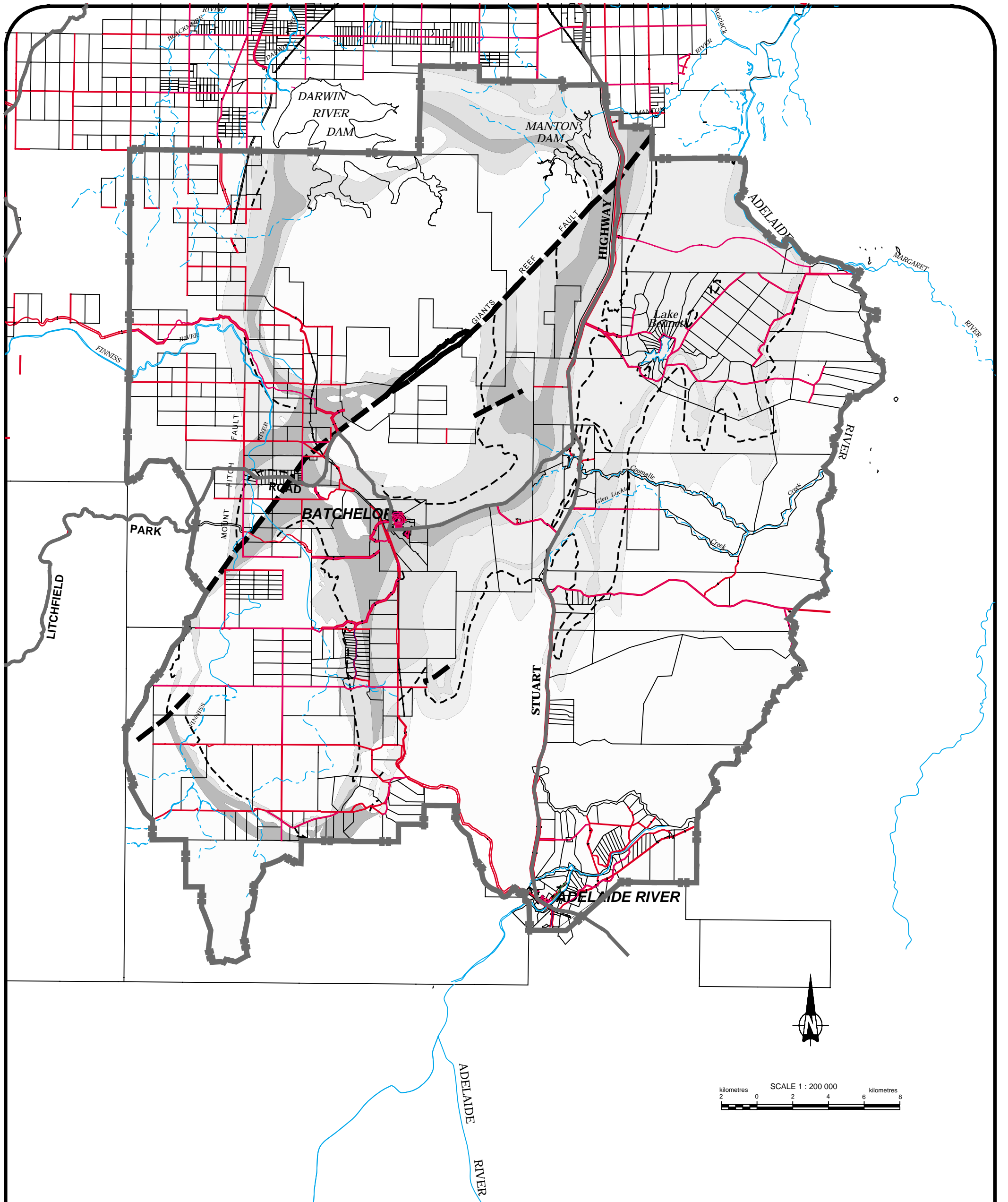


FIGURE 2
THE COOMALIE SUB-REGION
WATER CATCHMENTS





PREPARED FEBRUARY 1998

NOTE : THIS MAP SHOULD ONLY BE USED FOR REGIONAL GROUNDWATER ASSESSMENT.
 : DO NOT USE THIS MAP FOR ASSESSMENT OF GROUNDWATER SUPPLY PROSPECTS ON SPECIFIC SITES OR INDIVIDUAL BLOCKS.
 : LOCAL VARIATIONS IN SUPPLY WILL OCCUR
 : GEOLOGICAL BOUNDARIES ARE INFERRED ONLY

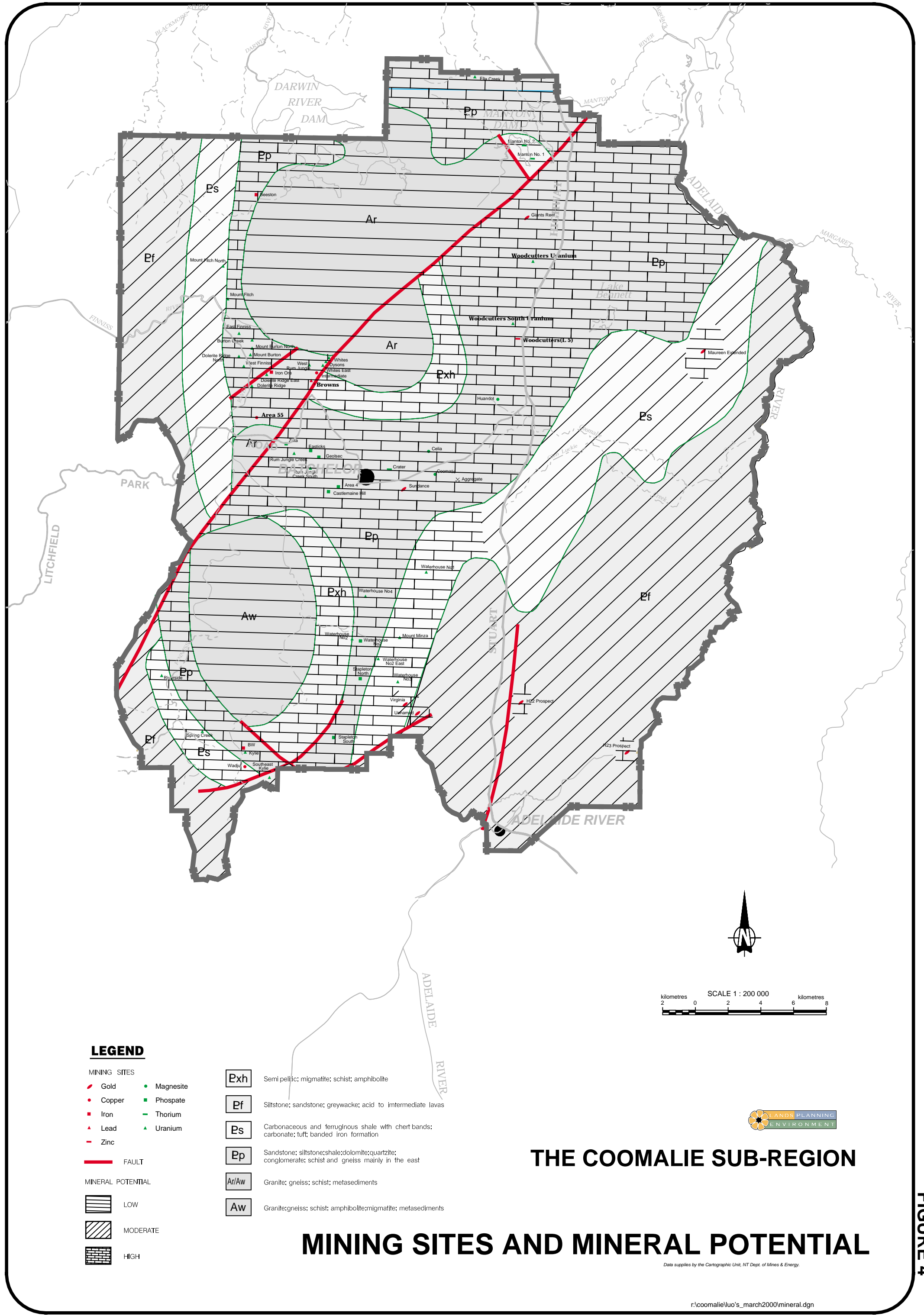
THE COOMALIE SUB-REGION

GROUNDWATER SUPPLY PROSPECTS



SCALE 1 : 200 000
 kilometres 0 2 4 6 8 kilometres





LEGEND

- MINING SITES**
- Gold
 - Copper
 - Iron
 - ▲ Lead
 - Zinc
 - Magnesite
 - Phosphate
 - Thorium
 - ▲ Uranium

- MINERAL POTENTIAL**
- LOW
 - MODERATE
 - HIGH

- Exh** Semi pelitic; migmatite; schist; amphibolite
- Pf** Siltstone; sandstone; greywacke; acid to intermediate lavas
- Es** Carbonaceous and ferruginous shale with chert bands; carbonate; tuff; banded iron formation
- Pp** Sandstone; siltstone; shale; dolomite; quartzite; conglomerate; schist and gneiss mainly in the east
- Ar/Aw** Granite; gneiss; schist; metasediments
- Aw** Granite; gneiss; schist; amphibolite; migmatite; metasediments

THE COOMALIE SUB-REGION

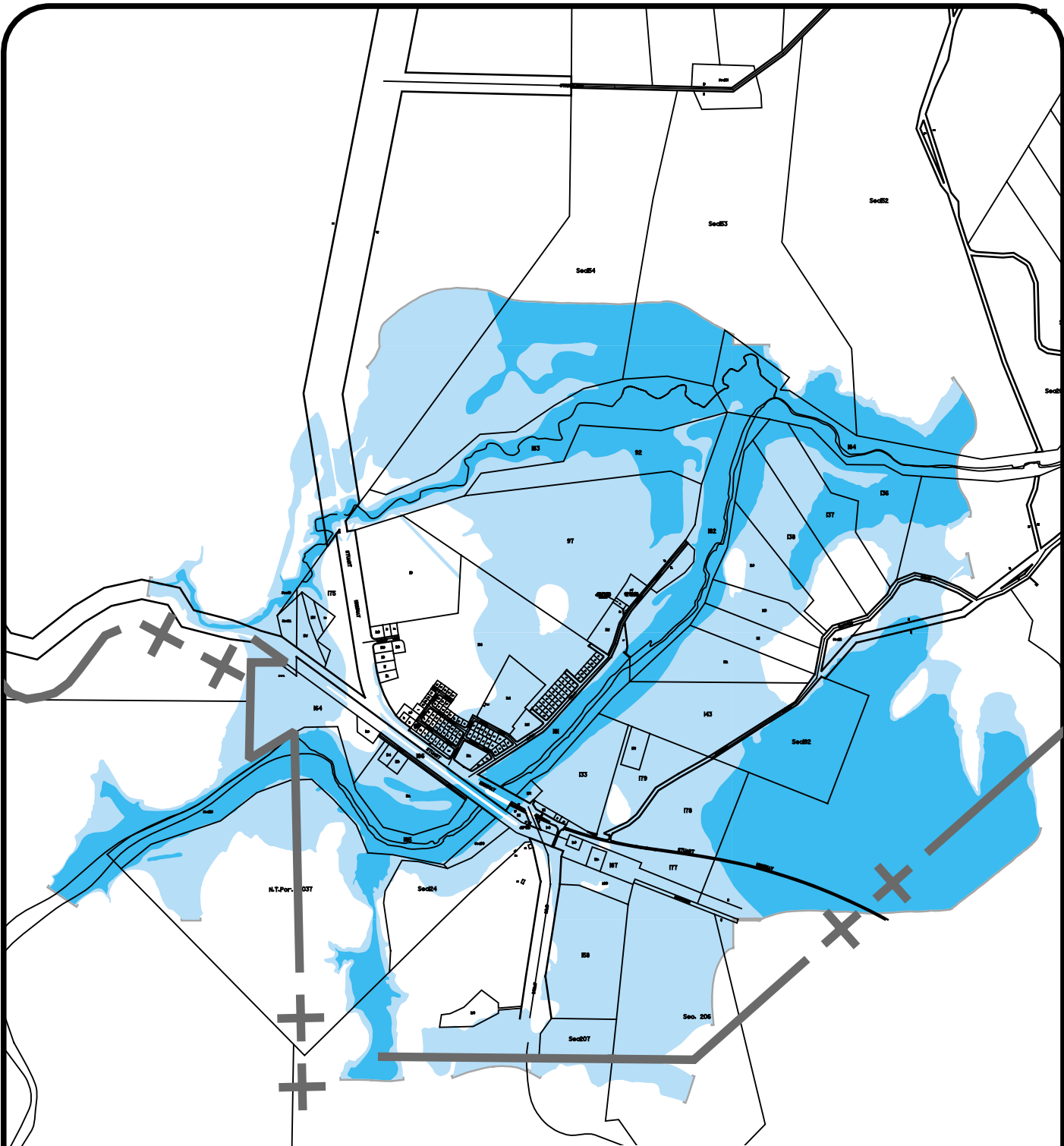
MINING SITES AND MINERAL POTENTIAL

SCALE 1 : 200 000
kilometres 0 2 4 6 8 kilometres






Data supplied by the Cartographic Unit, NT Dept. of Mines & Energy.

FIGURE 4



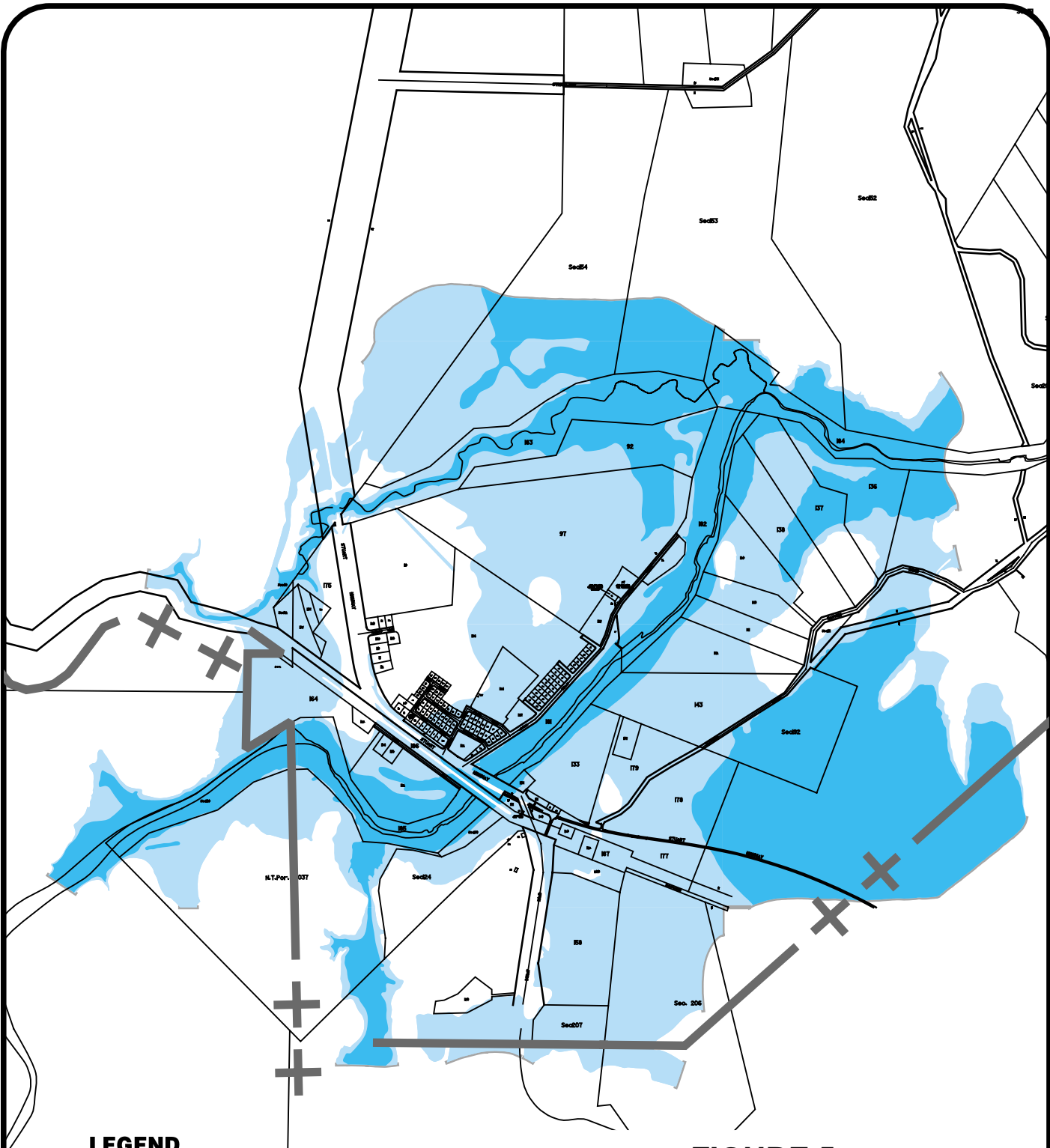
LEGEND

-  FLOODWAY
-  1.0% AEP FLOOD EVENT
-  EXTENT OF MAPPING




**FIGURE 5
THE COOMALIE SUB-REGION
FLOOD LEVELS -
TOWN OF ADELAIDE RIVER**



kilometres SCALE 1 : 30 000 kilometres
3 0 3 6 9 12



LEGEND

-  FLOODWAY
-  1.0% AEP FLOOD EVENT
-  EXTENT OF MAPPING

**FIGURE 5
THE COOMALIE SUB-REGION
FLOOD LEVELS -
TOWN OF ADELAIDE RIVER**



kilometres SCALE 1 : 30 000 kilometres
3 0 3 6 9 12

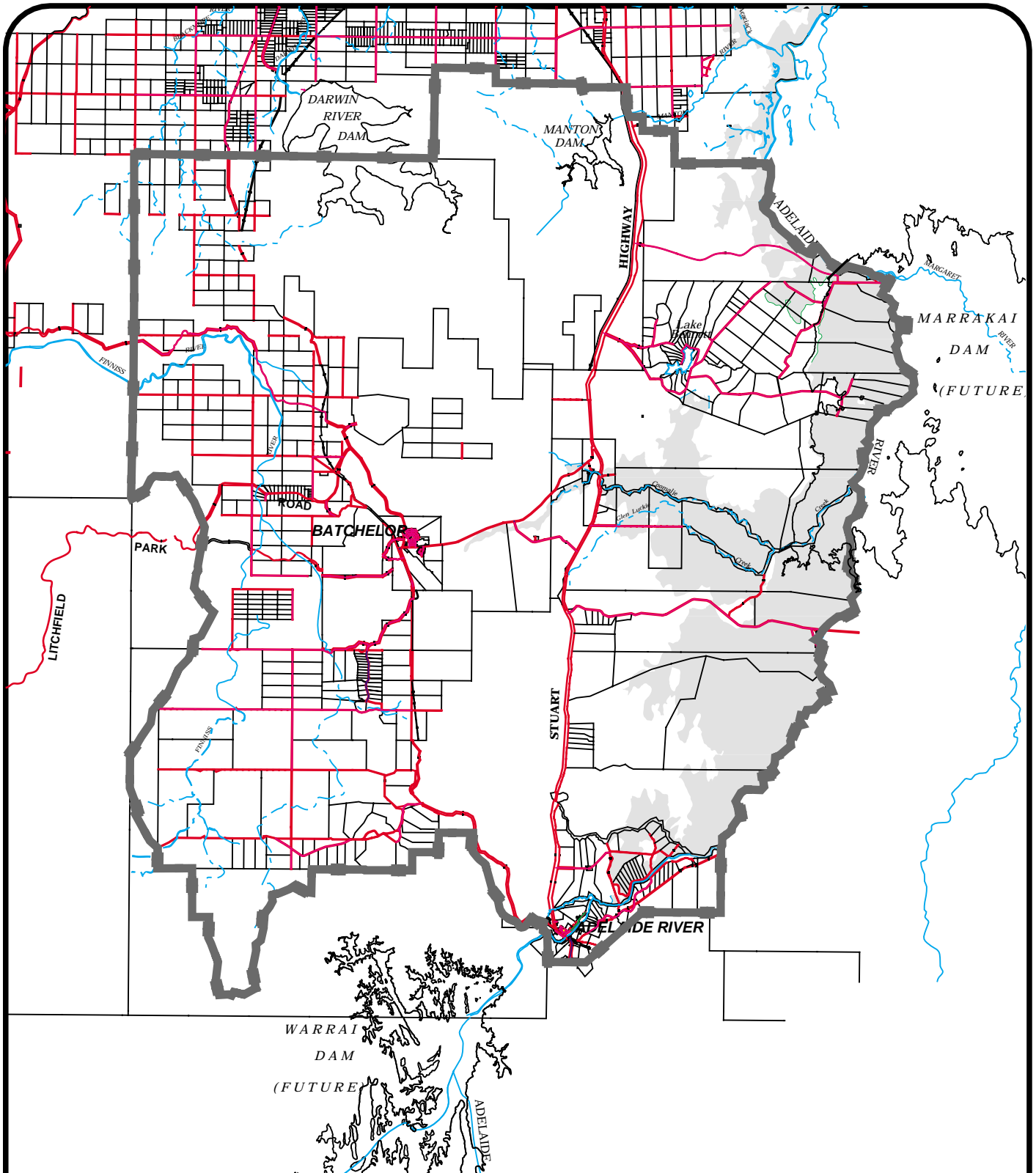


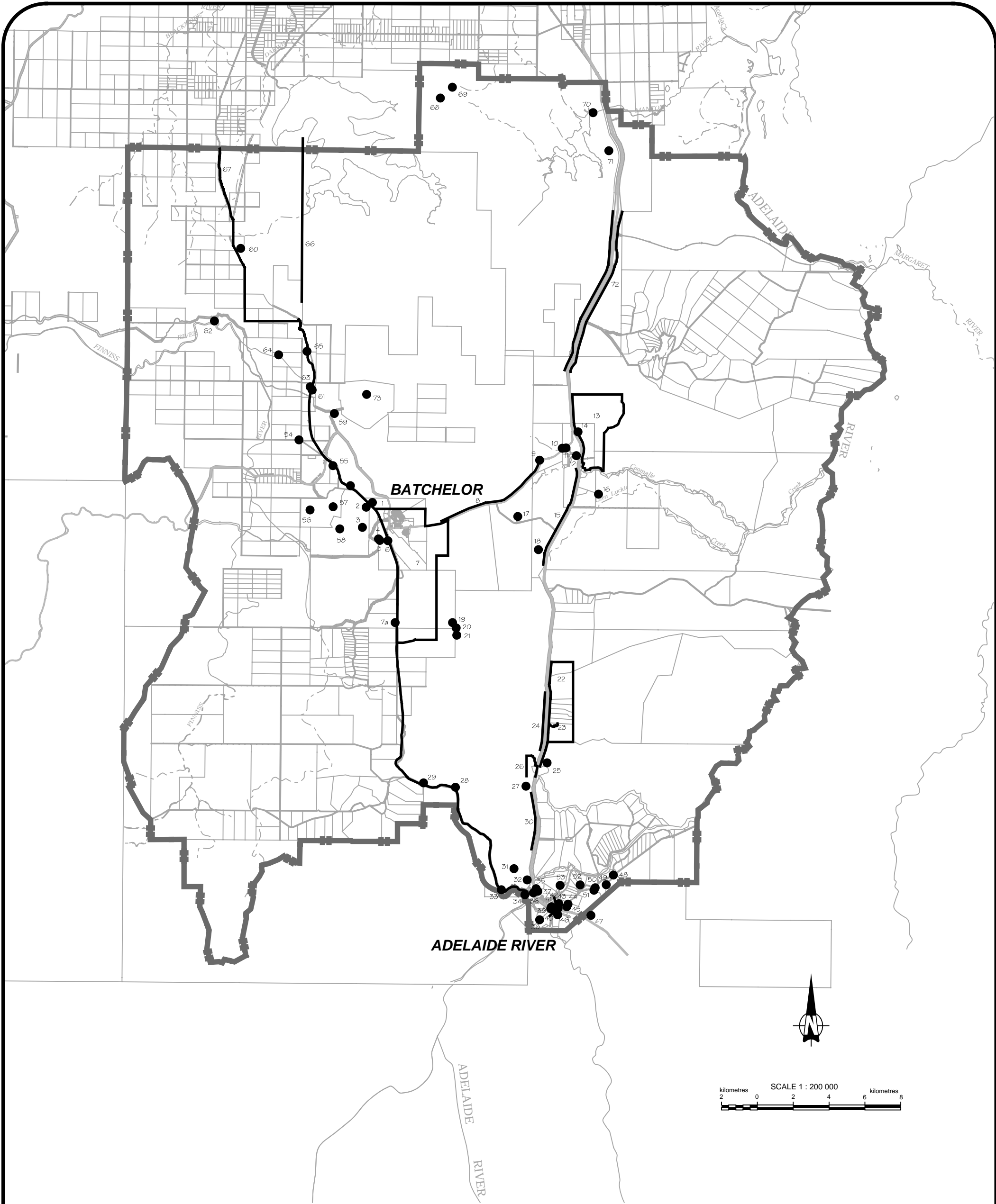
FIGURE 6
THE COOMALIE SUB-REGION
FLOOD LEVELS-ADELAIDE RIVER

LEGEND

 1.0% AEP FLOOD EVENT



kilometres SCALE 1 : 300 000 kilometres
3 0 3 6 9 12



LEGEND

● HISTORICAL SITE

THE COOMALIE SUB-REGION

HISTORICAL SITES

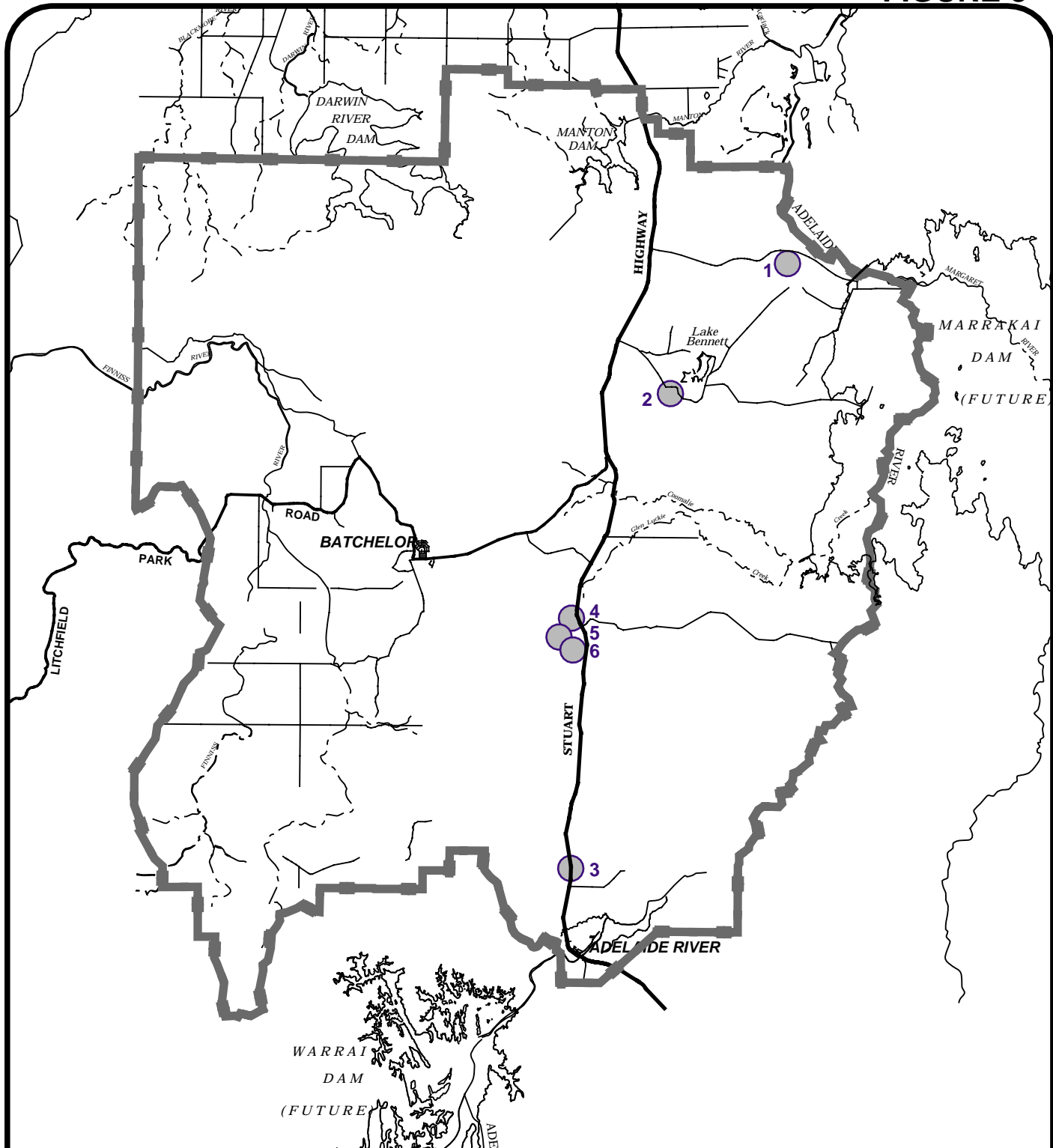


Figure 7 Historical Sites

Location	Significance
1	Rum Jungle Railway Siding and Rum Jungle Hotel Sites. Artefact scatters at both sites with extensive scatter, building sites and kitchen fireplace at hotel site.
2	Flynn homestead and gardens site. Some remains of building foundations and artefact scatters.
3	Castlemaine Hill - remains of bases to wartime water tanks and station.
4	Wartime anti-aircraft position. Extensive remains of gun positions. Interpreted as part of the 1992 War Service Memorial Year.
5	Anti-aircraft site. Drums set in revetted positions.
6	Batchelor railway siding. Remains of shed foundations . Artefact scatters from 1912 to the 1970s.
7	Batchelor Airfield, Gould Airfield and associated wartime and historic sites associated with the Batchelor Demonstration Farm, Aboriginal sites and development of the township. Extensive remains throughout of wartime sites, taxiways, revetments, aircraft inserts and associated artefact scatters.
7(a)	Remains of wartime taxiway, stop butts and small arms range.
8	Military camp sites along the ridge line overlooking Batchelor-Coomalie Road. Extensive remains of building sites and access tracks.
9	Site of the Australian Wireless Signals Group camp and intercept station - building slabs, fireplaces, antennae guys . Extensive military dump site adjacent to main road.
10	Coomalie Army Farm - remains of gardens and building foundation.
11	RAAF No. 1 Medical Receiving Station - extensive building remain slabs, tennis court. Interpreted as 1992 War Service Memorial Year. Sidney Williams huts erected post war remain to the south on Coomalie Creek.
12	Anti-aircraft (40mm Bofors) site on ridge overlooking airfield. Extensive remains.
13	Coomalie Airfield - extensive remains of a wartime airfield with active runway, camp sites, taxiways, technical areas, aircraft relics. Site is actively conserved by owner, Richard Luxton.
14	Remains of military camp site and slabs.
15	Military camp site, building sites, technical areas, admin areas and cable junction hut.
16	Site of Australian Wireless Signals Group - slab, scatters.
17	Crater Lake. Some remains of military occupation.
18	Extensive military camp and workshops and RAAF units. Extensive remains of domestic and technical sites.
19	Military camp site – slab.
20	Extensive military dump site.

- 21 Crash site of bomber aircraft - remains of major structural components and personal items.
- 22 Pell Airfield district.
- 23 Southern taxiway - slabs, artefact scatters.
- 24 Western side of highway contains building sites, recreational facilities and artefact scatters.
- 25 Extant military building site.
- 26 Military camp site remains - slab, scatters.
- 27 Military camp site with bore stand, ablutions and domestic building sites including mess and accommodation. Extensive artefact scatters.
- 28 Site of Our House Hotel.
- 29 Stapleton Railway Siding (69 mile) with remains of loop and line, yards, foundations.
- 30 Military camp sites.
- 31 Snake Creek Armament Depot. Extensive sidings, explosives storage facilities and domestic areas. Interpreted as part of the 1992 War Service Memorial Year and included on the NT Heritage Register.
- 32 Former north-south road alignment with bridge over and significant natural values including a billabong.
- 33 Former North Australia Railway bridge to Snake Creek sidings.
- 34 Explosives storage set into the sides of Mt. Carr. Tunnels and artefacts recorded.
- 35 Extant military site.
- 36 Site of military stores and sidings.
- 37 Site of military stores, bakery.
- 38 Site of US Army Base Section One.
- 39 Adelaide River Pioneer Cemetery. Interpreted as a Coomalie Community Council/national Trust Project.
- 40 Former post war Adelaide River Store.
- 41 Former 1930s police station with cell block extant.
- 42 Military camp site.
- 43 Aboriginal camp area WWII.
- 44 Military site with building foundation, fireplace and chimney.
- 45 Pre war railway spur line.
- 46 Adelaide River Railway Precinct including bridge. Included on NT Heritage Register.
- 47 Adelaide River Aerodrome. Runway remains and artefacts.
- 48 US Navy Fleet Radio Station remains - extensive slabs, latrines, technical areas and scatters.
- 49 Former wartime strip with large hangar foundations.
- 50 US Navy Communications site.
- 51 Grave site of Harry Hardy of Mt Bundy Station.
- 52 Site of Wartime No. 119 Australian General Hospital. Extensive remains.

- 53 Adelaide River War Cemetery.
- 54 Poetts northern plantation.
- 55 Artefact scatters of old Coach Road.
- 56 Poetts southern plantation site.
- 57 Rum Jungle Creek South mine site - some remaining plant and slabs
- 58 Meneling Abattoir site.
- 59 Abandoned mine site with slabs, mining equipment including a pump and associated artefact scatters.
- 60 Colletts Creek - remains of Travellers Rest Hotel.
- 61 Extant railway bridge *circa* 1888 with rocky crossing and significant natural values.
- 62 Crash site of p-40 aircraft.
- 63 Extant railway bridge *circa* 1888.
- 64 Hyse's agricultural venture.
- 65 Approximate location of hand built stone crossing associated with teamsters camp.
- 66 46 Mile (Beetson) Siding - gangers hut and fettlers camp with associated artefact scatters.
- 67 Old Coach Road alignment - various artefacts along its length.
- 68 Crash site of p-40 aircraft.
- 69 Crash site of p-40 aircraft. Both aircraft in mid-air collision. Impact sites and extensive remains.
- 70 1940 dam with pump house and residence *circa* 1940 of Burnett design.
- 71 Approximate location of two spitfire following mid-air crash.
- 72 Areas of extensive military activities - large camps remains and associated building sites and artefact scatters.
- 73 Extended Rum Jungle Uranium Mine, artefact scatters and diggings.

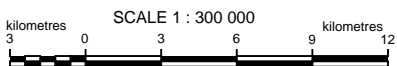


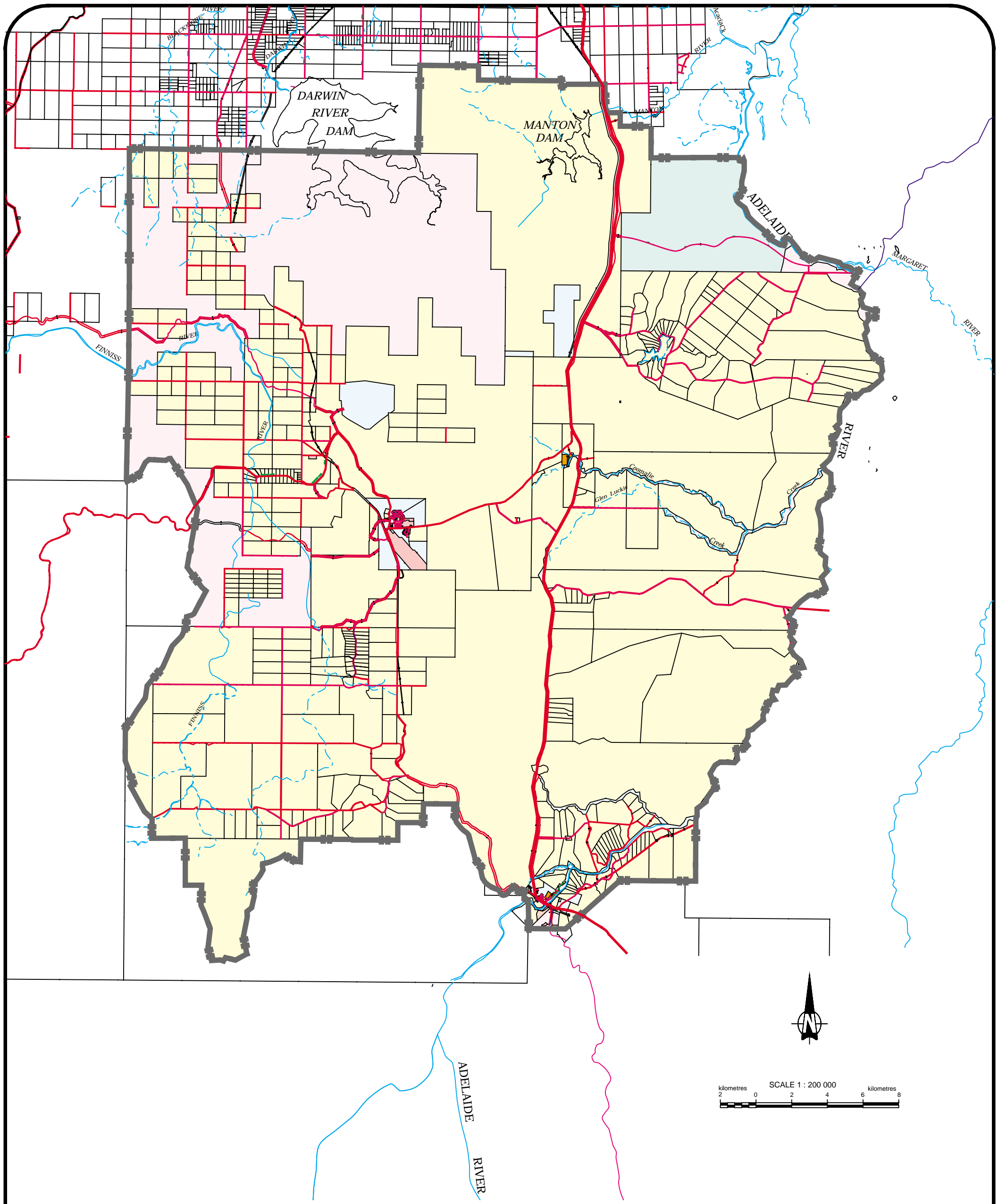
LEGEND

-  ARCHAEOLOGICAL SITE
- 1** BILLY CLARKE SITE - ARTEFACT SCATTER
- 2** LAKE BENNETT - ARTEFACT SCATTER
- 3** BURNS RAILWAY 6 - ARTEFACT SCATTER
- 4** BURNS RAILWAY 7 - ARTEFACT SCATTER
- 5** BURNS RAILWAY 8 - STONE QUARRY
- 6** BURNS RAILWAY 9 - ARTEFACT SCATTER









**FIGURE 8
THE COOMALIE SUB-REGION
ARCHAEOLOGICAL SITES**

Source: D.Guse – Quaternary Archaeological surveys (1998)



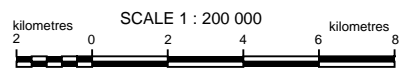


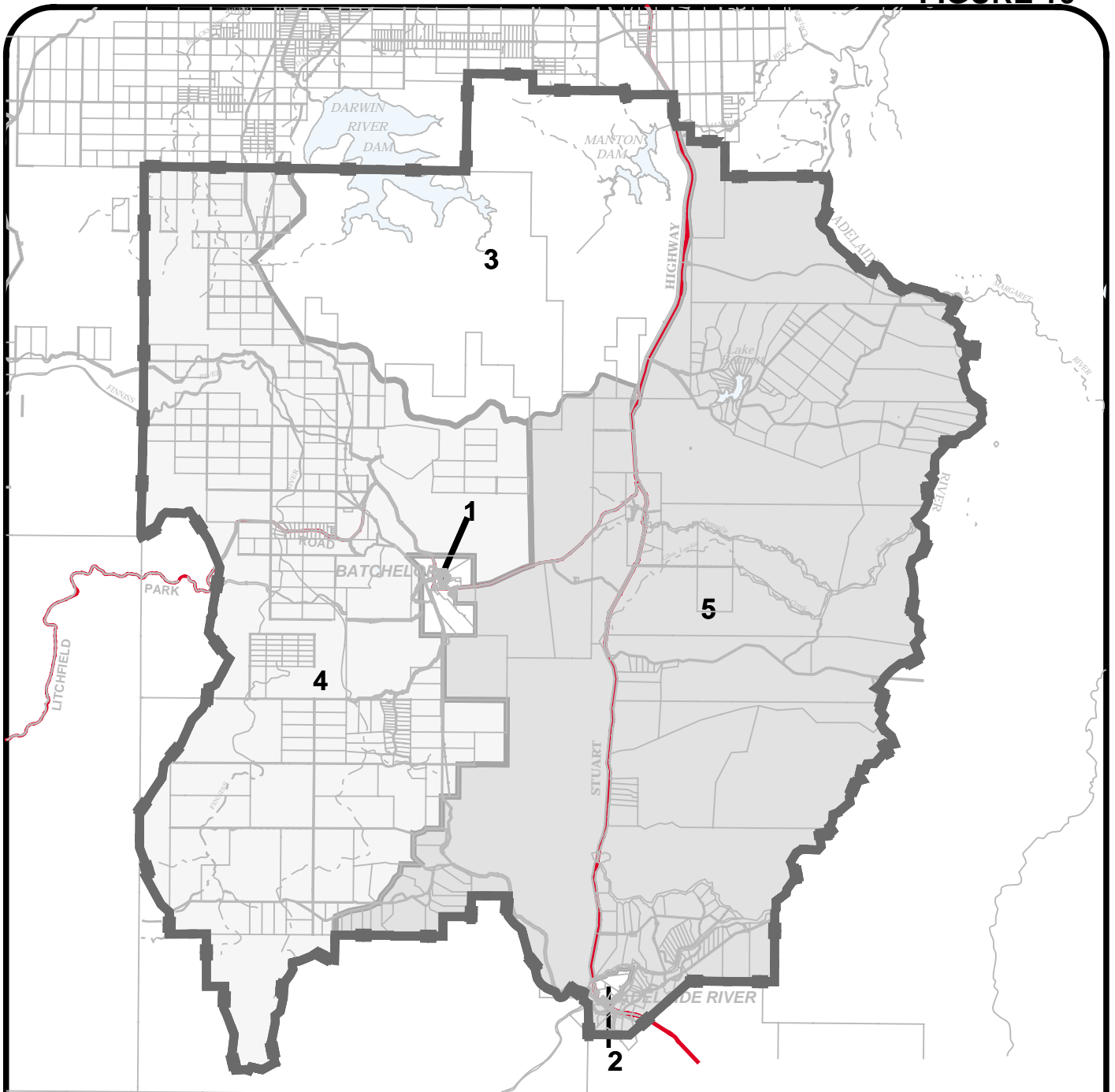
LEGEND

	FREEHOLD		MISCELLANEOUS LEASE
	PASTORAL LEASE		RESERVE
	CROWN LEASE PERPETUAL		VACANT CROWN LAND
	CROWN LEASE TERM		GOVERNMENT USE


COOMALIE SUB-REGION

**LAND TENURE
AS AT 23 MARCH 2000**

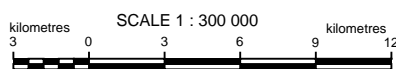


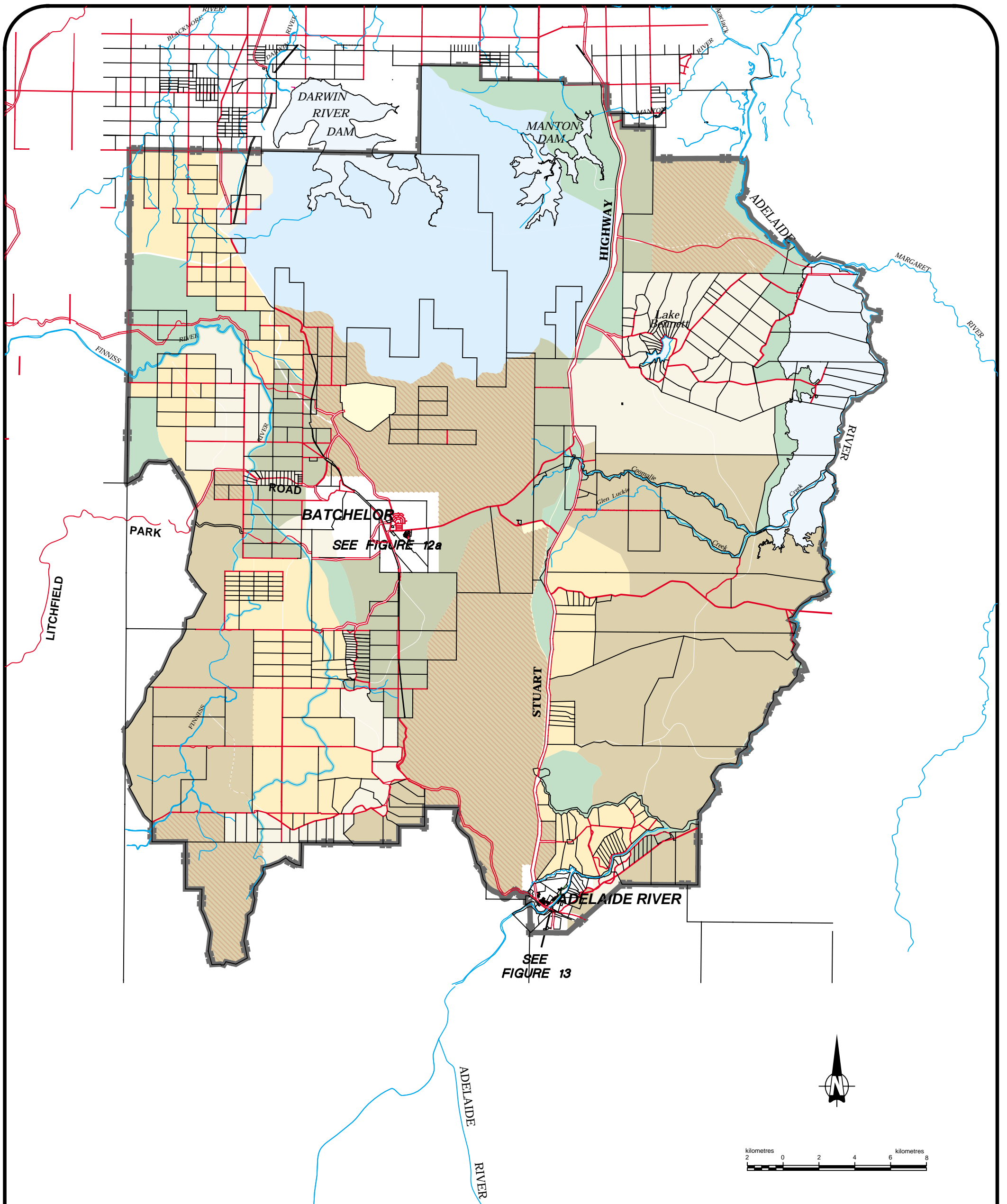


LEGEND

-  LOCALITY BOUNDARIES
- 1** TOWN OF BATCHELOR
- 2** TOWN OF ADELAIDE RIVER
- 3** DAM CATCHMENTS
- 4** FINNISS CATCHMENT
- 5** ADELAIDE RIVER CATCHMENT

**FIGURE 10
THE COOMALIE SUB-REGION
LOCALITY PLAN**





LEGEND

- | | | | |
|---|----------------------------|---|----------------------------------|
|  | RURAL LIVING (8ha +) |  | HORTICULTURE |
|  | RURAL LIVING (Constrained) |  | CROP GROWING & IMPROVED PASTURES |
|  | WATER MANAGEMENT |  | GRAZING (Natural Pastures) |
|  | CONSERVATION & RECREATION | | |
|  | SPECIAL USE | | |

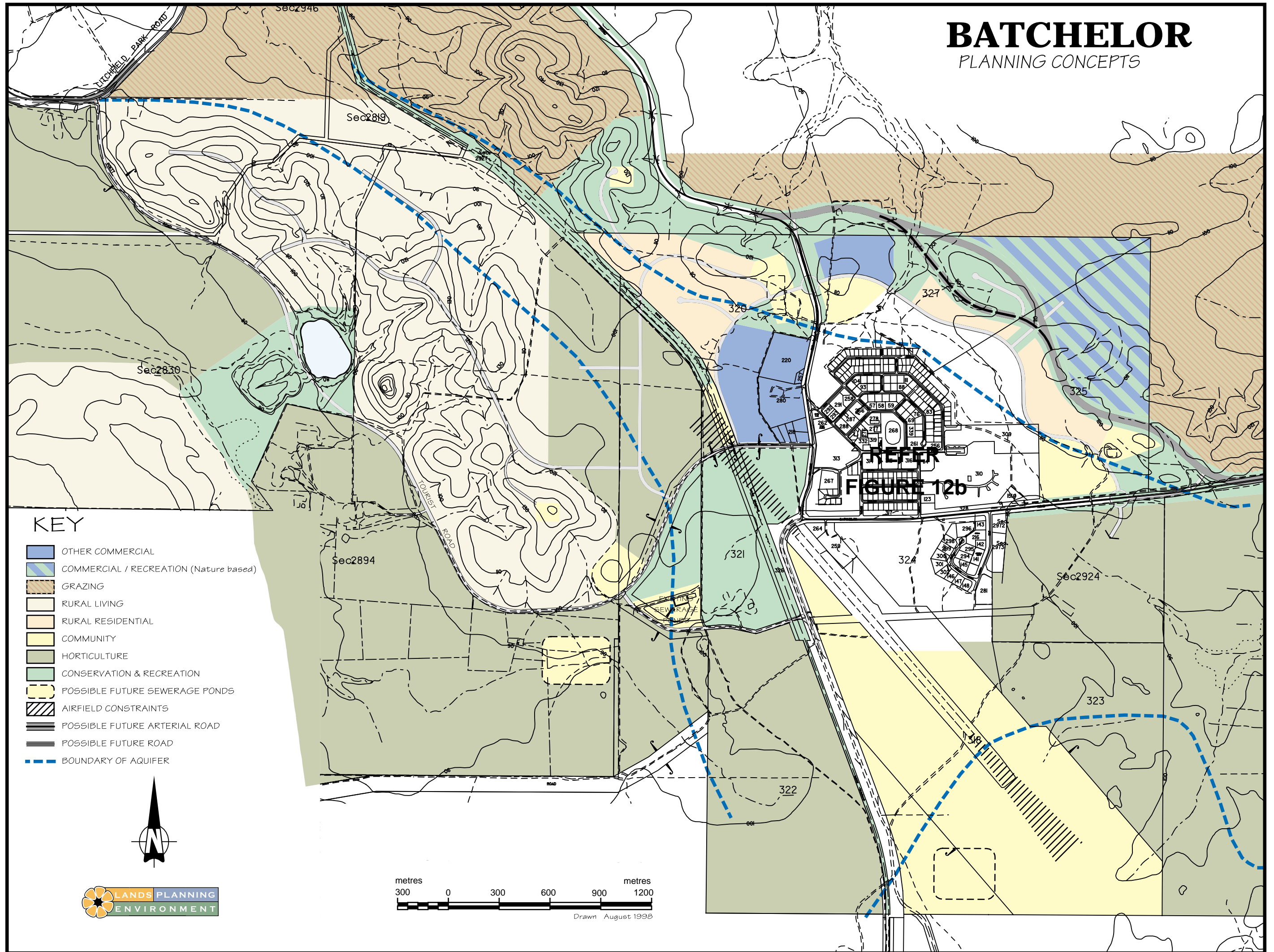
COOMALIE SUB-REGION

LAND USE STRUCTURE PLAN
















BATCHELOR

PLANNING CONCEPTS



KEY

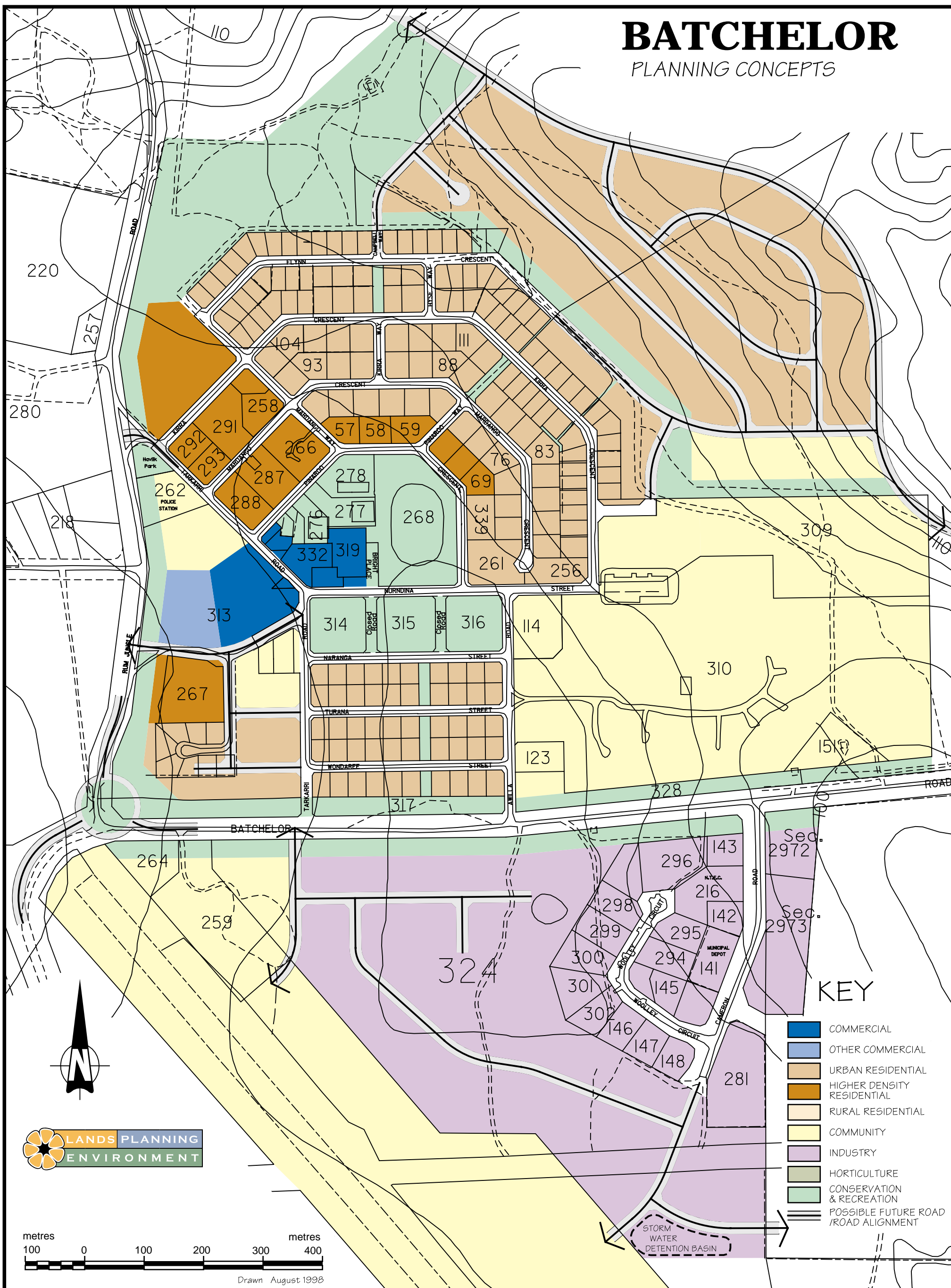
-  OTHER COMMERCIAL
-  COMMERCIAL / RECREATION (Nature based)
-  GRAZING
-  RURAL LIVING
-  RURAL RESIDENTIAL
-  COMMUNITY
-  HORTICULTURE
-  CONSERVATION & RECREATION
-  POSSIBLE FUTURE SEWERAGE PONDS
-  AIRFIELD CONSTRAINTS
-  POSSIBLE FUTURE ARTERIAL ROAD
-  POSSIBLE FUTURE ROAD
-  BOUNDARY OF AQUIFER



Drawn August 1998

BATCHELOR

PLANNING CONCEPTS



KEY

- COMMERCIAL
- OTHER COMMERCIAL
- URBAN RESIDENTIAL
- HIGHER DENSITY RESIDENTIAL
- RURAL RESIDENTIAL
- COMMUNITY
- INDUSTRY
- HORTICULTURE
- CONSERVATION & RECREATION
- POSSIBLE FUTURE ROAD / ROAD ALIGNMENT

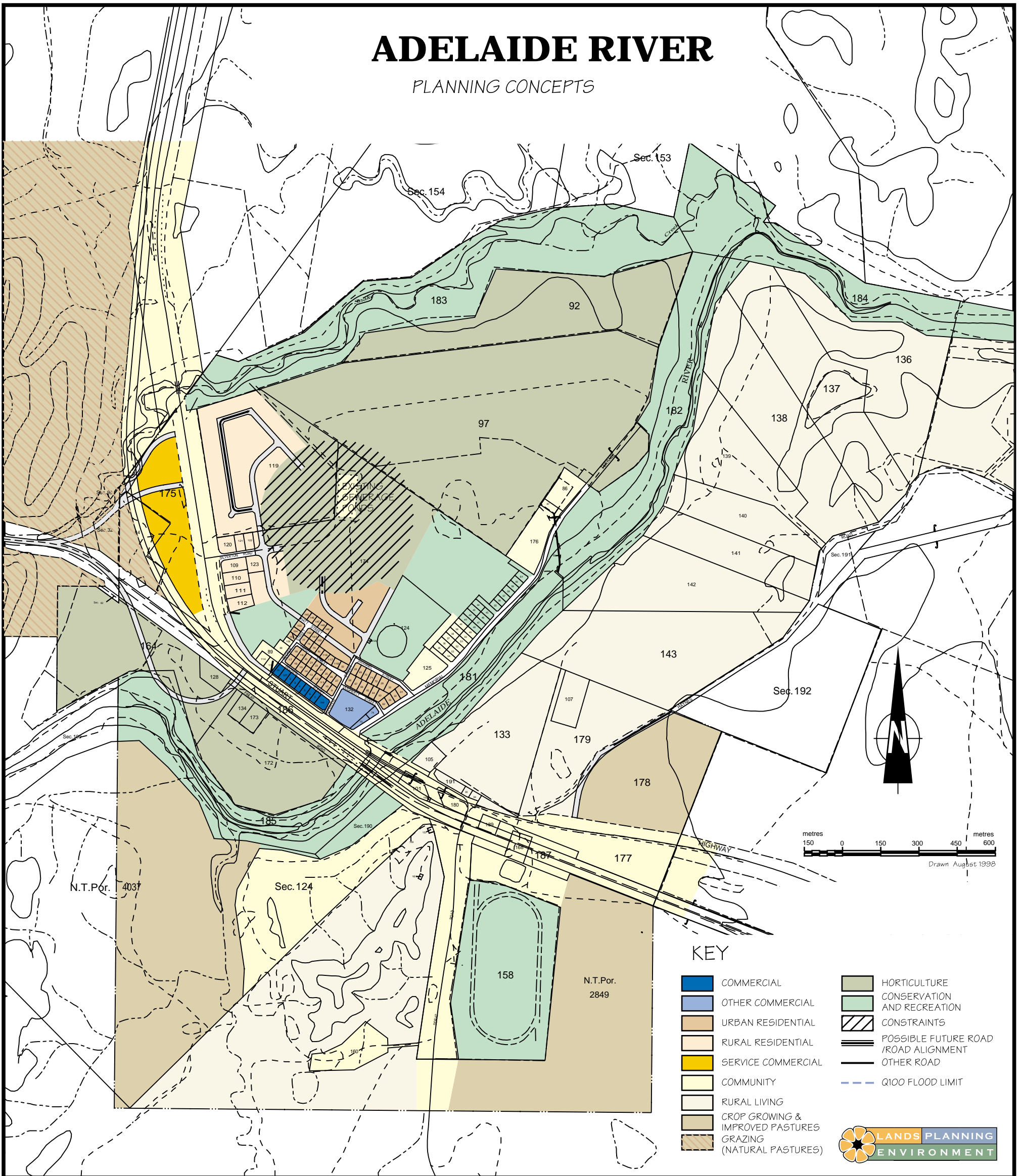


Drawn August 1998

FIGURE 12b

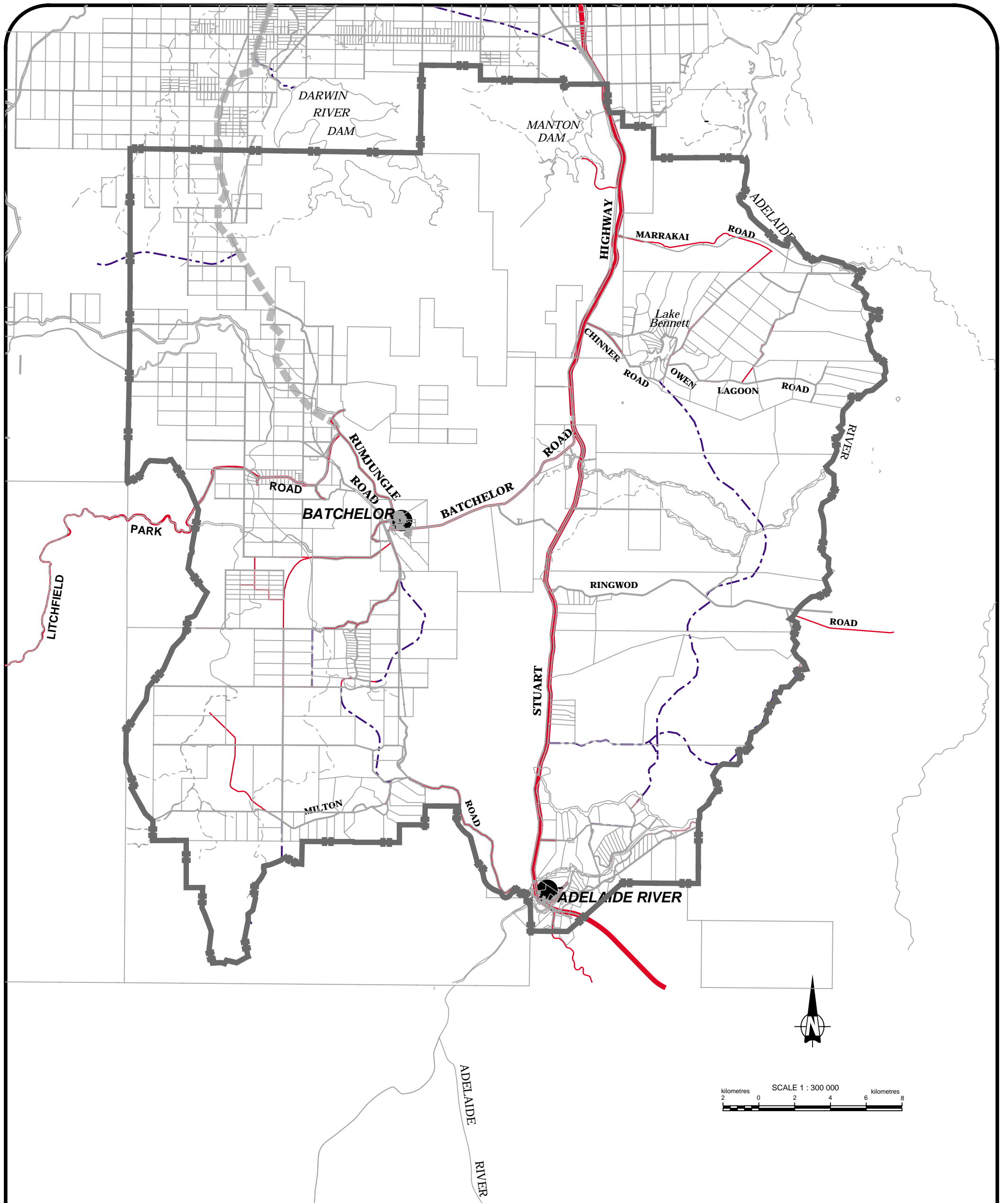
ADELAIDE RIVER

PLANNING CONCEPTS



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FIGURE 13



- LEGEND**
- EXISTING ARTERIAL ROADS
 - FUTURE ARTERIAL ROAD CORRIDOR
 - EXISTING COLLECTOR ROADS
 - FUTURE COLLECTOR ROADS

THE COOMALIE SUB-REGION

ROAD HIERARCHY

