Minister’s Message
In developing as the Northern Territory’s third largest town, Katherine has a wealth of history. Centred within a prosperous pastoral region, with promising horticultural activity, prospective mining, strong and growing tourism, rich indigenous history and culture, defence infrastructure and the imminent construction of the railway, the future of the town is assured.

With much to look forward to and at the commencement of the new century, it is timely that Government bring forward its planning policies for the coming years. This is the culmination of a lengthy process of public consultation and debate, unfortunately interrupted by the 1998 floods and subsequent investigations of the extent of land prone to flooding.

Also bearing on the development of these policies was the introduction in April 2000 of the new Planning Act which established the Northern Territory Planning Scheme. At present the Scheme is a compendium of the existing Town Plans (and other material) across the Territory which, over time will be rationalised into a single integrated document.

The Katherine Planning Concepts and Land Use Objectives provides the framework for the further development of Katherine. I look forward to the continuing community involvement in the development of the planning policies for this growing and vibrant town.

Tim Baldwin
Minister for Lands, Planning and Environment
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1. BACKGROUND

1.1. INTRODUCTION

The role of Katherine as a major regional centre is well recognised. The Katherine Land Use Structure Plan 1991 established a framework for development of the town and its immediate rural area. It reaffirmed the regional function of Katherine as a service centre for outlying communities and the pastoral industry, and its growing significance as an urban and tourist centre.

A review of the Katherine Land Use Structure Plan 1991 has been undertaken to facilitate the preparation of land use objectives under the Planning Act. The review takes into account prospects for the growth and development of Katherine, current land use issues and provides an opportunity for community participation in the development of appropriate land use policy. Figure 1A indicates the extent of the area covered by this document, which includes lands within the Katherine Town Plan and the Katherine Rural Area Plan, and shows current land tenure and ownership data.

1.2. BACKGROUND

For background information on the regional planning base, reference should be made to the appropriate sections of the Katherine Land Use Structure Plan 1991, including the geographic and socio-economic factors and development constraints.

A number of changed conditions and new issues were identified during the review of the Katherine Land Use Structure Plan 1991, in recent studies, and during public consultation. These provided the basis for the land use pattern outlined in the land use structure plan, and are dealt with in this document. They include:

- revitalisation of the Town Centre, in particular the physical improvements, commercial performance and community participation initiated under the MainStreet program and continued under the Urban Enhancement program and the Katherine Terrace Master Plan;
- promotion of tourism opportunities and the provision of new and improved facilities and attractions;
- location of the railway and future highway bypass to the south of the town;
- greater appreciation of the recreational and tourist potential of the Katherine River and careful management to protect the conservation values of the river corridor;
- greater appreciation of the landscape and environmental values of Katherine and promotion of sensitive and sustainable approaches to development in the rural and urban areas;
- the need for improved urban living conditions for Aboriginal people;
- the need for improved neighbourhood planning and design in future urban residential areas at Katherine East to provide better access to local services; and
- greater appreciation of the potential impact of large volume flood events.

1.3. POPULATION AND GROWTH

The total population of Katherine, recorded at the 1996 Census, was 10,809 persons. This included 8,932 residents and 1,877 visitors. The estimated resident population published by the Australian Bureau of Statistics (ABS) for 1999 was 9,933 persons.

It is difficult to establish an accurate average growth rate for Katherine based on historical trends, due to statistical boundary changes in 1987 and the wide variation in annual growth rates. It is apparent however, that fluctuations in population numbers and the higher growth rates associated with the construction of Tindal RAAF Base in the late 1980s have since moderated. Currently there are no plans for a significantly increased defence presence in the Katherine area.

For the purposes of this document, a population horizon of 20,000 (rather than a time horizon) has been selected as the basis for estimating future land use and infrastructure requirements.

1.3.1. Population Structure

The age and household characteristics of Katherine’s population did not change
significantly between 1991 and 1996. Key characteristics include:

- a relatively young population (75% of the population is less than 40 years);
- a high proportion of large families and household sizes; and
- a high proportion of Aboriginal people (15%).

Estimates of the number of Aboriginal persons residing in dedicated urban living areas were compiled as part of a study on living areas in Katherine. For the purposes of that study, a 1991 base population of 738 persons (exclusive of visitors) and annual growth rates of 2.3-2.7% were adopted. This would increase the Aboriginal population by up to 300 persons by the year 2004, and by a further 700 persons by the year 2025.

1.3.2. Growth Prospects

The industries providing the bulk of employment opportunities in Katherine are construction, retail, education, community services, public administration and defence. Between 1986 and 1991, the construction sector declined from 22.2% to 5.1% as a proportion of total employment, reflecting the completion of major capital works associated with the Tindal RAAF Base. Over the same period, government and defence employment increased from 10.4% to 25.3%. In 1996, government and defence employment was at 21.9%. Mining showed a major resurgence between 1991 and 1996 with a fourfold increase in the numbers of people employed in this sector. This was due in part to the reopening of the Mt Todd Mine which has since ceased operation. Health, education and construction also showed significant gains between 1991 and 1996.

Tourism related activities including retail, accommodation and personal services are the most likely source for future growth in local employment. The Northern Territory Tourism Development Masterplan estimates that up to 25% of visitors to the Northern Territory travel to Katherine and stay in the Katherine Region. Regional visitor numbers for 1998 were 236 000 persons increasing slightly from previous years despite the disruption caused by the January 1998 floods. The Regional Tourism Development Plan highlights the need to retain visitors for longer stays through improved facilities and attractions. While these may generate additional employment, such opportunities are generally seasonal and Katherine competes with other accommodation centres such as Darwin for this market.

Horticultural activities provide seasonal employment for mango pickers and there may be long term prospects for further employment generation with the impending maturity of recently planted orchards and the establishment of new horticultural enterprises.

Construction and related activity associated with Stage 3 of the Tindal RAAF Base was completed in 1995. No significant additional building and civil works are currently proposed for the project, although the Defence Housing Authority expects to require an additional 20 dwelling in Katherine in the next twelve to eighteen months.

The Yimuyn Manjerr (Mt Todd) mine, located 45 km north-west of Katherine, has recently closed. It is possible that the mine may be sold and reopened given that sufficient ore reserves remain to sustain mining for another two to three years.

The Maud Creek mine, located within the eastern boundary of the policy area has recently opened. Current open cut mining operations will take six to eight months to complete. The mine has potential for further underground development and exploration works continue on and around the site.
2. EVALUATION AND PLANNING CONTEXT

This section of the report provides some discussion of the factors affecting land use. The impact of flooding is the major factor in the proposed changes to the 1991 land use structure plan. These changes are intended to reduce the damage burden on individuals and organisations resulting from future flooding.

The 1% AEP flood level places a severe constraint on the development of Katherine. New large scale residential development will be directed to Katherine East above the 1% AEP flood level. Development elsewhere should consider the risk of inundation and include sensible design features to minimise potential flood damage or alteration to the flow of floodwaters and maximise recovery following any flood event.

The current 1% AEP flood level, based on the 1998 floods, is one to two metres higher than the previous designated flood level, based on the 1957 flood. Provisions within the Katherine Town Plan and the Katherine Rural Area Plan require proposed development or land use on flood affected land to be referred to the Development Consent Authority. Building regulations require the minimum floor level of habitable rooms within dwellings to be 300 mm above the 1% AEP flood level.

It should be noted that lands on the floodplain above the 1% AEP flood level may, at some time, be inundated by floods of greater magnitude. Therefore, all development in the floodplain (defined as the area likely to be inundated by the Possible Maximum Flood or PMF) should have due regard to the need to protect against inundation, by the use of site build up and other flood-proofing measures. The latter could include the use of piers or split level/two storey construction with ancillary, less essential activities at the lower level, and the use of construction methods and materials which would exclude flood waters from entering a building, or which resist deterioration during inundation.

Recommended locations for specific land uses are shown on Figures 2A, 2B and 2C.

2.1. TOWN CENTRE

The town of Katherine is the principal commercial centre in the region. The Town Centre supports retail uses, commercial office accommodation and increasingly, tourist uses with new development and improvement of existing services and facilities.

The preferred land use arrangement for the Town Centre has been considered in light of continuing retail development along Katherine Terrace and the implementation of design proposals and promotional activities arising from the Katherine MainStreet and the Urban Enhancement programs and the Katherine Terrace Master Plan. This current study reaffirms the role of Katherine Terrace as the core retail and commercial area for the region.

The Planning Concepts - Town Centre Area (Figure 2C) illustrates proposed land use concepts for the Town Centre and the extent of the Central Business District. The railway corridor has been relocated out of the Town Centre to an alignment south of the town and Tindal RAAF Base. This is accompanied by a heavy vehicle corridor adjacent to the railway. Relocation of the railway removes the access restrictions to lands south of the Stuart Highway east of the Town Centre.

An arterial road connection is also provided by the extension of Chambers Drive south of Katherine Terrace to the Victoria Highway. This will avoid the congestion of Katherine Terrace and the built up area north of Condon Street along the Victoria Highway. The provision of adequate buffering to properties in Katherine East will be a major consideration at the design stage of the road.

Despite the continuing likelihood of future flooding, it is proposed to maintain tourist and retail/commercial uses along Katherine Terrace and to extend the “core” area as demand warrants, to First, Second and Third Streets, to the east of Lindsay Street and south of the former rail reserve. Opportunities for future mixed use residential/commercial development, predominantly residential and tourist accommodation, have been identified for the blocks from Third to Fourth Streets and those fronting O’Shea Terrace and Pearce, Kintore and Lindsay Streets. Development in this latter area could also include...
tourist/commercial uses at ground level where appropriate. The "core" of the Town Centre remains the preferred location for higher order retail commercial uses such as supermarkets, arcades and specialty shops. Retail development outside of the Town Centre is to be discouraged, with the exception of a small neighbourhood centre at Katherine East. A district centre has been identified in future stages of the Katherine East urban area, once its population warrants it. This district centre could provide alternative emergency retail and other services at times of future flooding in the Town Centre.

The development of the courthouse and the government office building in First Street reinforces the civic and administrative functions of the Town Centre. It is possible that at some future date, the offices of the Katherine Town Council could be relocated into the Town Centre. A part of Portion 3025 south of Railway Terrace might be suitable for this purpose. In terms of commercial office space, the Australian Valuation Office estimated in March 1999, that Katherine had a net lettable floor area of 12 550 m² of which 2 203 m² was vacant, (a vacancy factor of 17.6%). There may be opportunities to partition and strata title some of this vacant floor space to cater for the office needs of small business. Purpose-built accommodation would be required should there be demand from larger businesses or organisations for office space. There are sufficient vacant and/or under-utilised sites within the core commercial area of the Town Centre to support future office development and over time, it is expected that existing non-conforming uses, such as light service industry, will relocate outside the Town Centre making this land available for office or commercial use.

Pedestrian movement around the Town Centre can be enhanced by promoting "pedestrian priority" areas in future retail and office redevelopment along Katherine Terrace in accordance with the Katherine Terrace Master Plan, with opportunities for retail arcades between Katherine Terrace, First Street and Railway Terrace. Provision of a pedestrian priority road area in First Street, between Warburton and Giles Streets, with general improvements in pedestrian linkages between retail areas and new central public parking areas is a future possibility. Giles Street is proposed to be the primary pedestrian axis, providing access between the core commercial area along Katherine Terrace, the Town Square, Railway Terrace and Second Street.

In the past, inquiries have been made with respect to a possible site for the development of another major retail facility on the southern side of Katherine Terrace, east of Lindsay Street. The proposed extension of Chambers Drive south of Katherine Terrace would provide an opportunity to develop a suitable commercial parcel here, with access from Katherine Terrace and the Chambers Drive extension. However, with the potential for serious flooding at this site, consideration should be given to flood-proofing options during the initial design stage. This could include the construction of covered parking at the lower level, with the retail and storage facilities at a higher elevation, above the 1% AEP flood level.

Across Katherine Terrace from this site, the existing Tourist Information Centre has been redeveloped. An opportunity exists to develop an improved bus transit facility with easy access to the Tourist Information Centre. Heavy vehicle parking facilities outside the Town Centre and ultimately a heavy vehicle bypass of the Town Centre should lessen traffic conflicts in the core area in the longer term. These proposals are further discussed in Section 2.5.

2.2. TOWNSCAPE AND URBAN DESIGN

The need to improve the image and function of the Town Centre has been recognised in a number of recent studies. The benefits of townscape improvements include increased tourist activity, greater business confidence and investment, increased community use of public spaces, and enhanced amenity for residents, workers and visitors.

Urban design and enhancement opportunities are provided by the natural setting, cultural heritage and climate. Opportunities can be realised by the use of shade structures and landscaping in future development. It can also be realised with appropriate signage, convenient car parking areas and tourist coach interchange facilities. Pedestrian linkages between the Town Centre and surrounding attractions,
particularly the Katherine River are encouraged.

Landscaping in the Town Centre was initiated under the MainStreet program and has been further refined in the Katherine Terrace Master Plan. The Master Plan proposes widening of footpaths, planting of additional trees along the road edge, improving pedestrian access to the buildings along Katherine Terrace and reducing the width of the median. Opportunities to improve the exterior design of the existing retail and commercial buildings, to take account of Katherine’s climate and to enhance pedestrian comfort and movement, were also included in the MainStreet proposals.

A design guide for the Town Centre would assist in promoting new commercial development which is sensitive to climatic considerations in its design.

The Town Square, provides a central open space and focus for community activity. Features include perimeter shade trees, paved space, water feature and central orientation to Katherine Terrace and Giles Street.

2.3. RESIDENTIAL - URBAN

Katherine East is the preferred location for future urban residential development, as it is generally above the 1% AEP flood level. The extent of the 20 Australian Noise Exposure Forecast (ANEF) contour from the Tindal RAAF Base is shown on Figure 2B. Urban residential development inside this contour is generally considered undesirable.

Future residential demand in Katherine will be met by the further release of land above the 1% AEP flood level for urban development at Katherine East and through limited infill development within and adjacent to the Town Centre. Developments in the Town Centre area will require due consideration of flood-proofing as described above, as the area is below the 1% AEP flood level.

The southern neighbourhood at Katherine East currently has poor access to local facilities, such as shops and schools. Increased emphasis should be placed on the planning and design of new residential areas at Katherine East to provide better connections and to create a greater sense of community identity and character. The use of neighbourhood centres to locate a variety of services, such as shops and medical services within and close to new residential areas and schools, can provide a focus for community neighbourhood activity. It is proposed that a local centre be developed in conjunction with future urban land release in the southern neighbourhood of Katherine East.

The future identity and function of new residential areas would be facilitated by the preparation, prior to approval of construction, of an Outline Development Plan to detail road, pedestrian and bicycle networks, and open space provision. The plan should also identify and establish links with adjacent development and community facilities.

Neighbourhood amenity can be improved by enhancing local streets through landscaping and the provision of adequate lighting to promote safety. The design and layout of local open space areas can incorporate the retention/enhancement of the natural landscape. This is particularly relevant at Katherine East which includes landscape features such as rock outcrops, unique to the Katherine area.

It is anticipated that single detached dwellings will remain the dominant housing form in Katherine, given underlying family and household characteristics. However, opportunities to provide medium density forms of housing should be promoted in areas above the 1% AEP flood level. Construction of more intense residential development should not be encouraged on sites formerly occupied by light industrial uses in the Town Centre. A range of lot sizes and dwelling types, such as duplexes and townhouses, will be encouraged in new residential areas to improve housing choice and affordability.

A report prepared for the Aboriginal Urban Living Areas Working Party identified the housing needs of the existing and predicted Aboriginal population for dedicated urban living areas to the Year 2004. An assessment of the potential to expand existing urban and rural living areas was also undertaken. The report supported further development of existing urban living areas (Kalano and Walpiri), even though they are both below the 1% AEP flood level,
and new public rental housing at Katherine East.

The report also identified a distinct set of physical planning principles to facilitate the development of Aboriginal urban living areas and reflect social and cultural requirements, including layout of housing and community facilities. These have been addressed in the Land Use Objectives (Section 3).

2.4. AGRICULTURE AND RURAL AREAS

The development of rural areas for scattered low density, predominantly residential uses has broad detrimental implications for the efficient use of land around Katherine and the protection of agricultural land.

There are significant areas around Katherine in production or with agricultural or horticultural potential (arable soils combined with groundwater supply). These areas have been identified for current and future agricultural production so that they can be protected from inappropriate subdivision.

New rural residential uses should be located only on lands which minimise the impact on the future use of good agricultural land for primary production and which generally lie above the 1% AEP flood level. Dispersed rural residential development should be avoided to prevent potential conflict with agricultural uses (e.g., agricultural sprays) and retain good quality land for primary production. Where conflict is likely, with adjacent non-compatible land uses, new development should incorporate appropriate buffers between uses. Similarly, the intrusion of non-residential uses into rural residential areas should be actively discouraged, in order to preserve the amenity of these areas.

Rural residential uses should not be developed on land which will be required for future urban development or which would require the provision of costly infrastructure.

Land capability will influence the nature of rural residential development in terms of subdivision layout, lot sizes and necessary effluent disposal systems. The occurrence of limestone karst presents a significant environmental constraint and hazard for development and will generally require larger lot sizes to accommodate on-site water supply and effluent disposal systems. Areas of poor drainage, which may affect access to properties and effluent disposal, should be avoided. Detailed analysis of such physical constraints should be the primary basis for the design of rural residential subdivisions. Adoption of guidelines for rural residential subdivision would assist this process.

Minimum service requirements for rural residential development should include all weather road access, reticulated electricity, an environmentally acceptable means of on-site effluent disposal and a potable water supply. Rural residential uses should be located so that residents have reasonable access to employment in the Town Centre and community facilities and services.

The broad areas proposed for rural residential development have been identified with regard to new land capability assessments and the impact of potential flooding. Proposals include land adjoining existing rural residential development to the west of Uralla Road above the 1% AEP flood level and land on Manbulloo Station east of Uralla Road.

Existing minimum lot sizes in rural areas will be retained to minimise the risk of groundwater pollution. Smaller rural lot sizes may be considered where reticulated water supply and sewage collection can be readily provided, such as the area west of Uralla Road, subject to assessment of the suitability of the land for this intensity of development. Areas adjoining the Tindal RAAF Base should retain the existing minimum lot sizes (8 ha) to prevent an excessive build-up of population in this area and to ensure adequate separation between defence facilities and other land uses.

2.5. TRANSPORT AND MOBILITY

The efficiency of the existing transport network in Katherine is affected by the dual function of Katherine Terrace as a national highway and the Town’s central commercial street. For the purposes of this review, the existing alignment of the Stuart Highway along Katherine Terrace will continue to be the primary road transport corridor in the Town.

Investigation of options to provide for heavy road freight and railway bypasses of the Town Centre have been completed and a number of options considered including
routes to the north and south of the current highway alignment.

A road and rail bypass corridor to the south of the town is the preferred option, as shown in the Planning Concepts (Figure 2B). A major rail deviation around Tindal RAAF Base is proposed. A future heavy transport highway bypass corridor has also been identified, leaving the Stuart Highway west of Tindal and crossing the river at the same location as the rail corridor. This corridor follows the future railway line before rejoining the Stuart Highway about 8 km north of the existing Katherine River bridge. The intermediate use of Bicentennial Road as a heavy vehicle bypass, particularly for traffic travelling to the Victoria Highway, will necessitate substantial upgrading of this road as it was not designed nor built for heavy traffic.

In addition, the extension of Quarry Road through to Gorge Road is recommended for future consideration. This would provide a connection to the Stuart Highway above the PMF, offering an alternative route away from future flooding. The link between Gorge Road and Chambers Drive near Katherine East could also be useful in this regard at lower flood stages.

It should be noted that discussions are currently in progress involving the Departments of Transport & Works and Lands, Planning & Environment and the Katherine Town Council with regard to a number of traffic circulation problems in and around the Town Centre. Among these are the need to improve the Victoria Highway/Katherine Terrace intersection, and future connections from the Town Centre to Chambers Drive.

Opportunities exist to develop a truck breakdown and highway service facility. Possible locations include the Crawford Street industrial area south east of the Town Centre, the Emungalan Road industrial area north of the town or adjacent to the railway crossing at the Victoria Highway.

Locations for future industrial areas and regional and local road networks take account of proposed transport corridors. A link road from the proposed Katherine East Arterial (Chambers Drive) to the Gorge Road in association with future development of Katherine East is proposed.

Vacant land at the eastern end of the Town Centre presents opportunities to improve facilities for tourist coach operations. A new transit facility could be established south of Katherine Terrace, near the redeveloped tourist information centre, to provide additional parking areas for buses and cars with trailers and caravans. As indicated previously, attention will need to be given to flood-proofing this facility. Such a development should improve access, parking and circulation of tourist traffic in general.

Maintaining retail uses along Katherine Terrace raises issues relating to parking and traffic movement and pedestrian access, safety and amenity. Continued traffic growth in the Town Centre will require a review of parking arrangements along Katherine Terrace. Retail uses that support pedestrian access will be promoted along Katherine Terrace. Parking areas for commercial and retail users should be located convenient to services and employment, to encourage pedestrian movement around the Town Centre.

Parking provided in conjunction with new retail and commercial developments in the Town Centre should be sufficient to meet demand generated by each development and should be located off-street. Such redevelopments should consider the appropriateness of flood proofing by providing lower level parking with the retail/commercial uses above.

Walking and cycling is encouraged through the provision of safe and convenient pedestrian and bicycle routes throughout the town. This may require the integration of safety features in the design of residential neighbourhoods, such as the use of traffic management devices in local streets.

Future opportunities to accommodate public transport services (taxi and bus stops) should also be considered in the planning and design of residential areas and community facilities at Katherine East and in the Town Centre.

2.6. INDUSTRY

Being largely above the 1% AEP flood level, the Emungalan Road industrial area is the preferred location for light and service related industries. It is proposed to increase this area, including an extension to the north. However, no water or sewage services are available north of the Katherine
River, and attention will need to be given to the impact of development in this area on the aquifer. Any future development will require the provision of potable water and appropriate effluent disposal systems. The Crawford Street area is an alternative location, but less attractive than Emungalan Road as expansion would have to consider the impact of possible inundation of the floodplain in this area. Intensification of light industrial development should generally be discouraged at other locations and the relocation of existing light/service uses from the Town Centre and Pearce Street should be encouraged.

The location of future industrial uses takes account of the proposed rail corridor and future opportunities to provide a rail siding, freight handling and transfer facilities. A future industrial area has been identified adjacent to the rail corridor to provide access to the proposed freight line.

Expansion of existing offensive and hazardous industries at Emungalan Road and south of the Katherine River downstream at the Low Level Crossing is to be discouraged due to land use conflicts with surrounding rural and rural residential uses, possible impacts on groundwater and the river and the potential for inundation. Hazardous industries (such as petroleum or gas storage) or offensive industries (such as an incinerator or abattoir) should not be located in or near urban areas and should avoid areas subject to inundation by the PMF, drainage systems and limestone areas (pollution risk to groundwater). The establishment of offensive industries should have regard to climatic considerations (particularly prevailing winds) and include a buffer within the development to minimise conflict with surrounding uses. The proposed industrial area adjacent to the proposed rail corridor would be appropriate for such industries, subject to adequate buffering from rural uses.

2.7. INFRASTRUCTURE AND COMMUNITY FACILITIES

Sequencing of new residential development in the southern neighbourhood of Katherine East provides the most efficient means of extending and augmenting the existing water supply and sewage systems. Recent investigation of future urban areas contiguous with the existing residential area reveal that this area is not affected by near-surface sinkholes.

Increased residential populations will require the expansion of existing water and sewage systems to cater for increased demand.

The timely provision of social infrastructure such as schools and community facilities can be achieved by appropriate coordination with residential development. For example, a primary school and local centre will be required with the continued development of the southern neighbourhood in Katherine East. Areas have been identified for future school sites and neighbourhood and district facilities at Katherine East to cater for the expected residential population.

Design of neighbourhood stormwater drainage systems at Katherine East has used natural depressions as retarding basins and sinkholes for disposal. Future designs should include the use of silt traps, gross pollutant traps and retardation basins upstream of sinkholes to minimise potential for siltation, contamination and pollution of groundwater.

In rural areas where there is potential for groundwater pollution from on-site effluent disposal systems, the scale (density) and extent of rural residential development will need to be effectively managed. This can be achieved by maintaining appropriate density controls (minimum rural lot sizes), where groundwater is used for domestic purposes and septic systems for effluent disposal, to ensure adequate separation of these elements.

As indicated previously, there is a need to prevent incompatible land uses encroaching on the existing airport infrastructure (Tindal RAAF Base). Adjoining areas have been identified for rural residential development with the existing minimum lot sizes (8 ha) retained to ensure adequate separation between defence facilities and other land uses. The ANEF contours (Figure 2B) provide a basis on which to assess the likely noise impacts and consider appropriate land uses in the affected locality.

2.8. TOURISM

Tourism is a major component of the regional and local economy. Recent studies, particularly the Katherine Regional
Tourist Development Plan, have highlighted the need to encourage improvements and new developments in tourist facilities in Katherine. The plan recommends the promotion of longer stays by enhancing major attractions and improving amenities, interpretative facilities, signs and access to local attractions.

Katherine’s major tourist activity is currently focussed on the natural river environment, particularly Nitmiluk National Park. Proposals such as the Aboriginal Cultural Centre, Heritage Museum and the Pioneer Heritage Walk would broaden this base.

Urban design initiatives in the Town Centre could also attract greater tourist activity by providing increased amenity and pedestrian comfort. The Pioneer Heritage Walk will provide a tourist attraction in the centre of the town and establish a direct pedestrian link to Ryan Park and the Katherine River. The former rail reserve adjacent to Railway Terrace is recommended for the location of new commercial and tourist facilities, including a bus interchange/transit facility and tourist car parking.

There is increased scope for tourist accommodation in and around the Town Centre, around Gwendoline Drive northwest of the river, at the Low Level Crossing and along the proposed link road from the Katherine East Arterial to Gorge Road. Development of seasonal tourist caravan parks in areas subject to seasonal flooding represents a reasonable use of the flood plain, as most of the tourist traffic occurs during the Dry season. However, the tendency for more permanent residential use of these developments and increased Wet season visitor traffic should not be accommodated on the floodplain. Ablution blocks and ancillary park facilities should be designed to not obstruct flood flows and constructed to handle periodic inundation during the Wet season.

2.9. OPEN SPACE – RECREATION AND CONSERVATION

The natural setting of the town along the Katherine River presents unique opportunities for open space and recreation uses adjacent to the Town Centre and established residential areas. Proposals for recreational development need to be compatible with the natural environment. The Katherine River Masterplan provides a broad management framework for the river and includes proposals to enhance public access and interpretative facilities to reinforce the river’s attractions while protecting conservation values.

New development adjacent to the river should ensure that public access is retained and enhanced where appropriate. Management plans being prepared for the river will identify appropriate areas for access (and any associated recreational facilities) and sensitive sites where access should be restricted and/or rehabilitation is required.

Proposals under the earlier MainStreet program have enhanced open space in the Town Centre, providing street furniture, planting shade trees and developing the Town Square. This development has been taken further with the recent Katherine Terrace Master Plan, as outlined above in Section 2.2. The Town Centre Area (Figure 2C) suggests additional open space within the Town Centre and improved pedestrian links to adjacent open space. New parks are proposed for the corner of Giles and First Streets in the Town Centre and possibly at the northern end of the old railway bridge.

Katherine has a variety of public facilities for active recreation dispersed throughout the town. The floodplain east and south east of the Town Centre is the preferred location for the siting of such activities, given its proximity to the established residential areas of Katherine and Katherine East. There is potential for further development of facilities in this area and improved pedestrian linkages between the Town Centre and other facilities, such as the racecourse and showground. Land identified for open space includes much of the southern floodplain within the Katherine Town boundary.

Developed open space within new residential areas in Katherine East should be accessible, safe and functional, linked where possible with other open space and community facilities using walkways and bicycle paths. Generally, a variety of settings such as local parks, linear and natural areas should be provided. Opportunities to retain some areas in their existing state, incorporated in a wider system of natural areas throughout
Katherine, should be considered in the design of neighbourhood open space.

2.10. Environment and Conservation

There is increasing recognition of the need to protect significant features of the natural landscape in the rural and urban areas of Katherine. The landscape character of Katherine is determined by its natural setting, low ridges, rock outcrops, and the river.

A conservation and management strategy should be developed to identify and protect areas of nature conservation and landscape significance including vegetation along watercourses and ridges, and corridors for wildlife movement. In particular, the conservation values of the Katherine River and its catchment need to be protected.

The Katherine River Masterplan has reinforced the fact that the river corridor is largely unmodified, provides a permanent water source for wildlife and functions as a wildlife corridor between Nitmiluk National Park and natural areas downstream. Threats to the conservation values of the river are greatest in those parts of the corridor adjoining urban areas. Recreational impacts and access need to be managed and more sensitive development and control of land uses adjacent to the river is required, including the protection of vegetation on the river bank.

Future development of rural and urban areas for residential uses need to consider areas of conservation and landscape significance. This can be achieved by sensitive site planning, subdivision design and development techniques, which promote the retention of vegetation and natural features such as rock outcrops and drainage systems and integration of these features in open space networks.

The Katherine River is subject to a natural cycle of flooding during the Wet season. The possibility of major flood events is a major constraint to the development of flood prone areas of the town. Existing floodways should be protected and development on the floodplain minimised by encouraging low key uses such as passive recreation.

Surface water runoff from urban areas into the Katherine River poses a potential source of pollution. This is especially true within the catchment area of the river upstream of the pump house at Donkey Camp Pool. This drainage catchment area is shown on the Land Use Structure Plan. Uses within this area which may contaminate the water supply are prohibited, or will require special conditions to ensure the maintenance of domestic water quality. The use of sinkholes for the disposal of urban stormwater in Katherine East also increases the likelihood of pollution of groundwater and the river itself. Continued urban development at Katherine East is likely to generate greater flows, which has the potential to affect water quality and result in siltation of the sinkholes. This will reduce disposal capacity of the sinkholes and they should no longer be relied upon as a drainage solution. Stormwater drainage will need to be considered at the design stage of new residential estates.

In rural areas, the potential for contamination of groundwater from on-site effluent disposal systems needs to be considered in determining the appropriate scale (density) of rural residential development.

3. Land Use Objectives

3.1. Scope

The Katherine policy area covers 8 517 hectares and includes the Town of Katherine and the adjoining rural area that is serviced by the town (Figure 1A).

The Land Use Objectives are statements of planning policy and, under the provisions of the Planning Act, are binding on the Development Consent Authority. Land Use Objectives should not be confused with the provisions of the Katherine Town Plan or the Katherine Rural Area Plan. The Development Consent Authority will, in determining a development application, interpret and apply those provisions in a manner consistent with the Land Use Objectives which:

- establish policies for the management of Katherine’s growth and development as a regional urban centre and a service centre for the tourist and pastoral industries;
- provide a framework to guide the location, type and nature of land use and development in Katherine.
provide an outline for future infrastructure and service provision in Katherine; and
set strategic policy directions for the review of land use controls for Katherine.

The land use objectives should be read in conjunction with the supporting information in Section 2 and the Planning Concepts (Figures 2A, 2B & 2C).

3.2. KATHERINE PLANNING CONCEPTS

The Planning Concepts depicted at Figures 2A, 2B and 2C are incorporated documents within the meaning of the Planning Act. They establish recommended locations for major land uses to accommodate a population horizon of 20,000 people. Land use and infrastructure proposals identified in the planning concepts include:

- improved road links between Gorge Road and Katherine East and the Stuart Highway, and connection of Chambers Drive to the Victoria Highway;
- provision for additional tourist facilities and accommodation in the Town Centre, on Pearce Street, and near the Low Level Crossing;
- reservation of a transportation corridor to provide a future road and rail bypass to the south of town;
- provision for an industrial area adjacent to the proposed rail corridor at the Victoria Highway;
- minor extension to the Emungalan Road light industrial area;
- provision for a conservation-open space corridor along the Katherine River; and
- rural residential uses west of Uralla Road above the 1% AEP flood level.

3.3. INTENDED OUTCOMES

The land use objectives are designed to achieve:

- a functional Town Centre characterised by a vibrant commercial area with attractive streetscapes and improved amenity;
- opportunities for mixed use development with commercial uses and residential and visitor accommodation within and adjacent to the Town Centre;
- a reduced damage burden on government, individuals and organisations as a consequence of periodic flooding;
- improved traffic circulation, enhanced pedestrian movement and convenient parking;
- improved tourist facilities and attractions reflecting the natural and cultural heritage of Katherine;
- improved landscaping and provision of additional open space in the Town Centre and residential areas;
- more cohesive residential neighbourhoods with an emphasis on community focal points, identity and services;
- improved urban living areas for Aboriginal people;
- a network of pedestrian paths and bikeways throughout the town connecting residential areas with major open space and commercial and community facilities;
- appropriately sized rural residential lot development in areas above the 1% AEP flood level which minimises potential adverse impacts on natural and environmental resources;
- greater recognition, protection and conservation of the natural landscape including the Katherine River corridor; and
- appropriately located industrial uses, including opportunities for access to rail transport.

3.4. LAND USE OBJECTIVES

The Land Use Objectives are shown shaded and only those shaded words are “made” by the Minister as Land Use Objectives within the meaning of the Planning Act. Some suggestions as to how the objectives might be advanced are offered in dot points.

The land use objectives should be read in conjunction with the planning concepts.
The key objectives for Katherine are:

To encourage orderly and appropriate land use and development within the planning region.

To protect and enhance the natural, cultural and historical resources of the region.

To optimise the use of existing services and infrastructure and promote the efficient provision of services and infrastructure consistent with the intensity and type of development proposed.

To enhance the quality of life of Katherine’s residents, encouraging the provision of services and community facilities early in the development process.

To ensure that development of any land is not likely to jeopardise the future orderly and economic development of the land or land in its vicinity and the region generally.

To encourage appropriate development of urban and rural areas which takes account of the natural resources

### 3.5. SPECIFIC LAND USE OBJECTIVES

These objectives establish broad policy in relation to various land uses or land use issues.

#### 3.5.1. Urban Structure and Design

To promote a greater pedestrian focus for commercial activities in the Town Centre.

This can be achieved by:

- encouraging pedestrian movement and access within the Town Centre, including the possible development of a pedestrian priority road section in First Street; and
- improving pedestrian facilities, including footpath widening and paving, landscaping, shade structures and convenient off-street parking.

To provide an adequate supply of urban residential land and housing.

This can be achieved by encouraging:

- the staged development of new urban residential neighbourhoods at Katherine East; and
- a range of residential lot sizes in new residential areas to provide more housing choice and improved affordability.

To provide residential opportunities in rural areas while retaining the scenic quality and landscape character of the land and groundwater quality.

This can be achieved by:

- requiring adequate assessments to demonstrate the physical capability of the land to support rural residential uses;
- ensuring that the scale and density (lot sizes) of development is appropriate to the physical constraints such as potential flooding and groundwater availability; and
- retaining, where appropriate, wildlife corridors, refuges and other natural features (such as rock outcrops) as public open space within rural residential subdivisions.

To enhance the function and amenity of residential areas.

This can be achieved by promoting:

- the retention of vegetation and natural landscape features within residential areas, integrated into local open space areas where appropriate;
- the development of neighbourhood centres in locations convenient to residential areas; and
- the adoption of Outline Development Plans for new urban residential subdivisions, which provide networks of open space, pedestrian and cycle paths and road systems within each neighbourhood, as well as relating to adjacent neighbourhoods.

To improve the amenity and function of the existing Aboriginal urban living areas.

This can be achieved by encouraging:

- innovative housing design that is responsive to cultural requirements;
- the provision of appropriate landscaping, open space areas,
community facilities and services and visitor accommodation; and

- the preparation of landscape plans to provide, wherever practical, for shade trees and the retention of natural vegetation within the layout of living areas.

To minimise the impacts of industry on commercial and residential areas.

This can be achieved by:

- encouraging the relocation of light service industries from the Town Centre and Pearce Street to the Emungalan Road and Crawford Street industrial areas; and
- accommodating hazardous and/or offensive industries in the proposed industrial area adjoining the rail corridor.

To encourage the development of tourist-related facilities.

This can be achieved by implementing the Northern Territory Tourism Development Strategy and the Katherine Regional Tourism Development Plan.

3.5.2 Culture and Lifestyle

To reinforce the role of the Katherine Town Centre as the main commercial and business centre of the Katherine Region.

This can be achieved by:

- discouraging major commercial or retail development from locating outside the Town Centre;
- encouraging retail, office and other commercial uses requiring pedestrian street frontage and exposure to locate on Katherine Terrace; and
- encouraging commercial uses not requiring pedestrian street frontage to locate at the rear of developments or on the upper levels of buildings.

To increase the appeal of the Town Centre for residents and visitors.

This can be achieved by:

- enhancing the general amenity and providing facilities for visitor comfort and convenience, in accordance with the Katherine Terrace Master Plan;
- encouraging new retail and commercial development to be consistent with appropriate building and landscaping guidelines; and
- developing a landscaping strategy to improve streetscapes with shade for pedestrians and cyclists while taking into account the need for road safety and commercial exposure.

To maintain a high level of amenity in rural residential areas.

This can be achieved by:

- providing basic services such as sealed roads, power, potable water, effluent disposal and access for fire management;
- locating rural residential uses in areas with convenient access to the Town Centre and community facilities and in areas not required for future urban residential expansion;
- protecting the rural residential lifestyle by locating high traffic and noise generating activities on major roads and not within rural residential subdivisions; and
- maintaining the existing 8 ha minimum lot size east of Uralla Road to provide adequate area to accommodate water supply and waste disposal on each lot, and to provide a buffer between the Tindal RAAF Base and other more intensive land uses.

3.5.3 Environment and Conservation

To protect and conserve land suitable for agriculture.

This can be achieved by:

- preventing encroachment of incompatible land uses on agricultural land which may restrict legitimate farming activities; and
- preventing subdivision of this land into parcels unsuitable in size and shape for sustainable agricultural and horticultural production.

To provide for the use and management of extractive mineral resources to meet community needs while minimising adverse environmental and social impacts.

To rehabilitate extractive mineral sites to appropriate environmental standards.
These can be achieved in part by:

- requiring the proponents of extractive resource developments to provide direct long-term community benefits through training and employment programs; and
- at the completion of the project, reclaiming worked out open pits for use as recreational lakes where this is possible.

To locate hazardous and offensive industries in appropriate areas.

This can be achieved by:

- avoiding flood prone/inundated land, drainage systems and areas containing cavernous limestone;
- having regard to prevailing winds; and
- including buffers to light industry and rural areas, where appropriate.

To protect existing, and to provide for future, airport and defence infrastructure.

This can be achieved by:

- providing adequate separation between defence facilities and other land uses to prevent restrictions on activities as a result of encroachment by incompatible land uses;
- minimising human occupation of noise affected localities; and
- encouraging aviation related industries to locate at Katherine Airport.

To encourage the provision of a range of open space and recreational opportunities in Katherine, compatible with the natural environment.

This can be achieved by:

- implementing the recommendations of the Katherine River Masterplan (and relevant Plans of Management) for improved public access and management of the river for recreational purposes;
- improving public access to the river by developing appropriate links to the river and a cycle and pedestrian path along the river; and
- locating active recreational uses (golf course, playing fields) and open space for passive recreation within the eastern and southern floodplain, near residential areas.

To promote the development of functional and attractive public open space within residential areas.

This can be achieved by:

- establishing neighbourhood open space at convenient locations, with pedestrian and cycle linkages between areas;
- providing a variety of urban open spaces, including formal local/neighbourhood parks and natural areas such as corridors along watercourses and limestone escarpment areas; and
- preparing a strategy to manage open space, remnant vegetation and other natural landscape features within the urban framework.

To protect the conservation, heritage and landscape values of the Katherine region and to minimise impacts on these values.

This can be achieved by encouraging:

- identification and retention of natural areas significant for conservation, including remnant vegetation, vegetation along watercourses and ridges, and corridors providing connectivity between natural areas, to maintain landscape quality and amenity in urban and rural areas; and
- conservation and enhancement of items, structures and places of historic, scientific or cultural significance, including Aboriginal relics and sites.

To protect the existing and potential function of the Katherine River, its tributaries and floodways for domestic water supply, drainage, recreation and ecological purposes.

This objective can be achieved by:

- preparing a floodplain management plan to minimise development on the floodplain and floodways and direct development to areas not affected by floodwaters;
- controlling land use and development within the Katherine River catchment to maintain water quality; and
- designing drainage networks with silt traps, gross pollutant traps and
To facilitate pedestrian movement around the Town Centre.

This can be achieved by:
- installing appropriate traffic management devices to minimise pedestrian/vehicular conflicts;
- providing adequate off-street car parking areas within the Town Centre, with improved pedestrian access along Katherine Terrace in accordance with the Katherine Terrace Master Plan, and links to major retail and commercial facilities; and
- improving traffic circulation and parking arrangements on Railway Terrace, giving priority to pedestrians and tourist transport.

To provide for safe, convenient pedestrian and vehicular movement and enhance mobility in residential areas.

This can be achieved by:
- providing opportunities for the establishment of public transport services;
- applying appropriate practice in the design and layout of residential streets; and
- providing a safe and convenient pedestrian and cycle network with connections to community facilities and the Town Centre.

To provide quality infrastructure in a cost-efficient and timely manner.

This can be achieved by:
- encouraging the appropriate sequencing of new residential development;
- coordinating the design of reticulated services to urban areas including underground electricity, water and sewer systems; and
- coordinating the provision of community and local shopping facilities with residential development.