



adopted 27 july 2006

Cumbalum Structure Plan

Volume 1 – Structure Plan

Mayoral Introduction

One of the key roles and challenges for Council, as the local planning authority for Ballina Shire, is to manage the demands of growth and development in a manner that maintains the kind of quality living environments that are valued by existing and prospective residents of the Shire.

The Cumbalum Urban Release Area comprises a significant part of Council's strategy to meet these challenges, in a sustainable way. Identified initially in the mid 1990s, the Cumbalum Release Area has been promoted by both Ballina Shire Council and the State Government as having a significant role to play in accommodating population growth over the next 20 to 30 years.

It is not Council's intention that this Structure Plan is interpreted rigidly. Rather, the aims of the Structure Plan and its supporting background report are to broadly examine the environmental capacity of the study area to accommodate residential development and supporting infrastructure, and to provide a context for the assessment and determination of future rezoning requests and development applications.



Councillor Phil Silver
Mayor
Ballina Shire Council

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Introduction

The Cumbalum Ridge area represents a unique opportunity for the development of several distinctive new urban communities in Ballina Shire. Such development will provide for a greater range of housing opportunities and act to relieve some of the considerable housing pressure that is anticipated to continue into the future.

The Cumbalum Ridge

The Cumbalum Ridge study area encompasses an area of approximately 1,450 hectares, located approximately 7.5 km northwest of Ballina and 5.5 km west of Lennox Head. The area extends generally from the Summerhill Crescent rural residential estate in the south, to just north of Ross Lane and includes the existing Ballina Heights residential area.

The study area consists of a series of elevated ridges that run along the coastal escarpment at the boundary of the Alstonville Plateau and the Richmond River Floodplain. The ridgeline is dissected by the Sandy Flat floodplain, which runs in an east-west direction near the centre of the Study Area.

Why a Structure Plan?

The preparation of a 'Structure Plan' provides the best opportunity for the community, through Council, to ensure the new urban area is well planned. The plan provides a logical framework to guide future development and enables the characteristics of the study area as a whole to determine the most appropriate location and form for future development.

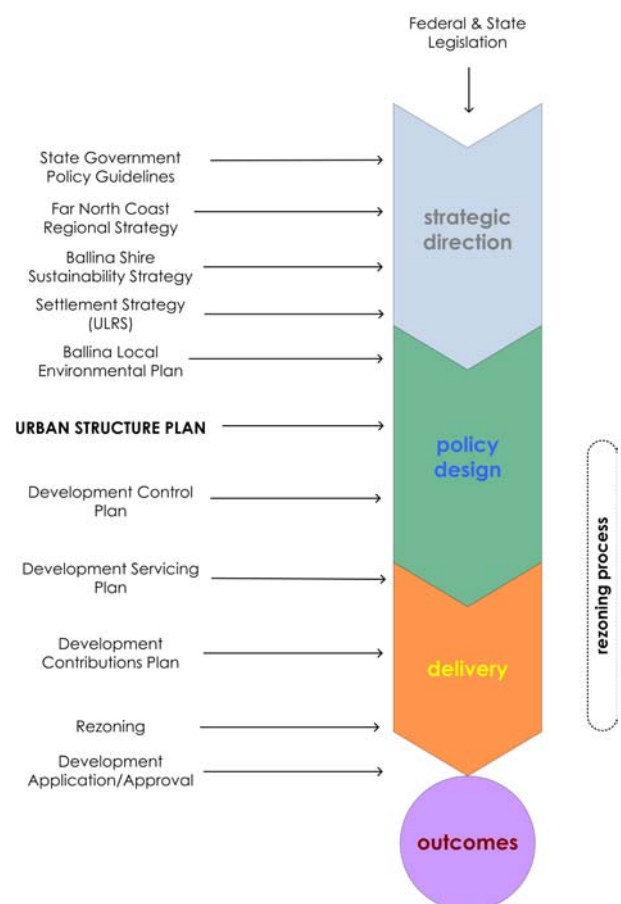
The Structure Plan has been prepared by Ballina Shire Council and is based on a broad assessment of opportunities and constraints, taking into consideration the physical characteristics of the site and the locality, and the likely needs of the future community.

The exhibition of the Structure Plan was preceded by a period of consultation with existing landholders in the area and with relevant government agencies.

What will it achieve?

The Structure Plan will set the policy context to guide detailed technical studies to be undertaken at rezoning stage, in accordance with statutory requirements.

The Structure Plan provides the opportunity for the community, through Council, to guide the development of the Cumbalum Ridge in a manner consistent with community expectations.



Planning Context of the Urban Structure Plan

Why Cumbalum ?

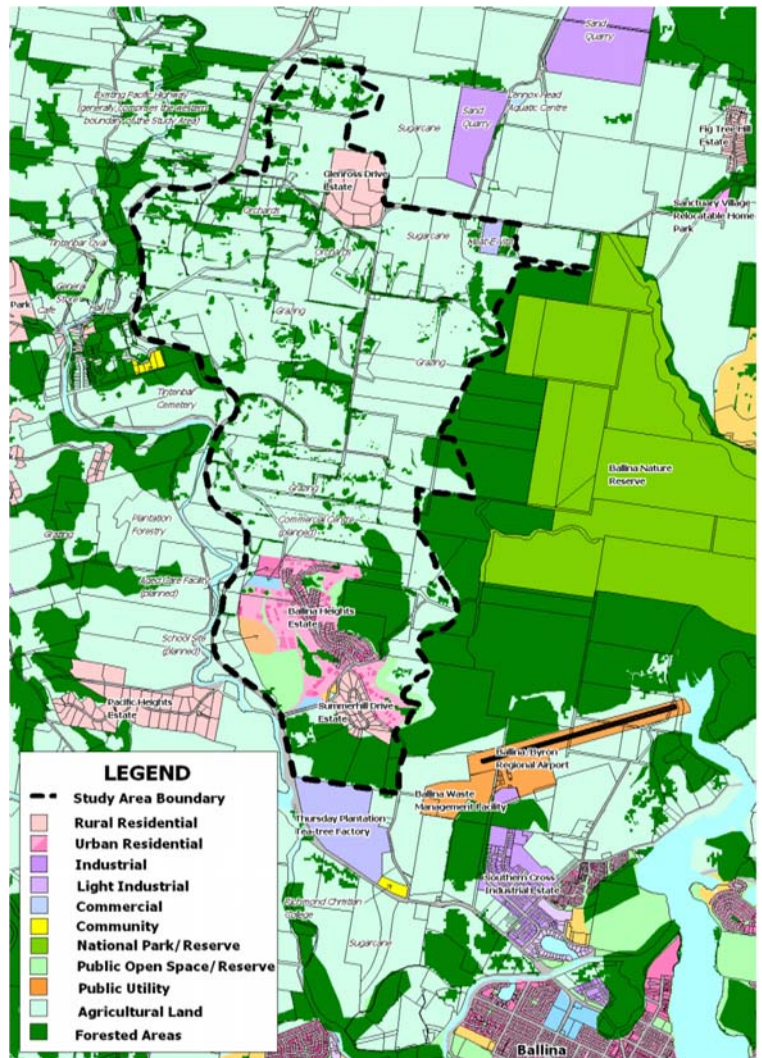
The potential for development to occur in the Cumbalum Ridge area has been identified for approximately 10 years. The need to release additional land for urban development has been identified through Ballina Shire Council's strategic planning work, which suggests Ballina Shire will continue to experience strong population growth pressure into the future.

Background

The Cumbalum Ridge study area was initially identified as having potential for future urban development in 1995, when the NSW Department of Planning identified the area in a regional planning strategy being prepared at the time, the "North Coast Urban Planning Strategy" (NCUPS).

Ballina Shire Council subsequently identified the area in the Ballina Urban Land Release Strategy (currently ULRS-2000), and zoned the land to 1(d) Rural (Urban Investigation) Zone in the *Ballina Local Environmental Plan (LEP) 1987*.

The purpose of the 1(d) zone is to protect land from inappropriate development which might threaten the future integrated development of the area and enable Council to prepare an 'Urban Structure Plan' prior to considering individual rezoning proposals for the land.



Existing Landuse within the Study Area

Development History

Part of the original 1(d) zoned area was rezoned in 1998 to enable urban development to occur prior to the preparation of the Structure Plan, being the area known as "Ballina Heights". This occurred as it was considered at the time that development of the area would not compromise the integrated development of the remainder of the 1(d) zoned land, as it was:

- located at the southern extent of the developable portion of the 1(d) area;
- in closest proximity to Ballina township and therefore made sense in terms of logical 'roll-out' of infrastructure.

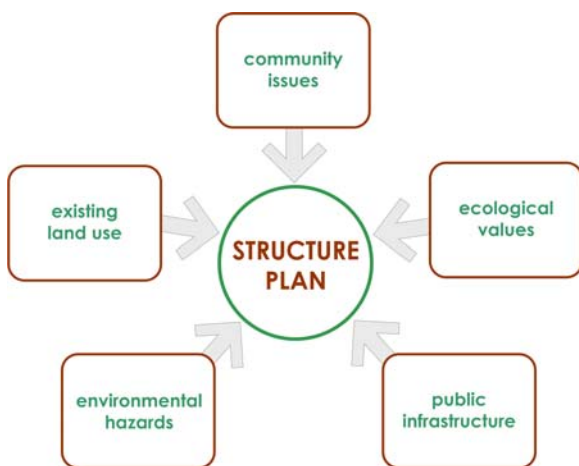
Planning Context

The Cumbalum Ridge area is recognised by Ballina Shire Council as being of strategic importance to accommodating the anticipated future demand for housing in the Shire over the medium to long-term (15-20 year period).

It is anticipated that the area will provide a sought after residential location, being well positioned in relation to nearby centres of Ballina, Lennox Head, Bangalow and Byron Bay and beyond via the Pacific Highway.

Opportunities and Constraints

The following issues have been identified as key considerations for future development of the Cumbalum Ridge. These issues have, to varying degrees, influenced the preparation of the Structure Plan for the area. More detailed information regarding the opportunities and constraints of the site to accommodate urban development is provided in Volume 2 – Background Report.



Community Issues

Development within the study area will create a new community in Ballina Shire. Development therefore needs to provide a high quality environment in which the future population will live, and encourage a sense of community.

Urban Design and Housing Form

Urban land uses and dwellings have far longer lives than those of their first occupants. The initial arrangement of property boundaries, roads, homes, factories, shops and public spaces establish a pattern of land use that is extremely persistent.

The needs of communities, however, may change over time. It is important therefore that future urban development is arranged to

incorporate features which are known to contribute to the well being of the community, but which enable long-term flexibility in land uses.

Such considerations have been incorporated into the Structure Plan and will be further reflected in a Development Control Plan to guide detailed future development in the Study Area.

Community Services & Facilities

Development on the scale likely to occur in the Cumbalum Ridge area will result in significant new urban communities. A range of community services will be required to service this new population, including commercial areas, open space and recreation and community facilities.

Visual Amenity

A visual amenity assessment of the Study Area has identified the area as containing land of high visual prominence and sensitivity to change.



Rural Outlook within the Study Area

Further, the North Coast Region, in which the Study Area is located, is one which:

- is dominated by prominent landscape features, most notably the coastline and the coastal escarpment; and

Cumbalum Structure Plan

- has a settlement pattern comprising a network of villages, towns and regional cities; and
- has a population (of both residents and visitors) with a strong focus on the region's lifestyle opportunities, and with a particular appreciation of the region's environmental features.

The site is also likely to act as a 'gateway point' or 'visual cue' indicating to motorists on the Pacific Highway that they are approaching Ballina. As a consequence, care is needed to avoid the impression of continuous 'ribbon' style development occurring along the Pacific Highway.

Structure Plan Implications

A number of measures will be employed to minimise the impact of development on the landscape. Such measures include:

- Preserving existing vegetation in visually prominent areas, such as along ridgelines and steep slopes and at the edges of developed areas.
- Defining the edges of the developed area clearly to avoid the appearance of 'urban sprawl'.
- The introduction of ridgeline development standards.

Existing Landuse

Rural Production & Industry

The continued operation of productive rural enterprises within the locality was considered in the development of the Structure Plan.

Whilst parts of the Study Area currently support productive agricultural enterprises, the characteristics of the broader landscape appear to limit the potential for expansion of these enterprises for broad-acre agriculture.

Several rural industries occur in proximity to the Study Area. Adequate 'buffering' will be required between these landuses and future residential areas to minimise the potential for conflict to occur.

Aircraft & Traffic Noise

Parts of the Study Area are likely to be affected by traffic noise, with increasing intensity in the future. Particular areas likely to be affected include those in close proximity to the future Pacific Highway route and adjacent to Ross Lane.

Structure Plan Implications

- A combination of appropriate distance and/or structural "buffers" will be required between future residential areas and potential sources of traffic noise.
- Development is to be avoided in areas that are likely to be affected by future aircraft noise.
- Detailed noise and landuse conflict assessments will occur during the rezoning process, to determine the most appropriate combination of measures to minimise potential landuse conflict.

Ecological Values

The Study Area contains some significant remnant native vegetation communities including Subtropical Rainforest, Swamp Oak Forest, Broad-leaved Paperbark Forest, Brushbox Forest and Coastal Blackbutt Forest communities.

The Study Area is also located adjacent to the Ballina Nature Reserve, which comprises a core remnant of ecologically significant plant and animal communities.

The Study Area is located within an area identified by the NSW Department of Environment and Conservation (DEC) as presenting opportunities to provide linkages between currently isolated vegetation remnants (Habitat Corridors).



Sandy Flat Habitat Corridor

Structure Plan Implications

- Ecologically significant remnants of native vegetation will be retained, and where possible rehabilitated.
- Habitat Corridors will be provided to link vegetation within the Study Area with adjacent vegetation remnants.

Environmental Hazards

A number of environmental hazards have been considered in the development of the Structure Plan. The nature and implications of these hazards are outlined, in brief, below.

Landslip & Soft-soils

Parts of the Study Area are susceptible to landslip hazard, due to the presence of steep slopes and unstable soils. Landslip hazard can present considerable risk to public safety and property if appropriate precautions are not taken in the siting and design of built structures.

Much of the low-lying part of the Study Area is likely susceptible to the presence of soft soils. Such soils have a tendency to subside when pressure is exerted on them, through for example the construction of dwellings and roads, causing such structures to crack and fail. These soil types are often mixed with other, more stable, soils. Under such conditions the differential movement of the soil can cause breakages in underground services, such as water and sewer pipes.

Flooding & Drainage

Parts of the Study Area are known to be flood liable, and include some substantial high hazard 'floodways'. These areas include land adjacent to Gallans Road, Sandy Flat Road and the most north-eastern part of the Study Area adjacent to Ross Lane.



Sandy Flat in Flood, July 2005

Structure Plan Implications

Detailed assessment will be required at rezoning stage to confirm the presence and extent of environmental hazards within the Study Area.

The presence of these environmental hazards has the following implications for future development of the Cumbalum Ridge:

- Development will be avoided in land likely to be affected by landslip or the presence of "soft soils".
- Residential development will be avoided in land affected by 1:100 year ARI flood event.

Additional assessment requirements and implications for development apply to other, generally more minor environmental hazards. Refer to Volume 2 – Background Report for further details.

Public Infrastructure

Water & Sewerage

The servicing of the Cumbalum Ridge area with water and sewerage has been included in Council's shire-wide water and sewerage planning, and also in the water supply planning of Rous Water, bulk water supplier to Ballina Shire.

Ballina Shire Council is currently undertaking detailed sewerage planning for upgrades to the Ballina-Lennox Head Sewerage Network. This work will include detailed assessment of servicing the anticipated population growth to occur in the Cumbalum Ridge area.

The outcomes of this work will be incorporated into a 'Development Servicing Plan' for the Cumbalum Ridge prior to Council approving subdivisions in the Study Area.

Stormwater

Urban development has the potential to impact on 'down-stream' environments, which in the case of the Cumbalum Study Area include Emigrant Creek, North Creek and associated wetlands, including the Ballina Nature Reserve.

Detailed stormwater modelling and design work will be required prior to development occurring, to ensure future development does not compromise the water quality, flow regime and ecological values of down-stream environments. Future development will need to implement 'Water Sensitive Urban Design' (WSUD) principles in the design and construction of future subdivisions.

Roads and Transport

The timing of development within the Study Area is likely to be affected by the construction of the approved Ballina Bypass, due to the limited capacity of the existing Pacific Highway between Ballina and the Study Area.

Cumalum Structure Plan

Ballina Shire Council is currently undertaking a review of the Ballina Traffic Network Study, which will identify projected (future) traffic flows throughout Ballina Shire and identify road upgrade requirements to meet these flows. This work will also provide detail on timing and road servicing issues for the Cumalum area, for the internal arterial road network and external road connections.

The outcomes of the Traffic Network Study will be incorporated into a 'Development Servicing Plan' for the Cumalum Ridge prior to Council approving subdivisions in the Study Area.

Structure Plan Implications

- The configuration of open space networks and rural buffers will support stormwater management objectives;
- Residential areas will be separated from the Pacific Highway corridor;
- Wherever possible through traffic will be separated from local traffic and residential areas;
- Development will maximise the efficient integration of water and sewer infrastructure, and include dual reticulation of recycled water for use on open spaces and in residential areas (for non-potable uses).

A Vision for the Cumbalum Ridge

Lifestyle opportunities and environmental qualities are key features of the North Coast that existing residents value highly and which attract new residents to the area. The need to respect these regional character traits has informed the development of the Cumbalum Structure Plan.

Vision Statement

The following vision statement has been adopted as an appropriate overarching objective which future development within the study area should seek to achieve:

"The Cumbalum Villages are envisaged as two distinct but related communities, designed and built so as to not impinge upon the surrounding rural and natural environment, each with its individual character and sense of place.

Each village will be a fully featured community, comprising residential areas embellished with public open space and a centrally located village centre, providing a focal point for commercial and community activities".

Sustainable Development

The Cumbalum Structure Plan has been developed to give effect to the principles of sustainable development, having regard for the environmental characteristics of the study

area and the anticipated future needs of the population.

The concept of 'sustainability' can be viewed as a three-legged stool, on which a stable community sits. All three legs of this stool are required for a stable and prosperous community, namely "community", "ecology" and "economy".



Conceptual "sustainability stool"

Connelly et al. 2000



Cumbalum Structure Plan

The purpose of the Structure Plan is to provide a broad context for the consideration, by Council, of individual rezoning submissions within the Study Area.

The Structure Plan is focused on the opportunities and constraints of the land and on the anticipated future needs of the community.

Principally the Structure Plan establishes a vision and set of development objectives, which future development proposals will be required to meet. The Structure Plan also outlines 'concept precinct plans' of individual precincts, which broadly indicate the likely future development potential of the Study Area.

Development Objectives

In order to achieve the vision and to minimise potentially negative impacts of development, future development within the Study Area will be required to reflect the following objectives.

Environmental Hazards

- Urban development is to be avoided within areas affected by environmental hazards, including:
 - Flooding Hazards
 - Steep Slopes
 - Foundation Hazards (including "soft soils" and "geological contact zones")
 - Land Use Conflicts (including mosquitoes, bush fire, road and aircraft noise and conflict with agriculture and rural industries)
 - Land Contamination (including Acid Sulfate Soils and cattle tick dip sites)
- Where affected areas are identified as potentially being suitable for urban development, detailed studies will be required and appropriate mitigation measures developed at rezoning stage,

to minimise the impact of potential environmental hazards.

Environmental Values

- Sustainable Development:
 - Future development will embody current best practice in ecologically sustainable development.
 - Development will take advantage of opportunities for energy conservation through lot layout design, solar orientation of lots and the location of community and commercial facilities.
 - Future development will incorporate current best practice in Water Sensitive Urban Design (WSUD).
- Native Ecosystems:
 - Future development will strengthen the ecological integrity of native vegetation communities, not simply preserve the biological diversity remaining within the site.
 - Appropriately sized and configured buffers will be provided between urban development and significant "core areas" of native vegetation.
 - Habitat corridors linking "core areas" of native vegetation to each other will further enhance the ecological integrity of native ecosystems.

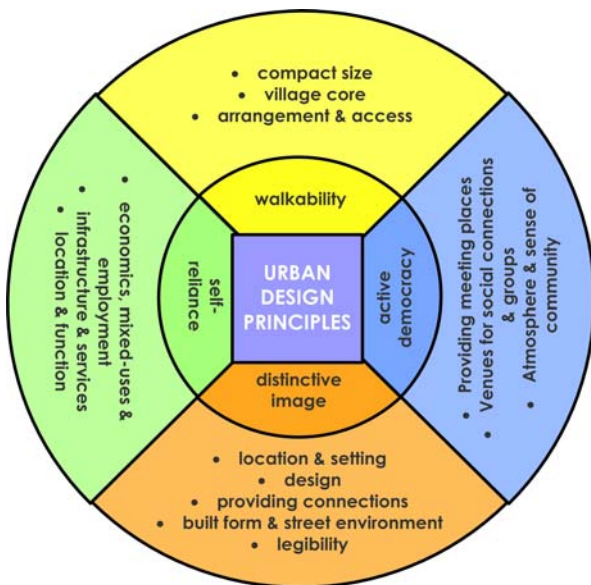
Community Values

- Visual Amenity:
 - Future development will preserve the visual amenity of the area.
 - The edge of the settlement will be well defined, based on landscape features.
 - The layout of streets will respond to geographic features.
 - Lot size and dimensions will enable dwellings to be sited so as to protect natural and topographic features

- and minimise earthworks and retaining walls on sloping sites.
- Community Facilities:
The community will be provided with an appropriate level of social and community facilities, including:
 - Water and sewerage services;
 - Access to public transport;
 - Recreation facilities integrated with a functional and efficient walking and cycling pathway network;
 - Access to commercial services and opportunities for employment and socialisation; and
 - A community centre.

Lifestyle Principles

- Urban Design:
Future development will achieve an urban form that conforms to the urban design principles of 'Successful North Coast Villages' outlined in detail in Volume 2 of the Structure Plan, namely:
 - Walkability;
 - Self-Reliance;
 - Active Democracy; and
 - Distinctive Image.



- Community Safety
The physical arrangement, location and design of open spaces and pedestrian networks will be required to implement principles of 'Crime Prevention Through Environmental Design' (CPTED).
- Lifestyle Opportunities:
 - As much as possible, opportunities will be provided to fulfil residents' needs locally.

- A range of dwelling densities will be provided, with density increasing with proximity to the village centre. This will facilitate choice in housing, encourage pedestrian activity and enhance public transport opportunities.
- Lifestyle features will be integral to the new urban areas and will include a mixture of passive and active open space, networked pedestrian pathways and cycleways and green corridors.
- Land Use Mix and Housing Form:
 - Future development will focus on creating a holistic settlement, comprising a range of compatible land uses.
 - A diversity of housing types and lot sizes is to be provided to facilitate housing choice and affordability and encourage population diversity.
 - Smaller lots and lots capable of supporting higher densities will be located close to town and neighbourhood centres, public transport and adjacent to high amenity areas such as parks.

Concept Precinct Plans

The Study Area has been divided into three 'planning precincts'. A Land Use Concept Precinct Plan has been prepared for the precincts, based on the broad planning assessment of the Study Area (outlined in Volume 2 of the Structure Plan).

The combined 'Concept Precinct Plan' for all three precincts is shown on the back page of the Structure Plan.

The purpose of the Concept Precinct Plan is to broadly identify the extent of areas that appear, at this stage, to be suitable for future urban development, and to suggest a range of land uses that may be suitable in these areas.

It is not the purpose of these Concept Precinct Plans to be prescriptive to future development within the area. The purpose is simply to enable the community to visualise the scale and type of development within the Study Area that appears appropriate based on the characteristics of the site and on current best practise in urban development, as represented by the development principles outlined above.

'Precinct A' – Concept Plan

Precinct A encompasses the area from the 'Ballina Heights' subdivision north to Sandy Flat, east to the Ballina Nature Reserve and west to the approved Ballina Bypass Route. Key features of the Precinct A Concept Plan include the following:

- A range of lot sizes, with higher densities within proximity to 'town centre' (commercial area) and adjacent to open space areas.
- Potential relocation of designated commercial centre to inner edge of 1(d) investigation area, to improve access and centrality within the village.
- Two 'special use' sites, identified for low-scale ancillary urban purposes, such as tourist development. Such development will need careful treatment to preserve the visual amenity of these sites and will need to adequately address biodiversity and emergency access issues.
- Open space located closer to area potentially affected by road noise (Pacific Highway realignment) and in proximity to the village centre. This area may also act as a flood refuge assembly area to assist in the coordination of emergency response.
- Rural Buffer / Habitat Corridor extending from the east, wrapping around the development area to the north across Sandy Flat eastward to Emigrant Creek.

'Precinct B' – Concept Plan

Precinct B encompasses the area from Sandy Flat north to Ross Lane, east to the Ballina Nature Reserve and west to the approved Ballina Bypass Route.

Key features of the Precinct B 'Village Concept Plan' include the following:

- Mixed-use village centre on flat land, centrally located, visible from elevated residential areas and in proximity to active open space area.
- Active open space provision on flat ground with good external road access and central to largest residential area.
- Protection of highly prominent vegetated and steeply sloping land.
- "Special Use" area on visually prominent site with high exposure to future highway alignment (and associated noise impacts). Land use might include a research or education facility.
- Potential large-scale recreation facility located on flood-prone land.

- Tourist resort area on south facing hillside (not optimal for residential dwellings due to poor solar access) and in proximity to recreation facility.
- Deferred 'investigation area' north of Ross Lane. Future development potential dependent on possible road realignment (of Ross Lane).
- Rural Buffer / Habitat Corridor defining the southern and western border, extending across Sandy Flat from the south – westward to Emigrant Creek and northward to intercept Ross Lane.

'Precinct C' – Deferred Investigation

It is considered appropriate that full and detailed consideration of development opportunities in Precinct C be deferred for a period of 10 years. Precinct C may have opportunities for future urban development, particularly given the opportunities to link future development with services and facilities in Tintenbar Village. However, it is anticipated that the timeline for any such development would be in the range of 15-25 years due to the following:

- In the short-term, impacts associated with existing Pacific Highway alignment constrains potential links with Tintenbar Village; and
- Logical staging within the study area suggests development of Precinct A and Precinct B should occur prior to Precinct C.

Detailed planning of Precinct C is therefore not considered appropriate at this time, due to the potential for circumstances to change prior to the rezoning process commencing.

Potential Development Outcomes

Notwithstanding the above, the suitability of land for any form of urban development shall be determined through the statutory rezoning process, in consultation with appropriate government agencies. Further more detailed information, provided at rezoning stage may result in the refinement of the boundaries and concept land uses described in the 'Concept Precinct Plans'. However, any such refinement will be consistent with the 'development objectives' outlined above.

The picture that emerges from the above is of two, possibly three distinct 'villages', having residential areas of increasing density to a village centre, embellished with open space and buffered by land having a predominantly rural and/or 'natural' character.

The following table outlines the potential population capacity of the areas. The ranges represent the various lot and population 'yields' likely under various development densities.

Precinct	Dwellings ¹	Population ²
A – South	1,400– 2,000	3,600 – 5,100
B – North East	1,100 – 2,300	2,800 – 5,900
C – North West	subject to future investigation	
Total	2,500-4,300	6,400-11,000

1 – Estimated dwelling yield based on range of 8-18 dwells/ha.
 2 – Estimated population yield range based on 2.5 pp/dwell.

At an average dwelling density of 8 dwellings per residential hectare, which is typical of conventional residential development within Ballina Shire, the two 'villages' could accommodate approximately 3,600 and 2,800 people respectively. At an average of 18 dwellings per hectare, which is of a similar density to parts of Ballina Island, the areas could accommodate approximately 5,100 and 5,800 people respectively, which would represent two villages each having about the same population that Alstonville has currently.

However it is suggested that an average dwelling density of 15 dwellings per hectare would provide a balanced approach, achieving the following:

- Promote housing affordability and choice by allowing for a variety of dwelling types including attached and detached dwellings, suitable for a range of household types;
- Accommodate a population sufficient to support basic community facilities and commercial services (of approximately 4,600 people in Precinct A and 5,000 people in Precinct B); and
- Facilitate high quality urban design outcomes (see urban design principles).

The 'land use budget' of the whole Study Area, identifying the approximate areas of land designated, at this stage, for various development outcomes, is outlined in the following table.

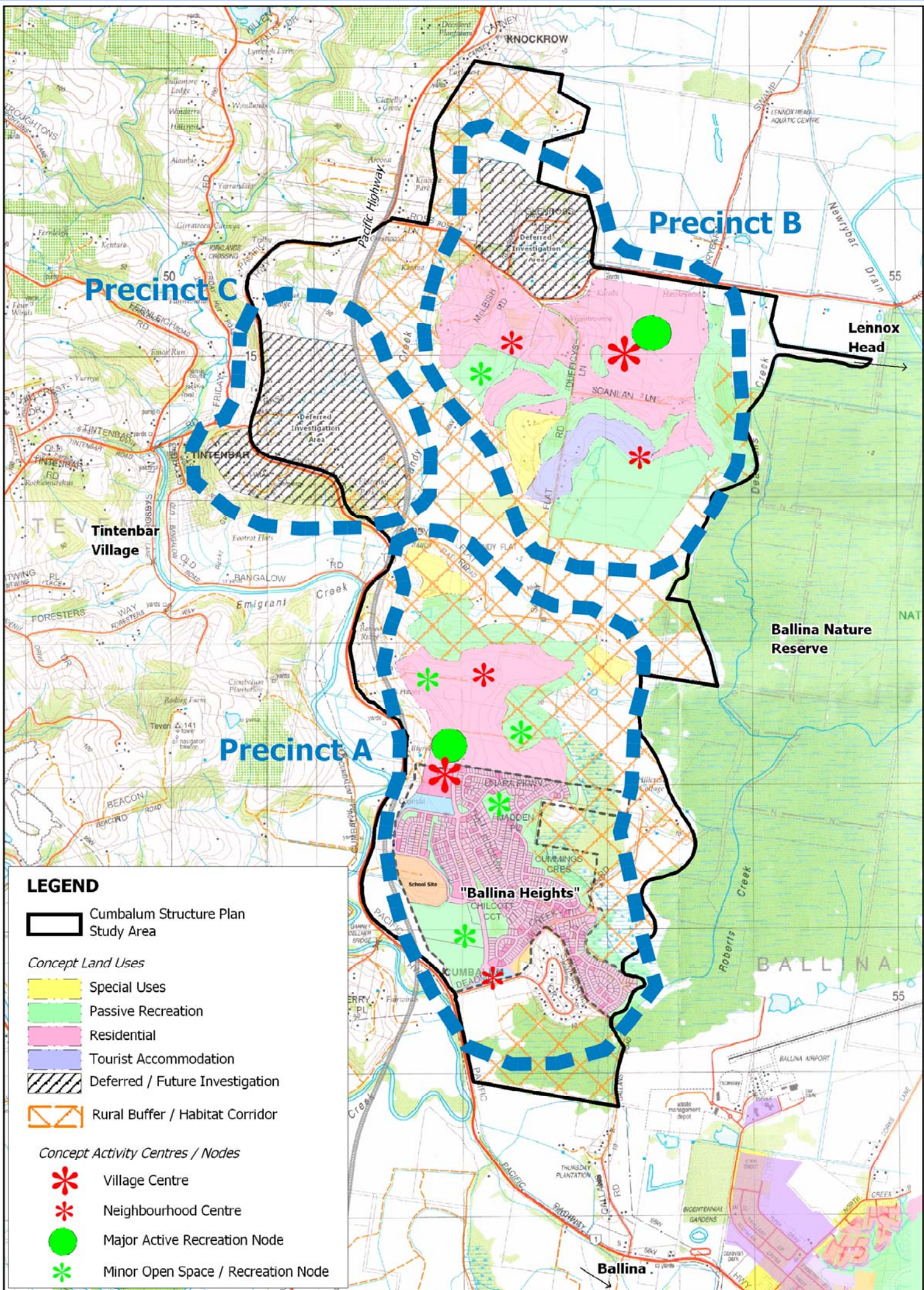
Land Use	Study Area Land Budget	
	Area (Hectares)	%
Residential	193	13.3
Commercial (mixed use)	3	0.2
Open Space:	116	8.0
Active	14	1.0
Passive	9	0.6
Networked*	93	6.4
Tourist Development	20	1.4
Special Use	26	1.8
District Recreation	56	3.9
"Ballina Heights"	176	12.1
Total Potential Urban Purposes	590	40.6
Rural Buffer / Habitat Corridor#	516	35.5
Deferred Investigations	143	9.8
Residual	204	14.1
Total Study Area	1,453 ha	100 %

* includes severely constrained land designated for green belt passive recreation - not included in passive open space requirements due to accessibility issues (predominantly slope). # does not include approximately 100 hectares of mixed-use area included in "networked open space" and "special uses".

WHERE TO FROM HERE...?

At its Ordinary Meeting of 27 July 2006 Ballina Shire Council adopted the Cumbalum Structure Plan as Council's strategic framework for future development in the Cumbalum Urban Release Area.

It is envisaged that prior to Council's consideration of rezoning requests for land within the study area, Council's Civil Services Group will prepare a 'Development Servicing Plan' or 'DSP', to set the scene for the sequencing of essential infrastructure provision to the area.



Precinct C

Precinct B

Precinct A

Lennox Head

Tintenbar Village

Ballina Nature Reserve

"Ballina Heights"

BALLINA

Ballina

LEGEND

Cumbalum Structure Plan Study Area

Concept Land Uses

- Special Uses
- Passive Recreation
- Residential
- Tourist Accommodation
- Deferred / Future Investigation
- Rural Buffer / Habitat Corridor

Concept Activity Centres / Nodes

- Village Centre
- Neighbourhood Centre
- Major Active Recreation Node
- Minor Open Space / Recreation Node