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Rockhampton City Council

Parkhurst and Yeppoon Road Corridor

Structure Plan

04 December 2007



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Executive Summary

Project Overview

GHD was commissioned by Rockhampton City Council to undertake a Planning Study for the Parkhurst and Yeppoon Road Corridor areas of the City and then, based on the findings of the Study, prepare a Structure Plan for the area. Two key tasks of the commission were:

- » To determine the area of land needed for future development; and
- » To identify where the development land and other land uses/activities can be located.

Key Findings from Planning Study

Amongst the findings of the Planning study, there are several key findings that underpin the form, intent and nature of the Structure Plan. These are summarised as follows:

- » Growth in the City is occurring at a rate exceeding the projected rate based on the 2001 Census. At 2020 the PIFU high series forecast is 63,574 persons and the Planning Study concludes that the City's population could be in the order of 71,062 persons. For the Study Area, this equates to the approximate future population added to the Area in the 2020 time horizon is in the order of 5,800 persons. This figure also equates to approximately 156 dwellings per year.
- » From a land suitability assessment, it was determined that the physically most suitable land for future urban development lies on either side of Yaamba Road in the Parkhurst North area. This area of suitable land was determined to be in excess of the land area requirements for accommodating the projected growth. It was concluded that there was no need to look beyond this area (i.e. looking further to the Yeppoon Road Corridor) to accommodate additional future growth.
- » The Study Area included areas of higher environmental and landscape significance, these being predominantly the middle and upper slopes of the Yeppoon Road Corridor.
- » The Study Area lacked infrastructure and services to accommodate the projected future urban growth.
- » It was identified that the future pre 2020 urban residential land area needs will require in the orders of 156 to 293 hectares (depending on densities and actual population growth scenarios). These land area needs do not include higher order roads, major open space and non-residential uses. This equates to an annual residential land area requirement of between 10.4 (15 dwellings/hectare) and 19.5 hectares (8 dwellings/hectare).



Structure Plan Approach

The Structure Plan is based on the findings of the Planning Study. The Plan allocates land uses according to the needs identified in the Study. The Plan does not allocate non-residential land uses beyond those that are reasonably expected to provide services for the future community of the Area.

The Plan is also presented in a format that is aligned with the format of the Rockhampton City Planning Scheme. New Planning Areas are defined and these are divided into Precincts. Then these are supported by a description and intent. Tables of Assessment are not provided. Further to the Planning Areas, several Overlays are also identified. These are issue specific Overlays that provide framework for open space, infrastructure and services.

Investigation of the physical features of the Area allowed the Plan to identify a maximum practical development footprint for the Area. The Post 2020 precinct effectively frames the outer urban edge of the City in this locality.

Proposed Planning Areas and Precincts

The key element of the Plan is the division of the Study Area into two new Planning Areas, these are the:

- » Parkhurst North Area (which is intended to accommodate pre and post 2020 urban development); and
- » Yeppoon Road Corridor Area (which is intended to retain environmental and landscape values while allowing rural living and bushland living in identified areas).

These Areas are divided into a number of Precincts, the details of which are summarised on the following tables:

Table E1: Parkhurst North Precincts Summary

Precinct	Name	West Area* (ha)	East Area** (ha)	Total Area (ha)	Note***
1	Residential (Standard Density)	197.88	56.89	254.78	RDD 16 potential yield approx 3,420 dwellings
2	Residential (Mixed Density)	47.75	53.21	100.95	RDD 22-30 potential yield approx 1,865 - 2,540 dwellings
3	Residential (Post 2020)	0.00	307.44	307.44	RDD 16 potential yield approx 4,130 dwellings
4	Centres	18.52	3.91	22.43	2 x neighbourhood centres plus 1 x node
5	Open Space	30.95	38.46	69.41	District, neighbourhood parks, riparian corridors
6	Specific Purpose	-	81.86	81.86	As defined under the precinct
7	Environmental Value	-	67.61	67.61	Mostly Remnant Vegetation

* The Area of the Precinct west of Yaamba Road



** The area of the Precinct east of Yaamba Road

*** The number of dwellings is calculated by multiplying the total land area by 0.84 (to account for 16% of area for local roads) and then multiplied by the RDD.

Table E2: Yeppoon Road Corridor Area Precincts Summary

Precinct	Name	Area North* (ha)	Area South** (ha)	Total Area (ha)	Note
1	Future Investigation (Residential - Bushland Character)	86.42	274.69	360.93	Minimum lot area 1 ha (possibly 4,000 sqm)
2	Future Investigation (Residential – Rural Living)	253.23	72.72	325.95	Minimum lot area 2 ha (possibly 1 ha)
3	Environmental Value	620.39	641.77	1,262.16	Extremely limited development
4	Specific Purpose	0.00	139.56	139.56	Quarry location

* Area north of Yeppoon Road

** Area South of Yeppoon Road

The amount of land area identified for urban development in the Parkhurst North Area, in the precincts for pre 2020 development, provide a significantly greater amount of urban development land than was identified in the Planning Study. This conservative approach was undertaken to accommodate a variety of development locations adjacent to where development had already occurred between Yaamba and Norman Roads and to take advantage of masterplanned community development on the western side of Yaamba Road.

The Study identified the largest area needed for future pre 2020 urban residential development was in the order of 293 hectares (at the lowest urban density). The Plan identifies an area in the order of 355 hectares of pre 2020 urban residential land.

Proposed Overlays

Further to the land use allocations, the Plan includes several Overlays as follows:

- » Structure Plan Overlay: Open Space Network;
- » Structure Plan Overlay: Transport, Circulation and Movement;
- » Structure Plan Overlay: Services and Community Infrastructure; and
- » Structure Plan Overlay: Amenity Impacted Areas.

These overlays support the land use allocations by providing guidance on elements of development in the Area. A major component is the road network, which is currently very limited. Key traffic matters such as the connection from the west of Yaamba Road



to the highway, crossing Limestone Creek and road widenings are considered in this Overlay.

Structure Plan Implementation

The final element of the Structure Plan is a brief discussion on its implementation. The format of the Plan is intended to provide the basis for an amendment to City Plan. Furthermore, the Plan is intended to be the basis for the Priority Infrastructure Plan and infrastructure charging in the Plan Area.



1. Introduction

1.1 Purpose of the Parkhurst and Yeppoon Road Corridor Structure Plan

The purpose of the Structure Plan is to provide a plan to assist Rockhampton City Council in determining future land uses and relevant key infrastructure for accommodating future growth in the Parkhurst East Residential, Parkhurst (Post 2015) Residential and the Yeppoon Road Corridor Environmental Protection Planning Areas.

The Structure Plan identifies land uses and distribution of those uses in the Structure Plan Area and identifies related key infrastructure to support that development. The Plan will assist in enabling development in the Plan Area to occur in an efficient and effective manner that accounts for the environmental values of the Plan Area while accommodating the future community and infrastructure needs to a horizon of the year 2020.

2020 is a date consistent with the Council's current planning horizon for the Priority Infrastructure Plan.

1.2 Role and Scope of the Structure Plan

The primary role of the Structure Plan is to provide Council with a plan to assist in determining future land use in the Plan Area. The Structure Plan is not a regulatory document in itself. Nothing in the Plan overrides or otherwise affects the standing of the City's Planning Scheme or binds Council to a particular land use policy or course of action with regard to development consideration.

The Structure Plan is not a definitive document in that site-specific features and detailed assessment has not been undertaken. The Structure Plan is based on the findings of the Planning Study, which was primarily based on desktop investigations and a defined scope of consultation activity. ***The Structure Plan should not be considered in isolation and understanding of land use and infrastructure as described in the Plan should be considered with regard to the Planning Study.***

No field-based investigations were undertaken apart from general visits to the Plan Area for orientation and land use characterisation. No fieldwork was undertaken for specific matters such as vegetation, flood levels, infrastructure capacities, habitats and air/light/noise levels. There are several key matters that require further assessment including (but not limited to):

- » Flooding levels and stormwater flows, particularly associated with Limestone Creek;
- » Detailed traffic planning and intersection design, particularly associated with the intersections of Yaamba Road with William Palfrey Road, Yaamba Road with Boundary Road and Yaamba Road with Olive Street.
- » Air, noise and light impacts from traffic on Yaamba Road, Yeppoon Road, the rail line or the Parkhurst Industrial Area; and



- » Economic feasibility of commercial and other non-residential uses, particularly those commercial/retail uses that are providing goods and services predominantly for consumption by consumers beyond the local Parkhurst area (such as highway commercial, bulky goods stores and retail showrooms).

The Structure Plan is not intended for the purpose of guiding decisions on land value or other commercial aspects associated with land in or adjacent to the Plan Area.

1.3 Structure Plan Subject Area

The Subject Area (Structure Plan Area or Plan Area) has been defined by Council at the project inception stage and is shown on **Figure 1** in section 8 (Structure Plan Figures) of the Plan. The Structure Plan Area conforms to three planning areas defined in the Rockhampton City Council Planning Scheme 2005 ('City Plan') being the:

- » Parkhurst East Residential Area;
- » Parkhurst Future (Post 2015) Residential Area; and
- » Yeppoon Road Corridor Environmental Protection Area.

The northern and eastern edges of the Plan Area are defined by the boundary between Rockhampton City and Livingstone Shire, including Ramsay Creek at the northern edge of the Parkhurst area. The southern edge of the Plan Area falls along the upper northern slopes of the Mount Archer area and the western end of Yeppoon Road in the vicinity of the Central Queensland University. The intersection of Yeppoon Road and Yaamba Road (the Bruce Highway) is the southwest corner of the Plan Area. Yaamba Road forms the western boundary of the Plan Area as far north as the intersection with William Palfrey Road. Three larger land parcels west of Yaamba Road define the western extent of the Plan Area and are bound by Ramsay Creek to the north, the northward extension of McLaughlin Street to the west and a combination of William Palfrey Road and the northern edge of the Parkhurst Industrial Area to the south.

The Planning Study provides a description and assessment of various features of the Plan Area that forms the basis of the Structure Plan. Those features of the Plan Area discussed in the Study include:

- » Regulatory matters affecting the Plan Area;
- » Population and growth;
- » Transport network;
- » Services infrastructure;
- » Community infrastructure and services; and
- » Physical features and characteristics (environmental values, physical features, landscape and land use).



1.4 Format of Structure Plan

The Structure Plan is presented as a report including relevant figures. Where possible, it has been presented in a format that is consistent with the Planning Areas in City Plan 2005 and is therefore suitable as the basis of a regulatory element of the Planning Scheme. The Plan is arranged as follows:

- » **Section 1: Introduction:** This section provides the purpose, role, scope and format of the Structure Plan as well as identifying the Plan Area.
- » **Section 2: Background:** This section provides information on the background to the Structure Plan including conclusions from the Planning Study that have set the basis for the Plan.
- » **Section 3: Structure Plan Elements:** This section provides the key elements of the Structure Plan presented in a format consistent with the Planning Areas as described in the City Plan 2005. This section would form the basis of any future consideration of potential amendment to the Planning Scheme.

The Plan Area is proposed to be divided into two Planning Areas (Parkhurst North and Yeppoon Road Corridor) with a description and intent provided for each. Also consistent with the City Plan 2005, the proposed Planning Areas are divided into a number of precincts, each is also provided with the description and intent.

Assessment tables are not provided, however, the intent section of each Planning Area and precinct provides a direction for the types of uses that are proposed for each area.

In addition to the Planning Areas and precincts (which are land use based), there are Overlays provided for transport, open space, infrastructure and amenity impacts. These Overlays provide non-land use based elements of the Structure Plan and are similar to the General Codes on City Plan 2005 to the extent that these Overlays are issue specific and cross the Planning Area boundaries.

- » **Section 4: Parkhurst North Area:** This section provides the description and intent for the proposed Planning Area and the proposed seven precincts in the Area.
- » **Section 5: Yeppoon Road Corridor Area:** This section provides the description and intent for the proposed Planning Area and the proposed four precincts in the Area.
- » **Section 6: Structure Plan Overlays:** This section provides intents for the proposed Overlays in the Structure Plan Area.
- » **Section 7: Structure Plan Implementation:** This section discusses a range of matters relating to how the Structure Plan may be implemented including amendment to the Planning Scheme and inclusion of matters in the Priority Infrastructure Plan.
- » **Section 8: Structure Plan Figures:** This section includes all of the figures referred to elsewhere in the Structure Plan.



2. Background and Planning Study

2.1 Overview

This section of the Structure Plan report provides a summary of key outcomes of the Planning Study that set the basis of the determinations in land use and associated infrastructure in the Structure Plan. This section does not substitute the content of the Planning Study and for a complete understanding of the basis for the Structure Plan the Study should be consulted.

2.2 Approach to the Planning Study and Structure Plan

The overall approach to the Planning Study and Structure Plan has been in accordance with the following tasks:

- » Collection of relevant information noting this was predominantly a desktop exercise;
- » A site familiarisation visit by key team members;
- » Consultation with key stakeholders (Council, Fitzroy Water, EPA, Natural Resources and Water, Education and Main Roads)
- » Collation of information (using plans/drawings where appropriate);
- » A consultation exercise was run in parallel to the Study by undertaking the following tasks:
 - Written request for submission to all landowners;
 - Direct consultation with identified key landowners and development proponents;
 - Having an open submission period; and
 - An open meeting for presentation of findings and discussion of issues;
- » Collating findings into a Planning Study and the basis for the Structure Plan, including recommendations for other action such as a flood study for Limestone Creek;
- » The Structure Plan has been developed for consideration by Council in order to determine what future action it will take with regard to the Planning Scheme and development being considered in the Study Area.

2.3 Purpose of the Planning Study

The purpose of the Planning Study was to provide Rockhampton City Council background material and investigate a range of matters regarding consideration of future development in the Parkhurst/Yeppoon Road Corridor Study Area. Furthermore, this Planning Study forms the basis for recommending the scale and nature of a Structure Plan for all or part the Study Area.

The following section is largely drawn for the Executive Summary of the Planning Study and is provided here to allow reference to the key findings of the Planning Study, but is not a replacement for all matters considered in the Study.



2.4 Conclusions of the Planning Study

2.4.1 Key Planning Study Conclusions

There are several key conclusions made from undertaking the Planning Study. These are summarised below and are also explained in some further detail later in this section:

High Population Growth

There is higher growth occurring than the Planning Information Forecasting Unit (PIFU) forecasts from 2001 this higher growth is more than double the PIFU 'high' series forecast based on a population derived from dwelling approvals since 2001. At 2020 the PIFU high series forecast is 63,574 persons and the Planning Study concludes that the City's population could be in the order of 71,062 persons.

Study Area 5,800 New Population

The approximate future population added to the Study Area in the 2020 time horizon is in the order of 5,800 persons, which equates to approximately 156 dwellings per year.

Limited Infrastructure

The Study Area lacks key services and community infrastructure that supports urban development, particularly the eastern half of the Study Area. Apart from the State Controlled Roads, there is no developed road hierarchy and basic urban service infrastructure is limited to the Yaamba Road/Norman Road corridor (the Parkhurst East Residential Area).

More than 20 Years Dwelling Supply in Development

An assessment of current development, development applications and investigations indicates that there is approximately 19.8 years of residential land supply within the Study Area and 9 years supply outside the Study Area (Norman Road and 'Edenbrook'), therefore the projected population growth out to 2020 can be accommodated within these locations assuming all are approved and at least a density of 8 dwellings per hectare is achieved. The resulting development pattern, may not; however, be the most efficient.

Future Land Needs Accommodated in Parkhurst Area

Future urban development requirements out to 2020 identified in the Planning Study can be accommodated in the least constrained areas of the Study Area, predominantly in the Parkhurst area. There is no need to develop more constrained lands outside of these areas where physical, environmental and infrastructure issues must be overcome.

Yeppoon Road Corridor is Constrained

The eastern half of the Study Area is more affected by physical and environmental constraints including slope, bushfire hazard and areas of remnant vegetation. This combined with lack of infrastructure makes it less attractive for future urban type development, but possibly 'rural living' opportunities can be investigated.

2.4.2 Consistency with Regulatory Framework

The aims of the Planning Study were broadly consistent with land use and planning intent expressed primarily through the vision, outcomes, codes and overlays of the Rockhampton City Planning Scheme. Within the Planning Scheme there are several constraints identified that form the basis of investigating land suitability in the Planning Study. A review of Commonwealth and State legislation has indicated that there are no specific regulatory constraints on undertaking the Study, however, a number of potential environmental and road infrastructure matters have been identified that are investigated.

2.4.3 Assessment of Population and Land Development

- » **Higher than Projected Population Growth:** There is a disparity between actual housing and residential land development activity and projected population growth in the City, this disparity is in the order of a potential population derived from dwelling activity being 2.9% higher than the PIFU forecast estimated population.
- » **Forecast Population Growth:** It has been determined that by 2020 the population in the City could grow in a range from the PIFU based 'high' forecast of 63,574 persons to as much as 71,062 persons based on population growth derived from current dwelling approvals. The population of the Study Area at 2020 is estimated to be in the order of 5,800 additional persons.
- » **Future Residential Land Area Needs:** Depending on densities and population growth scenarios, the future *residential* development land needs in the Study Area vary from a PIFU based forecast of 57 to 107 hectares and a Planning Study based scenario of up to 293 hectares depending on densities. These land area needs also do not include higher order roads, major open space and non-residential uses.

Based on the Planning Study estimate, an average of 156 new dwellings will be required in the Study Area on an annual basis. This equates to an annual residential land area requirement of between 10.4 (15 dwellings/hectare) and 19.5 hectares (8 dwellings/hectare).
- » **Need for Housing Diversity and Affordability:** The population profile of Rockhampton suggests that the City has a diverse range of household types, however availability of housing variety other than single detached houses is limited. A Structure Plan should seek to provide for a greater diversity of housing types in appropriate locations relative to the potential occupants (household types) of that housing. The population is also ageing, therefore increasing need for housing diversity. The mismatch of household and dwelling stock is in the order of 21%.

2.4.4 Transport Circulation and Network

- » **Not Making Local Traffic Use State Road Network (Yaamba and Yeppoon Roads):** The current direction from the Department of Main Roads is that the number of local traffic trips using the state controlled roads (i.e. Yaamba Road and Yeppoon Road) is to be minimised through the strategic planning and design of a functional local road network.



- » **Existing Road, Pedestrian and Cyclist Networks and Public Transport are Minimal:** A considerable level of new infrastructure and widenings on key routes will be required in order to provide the development areas with a functional local road network. When planning and designing the road network cyclist provision should be made in accordance with the Rockhampton City Plan. There is opportunity to extend the existing service, or depending on the layout/spread of the development, introduce a new bus route to service the Study Area.
- » **Constraints on Infrastructure Provision:** Two key intersections have been identified as requiring detailed future planning if an efficient local road network is to be introduced, these being:
 - Yaamba Road / William Palfrey Road intersection; and
 - Norman Road / Boundary Road intersection.Both of these have alignment and layout issues that will need to be rectified.
- » **Infrastructure Charging Schedules:** Given that there is a lack of developed transport infrastructure in the Study Area and that there are key road, intersection and bridges identified in the Planning Study, Council should consider implementation of an infrastructure charging derived from the Priority Infrastructure Plan.
- » **Integrate with Citywide Traffic Study:** Council is undertaking a Citywide Traffic Study and the transport/movement network elements of the Study Area should integrate with the outcomes of that study, in particular the role of key intersections and the linkage of Norman Road to Yeppoon Road as well as the extension of public transport routes.

2.4.5 Services Infrastructure

- » **Overall Development Pattern and Access to Services Infrastructure:** Future development within the Parkhurst/Yeppoon Road Corridor should be structured to ensure the provision for necessary infrastructure does not burden Council or result in excessive capital costs stifling development. The pattern of development from current development applications and development investigation is generally consistent with the planned services infrastructure for the Study Area; however, there are inefficiencies with the lack of development in the Parkhurst East Residential Area that already has a relatively high level of access to services Infrastructure (water, sewer, energy, stormwater and energy).
- » **Water Supply:** Fitzroy River Water has identified several network additions and upgrades to service infill developments within Parkhurst. Development of these options is in the preliminary stages. There is no existing infrastructure within the Yeppoon Road Corridor Environmental Protection Area (i.e. the eastern half of the Study Area). Those developments to occur will be funded through Infrastructure Contributions or Infrastructure Charges Schedule outlined in the Priority Infrastructure Plan.
- » **Sewer:** To accommodate infill development within the Parkhurst Planning Areas, Fitzroy River Water has adopted the strategy of intra-catchment transfers. The



intra-catchment transfers will relieve pressure on overloaded parts of the system, diverting sewage flows to infrastructure with spare capacity. Maximising the opportunities to utilise sections of the system with spare capacity minimising augmentation works required in the longer-term.

The intra-catchment transfer option does not take into account development within the Yeppoon Road Corridor Environmental Protection Area. Urban type residential development within the Yeppoon Road Corridor Environmental Protection Area would require long term planning to develop cost effective strategies to service this area.

- » **Waterways and Stormwater:** City Plan identifies the need to ensure waterways and surrounding riparian areas are protected from development. The prevention of development within a 30 m corridor of the channel ensures that biodiversity and ecology of the waterways is not severely impacted or damaged. Council's development guidelines require the provision of stormwater systems to intercept and convey stormwater runoff away from developed areas. Stormwater management in the Norman Road area will be essential to allow further development in the area. Promotion of developments that incorporate elements of Water Sensitive Urban Design will be of benefit to the waterway's health and function.
- » **Flooding:** Historical information on flooding and flood studies within Limestone Creek is limited. Prior to future development occurring, it will be necessary to enforce the intent of Council's Polices and Codes to ensure future development does not occur within the flood zone (note that a flood study of Limestone Creek was subsequently undertaken).
- » **Energy and Telecommunications:** Both electricity and gas can be made available to development within Parkhurst, and only electricity to the Yeppoon Road Corridor Environmental Protection Area. Telecommunications is available within the Study Area.

2.4.6 Community Infrastructure and Services

Lack of Community Services Infrastructure: Community services infrastructure is largely undeveloped in the Study Area, the majority of this infrastructure is provided south of the Study Area. Future growth will need to provide for these as most alternative providers are located where private transport is the normal means of access or limited access is provided by public transport.

2.4.7 Environmental Values

- » **Vegetation Values:** The majority of remnant vegetation the Study Area is identified as being in the 'Not of Concern' remnant vegetation category and City Plan includes the majority of this vegetation is within the Yeppoon Road Corridor Environmental Protection Area or as waterway designation in the Parkhurst area. The Mount Archer area adjoins the southeast of the Study Area and is classified as being an Essential Habitat by EPA for species listed as endangered, vulnerable or near



threatened. The control of weeds in the Study Area is crucial to prevent the impact of weeds on native bushland and pastures and to protect its natural resources.

- » **Vegetation/Fauna/Habitat/Riparian Corridors:** Existing corridors within the Study Area should be maintained and any future development should be required to maintain a desired buffer of at least 100m from the major corridors, particularly within the Yeppoon Road environmental Protection Area. Erosion and sediment control measures should also be employed in all developments to minimise impacts on the waterways of the Study Area. Limestone and Ramsay Creeks are Riparian Corridors and should be protected for their value as part of coastal management planning. Moreover, these corridors connect the urban vegetation areas west of the Study Area with the less developed areas between Rockhampton and Yeppoon, providing valuable habitat and linkages for fauna species.
- » **Limit Clearing:** Vegetation clearing should be limited where possible, particularly on the upper slopes and adjacent to drainage lines and waterways. Where large tracts of vegetation exist, linkages between these areas should be maintained where possible to facilitate fauna movement.

2.4.8 Physical Features and Landscape

- » **Topography Divides the Study Area:** The Study Area is divided into two distinct landscapes namely low lying areas and upper slopes. Slopes in the Parkhurst East and Parkhurst Future Residential Areas range between 0% and 15% and the slopes steeper than 15% mainly occur in the undulating hills in the Yeppoon Road Corridor. The less steeper lands are generally more favourable for urban development.
- » **Avoid Steeper and Upper Slopes:** The steeper and upper slopes in the Study Area are characterised by higher bushfire risk and greater landscape value, adding further constraint to developing the areas for urban purposes

2.4.9 Land Use

- » **General Land Use Character:** Land use in the Study Area is predominantly rural, rural living and vegetated (bush). The only areas of urban type land use are between Yaamba and Norman Roads. Non-residential urban land uses are very limited in the Study Area.
- » **Ongoing/Fixed Land Uses:** Within the Study Area, those land uses that are regarded as ongoing or 'fixed' are the quarry, Yeppoon Road government offices, urban residential development in Parkhurst East and vegetated areas with environmental values. All other land uses from a Structure Plan point of view are regarded as land uses that can change.
- » **External Land Uses:** The major external land use affecting development potential in the Study Area is the Parkhurst Industrial Area. This use linked with the Yaamba Road and rail line corridor presents potential air quality, noise and light impacts on the western part of the Study Area. In addition, the rural residential development to

the north of the Study Area should be taken into account when considering the scale and location of non-residential facilities and services in the Study Area.

- » **Current Development Proposals and Investigations:** There are a series of development applications and development proposals within the Study Area. These are generally consistent with the land use intent that may form an element of the Structure Plan. There are a number of considerations that affect the applications and proposals; however, the fundamental land use is regarded as consistent, except for the application in the Yeppoon Road Corridor Environmental Protection Area. In addition to land use, the development applications, in particular one outside the Study Area ('Edenbrook'), represent approximately 29 years of supply for residential land and may not necessarily be the most efficient form of land development, at least in the short term.

The approximate supply of new dwellings is estimated to be in the order of 29 years for current development, development applications and development investigation (being 19.8 years within the Study Area and 9 years in the Norman Road and Parkhurst Rural areas). There is approximately four years of dwelling supply remaining in the Norman Road Residential Area. In addition, there is an estimated twenty-three years worth of supply within two developments: an area being investigated west of Yaamba Road 'Ramsay Glen' and further west (outside the western edge of the Study Area: Edenbrook).

On this basis, there is sufficient land to accommodate future growth to 2020 within current development applications and development investigation. If it also Council's intention to keep a five year buffer of land supply ahead of demand, this is also accommodated within the scope of land subject to development, development applications and investigation.

The current development applications and investigation also amply provide for the future retail needs of the Study Area forecast population with centres being proposed/investigated on either side of Yaamba Road.

- » **Key Land Tenure Opportunities:** There are several parcels of land that are not privately owned and may represent opportunities for siting of non-residential facilities such as a school and major (district) open space. Council owned land at the northern end of Norman Road and McMillan Avenue in particular presents an opportunity for these uses.

2.4.10 Physical Land Suitability

The land suitability assessment is only representative of a defined set of physical features of the Study Area. The features are not the only matters affecting development and the results of the assessment are not the collective assessment of all relevant factors affecting development. Other key matters such as regulatory controls, access from a State Controlled Road and access to critical infrastructure have a determining impact on the overall suitability of land in the Study Area. The outcome of the assessment was a land suitability map and is repeated in this Structure Plan shown on **Figure 2**.



The assessment in the Planning Study indicates that there is sufficient land in the lowest constraint category in the Parkhurst East and Post 2015 planning areas to accommodate the future land requirements projected in the Planning Study. The lowest constrained category land area is in the order of 555 hectares and is easily in excess of the projected 293 hectares of future residential land requirements to accommodate 5,800 population by 2020 as identified in Chapter 3 of the Planning Study.

There is no need to consider more constrained land or land within the Yeppoon Road Corridor Environmental Protection Area for future urban development out to the planning horizon of 2020.

2.4.11 Consultation

- » **High Level Interest in Development of the Yeppoon Road Corridor:** A number of persons from the Yeppoon Road area expressed direct interest in future development opportunities in the eastern part of the Study Area, particularly in relation to potential water infrastructure, the route of which may pass through the area.
- » **Infrastructure/Facilities Provision and Improvement:** The need exists to improve or provide more or better road infrastructure to enable connection between areas in the Study Area. Attention was needed for the improvement or provision of other infrastructure such as water, electricity, sewerage and stormwater.
- » **Subdivision Potential:** Reinstating the ability of landholders to subdivide their land if sought, particularly in the Yeppoon Road Corridor.

2.5 Limitations of Planning Study and Basis for the Structure Plan

It is important to note that the Planning Study has key limitations as follows:

Information Sources

The Planning Study was largely a desktop based exercise and relied on the accuracy and detail of information from sources including Rockhampton City Council, Fitzroy Water, the Department of Natural Resources and Water and the Environmental Protection Agency. Ground truthing or other field based work (such as contour/levels surveys) were not undertaken. Hence there may be inaccuracies and/or changed circumstances from when the source material was generated that has not been corrected or updated during preparation of the Planning Study.

Economic Feasibility

The scope of the investigations undertaken for the Planning Study and as a basis for land use determinations in the Structure Plan did not include an assessment of economic impact or economic feasibility assessment of non-residential uses (particularly commercial uses with a catchment larger than a neighbourhood scale). Any land use designations for non-residential land uses are based on information provided by landowners at the time or those uses that are directly related to the growth in the Parkhurst area.



Development in Livingstone Shire

One aspect of consideration for the Planning Study was the nature of development in Livingstone Shire and long term land use planning. At the time of the Planning Study, information regarding future development was not generally available.

Traffic Assessment

The Study did not undertake a detailed traffic assessment. It was however, determined that significant road infrastructure development would be required to support the identified need for development. It is also apparent that the volumes of traffic that would be generated by development in the Study Area would require consideration in the context of the whole City's traffic network.

Likewise, a detailed assessment of intersection designs and layouts has not been undertaken as part of this Plan.



3. Structure Plan Elements

3.1 Overview

This section provides an explanation of the elements that make up the Structure Plan that are described in sections 4, 5 and 6 and the relevant figures in section 8. This allows the use of sections 4, 5 and 6 to be the regulatory basis of any amendments to the Planning Scheme as 'stand alone' sections that should only require augmentation as the basis of amendments. This section discusses:

- » Consistency with City Plan 2005;
- » Planning Area and Precinct Boundaries;
- » Planning Areas (including the basis for defining each of the proposed Planning Areas);
- » Precincts; and
- » Planning Areas Overlays.

3.2 Consistency with City Plan 2005

This intention of the Structure Plan is to provide the elements of the basis for any amendment to City Plan 2005. The presentation of the Structure Plan is consistent with the format of the Planning Scheme in that Planning Areas form the basis of the Structure Plan with more discrete precincts within the Areas. Also included are 'overlays' for matters such as open space and transport.

Each Planning Area, precinct and overlay is provided with a description and intent statement, which is consistent with the approach taken in the Planning Scheme. Unlike the Planning Scheme, tables of assessment and codes have not been provided.

3.3 Note Regarding Planning Area and Precinct Boundaries

The boundaries of the Planning Areas have been proposed to align with cadastral boundaries in order to maintain this consistency with City Plan 2005; however, precinct boundaries do not always follow cadastral boundaries. Cadastral boundaries have also been used to define the Planning Area to avoid potential confusion of a land parcel being 'split' by Planning Area designations. Where it was considered appropriate, physical features and other elements were used to determine precinct boundaries. These include slope, vegetation, bushfire hazard and amenity impacted areas (such as the corridor on both side of Yaamba Road and the rail line).

3.4 Proposed Planning Areas

3.4.1 Overview

This section provides an explanation of the Planning Area elements of the Structure Plan that would be the basis for any amendment to City Plan 2005. Two Planning



Areas are proposed to replace the three Areas currently included in the Planning Scheme and the proposed Areas are shown on **Figure 3**, these being:

- » The proposed Parkhurst North Area; and
- » The proposed Yeppoon Road Corridor Area.

The proposed Parkhurst North Area replaces the current Parkhurst East and the Parkhurst (Post 2015) Planning Areas. The proposed Area also includes western parts of the current Yeppoon Road Corridor Environmental Protection Area. The proposed Yeppoon Road Corridor Area replaces the current Yeppoon Road Corridor Environmental Protection Area except for the western parts of the current Planning Area that are proposed to be included in the Parkhurst North Area. The basis for these Planning Areas is provided in the following sections and within the Planning Study.

3.4.2 Basis for Parkhurst North Area

The Parkhurst North Area is intended to provide a single Planning Area for the future 'greenfield' urban growth of the City in terms of the growth identified in the Planning Study. The Area will provide for growth both up to and beyond the year 2020. It was not considered necessary to define a separate Planning Area for growth either side of 2020 in part to allow for the concept of the 'ultimate' urban development footprint in this area of the City. The urban edge defined in this Area is the practical limit to urban development for the following reasons:

- » To the north is the administrative boundary with Livingstone Shire, which is not subject to the City's land use administration;
- » To the west is land already approved for urban development (the Edenbrook site);
- » To the east are physical features that combine to practically limit urban development (such as slope, vegetation and bushfire risk; and
- » To the south is existing or committed development (the Norman Road residential area, university and the buffer to the Parkhurst Industrial Area).

An ultimate development footprint also allows for planning to provide for road and services capacities that should not be readily exceeded assuming densities as described in this Structure Plan are not exceeded. This in turn allows the potential to determine an ultimate catchment for infrastructure determination as well as infrastructure contributions. For example, the crossing that passes over Limestone Creek. Depending on the exact nature of flooding extent, it is potentially a major item of civil road works to build a flood-free intersection. The cost of this intersection could be applied over the ultimate practical catchment of the Parkhurst North Area, particularly that area east of Yaamba Road. An alternative location to crossing Limestone Creek is presented by the southern extension of McMillan Avenue over Limestone Creek, then joining to the west with the current uninstruced Norman Road section between Limestone Creek and Yeppoon Road.

While physical features have defined the edge of the urban area, cadastral boundaries have been used to define the Planning Area to avoid potential confusion of a land parcel being 'split' by Planning Area designations.



3.4.3 Basis for Yeppoon Road Corridor Area

The definition of the proposed Yeppoon Road Corridor Area is based on the distinct difference in topography and physical features from the Parkhurst locality. These differences have determined a need for a discrete Planning Area from other parts of the City. The Planning Study investigations show this proposed Area is more significantly affected by slope, vegetation, environmental significance, bushfire hazard and lack of infrastructure than the adjoining Parkhurst North Area.

Large parts of the proposed Area are not generally suitable for urban development; therefore the planning approach to the area is different to that of the Parkhurst North Area. The Area also has limited opportunities to develop site access as well as it being unlikely that the provision of urban type infrastructure would be as efficient as in the Parkhurst North Area.

The cadastral boundaries have been used to define the Planning Area as with the Parkhurst North Area.

3.5 Proposed Precincts

All lands within each proposed Planning Area are included within a precinct. These precincts reflect a more discrete locality of the Planning Area and specific land use outcomes such as commercial development; amenity impacted areas and specific purposes. Physical features such as roads, watercourses and environmental values have been used to generally determine the edges of the proposed precincts. The following Table 1 and Table 2 provide an explanation for the basis of each proposed precinct.

Table 1: Basis of Proposed Precincts – Parkhurst North Area

Precinct	Name	Basis
1	Residential (Standard Density)	<p>This precinct falls over land that is generally within the least constrained category of the Land Suitability Assessment, has reasonable access to infrastructure, however it is not considered a significant advantage to identify a dwelling density of development greater than typical housing in the City (i.e. lots less than 600 sqm) or as land for other land uses such as commercial.</p> <p>This precinct also includes land already developed for urban residential uses (i.e. between Yaamba, Norman and Boundary Roads and Olive Street).</p>
2	Residential (Mixed Density)	<p>This precinct falls over land that is generally within the least constrained category of the Land Suitability Assessment and has relatively reasonable access to infrastructure and will assist in providing opportunities for housing diversity.</p> <p>The precinct includes land that is undeveloped, vacant land adjoining these existing urban areas (i.e. between Boundary Road, Norman Road, Olive Street and Yaamba Road and the northern end of the area bound by Norman Road, Olive Street and McMillan Avenue).</p> <p>The precinct also includes land on the western side of Yaamba Road that would be advantageous to consider higher density development.</p>



Precinct	Name	Basis
		<p>A higher dwelling density is considered appropriate for this precinct as the locality has one or more of the following advantages to support higher density:</p> <ul style="list-style-type: none"> » Adjoins the major transport routes; » Will have commercial activities adjoining or is nearby and » Open space adjoining or is nearby (within 200 metres).
3	Residential (Post 2020)	<p>The basis of this precinct is that it includes land in the Planning Area that is generally within the least constrained category of the Land Suitability Assessment, but is outside of the projected need for urban residential growth (i.e. development of the land is not needed before 2020)</p> <p>These lands would require more significant extension of infrastructure to service them and it is not considered an efficient or orderly development pattern to allow such land to be developed where land closer to infrastructure is undeveloped. This precinct also allows for the ultimate urban edge to be defined in this part of the City.</p>
4	Centres	<p>The basis for this precinct is on the projected retail and commercial needs of the future community in the Planning Area and is discussed in more detail in the Planning Study. Two neighbourhood type centres are identified on the basis that it is undesirable from a safety and efficiency perspective to encourage local traffic (vehicle, pedestrian and cycle) to have to cross Yaamba Road for daily and weekly shopping needs. These centres would fall within the 'Major Shopping Outlet' definition in City Plan 2005, but not anticipated to be in excess of 6,000-7,000 sqm of GFA.</p> <p>It is also recognised that the highway location may be attractive to non-neighbourhood orientated commercial uses. In order to avoid 'strip' development, a node for future consideration has also been identified as part of this precinct.</p>
5	Open Space	<p>The basis for this precinct is from the open space needs identified in the Planning Study, which in summary are:</p> <ul style="list-style-type: none"> » Local level parks in the order of 0.5 to 1ha and within 500 metres of most residential areas; » 2 district level park in the order of 8-10ha that accommodates formal sporting activities; and » Open space corridors typically aligned with overland flow paths and connections between key locations in the Area. <p>This precinct also includes land in the Area with environmental values that may also be private land.</p>
6	Specific Purpose	<p>The basis for this precinct is those land uses and their associated lots that were identified in the Planning Study as being land uses that were relatively 'fixed' as land uses within the 2020 timeframe. No indication has been given by the land owners/users that the use or anticipated use would cease or change before 2020.</p> <p>Land that has a level of environmental significance (in particular the DNRW offices, EPA offices and the Catholic Education site) are not regarded as 'urban purposes' for the purposes of the <i>Vegetation Management Act 1995</i>.</p>
7	Environmental Value	<p>The basis of this precinct is those lands identified in the Land Suitability Assessment as having the higher levels of constraint and are significantly affected by either (singularly</p>



Precinct	Name	Basis
		<p>or a combination of) slope, vegetation and bushfire hazard.</p> <p>These lands also form part of City's landscape character. In this precinct, the area is closely aligned with the mapped edge of the remnant vegetation on the basis that the Planning Study has not identified the need to develop land that has environmental significance where there is other land in precincts 1, 2, 3, 4 and 6 that will accommodate future development requirements of the Area</p>

Table 2: Basis of Proposed Precincts – Yeppoon Road Corridor Area

Precinct	Name	Basis
1	Future Investigation (Residential - Bushland Character)	<p>The basis for this precinct is those land areas identified as less constrained in the Land Suitability Assessment, but are still affected by (singularly or a combination of) slope, vegetation, bushfire hazard and/or remoteness from urban infrastructure to the extent that they are not generally considered suitable for future urban development and are in locations that would require significant infrastructure expansion to service.</p> <p>These lands have some rural activities, but are not regarded as major areas of agricultural production in the region. These lands also have a predominance of vegetation (not always remnant) and this forms part of the City's landscape character. On these basis, a 'bushland character' is an appropriate intent for these locations.</p>
2	Future Investigation (Residential - Rural Living)	<p>The basis for this precinct is those land areas identified as less constrained in the Land Suitability Assessment, but are still affected predominantly by slope and/or remoteness from urban infrastructure to the extent that they are not generally considered suitable for future urban development and are in locations that would require significant infrastructure expansion to service.</p> <p>These lands have an established rural and rural residential character with some rural activities, but are not regarded as major areas of agricultural production in the region. As these lands have a predominantly rural character and provide a residential alternative, 'rural living' is an appropriate intent for these locations. Rural character is defined in the area by dwellings set in an open rural landscape.</p>
3	Environmental Value	<p>The basis of this precinct is those lands identified in the Land Suitability Assessment as having the higher level of constraint and are significantly affected by slope, vegetation and/or bushfire hazard. These lands also form a key element in the City's landscape as well as ecological value.</p>
4	Specific Purpose	<p>The basis for this precinct is those land uses and their associated lots that were identified in the Planning Study as being land uses that were relatively 'fixed' as land uses within the 2020 timeframe. No indication has been given by the land owners/users that the use or anticipated use would cease or change before 2020.</p>

3.6 Proposed Planning Areas Overlays

3.6.1 Overlays General

The Planning Areas and Precincts are land use based elements of the Structure Plan. It is appropriate that infrastructure also be included as a feature of the Plan and therefore, overlays are proposed to incorporate the following matters:

- » Transport, circulation and movement;
- » Infrastructure (service and community);
- » Open space network; and
- » Amenity impacted areas.

This allows for these specific features to be provided for more clearly and distinct from site orientated land use matters. The basis for the overlays is established in the Planning Study.

3.6.2 Transport, Circulation and Movement Overlay

Overview

The transport, circulation and movement network in the Plan Area is largely undeveloped with roads other than Yaamba and Yeppoon Roads being developed to a local access urban standard (in parts of the Parkhurst East Residential Area), sealed roads to a rural standard or unsealed road. Infrastructure for pedestrian and cycle movement is somewhat fragmented, and is only present in the Parkhurst East Residential Area. Public transport service to the area is focussed on supporting the Parkhurst School.

Figure 4: Structure Plan Area Land Use sets out the proposed land use within the Plan Area, identifying the areas for Pre and Post 2020 development. The proposed dwelling types within these development areas, along with the applicable daily trip generation rate are as follows:

- » Standard Residential Dwelling: 9 vehicle trips / day; and
- » Mixed Density Dwelling: 5 vehicle trips / day.

The anticipated daily traffic volumes generated by the residential development contained within the Plan Area is estimated to be as follows:

- » West of Yaamba Road (all Pre 2020 development): approximately 29,000 daily vehicle trips
- » East of Yaamba Road (Pre 2020 development): approximately 12,000 daily vehicle trips
- » East of Yaamba Road (Post 2020 development): an additional 33,000 daily vehicle trips

It is on the basis of the above residential development-generated traffic volumes that the road hierarchy has been established.



Rockhampton City Council and the Department of Main Roads are jointly undertaking a City Wide Traffic Study that encompasses both the State-controlled road network and the Council-controlled road network within the Rockhampton City Council Local Government Area. This study will provide more detailed information on traffic volumes on the existing and proposed high-order road network within the study area consistent with the Parkhurst and Yeppoon Road Corridor Planning Study and Structure Plan. The network modelling undertaken as part of the City Wide Traffic Study will therefore be used to verify and further define the conceptual road hierarchy for the Area proposed as part of this Structure Plan. The road hierarchy proposed in the Structure Plan should therefore be considered as conceptual only and subject to the findings of the City Wide Traffic Study.

West of Yaamba Road

Typically, the directional split for traffic during the morning peak periods for a residential type development is 30% inbound, 70% outbound. During the afternoon peak period it is reversed, 70% inbound, 30% outbound. It is assumed that the majority (in the order of 80%) of the traffic using William Palfrey Road will be travelling to/from Yaamba Road, with the remaining traffic travelling to/from McLaughlin Street / Alexandra Street in the west (assuming William Palfrey Road is connected through the new development area). This will result in up to 1,600 vehicles travelling in one direction on the eastern section of William Palfrey Road during each peak period (with 700 vehicles travelling in the opposite direction).

East of Yaamba Road

The Pre 2020 development area is restricted to the areas bounded by Olive Street, Yaamba Road, Boundary Road and McMillan Road, with anticipated development-generated daily traffic volumes being approximately 12,000 vehicles (not taking into consideration the existing development).

The ultimate traffic generation of the development area located on the eastern side of Yaamba Road is approximately 45,000 vehicle trips per day (including the 12,000 vehicle trips associated with the pre-2020 development). This will equate to a total of 4,500 peak hour vehicle trips.

Using similar assumptions and directional splits, the following likely (ultimate) peak hour distributions have been established (assuming full access to Norman Road):

- » Olive Street: Peak hour two way traffic volumes of approximately 500 vehicles (up to 350 in one direction)
- » McMillan Road: Peak hour two way traffic volumes of approximately 2,000 vehicles (up to 1400 in one direction)
- » Boundary Road (west of Norman Road): Peak hour two way traffic volumes of approximately 2,000 vehicles (up to 1400 in one direction)
- » Norman Road (between Olive Street and McMillan Road): Peak hour two way traffic volumes of approximately 2,000 vehicles (up to 1400 in one direction)



- » Norman Road (between McMillan Road and Boundary Road): Peak hour two way traffic volumes of approximately 4,000 vehicles (up to 2800 in one direction)
- » Norman Road (between Boundary and Yeppoon Road): Peak hour two way traffic volumes of approximately 2,000 vehicles (up to 1400 in one direction)

The predicted traffic volumes generated by the Post 2020 development will be in excess of 30,000, vehicles per day, which will trigger the need for upgrades to the road network beyond the limits of the Plan Area. In particular, Norman Road (south of Yeppoon Road) is likely to require significant upgrade works to cater for the additional traffic loading.

3.6.3 Infrastructure (Services and Community) Overlay

The basis of this overlay is the provision of services to the Structure Plan Area be they hard infrastructure such as water supply or sewer, or other services such as schools and access.

3.6.4 Open Space Network Overlay

The basis of the open space network overlay is the provision of open space that is of a size, location and connection suitable for the estimated population of the Structure Plan Area. On this basis, the following types of open space are identified:

- » **District Park:** This type of park is approximately 10 hectares and provides large scale urban open space as well as opportunities for formal recreation and sport facilities. The catchment of this park extends beyond the Structure Plan Area.
- » **Neighbourhood Park:** These parks are in the order of 0.5 to 1.0 hectare and provide for a local catchment based on a 400 metre walking radius. These parks provide informal space and are not expected to provide formal sporting facilities.
- » **Environmental Value:** These areas of open space have an environmental value that is typically remnant native vegetation, riparian corridors or areas subject to flooding. These spaces accommodate pedestrian activity, but are not intended to provide facilities beyond walking and cycle tracks.
- » **Open Space Connection:** These spaces provide the network for pedestrian movement but are also based on overland flow paths, thereby providing opportunities to achieve water sensitive urban design outcomes as well as connecting the destinations of the Structure Plan Area. These connections are not always 'parks' and may include other functions such as incorporating overland flow paths, landscape screening or acoustic barriers.

3.6.5 Amenity Impacted Overlay

This overlay identifies locations where the amenity impacts of rail, highway, industrial and extractive industry must be considered in relation to new development.



3.7 Definitions

The Structure Plan uses several terms that require definition, as they are not terms defined in City Plan 2005. These terms may be considered as amendments to the Planning Scheme as an element in implementation of the Structure Plan and are as in the following Table 3:

Table 3: Structure Plan Definitions

Term	Definition
Bushland Character	Existing vegetation is retained with clearing only allowed for a dwelling location, necessary ancillary buildings, land application area for treated wastewater and bushfire protection. Access routes are located to avoid clearing. The cleared area is not to exceed 25% of the lot area or that area to accommodate the necessary clearing for those elements described above, whichever is the lesser. This definition does not override any provision or mapping of the <i>Vegetation Management Act 1995</i> .
Future Investigation	Where development is considered, investigation is required into critical matters including but not limited to: <ul style="list-style-type: none"> » Vegetation values; » Access (including from higher order roads not necessarily directly adjacent to the site, such as Yeppoon Road); » Watercourse, riparian and stormwater management; » Slope and bushfire hazard; » Land suitability for application of treated effluent; » Provision of infrastructure; and » Ecological assessment (habitat, flora, fauna).
Mixed Density	Refers to a ' <i>Residential Dwelling Density</i> ' of between 22 and 30.
Residential Dwelling Density (RDD)	The density of dwelling units per hectare based on a land area being the sum of the residential land and local roads (typically 16%); this does not include parkland, open space, higher order roads and non-residential uses. For example, Residential Dwelling Densities on a 1 ha site and assuming a 16m wide road reserve (local access road): <ul style="list-style-type: none"> » 16 RDD equates to 12 lots average size 625sqm » 22 RDD equates to 18 lots average size 455sqm » 30 RDD equates to 25 lots average size 333sqm
Rural Living	Predominantly residential land uses in an open rural



	setting where other activities are incidental or ancillary. Dwellings are located on large sized lots in a landscape dominated by open vegetation including grassland that defines the rural character of the site and locality. Distances between dwellings, the character or infrastructure and the minimal site development works contribute to a rural character. While previous land uses were focused on rural activities, these are now not the predominant land use.
Standard Density	Refers to a ' <i>Residential Dwelling Density</i> ' of 16.
Urban Character	Any locality where roads, street lighting, density and vegetation clearing occurs or has occurred that is consistent with urban residential development to at least half of the density of ' <i>Standard Density</i> ' (i.e. a ' <i>Residential Dwelling Density</i> ' of 8).



4. Parkhurst North Area

4.1 Parkhurst North Area Description

The Parkhurst North Area is located on the northern edge of the City and is bound by The City's Local Government boundary to the north (including Ramsay Creek), the foothills and Limestone Creek valley of the Yeppoon Road Corridor Area to the east, Yeppoon Road, Yaamba Road and the Parkhurst industrial area to the south and the northward extension of McLaughlin Street to the west.

The area includes a mix of land uses including:

- » Urban residential uses in the area of Olive Street, Norman Road Boundary Road and Yaamba Road;
- » Rural living, some with associated small-scale agriculture and/or animal husbandry) on the eastern side of Yaamba Road (particularly east of Norman Road);
- » Some small-scale orchards and animal husbandry (particularly east of Norman Road);
- » Open and semi cleared areas intermittently used for grazing (west of Yaamba Road and east of Norman Road);
- » Limited commercial/retail and temporary accommodation on the eastern side of Yaamba Road with some commercial on the western side of Yaamba Road opposite and north of Olive Street;
- » State Government offices and the Heritage Village/Cultural Centre between Yaamba, Boundary, Norman and Yeppoon Roads;
- » Some community orientated uses along Yaamba Road (including the Parkhurst School).

Apart from Yeppoon and Yaamba Roads, road infrastructure is limited in the Area, which reflects the undeveloped nature of the Area. Similarly, water supply, sewer and stormwater management are developed to the extent that these services are limited to the urban type development in the area bound by Yaamba Road, Olive Street, Norman Road and Yeppoon Road.

Limestone Creek runs east to southwest through the area and is a riparian corridor link between the Parkhurst Industrial Area to the Fitzroy River and east to the Berserker Ranges.

Lands adjacent to the rail line and Yaamba Road are affected by noise, light and air quality from the perspective of potential impact on land uses (most significantly residential) in that vicinity.

4.2 Parkhurst North Area Intent

It is intended that the Area primarily accommodate a mixture of residential uses with retail, community and open space uses that are primarily aimed at servicing the needs

of the Area's population. The intended land use pattern is illustrated on **Figure 4** and **Figure 5**. The Area is intended to accommodate future urban growth of the City (being for predominantly residential growth) to a natural and practical extent as defined by features of the locality including physical features, environmental values, infrastructure and desired urban amenity.

Any land use or activity that is not primarily aimed at servicing the Area's population (such as highway orientated commercial uses, bulky goods and showrooms) will be subject to an economic feasibility and need assessment that clearly shows other locations (such as the Yaamba Road South Commercial Area) for such uses in the City are:

- » Fully developed or it is significantly impractical to achieve full development of those locations;
- » Turnover, vacancy and other economic indicators show that the level of business activity in those other locations for similar uses has reached a recognised limit indicating those business will not be significantly affected from a commercial point of view; and
- » Other factors such as traffic volumes, and other infrastructure capacity indicate that the location of other similar uses in the City have reached a level that safety and efficiency of infrastructure would be jeopardised by further development or other intensification of development at those sites.

To be certain, it is intended that the only locations for commercial/retail development in the Area occurs at the locations indicated on the Planning Area land use plan (refer to **Figure 4** and **Figure 5**). This plan indicates that commercial development is to be focused on three (3) locations, as explained under section 4.6 for Precinct 4 – Centres (following).

The Area includes provision for a range of residential densities to provide a range of dwelling choice. The following precincts 1, 2 and 3 are intended to provide a range of residential densities. Residential uses may also be included as part of commercial development or certain specific purposes (precincts 4 and 6).

The Area also provides for a range of open space types to provide different open space opportunities for the population and is spatially identified to maximise practical access by pedestrians and cyclists. The primary function of these spaces is for active and passive recreation, so the lands should be suited to this purpose. Steep and/or difficult to access land is not fit for this purpose. Some indicated open space is to achieve environmental outcomes as well as recreation outcomes. Riparian corridors and stormwater drainage lines are intended to be primarily for environmental purposes including stormwater management, water quality, watercourse erosion control and potential fauna movement.

The Area provides for urban development areas beyond the year 2020. These areas are not to be developed prior to the other lands (precincts 1 and 2) being developed for urban purposes or where it is demonstrated conclusively that these precincts are not practically suitable for future development. To be certain, the cost of infrastructure or



services to lands in precincts 1 and/or 2 is not regarded as a practical limiting factor to development.

The precincts of the Area and other details are summarised on the following Table 4:

Table 4: Parkhurst North Precincts Summary

Precinct	Name	West Area* (ha)	East Area** (ha)	Total Area (ha)	Note***
1	Residential (Standard Density)	197.88	56.89	254.78	RDD 16 potential yield approx 3,420 dwellings
2	Residential (Mixed Density)	47.75	53.21	100.95	RDD 22-30 potential yield approx 1,865 - 2,540 dwellings
3	Residential (Post 2020)	-	307.44	307.44	RDD 16 potential yield approx 4,130 dwellings
4	Centres	18.52	3.91	22.43	2 x neighbourhood centres plus 1 x node
5	Open Space	30.95	38.46	69.41	District, neighbourhood parks, riparian corridors
6	Specific Purpose	-	81.86	81.86	As defined under the precinct
7	Environmental Value	-	67.61	67.61	Mostly Remnant Vegetation

* The Area of the Precinct west of Yaamba Road

** The area of the Precinct east of Yaamba Road

*** The number of dwellings is calculated by multiplying the total land area by 0.84 (to account for 16% of area for local roads) and then multiplied by the RDD.

4.3 Precinct 1: Residential (Standard Density)

4.3.1 Description

Precinct 1 is approximately 254.78.12 hectares and encompasses two areas on either side of Yaamba Road, these being approximately 197.88 (west) and 56.89 (east) hectares.

The first area of the precinct is land east of Yaamba Road. The existing land developed for urban character single detached dwellings between Yaamba, Norman, Boundary Roads and Olive Street are included in this precinct. The other part of this area is land in the southern half of the area bounded by Norman Road, McMillan Avenue, the eastward extension of Olive Street and Limestone Creek. This area is undulating and generally falls southwards towards Limestone Creek. Rural living, small-scale animal husbandry and orchard land uses currently dominate the area. A golf driving range operates in the southern part of the area.



The second area of this precinct is the majority of the area bound by Ramsay Creek, the rail line, William Palfrey Road and the northward extension of McLaughlin Street. This land is undulating and predominantly open grassland (formerly grazing land) while a historical building and surrounds occupies some of the area (previously used as an orphanage).

Areas of land in this precinct are in proximity to Yaamba Road and the Parkhurst Industrial Area.

Road, sewer, water and other urban type infrastructure (including open space, public transport and community services) are very limited or not at all established in this precinct.

4.3.2 Intent

The intent of this precinct is to accommodate residential development that achieves 16 RDD. This equates to average dwelling lot area of 600 sqm to 650 sqm. This is exclusive of roads above the order of local access and any open space or other land uses that may establish in the precinct.

On this basis, the precinct will yield in the order of 3,420 dwellings (total for precinct) with 2,650 (west) and 770 (east).

All urban services inclusive of water supply, sewer, power, telecommunications, energy (gas and electricity), stormwater drainage, public transport and garbage collection will need to be provided to any development in this precinct.

Higher density residential land use may occur in the precinct including duplex development, however it is not intended for multi-unit development or other attached housing forms to locate in the precinct. The only exceptions would be locations where the subject site meets all of the following criteria:

- » Fronts an Urban Trunk Collector (Major) or higher order road;
- » Is within 400 metres walking distance of a public transport route; and
- » Is within 400 metres walking distance of a local park or higher order open space.

Building height in the precinct is limited to two storeys. Stormwater flow in the precinct is defined by shallow gullies and lower flat areas that shall form the basis of an overland flow network and is most efficiently aligned with pedestrian routes and the road network. Stormwater will only be piped as the least preferred management approach.

Areas of land in this precinct are in proximity to Yaamba Road and the Parkhurst Industrial Area. Development within this proximity is to include an assessment of noise, light and air quality impacts. Where required to meet relevant standards, design and layout of development in these areas is to mitigate noise, light and air quality impacts to relevant standards.



4.4 Precinct 2: Residential (Mixed Density)

4.4.1 Description

Precinct 2 is approximately 100.95 hectares encompasses two areas on either side of Yaamba Road these being approximately 47.75 (west) and 53.21 (east) hectares.

The first area of the precinct is east of Yaamba Road. The two areas are firstly the undeveloped sites within the area bounded by Yaamba Road, Olive Street, Norman Road and Boundary Road. Secondly, this area includes the northern half of the of the area bounded by Norman Road, McMillan Avenue, the eastward extension of Olive Street and Limestone Creek. This area is gently sloping and generally falls southwards towards Limestone Creek with a shallow gully running north/south through this part of the precinct. Land uses in this part of the precinct are generally a mix of lower density urban and highway orientated type uses including:

- » Undeveloped cleared land with single dwellings;
- » Limited commercial/retail and temporary accommodation;
- » Some community orientated uses along Yaamba Road (including the Parkhurst School).

The area of the precinct east of Yaamba Road has access to urban infrastructure on the basis of existing development in the locality; however, the capacity of this infrastructure would need to be investigated on a site-by-site basis to determine what capacity augmentation/upgrade may be required.

The second area of this precinct is land within 200 metres distance of the local park and centres precincts proposed in the area west of Yaamba Road. This land is undulating and predominantly open grassland (formerly grazing land) while a historical building and surrounds occupies some of the area (previously used as an orphanage).

Road, sewer, water and other urban type infrastructure (including open space, public transport and community services) are not at all established in this area of the precinct (i.e. that area of the precinct west of Yaamba Road).

Areas of land in this precinct are in proximity to Yaamba Road and the Parkhurst Industrial Area.

4.4.2 Intent

The intent of this precinct is to accommodate a mix of residential development types that achieves 22 to 30 RDD. The intent of this mix of densities is to

- » Provide a choice of housing types, locations and densities to ensure that residential options meet the lifestyle, lifecycle and economic needs of residents;
- » Provide for higher density residential development than traditional housing; and
- » To accommodate a mix of housing types and densities.

This density range is equates to average dwelling 'lot' area of 330 sqm to 450 sqm. Note that the term 'lot' does not necessarily imply a freehold lot, but is a land area that



may be part of a community title inclusive of the common property areas. This is exclusive of roads above the order of local access and any open space or other land uses that may establish in the precinct.

On this basis, the precinct will theoretically yield in the order of 1,865 to 2,540 dwellings (total for precinct) with 880 to 1,200 (west) and 980 to 1,340 (east).

All urban services inclusive of water supply, sewer, power, telecommunications, energy (gas and electricity), stormwater drainage, public transport and garbage collection will need to be provided to any development in this precinct.

While the area of the precinct east of Yaamba Road has access to some urban infrastructure, the capacity of this infrastructure would need to be investigated on a site-by-site basis to determine what capacity augmentation/upgrade may be required.

Building height in the precinct is generally two storeys, however, three storeys may be considered where compelling grounds are demonstrated and it is determined that adjoining development will not be adversely affected by overlooking, overshadowing and impact on landscape value. Stormwater flow in the precinct is defined by a north/south running shallow gully that shall form the basis of an overland flow path and is most efficiently align with local pedestrian routes, open space (public and private) and the internal road network as far as practicable. Stormwater will only be piped as the least preferred management approach and detention basin will preferably be included on private land.

Areas of land in this precinct are in proximity to Yaamba Road and the Parkhurst Industrial Area. Development within this proximity is to include an assessment of noise, light and air quality impacts. Where required to meet relevant standards, design and layout of development in these areas is to mitigate noise, light and air quality impacts to relevant standards.

To be certain, development that is proposed for less than 22 RDD is inconsistent development. Redevelopment of existing development is consistent development.

4.5 Precinct 3: Residential (Post 2020)

4.5.1 Description

Precinct 3 is approximately 307.44 hectares and encompasses three areas on the eastern side of Yaamba Road, being north and south of Limestone Creek.

The first area of the precinct is land bounded by Olive Street, Yaamba Road, the City's boundary with Livingstone Shire and remnant vegetation to the east. This area is undulating and generally falls west and northwards towards Yaamba Road and Ramsay Creek. Land uses in this part of the precinct include:

- » Rural living, some with associated small-scale agriculture and/or animal husbandry;
- » Some small-scale orchards (probably not a major commercial operation);
- » Open and semi cleared areas intermittently used for grazing; and



- » Limited commercial and temporary accommodation.

The second area of this precinct is an area east of McMillan Avenue and north of Limestone Creek. The eastern and southern boundaries of the precinct are determined by a combination of physical features including Limestone Creek, remnant native vegetation, slope, bushfire hazard and access limitations. These lands are undulating and predominantly open grassland, smaller horticultural activity and rural living. Some remnant vegetation, regrowth and steeper slopes occur on the eastern edges of this precinct.

The third area is south of Limestone Creek and east of the undeveloped school site between Boundary Road and Yeppoon Road. Boundary Road runs east/west through this area. The northern boundary of this area is defined by Limestone Creek. The undeveloped school site and remnant native vegetation defines the western boundary of this area. The southern boundary of this area is defined by Yeppoon Road, while the eastern boundary of the area is determined by a combination of physical features including Limestone Creek, remnant native vegetation, bushfire hazard and access limitations. The eastern, southern and central parts of this area of the precinct are within the 500 metre buffer of the quarry on the southern side of Yeppoon Road.

Road, sewer, water and other urban type infrastructure (including open space, public transport and community services) are very limited or not at all established in this precinct.

4.5.2 Intent

The intent of Precinct 3 is to provide for future urban residential needs beyond the year 2020 or when the urban residential capacities of Precincts 1 and 2 have been fully developed or where it is demonstrated conclusively that these precincts (either fully or in part) are not practically suitable for future development and full development of those precincts cannot be practically realised. To be certain, the cost of infrastructure or services to lands in precincts 1 and/or 2 is not regarded as a practical limiting factor to development.

Precinct 3 is also intended to be the practical limit of urban development in the Parkhurst North Area, beyond which urban development or development that is considered to have an Urban Character (as defined in Table 3) is not to occur.

In considering the development of lands in Precinct 3, the orderly provision of infrastructure (including water supply, sewer, stormwater drainage, stormwater treatment and open space) and coordination with adjacent development must be undertaken to allow for an orderly and efficient development for future residential uses provided that infrastructure is not hindered by fragmented land ownership or inappropriate development.

The nature of development in this Precinct would be expected to be consistent with Precinct 1, which is to accommodate residential development that achieves 16 RDD. This equates to average dwelling lot area of 600 sqm to 650 sqm. This is exclusive of roads above the order of local access and any open space or other land uses that may establish in the precinct.



On this basis, the precinct could yield in the order of 4,130 dwellings. It is however, not anticipated that development is needed to occur in this Precinct within the 2020 time horizon. Infrastructure planning has not typically accounted for development in this precinct prior to 2020. Capacity in existing and planned infrastructure is not intended to be used by development in this Precinct. Areas of this precinct are also affected by the 500 metre buffer from the quarry on the southern side of Yeppoon Road.

4.6 Precinct 4: Centres

4.6.1 Description

Precinct 4 is approximately 22.43 hectares of identified by three locations. The three locations are as follows:

- » **Location 1:** on the northeast corner of the intersection of Boundary Road with Yaamba Road and is the site of an existing retail activity. This locality is flat and bounded by residential development to the north and east.
- » **Location 2:** on the northwest corner of the crossing of William Palfrey Road over the rail line. This site is generally flat and forms part of a larger area of former grazing land that also had an orphanage on the site.
- » **Location 3:** This area is defined as the 'triangle' of land between the rail line, Yaamba Road and the northern boundary of the City (Ramsay Creek). This locality is gently sloping to the west and north and land use is currently a mix of highway orientated commercial, with former uses including orchards and animal husbandry.

In addition to the above locations, it is feasible that one or more local scale centres would be needed in the Plan Area. These locations may be in the vicinity of the western area close to the McLaughlin Street area and at the intersection of Olive Street (extended) and McMillan Avenue. .

4.6.2 Intent

Intent: Location 1 and Location 2

The intent of locations 1 and 2 is to provide centres for community activity, recreation and provision of access to services. These centres will provide for local shopping needs (i.e. facilities and services to serve the convenience and weekly retail, services and commercial needs) for the neighborhoods that will establish on both sides of Yaamba Road in Precincts 1, 2 and 3. The uses that are consistent with this intent in locations 1 and 2 include but are not limited to the following:

- » Medium to large Supermarket of up to 3,000 sqm GFA;
- » A variety of specialty shops;
- » Restaurants/cafés;
- » Small-scale medical and health services;
- » Offices (no greater than 250 sqm) and space for delivery of community services;



- » Low impact industry (workshop);
- » Common areas that are centrally located within the centre, provided with shade and high quality landscape elements that are multi-purpose and are the focus of the centre for activity and ease of access;
- » Parking that is provided so that it is not the dominant character of the site when viewed from higher order roads and does not adversely impact on the surrounding land uses (particularly residential) and is provided with a high level of shade and ease of pedestrian movement from outside of the site the centre as well as from the parking area to the centre;
- » Is connected by pedestrian and cycle routes to the pedestrian and cycle network (refer to sections 6.2 and 6.3 for these Overlays); and
- » Residential uses only above other uses and where it is demonstrated that suitable noise, light and air quality levels are achieved for permanent residential occupation.

Intent: Location 3

The intent of location 3 is to provide for a node of commercial activity that may not primarily focus on providing retail and commercial needs to the Parkhurst North Area. Any non-residential activity (such as highway orientated commercial uses, bulky goods and showrooms) locating in this location must not compromise the ongoing amenity, safety and efficiency of existing land uses and infrastructure (such as the rail line and water supply pipeline) in the locality and be supported with an economic feasibility and need assessment that clearly shows other locations for such uses in the City (such as the Yaamba Road South Commercial Area) and surrounding region:

- » Are fully developed or it is significantly impractical to achieve full development of those locations;
- » Exhibit turnover, vacancy and other economic indicators to show that the level of business activity in those other locations for similar uses has reached a recognised limit indicating those business will not be significantly affected from a commercial point of view; and
- » Exhibit other factors (such as traffic volumes), and other infrastructure capacity indicate that the location of other similar uses in the City have reached a level that safety and efficiency of infrastructure would be jeopardised by further development or other intensification of development at those sites.

Intent: Future Locations (West – McLaughlin and East – Olive/McMillan)

The intent of any future centres in the Parkhurst North Area is to provide for limited local needs for daily goods and a maximum GFA of 1,000 sqm. The need for these centres will be on the basis of demonstrated need and suitable location. Criteria for consideration of these locations include the following:

- » Other centre locations are fully developed or it is significantly impractical to achieve full development of those locations (such as the centre at the intersection of Yaamba and Boundary Roads);



- » Other centre locations exhibit turnover, vacancy and other economic indicators show that the level of business activity in those other locations for similar uses has reached a recognised limit indicating those business will not be significantly affected from a commercial point of view; and
- » Other centre locations exhibit other factors such as traffic volumes, and other infrastructure capacity indicate that the location of other similar uses in the City have reached a level that safety and efficiency of infrastructure would be jeopardised by further development or other intensification of development at those sites.

Access

Access to any uses establishing in this Precinct must not be directly from Yaamba Road and are in order of preference as follows:

- » From either new road or a shared crossover established from Boundary Road or William Palfrey Road (access location subject to design meeting safety and efficiency requirements for intersection in proximity to other intersections);
- » From new road established as a local service street from either Boundary Road, William Palfrey Road or from Yaamba Road (access location subject to design meeting safety and efficiency requirements for intersection in proximity to other intersections and only where requirements of Council and any agency responsible for State Controlled Roads and/or the rail line are fully satisfied);
- » From a shared crossover from Yaamba Road only where requirements of Council and any agency responsible for State Controlled Roads, water supply pipeline and/or the rail line are fully satisfied.

Any proposal for development in this precinct must be supported by a report providing grounds for justification of the proposed access to the subject site. To be certain, where a crossover is planned, it must be located in such a manner that it will allow for an adjoining non-residential site to use the same access and titles of any development must provide for reciprocal access rights for future development as it occurs on adjacent lands. Development that does not provide for access in the above hierarchy of preference (such as having only a dedicated crossover to Yaamba Road) is inconsistent development.

Landscape Value

Any development that is proposed in this Precinct must also demonstrate a high quality of architectural, layout and landscape amenity is achieved that contributes positively to the City's image and is suitable as part of the northern gateway to the City. The following will be regarded as inconsistent outcomes for this location:

- » Long expanses of unarticulated or featureless walls and fences (to be certain a long wall that is painted different colour tones/shades is not articulated for the purposes of this outcome; however, a wall with sections no longer than 10 metres with a recess or proud feature of more than 1 metre depth and a length of not less than 2 metres and of a different colour and of a different material will be regarded as articulation);



- » Advertising signage and ornamentation (such as bunting) that dominates the view from the highway (i.e. large scale trees must be allowed to reach a height and volume that exceeds the scale of advertising signage); and
- » Siteworks features such as boulder walls in excess of 1 metre in height at any point and large open areas of plant, equipment and/or vehicle maneuvering, display and/or storage visible from the Highway.

To be certain, the provisions in this plan with regard to location 3 does not imply the right, expectation or any other obligation to allow or otherwise support non-residential uses in this area. Location 3 only provides for the qualified consideration of development that may be proposed in the location.

4.7 Precinct 5: Open Space

4.7.1 Description

Precinct 5 is approximately 69.41 hectares and comprises a mixture of land areas in the Area that relate to the proposed function of those areas as expressed in the intent section following. The locations of open space are as follows:

- » To the north of Olive Street, between the extension of Norman Road and McMillan Avenue on land that slopes to the north and is generally former grazing land;
- » An area in the western side of the Area (equivalent in purpose to the area described above);
- » Four locations within the residential areas of Precincts 1 and 2;
- » Two locations within the post 2020 areas of Precinct 3; and
- » Riparian corridor along the watercourses in the Area, namely along Ramsay Creek and Limestone Creek.

4.7.2 Intent

The intent of this precinct is to identify the key elements of the open space network that will provide for the recreation needs of the community that will establish in the Area so that open space areas are provided that satisfy Council's policies and strategies for providing residents of the City with open space. In addition, the open space areas will also allow for the management, rehabilitation and protection of riparian corridors in the Area, principally on Limestone Creek and Ramsay Creek so that such corridors achieve stormwater quality management, environmental value and recreation outcomes. The three open space areas are intended to provide for the following:

- » Two district level open space areas (east and west of Yaamba Road) that include formal sporting fields and all of the features of a local park open space area;
- » Local park open space areas that provide for local catchments of 400 metres and 800 metres walking distance radius that provide for informal recreation and includes a local playground, seating and shade; and



- » Riparian corridors that provide for stormwater quality management, environmental value and recreation outcomes.

Where identified on a site specific basis, landscaping, stormwater management and rehabilitation of land in the open space precinct may be required to achieve a desired open space quality, safety and environmental outcomes.

The location of a district level open space area on the western side of Yaamba Road is not spatially defined in the land use plan. The circular symbol is indicative of the size of the space required, but not the preferred location. Masterplanning of the area will determine the location of the 8 hectare area, however, there are several locations that may be preferable where these meet Council's requirements for district level open space facilities:

- » Adjacent to the neighborhood centre;
- » Adjacent to the electricity switching yard; or
- » Adjoining the southern boundary of the area in the southwest corner on the southern side of William Palfrey Road.

This Precinct is also affected by the Open Space Network Overlay, as described in the following section 6.2.

4.8 Precinct 6: Specific Purpose

4.8.1 Description

Precinct 6 is approximately 81.86 hectares and includes a series of locations in the Area that relate to the sites of specific uses that are not anticipated to change in the time horizon of the Structure Plan (i.e. before 2020). Within the Area, these purposes are as follows:

- » Heritage Village and Cultural Centre (southeast corner of the intersection of Yaamba and Boundary Roads and northern bank of Limestone Creek);
- » EPA and DNRW State Government offices (northeast corner of the intersection of Yaamba and Yeppoon Roads and the southern bank of Limestone Creek);
- » Riding school site (southwest corner of Boundary and Norman Roads and the western bank of Limestone Creek);
- » Catholic Education school site (bound by Yeppoon, Norman and Boundary Roads and an unformed road on the eastern boundary); and
- » A 10+ hectare site bound by the northward extensions of Norman Road and McMillan Avenue and the eastward extension of Olive Street for a 'P to 12' school site as an alternative to the current Parkhurst School site fronting Yaamba Road.

Infrastructure for those sites already developed is generally fit for that purpose; however, the undeveloped sites have very little infrastructure and is mostly limited to a sealed road passing by the site.



4.8.2 Intent

The intent of this precinct is to retain the scale and function/purpose/activity of the current uses of the specific sites or their intended future use, subject to any necessary development applications or other regulatory requirements. Development of these sites for other uses must be supported by a needs assessment clearly demonstrating the need, feasibility and benefits/advantages of developing these sites in addition to or prior to the development of those uses elsewhere in the City and elsewhere in the Parkhurst North Area.

Access to these sites will be retained as the existing arrangements for existing uses. Access for new or redeveloped uses (including the school sites) will be from Major Urban Collector level roads where these adjoin the site. Access will not be via State Controlled Roads or from Urban Arterial roads. Access from an Urban Sub Arterial road will only be acceptable where access from a Major Urban Collector road is not available (note that an unconstricted Major Urban Collector road is regarded as 'available' for the purposes of this criterion and may need to be constructed as part of the development).

To be certain, any development of the government offices or Catholic Education sites will have due regard to remnant vegetation values identified on those sites in a manner that retains a viable level of ecological function as part of a wider corridor between Yaamba Road and eastwards to the Yeppoon Road Corridor Area.

4.9 Precinct 7: Environmental Value

4.9.1 Description

Precinct 7 is approximately 67.61 hectares and includes land that is typically most affected by slope, remnant vegetation and bushfire hazard. The Precinct includes the steeper slopes of eastern edge of the Area and the areas of most environmental significance as remnant vegetation and habitat. This precinct contributes significantly to the landscape value in the northern part of the City.

Land use in the Precinct is limited to uses that have not made a significant mark on the landscape and include limited grazing and timber getting in previous times. Infrastructure in the Precinct is very limited and is generally unsealed roads only.

4.9.2 Intent

The intent of this Precinct is:

- » The protection and enhancement of significant remnant bushland, fauna and flora communities and wildlife corridors;
- » The protection of locally and regionally significant natural landscapes and prominent landforms, particularly the escarpments, that contribute to the visual amenity and image of the City; and
- » The provision of controlled public access consistent with the protection of the ecological values of the Precinct.



Land uses must not compromise these intents and may be considered in the Precinct where the use is focussed on retaining the landscape and environmental values of the Precinct and is supported by documentation that:

- » Clearly justifies the need for such development;
- » Clearly demonstrates that there is no other less sensitive location that can accommodate the proposal (note that availability of alternative sites will not be regarded as clear justification);
- » Is supported by documentation that demonstrates a clear understanding of the site's environmental values as the basis for site planning; and
- » Provides for a comprehensive management plan based approach to the ongoing activity/use that must include the option for the use ceasing where mitigation of impacts cannot be achieved or are shown to be at risk of not being achieved.

To be certain, uses that provide for permanent residential occupation will be regarded as inconsistent uses (excluding a dwelling on an existing lot).



5. Yeppoon Road Corridor Area

5.1 Yeppoon Road Corridor Area Description

The Yeppoon Road Corridor Area includes the northern and northeastern extent of the City area and shares its northern and eastern boundary with Livingstone Shire. The northern hills of the Berserker Range and Mt Archer form part of the Area. The Yeppoon Road bisects the Area along an alignment roughly parallel to the east-west running Limestone Creek, which has its headwaters in the eastern end of the Area.

Large parts of the Area are relatively steep and elevated relative to the rest of the City. A large proportion of the Area is vegetated by regrowth as well as large areas of remnant vegetation that form part of a larger contiguous area to the north and south of the Area. The Area has a high landscape value as part of the City's skylines as well as a definite urban break to the northeast edge of the urban area.

Land use in the Area is predominantly rural living with ancillary uses including animal husbandry. Some other specific uses exist including a go-kart track, larger scale animal husbandry and a quarry.

Infrastructure in the Precinct is very limited with roads being either sealed to a rural standard or unsealed and no provision of water supply, sewer or formal stormwater drainage.

5.2 Yeppoon Road Corridor Area Intent

The intended land use pattern intended for the Area is illustrated on **Figure 4**. The intent of the Yeppoon Road Corridor Area is to:

- » Present a landscape that is visually similar to the current landscape appearance to the extent that persons travelling along Yeppoon Road will not notice significant changes to the character of the existing landscape as in 2007;
- » Maintain and enhance environmental values in the Area so that remnant vegetation is retained, re-vegetation occurs to extend the area of environmental value and riparian corridors are managed to achieve environmental, stormwater quality and land management outcomes;
- » The safety and efficiency of the road network (in particular Yeppoon Road) is not compromised or worsened;
- » The onus for demonstrating that development is appropriate lies with proponents, the Precinct intends in this Area do not infer a development right; and
- » Development of Precincts 1 and 2 is allowed to be investigated where it satisfies the intent of the Area and of those particular Precincts.

To be certain, it is not the intent of this area to provide for development of an Urban Character or the types of infrastructure that supports urban development. The Area is divided into four Precincts and no part of the Area is outside of a Precinct. These Precincts are summarised as follows on Table 5:



Table 5: Yeppoon Road Corridor Area Precincts Summary

Precinct	Name	Area North* (ha)	Area South** (ha)	Total Area (ha)	Note
1	Future Investigation (Residential - Bushland Character)	86.42	274.69	360.93	Minimum lot area 1ha (possibly 4,000 sqm)
2	Future Investigation (Residential – Rural Living)	253.23	72.72	325.95	Minimum lot area 2ha (possibly 1ha)
3	Environmental Value	620.39	641.77	1,262.16	Extremely limited development
4	Specific Purpose	0.00	139.56	139.56	Quarry location

* Area north of Yeppoon Road

** Area South of Yeppoon Road

5.3 Precinct 1: Future Investigation (Residential - Bushland Character)

5.3.1 Description

Precinct 1 is approximately 360.93 hectares and occupies pockets of land on either side of Limestone Creek and Yeppoon Road in the western and central parts of the Area. These lands typically are undulating to hilly with gullies running towards Limestone Creek while vegetation is typically regrowth. The Precinct includes foothills of the Berserker Range and the Limestone Creek valley.

Land use in the Precinct is a mixture of rural living and animal husbandry usually associated with rural living. The go-kart track site is included within this Precinct. Infrastructure in the Precinct is very limited with roads being unsealed and no provision of water supply, sewer or formal stormwater drainage. One pocket of land in this Precinct is located adjacent to the quarry site and development in that area must take consideration of the ongoing quarry activity.

5.3.2 Intent

The intent of this Precinct is to allow further investigation for the purposes of providing residential orientated development with a Bushland Character (as defined in Table 3). No other land use is to predominate with the exception of existing lawful uses. Proposed residential development must not compromise the ongoing use of lawful uses in the Precinct or in areas nearby. Any proposed development is to be supported by a report clearly demonstrating that the proposed use will not adversely affect the reasonable undertaking of existing lawful uses.

The intent is that the Precinct does not have an Urban Character (as defined in Table 3) or the type of infrastructure consistent with urban development.



Development in this Precinct is not intended to be connected to external water supply or to external sewer. Roads are to be built to a rural standard. Any development proposed in the Precinct must be supported by a report that clearly identifies site characteristics to allow comprehensive site planning and will include such matters as:

- » Identifying dwelling locations noting that extensive cut/fill is inconsistent (i.e. where sites are steeper, cut/fill for a flat slab construction is inconsistent);
- » Bushfire hazard assessment and responsive site planning (noting that clearing of vegetation is not supported where alternative dwelling locations are possible);
- » Not allowing development in gullies that may interfere with stormwater quality and/or encourage erosion;
- » Identifying irrigation areas for disposal of treated effluent and soil assessment to determine suitability and sizing of those areas;
- » Access points to the road network and access routes on the lot; and
- » Vegetation values of the site and those areas that are proposed to be cleared noting that clearing of areas with a higher value will be regarded as inconsistent development.

Where land is already cleared, this will be the preferred location of any structures, activity area and/or service area associated with the dwelling.

Access to the Precinct is to be via the existing road network or logical extensions to that network. Access is not to be gained directly from Yeppoon Road and all development on the western edge of the precinct is to utilise the road network in the Parkhurst North Area while other localities in the Precinct are to use the existing network to link back to Yeppoon Road. It may be necessary to provide for upgrade or other works to allow intersections with Yeppoon Road to meet safety and design requirements. To be certain, where traffic from a proposed development would logically use an intersection with Yeppoon road as its typical access between services, employment and recreation, then it is reasonable to require contributions for roadworks for that intersection as well as for elements of the route in between on the basis of the proportion of traffic that is contributed to the intersection.

The minimum lot size in the precinct is to be 1 hectare unless it can be clearly demonstrated that the intent of the definition of Bushland Character can be achieved on smaller sized lots in particular that the area clear of vegetation on the proposed lot is not more than 25%; however, lots less than 4,000 sqm will be regarded as inconsistent development. To be certain, the minimum lot size is not a right or obligation to the extent that site features are the determining factors for site layout, where lots are proposed that do not respond to a comprehensive understanding of the site, these will be regarded as inconsistent.

Fencing in the Precinct is to be of a type that is consistent with a rural setting and may be required to incorporate features that allow ease of native fauna movement (between areas of environmental significance) or restrict native fauna access (such as in close proximity to Yeppoon Road). To be certain, fences that are predominantly solid and



not of a widely spaced wire span between posts nature will be regarded as inconsistent development.

Where land is predominantly cleared already, re-vegetation of areas may be required to re-establish environmental values associated with habitat, riparian corridors and land protection from erosion. Re-vegetation may also be required to contribute to the landscape value of the City and viewsheds from other locations towards the Precinct, particularly from the west, south and where travelling along Yeppoon Road.

Also note that a watermain to be established in the Yeppoon Road corridor will have a number of designated offtake points. The location and access to these points does not indicate a preference for locations of development or otherwise commit or infer development is to occur at those locations.

The part of the Precinct that adjoins the quarry can only be developed where it is demonstrated that development will not compromise the ongoing operation of the quarry with specific regard to potential adverse impacts from noise, dust and traffic.

The following setbacks are representative of the requirements of State Planning Policy State Planning Policy 2/07 – Protection of Extractive Resources. These dimensions represent the minimum setback distance to extractive resources and should be applied to any future development in the locale:

- » 1000 metres where the extraction or processing of the extractive resource involves blasting or crushing (namely rock); or
- » 200 metres for any other extractive resource not involving blasting or crushing (namely sand, gravel, clay and soil).

5.4 Precinct 2: Future Investigation (Residential - Rural Living)

5.4.1 Description

Precinct 2 is approximately 325.95 hectares and occupies an area on the eastern end of the Area on either side of Yeppoon Road that is in part already developed for a Rural Living outcome as well as being an area predominantly cleared of vegetation. These lands are typically undulating to hilly with gullies running west and east.

Land use in the Precinct is a mixture of rural living and animal husbandry usually associated with rural living. Infrastructure in the Precinct is very limited with roads being sealed to a rural standard or unsealed and no provision of water supply, sewer or formal stormwater drainage.

5.4.2 Intent

The intent of this Precinct is to allow further investigation for the purposes of providing residential orientated development for Rural Living (as defined in Table 3). No other land use is to predominate with the exception of existing lawful uses. Proposed residential development must not compromise the ongoing use of lawful uses in the Precinct or in areas nearby. Any proposed development is to be supported by a report



clearly demonstrating that the proposed use will not adversely affect the reasonable undertaking of existing lawful uses.

The intent is that the Precinct does not have an Urban Character (as defined in Table 3) or the type of infrastructure consistent with urban development.

Development in this Precinct is not intended to be connected to external water supply or to external sewer. Roads are to be built to a rural standard. Any development proposed in the Precinct must be supported by a report that clearly identifies the site characteristics to allow comprehensive site planning and will include such matters as:

- » Identifying dwelling locations noting that extensive cut/fill is inconsistent (i.e. where sites are steeper, cut/fill for a flat slab construction is inconsistent);
- » Bushfire hazard assessment and responsive site planning (noting that clearing of vegetation is not supported where alternative dwelling locations are possible);
- » Not allowing development in gullies that may interfere with stormwater quality and/or encourage erosion;
- » Identifying irrigation areas for disposal of treated effluent and soil assessment to determine suitability and sizing of those areas; and
- » Access points to the road network and access routes on the lot.

Where land is already cleared, this will be the preferred location of any structures, activity area and/or service area associated with the dwelling.

Access to the Precinct is to be via the existing road network or logical extensions to that network. Access is not to be gained directly or indirectly from Yeppoon Road. It may be necessary to provide for upgrade or other works to allow intersections with Yeppoon Road to meet safety and design requirements. To be certain, where traffic from a proposed development would logically use an intersection with Yeppoon Road as its typical access between services, employment and recreation, then it is reasonable to require contributions for roadworks for that intersection as well as for elements of the route in between on the basis of the proportion of traffic that is contributed to the intersection.

The minimum lot size in the Precinct is to be 2 hectares unless it can be clearly demonstrated that the intent of the definition of Rural Living can be achieved on smaller sized lots; however, lots less than 1 hectare will be regarded as inconsistent development. To be certain, the minimum lot size is not a right or obligation to the extent that site features are the determining factors for site layout, where lots are proposed that do not respond to a comprehensive understanding of the site, these will be regarded as inconsistent.

Fencing in the Precinct is to be of a type that is consistent with a rural setting and may be required to incorporate features that allow ease of native fauna movement (between areas of environmental significance) or restrict native fauna access (such as in close proximity to Yeppoon Road). To be certain, fences that are predominantly solid and not of a widely spaced wire span between posts nature will be regarded as inconsistent development.



Where land is predominantly cleared already, re-vegetation of areas may be required to re-establish environmental values associate with habitat, riparian corridors and land protection from erosion. Re-vegetation may also be required to contribute to the landscape value of the City and viewsheds from other locations towards the Precinct, particularly when viewed travelling along Yeppoon Road.

Also note that a water pipeline to be established in the Yeppoon Road corridor will have a number of designated water take-off points. The location and access to these points does not indicate a preference for locations of development or otherwise commit or infer development is to occur at those locations.

5.5 Precinct 3: Environmental Value

5.5.1 Description

Precinct 3 is approximately 1,262.16 hectares and includes land that is typically most affected by slope, remnant vegetation and bushfire hazard. The Precinct includes the steeper slopes of the Berserker Range and the areas of most environmental significance as remnant vegetation and habitat. This Precinct contributes significantly to the landscape value in the northern part of the City. The Precinct also includes the riparian corridor of Limestone Creek, which is the major watercourse and stormwater flow for much of the Area.

Land use in the Precinct is limited to uses that have not made a significant mark on the landscape and include limited grazing and timber getting in previous times. Infrastructure in the Precinct is very limited and is generally unsealed roads only.

5.5.2 Intent

The intent of this Precinct is:

- » The protection and enhancement of significant remnant bushland, fauna and flora communities and wildlife corridors;
- » The protection of locally and regionally significant natural landscapes and prominent landforms, particularly the escarpments, that contribute to the visual amenity and image of the City; and
- » The provision of controlled public access consistent with the protection of the ecological values of the Precinct.

Land uses must not compromise these intents and may be considered in the Precinct where the use is focussed on retaining the landscape and environmental values of the Precinct and is supported by documentation that:

- » Clearly justifies the need for such development;
- » Clearly demonstrates that there is no other less sensitive location that can accommodate the proposal (note that availability of alternative sites will not be regarded as clear justification);



- » Is supported by documentation that demonstrates a clear understanding of the site's environmental values as the basis for site planning; and
- » Provides for a comprehensive management plan based approach to the ongoing activity/use that must include the option for the use ceasing where mitigation of impacts cannot be achieved or are shown to be at risk of not being achieved.

To be certain, uses that provide for permanent residential occupation will be regarded as inconsistent uses (excluding a dwelling on an existing lot).

5.6 Precinct 4: Specific Purpose

5.6.1 Description

Precinct 4 is approximately 139.56 hectares and includes the quarry site located in the southwest of the Area that is a specific use that is not anticipated to change in the time horizon of the Structure Plan (i.e. before 2020). Note the extent of the Precinct is a cadastral boundary and does not imply the right or opportunity otherwise to exploit the extraction of material to that extent.

Infrastructure for the site is already developed and generally fit for that purpose.

5.6.2 Intent

The intent of this Precinct is to retain the scale and function/purpose/activity of the current quarry use to the extent that regulatory limitations allow, subject to any necessary development applications or other regulatory requirements. Development of the site for other uses must be supported by a needs assessment clearly demonstrating the need, feasibility and benefits/advantages of developing the site in addition to or prior to the development of those uses elsewhere in the City and elsewhere in the Yeppoon Road Corridor Area.



6. Structure Plan Overlays

6.1 Overview about Overlays

The Structure Plan considers static land use elements in the form of the Planning Areas and Precincts. These do not necessarily provide for the best means of articulating the need for issues that affect all of the Plan Area and by nature are more network and activity orientated. On this basis, four Overlays are provided to articulate the intent of how these 'whole of Plan Area' issues can be managed and are as follows:

- » Open space network;
- » Transport, circulation and movement network;
- » Services and community infrastructure; and
- » Amenity impacted areas.

The intent of the Overlays is to assist in providing those features of development in the Plan Area and potentially assists with consideration of infrastructure charging and contributions (land, works and monetary).

6.2 Structure Plan Overlay: Open Space Network

6.2.1 Description

The open space network connects a range of destinations, opportunities and a means of providing connectivity for non-vehicle based transport. The major elements of the network are the key urban open space areas as described in Precinct 5 of the Parkhurst North Area and Precinct 3 of the Yeppoon Road Corridor Area.

6.2.2 Intent

The intent of the Overlay is to provide a network of paths for pedestrians and cyclists that link the key features of the Areas including:

- » The riparian corridors, local parks and district parks;
- » Education facilities (Parkhurst School, future school sites, and to the university);
- » Neighbourhood centres; and
- » The Heritage Park.

The spatial intent of the Overlay is illustrated on **Figure 6**. The connecting paths are to be provided as part of a grid with no more than 200 metres between routes and typically aligned with the road network or as stand alone routes where CPTED outcomes can be achieved. On local streets, the footpath will provide for pedestrian movement while the carriageway will provide for cyclist movement. Connections are also typically aligned with local drainage lines. On this basis, the open space network will also provide for overland stormwater flow – but not entirely for all overland flow.



Overland flow paths are discussed in section 6.4 and identified on **Figure 11**. The connections are to be a minimum of 10 metres wide, however, the sizing of stormwater infrastructure such as detention basins or swales will determine a greater width in those circumstances. Pedestrian routes will achieve freeboard from all stormwater related infrastructure within the open space connection.

Pedestrian network connections are not all regarded as 'parks' and include routes through locations where maintenance as a park is not intended. These areas include the riparian corridors where existing vegetation is to be retained. Another open space connection is on the western side of the rail line. This connection is intended to provide for a connection, landscape screen and acoustic screen for residential and commercial uses on the western side of the rail line. The connection may be incorporated with a road reserve, but is to be 15 metres in width to accommodate 5 metre wide strips for pedestrian route, landscape screening, acoustic measures and stormwater measures.

Separate cycle routes will be provided as part of the higher order road hierarchy in accordance with the network plan shown on **Figure 9** and Council's policies and City Plan 2005. Open space network infrastructure provision will in part be identified through the Priority Infrastructure Plan and associated Infrastructure Charges Schedules.

6.3 Structure Plan Overlay: Transport, Circulation and Movement

6.3.1 Description

The transport, circulation and movement network in the Plan Area is largely undeveloped with roads other than Yaamba and Yeppoon Roads being developed to a local access urban standard (in parts of the Parkhurst East Residential Area), sealed roads to a rural standard or unsealed roads. Infrastructure for pedestrian and cycle movement is somewhat fragmented, and is only present in the Parkhurst East Residential Area. Public transport service to the area is focussed on supporting the Parkhurst School.

6.3.2 Intent

Overall Intent

The intent of the Overlay is to establish a road hierarchy, pedestrian and cycle movement network and public transport consistent with the policies and provisions of Council and City Plan 2005 and appropriate for the population and land uses of the Plan Area. To this extent the **Figure 7**, **Figure 8**, **Figure 9** and **Figure 10** illustrate the following intents for the Plan Area:

- » Road hierarchy for the Plan Area up to 2020 (**Figure 7**);
- » Road hierarchy for the Plan Area post 2020 (based on ultimate development - **Figure 8**);
- » Pedestrian, cyclist and public transport network (**Figure 9**); and

- » Conceptual road reserve widenings and new road reserves (**Figure 10**).

Note that the pedestrian and cycle movement network aligns with the linkages identified in the Overlay for the open space network. Transport, circulation and public transport infrastructure provision will in part be identified through the Priority Infrastructure Plan and associated Infrastructure Charges Schedules.

Road Hierarchy and Network

Figure 7 and **Figure 8** and illustrate the intent of providing a road hierarchy network appropriate to the Plan Area. Key specific outcomes sought by the road hierarchy:

- » Provide a functioning road hierarchy that is suited to the needs of the population and land uses in the Plan Area;
- » Minimises the need for local traffic to use State Controlled Roads (Bruce Highway and Rockhampton - Yeppoon Road);
- » Based on existing road alignments where possible to minimise the need for additional land acquisition;
- » Direct lot access to the road network is limited to Urban Access only for residential uses and Urban Collector (Minor) or (Major) for non-residential uses – unless specific criteria as described in the intent of Precincts is satisfied; and
- » Provide a basis for the pedestrian, cycle and public transport network.

The future road hierarchy for the Plan Area has been determined using the predicted daily traffic volumes generated by the proposed residential land use. The hierarchy is in line with the Roadway Classification specified in the Rockhampton City Plan.

Development-generated traffic as a result of any proposed commercial centres within the Structure Plan Area is over and above the residential development-generated traffic volumes indicated above.

Rockhampton City Council and the Department of Main Roads are jointly undertaking a City Wide Traffic Study that encompasses both the State-controlled road network and the Council-controlled road network within the Rockhampton City Council Local Government Area. This study will provide more detailed information on traffic volumes on the existing and proposed high-order road network within the study area consistent with the Parkhurst and Yeppoon Road Corridor Planning Study and Structure Plan. The network modelling undertaken as part of the City Wide Traffic Study will therefore be used to verify and further define the conceptual road hierarchy for the Area proposed as part of this Structure Plan. The road hierarchy proposed in the Structure Plan should therefore be considered as conceptual only and subject to the findings of the City Wide Traffic Study.

West of Yaamba Road

Figure 7 indicates that an Urban Arterial Road will need to be established to service this area, providing a connection to Yaamba Road. A significant constraint on the provision of a road connection to Yaamba Road from the west is the proximity of the railway line (in some areas it is within 100 metres of the road corridor). Further detailed planning will be required to determine the preferred location for the Urban



Arterial road corridor and associated intersection with Yaamba Road, giving due consideration to:

- » The intersection sizing requirements (due to the anticipated traffic volumes);
- » The queue length requirements for traffic on the western approach of the intersection (where most traffic will be bound for Rockhampton Town Centre, therefore turning right);
- » Necessary railway crossing upgrades (and associated safety issues); and
- » The function of this intersection within the Plan Area (i.e. its proximity to Olive Street and Boundary Street intersections).

Preliminary strategic planning indicates that William Palfrey Road, on either its existing horizontal alignment or a new horizontal alignment, will require grade-separation with North Coast Rail Line and the Bruce Highway in order to provide a safe and efficient connection with the Bruce Highway to cater for the nature and scale of development consistent with the Parkhurst and Yeppoon Road Corridor Structure Plan.

The proposed grade-separated intersection is subject to further investigation and feasibility studies. **Figure 7** identifies the preferred location for the connection for the western side of Yaamba Road to align with the intersection of Olive Street.

The alternate access to / from this development area is via William Palfrey Road (west) and southward via McLaughlin Street and Alexandra Street. This does not represent the most direct route to and from the Rockhampton City Centre, therefore it is anticipated that the majority of traffic accessing the development site will do so via the Bruce Highway (Yaamba Road). Should the additional traffic volumes generated by the ultimate development be deemed excessive for Yaamba Road, then an alternative access will need to be investigated.

The majority of daily and peak hour trips in this area are expected to use William Palfrey Road as the means of access to and from the area.

East of Yaamba Road

The development of the Plan Area east of Yaamba Road has been divided into Pre 2020 and Post 2020. The Pre 2020 development area is restricted to the areas bounded by Olive Street, Yaamba Road, Boundary Road and McMillan Avenue. Given the anticipated traffic volumes generated by the development, it is considered appropriate that Boundary Road (west) be upgraded to an Urban Sub Arterial road. However, in light of the traffic generated by the development in the Parkhurst West area (and the additional traffic loading it will place on Yaamba Road), it may not be appropriate for the sole access to and from this development area to be via Yaamba Road.

The construction of the bridge from McMillan Avenue and upgrade of Norman Road would create an alternate access between the development area and the Rockhampton Central Area, promoting the desired road hierarchy and function of the surrounding area. Having investigated alternative arrangements for a bridge over Limestone Creek at Norman Road as well as the long term development indicated



through Precinct 3 (Post 2020), it was determined that a Pre 2020 scenario using Norman Road/Boundary Road as the means of access to the area was acceptable, however, the longer term connection over Limestone Creek via McMillan Avenue presents a better long term solution. On this basis, McMillan Avenue assumes Urban Arterial road status.

The Post 2020 development will trigger the need for McMillan Avenue to be upgraded to a 4 lane Urban Arterial road. The predicted traffic volumes generated by the Post 2020 development will trigger the need for upgrades to the road network beyond the limits of the Plan Area. In particular, Norman Road (south of Yeppoon Road) is likely to require significant upgrade works to cater for the additional traffic loading.

In addition to the upgrades to road links for capacity requirements, a number of intersections will require upgrade works

- » The intersection of William Palfrey Road with Yaamba Road (opposite Olive Street) and the rail crossing;
- » The intersection of Olive Street with Yaamba Road;
- » The intersection of Boundary Road with Yaamba Road;
- » The intersection of Norman Road and Boundary Road with crossing of Limestone Creek;
- » The intersection of Norman Road with Yeppoon Road; and
- » Possibly intersections along Norman Road (south).

All of these intersections will require development works to increase their capacity to accommodate future traffic, allow efficient function of the road network and maintain safety. Other intersections and roads in the network will require upgrade and works to achieve the same intent.

Where traffic from a proposed development would logically use its typical access between services, employment and recreation any route or intersection that is currently not developed for that purpose or ultimate traffic volume, then it is reasonable to require contributions for roadworks for that intersection as well as for elements of the route in between on the basis of the proportion of traffic that is contributed to the intersection. This intent applies to all parts of the Plan Area.

In terms of road design the following minimum standards as indicated on Table 6 will apply to the road reserves required for the proposed road hierarchy (as derived from the Capricorn Municipal Development Guidelines). In summary, the higher order road hierarchy requirements are described as follows:

- | | | |
|-------------------------|-----------------------|------------------------|
| » Urban Arterial | 40 metre wide reserve | No residential access |
| » Urban Sub-Arterial | 30 metre wide reserve | No residential access |
| » Major Urban Collector | 22 metre wide reserve | No residential access. |



Table 6: Road Hierarchy Design Requirements

Roadway Classification	Min Reserve Width	Nominal Carriageway Width	Min. Verge Width both sides	Max. Grade (Desirable) %	Pathways	Kerbing	Minimum Intersection Spacing	
							On same side of through road (metres)	On opposite side of through road (metres)
Urban Access Street	16m	5.5m	4m	(12) 16	Nil	Type 2	60	40
Minor Urban Collector	18m	7.5m	4m	(8) 10	1 x 1.2m	Type 2	60	40
Major Urban Collector	22m	10.0m	4.5m 5.5m	(8) 10	2 x 1.2m	Type 1 or 2	60	40
Urban Sub-Arterial	30m	5.5m carriageway + 5.0m centre median	4.5m 5.5m	(6) 8	2 x 2.0m	Type 1	100	60
Major Urban Arterial and Urban Arterial	40m				2 x 2.0m	Type 1		
Rural	Refer to Table D1.3 in the Capricorn Municipal Development manual					Formed Shoulder	60	40



Access Restriction

All dwellings are to have access from local access streets only. No dwelling is to have direct access from higher order roads (Major Urban Collector and above), unless these dwellings are existing and the only option for access is from higher order roads, in which case a service road may need to be provided. Non-residential uses may have access from higher order roads depending on the nature of the use. New direct lot access from the Bruce Highway (Yaamba Road) is not desirable in order to maintain the safe and efficient function of the State-Controlled Road network and is subject to approval from the Department of Main Roads.

Local Road Closures

A number of local access streets connect with Yaamba Road between Boundary Road and Olive Street. When development permits and there is local street (or other order road) access to sites from Norman Road, then the local access street connection to Yaamba Road is to be considered for closure. Closure is the preferred option and where the road connection is to be retained, submissions must be made that demonstrate an overriding need for the connection to be retained and what improvements/upgrades will be undertaken to achieve standards suitable for connection with the State-Controlled Road.

Note that where road closures are required to allow for the realignment of high-order roads and the establishment of the desired road hierarchy in the area, these will affect the efficiency of the major roads in the hierarchy including Boundary Road, Norman Road, William Palfrey Road and Olive Street.

Conceptual Road Realignment and new Road Reserve

In summary, the proposed higher order road hierarchy post 2020 is as follows on

Table 7: Higher Order Road Hierarchy Post 2020 Summary

Road Description	Hierarchy Type	Comment
Boundary Road (Yaamba Road to Norman Road)	Urban Sub-arterial	<ul style="list-style-type: none"> » Existing development restricts opportunity for equivalent dedications of land for road reserves » No residential access
Norman Road (Boundary Road to McMillan Avenue):	Urban Sub-arterial	<ul style="list-style-type: none"> » Existing development restricts opportunity for equivalent dedications of land for road reserves » Variable reserve widening needed » No residential access
Norman Road (McMillan Avenue to Olive Street)	Major Urban Collector	<ul style="list-style-type: none"> » Existing development restricts opportunity for equivalent dedications of land for road reserves



		» No residential access
McMillan Avenue (Norman Road to McMillan Avenue)	Urban Sub- arterial	» Variable reserve widening needed » No residential access
Alfred Road (McMillan Avenue eastward)	Major Urban Collector	» Needed for post 2020 » No residential access
McMillan Avenue (McMillan Avenue to Olive Street)	Urban Arterial	» Full size needed for post 2020 » No residential access
Olive Street (Yaamba Road to McMillan Avenue)	Urban Arterial	» Align with new William Palfrey from west » New reserve between Norman and McMillan » No residential access
William Palfrey Road (McLaughlin Street to Yaamba Road)	Urban Arterial	» Part new and existing reserve » Connect to Olive Street » No residential access
Post 2020 Major Urban Collectors	Major Urban Collectors	» Align with Norman Road (north of Olive), » Olive Street (east of McMillan) » Parallel to McMillan (east) » Parallel to Olive (north) » No residential access

Road Widening and New Reserves

In order to achieve the intended road hierarchy, existing road reserves will need to be widened and new road reserves established. These are indicated on **Figure 10**. The conceptual layout shown on this Figure is a minimum requirement and is subject to further detailed investigation and engineering design. In some instances additional road reserve areas not shown on Figure 10 may be required to provide a safe, efficient and functional road network. Furthermore, additional road reserve widening may be required at intersections or other locations to accommodate infrastructure or other features as well as provide a safe, efficient and functional road network.

Pedestrian and Cycle Network

The intent is to provide a pedestrian and cycle network that combines the road network and the open space network to provide a finer grid of pedestrian and cycle connections through the Plan Area. Pedestrian routes will be separate from the road carriageway. Cycle routes may be included as part of an Urban Access road, but must be in a



dedicated space on higher order roads and in the vicinity of key destinations (centres and the school) must be separate from the pedestrian route as well.

The majority of this network will be within the Parkhurst North Area while the key linkages in the Yeppoon Road Corridor will be along Limestone Creek and Yeppoon Road. **Figure 9** illustrates the intent of the pedestrian and cycle network in the Plan Area.

Public Transport

The intent is to provide a public transport network and stopping locations that allow an efficient route to connect the population to key locations in the Plan Area and then southwards to the balance of the City. The network/route will be based on the principle of lands in Precincts 1, 2, 3 and 4 of the Parkhurst North Area being within 400 metres of a public transport stop. The route of the network will not use Urban Access roads and will use roads of an Urban Collector (Minor) or higher order. Where required, widenings of the road reserve may be necessary to accommodate the appropriate infrastructure for stops in addition to contributions for the catchment towards such infrastructure.

6.4 Structure Plan Overlay: Services and Community Infrastructure

6.4.1 Description

The services and community infrastructure in the Plan Area is limited to the area between Yeppoon Road, Yaamba Road, Olive Street and Norman Road. This Overlay includes water supply, sewer and stormwater infrastructure as well as community services and infrastructure such as schools.

6.4.2 Intent

Overall Intent

It is intended that the Plan Area be provided with appropriate services and community infrastructure for the population and land uses that are provided for by the Structure Plan. **Figure 11** illustrates the spatial elements of the intent of this Overlay.

Services Infrastructure

It is intended to provide appropriate urban services to all precincts in the Parkhurst North Area except for Precinct 7. It is not intended to provide water supply and sewer infrastructure to the Yeppoon Road Corridor Area. Infrastructure provision will in part be identified through the Priority Infrastructure Plan and associated infrastructure Charges schedules.

Overland flow paths are shown on **Figure 11**. These paths are the basis of the stormwater management network and will be dedicated as reserves for this purpose where development occurs in these locations. In instances where the open space



network aligns with the overland flow paths, these will be integrated as described in section 6.2.

Also note that a water pipeline to be established in the Yeppoon Road corridor will have a number of designated water take-off points. The location and access to these points does not indicate a preference for locations of development or otherwise commit or infer development is to occur at those locations.

Community Services and Infrastructure

There are opportunities to develop community infrastructure and services in the Plan Area. These are intended to be as follows:

- » Relocating the Parkhurst School from its current location to a site bound by the northward extensions of Norman Road and McMillan Avenue and the eastward extension of Olive street for a site appropriate for 'P to 12' public school requirements;
- » Inclusion of opportunities for office space in the centres of the Parkhurst North Area where office based community services may locate;
- » A public transport network as described in the Overlay for transport, circulation and movement;
- » Open space and recreation as described in Overlay for the open space network;
- » Opportunities to include community service provision from the Heritage Park and Cultural Centre location; and
- » Opportunities to develop a diverse housing stock through a mix of densities and built form outcomes, particularly in Precincts 2 of the Parkhurst North Area.

6.5 Structure Plan Overlay: Amenity Impacted Areas

6.5.1 Description

The area affected by this Overlay includes land within the following locations:

- » 80 metres of the rail line;
- » 100 metres of Yaamba and Yeppoon Roads;
- » Slopes facing south to the Parkhurst Industrial Area; and
- » 500 metres buffer from the quarry on the southern side of Yeppoon Road (based on setback distances indicated in State Planning Policy State Planning Policy 2/07 – Protection of Extractive Resources).

From the perspective of suitability for residential uses as well as places of occupation and recreation, these lands are affected by air quality, noise (vibration) and light amenity.

The impacted areas are generally flat with drainage by stormwater infrastructure associated with the rail line and highway, or to the south via existing drainage lines. The impacted areas include a mix of land uses predominantly residential detached



dwellings, but also short-term accommodation, highway orientated commercial uses and community uses include the square dance hall and Parkhurst School. The areas west of the rail line and north of Yeppoon Road are undeveloped.

6.5.2 Intent

The intent of the Amenity Impacted Overlay areas is to require proposed development to assess the impact of noise, light and air quality on the proposed development and where identified incorporate mitigation measures. Note that mitigation measures may include certain land uses and/or configuration of those land uses to be inappropriate and therefore not suitable to locating in the Overlay area.

Mitigation measures must not adversely affect visual quality. Where mounds, fences or other screening is required, these must be screened by vegetation. Where necessary, stormwater and other services are to be incorporated into the mitigation features.

To be certain, mitigation measures that rely on windows, doors and other openings being closed to achieve required standards, these are inappropriate and development incorporating these measures is inconsistent with the intent of this Overlay.

The part of the amenity impacted area within the 500 metre buffer of the quarry can only be developed where it is demonstrated that development will not compromise the ongoing operation of the quarry with specific regard to potential adverse impacts from noise, dust and traffic. Development must have regard to the requirements of State Planning Policy State Planning Policy 2/07 – Protection of Extractive Resources.



7. Structure Plan Implementation

7.1 Overview

This section is intended to provide an outline of how the Structure Plan may be implemented. It is at the discretion of Council as to how or what aspects of the Structure Plan may be implemented. This section is provided on the basis that the Structure Plan would be implemented and an assessment of those mechanisms that are most appropriate.

7.2 Amendment of Planning Scheme (City Plan 2005)

Council may elect to use the Structure Plan as the basis for amendment to City Plan 2005. Sections 4, 5 and 6 of the Structure Plan have been drafted in a format that is consistent with City Plan 2005 in order to facilitate this approach. Note that assessment tables have not been prepared, nor has consideration to amendments to any codes been granted (for example, necessary amendments to the Reconfiguration of a Lot Code to allow for subdivision aspects in the proposed Planning Areas).

The Planning Scheme amendment process as described in the *Integrated Planning Act 1997* would apply including a public notification phase. This approach to implementation would be regarded as the minimum to give effect to the Structure Plan.

7.3 Priority Infrastructure Plan and Contributions

Council is currently preparing its Priority Infrastructure Plan (PIP) with a time horizon of 2020. The time horizon of the Structure Plan was determined to be 2020 in order to align with the PIP. On this basis the proposed yields from the Parkhurst North Area could directly input to the PIP in order to assist in determining infrastructure planning. The Overlays in particular would assist in determining contributions for open space, road works, water supply and sewer.

A greater level of detailed infrastructure planning would be required to determine the precise boundaries of contribution areas and the specific type of infrastructure required.

The Parkhurst North Area has included the approximation of future yield from the whole Area. This allows a 'total catchment' to be determined for the purposes of establishing as per dwelling contribution for key infrastructure in that area. Such infrastructure may include intersection upgrades and the bridge over Limestone Creek. This potentially expensive element of infrastructure should be contributed to on the basis of the total catchment that would benefit from it (i.e. the area east of Yaamba Road and north of Yeppoon Road). A similar approach could be taken to the intersection of William Palfrey Road with Yaamba Road and the rail crossing.



7.4 Development Sequence

Consideration has been given to a development sequence. Given the nature of the Plan Area, a defined site-by-site sequence is difficult to logically determine, in particular given the fragmented nature of the area in the vicinity of Norman Road. It is unlikely that a site specific sequence would serve much purpose when it is clear that in the immediate locality of Norman Road, there is already a fragmented development pattern and the market has determined to lodge development applications outside of the Parkhurst East Residential Area in part on the basis of perceived development costs, landowner willingness to sell and more desired product on the eastern side of Norman Road.

A sequence is more appropriate at a broader City scale, such as development preferred in the Norman Road Residential Area before consideration of areas further north. This logic has, however, been fragmented by the recent approval of the Edenbrook site in the northwest of the City and recent development applications in the Plan Area.

Within the Plan Area, the proposed Precincts provide a sequence to the extent that the proposed Precincts 1 and 2 are to be developed before Precinct 3 (Post 2020) and criteria are set out in the Precinct intent regarding this. Applying a sequence to the Yeppoon Road Corridor is not practical in the context that development in that Area is not proposed to be supported by infrastructure other than roads. The upgrade requirements for roads in the Area may prove to be a limiting factor on realising the development potential identified in the Structure Plan.



8. Structure Plan Figures

This section of the Structure Plan includes all the relevant figures as referred to in the preceding document. These figures are:

- » Figure 1: Structure Plan Locality and Subject Area
- » Figure 2: Planning Study Land Suitability Assessment
- » Figure 3: Proposed Planning Areas
- » Figure 4: Structure Plan Area Land Use
- » Figure 5: Parkhurst Area Land Use
- » Figure 6: Overlay: Structure Plan Area Open Space Network
- » Figure 7: Overlay: Proposed Plan Area Road Hierarchy Pre 2020
- » Figure 8: Overlay: Proposed Plan Area Road Hierarchy Post 2020
- » Figure 9: Overlay: Structure Plan Area Pedestrian, Cyclist and Public Transport Network
- » Figure 10: Overlay: Parkhurst Area Road Reserve Widening
- » Figure 11: Overlay: Structure Plan Area Services and Community Infrastructure
- » Figure 12: Overlay: Amenity Impacted Area



Figure 1: Structure Plan Locality and Subject Area



Figure 2: Planning Study Land Suitability Assessment



Figure 3: Proposed Planning Areas



Figure 4: Structure Plan Area Land Use



Figure 5: Parkhurst Area Land Use



Figure 6: Overlay: Structure Plan Area Open Space Network



Figure 7: Overlay: Proposed Plan Area Road Hierarchy Pre 2020



Figure 8: Overlay: Proposed Plan Area Road Hierarchy Post 2020



Figure 9: Overlay: Structure Plan Area Pedestrian, Cyclist and Public Transport Network



Figure 10: Overlay: Parkhurst Area Road Reserve Widening



Figure 11: Overlay: Structure Plan Area Services and Community Infrastructure



Figure 12: Overlay: Amenity Impacted Area



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4	E. Dwyer D. Potter M. Mulholland	M. Mulholland		M. Mulholland		12.11.07
5	M. Mulholland E. Dwyer D. Potter	L. Bagnall		M. Mulholland		30.11.07
6	E. Dwyer D. Potter	M. Mulholland		M. Mulholland		04.12.07