

SHIRE OF NORTHAM

LOCAL PLANNING STRATEGY

Endorsed by the Western Australian Planning Commission
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Prepared for

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TABLE OF CONTENTS

1.	INTRODUCTION.....	1
1.1	Scheme Review	1
1.2	Background	1
1.3	Scheme Objectives	1
1.4	Scheme Area	2
2.	STATE AND REGIONAL PLANNING CONTEXT	4
2.1	Introduction	4
2.2	State Planning Strategy (1997).....	4
2.3	Avon Arc Sub-Regional Strategy (2001).....	5
2.4	Statement of Planning Policy No. 2.5 - Agricultural and Rural Land Use Planning (2002).....	5
2.5	Shire of Northam Strategic Plan (1996).....	6
2.6	Shire of Northam Local Rural Strategy (1999).....	7
2.7	Town of Northam Expansion Strategy (1998).....	9
2.8	Shire of Northam Municipal Heritage Inventory (1996).....	9
2.9	Conclusions.....	10
3.	PROFILE AND KEY ISSUES	11
3.1	Land Use Issues	11
3.2	Environmental Issues.....	22
4.	COMMUNITY PARTICIPATION.....	34
4.1	Introduction	34
4.2	Bakers Hill	34
4.3	Clackline.....	37
4.4	Grass Valley.....	40
4.5	Individual Community Comments	42
4.6	Conclusion	42
5.0	LOCAL PLANNING STRATEGY	44
5.1	Introduction	44
5.2	Wundowie	44
5.3	Bakers Hill	45
5.4	Clackline and Spencers Brook.....	46
5.5	Grass Valley.....	46
5.6	Northam	47
5.7	Subdivision in the Shire	48
5.8	Overall Subdivision Strategy for the Shire of Northam	48
5.9	Impact of Subdivision Strategy	52
5.10	Special Control Areas	53
5.11	Buffer Zones.....	55
5.12	Water Resources	58
5.13	Rural Lots with no Road Access	59
5.14	Feedlots	59
5.15	Locally Undesirable Land Uses	60
5.16	Conclusions.....	60
6.0	MONITORING AND REVIEW.....	63
7.0	REFERENCES AND BIBLIOGRAPHY	64
	APPENDIX 1 - LOCAL PLANNING STRATEGY MAP	67

List of Figures

Figure 1: Shire of Northam Locality Plan	3
Figure 2: Shire of Northam Local Rural Strategy	8
Figure 3: Generalised Geology	25
Figure 4: Soils of the Shire of Northam.....	26
Figure 5: Shire of Northam Drainage Catchments.....	27
Figure 6: Map of Remnant Vegetation in the Shire of Northam.....	28

List of Tables

Table 1: Population of Local Government Areas	11
Table 2: Age and Sex Percentages of Shire Residents.....	12
Table 3: Population Projections for Shire and Town of Northam.....	12
Table 4: Projected Age Groupings for Shire of Northam as a Percentage of Total Population.....	12
Table 5: Occupied Private Dwelling Types	13
Table 6: Total Number of Private Dwellings in Shire of Northam	13
Table 7: CALM Controlled Nature Reserves in the Shire of Northam	30
Table 8: Subdivision Potential of Land around Shire Townsites.....	52
Table 9: Estimated Number of New Lots	53

1. INTRODUCTION

1.1 SCHEME REVIEW

This Local Planning Strategy has been prepared in accordance with Regulation 12 of the Town Planning Regulations 1967 under the provisions of the Town Planning and Development Act 1928.

The purpose of this Local Planning Strategy is to present an analysis of the investigations and surveys undertaken during the review of the Shire of Northam Town Planning Scheme No.2 and to provide strategic guidance for future land use and development within the Shire. The strategy is intended to provide an explanation of the content of the Shire's new Town Planning Scheme No.3 but it is not part of the Statutory Scheme. It has also been prepared in accordance with the requirements of the Town planning Amendment Regulations 1999 as this relates to the Model Scheme Text.

1.2 BACKGROUND

This Local Planning Strategy has been prepared in response to the requirement for new guidelines for land use and development in the Shire of Northam. The Shire's Town Planning Scheme No. 2 was prepared in 1984 and gazetted in 1985. Since then thirty-three (33) separate amendments have been initiated. The Shire adopted a limited Rural Strategy in 1992. Town planning consultants Taylor Burrell prepared a Scheme Examination Report in 1998, which recommended the adoption of a new Scheme. In 1999 the Shire prepared a Local Rural Strategy and commenced preparation of Town Planning Scheme No.3.

1.3 SCHEME OBJECTIVES

The objectives of the Shire of Northam Local Planning Strategy are:

- To ensure the long-term protection of the Shire's viable agricultural base.
- To permit more intensive use of land in environmentally suitable areas.
- To provide for future growth at existing centres of urban development and identify future industrial centres.
- To ensure the protection of basic raw materials deposits in the Shire.
- To ensure the protection of environmentally sensitive waterways in recognition of their special management requirements.
- To ensure the protection of the environmental, heritage and cultural values.
- To provide for the preservation of native vegetation throughout the Shire and the rehabilitation and revegetation of degraded areas.
- To ensure the protection of the rural vista adjacent to highways.
- To provide for planning which is responsive to the changing needs of the community and which will not prejudice long-term options for the future planning and development of the Perth Metropolitan Region.

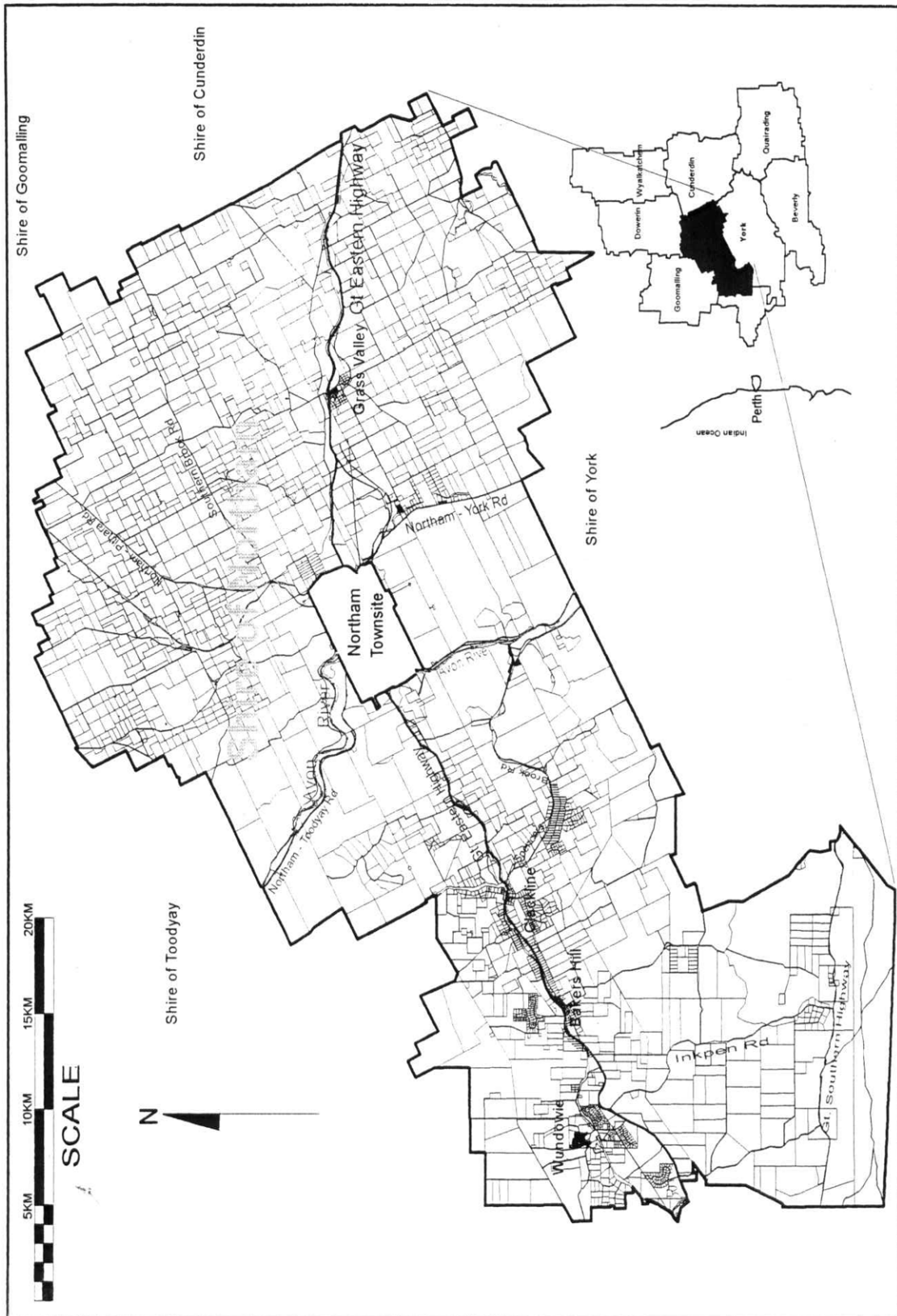
1.4 SCHEME AREA

The Shire of Northam is located at the western edge of the Wheatbelt Region of Western Australia. It is located approximately 60 kilometres east of Perth and covers an area of 1404.4 square kilometres. The Town of Northam forms a separate Local Government Area at the centre of the Shire.

The largest town in the Shire is Wundowie. Other urban nodes are located at Bakers Hill, Clackline, Spencers Brook and Grass Valley.

The area to be covered by the Local Planning Strategy and Town Planning Scheme No.3 includes the entire land area of the Shire (Figure 1).

FIGURE 1: SHIRE OF NORTHAM LOCALITY PLAN



2. STATE AND REGIONAL PLANNING CONTEXT

2.1 INTRODUCTION

A Local Planning Strategy is prepared within the parameters set by State and Regional planning policies. The State government through the Western Australian Planning Commission (WAPC) can set overall principles to strive for in land use planning throughout Western Australia. At progressively more detailed levels it can then specify strategies and actions in the regions and sub-regions. Finally, the local government's and local community's objectives should be considered in the preparation and implementation of a Local Planning Strategy.

2.2 STATE PLANNING STRATEGY (1997)

The State Planning Strategy was released by the WAPC in December 1997. At a State level, it provides a framework for development to occur so as to maximise benefits to the community while preventing environmentally or economically wasteful practices. It lists four key principles to be achieved:

1. To protect and enhance the key natural and cultural assets of the State and deliver to all Western Australians a high quality of life which is based on sound environmentally sustainable principles.
2. To respond to social changes and facilitate the creation of vibrant, accessible, safe and self-reliant communities.
3. To actively assist in the creation of regional wealth, support the development of new industries and encourage economic activity in accordance with sustainable development principles.
4. To facilitate strategic development by ensuring land use, transport and public utilities are mutually supportive.

In order to achieve these principles, a number of strategies are specified for each region in the state. Those listed for the Wheatbelt Region are:

- Ensuring that agricultural land is managed sustainably.
- Protection of natural resources (especially water resources) and prime agricultural land from incompatible development.
- Protection of landscape and cultural heritage values.
- Promotion of opportunities to develop a range of communities.
- Provision of improved educational facilities.
- Promotion of opportunities for economic development.
- Address the concerns arising from the decline of small rural settlements leading to the loss of services through both government and private companies rationalising services.
- Improvement of service delivery of regional infrastructure to a highly dispersed population.
- Provision of a strategic transport network within and to the Wheatbelt region.

Among other strategies are the identification of areas of future urban growth and the prevention of this land being subdivided /fragmented into rural residential lots. It also seeks to promote nodal urban settlement patterns in agricultural areas separated by agricultural/green belts (WAPC, 1997).

2.3 AVON ARC SUB-REGIONAL STRATEGY (2001)

The Avon Arc Sub-Region lies to the east and north of the Perth Metropolitan Region. It comprises the local government areas of Beverley, Brookton, Chittering, Gingin, Toodyay, York and both the Shire and Town of Northam. The Town of Northam is the largest urban settlement in the Arc and functions as a regional centre for both the Avon Arc and the rest of the Wheatbelt.

The Sub-Region is coming under increasing land use pressures. Changes in farming as well as the area's physical attractiveness and proximity to Perth have led to more land being required for viticulture, horticulture, tourism and rural living. The population of the Avon Arc is projected to grow from 24,000 in 1996 to 43,000 in 2026.

One of the key strategies of the State Planning Strategy was the preparation of a Sub-Regional Planning Strategy and a Statutory Region Scheme for the Avon Arc. The Statutory Region Scheme is scheduled to be prepared by 2005, while the Sub-Regional Strategy was finally released in January 2001. Its guiding principles are:

- To manage settlement growth in locations which enhance the economic, social and environmental sustainability of the Avon Arc.
- To protect and manage agricultural land for its economic, landscape, environmental, tourism and social value.
- To provide for the needs of future and present population by balancing the pressure for development with conserving and enhancing the natural environment.
- To conserve and enhance the significant value and features that exist within the landscape of the Avon Arc.
- To conserve places and items which are culturally significant to the Avon Arc.
- To facilitate and encourage a diverse and sustainable tourism base.
- To support and facilitate efficient and coordinated transport linkages.
- To encourage and facilitate a diverse, sustainable and successful economic base for the Avon Arc.
- To ensure the timely provision of essential utility services.
- To facilitate the creation of vibrant, accessible, safe and self-reliant communities.
- To protect significant basic raw materials and mineral deposits managed to meet environmental and community objectives.
- To ensure basic raw materials and mineral deposits are protected and managed compatibly with environmental and community objectives.

Within each of these principles are a number of specific objectives. All are of relevance to the Shire of Northam but among those of special significance are:

- Supporting the development and consolidation of existing nodal urban settlements.
- Encouraging development away from small rural lots through controls in local government town planning schemes.
- Provision of opportunities for compatible rural uses that benefit from the Avon Arc's locational advantages and provide economic benefit to the region.

2.4 STATEMENT OF PLANNING POLICY NO. 2.5 - AGRICULTURAL AND RURAL LAND USE PLANNING (2002)

Statement of Planning Policy (SPP) No. 2.5 Agricultural and Rural Land Use Planning has been prepared by the WAPC under section 5AA of the Town

Planning and Development Act 1928. The policy was released for public comment in October 1999 and gazetted in March 2002. The aim of SPP No. 2.5 is to update the WAPC's Rural Land Use Planning Policy No. DC 3.4 as this applies to the planning of rural and agricultural land in Western Australia and to guide rural land use planning to ensure the sustainable development of agricultural land throughout the State.

The main objectives of SPP No. 2.5 are as follows:

- To protect productive agricultural lands by ensuring that they stay productive, by minimizing fragmentation and by improving resource and investment security.
- To provide opportunities for planned, contained and sustainable settlement in locations with access to community services and infrastructure.
- To assist in the conservation, restoration and use of natural resources such as energy, water, land, flora, fauna, minerals and basic raw materials.

In accordance with the requirements of section 5AA of the Town Planning and Development Act 1928 the Shire of Northam is required to have due regard to SPP No. 2.5 in the preparation or amendment of town planning schemes, strategies and policies and when providing comment or advice on planning applications that deal with rural land.

2.5 SHIRE OF NORTHAM STRATEGIC PLAN (1996)

The Shire of Northam prepared a strategic plan in 1996 for the following five (5) year period. The objectives of the strategic plan are as follows:

- To strengthen the viability of Council by improving efficiency, effectiveness and researching all modes of increasing revenue to lessen the burden on rates.
- To promote the Shire in order to attract increased industry and to maximise the Shire's potential for rural, recreational and commercial potential.
- To provide and maintain the best possible environment, taking into consideration the needs of conservation balanced with the needs of development and rural activities.
- To provide an acceptable standard of roads and other services to residents in the community at a reasonable cost.

Within the second objective are contained a number of particular strategies that have planning implications:

- To establish community facilities in key locations in the Shire in accordance with specific needs.
- To continue to exercise appropriate controls over development throughout the Shire, and to improve the method of control by reviewing and revising Council's Town Planning Scheme No.2 in the process with the review to consider all environmental aspects.
- To continue to upgrade the appearance and general amenity of the urban nodes throughout the Shire, with particular reference to controls over forms of signage and advertising, landscaping, building form and traffic management.

Among the Council's policies and strategies which have planning implications are:

- Protection of the Shire's viable agricultural base.

- Protection of environmental, heritage and cultural values.
- Promotion of the recreation potential of natural features within the Shire
- Protection of environmentally sensitive waterways.
- Protection of the rural vista adjacent to highways.
- Protection of basic raw material deposits.

The Council is specifically interested in integrated catchment management, identification of areas for urban and industrial expansion and the identification of areas suitable for subdivision. The Council has listed the following five principles to serve as a basis for Town Planning Scheme No.3:

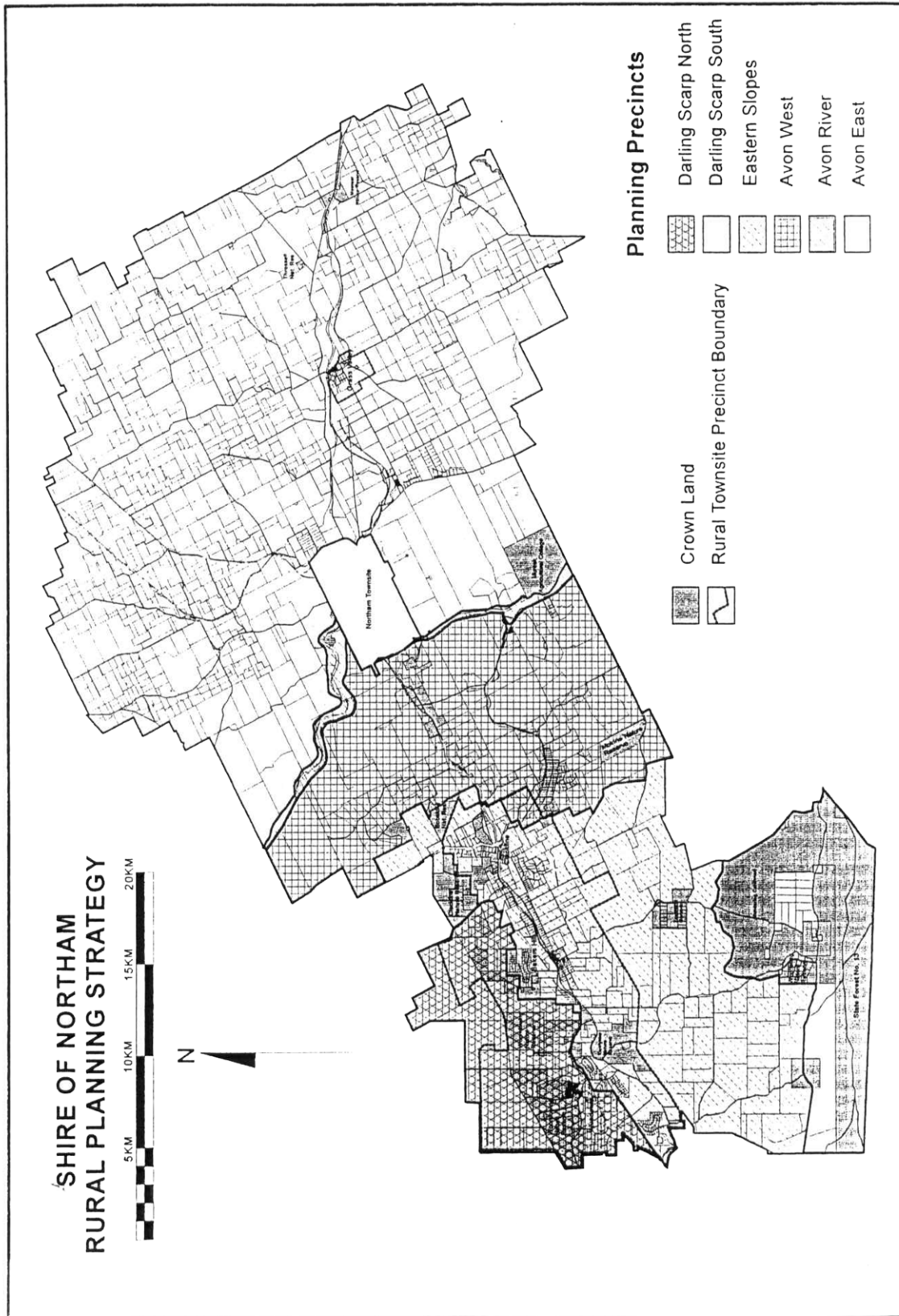
- The current Rural 4 zoning in Town Planning Scheme No.2 should be maintained. In addition the Avon and Mortlock rivers (both north and south) and their tributaries should be included in the Rural 4 zone. The extent of inclusion is subject to further investigation.
- Policy of maintaining a rural vista on major arterial roads. These are identified as national and state highways and the Clackline-Toodyay Road as well as the Avon and Mortlock Rivers.
- Maintenance of the principles of Rural 5 zone whereby broadacre farming must be maintained and no further subdivision will be supported as per the provisions contained in Town Planning Scheme No 2.
- The adoption of a policy of preserving natural bush. Clearing will only be permitted under special circumstances (e.g. firebreaks) and only with Council's planning approval.
- Subdivision will only be supported under close consultation with the Town of Northam and if a proven industry can be established, whether industrial or residential development. The proponent must convince Council that such a use is beneficial. (*Shire of Northam, 1998*)

2.6 SHIRE OF NORTHAM LOCAL RURAL STRATEGY (1999)

In 1999 the Shire of Northam prepared a Local Rural Strategy to guide land use planning and development in rural areas of the Shire for the next 10 to 15 years. The main recommendations of the Strategy are as follows:

- That the Shire be divided into six (6) rural planning precincts (see Figure 2) based on land capability and water catchments to be named as follows:
 - Darling Scarp North
 - Darling Scarp South
 - Eastern Slopes
 - Avon West
 - Avon River
 - Avon East
- That rural residential and rural smallholding uses be permitted in Townsite Precincts around Wundowie (6km radius), Bakers Hill (5km radius), Clackline (3km radius) and Grass Valley (2km south of Great Eastern Highway). The rationale for the proposed subdivision in the Wundowie, Bakers Hill and Clackline area is as follows:

FIGURE 2: SHIRE OF NORTHAM LOCAL RURAL STRATEGY



- The three settlements are depressed economically and by bringing more people into the area the local economy will be enhanced and existing services will be better utilized.
 - There is a clear demand for rural residential/rural smallholding development in this area that is not being supplied. Evidence from the WAPC and Shire through subdivision and rezoning applications and through real estate inquiries indicates that people are seeking the lifestyle afforded by such development.
 - The land surrounding these settlements is not prime agricultural land. It consists of a mixture of gravels and sands of the Darling Scarp and is generally only useful for grazing which brings extremely low returns.
 - The fact that there are three established townsites which are largely undeveloped is an indication that town development has long been planned and anticipated but not realized.
 - The Wundowie, Bakers Hill and Clackline area is well provided with roads (Great Eastern Highway), infrastructure (schools, shops, library and civic services) and services (electricity, telecommunications, etc).
- That farm subdivision to a minimum lot size of 50 hectares may be permitted in the Avon West precinct.
 - That no further subdivision be permitted elsewhere in the Shire apart from 'bona fide' farm boundary rationalization.

2.7 TOWN OF NORTHAM EXPANSION STRATEGY (1998)

The Town of Northam is a separate Local Government Authority located in the centre of the Shire. Its expansion strategy, which was prepared in 1998, is therefore of particular significance. The Strategy aims to discourage urban sprawl and to promote infill development within the Town's boundaries. It clearly states that no urban development is to occur north of the Great Eastern Highway Bypass. The Strategy also supports 'cluster' type developments for rural living in surrounding areas separated from the Town by sufficient farmland.

2.8 SHIRE OF NORTHAM MUNICIPAL HERITAGE INVENTORY (1996)

A Municipal Inventory of Heritage Places was prepared by the Shire in 1996. The study was prepared in accordance with the requirements of Section 45 of the Heritage of Western Australia Act 1990. Places need not necessarily be buildings and may be historic sites of former buildings, activities or events as well as built structures such as mines, wells and roads.

Entry of a heritage place into the Municipal Inventory is recognition of its importance to the local community. Depending on the level of significance accorded to each place listed in the Inventory a management category is allocated which provides a recommendation for the future conservation of the place.

Places recorded in the Municipal Inventory are not automatically entered into the Heritage Council's State Register of Heritage Places. It is likely, however, that the sites will be included in the Heritage Council's database. Town Planning Scheme No.2 contains a list of fifteen (15) heritage places. As part of the process of preparing Town Planning Scheme No.3 the Shire intends to prepare a list of heritage places which will be kept separate from the new

Scheme. In preparing the proposed Heritage List the Shire will have regard to the places currently listed in Town Planning Scheme No.2 and those included in the Municipal Inventory. Places included in the proposed Heritage List will be subject to the development control provisions of Town Planning Scheme No.3.

2.9 CONCLUSIONS

From the examination of the State and Regional Planning Framework for the preparation of the Shire of Northam Town Planning Scheme No.3 the following conclusions are drawn:

- In terms of the State Planning Strategy the Shire of Northam falls within the Wheatbelt Region which has large areas of productive agricultural land under high soil salinity risk.
- Both State and local planning policies reflect the desire to encourage the sustainable use of productive agricultural land, provide opportunities for economic development and diversification and address the concerns arising from the decline of rural settlements.
- The Town of Northam is a Regional Centre and the Shire contains a Strategic Industrial Processing Site (Avon Industrial Park).
- The Shire of Northam contains the Great Eastern Highway (Strategic Freight and Tourist Road Network), York Road (Strategic Tourist Road Network), and the main rail line linking Perth and the Eastern States.
- The Shire of Northam is included in the Avon Arc Sub-Regional Strategy. The Shire contains a consolidated urban settlement (Wundowie), research centres (Muresk and proposed University at Katrine), Avon River Greenway, vegetation protection areas, water catchments and a Strategic Industrial Processing Site (Avon Industrial Park).
- There are aspects of the Avon Arc Sub-Regional Strategy which the Shire does not necessarily agree with, namely:
 - The relatively low population projections for the region; and
 - Discouragement of rural smallholdings generally.
- SPP No. 2.5 Agricultural and Rural Land Use Planning is a Statement of Planning Policy recently prepared by the WAPC to update and augment Policy No. DC 3.4 Subdivision of Rural Land. The main objective of SPP No. 2.5 is to protect productive agricultural land.
- The Shire has prepared a Strategic Plan to ensure that comprehensive planning is ensured for the Shire.
- The Shire recently prepared a Local Rural Strategy as a background document to guide rural land use planning in the Shire.
- The Town of Northam has prepared a townsite expansion strategy for the Northam townsite. The strategy encourages urban consolidation as a means of retaining the town's sprawl.
- The Shire has prepared a Municipal Heritage Inventory in order to identify places of heritage value to the community. The Shire intends to prepare a list of heritage places in support of Town Planning Scheme No.3 having regard to the places currently included in Town Planning Scheme No.2 and the Municipal Heritage Inventory.

3. PROFILE AND KEY ISSUES

3.1 LAND USE ISSUES

3.1.1 Introduction

Agriculture forms the basis of the Shire's local economy, with wheat and livestock being the largest contributors. Other significant economic entities include three abattoirs as well as educational institutions (Muresk Agricultural College, Allendale Research farm and two schools).

An iron foundry and vanadium plant are located at Wundowie. The foundry is currently operating at only a fraction of full capacity and the vanadium plant is shut down, leading to economic stagnation in the town. El Caballo, a major tourist facility located at the western end of the Shire, is also not operating at full capacity.

The Avon River is the major waterway in the Shire with the Mortlock River, Wongamine Brook and Spencers Brook as significant tributaries. The Shire contains a number of different landscape types. Steep hills characterise the Avon Valley and the area between Clackline and Northam. The Wooroloo-Clackline area is mostly undulating grazing country. Significant forest reserves are located around Wundowie and Bakers Hill while the eastern part of the Shire is gently undulating wheat and sheep farmland.

3.1.2 Population and Housing

The Shire of Northam had a population of 3,572 persons at the time of the 2001 census. This consisted of 1,852 males and 1,720 females. (ABS, 2001). This represents an increase of 357 people (11%) since 1996 and an increase of 686 people (24%) since 1991.

The estimated resident population within the Shire and Town over the past 30 years is shown in Table 1. After a reduction in numbers from the mid 1970's to the mid 1980's, the population of the Shire of Northam has shown a steady recovery over the last fifteen (15) years. This contrasts with the Town where the population has declined over the last 30 years.

TABLE 1: POPULATION OF LOCAL GOVERNMENT AREAS

Year	Northam (Shire)	Northam (Town)
1971	2,376	7,167
1976	2,630	6,980
1981	2,590	6,940
1986	2,455	6,924
1991	2,886	7,047
1996	3,215	6,478
2001	3,572	6,153

(Sources: MFP, 1999 & ABS, 2001)

The following table is a breakdown of the age by sex characteristics of the Shire's resident population at the time of the 2001 census.

TABLE 2: AGE AND SEX PERCENTAGES OF SHIRE RESIDENTS

	Male	Female	Total	%
0-14	449	393	842	24.0
15-24	274	200	474	13.0
25-44	448	496	944	26.0
45-64	486	477	963	27.0
65+	192	151	343	9.6
Totals	1,849	1,717	3,566	100.0

(Source: ABS, 2001)

The Department for Planning and Infrastructure (DPI) has predicted that the population of the Shire of Northam is likely to reach 4,149 by 2006 and 5,480 by 2011 whereas the Town of Northam is expected to reach 6,333 in 2006 and 6,391 in 2011(see Table 3). These figures are based on the DPI's moderate growth scenario. Among the variables which may affect the eventual figures are the availability of suitable housing and land, the effect of improved rail links to Perth and any flow-on effects from large development projects (e.g. Avon Industrial Park, International University).

TABLE 3: POPULATION PROJECTIONS FOR SHIRE AND TOWN OF NORTHAM

Year	Shire	Town
2001	3,651	6,326
2006	4,149	6,333
2011	5,480	6,391

(Source: DPI, 2001)

The figures in Table 3 indicate that the demand for lots and buildings will increase steadily in the Shire of Northam over the next 10 years to cater for the population growth, whereas the Town population is expected to remain fairly stable over the same period.

Also of interest from a planning perspective are the projected age groupings for the Shire. As can be seen in Table 4, the population is expected to age significantly over the next 10 years, bringing with it an increased demand for services to cater to older residents.

TABLE 4: PROJECTED AGE GROUPINGS FOR SHIRE OF NORTHAM AS A PERCENTAGE OF TOTAL POPULATION

Year	0-14	15-24	25-44	45-64	65+
2001	22.6%	12.1%	30.4%	24.3%	10.6%
2006	19.8%	13.1%	29.0%	25.4%	13.7%
2011	19.0%	12.3%	27.0%	25.7%	15.8%

(Source: WAPC, 1996)

The 2001 Census also revealed the following statistics:

- The median age of people in 2001 was 36 years compared to 34 years in 1996 and 31 years in 1991.
- A total of 599 persons (17%) stated they were born overseas. Of these the highest proportions came from the United Kingdom (10%), New Zealand (1.8%) and Germany (0.73%).
- A total of 61 persons (1.7%) claimed to be of indigenous origin (i.e. Aboriginal or Torres Strait Islander).
- A total of 85.5% of residents were Australian citizens.
- Of all occupied private dwellings there were 1,272 separate houses (95%), 29 semi detached, row or terrace houses and townhouses (2.2%), 0 flats, units or apartments and 16 other dwellings (1.2%). The comparative figures for 1991 and 1996 are shown in Table 5.

TABLE 5: OCCUPIED PRIVATE DWELLING TYPES

Dwelling Type	1991	1996
Separate House	942	1,084
Semi Detached etc.	24	16
Flats, Units etc.	0	0
Other	19	9

- 44% of people lived in households consisting of a couple with children. 42% lived in households consisting of a couple without children while one-parent families accounted for 13%.

Table 6 indicates that the proportional increase in the number of private dwellings has outstripped the population increase over the last three decades. This reflects the general social trend towards smaller families and households generally.

TABLE 6: TOTAL NUMBER OF PRIVATE DWELLINGS IN SHIRE OF NORTHAM

Year	Number
1971	692
1976	718
1981	819
1986	924
1991	985
1996	1,109
2001	1,317

(Source: ABS quoted in MFP, 1999 & ABS, 2001).

3.1.3 Settlement Patterns, Infrastructure and Community Services

- **Main Townsites**

The largest town in the Shire is Wundowie with a population of approximately 850 people. The town is located over 2 kilometres north of Great Eastern Highway however the planned realignment of this road will bring it much closer to the town boundary.

Other urban nodes are located along Great Eastern Highway at Bakers Hill and Clackline. Smaller settlements are located in the south of the Shire at Spencers Brook and east of Northam at Grass Valley.

Despite the Northam townsite not being located within the municipal boundaries of the Shire, the town is a significant consideration to any future land use planning within the Shire. This can be attributed to its regional significance, central location and the nature of some uses established in proximity to the common boundary between the two local government areas. Northam has been identified as the Regional Service Centre for the Avon Arc, functioning as a service centre for much of the sub-region and the remaining Wheatbelt. The town comprises a population of over 6,000 people and contains regional health, education and employment training facilities as well as regional government offices.

- **Transport**

Great Eastern Highway, which runs east-west across the Shire, is the primary road, providing connection to Perth, the eastern Wheatbelt and the Goldfields. It currently functions as the National Highway and is a well used tourist and heavy haulage route. Traffic volumes east of the Northam townsite average 1000-2000 vehicles per day, while west of the town they average above 2000 vehicles per day.

In order to reduce vehicle traffic along Great Eastern Highway and provide a safer and more efficient route for the movement of goods and services an alternative Perth-Adelaide Highway is planned through the Shire between Wooroloo and Clackline. The new road, commonly referred to as the 'Orange Route', is proposed to be located mostly to the north of the present alignment of Great Eastern Highway and follow the old railway reserve for much of its length passing in closer proximity to Wundowie and bypassing Bakers Hill and Clackline. Main Roads WA is currently planning the location and width of the reservation. No timeframe has been set for actual construction and the project is not in Main Road WA's current 10-year program. A major increase in traffic volumes will be required to justify the commencement of construction. There is a possibility, however, that the Bakers Hill and Clackline bypasses may be constructed separately and in advance of the Orange Route as a whole.

Due to the significant heavy traffic on the Great Eastern Highway through the Northam townsite a 15 kilometre bypass road has recently been constructed north of the Northam townsite. The Northam Bypass, which was opened to traffic in June 2002, commences near the entrance to the Northam Army camp west of the town. It skirts the northern part of the townsite and rejoins the existing alignment of Great Eastern Highway near Malabaine Road to the east of the town. Prior to construction of the Northam Bypass all heavy interstate and intrastate road transport passed through the Northam townsite. The new bypass road provides a much safer and faster east-west transport corridor for heavy vehicles through the area and will help to improve the general appearance and amenity of the Northam townsite.

Other important roads in the Shire are the Northam-Toodyay Road, the Northam-York Road and the Northam-Pithara Road. There are 318 kilometres of sealed roads and 288 kilometres of unsealed roads within the Shire.

Great Eastern Highway and Toodyay Road are considered part of the Strategic Road Network in the Avon Arc Sub-Regional Strategy. As such, they are to be the primary routes for passenger and freight traffic as well as dangerous goods. Another requirement is that development and changes in land uses should not visually obscure landscape uses from the road.

The Avon Link passenger rail service runs between Perth and Northam via Toodyay. It is integrated with the Perth-Kalgoorlie service and provides commuting, day return and long distance service. A narrow gauge, high-speed train is planned to replace the existing system.

There are no commercial air services in the Shire although there is a licensed aerodrome located on the edge of Northam townsite which has recently had the runway sealed.

There is currently no local public transport system in the Shire or Town of Northam. A taxi service is available in the Town and a school bus service operates in both the Town and Shire. The lack of public transport is considered a significant constraint to people's movement and an issue that the Shire of Northam is eager to address.

- **Water Supply**

Water supply to all major urban nodes in the Shire is provided under licence by the Water Corporation from the Goldfields and Agricultural Water Supply Scheme. The scheme is sourced from the Mundaring Weir and delivered via the Mundaring to Kalgoorlie pipeline.

The next planning review for water supply services in Wundowie is scheduled in 2002/03. The Bakers Hill supply system has an ultimate capacity of 1,390 services, several times the present number. However, further infrastructure will be required to meet this capacity.

Water supply in the rural areas of the Shire where scheme water is not available is generally required to be provided by on-site tanks with a minimum storage capacity of 92,000 litres.

- **Wastewater Disposal**

The settlements of Bakers Hill, Clackline, Spencers Brook and Grass Valley are currently unsewered and not earmarked for infill sewerage in the short to medium term.

Wundowie has a wastewater scheme that is capable of supporting short-term growth within the townsite however the scheme will need to be upgraded to cater for any significant growth in the long term. Improved environmental controls at the treatment plant may lead to a decrease in the size of the current buffer zone. This would free up land for urban development within the servicing area. Further discussion with the Water Corporation is required in this matter.

The Northam townsite is served by a reticulated sewerage disposal system which discharges to a wastewater treatment plant located approximately 2.5 kilometres northwest of the town centre in the Shire of Northam. The Water

Corporation recommends a substantial odour buffer adjacent to this facility to ensure that the impacts associated with its operations do not adversely affect adjoining land uses.

The Water Corporation has advised that any development remote from a reticulated sewerage scheme is required to be considered in accordance with the requirements of the Health Department and the Shire of Northam. This applies to all development in unsewered townsites and the rural areas of the Shire.

- **Power**

All settlements in the Shire are linked to the Western Power interconnected grid for the provision of high voltage power. Two 132kv and one 66kV transmission line run east-west across the Shire. Substations are located at Wundowie and Northam, where one of the 132kv lines terminates. The ready availability of power means there is capacity to service significant industrial users.

- **Telecommunications**

Standard telephone and data transfer services are provided in the townsites. Mobile phone services are available but are unreliable away from the larger towns like Northam. With the increasing deregulation of the communications industry and the relatively low profits from country services, the provision of headworks may decrease. The uneven quality of telecommunication services is a problem throughout the Avon Arc and should be rectified if population and business growth is to be targeted.

- **Solid Waste Disposal**

The Shire of Northam operates a landfill site at Inkpen Road approximately 2 kilometres south of the Wundowie townsite. The Inkpen Road landfill site is a Class 2 waste disposal facility which is estimated to have a lifespan of approximately 15 years.

The Shire previously operated other landfill sites in Bakers Hill, Grass Valley and Wundowie but found these sites were surplus to requirements. As such the Shire has consolidated its landfill operations by decommissioning and rehabilitating these sites and operating a single facility at Inkpen Road.

The Town of Northam operates a landfill site at Colebatch Street immediately adjacent to the north-western boundary of the Northam townsite. This facility receives all the solid waste from the Town of Northam and the Shires of York and Toodyay which equates to approximately 15,000 tonnes of waste per annum. The lifespan of the Colebatch Street waste disposal facility is estimated to be 100 years.

- **Community Facilities**

The Urban Services and Infrastructure Study prepared by Dames and Moore for the WAPC provides most of the information in this section.

Northam Hospital is the chief provider of the Shire's health services. Once the planned hospice is completed, it is not expected that any further structural work will be required in order to serve a catchment of up to 40,000 people. Medical facilities outside the Town are currently of lower standard. Preliminary planning is underway to provide a multi-purpose centre at Wundowie by 2002. This will provide a limited emergency service, a

community based nurse and consulting rooms for visiting health professionals. Swan District Regional Hospital also currently provides services to residents of the Shire.

Educational facilities within the Shire boundaries consist of the Muresk Institute of Agriculture and three primary schools. Secondary students are catered for by the public or Catholic high schools in Northam.

Religious facilities are made up of Anglican Church buildings at Jennapullin, Katrine and Bakers Hill and Roman Catholic churches at Jennacubbine, Wundowie and Bakers Hill. Clergy are based at Northam and perform services on both a regular and irregular basis.

Other human services include a pre-primary centre and a library in the Wundowie townsite as well as a range of social and sporting clubs across the Shire.

3.1.4 The Economy and Development

- **Overview**

The Shire's local economy is currently rural-based. The total number of people employed in the Shire of Northam in the December 2000 quarter was 1,410 (*WDC, 2001*). Not surprisingly, the largest employment category is the Agriculture, Forestry and Fishing sector which employs approximately 20% of the Shire's population. The Manufacturing sector is next with approximately 16% of the population. Also significant are the Retail Trade and Education sectors which employ approximately 10% and 8% of the population respectively (*ABS, 2001*).

Managers and Administrators formed the largest occupational group, accounting for 20% of the total workforce. The next largest groups were Labourers and Related Workers (15%) and Tradespersons and Related Workers (14%).

- **Agriculture**

Agriculture is the most important sector in the Shire's economy, with broadacre cropping for wheat and raising of sheep being the major activities. In 1999 total agricultural production in the Shire was valued at \$8.6 million which represented 0.2% of the State's total agricultural production by value (*ABS, 1999*).

- **Minerals and Basic Raw Material Extraction**

The Shire has had a long history of mining with the first iron ore production in the State occurring at Clackline in 1899. The most significant mining operations at present involve the extraction of building materials from a number of locations, mostly in the western half of the Shire. Seven (7) sand mining operations are located within the Shire. Clay is also extracted from the Bakers Hill area which is used to supply Metro Brick's operations at Midland and Byford. Additionally, BGC operates a hard rock quarry at The Lakes while Readymix operates a quarry closer to the Northam townsite (*Landvision, 1995*).

A significant vanadium-titanium deposit is located near Wundowie although extraction is not currently being carried out. A bauxite deposit is also located to the north-east of the townsite (MfP, 1999).

- **Industry and Manufacturing**

The main industries in the Shire have in the past been associated with some downstream processing of local products (e.g. Clackline brickworks, the Wundowie furnace and abattoirs). The towns in the Avon Arc contain a small amount of light industry, with Wundowie having the highest concentration in the Shire of Northam.

The Wundowie foundry is currently running at approximately 60% capacity for a single shift. Extra output can be achieved by increasing the number of shifts, without making changes to the physical area required. In fact it can more than triple output without requiring further expansion.

The Wundowie Vanadium plant has ceased operations. The plant owners, Shark Bay Resources, are currently considering options regarding its future use. Possibilities include the total closure of the plant or shifting it closer to the mine site approximately 6 kilometres away.

The Avon Arc Sub-Regional Strategy identifies the Avon Industrial Park located at Meenaar, east of Grass Valley, as a strategic industrial development site for the region. It recommends that major and rural industries within the Avon Arc be accommodated within the Industrial Park.

- **Retail**

Midland and the town of Northam provide the higher-order retail services to residents of the Shire. A limited number of retail outlets are located at Wundowie, Bakers Hill and Clackline. The downturn in some local industries has meant that many of these businesses are financially marginal. Although there may be justification for a small outlet for convenience shopping in Grass Valley and Spencers Brook, no such provisions currently exist.

- **Tourism**

The Shire has an important tourism sector which is growing. The natural and agricultural landscapes of the area are a drawcard and popular outdoor activities include canoeing, bush walking and ballooning. Most accommodation and tourism services are based in the town of Northam.

Some of the tourist attractions in the Shire include:

- Avonlea Park Alpaca Stud located 12km west of Northam. Viewing of alpacas and other animals, barbecue facilities.
- Blue Gum Camel Farm provides camel rides, barbecue facilities.
- Katrine Valley Breakfast Trek is an organised trek beginning at Katrine Church allowing participants to enjoy the valley views.

Asia now provides Western Australia's prime source of visitors. Given the attractions in the Shire and its close proximity to Perth, it is well placed to take a larger share of this tourist market.

A report prepared by Maher Brampton Associates in early 1999 recommended the establishment and promotion of a number of bush walking trails and bridle paths in the Shire, making use particularly of existing railway reserves.

3.1.5 Local Land Use Issues

- **Avon Industrial Park (Meenaar)**

The Avon Industrial Park is a large strategic industrial site that has recently been developed 16 kilometres east of the Northam townsite at Meenaar. The site comprises approximately 470 hectares bordering the railway and Great Eastern Highway.

The estate has been developed by LandCorp to substantially add to the economic and employment base of a number of surrounding local government areas such as the Shires of Beverley, York, Goomalling and Cunderdin. The estate has potential for further utilisation by a major processing plant or other industrial use.

LandCorp does not intend the estate for light industry. Rather, it is targeted at larger rural industries especially those processing local agricultural products. One of the conditions of industry locating in the estate is that any buffer zones required can be contained within its boundaries. The estate is planned to be purely industrial, with no provision made for workers' residences.

Ashton Mining has been undertaking a study into the feasibility of locating a rare earth processing plant in the Avon Industrial Park. Raw material would come from the Goldfields and the finished product would be shipped through Perth and Fremantle. Residue from the process would be returned to the mine site and the operation should have a minimal environmental impact.

- **International University**

The International University is a new tertiary education institution proposed in the northern part of the Shire of Northam on the boundary with the Shire of Toodyay. A site comprising approximately 2000 hectares has been purchased to accommodate the proposed development. Backers are the Kong Meng Sheng Tao Association. Being a university, an act of Parliament is required to formally establish the institution. The date of commencement of the project is not known however initial student numbers are expected to be approximately 500. The total number of students may peak at 5000 within 5-8 years. Seventy per cent of students are expected to come from overseas. Since only a limited amount of accommodation will be provided on campus many students will require accommodation in nearby towns, most notably Northam. Early discussions have been held with Westrail about the provision of a railway siding to service the university.

- **Curtin University Muresk Institute of Agriculture**

Curtin University Muresk Institute of Agriculture is located south of the Northam townsite providing courses in agriculture and agribusiness as well as research into agricultural techniques and technology. The Institute currently caters for approximately 350 students, including part-timers. Approximately 145 students have live-in accommodation. The remainder reside in surrounding areas, with approximately 40 students concentrated in Spencers Brook. Plans are being formulated in conjunction with the Wheatbelt Development Commission to set up an agricultural technology park on the grounds. The concept is still in the early development stages although it is hoped to have a significant number of firms operating there within 10 years.

There are no plans to change the current Muresk boundaries or to undertake activities which may impact upon adjoining lands.

- **Abattoirs**

WAMMCO, the operators of the Linley Valley pig slaughtering and boning establishment, will continue existing operations for the medium term (i.e. 3 to 5 years). The facility may subsequently be shut down entirely or relocated further east in the Shire. No significant planning has yet been carried out regarding the possible relocation of this facility.

Roedigers Abattoir currently operates a beef slaughtering facility on location 1695, Goomalling Road, north of Northam.

Given the potential impacts of noise, dust and odour from abattoirs the Department of Environmental Protection recommends a minimum buffer distance to residential land uses of 500 metres. Recognition of this recommended buffer distance is required in future land use planning adjacent to established and future proposed abattoirs in the Shire.

- **Unexploded Ordnance**

The Unexploded Ordnance Services Division of the Fire and Emergency Services Authority of Western Australia (FESA) has advised that there are three known areas in the Shire of Northam that are believed to be contaminated with unexploded ordnance (UXO). These are the Northam Army Camp west of the Northam townsite, the RAAF Replenishment Depot at Muresk near Spencers Brook and the York Artillery Range which straddles the common boundary with the Shire of York.

Unexploded ordnance is therefore an issue in these areas. FESA has supplied the Shire of Northam with a plan of areas within the Shire that are potentially contaminated with UXO. FESA has also recommended that prior to any development in these areas suitable investigation be undertaken to evaluate the level of UXO pollution.

- **Bush Fire Protection**

The prevailing weather patterns, general topography, vegetation types and agricultural land use activities within the Shire pose a significant bush fire risk. The Bush Fires Act gives local governments the power to require bush fire prevention measures on private and public land. Section 33 of the Bush Fires Act 1954 empowers the local government to serve a notice on an owner or occupier of land requiring the owner or occupier to carry out specified fire break activities. Where an owner or occupier fails to comply, the local government may carry out the activities and recover the costs from the owner or occupier. The money owed to the local government for such works constitutes a debt due from the landowner until paid in full.

The WAPC and FESA policy documents *Planning for Bushfire Protection (2001)* and *Development Control Policy No.DC3.7 Fire Planning* specify that new subdivision and development should only occur in areas where an adequate fire response for structural and bush fires exist or can be established and where the risk to life and property from bush fire is not excessive. Applications for rezoning, subdivision and/or development within the Shire will be required to reflect the level of risk identified for the area and

address the proposal's compliance with the relevant performance criteria and acceptable solutions specified in these policy documents.

3.1.6 Conclusions

- The population of the Shire of Northam has increased by 50% during the years 1971-2001. In the same period the population of the Town of Northam decreased by nearly 15%.
- The Shire population is expected to increase by 50% from 2001 to 2011 whereas the Town population is expected to remain fairly stable over the same period.
- Demand for lots and buildings is expected to increase steadily in the Shire of Northam over the next 10 years to cater for the population growth.
- The Shire's population is expected to age significantly over the next 10 years, bringing with it an increased demand for services to cater to older residents.
- The proportional increase in the number of private dwellings has outstripped population rises, reflecting the general trend towards smaller households.
- The largest number of people is employed in the primary sector. The manufacturing and retail sectors are also significant.
- The Shire has a competitive advantage in agriculture and tourism.
- There is scope for an increase in tourism activity to take advantage of the area's scenic attractions and proximity to Perth.
- Transport infrastructure connecting the Shire to other areas is of a relatively high standard.
- There is capacity to supply the water and power needs for both an increased population and increased industry. This is conditional upon the provision of additional infrastructure.
- Many human services are provided through Perth or the Town of Northam. An increase in population will require significant improvements to medical and secondary education facilities.
- Communication services are of uneven quality within the Shire boundaries.
- The International University comprising a site of approximately 2,000 hectares is proposed to be developed in the northern part of the Shire. Student numbers may eventually peak at 5000 for short periods. The majority of students will need to find accommodation off-campus.
- An agricultural technology park may be set up at Muresk. There are no plans to change the existing boundaries or undertake activities which would impact on surrounding lands.
- The Wooroloo abattoirs will continue operating as at present for the medium term. They may subsequently be relocated eastward in the Shire or closed entirely.
- Operations at the Northam Army Camp are to continue as at present. Unexploded ordinance is potentially an issue in nearby areas.
- The prevailing weather patterns, general topography, vegetation types and agricultural land use activities within the Shire pose a significant bush fire risk. Applications for rezoning, subdivision and/or development within

the Shire will be required to reflect the level of risk identified for the area and address the proposal's compliance with the relevant performance criteria and acceptable solutions specified in the WAPC and FESA policy documents *Planning for Bushfire Protection (2001)* and *Development Control Policy No.DC3.7 Fire Planning*.

3.2 ENVIRONMENTAL ISSUES

3.2.1 Introduction

An understanding of natural environmental processes is an important aspect of land use planning. As such an overview of the biophysical environment of the Shire of Northam and associated issues is presented in this section. The following is a desktop study of the environment of the Shire based on publications that have reviewed the study area in greater detail.

3.2.2 Climate

The Shire experiences a typical Mediterranean climate, namely cool, wet winters and hot, dry summers. Rainfall decreases from east to west across the Shire. Wundowie has a mean annual precipitation (MAP) of 598mm whilst the Northam townsite has 432mm and Cunderdin (26km east of the shire boundary) experiences 368mm. Most rainfall occurs between May and October.

The hottest months are January and February while the coldest are July and August. Although frosting is most likely in July and August, it is possible anytime through the period from May to September.

Mean annual evaporation for the Shire is 1930mm, in contrast to an annual rainfall of less than 600mm. The months of May through to August are the only ones where rainfall exceeds evaporation.

3.2.3 Geology

Land within the Shire of Northam can be classified into two major physiographic zones:

- The Darling Range Zone; and
- The Zone of Rejuvenated Drainage.

The Darling Range Zone covers some 43,000 ha in the western part of the Shire (Figure 3). It comprises an undulating dissected plateau with an average elevation of 340 metres above sea level (masl). More elevated hills are located around Wundowie (445 masl) and Bakers Hill (408 masl). Valley floors are usually broad and swampy with an average elevation of around 275 masl. The majority of land in this zone belongs to either the Yalanbee or Leaver soil landscape units. The primary soil types in both units are buckshot gravels and yellow gravelly loamy sands with a moderate or moderately high potential for crop and pasture production. Potential drawbacks of these soils are compaction, non-wettability, wind and water erosion and soil acidification.

The Zone of Rejuvenated Drainage covers around 98,000ha and stretches from Warranean Brook to the eastern, northern and southern boundaries of the Shire. It has the most significant agricultural potential for broadacre farming. The area can be divided into two units, respectively west and east of the Avon River. The area in the west has steeper slopes (mostly greater than

5% with large areas in excess of 10%) and a higher proportion of rock outcrops and boulders than the eastern side. The area in the east has more gentle slopes (generally less than 5%) and its rocks have been more deeply weathered. The York soil landscape unit is easily the most important in this zone, covering 65,000ha on mid and lower slope positions. Its characteristic soil types are rocky red brown loamy sand, brownish grey granitic loamy sand and red brown doleritic clay loam. These soils have a moderate to moderately high potential for pasture and crop production and form the most important agricultural production area within the Shire. Potential drawbacks are wind and water erosion and soil acidification from the sustained use of nitrogenous fertilisers. The Ewerts Soil Landscape Unit occupies 9,400ha on hill slopes ranging between 2 and 10%. It is characterised by sand and loamy sand over yellowish clay with some gravel. It has a moderate to moderately high potential for cropping and pastures while potential limitations are water logging, development of salinity, compaction and erosion.

Soil types are a crucial determinant of land capability. Figure 4 shows the distribution of different soil types within the Shire. As can be seen, the Shire's soil system is very complex. A detailed analysis is beyond the scope of this Strategy although more information is contained in the Shire's Local Rural Strategy 1999.

Catchment management practices in the Shire are well established. This has been used as a basis for rural planning and the selection of rural precincts (Figure 5).

3.2.4 Hydrology

The Avon River rises at Wickepin. Its total catchment measures 120,000 square kilometres, with most of the Shire of Northam falling within this area (a small section in the southwest of the Shire is part of the Swan River catchment). Rainfall in the eastern extremity of the Avon catchment is 300mm annually rising to 1000mm in the western extremity on the Darling Scarp. As a result, the majority of stream flow is generated from the lower half of the catchment. The major tributary within the Shire is the Mortlock River.

Research conducted by Binnie and Partners, 1985 suggests that a 9 to 11 year flood frequency occurs in the Avon River. The river is salty and becoming saltier, with Harris (1996) estimating the average annual quantity of salt exported by the river at 1.4 million tonnes.

Land salinisation has been identified by the Department of Agriculture as one of the most significant environmental issues in the Shire of Northam. It has severely damaged the natural environment, has reduced agricultural productivity and damaged buildings, roads and other important infrastructure.

The principal cause of increased soil surface salinisation in the Shire has been the removal of native deep-rooted perennial vegetation and its replacement with annual shallow-rooted crops and pastures. Less water is transpired by these shallow-rooted plants resulting in the rise of groundwater discharge. This recharge causes groundwater tables to rise, bringing with it salt stored in the soil.

According to Department of Agriculture approximately 10% of productive agricultural land in the Shire of Northam has been affected by salinity (AGWA, 1999). This is expected to increase to between 13 and 20% by the year 2010 (AGWA, 1999). The implications of this expected increase in salinity on the level of agricultural production in the Shire are significant and require an urgent response through the coordinated implementation of the *Salinity Action Plan 1996* and the *State Salinity Strategy 2000*.

3.2.5 Native Vegetation

Relatively intact native vegetation covers approximately 23,250 hectares (i.e. 16.4%) of the Shire, of which 12,480 hectares (i.e. 8.8%) is found on private land and 10,770 hectares (i.e. 7.6%) falls within public reserves, water reserves and Crown land (AGWA, 1999). Most of the existing native vegetation is in the Darling Range area (Figure 6). Existing vegetation has been classified into the following categories:

- **Remnant Vegetation**

Characterised by:

- A close reflection of the natural state of the vegetation for a given area.
- Understorey is intact, if forest or woodland.
- Minimal disturbance by agents of human activity.

- **Modified Vegetation**

Characterised by:

- Degraded understorey with reduced number of native species and includes weeds.
- Obvious human disturbance including clearing, mining, grazing and weeds.
- Salt affected: narrow corridors of vegetation that are more likely to be edge affected (roads, railways, watercourses and windbreaks).

- **Scattered Vegetation**

Characterised by:

- No understorey.
- Parkland cleared (i.e. single scattered trees).
- No significant signs or chance of regeneration.

Of 883 bush remnants in the Shire, 468 are classified as 'remnant', 277 as being 'scattered' and 138 as being 'modified'. More than 87% of all bush remnants comprise an area less than 20 hectares (*Beeston et al, 1994*).

Agriculture WA is currently monitoring by remote sensing the increase or decrease in remnant vegetation at five year intervals as a part of a national program to estimate the contribution of agricultural activities to greenhouse gas emissions.

A portion of State Forest Number 13 occurs on the common boundaries between the Shires of Northam and Toodyay and is known as the Mundaring State Forest. The area within the Shire of Northam is 3,831 hectares out of a total of 73,251 hectares (i.e. approximately 5%).

FIGURE 3: GENERALISED GEOLOGY

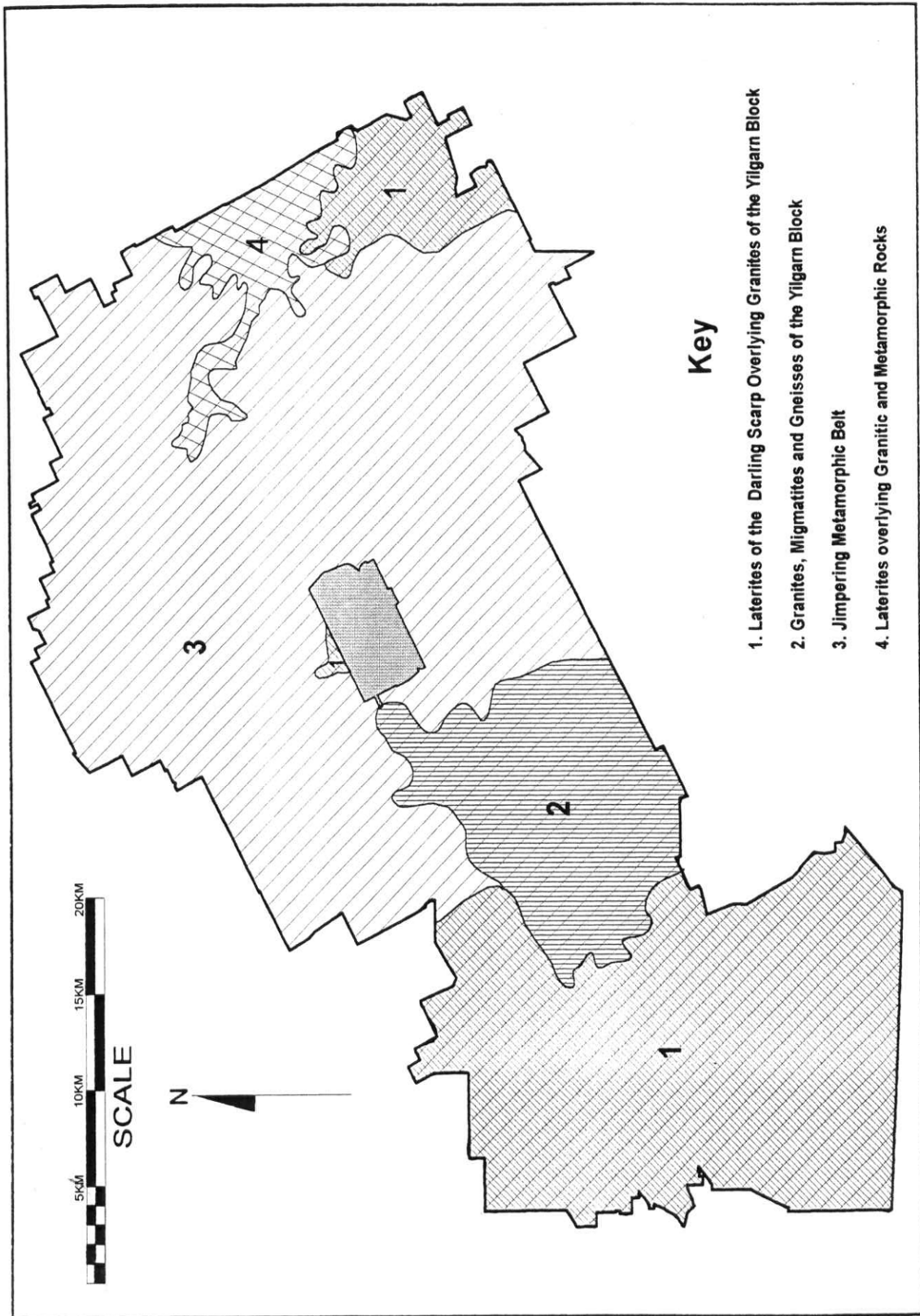


FIGURE 4: SOILS OF THE SHIRE OF NORTHAM

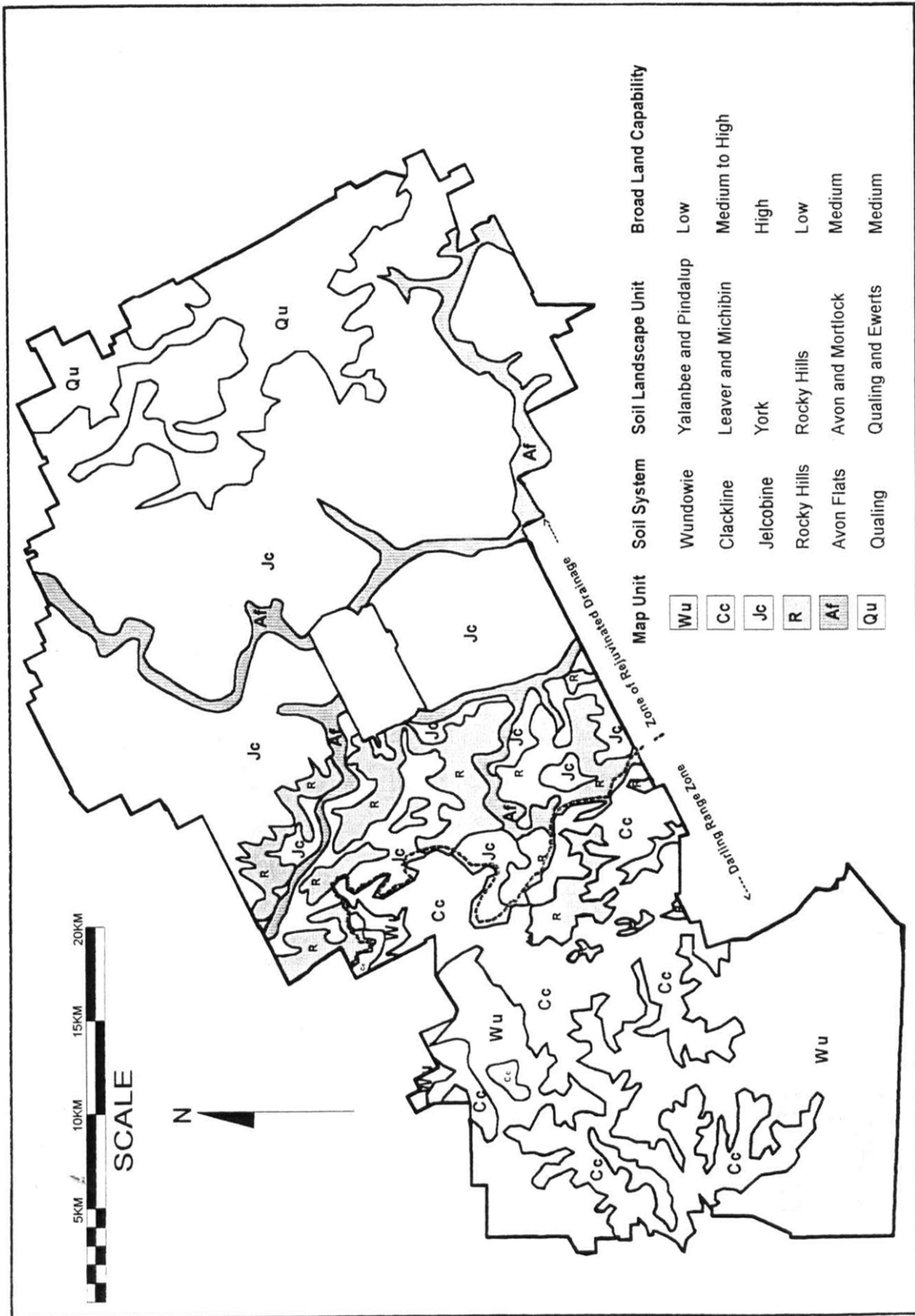


FIGURE 5: SHIRE OF NORTHAM DRAINAGE CATCHMENTS

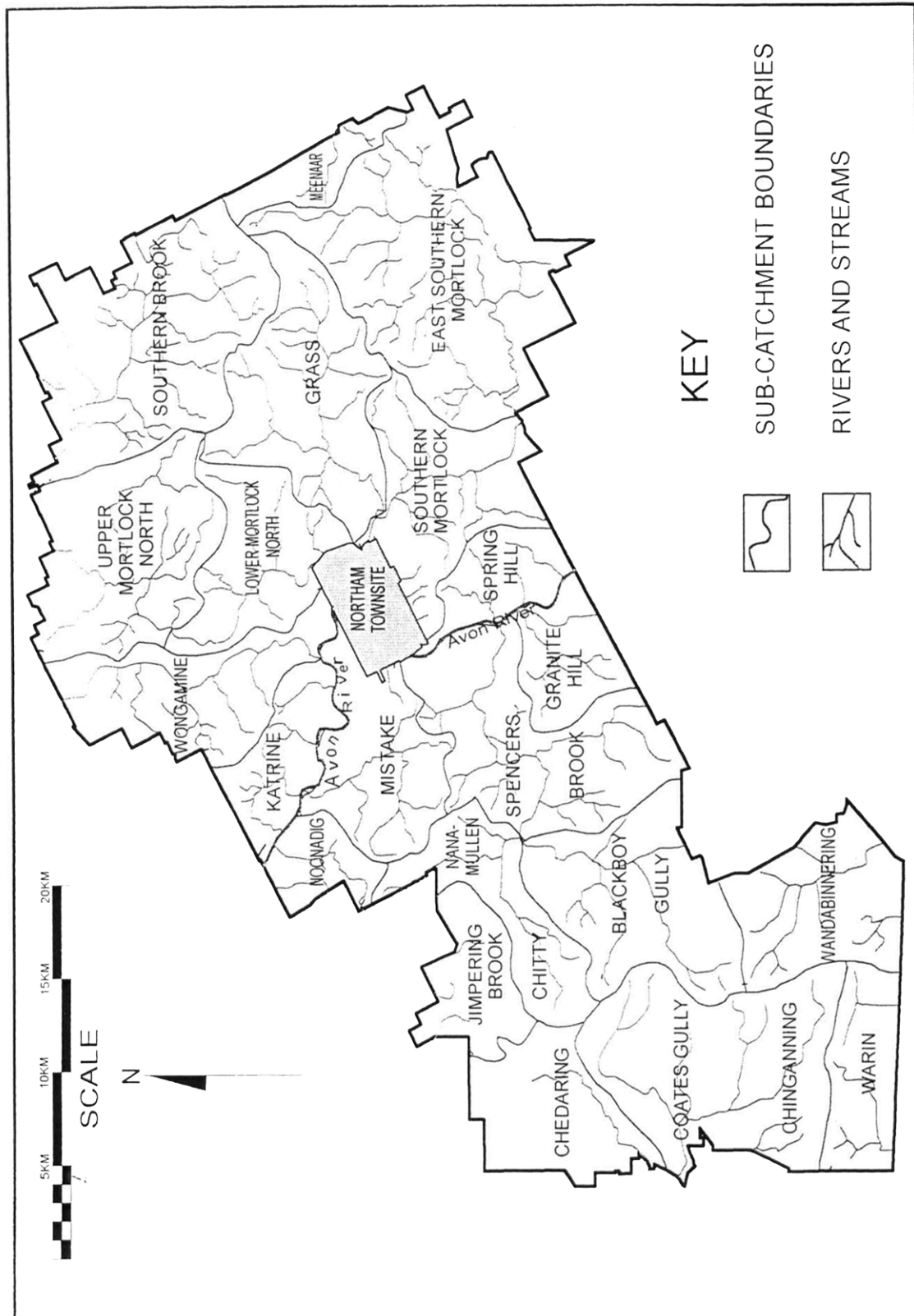
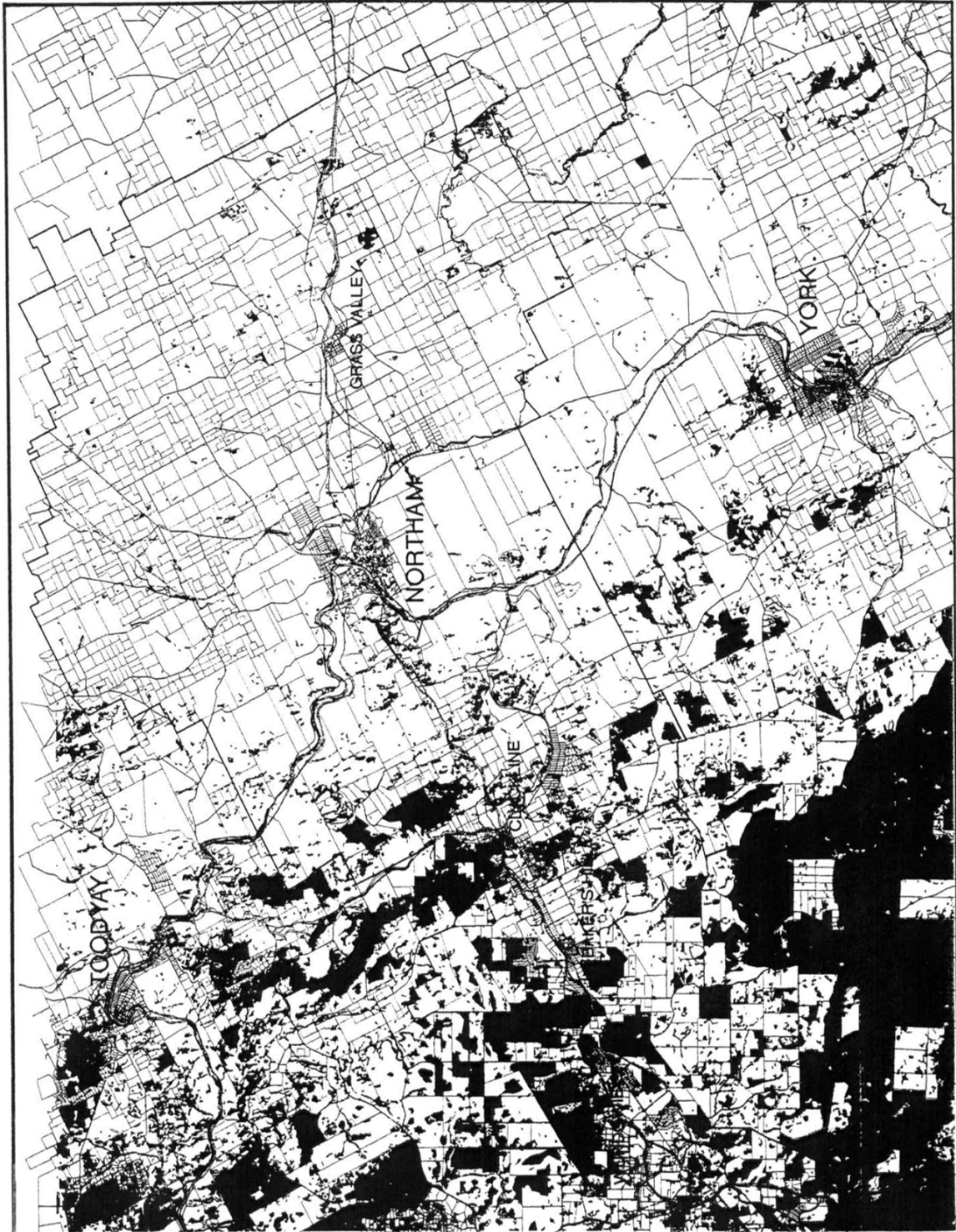


FIGURE 6: MAP OF REMNANT VEGETATION IN THE SHIRE OF NORTHAM



The Shire of Northam contains a number of Declared Rare and Priority Flora species. Declared Rare Flora are those species which have been adequately searched for and are deemed to be either rare, in danger of extinction, or otherwise in need of special protection in the wild and have been gazetted as such. The following Declared Rare Flora has been reported in the Shire of Northam:

1. Leafless Rock Wattle (*Acacia aphylla*)
2. Pink Starbush (*Asterolasia grandiflora*)
3. Scarlet Lechenaultia (*Lechenaultia larcina*)

The Department of Conservation and Land Management (CALM) also lists flora which are rare, geographically restricted or poorly known. These are known as Priority Flora and are species considered to be under threat but have not been gazetted as Declared Rare Flora. The following Priority Flora has been listed for the Shire of Northam:

- | | |
|---|---------------------------------|
| 1. <i>Acacia botrydion</i> | 8. <i>Frankenia glomerata</i> |
| 2. <i>Acacia subflexuosa</i> | 9. <i>Grevillea christinae</i> |
| 3. <i>Caladenia triangularis</i> | 10. <i>Hibbertia montana</i> |
| 4. <i>Choretrum glomeratum</i> var <i>chrysanthum</i> | 11. <i>Haloragis tenuifolia</i> |
| 5. <i>Dryandra praemorsa</i> (cut-leaf dryandra) | 12. <i>Lomandra nutans</i> |
| 6. <i>Ermaea</i> aff <i>pauciflora</i> | 13. <i>Thysanotus tenuis</i> |
| 7. <i>Eremophila</i> sp. | |

The Avon River and its tributaries have been severely degraded by agricultural development. Many groups are actively involved in the regeneration of foreshore vegetation and while this alone cannot redress all aspects of river degradation it helps provide a wildlife corridor for the movement of plant and animal species as well as acting as a filter for sediments and nutrients.

In order to achieve the Strategy objective of providing for the preservation of native vegetation throughout the Shire and the rehabilitation and revegetation of degraded areas, the clearing of any native vegetation is not supported by the local government and requires Council's prior approval unless it is of a type expressly exempt by Town Planning Scheme No.3

The clearing of any native vegetation within the Shire is not permitted unless a clearing permit is obtained from the Department of Environment under the provisions of the Environmental Protection (Clearing of Native Vegetation) Regulations 2004 or the clearing is of a type that does not require a permit i.e. the clearing is for an exempt purpose as prescribed in the Environmental Protection (Clearing of Native Vegetation) Regulations 2004.

3.2.6 Native Fauna

The clearing of vegetation, land degradation, introduction of domestic and feral animals and changes to fire regimes has had a direct impact upon native animal species in the Shire. Of the 43 mammal species originally recorded, 17 are now extinct. However, successful predator control in recent years has led to an increase in the numbers of black-footed rock wallabies, woylies, numbats and western brush wallabies. Ninety species of birds have been identified and although no extinctions are recorded, some of those dependant on native vegetation have declined whilst others have adapted to the agricultural landscape and increased in numbers.

Most of the riverbanks in the Shire have been grazed by stock with much of the fringing vegetation being lost as a result. The loss of vegetation and damage to the river banks has caused soil erosion, sedimentation, downstream siltation and the loss of vegetation and therefore native wildlife.

Birds are the predominant faunal type along the rivers in the Shire. Few species of fish have been recorded with Cobbler being the only large fish and mullet and mosquito fish (*Gambusia*) also reported. Other fauna present include molluscs, crustacean, tortoises, Gwardar and Carpet Snakes, brush tail possums, grey kangaroos and Euros. There is presently very little information on the microscopic life of the rivers in the Shire. Populations of birds and other fauna have changed along the rivers as the habitat has become unsuitable for some species and others have moved in.

The re-establishment, maintenance and protection of faunal biodiversity in the Shire are key objectives of the Strategy and will be an important consideration in the assessment of future land use proposals by the local government and other relevant agencies.

3.2.7 National Parks and Nature Reserves

Thirteen (13) nature reserves comprising a total combined area of 4120.8 hectares are situated in the Shire of Northam for the conservation of flora and fauna (see Table 7). These reserves are vested to the Conservation Commission of Western Australia for the purpose of protection of flora and fauna and are managed by the Department of Conservation and Land Management (CALM). CALM's management strategies are aimed at protecting the conservation values of the reserves and promoting biodiversity. Activities that are likely to have a detrimental impact on these values are not permitted within the reserves.

Due to the isolation and lack of connectivity of many of the reserves they are extremely vulnerable to negative impacts from activities and developments occurring on adjacent lands. Some of these impacts are from increased recreation use, disease introduction, weed introduction, feral animal intrusion and increased fire management activities. CALM has developed a number of conditions that may be applied to land uses adjoining these reserves to guard against potential negative impacts. Application of these conditions in the context of the Shire's Town Planning Scheme No.3 requires further discussion with CALM.

TABLE 7: CALM CONTROLLED NATURE RESERVES IN THE SHIRE OF NORTHAM

Reserve Number	Class	Name	Area (ha)
5644	A	Mortlock Nature Reserve	41.4
7220	A	Throssel Nature Reserve	17.7
14275	C	Woondowing Nature Reserve	1,532.1
14276	C	Kwolynine Nature Reserve	543.7
14278	C	Keaginine Nature Reserve	91.6
29977	A	Meenaar Nature Reserve	94.1
30363	C	Woottating Nature Reserve	233.8

Table 7 cont.: CALM Controlled Nature Reserves in the Shire of Northam

Reserve Number	Class	Name	Area (ha)
31211	A	Mokine Nature Reserve	289.1
32400	C	Clackline Nature Reserve	693.7
33254	A	Nanamoolan Nature Reserve	14.1
39247	A	Warranine Nature Reserve	35.2
42432	C	Bobakine Nature Reserve	160.9
43077	C	Bobakine Nature Reserve	110.7
45833	C	Inkpen Road Nature Reserve	262.7
TOTAL			4,120.8

3.2.8 Weeds

The introduction and spread of weeds is a major threat to agricultural production and biodiversity in the Shire of Northam. Weeds constitute a threat to crops, infrastructure, remnant bushland, threatened flora populations and threatened ecological communities within the Shire both directly and indirectly by increasing the threat of fire. The management and control of weeds is therefore an area of growing importance.

The *Agriculture and Related Resources Protection Act 1976* is generally administered by the Department of Agriculture and is aimed at protecting agricultural land uses from animals and plant / weeds that have an economic impact on the agricultural industry. Control of environmental weeds (i.e. weeds which cause environmental harm but do not have an economic impact on agriculture) is largely unregulated throughout Western Australia. There is however provision for local governments to make local laws prescribing as a 'pest plant' any plant likely to adversely affect the value of property in the district or the health, comfort or convenience of the inhabitants of the district.

The Shire of Northam does not have any local laws which control environmental weeds in the district however consideration will be given to the need for a local law of this type when undertaking a review of its current local laws.

3.2.9 Soil Erosion

Soil erosion by both wind and water has been identified by the Department of Agriculture as one of the most prevalent land degradation issues in the Shire of Northam. Soil erosion causes a loss in agricultural productivity and also leads to a loss of biodiversity.

The Shire of Northam, being largely comprised of sandy surfaced soils, is considered to be highly susceptible to wind erosion. Measures suggested to reduce the effects of wind erosion include appropriate grazing management, farming to soil type, modifying tillage, direct seeding into crop stubble and the establishment of vegetated wind breaks.

The Shire is also highly susceptible to water erosion due to the water repellent nature of soils, extensive loss of perennial native vegetation, over-cultivation, over grazing and stock trampling. Water erosion is of most concern on steep slopes, dispersive and duplex soils and usually results in fertility loss, reduced crop yields and siltation of water ways.

Water erosion is thought to be a significant factor in the siltation of the Avon River and its tributaries. Bank erosion along the Avon River, mainly caused by the removal of vegetation during the River Training Scheme and stock damage has also been a serious problem. Revegetation and fencing along the banks of the Avon and Dale Rivers and along main feeder creeks and dams has been recommended to address these problems and will be a key consideration in the local government's assessment of any future subdivision and/or development proposals in these areas.

3.2.10 Conclusions

From the above analysis it is concluded that:

- The Shire of Northam comprises two major physiographic zones being the Darling Range Zone and the Zone of Rejuvenated Drainage. Whilst further divisions of these two zones are made in this document in order to inform the planning process, in general terms these zones have distinctly different capabilities, and therefore land use planning opportunities, which are discussed in greater detail in the Shire's Local Rural Strategy 1999.
- Soils of the Darling Range Zone are generally more suited to extensive grazing and pastures, whilst soils of the Rejuvenated Drainage Zone have a moderate to moderately high potential for winter rain fed cropping.
- Relatively reliable winter rainfall results in the Shire having better agricultural potential than regions to the north and east of the Shire boundaries.
- Major threats facing the agricultural industry are increasing soil salinity, surface and sub-surface soil acidification, erosion, waterlogging and soil compaction. Comprehensive soil mapping undertaken by the Department of Agriculture for the area provides an in-depth assessment of the spatial distribution of soils, individual capabilities and potential hazards.
- Significant environmental degradation of the Avon River and its tributaries in terms of high salinity, nutrient enrichment, eutrophication and sedimentation has taken place over the last half century and an urgent need for a coordinated approach to sustainable land-use practices is required to arrest and reverse this situation.
- Numerous programs are in place to address environmental degradation problems in the Shire and surrounding region and are being coordinated by the Avon River Management Association. These programs need to be integrated into the approach adopted by the Shire of Northam.
- The extraction of basic raw materials is an important local industry and strict regulatory controls need to be maintained by the Shire in terms of site selection, peripheral land use and commitment to contractual rehabilitation obligations.
- Since the major cause of environmental degradation is past practices on native vegetation clearing, all existing remnant vegetation should now be conserved. The further clearing of any native vegetation within the Shire is

therefore not supported by the local government. The clearing of any native vegetation within is not permitted unless a clearing permit is obtained

- Land use planning exercises shall, where practicable and legally possible, include rehabilitation of riparian and roadside vegetation as well as provide for the conservation of diversity associated with rocky outcrop areas.
- The introduction and spread of weeds is a major threat to agricultural production and biodiversity in the Shire of Northam. The Shire does not have any local laws which control environmental weeds in the district however consideration will be given to the need for a local law of this type when undertaking a review of its current local laws.
- Soil erosion by both wind and water has been identified as one of the most prevalent land degradation issues in the Shire of Northam and will be a key consideration in the local government's assessment of any future subdivision and/or development proposals.

4. COMMUNITY PARTICIPATION

4.1 INTRODUCTION

A series of three public workshops was held in the Shire in July 1999 to discuss the Local Rural Strategy and the review of Town Planning Scheme No.2. The meetings were advertised by direct contacts with local community groups such as Progress Associations, Social Clubs, Community Associations, Social Clubs, Community Associations and Sporting Clubs. The meetings were also advertised in local community newspapers.

Workshops were held at Bakers Hill, Clackline and Grass Valley in July 1999. The agenda for each workshop was similar, namely, an introduction by Councillor Bert Llewellyn (Chairman of the Shire's Planning Committee), briefing by Consultants, a workshop session to examine **values**, **concerns** and **vision** for the area, and an open forum to enable the community members to ask questions or make statements. The following is a record of the issues raised by the people who attended.

4.2 BAKERS HILL

The Bakers Hill workshop was held at the Golf Club on 20 July 1999 at 7.30pm. The meeting was attended by 23 people. A list of those who attended the meeting is recorded in Appendix 4a. The main points recorded at the meeting were as follows:

4.2.1 Values

Administration and Planning

- Close to Perth, Mundaring and Northam
- Central to Toodyay, Northam and York
- Diverse rural pursuits
- Spaciousness
- Quiet secluded area
- Large land holdings
- Less regulation
- Approachable Shire

Community

- Small, friendly, trusting community
- Low crime, safe area
- Good family lifestyle
- Rural lifestyle
- Good place to raise children
- Strong community support

Environmental

- Good climate, good rainfall
- Fresh air and open spaces
- Close to forest reserves
- No pollution; air, noise or chemical
- Low traffic volumes
- Good environment

Economic

- Reasonable land values
- Close to work
- Living costs reasonable

Amenities

- Good primary schools and access to high school
- Scheme water
- Access to telecommunications
- Convenient amenities

4.2.2 Concerns

Administration and Planning

- More smallholdings, more problems
- Increased population means more change in values
- Want to subdivide but restricted
- Lifestyle being eroded
- Not able to build second dwelling
- Eastern corridor left behind northern and southern
- Poor industrial location
- Slowness of Shire to react
- Need more industry in region
- Need to have say in change
- Need to control subdivision
- Native title claims slow progress
- Undesirable (noxious) industries increasing
- Lack of residential, commercial and industrial lots in towns

Environmental

- Moderate quality land being subdivided too small
- Not enough land being kept for conservation and recreation
- Don't want piggeries
- Rubbish being dumped in reserves
- Noise pollution, Wundowie Vanadium
- Shire weed spraying
- Problems with rubbish sites
- Development spoils scenic quality
- Previous planning not good
- Increase in soil salinity
- Noxious weeds spreading
- Some lots visually polluted with junk
- Rubbish along highway
- Lack of firewood-collecting areas.

Amenities

- No decent public transport to Perth
- Lack of specialised medical treatment in area
- Dusty gravel roads, Shire won't bituminise
- Dangerous road usage
- Traffic speed a problem
- Roads getting too wide
- Need venue for outdoor sport, equestrian
- Lack of pharmacist, medical
- Gravel roads need grading

Economic

- Lack of employment particularly for youth
- Can't make living from rural land
- Subdivision roads costly to maintain
- Property rates being inflated with subdivision

4.2.3 Visions

Administration and Planning

- More 10-15ha blocks needed
- With careful planning this area can become rural showpiece
- Retirement village/units needed
- Dog kennels needed
- Suitable area for noisier sports
- Develop cultural, tourist, craft events for locals and visitors
- Need town museum
- More residential urban lots needed
- Bakers Hill Oval needs reticulation
- Final alignment of Freeway needed
- Replace Clackline Bridge
- Bakers Hill town to stay as it is, consolidate commercial area, fill vacant lots
- Retain rural outlook and lifestyle no more town lots
- Encourage townscape improvements
- Need caravan park/park homes
- Sporting facilities needed for all groups
- Want responsive Shire
- Want more intensive development to improve services
- Like it as it is - quiet and peaceful
- More modern homes in Wundowie
- Want choice to subdivide
- Give Special Rural more rights to create business and manufacture

Environmental

- Want walk trails in CALM reserve
- Want trees in road reserves and tidy verges
- Retain timber reserves (CALM) no cutting
- Don't want motor cycles and off road vehicles
- Don't want gravel pits in CALM reserves
- Don't want pollution, i.e. industries/mining
- Retain remnant bushland

Amenities

- Want Bakers Hill Oval watered
- Want appropriate public open space
- Want bitumen roads
- Want railway line restored
- Want mail delivery
- Want High School re-established
- Want public transport

Economic

- Want more employment
- Encourage all forms of business capable of increasing employment

Community

- Want rural community with adequate resources

4.2.4 Summary

The responses from the community at Bakers Hill had a few common themes:

- The people value their tranquil rural setting and want to preserve that but they would also like improved services and roads. Such aspects are almost mutually exclusive because greater numbers of people would provide the rates for increased services but the level of development would reduce the rural lifestyle quality which is enjoyed at present.
- There is a strong need for employment and industry expressed by the community. It is, however, unlikely that these will be provided. Communities will need to look more to their own resources and the resources of the land and its produce for improved employment and industry. Cottage industry opportunities may be a better possibility than expecting the Government to provide work.
- Some people want more rural subdivision and some want less.
- There is a range of administrative issues that the Shire needs to discuss in the future.

4.3 CLACKLINE

The Clackline workshop was held at the Clackline Hall on Wednesday 21 July 1999 at 7.30pm. The meeting was attended by 32 people. A list of those people who attended the meeting is recorded in Appendix 4b. The main points recorded at the meeting were as follows:

4.3.1 Values

Administration and Planning

- Flexibility of lifestyle and not as much regulation and 'red tape'
- Cooperation of Shire to make flexible lifestyle
- Good lifestyle with few limits or activities such as motor cycles and houses
- Sparse population
- Range of livestock permitted

Environmental

- Landcare
- Fresh air
- Views of hills and valleys
- Wide open spaces
- Little pollution such as visual, noise and air
- Peace and quiet
- Ample space
- Native flora, fauna and reserves

Community

- Good community spirit
- Privacy
- Valued neighbours
- Inherited land from parents
- Minimum crime
- Able to achieve aims and be respected by community
- Welcome approach to newcomers including 'hobby farmers'

- Active community groups, such as progress association, bushfire
- Achievements are visible
- Opportunity to socialise with neighbours
- More scope to be involved in community affairs
- Good place to bring up children
- Good sport and recreation opportunities

Amenities

- Good access to services in general and health
- Close to Perth amenities and can commute
- Scheme water available
- Good public spaces

Economic

- Rural and urban employment

4.3.2 Concerns

Amenities

- Lack of road maintenance, signs, road markers and road construction
- Access to scheme water
- No tertiary education
- Highway improvements will harm small communities
- Need doctor fulltime in Northam
- Loss of heritage and public open space
- Power failures
- Telecommunication breakdowns
- Want dual carriage for Great Eastern Highway

Administration and Planning

- Recycling of older houses from elsewhere
- Want continuing participation in planning decisions
- Don't want any more subdivisions
- Need industrial sites close by not distant
- 'Not in my back yard' (NIMBY) syndrome inhibits industrial development
- Need long term planning for area
- Must be in subdivision area to take advantage of values
- Concern about restrictions on sub dividers
- Concern about subdivision process
- Explanation of rural strategies

Environmental

- Pollution by chook farms, wool scouring, tannery and rubbish tips
- Increasing salinity
- Landcare such as Spencers brook degradation
- Imported rubbish
- Damage to Woodland by vehicles
- Condition of Clackline Brook
- Lack of weed control
- Feedlots and vegetation decline

Economic

- Lack of employment opportunities especially for school leavers
- Don't want heavy industry
- Concern about higher rates

- Water costs inhibit industry
- Travel costs to most amenities
- Rates increases
- Decreasing viability of farms
- Concern about paying for rubbish disposal
- Concern about jobs going to outsiders, not locals

4.3.3 Visions

Administration and Planning

- More suitable size subdivisions, 6ha to 40ha, not small such as 2ha
- Increase in population will lead to improved facilities and employment
- Maintain the present lifestyle values in the area
- Improve the townscape in the Shire
- Decentralise industry to the Shire
- Prepare an appropriate rural plan
- Reconsider amalgamation

Environmental

- Continued clean rural environment
- Manage rubbish disposal and recycle
- Protect natural landscape
- Retain nature reserves
- Harvest water for agriculture
- Develop bushwalk trails
- Extend Bobokine reserve
- Maintain biodiversity

Community

- Restore heritage sites

Amenities

- Construct Northam bypass road
- Better Maintenance of minor roads
- Improve mains water pressure
- Plan future school site for Clackline
- Provide more specialists and clinics
- Improve public transport

Economic

- Plan light industry subdivision
- Increase employment opportunities
- Recognise rating problems and provide commercial farm rate
- Diversify agriculture not imported industry. Intensify uses such as fruit growing, cannery, irrigation and horticulture
- Use refractory site as an arts and crafts centre and tie in with tourism/travellers
- Encourage new land uses such as floriculture and aquaculture
- Develop telecentres

4.3.4 Summary

The response from the community at Clackline had the following themes:

- There was a strong identity with and appreciation of the community in the area.

- There was a strong concern about regulation and increasing 'red tape' but there was also concern about the possible invasion of land uses that would lead to pollution and land degradation.
- There were a number of minor issues that need to be discussed by the Shire.

4.4 GRASS VALLEY

The Grass Valley meeting was held at the grass Valley Hall on 22 July 1999 at 7.30pm. The meeting was attended by 15 people. A list of those who attended is attached in Appendix 4c. The main points recorded at the meeting were as follows:

4.4.1 Values

Administration and Planning

- Centrally located
- Availability of small rural lots
- Low density settlement
- Hamlet development

Environmental

- Peace and quiet

Community

- Safe place for children
- Low crime incidence
- Good country lifestyle
- Resilience of local people
- Good sporting facilities for adults
- Good social focal point, townsite and tavern
- Sense of history
- Family ties
- Good community spirit
- Sense of responsibility

Amenities

- Easy access to Perth
- Good access to health and education
- Transport access, Avon Link
- Close to water, power, gas, commercial and communications

Economic

- Existing employment
- Good value for dollar in real estate
- Stable, commercially viable agricultural area
- Tourism

4.4.2 Concerns

Administration and Planning

- Re-examine amalgamation with town
- Town people use reserves for motor cycles

- Native title claims
- Imbalance of services provided by Shire
- Shire being overridden by State departments

Environmental

- Vegetation deteriorating, too close to roads and in need of management
- Need waste management facilities
- Salinity of rivers and farmlands
- Industrial development impact on environment

Community

- Loss of heritage

Amenities

- Lack of road maintenance
- Diminishing facilities
- Education concerns
- Avon Link unreliable
- Transport of dangerous goods through the area
- Poor power supply
- Dangerous roads and bridges

Economics

- Lack of action at Meenaar
- Lack of industrial areas
- Lack of employment in primary industry
- Lack of value added industry
- Wiggeries near residential uses
- Ensure industry compatible with rural/hamlet developments

4.4.3 Visions

Administration and Planning

- Move government services back into area
- Place planning controls on noxious industry
- Beautify towns/hamlets
- Minimal subdivision
- Possibly subdivide land not suitable for traditional agriculture
- Maintain current level of local government
- Limit the size of hamlets
- Distribute Shire resources evenly between west and east
- Restrict through traffic evenly between west and east
- Restrict through traffic to hamlet
- To live and work locally

Environment

- Meenaar should go ahead as an environmentally safe venture
- Shire should promote environmentally safe venture
- Maintain rural character, vista and history
- Clean air
- Use natural resources, including salt water

Community

- More sporting facilities for children

Amenities

- Better telecommunications at a domestic level
- Wider roads
- Safer roads and street lighting in townsites
- Clean and safe water supply
- Reticulated gas
- Three phase power

Economics

- Expansion of agricultural diversification
- Encourage tourists in the area
- Increased employment opportunities
- Sustainable development

4.4.4 Summary

The responses from the community were as follows:

- There was a strongly positive identity with the rural values of the settlement and local area.
- There was an overall concern that the area was economically stagnating and that the expectations of industry and employment at the Avon Industrial Park was a disappointment.
- There was a general agreement that some limited subdivision in the vicinity of the townsite would help to stimulate the local community, sports clubs and may lead to the development of a convenience shop for the settlement.

4.5 INDIVIDUAL COMMUNITY COMMENTS

A separate comments sheet was provided at each of the workshops to obtain individual inputs from members of the public. One of these was returned and its main point expressed concern about the use of toxic chemicals and herbicides in the Shire.

Written submissions were received on a few issues, namely:

- Support for medium size rural holdings of 40-50 hectares in the Avon West area.
- The need for additional commercial land at Bakers Hill.
- Support for a small shopping centre at Bakers Hill.

4.6 CONCLUSION

Overall the people in the Shire who attended the public workshops in July 1999 were positive about their rural communities and are keen to preserve

their existing qualities. There is however concern about low levels of employment creation and the fact that many young people leave the Shire and move to the Perth Metropolitan Region. There was also a strong desire in the community to be involved in the future planning of the area.

5.0 LOCAL PLANNING STRATEGY

5.1 INTRODUCTION

Over the past decade there has been an increased demand for rural residential properties in the Shire of Northam. This trend has been driven partly by the increasing growth of the Perth Metropolitan Region which has grown by approximately 300,000 people during the 1990s and the decreasing returns from agricultural land uses. The relative accessibility provided by the Great Eastern Highway and rail transport has resulted in the growth and development of Perth's Eastern Corridor into the Wundowie, Bakers Hill and Clackline areas.

The rural residential growth trends have been questioned by some people as not being in the best interests of the area. The concept of productive agricultural land being taken out of production by people wanting a rural lifestyle has been criticised. On the other hand, the inflow of new residents and ratepayers has provided increased business demand and disposable income in the area and has provided the Shire with additional funding to afford improved services and infrastructure.

The changing economic situation also needs to be examined. Additional rural subdivision tends to increase rural land values which in turn raises land rates. As a consequence additional financial pressure is placed on farmers to obtain better returns from their land. This can lead to an intolerable situation for farmers whereby the already degraded land is not able to increase its output and in most cases the old remedy of clearing more land for production is no longer possible or permitted.

In this section matters relevant to the future planning, subdivision and development of all urban and rural land in the Shire including land immediately adjacent to the Northam townsite will be examined and future land use strategies proposed.

5.2 WUNDOWIE

Wundowie is the largest townsite in the Shire. The current population of the town and other rural residential areas to the north is approximately 850 (Shire statistic based on 1996 census). The town provides a range of services such as a post office, police, ambulance, fire station, primary school, Shire depot, library and hall. The town has a range of recreation facilities including swimming pool, tennis courts and recreation oval as well as the Wundowie hall. The town originally expanded when the Iron Foundry was in full operation but in recent years with most of the foundry closed down the town has stagnated. The local population has been built up in recent years as a result of rural residential subdivision and the growth of small businesses being operated from rural residential properties in the surrounding area.

The main planning issues at Wundowie are as follows:

- General economic stagnation due to the downturn in local secondary industry. The mineral sand processing facility is shut down while the iron foundry is operating well below capacity.

- There is a substantial amount of Industrial zoned land in the town not currently being utilized.
- There is a need to identify the nature and extent of contaminated soils.
- The proposed realignment of Great Eastern Highway will bring the highway closer to the townsite and possibly generate more passing trade. Construction of the realignment is unlikely to occur before 2010.
- Improved environmental controls at the Wundowie wastewater treatment plant could lead to a decrease in the size of the current odour buffer thus freeing up land for urban development within the town in the short term. The scheme will however need to be upgraded to cater for any significant growth in the long term.
- Given the town's proximity to the Woondowing Nature Reserve, planning for the future development and use of land located within and adjacent to the townsite will be required to have regard for any potential impacts upon this Reserve.

5.3 BAKERS HILL

Bakers Hill is a fairly large townsite located adjacent to the Great Eastern Highway. It is separated from Wundowie by the Woondowing Nature Reserve. In the east the townsite abuts the Clackline townsite. The population of Bakers Hill and the Inkpen area to the south is approximately 800 (Shire statistic based on 1996 census).

Businesses include two (2) garages/convenience stores, a bakery that supplies surrounding districts, tavern, newsagency/post office, veterinary clinic, hairdressers, massage clinic, real estate agents and rural trading enterprises. An agricultural machinery manufacturing business is situated on the southern perimeter of the town. Services provided include a newly built primary school and multi purpose pavilion, tennis club, golf club, town oval and town hall. A number of the new businesses have commenced in the last three years. These businesses provide services to surrounding areas and do not rely on passing trade from the Great Eastern Highway.

The main planning issues at Bakers Hill are as follows.

- Great Eastern Highway traversing the settlement centre which creates a local safety hazard.
- Poor visual amenity of development along Great Eastern Highway.
- Economic stagnation and inadequate health and human services.
- Lack of reticulated sewerage.
- Great Eastern Highway realignment will bypass to the north of the settlement. Construction of the realignment is unlikely to occur before 2010.
- Given the town's proximity to the Woondowing and Clackline Nature Reserves, planning for the future development and use of land located

within and adjacent to the townsite will be required to have regard for any potential impacts upon these Reserves.

5.4 CLACKLINE AND SPENCERS BROOK

These two townsites were originally based around sidings on the rail line linking Perth to York and Wagin.

Clackline is a relatively small rural service centre. It contains a corner shop on the Great Eastern Highway and a community hall. The brick refractory in the north-western sector of the townsite is presently not operating.

Spencers Brook is also a relatively small townsite which is divided into two sections to the north and south of the Clackline-Spencers Brook Road. The town has a hotel and pub but does not have a retail outlet. Some of the houses in the town are used by students at Muresk College for residential purposes.

The population of the Clackline, Grass Valley and Muresk area is approximately 650 (Shire statistics based on 1996 census).

The main planning issues at Clackline and Spencers Brook are as follows:

- Economic stagnation.
- Lack of reticulated sewerage.
- Given Clackline's proximity to the Clackline Nature Reserve, planning for the future development and use of land located within and adjacent to the townsite will be required to have regard for any potential impacts upon this Reserve.
- Spencers Brook is a small settlement that focuses on the tavern. There is potentially developable land to the east of the tavern that is in a low-lying area adjacent to the stream. It is proposed that the Shire consult with the landowner and negotiate a land swap of developable land at a higher elevation.

5.5 GRASS VALLEY

Grass Valley is another townsite that grew up around a rail siding. The town has a hotel/pub, community hall and recreation club. The town is anticipating future growth as a result of the recent development of the Avon Industrial Park. The population of the area including Grass Valley and Southern Brook is approximately 250 (Shire statistics based on 1996 census).

The main planning issues in Grass Valley are as follows:

- Close proximity to the Avon Industrial Park.
- Need to identify appropriate areas for future urban expansion.
- Lack of reticulated sewerage.

- Possible expansion of rural lots on the edge of the townsite for future settlement.

5.6 NORTHAM

Northam has been identified as the Regional Service Centre for the Avon Arc, functioning as a service centre for much of the sub-region and the remaining Wheatbelt. The town comprises a population of over 6,000 people and contains regional health, education and employment training facilities as well as regional government offices. The DPI has predicted that the population of the town will remain fairly stable over the next 10 to 15 years (*WAPC, 2002*).

Although not located within the municipal boundaries of the Shire, the Northam townsite is a significant consideration to any future land use planning within the Shire. This can be attributed to the town's regional significance, central location within the Shire and the nature and potential impact of some uses established in proximity to the common boundary between the two local government areas. A coordinated approach to future planning by both the Town and Shire of Northam is required to ensure compatible development in the vicinity of the townsite.

The main planning issues in the Northam townsite of significance to the Shire are as follows:

- The location of the new Northam Bypass and the need to ensure coordinated development of land in the Shire between the bypass and the townsite boundary.
- The location of the Northam airport and its potential impact upon adjoining land use and future development in the Shire.
- The Water Corporation's odour buffer requirements for the Northam townsite's wastewater treatment plant facility which is located approximately 2.5 kilometres northwest of the town centre in the Shire of Northam.
- The Department of Environmental Protection's odour buffer requirements for the Town of Northam's existing landfill site at Colebatch Street immediately adjacent to the north-western boundary of the Northam townsite.
- The need for preparation of a Structure Plan to provide a comprehensive planning framework for the future rezoning, subdivision and development of land within and adjacent to the Northam townsite to address all of the above issues.

With regard to the proposed Structure Plan for the Northam townsite and its hinterland it should be noted that the Department for Planning and Infrastructure is currently coordinating preparation of the plan in consultation with both the Town and Shire of Northam and the local community. The Structure Plan is expected to be finalised in 2003.

5.7 SUBDIVISION IN THE SHIRE

The Western Australian Planning Commission is responsible for the determination of all subdivision applications in the State. The Commission has a range of policies which it applies when considering applications including Statement of Planning Policy No.11 Agricultural and Rural Land Use Planning and Policy No. DC 3.4 Subdivision of Rural Land.

These policies establish the framework for rural land use planning in Western Australia. They identify the State's objectives, policy framework and guidelines for the planning and development of rural land. They also outline the criteria for assessment of subdivision applications in rural areas.

The policies are guided by the following fundamental principles:

- The State's priority agricultural land resource should be protected.
- Rural Settlement opportunities should be provided if sustainable and of benefit to the community.
- The potential for land use conflict should be minimised.
- The State's natural resources should be carefully managed.

Under current State planning legislation Local Government is in a relatively weak position as far as subdivision is concerned. Local Government is only normally asked to comment on whether or not it supports a subdivision application. The Western Australian Planning Commission is the authority responsible for making a final decision which it may do so at its own discretion and, in some cases, despite the advice and recommendations of Local Government.

In 1999 the then Ministry for Planning prepared an analysis of lot sizes in the Shire of Northam as part of the preparation of the Avon Arc Sub-Regional Strategy. The analysis revealed that the majority of lots in the Shire have an area greater than 100 hectares. A lesser amount fall into the 20-40 hectare category and only a relatively small proportion fall into the 1-20 hectare category. Another key finding of the analysis was that there are a large number of 20-40 hectare lots in the Avon East area which is the most highly agriculturally productive land in the Shire. It is also notable that many of these lots do not have access to a constructed Gazetted road.

5.8 OVERALL SUBDIVISION STRATEGY FOR THE SHIRE OF NORTHAM

Having completed the overall assessment of current physical, economic, social and environmental issues the following subdivision strategy is proposed for the Shire of Northam for the next 10 to 15 years.

- **Wundowie**

It is considered that subdivision may be possible within a 6 kilometre radius from the centre of Wundowie as illustrated on the Local Planning Strategy map. It is further proposed that smaller size rural residential lots (i.e. 1ha to 2ha) be considered within a 2 kilometre radius of the town centre, that larger size rural residential lots (i.e. 2ha to 5ha) be considered within a 2 to 5 kilometre radius of the town centre, and that larger rural smallholding type lots (i.e. 5ha to 20ha) be considered within 4 to 6 kilometres from the town centre.

In order to provide for the proper and orderly expansion of the Wundowie townsite in the future a Townsite Expansion Plan shall be prepared to encompass all land located in the northern and eastern parts of the townsite and shall include all unallocated Crown land and Pt Location 27073 Kingia and Fernie Roads. The Townsite Expansion Plan shall be endorsed by the local government and the WAPC, following appropriate public consultation. Preparation and adoption of the plan will be required prior to consideration and endorsement of any rezoning and/or subdivision proposals for land located within these areas.

- **Bakers Hill**

It is considered that subdivision may be possible within a 5 kilometre radius from the centre of Bakers Hill as illustrated on the Local Planning Strategy map. It is further proposed that smaller size rural residential lots (i.e. 1ha to 2ha) be considered within a 2 kilometre radius of the town centre, that larger size rural residential lots (i.e. 2ha to 5ha) be considered within a 2 to 4 kilometre radius of the town centre, and that larger rural smallholding type lots (i.e. 5ha to 20ha) be considered from 4 to 5 kilometres from the town centre.

- **Clackline**

It is considered that subdivision may be possible within a 3 kilometre radius from the centre of Clackline as illustrated on the Local Planning Strategy map. It is further proposed that smaller size rural residential lots (i.e. 1ha to 2ha) be considered within a 2 kilometre radius of the town centre and that larger size rural residential lots (i.e. 2ha to 5ha) be considered within a 2 to 3 kilometre radius of the town centre.

- **Grass Valley**

It is considered that further subdivision may be possible immediately south of the Grass Valley townsite within a line running generally west from the southern boundaries of Lots 85, 86 and 87 which joins with an extension of the western boundary of Town Lots 28, 29 and 34 Walsh Street and the designated townsite boundary which meets at Lot 66 as illustrated on the Local Planning Strategy map. It is further proposed that rural residential type lots of 2 to 5 hectares be considered within this area.

- **Rezoning and Subdivision Criteria**

The local government will not support the subdivision of land surrounding the Wundowie, Bakers Hill, Clackline and Grass Valley townsites for rural residential/rural smallholding purposes until such land is appropriately zoned. Proponents of subdivision within these areas are therefore required to make all necessary arrangements with regard to a suitable zoning classification in Town Planning Scheme No.3 prior to submission of a formal subdivision application.

Any proposal for rezoning and subdivision for rural residential/rural smallholding purposes around these settlements will only be supported by the local government where it is able to satisfy the following criteria:

- i) Where it is located within the Rural Townsite Precinct Boundaries as depicted on the Local Planning Strategy map;

- ii) Where it avoids areas required for the future logical urban expansion of existing townsites;
- iii) Where it is not located on land identified as having significant agricultural potential;
- iv) Where it will not reduce or conflict with the long-term agricultural potential of adjoining land;
- v) Where safe and efficient road access can be provided;
- vi) Where essential services are capable of being provided and maintained efficiently and at reasonable cost;
- vii) Where the scenic landscape attributes of an area will not be compromised including vistas along major roads;
- viii) Where the conservation attributes of an area will not be compromised;
- ix) Where the Aboriginal and European heritage attributes of an area will not be compromised;
- x) Where bush fire risk can be suitably managed;
- xi) Where natural primary resources including prospective areas for mineralisation and basic raw materials, water catchments and areas of environmental significance are protected;
- xii) Where it is not located within any defined floodplain;
- xiii) Where the risk of land and water degradation are minimal, development will not lead to any adverse impacts in terms of flooding, soil erosion, landslip or any other form of environmental impact and environmental protection and repair are promoted;
- xiv) Where a detailed site analysis and assessment has been undertaken which demonstrates that the land is of fair to very high capability of sustaining the proposed development and use.

- **Northam**

All future rezoning, subdivision and development of land adjacent to the Northam townsite within the Shire of Northam shall only proceed in accordance with the details of an approved Structure Plan for this area. It should be noted that all future subdivision and development in the Structure Plan area will be subject to the provisions of a Special Control Area to be included in the Shire's Town Planning Scheme No.3.

- **Avon West Planning Precinct**

Subdivision in the Avon West Planning Precinct may be supported to a minimum lot size of 50 hectares subject to the following criteria:

- i) Where adequate provision is made for the protection and management of foreshore areas along the Avon River;

- ii) Where it is not located on land identified as having significant agricultural potential;
- iii) Where it will not reduce or conflict with the long-term agricultural potential of adjoining land;
- iv) Where safe and efficient road access can be provided;
- v) Where essential services are capable of being provided and maintained efficiently and at reasonable cost;
- vi) Where the scenic landscape, conservation and heritage attributes of an area will not be compromised including scenic vistas along major roads and river foreshore areas;
- vii) Where bush fire risk can be suitably managed;
- viii) Where natural primary resources including prospective areas for mineralisation and basic raw materials, water catchments and areas of environmental significance are protected;
- ix) Where it is not located within any defined floodplain;
- x) Where the risk of land and water degradation are minimal, development will not lead to any adverse impacts in terms of flooding, soil erosion, landslip or any other form of environmental impact and environmental protection and repair are promoted;
- xi) Where a detailed site analysis and assessment has been undertaken which demonstrates that the land is of fair to very high capability of sustaining the proposed development and use.

Furthermore, in recognition of the significance of the river environment in the Precinct including the need to provide for its rehabilitation and long-term management, approval to any subdivision and/or development may be conditional upon one or more of the following:

- Planting and/or retention of vegetation;
- Fencing of remnant vegetation;
- Control of stock along wetland and foreshore areas;
- Prohibition of dwellings and effluent disposal systems within 100 metres of wetland and foreshore areas;
- Management of stormwater drainage;
- Creation of rights of public access to foreshore areas;
- Preparation of conservation management plans;
- Preparation and registration of restrictive covenants and/or deeds of agreement to secure performance of land management agreements.

- **Land located adjacent to Nature Reserves**

Subdivision and/or development approval in respect of any land located adjacent to Nature Reserves within all zones in the Scheme Area may be conditional upon:

- i) planting and/or retention of vegetation; and

- ii) fencing of remnant vegetation to the specifications and satisfaction of the local government.

• **Remainder of the Shire**

Having regard to the prime agricultural importance of land in the remainder of the Shire and its significant contribution to the economic, social and environmental structure of the Shire and the region generally, subdivision will not be supported outside of the areas designated for townsite intensification and expansion or the Avon West Precinct as illustrated on the Local Planning Strategy map. This includes the balance of the land in the Darling Scarp North Precinct, the entire Darling Scarp South Precinct, the balance of the land in the Eastern Slopes Precinct, the entire Avon River Precinct and the balance of the land in the Avon East Precinct.

Notwithstanding the above, the local government may support subdivision in these areas where it is proposed for 'bona fide' farm boundary rationalisation purposes or other variations as provided for in Western Australian Planning Commission policies.

5.9 IMPACT OF SUBDIVISION STRATEGY

The subdivision strategy outlined in Section 5.8 will accommodate the expected increase in the population of the Shire over the next 10 to 15 years and will direct this growth to the areas surrounding Wundowie, Bakers Hill, Clackline and Grass Valley. This increase in population will help to counteract the economic stagnation of the towns and provide for greater variety and intensity of land uses.

At first glance the subdivision strategy would appear to provide a radical increase in population in areas surrounding Wundowie, Bakers Hill, Clackline and Grass Valley. On closer examination, however, there are a number of existing constraints to development in these areas, namely:

- Crown reserves and vacant Crown land.
- Other State owned land.
- Land already subdivided.
- Land covered by remnant vegetation which has clearing restrictions.

The following table provides an assessment of subdivision potential surrounding these settlements. It is important to note that this is a broad-brush assessment of future development in these areas.

TABLE 8: SUBDIVISION POTENTIAL OF LAND AROUND SHIRE TOWNSITES

Rural Townsite Precinct	Wundowie 6km	Bakers Hill 5km	Clackline 2km	Grass Valley 2km
Area of Settlement Zone	75	55	29	5
Reserves	10	1	3	0.5
Vacant Crown Land	3	4	1	0
Other State Land	18	1	1	0.5
Private Land	44	49	24	4
Existing Subdivision	6	7	4	1.5

Table 8 cont.: Subdivision Potential of Land around Shire Townsites

Rural Townsite Precinct	Wundowie 6km	Bakers Hill 5km	Clackline 2km	Grass Valley 2km
Non-Subdivided Private Land (NSPL)	38	42	20	2.5
Remnant Vegetation on NSPL	7	8	2	0
Area of Potential Subdivision	31	34	18	2.5

Note: All Areas in Square Kilometres (Approximate figures only)

The following table provides an estimate of the total number of new lots that may result from the subdivision strategy.

TABLE 9: ESTIMATED NUMBER OF NEW LOTS

	Wundowie	Bakers Hill	Clackline	Grass Valley	Total Estimated New Lots
Area for 2ha lots	1	3	2	2.5	850
Area for 2-5ha lots	14	11	16	0	1,367 (3ha avge)
Area for 5-20ha lots	16	20	0	0	388 (12.5ha avge)

Note: All areas in Square Kilometres (Approximate Figures Only)

On the basis of the figures shown in Table 9 the total estimated number of potential new lots in the Shire over the next 10 to 15 years will be 2,605. Based on an average household size of 2.9 persons the total potential increase in population will be approximately 7,550. During this same period the population of the Perth Metropolitan Area is expected to increase by approximately 450,000.

5.10 SPECIAL CONTROL AREAS

Special control areas are included in Town Planning Scheme No.3 to identify areas within the Shire that are significant for a particular reason and where additional development control in the Scheme is required. It is important to note that the requirements of a special control area apply in addition to the requirements of the zone or reserve applicable in each particular case.

There are four (4) special control areas which apply to the Shire of Northam. These are as follows:

- i) Avon River Special Control Area;
- ii) Landscape Protection Special Control Area;
- iii) Spencers Brook Special Control Area;
- iv) Northam Town Expansion Special Control Area.

The location of these special control areas is shown on the Scheme Maps. Provisions relevant to each special control area are provided in Part 6 of the Scheme Text. These provisions set out the purpose and objective of the special control areas, any specific development requirements of the local government, the process for referring applications to relevant agencies and matters to be considered in determining development proposals.

Details regarding the purpose of the special control areas contained in Town Planning Scheme No.3 and the basis for delineation of their boundaries are as follows:

- **Avon River Special Control Area**

Purpose:

- (a) To preserve the ecological values of the Avon River as a significant drought refuge for freshwater fishes and water birds;
- (b) To avoid development that would negatively impact upon the ecological values and landscape qualities of the area;
- (c) To ensure that land use in the area, including grazing, cultivation and recreational activities does not degrade the area;
- (d) To ensure that any development takes place in such a manner so as to safeguard the welfare of people in the area; and
- (e) To ensure that future infrastructure development does not adversely alter the capacity of the area to convey floodwaters.

Boundaries: Defined by the edge of road reserves comprising existing roadways constructed adjacent to the Avon River and the area of the watercourse comprising the river environment including foreshore areas.

- **Landscape Protection Special Control Area**

Purpose:

- (a) To preserve the visual amenity and landscape quality of the area;
- (b) To avoid development which would negatively impact upon the ecological values and landscape qualities of the area; and
- (c) To ensure that land use in the area, including grazing, mining activities and recreational activities does not degrade the area.

Boundaries: Defined by the boundary of the Rural 4 zone and Areas of Environmental Significance currently provided for in Town Planning Scheme No.2 which provides specific controls in respect of areas identified by the local government as being of environmental significance.

- **Spencers Brook Special Control Area**

Purpose:

- (a) To preserve the ecological values of the river and riparian zone;
- (b) To avoid development which would negatively impact upon the qualities of the area;
- (c) To ensure that land use in the area does not degrade the area;

- (d) To ensure that any development takes place in such a manner so as to safeguard the lives and property of people in the area; and
- (e) To ensure that any development does not adversely alter the capacity of the floodway to convey floodwaters.

Boundaries: Land within the Spencers Brook settlement identified by the local government as requiring special protection due to its location within the floodplain area of Spencers Brook, a tributary of the Avon River.

- **Northam Town Expansion Special Control Area**

Purpose:

- (a) To provide for the coordinated development of land in the Shire immediately adjacent to the Northam townsite in accordance with an approved Structure Plan for the townsite and its hinterland;
- (b) To ensure compatible development in the vicinity of the Northam townsite;
- (c) To avoid development which would negatively impact upon the qualities of the area; and
- (d) To ensure that all development takes place in a manner which safeguards the lives and property of people in the area.

Boundaries: All land between the Northam Bypass and the Town of Northam local government boundary and all other land within 500 metres of the Town of Northam local government boundary.

5.11 BUFFER ZONES

Over the past few years the Western Australian Planning Commission has prepared the following buffer zone policies:

- Statement of Planning Policy No. 4 State Industrial Buffer Policy.
- Statement of Planning Policy No. 5 Poultry Farms Policy.

The Environmental Protection Authority has also prepared a document entitled Guidelines for Environment and Planning 1997 which provides recommended buffer distances between industrial and residential land uses.

The Shire of Northam is required to have regard for these policies and guidelines when considering applications for subdivision and development in the Shire. The local government may require that suitable buffer areas be defined and included as part of a town planning scheme, structure plan or policy to minimise land use conflict and provide for the safety and amenity of adjoining land uses.

The following uses within the Shire are identified as requiring the definition of a suitable buffer area.

- **Wastewater Treatment Plants**

There are presently two (2) wastewater treatment plant facilities in the Shire of Northam that are operated by the Water Corporation. The first is located along Coates Road in the south eastern part of the Wundowie townsite. This facility treats wastewater generated by people residing in Wundowie.

The second is located north of Colebatch Street approximately 2.5 kilometres northwest of the Northam town centre and just outside the municipal boundary of the Town of Northam. This facility treats wastewater generated by people residing in the Northam townsite. It is understood that this facility is operating at about 85% capacity.

The Water Corporation advises that the treatment processes at these wastewater treatment plants are unable to eliminate all odours generated by the wastewater arriving at these facilities. As such it recommends the creation of odour buffer areas around each of the plants to provide for a physical separation between incompatible land uses. The buffers recommended by the Water Corporation range between 300 and 500 metres. The extent of these odour buffers is illustrated on the Local Planning Strategy map.

The Water Corporation has also recommended that the Shire formerly introduce these odour buffer areas into Town Planning Scheme No.3 by creating a new Special Control Area (SCA) entitled Wastewater Treatment Buffers (Northam & Wundowie). It has requested that the new Special Control Area be identified on the Scheme Maps and that suitable provisions be incorporated in Part 6 of the Scheme Text which specify its purpose and the criteria required for any new land uses proposed to be established within the area.

The need for buffers around the existing wastewater treatment plant facilities in the Shire is recognised and is therefore indicated on the Local Planning Strategy map. However, these buffer areas have not been included as a special control area in Town Planning Scheme No.3 as land surrounding the wastewater treatment plants comprising these buffers is zoned for rural purposes and is therefore unlikely to be subject to any intensified land usage in the short to medium term.

- **Landfill Sites**

The Shire of Northam operates a landfill site at Inkpen Road approximately 2 kilometres south of the Wundowie townsite. The Inkpen Road landfill site is a Class 2 waste disposal facility which is estimated to have a lifespan of approximately 15 years.

The Town of Northam also operates a landfill site at Colebatch Street immediately adjacent to the north western boundary of the Northam townsite. This facility receives all the solid waste from the Town of Northam and the Shires of York and Toodyay which equates to approximately 15,000 tonnes of waste per annum. The lifespan of the Colebatch Street facility is estimated to be 100 years. Given its lifespan and location in proximity to the common boundary between the Town and the Shire, consideration needs to be given to the potential impact of this facility on future land use and development in the Town and Shire including the provision of a suitable buffer area.

In both cases the Department of Environmental Protection (DEP) has recommended a minimum odour buffer distance of 500 metres between all site boundaries and any residential buildings or other odour sensitive land use. It also recommended that future development not be planned within these buffer areas. The extent of these odour buffers is illustrated on the Local Planning Strategy map.

The need for buffers around the existing landfill sites in the Shire is recognised and is therefore indicated on the Local Planning Strategy map. However, these buffer areas have not been included as a special control area in Town Planning Scheme No.3 as land surrounding the landfill sites comprising these buffers is either zoned for rural purposes or reserved for conservation and is therefore unlikely to be subject to any intensified land usage in the short to medium term.

- **Industrial Land Uses**

All existing Industrial zoned land in the Shire is located at Wundowie and Meenaar (i.e. Avon Industrial Park). In both cases the majority of this land is undeveloped. It is understood that all buffers required in respect of land uses to be established in the Avon Industrial Park will be retained within the existing boundaries of the Park.

Industrial buffers are not currently in place around the Wooroloo abattoirs. It is understood that pollution control devices such as scrubbers have been installed which have been sufficiently successful to ensure that no negative impacts have been experienced at the El Caballo Resort or the surrounding rural residential areas.

In considering applications for subdivision and/or development involving industrial land uses in the Shire, the local government will have regard for current State planning policy as this relates to buffer areas and may impose conditions which seek to minimise any negative impacts arising from proposals that have potential to cause land use conflict.

- **Unexploded Ordnance**

Unexploded ordnance (UXO) is defined as any sort of military ammunition or explosive which has failed to explode as intended. In Australia UXO contamination has arisen mainly as a result of military training activities. In the past large numbers of ranges and training areas were approved for use in many areas of Australia. As a result there are now a large number of sites throughout the country which are affected by UXO.

The area surrounding the Northam Army Camp has been used for military training purposes for several decades. In addition to the main camp, an area near Spencers Brook was previously used for RAAF ammunition storage while an area straddling the Shire boundary with York formed an artillery range. Unexploded ordnance is therefore an issue in these areas that requires consideration in future land use planning. The Fire and Emergency Services Authority (FESA) has supplied the Shire with a plan of potentially contaminated areas to assist management of this issue.

The need for buffers around areas within the Shire potentially contaminated by UXO is recognised however it is proposed that this issue continue to be

managed by the Shire through application of local planning policy. In considering subdivision and development proposals in these areas the WAPC and local government will also liaise with the Unexploded Ordnance Services Branch of FESA.

- **Northam Airport**

The Northam airport is located in the north eastern part of the Northam townsite in close proximity to the common boundary between the Town and Shire. It comprises an area of approximately 28 hectares and is currently surrounded by rural type land uses.

The airport does not currently accommodate any commercial air services and is used primarily by the Northam Aero Club for recreation and training purposes. As such current usage is fairly limited with most air traffic occurring on weekends.

Notwithstanding its limited usage, the airport runway has recently been sealed which may lead to an increase in the airport's attractiveness for commercial services as the population of the Town and Shire grows. It is understood that there are currently no plans to expand the airport facilities.

Given that Northam has been identified as the Regional Service Centre for the Avon Arc and will in future years function as the major service centre for much of the sub-region and the remaining Wheatbelt, demand for the service provided by the Northam airport may grow. In recognition of this potential demand there is a need to plan for the future development and use of land surrounding the airport including the identification of a suitable buffer area to avoid any potential land use conflict.

The identification of the location and extent of any buffer around the airport including the nature and scope of any planning controls in relation to land within the buffer area requires further detailed investigation by both the Town and Shire of Northam. As such rezoning and subdivision in the vicinity of the airport will not be supported until completion of this investigation.

5.12 WATER RESOURCES

The Shire of Northam contains a number of watercourses, wetlands and floodplains, particularly in its western parts, which form part of the catchments of the Helena River (Mundaring Weir), Wooroloo Brook and Avon River. Responsibility for the management and protection of these environmentally sensitive areas rests with the Department of Environment (formally the Water and Rivers Commission).

The catchment of the Helena River (Mundaring Weir) in the south-west corner of the Shire is situated within a strategic Public Drinking Water Source Area (PDWSA) which has been proclaimed under the *Country Areas Water Supply Act 1947* to ensure appropriate protection of the water supply source. Land use restrictions apply to all land within this area and any proposals for subdivision and/or development are required to be referred to the Department of Environment for comment.

The catchment of the Wooroloo Brook, located in the western part of the Shire, has been identified as a possible future Public Drinking Water Source

Area (PDWSA) to be proclaimed under the *Country Areas Water Supply Act 1947*. As such any proposals for subdivision and/or development may be referred to the Department of Environment to ensure that the proposed development and use is compatible with the protection and long term management of the catchment area.

The catchment of the Avon River is a Proclaimed Surface Water Area under the *Rights in Water and Irrigation Act 1914*. Under the terms of this classification any interference with water from a watercourse or wetland (i.e. construction of dams, filling, draining) within the catchment is prohibited. As such any proposals for subdivision and/or development which interfere with a water course, wetland or groundwater are required to be referred to the Department of Environment for comment.

5.13 RURAL LOTS WITH NO ROAD ACCESS

There are a large number of rural lots, particularly in the eastern part of the Shire, that have no road access. Many of the farm holdings in the Avon East Planning Precinct consist of a number of separate titles. The owners prefer to keep their land ownership in multiple titles to enable them to sell or cash in existing titles without needing to go through the subdivision process.

There are presently no controls relating to the construction of dwellings on these farm holdings. It is proposed that provisions be placed in the new Town Planning Scheme to prevent this process taking place. Such provisions will require planning approval for lots with no dedicated and/or constructed road access. This will provide Council with development control powers in these circumstances. Limitations can also be placed on unacceptable battle-axe legs and the need for amalgamation of lots during any rationalisation process.

5.14 FEEDLOTS

Feedlots are large stock holding yards that contain a concentration of cattle in the order of 50 beasts per hectare. Feedlots have a range of undesirable impacts on surrounding areas such as offensive odour, flies, dust, large volumes of solid waste, noise and heavy vehicle traffic.

The Department of Environmental Protection (DEP) has established feedlot site selection guidelines. It recommends that feedlots be located a minimum of five (5) kilometres from the nearest residence or townsite and at least one (1) kilometre from the nearest property boundary. There are also additional requirements for protection of streams, rivers and wetlands from the highly nutrient rich runoff. Ideally, the land should have loamy soil and have a slope (less than 1:20) that can be used to manage runoff in holding basins.

Additional requirements include the need for suitable access for road trains, dense shelter belt planting, drainage channels, bunds and retention ponds, continual disposal of solid and liquid wastes and an overall management plan (*EPA, 1993*).

With these requirements in mind O'Brien Planning Consultants, on behalf of the Shire of Northam, undertook an investigation of land in the Shire to determine whether there were any suitable sites to accommodate the development of a feedlot. This investigation revealed that there were only a

few lots large enough to contain such usage and that even these few potentially suitable lots had residential uses within 5 kilometres.

O'Brien Planning Consultants therefore concluded that there does not appear to be any possible sites for the development of feedlots in the Shire which are able to comply with DEP guidelines. They therefore recommended that the local government put the onus on any prospective operator to find a suitable site, obtain support from surrounding landowners and secure the necessary clearances from the DEP prior to submitting a formal proposal to Council for planning approval.

5.15 LOCALLY UNDESIRABLE LAND USES

During preparation of the Local Rural Strategy in 1999 the Shire came under pressure from various organisations to find suitable sites for a variety of locally undesirable land uses (LULUs). The types of land uses proposed included kennels, off-road motorcycle facilities and gun clubs.

It was noted that Proponents of these uses generally assumed that the rural areas, owing to their low population density, should be ideal places for their establishment. On the contrary, most people living in the Shire's rural areas have chosen to do so because of the tranquility and they, like their urban brothers, also dislike these unpopular uses.

Despite numerous inquiries and investigations by O'Brien Planning Consultants in preparing the Local Rural Strategy no suitable sites to accommodate these uses were identified. Notwithstanding this outcome, it is acknowledged that there are probably suitable sites within the Shire for all of the proposed uses. However, the Shire is of the opinion that the individual clubs or organizations seeking to establish such uses should undertake their own investigations to identify suitable sites including letters of support from adjoining landowners. Following the identification of a potentially suitable site and written support from affected landowners the Shire is prepared to consider such proposals and, where possible, assist with the procurement of the required land.

5.16 CONCLUSIONS

It is concluded that:

- There has been an increased demand for rural residential lots in the Shire of Northam over the last decade due to its locational advantages and scenic qualities. This demand is expected to continue over the next 10 to 15 years and needs to be planned for in the context of competing demands, conflicting community aspirations, limited resources and current planning legislation and policy.
- Although not part of the Shire, existing and future development in the Northam townsite is an important consideration in any future planning of the Shire due to the town's central location, regional significance and the nature and location of some strategically important and potentially conflicting land uses in proximity to the common boundary of the two local government areas.

- The Shire has formulated a strategy for subdivision and development in the Shire for the next 10 to 15 years including land immediately adjacent to the Northam townsite.
- Subdivision and development in the Shire for rural residential/rural smallholding purposes will only be supported by the local government where it can meet certain planning criteria.
- Future rezoning and subdivision for rural residential/rural smallholding purposes shall be concentrated around the settlement nodes for each town as defined on the Local Planning Strategy map.
- Future rezoning, subdivision and development of land adjacent to the Northam townsite within the Shire of Northam shall only proceed in accordance with the details of an approved Structure Plan for this area and subject to the provisions of a Special Control Area to be included in the Shire's Town Planning Scheme No.3.
- There is a general presumption that subdivision in the Avon West Planning Precinct is possible to a minimum lot size of 50 hectares where it can meet certain planning criteria.
- Subdivision will not be supported outside of the areas designated for townsite intensification and expansion or the Avon West Precinct due to this area's prime agricultural importance.
- It is estimated that the Shire's subdivision strategy will result in the creation of 2,605 new lots in the Shire over the next 10 to 15 years leading to a total increase in population of approximately 7,550.
- There are four (4) special control areas that will apply to land in the Shire under Town Planning Scheme No.3. These are:
 - i) Avon River Special Control Area;
 - ii) Landscape Protection Special Control Area;
 - iii) Spencers Brook Special Control Area;
 - iv) Northam Town Expansion Special Control Area.
- The following uses within the Shire are identified as requiring the definition of a suitable buffer area in the Local Planning Strategy:
 - The existing wastewater treatment plant in Wundowie and adjacent to the northern boundary of the Northam townsite.
 - Landfill sites at Inkpen Road south of Wundowie and Colebatch Street, Northam; and
 - Northam airport.
- Any proposals for subdivision and/or development within the catchments of the Helena River (Mundaring Weir), Wooroloo Brook and Avon River are required to be referred to the Department of Environment for comment.
- Provisions will be incorporated in Town Planning Scheme No.3 to prevent the development of dwellings on agriculturally significant landholdings in the Avon East Planning Precinct. Such provisions will require planning approval for lots with no dedicated and/or constructed road access.

- Recent investigations by the Shire suggest that cattle feedlots are unable to be developed within the Shire as there are no sites available that are able to comply with DEP guidelines.
- There is demonstrated demand for controversial facilities like kennels, off road motorcycle facilities and gun clubs however no suitable sites to accommodate these uses have been identified. Individual clubs or organizations seeking to establish such uses are encouraged to undertake their own investigations to identify suitable sites, including letters of support from adjoining landowners, prior to seeking Shire support and assistance.

6.0 MONITORING AND REVIEW

The Shire of Northam will guide the implementation of the Local Planning Strategy including setting of priorities, generating and allocating resources and ongoing monitoring and review. It will monitor the performance of the Local Planning Strategy on an ongoing basis and undertake a comprehensive review of the Strategy within five (5) years of gazettal of Town Planning Scheme No.3. The review will precede the major review of Town Planning Scheme No.3 which is required to be undertaken every five (5) years pursuant to the requirements of the *Town Planning and Development Act 1928*.

The review of the Local Planning Strategy will audit the success of the Strategy in achieving the vision and planning directions for the Shire and will seek to reflect changed circumstances or changed community aspirations and needs. This provision for regular review will ensure that the Local Planning Strategy remains relevant to the Shire and continues to effectively shape its development over the next ten (10) to fifteen (15) years.

It should also be noted that the Local Planning Strategy may also be reviewed within the proposed five year review periods at the discretion of the local government should this be required to respond to major change or other unforeseen circumstances or needs. These changes would be undertaken in accordance with the provisions of the Town Planning Amendment Regulation 1999.

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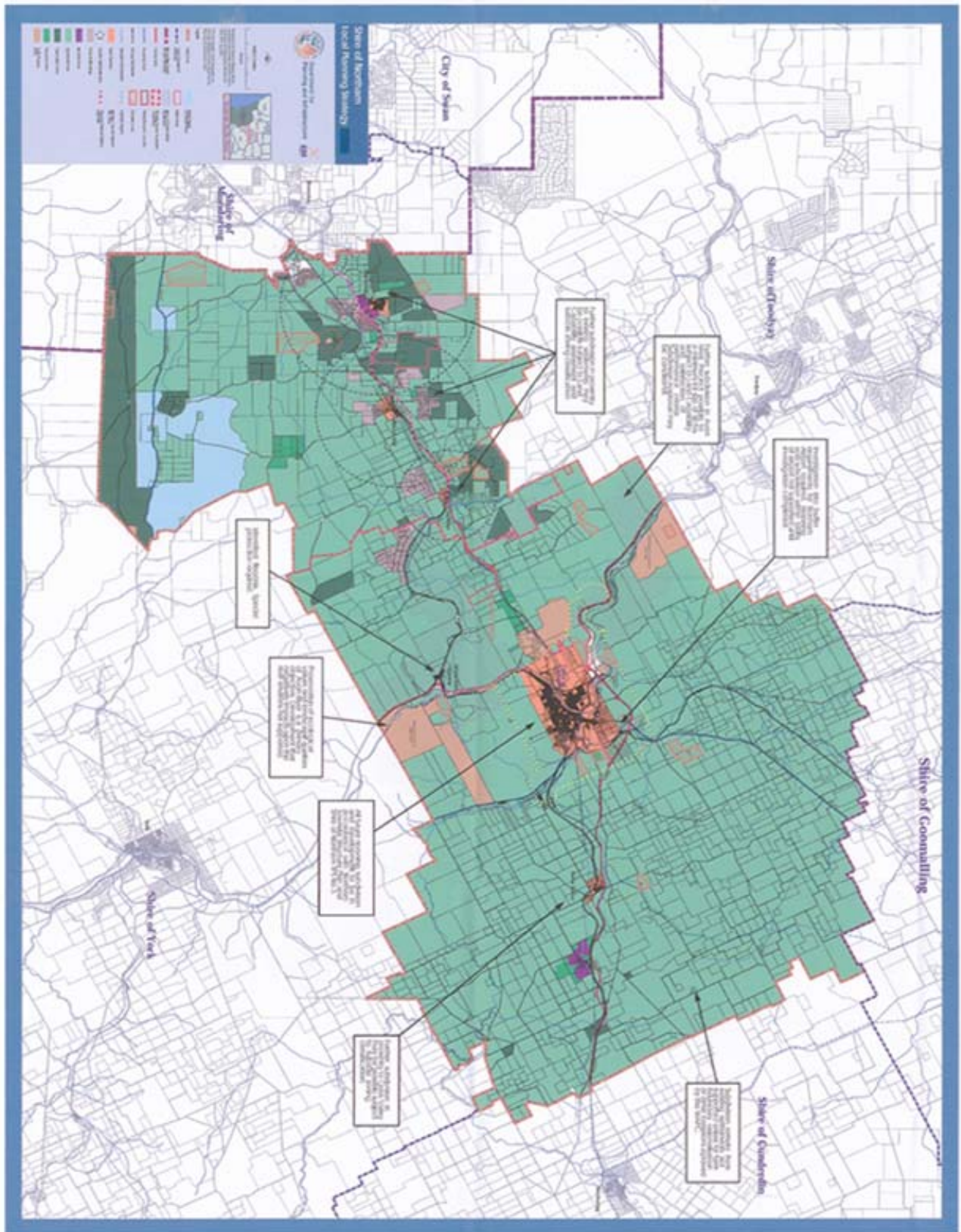
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APPENDIX 1 - LOCAL PLANNING STRATEGY MAP



LOCAL PLANNING STRATEGY FOR SHIRE OF NORTHAM

CERTIFIED FOR ADVERTISING ON 10 APRIL 2002

I. PATTERSON
SECRETARY
WESTERN AUSTRALIAN PLANNING COMMISSION

LOCAL PLANNING STRATEGY FOR THE SHIRE OF NORTHAM

ENDORSED FOR FINAL APPROVAL ON 14 DECEMBER 2004

for R N Stokes
Acting Secretary
Western Australian Planning Commission